

Application Technique

Original Instructions



Allen-Bradley

by ROCKWELL AUTOMATION

FactoryTalk Optix Solutions



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Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.



WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.



ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.

IMPORTANT: Identifies information that is critical for successful application and understanding of the product.

These labels may also be on or inside the equipment to provide specific precautions.



SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.



BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.



ARC FLASH HAZARD: Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

The following icon may appear in the text of this document.



Tip: Identifies information that is useful and can help to make a process easier to do or easier to understand.

Rockwell Automation recognizes that some of the terms that are currently used in our industry and in this publication are not in alignment with the movement toward inclusive language in technology. We are proactively collaborating with industry peers to find alternatives to such terms and making changes to our products and content. Please excuse the use of such terms in our content while we implement these changes.

Preface

The FactoryTalk® Optix™ Visualization Platform from Rockwell Automation® is an open, scalable, extensible, and optional cloud-based editing software that lets you design applications for your system and deploy them across many devices. This publication provides an overview of the system, application examples, and ordering guidelines to help you choose exactly what you need. It also guides you through the basics of creating and deploying your own application.

Additional resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at rok.auto/literature.

Resource	Description
FactoryTalk Optix Help	Browser-based version of the software online help, which lets you select individual topics to quickly find what you are looking for.
FactoryTalk Remote Access Help	Browser-based version of the software online help, which lets you select individual topics to quickly find what you are looking for.
Embedded Edge Compute Module user manual, publication 1756-UM021	Explains how to configure and use ControlLogix® Embedded Edge Compute modules.
OptixPanel Operator Panels technical documentation	Link to our Technical Documentation Center, which provides downloadable copies of user information for OptixPanel operator panels.
ASEM 6300 Industrial PCs technical documentation	Link to our Technical Documentation Center, which provides downloadable copies of user information for ASEM 6300 Industrial Computers and Monitors.
Product Selection and Configuration tools, rok.auto/systemtools	Helps configure complete, valid catalog numbers and build complete quotes based on detailed product information.
Product Certifications website, rok.auto/certifications	Provides declarations of conformity, certificates, and other certification details.

FactoryTalk Optix overview

FactoryTalk® Optix™ is a new visualization platform that accelerates value delivery with modern technologies, innovative designs and modular deployment options. The platform is designed to help improve your process, efficiency and deliverables – in one easy-to-access tool. Take advantage of new levels of collaboration, scalability and interoperability to achieve your HMI vision. New SaaS-enabled workflows let your team collaborate anytime, from anywhere, thanks to built-in change tracking and versioning that automatically keeps track of who did what and when. With FactoryTalk® Optix™ you can:

- Develop your HMI without being tied to specific display hardware
- Reach new levels of flexibility by enabling teams to deploy projects to a station, tablet, or mobile display using a simple selection
- Deploy projects in a distributed configuration
- Achieve openness and interoperability by supporting both machine-to-machine communication and machine-to-cloud communication using OPC UA at the core of the platform.

FactoryTalk Optix Studio

FactoryTalk® Optix Studio™ provides designers with unlimited flexibility to:

- Design and test HMI projects directly from a web browser via the cloud, or if you prefer, use desktop-installable design software.
- Build and modify projects dynamically at runtime.
- Modify applications from anywhere, anytime, with an integrated cloud-based code repository and version management to track changes and know who did what and when.
- Use wizard-based workflows for managing users and groups, communications drivers, data logging, and recipes.
- Start projects easily with modern templates for navigation, login, alarms, and notifications.
- Build projects by using pre-built libraries and a comprehensive set of graphical objects, including industry standard objects and Rockwell Automation® standard libraries, organized with logical library folders. Quickly find and filter objects with library search tools.
- Create, save and reuse single objects or complete projects in user-defined libraries, with the flexibility to store your libraries locally or in a cloud-based repository. Multi-user collaboration enables library management standards among plant engineering, OEMs, and integrators.

FactoryTalk Optix Studio options

FactoryTalk® Optix Studio™ is available in two options, Standard and Pro. The Standard version is locally installed and lets you design and deploy applications from that device. The Pro version adds multi-user collaboration and integration with FactoryTalk® Remote Access™. The following table explains the specific capabilities of each version. Remote application deployment requires FactoryTalk® Remote Access™.

Table 1. FactoryTalk Optix Studio Standard and Pro options

Feature	Standard	Pro
Install FactoryTalk® Optix Studio™ on your laptop or PC	✓	✓
Build, save, and deploy FactoryTalk® Optix™ applications using the desktop version of FactoryTalk® Optix™ Studio environment	✓	✓
Build, save, and deploy FactoryTalk® Optix™ applications on your laptop or PC using the web-based FactoryTalk® Optix Studio™ environment	–	✓
Save FactoryTalk® Optix™ applications and libraries to a remote repository and track changes with version control	–	✓
Allow multiple concurrent users –together with version control, this feature lets multiple users collaborate on a project simultaneously while managing potential conflicts	–	✓
Deploy FactoryTalk® Optix™ applications to remote devices from the cloud	–	✓
Connect to and monitor remote devices from the cloud	–	✓

Feature tokens

Each FactoryTalk® Optix™ runtime entitlement corresponds to a "token container", within which designers can select and activate the functions necessary to develop an application. Feature tokens function as a unit of currency and accumulate as you configure more features in an application. Each function has a token value associated with it, and some functions can be used for free without having a token cost. You can upgrade your entitlement at any time to allow application expansion, and there is an unlimited option that gives you maximum flexibility and expansion.

The selection of components and functions to be activated and used in the project is done at the time of programming with FactoryTalk® Optix Studio™. FactoryTalk® Optix™ runtime verifies that the total amount of tokens associated with all features activated is within the token limit of your purchased entitlement.

Examples of features that affect the sizing of your application include the following:

- Controller connections
- Multiple web clients
- Alarming
- Recipe
- PDF reports
- Data logging
- Database connectivity
- OPC UA connectivity

Table 2. FactoryTalk Optix feature token packages

	Station Runtime–Lite		Station Runtime–Standard		Station Runtime–Pro	
Package size	XS	S	M	L	XL	Unlimited
Feature tokens included	5	8	11	15	21	Unlimited

Supported feature tokens

The tables in this section describe the features available with FactoryTalk® Optix™ and the number of feature tokens that are required to use them.

Table 3. Basic HMI feature tokens

Feature	No. of tokens
Core framework, graphics, data controls, charts, user management	Free
Native HMI graphic rendering (1 client)	1
HTML5 HMI graphic rendering (1 web client)	1
HTML5 HMI graphic rendering (up to 3 web clients)	2
HTML5 HMI graphic rendering (up to 5 web clients)	3
HTML5 HMI graphic rendering (up to 10 web clients)	5
HTML5 HMI graphic rendering (up to 20 web clients)	7
Alarming	1
Event Logger (includes Alarm History)	1
Runtime retentivity	1
Data logger	1
Recipes	1
Basic PDF reporting	1

Table 3. Basic HMI feature tokens (continued)

Feature	No. of tokens
Audit signature	Preview
Active directory authentication	1

Table 4. OPC UA feature tokens

Feature	No. of tokens
OPC UA client: FactoryTalk® Optix™ is a client to another OPC UA server	
OPC UA Client - (connected to 1 server)	1
OPC UA Client - (connected to multiple servers)	2
OPC UA server: FactoryTalk® Optix™ is a server to other OPC UA clients	
OPC UA Server - (1 connected client)	1
OPC UA Server - (up to 3 connected clients)	2
OPC UA Server - (up to 5 connected clients)	3
OPC UA Server - (up to 10 connected clients)	5
OPC UA Server - (up to 20 connected clients)	7

Table 5. Database feature tokens

Feature	No. of tokens
Database - Embedded (single database)	1
Database - ODBC (1 database connection)	1
Database - ODBC (up to 3 database connections)	2
Database - ODBC (up to 5 database connections)	3

Table 6. MQTT connectivity

Feature	No. of tokens
MQTT broker	Preview
MQTT subscriber	Preview
MQTT publisher	Preview

Table 7. Controller communications features

Feature	No. of tokens
For Logix 5000® controllers	
1 controller connection	Free
Multiple controller connections	1
For non-Allen-Bradley® controllers	
1 controller connection	1
Multiple controller connections	2
Runtime tag upload from controller (Siemens S7, Beckhoff)	1

Supported communication drivers include:

- Allen-Bradley® EtherNet/IP™ driver
- Microcontroller driver
- Modbus driver
- Mitsubishi MELSEC FX3U
- Omron EtherNet/IP™ driver
- Omron FINS driver
- Siemens S7 TCP driver
- Siemens S7 TIA PROFINET driver

Runtime entitlements

A runtime entitlement lets you access and run the FactoryTalk® Optix™ application in a Microsoft Windows or Linux environment. You can select the runtime entitlement that is aligned to the specific requirements of your application. Runtime entitlements are sold in packages that include feature tokens.

The FactoryTalk® Optix Studio™ provides a development environment for creating and testing HMI projects before deploying them to the device. The version is important for ensuring compatibility between the project and the runtime environment and may be useful for troubleshooting issues related to project development and deployment.

Typical runtime entitlements

The following table describes the runtime entitlements for typical FactoryTalk® Optix™ applications.

Table 8. FactoryTalk® Optix™ runtime entitlements and typical applications

Feature	Station—Lite		Station—Standard		Station—Pro
	X-Small	Small	Medium	Large	X-Large/Unlimited
Controller connectivity, acting OPC UA server, and basic display					
Single Rockwell Automation controller	✓	✓	✓	✓	✓
OPC server (1 connected client)	✓	✓	✓	✓	✓
Data logging with local database	✓	✓	✓	✓	✓
HMI graphics	✓	✓	✓	✓	✓
Basic HMI that includes all X-small capabilities plus:					
Third-party controller support	—	✓	✓	✓	✓
Alarming	—	✓	✓	✓	✓
Basic reporting	—	✓	✓	✓	✓
Security with Active Directory	—	✓	✓	✓	✓
HMI station that includes all Small capabilities plus:					
Multiple controllers (Rockwell Automation or third party)	—	—	✓	✓	✓
Recipes	—	—	✓	✓	✓

Table 8. FactoryTalk® Optix™ runtime entitlements and typical applications (continued)

Feature	Station–Lite		Station–Standard		Station–Pro
	X-Small	Small	Medium	Large	X-Large/Unlimited
OPC UA client	–	–	✓	✓	✓
Comprehensive HMI station that includes all Medium capabilities plus:					
HTML5 HMI up to three web clients	–	–	–	✓	✓
Audit signatures	–	–	–	✓	✓
Database–ODBC with one database connection	–	–	–	✓	✓
Extensible HMI station that includes all Large capabilities plus:					
Multiple OPC UA client connections	–	–	–	–	✓
OPC UA server for multiple clients	–	–	–	–	✓
Database–ODBC with multiple database connections	–	–	–	–	✓
Unlimited station runtime entitlements also available	–	–	–	–	✓

Runtime entitlements and feature tokens for target devices

Runtime entitlements differ between target devices.

Table 9. Target device entitlements and feature tokens

Device type	Pre-assigned entitlement	Upgrade available	Maximum entitlement
Edge Compute	XS	Yes	L
	5 feature tokens		15 feature tokens
OptixPanel Compact	S	Yes	M
	8 feature tokens		11 feature tokens
OptixPanel Standard	M	Yes	L
	11 feature tokens		15 feature tokens
ASEM 6300 Industrial PCs	none	No	XL
			21 feature tokens



Tip: If you need to purchase additional entitlements for an ASEM 6300 device, remove the existing entitlement from the device and place it back on the Optix Portal. You can then purchase a new entitlement of a different size. You can reuse the previous entitlement on another device.

Target devices

FactoryTalk® Optix™ lets you connect various target devices to your reference architecture. You can connect both Rockwell Automation® and third-party devices. The table below shows you the compatible Rockwell Automation® devices.

Table 10. Target devices

If you need this:	Select this device:
11 feature tokens as standard (upgradable to 15), display sizes from 7...21.5 in., and the ability to operate on two networks	OptixPanel Standard operator panel
8 feature tokens as standard (upgradable to 15) in either a 4.3 or 7-inch display size	OptixPanel Compact operator panel
Hosting FactoryTalk® Optix™, edge computing capabilities with data analysis software	Embedded Edge Compute module
Industrial computers with the ability to be connected to a larger system	ASEM 6300 industrial computers

Ordering target devices

Rockwell Automation® partners with best-in-class partners worldwide to offer products and solutions. For pricing and a product availability, search our PartnerNetwork database and connect with a partner today.

[Find a business partner](#)

OptixPanel operator panels

OptixPanel™ operator panels give you a PC-like user experience in a sealed HMI appliance. There is no operating system to secure and graphic terminals are also available in a wide range of screen sizes, bezel options, aspect ratios, and touch screen technologies that support gestures, such as swipe and pinch, for easier integration on your factory floor.

OptixPanel operator panels are available in both standard and compact versions.

Table 11. OptixPanel operator panels



Feature	OptixPanel Standard operator panels	OptixPanel Compact operator panels
		
Screen size	7...21.5 in screen size	4 and 7 in. screen size
Bezel options, aspect ratios, and touch screen technologies	<ul style="list-style-type: none"> Aluminum widescreen or 4:3 with single touch analog resistive screen Aluminum True Flat 4:3 with single touch analog resistive screen Aluminum and glass widescreen with PCAP multitouch screen 	<ul style="list-style-type: none"> Aluminum Widescreen with single touch analog resistive screen Aluminum and glass widescreen with PCAP multitouch screen Screen support for gestures (swipe, pinch, and so on) in the multitouch variants

Table 11. OptixPanel operator panels (continued)

Feature	OptixPanel Standard operator panels	OptixPanel Compact operator panels
	<ul style="list-style-type: none"> Stainless steel IP69K widescreen with single touch analog resistive screen Screen support for gestures (swipe, pinch, and so on) in the multitouch variants 	
Connectivity options	<ul style="list-style-type: none"> Two USB 3.0 ports Two Gigabit Ethernet ports that support the ability to operate independently on two networks One DB9 serial port (RS232/422/485) isolated 	<ul style="list-style-type: none"> One USB 2.0 port One Gigabit Ethernet port One DB9 serial port (RS232/422/485) non-isolated
For more information	OptixPanel™ Compact Operator Panels User Manual, publication 2800C-UM001 .	OptixPanel™ Standard Operator Panels User Manual, publication 2800S-UM001 .

Embedded Edge Compute module

The Embedded Edge Compute module is a chassis-based module that can communicate directly with Logix controllers, and has read and write access to all controller tags through the backplane and front Ethernet port. The Embedded Edge Compute module enables FactoryTalk® Optix Studio™, a development platform for creating HMI and Internet of Things (IoT) applications. The Embedded Edge Compute module contains a FactoryTalk® Optix™ XS runtime license with five tokens, and a FactoryTalk® Remote Access™ Runtime Pro license.

For more information about how to use your Embedded Edge Compute module, see the user manual, publication [1756-UM021](#).

Figure 1. Embedded Edge Compute module



ASEM 6300 Industrial Computers

Allen-Bradley® ASEM™ 6300 industrial computers (PCs) offer solutions for the physical limitations and requirements of your industrial environment. ASEM™ 6300B Box PCs, 6300P Panel PCs, and 6300PA On-Machine™ industrial computers provide various options in form factors, RAM, storage, performance, operating temperatures, and storage drives. 6300P and 6300PA devices are available in different display sizes.

For product selection and specification information, see ASEM 6300 Industrial Computers, Thin Clients, and Monitors Specifications, publication [6300-TD001](#).

Table 12. ASEM 6300B Box PCs





Feature	Book Mount Box PCs 6300-B-xxA, -xxF, -xxN	Performance and Advanced Book Mount Box PCs 6300B-BMB	Performance Wall Mount Box PCs – No Fan 6300B-PBC	Performance and Advanced Wall Mount Box PCs – Fan Cool 6300B-PBD
				
Available processors	<ul style="list-style-type: none"> Intel Atom x5-E3930 Intel Atom x7-E3950 	<ul style="list-style-type: none"> Intel Core i3-7100E Intel Core i5-7440EQ Intel Core i7-7820EQ 	<ul style="list-style-type: none"> Intel Core i3-7100E Intel Core i5-7440EQ Intel Core i7-7820EQ 	<ul style="list-style-type: none"> Intel Celeron Intel Core i3-7101E Intel Core i5-7500 Intel Core i7-7700
System expansion options	No expansion or storage	<ul style="list-style-type: none"> No expansion, no extractable storage No expansion, 1 extractable storage No expansion, 2 extractable storage –RAID 1 2 PCI expansion slots, 1 extractable storage 2 PCI expansion slots, no extractable storage 2 PCI expansion slot, 2 extractable storage –RAID 1 	<ul style="list-style-type: none"> No expansion 1 PCI/PCIe expansion 2 extractable slots for 2.5 in. HDD/SDD (–RAID 1) 	<ul style="list-style-type: none"> No expansion 1 PCI/PCIe 3 PCIe, no extractable storage 3 PCIe, + 2 extractable drawer –RAID 1 1 PCI/PCIe + 2 extractable drawer –RAID 1
Available operating systems	<ul style="list-style-type: none"> Microsoft Windows® 10 IoT Enterprise LTSC 2019 64-bit No operating system 	<ul style="list-style-type: none"> Windows 10 IoT Enterprise LTSC 2019 64-bit No operating system 	<ul style="list-style-type: none"> Windows 10 IoT Enterprise LTSC 2019 64-bit No operating system 	<ul style="list-style-type: none"> Windows 10 IoT Enterprise LTSC 2019 64-bit No operating system
OS storage (slot where OS is installed)	<ul style="list-style-type: none"> M.2 2242, SATA III, 3D TLC, 60/120/240/ 480 GB SSD Connected on board 	<ul style="list-style-type: none"> 2.5 in., SATA III, 3D TLC, 128/256/512 GB/1 TB mSATA, SATA III, 3D TLC/120/240/480 GB 		
Storage slot 1	–	<ul style="list-style-type: none"> 2.5 in., SATA III, 3D TLC, 128/256/512 GB/1 TB mSATA, SATA III, 3D TLC/120/240/480 GB 		
Storage slot 2	–	<ul style="list-style-type: none"> 2.5 in., SATA III, 3D TLC, 128/256/512 GB/1 TB 		
Storage slot 3	–	<ul style="list-style-type: none"> CFast, SATA III, TLC, 30/60/120/240 GB mSATA, SATA III, 3D TLC/120/240/480 GB 		<ul style="list-style-type: none"> CFast, SATA III, TLC, 30/60/120/ 240 GB mSATA, SATA III, 3D TLC/120/ 240/480 GB M.2 2242, PCIe x2, 3D TLC/ 128...512 GB M.2 2280, NVMe PCIe x4, 3D TLC/ 256 GB...1 TB

Table 12. ASEM 6300B Box PCs (continued)

Feature	Book Mount Box PCs 6300-B-xxA, -xxF, -xxN	Performance and Advanced Book Mount Box PCs 6300B-BMB	Performance Wall Mount Box PCs – No Fan 6300B-PBC	Performance and Advanced Wall Mount Box PCs – Fan Cool 6300B-PBD
Memory type	LP-DDR4-2400 DIMM <ul style="list-style-type: none"> Soldered on board Zero slots 4 GB/8 GB 	DDR4-2400 DIMM <ul style="list-style-type: none"> Removable Two slots 4 GB/8 GB/16 GB/32 GB 		DDR4-2400 SODIMM <ul style="list-style-type: none"> Removable Two slots 4 GB/8 GB/16 GB/32 GB
PCI expansion slots (optional)	–	<ul style="list-style-type: none"> None 2 x PCIe x4 1 PCIe x4 and PCI half size 	<ul style="list-style-type: none"> None 1 PCIe x4 slot 1 PCI half size 	<ul style="list-style-type: none"> None 1 PCIe x16 1 PCIe x16, 1 PCIe x4, 1 PCIe x1 2 x PCIe x8 + 1 x PCIe x4
COMM 1 port	–	<ul style="list-style-type: none"> None One RS232 non isolated, one USB 2.0 One RS232 isolated, one USB 2.0 Two Serial RS232 Two USB 2.0 		
COMM 2 port	–	<ul style="list-style-type: none"> None Two DisplayPort Ports One or two long-distance ports 	<ul style="list-style-type: none"> None One Ethernet Two DisplayPort ports 	<ul style="list-style-type: none"> None One Ethernet Two DisplayPort ports

Table 13. 6300P Panel PCs






Feature	6300-xEAPS	6300-xFAPS	6300-xECPM	6300-xAAPS	6300-xBAPS	6300-xACPM
						
Available processors	–	<ul style="list-style-type: none"> Intel Celeron G3900E 	<ul style="list-style-type: none"> Intel Celeron G3900E 	<ul style="list-style-type: none"> Intel Core i3-7100E Intel Core i5-7440EQ Intel Core i7-7820EQ 		
Operating systems	Microsoft Windows 10 IoT Enterprise LTSC 2019 64 bit. All devices are compatible with ThinManager™ software.					
Display sizes	15.6, 18.5, 21.5, or 24 in.	12.1, 15, 17, or 19 in.	15.6, 18.5, 21.5, or 24 in.	12.1, 15, 17, or 19 in	12.1, 15, 17, or 19 in	15.6, 18.5, 21.5, or 24 in.
Bezel materials	Aluminum Frame	Aluminum Frame	Glass	Aluminum Frame	Aluminum Frame	Glass
Touch screens	–	Resistive touch screen	PCAP multi-touch screen	Resistive touch screen	Resistive touch screen	PCAP multi-touch screen
SSD slot 1	–	<ul style="list-style-type: none"> 2.5 in., SATA III, 3D TLC/128 GB...1 TB mSATA, SATA III, 3D TLC/120...960 GB 				
SSD slot 2	–	2.5 in., SATA III, 3D TLC/128 GB...1 TB				
SSD slot 3 (CFast)	–	<ul style="list-style-type: none"> CFast, SATA III, TLC/16 GB...128 GB CFast, SATA III, 3D TLC/30...240 GB 				

Table 13. 6300P Panel PCs (continued)

Feature	6300-xEAPS	6300-xFAPS	6300-xECPM	6300-xAAPS	6300-xBAPS	6300-xACPM
Memory Type	—	DDR4-2400 SODIMM <ul style="list-style-type: none"> Removable Two slots 4 GB/8 GB/16 GB/32 GB 				
Expansion slots (optional)	—	<ul style="list-style-type: none"> One PCI half size One PCIe x4 				

Table 14. 6300PA On-Machine™ panel PCs with IP65 protection

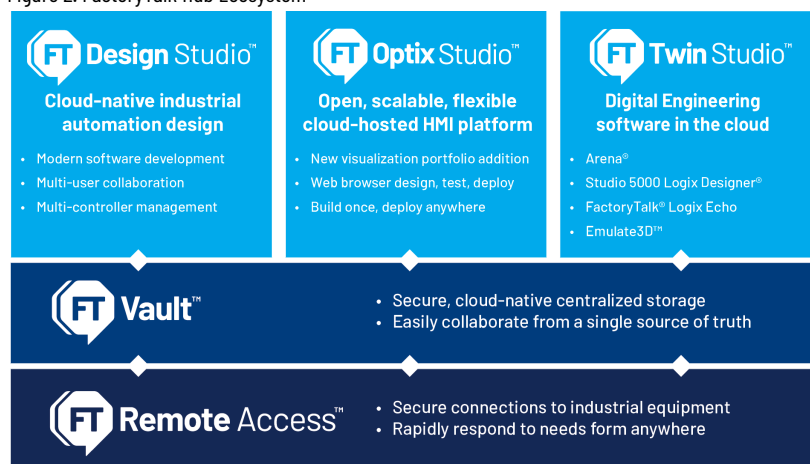
Feature	Portrait orientation with button area	Portrait orientation without button area	Landscape orientation with button area	Landscape orientation without button area
				
Display sizes	21.5 in. and 24 in.		15.6, 18.5, 21.5, and 24 in.	
Bezel materials	Glass			
Touch screens	PCAP multi-touch screen			
Screen resolution	1920x1080, wide aspect ratio			
Button area (optional)	Configurable button area to accommodate Ø22 mm (0.87 in.) hard-wired elements.			
Available processors	Seventh generation Intel Core i3, i5, i7 and Celeron® on the Intel Kaby Lake™ U platform			
Operating systems	Microsoft Windows 10 IoT Enterprise LTSC 2019 64 bit. All devices are compatible with ThinManager™ software.			

FactoryTalk Hub ecosystem

FactoryTalk® Optix™ software is a cloud-hosted product addition to our visualization portfolio. This scalable, modern platform is designed to improve processes, efficiency and deliverables by designing, testing and deploying applications directly from a web browser.

FactoryTalk® Optix™ software is part of the FactoryTalk® Hub® cloud software that provides centralized, on-demand design tools that empower companies to scale production, adapt to new customer demands and optimize the performance of their automation systems.

Figure 2. FactoryTalk Hub Ecosystem



Getting Started with FactoryTalk Hub

FactoryTalk Hub is the online location where you can access Rockwell Automation's cloud-based Software as a Service (SaaS) offerings to simplify the way you design, create, and maintain your assets.

To get started with FactoryTalk Hub, you must:

- Browse to [FactoryTalk Hub](#).
- Join or create a FactoryTalk Hub organization. See [Join an organization on page 17](#) or [Create an organization on page 18](#)

NOTE: The organization you belong to controls the services available to you in FactoryTalk Hub.

Authentication

FactoryTalk Hub uses your MyRockwell user profile to authenticate your access and determine your organization. You can be a member of more than one organization.

After your account has been authenticated, your browser displays the FactoryTalk Hub **Home** screen. Panels will be displayed that identify the services entitled for your use.

The organizational administrator can use the **Portal Menu** at the upper left of the page to manage user access, view entitlements, invite users, approve users, and manage organization invites. The Organization section of the Hub Menu allows you to create, edit, or join organizations, as well as view your Universal Credits Balance.



Tip: If the link isn't visible, you are not logged in as an organization administrator.

To open a service

Click the panel for the service, such as FactoryTalk Design Studio or FactoryTalk Remote Access, to go to that service.

Click **Home** to return to the Home screen.

Each service has Getting Started information in the online help to help you learn how to perform different tasks.

FactoryTalk Hub Home Page

The following image shows the parts of the FactoryTalk Hub home page.

Figure 3. FactoryTalk Hub Home Page

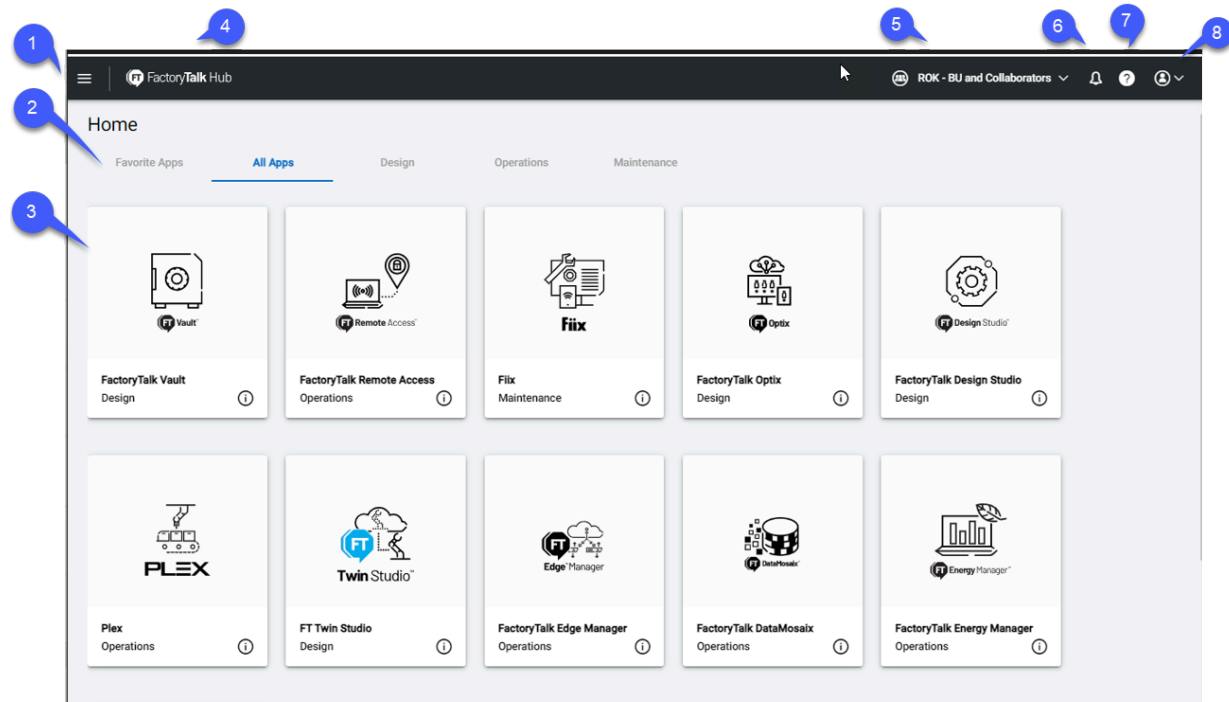


Table 15. FactoryTalk Home Page

Callout	Item
1	FactoryTalk Hub menu. Contains Hub Manager and Organization menus.
2	Service menu bar. This menu allows you to organize your services by adding favorites or selecting specific types of service, for example Design apps. To add a service to Favorites, hover over the card and select the star in the upper left corner of the card for the service you wish to add.
3	FactoryTalk Hub Service tiles. Allows you to select and launch services you are entitled to use.
4	Name of Hub service you are currently using.
5	The organization you are working with.
6	Notifications menu. Select to see notifications that have been sent to your organization. A red number here indicates the number of unread notifications you have waiting.
7	Help button. Provides access for the current application.
8	Access the profile of the current user.

Join an organization

An organization is a set of associated user accounts, applications, and resources that are managed together.

You can make a request to join existing organizations rather than creating a new one if your colleagues have already created an organization and you need to share data, access, or entitlements with each other.

Private organizations require an invitation code. The administrator or owner of an organization can send the code to you or they can email a link from the Invite Users page in their organization.

You can browse for public organizations by selecting Join Organization from the FactoryTalk Hub menu. When you browse you see a list of public organizations created by users with the same email domain that you are using.

All requests to join an organization by browsing or invitation code must be approved by the organization administrator.

To join an organization

1. In the FactoryTalk Hub menu select Join Organization.
2. Select an available organization from the list displayed or select the option to use an invite code you have already received.
3. Select Continue.

Create an organization

An organization should be as large as can be easily managed in order to maximize economies of scale and reduce data silos.

Create an organization on your first sign-in, or from the menu at any time.

NOTE: The user who creates an organization is the owner for that organization.

An organization:

- can be as large as can be easily managed
- define how data and entitlements are shared by users
- can be public or private
- cannot be merged or deleted once created

NOTE: Users cannot remove themselves from the organization but owners or administrators can remove others. An administrator cannot remove access from the owner.

1. On the FactoryTalk Hub menu, select Create an Organization.
2. Enter the organization details.

Name	Description
Add Organization Logo	(optional) Allows you to add a graphic to help your colleagues identify the organization.
Name of the Organization	(required) - Name of the organization that will be using services and SaaS provisioned for this FactoryTalk Hub. The name does not have to be unique but should be distinct and descriptive.
Owner Name	Name (required) - The name of the person who is responsible for administration of this FactoryTalk Hub organization. NOTE: The owner field is automatically populated by the system based on the user logged as creating the organization.

Name	Description
Email Domain	(required) - The email domain that identifies authorized users of this organization. NOTE: The email domain field is automatically populated by the system based on the user logged as creating the organization.
Location	The geographic location of this organization.
Description	(optional) - A short description of the goal of the organization.
Show this organization in the public list and in search results	Other users with the same email domain can see your organization and request to join.
Hide this organization in the public list and in search results, invite code required for members to join	No one outside your email domain can see your organization name unless you invite them.

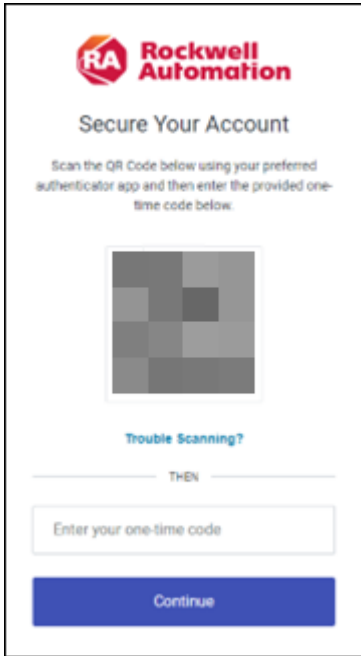
3. Select Next.
4. Choose the services that are visible to members of the new organization. When they log into your new organization they will only see tiles for the services you select.
5. Select Create.
6. A summary of your new organization is shown. At this time you may select the Allocate Entitlements button to allocate existing entitlements or to purchase entitlements for allocation.
7. Click Invite Users to invite people to your new organization by email.
8. Your new organization appears as a selection in the upper right of the FactoryTalk Hub menu bar.

Multifactor Authentication

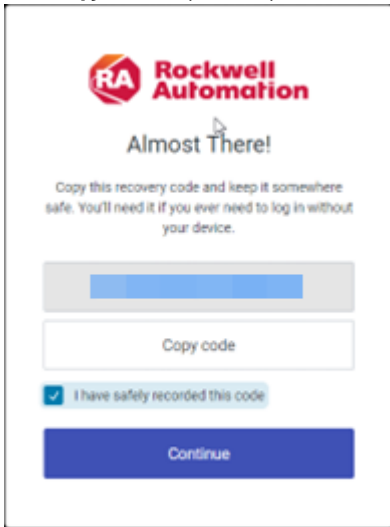
FactoryTalk Hub is a secure cloud-based platform. The first time you open some applications from FactoryTalk Hub, you need to secure your MyRockwell account via multi-factor authentication.

There is currently no option for email or text authentication. You must use an Authenticator application. If you do not have an Authenticator app on your phone, install your preferred Authenticator app such as Microsoft® Authenticator. The following process uses Microsoft Authenticator.

1. Select the application, for example the **FactoryTalk Optix** tile.
2. When the Secure Your Account window opens, scan the QR code using the installed Authenticator app on your phone.
3. Enter the one-time passcode displayed in the Authenticator app on the **Secure Your Account** window.



4. Select **Copy code** and paste the passcode in a secure location.



IMPORTANT: If you need to reset your account or move the Authentication application to another device, you must have this recovery passcode. Be sure to paste the passcode in a secure location. If you get a new mobile phone and need to configure your MyRockwell login on that new phone with the Authenticator application, you need to restart your multi-factor authentication (MFA). Call Rockwell Automation Technical Support if you lose your passcode or need to reset your MFA to configure it on your new phone.

5. Select **I have safely recorded this code** and select **Continue**.
The FactoryTalk Optix landing page opens.
6. (optional) Before you install the application, select **Release Notes** to view the release notes for the application.

Runtime sizing tool

To determine the runtime package that you need for your application, use the sizing tool within FactoryTalk® Hub®. You can access the tool from a local installation of the software, or via a web browser.

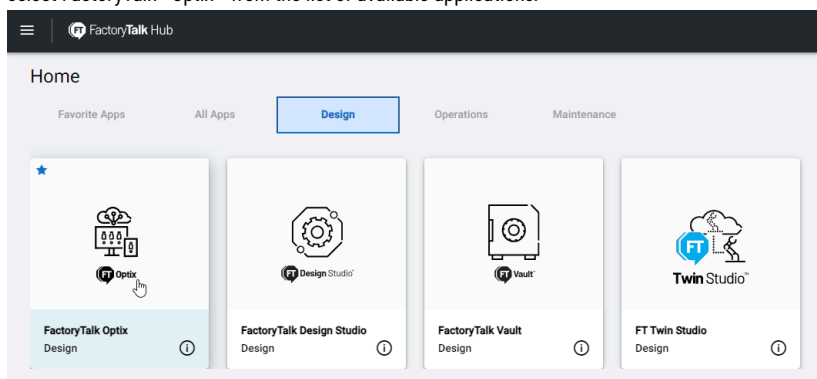
See [Getting started in FactoryTalk Hub on page 16](#) for help connecting to and setting up FactoryTalk® Hub®.

Sizing example

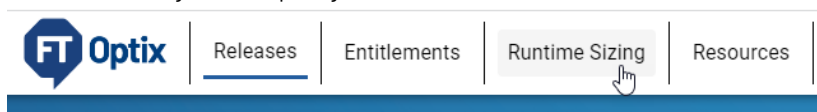
The following example shows you how to access and use the sizing tool within FactoryTalk® Hub®. You must be logged in to be able to access the tool. As you complete each step, the tool shows you the recommended runtime package based on your selections.

NOTE: Before you complete the steps in this section, you must first be part of an organization and have multifactor authentication configured.

1. Select FactoryTalk® Optix™ from the list of available applications.



2. Select Runtime Sizing from the top navigation bar.



3. Follow the wizard to select the features your application needs.

For example, if you select these features:

Table 16. Example sizing selections

Wizard Category	Example Selection
Select presentation	Web HMI Client
Select features	<ul style="list-style-type: none"> • Data Logger • Database
Controller connections	Rockwell EtherNet/IP <ul style="list-style-type: none"> • Single connection • Rockwell Hardware
Select interoperability	<ul style="list-style-type: none"> • OPC UA Client None • OPC UA Server 1 token

You see these recommended runtime packages:

Figure 4. Example recommended runtime packages

Selections	Tokens
Presentation	
Web HMI Client (1)	1
Features	
Data Logger	1
Database	
Embedded	0
Controller Connections	
Rockwell EtherNet/IP (Single connection)	1
Rockwell Hardware	-1
Interoperability	
OPC UA Client (None)	0
OPC UA Server (1)	1

Recommended runtime package:

Station Runtime Lite (XS)
Total = 3

Package includes 5 tokens. 2 tokens are available.

Runtime Package and Support Options	Catalog #
<input type="radio"/> Station Runtime Lite (XS) with self-assist	9702M-OPXRTXST20
<input type="radio"/> Station Runtime Lite (XS) with perpetual 8x5	9702M-OPXRTXST21
<input type="radio"/> Station Runtime Lite (XS) with perpetual 24x7	9702M-OPXRTXST22

Would you like to upgrade to Station Runtime Lite (S) (8 tokens)?

<input type="radio"/> Station Runtime Lite (S) with perpetual 24x7	9702M-OPXRTSMT32
--	------------------

Copy Catalog Number

Select the package you want to see the associated catalog number for purchase via the Commerce Portal.

System architecture examples

Runtime entitlements are based on the number of feature tokens that your application requires. The examples given in this section are typical applications; your own architecture may be different than what is shown.

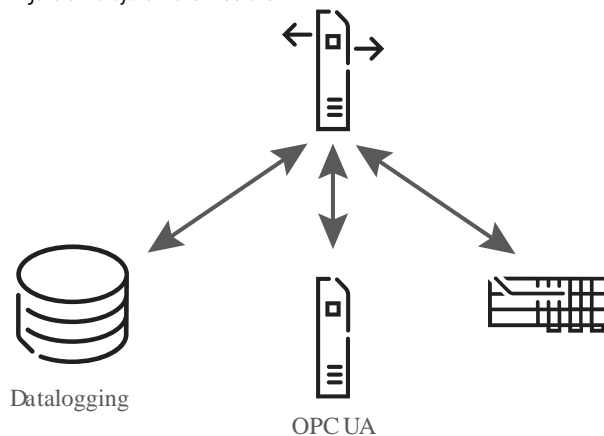
Package sizes:

- Station Runtime Lite
 - XS - extra small; up to 5 tokens
 - S - small; up to 8 tokens
- Station Runtime Standard
 - M - medium; up to 11 tokens
 - L - large; up to 15 tokens
- Station Runtime Pro
 - XL - extra large; up to 21 tokens
 - UNL - unlimited; unlimited tokens

Station Runtime Lite (XS)

This XS example shows you a system architecture using an Embedded Edge Compute module.

Figure 5. XS System architecture



This example architecture has the following components:

- No HMI displays
- Communicates with a Rockwell Automation® controller
- Acts as an OPC UA server
- Logs data to an internal database
- One web client

The following picture shows example runtime sizing for a package that includes these application components.

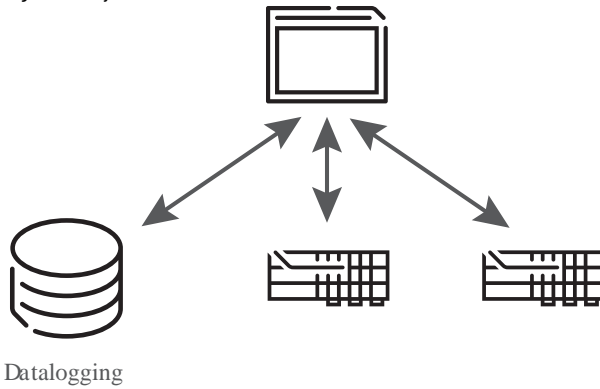
Figure 6. XS with Embedded Edge Compute module

Selections	Tokens
Presentation	
Web HMI Client (1)	1
Features	
Data Logger	1
Database	
Embedded	0
controller Connections	
Rockwell EtherNet/IP (Single connection)	1
Rockwell Hardware	-1
Interoperability	
OPC UA Client None	0
OPC UA Server 1	1
Recommended runtime package:	
Station Runtime Lite (XS)	Total = 3
Package includes 5 tokens. 2 tokens are available.	

Station Runtime Lite (S)

This S example shows you a system architecture using a panel PC and two controllers.

Figure 7. S System architecture



This example architecture has the following components:

- Single HMI station (panel PC) with typical HMI functionality
- Communicates with aRockwell Automation® controller and a third-party controller
- Logs data to an internal database
- Requires event logging, alarming, recipes, and basic PDF reporting

The following picture shows example runtime sizing for a package that includes these application components.

Figure 8. S with panel PC and multiple controllers

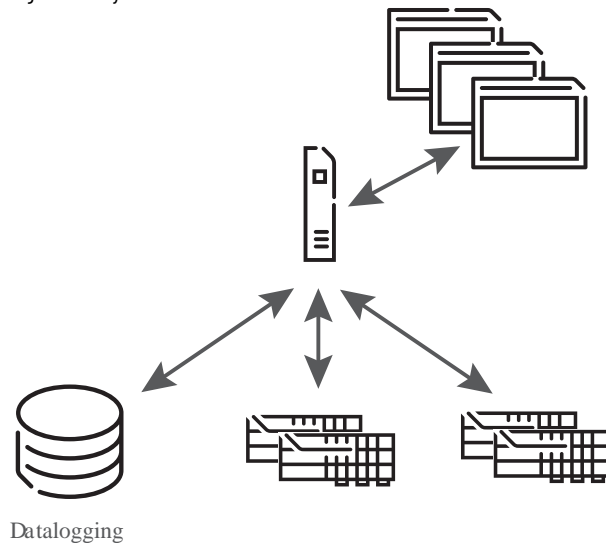
Selections	Tokens
Presentation	
Native HMI Client	1
Features	
Database	
Embedded	0
Data Logger	1
Basic Reporting	1
Alarms	1
Recipe	1
Event Logger	1
controller Connections	
Rockwell EtherNet/IP (Multiple connections)	2
Rockwell Hardware	-1
Siemens S7 TCP (Single connection)	1
Interoperability	
OPC UA Client None	0
OPC UA Server None	0
Recommended runtime package:	
Station Runtime Lite (S)	Total = 8

Package includes 8 tokens. 0 tokens are available.

Station Runtime Standard (M)

This M example shows you a system architecture using an HMI and two web clients.

Figure 9. M System architecture



This example architecture has the following components:

- Single HMI station with typical HMI functionality and three web clients
- Communicates with multiple Rockwell Automation® controllers and multiple third-party controllers
- Logs data to an internal database
- Requires event logging, alarming, recipes, and basic PDF reporting

The following picture shows example runtime sizing for a package that includes these application components.

Figure 10. M with HMI and two web clients

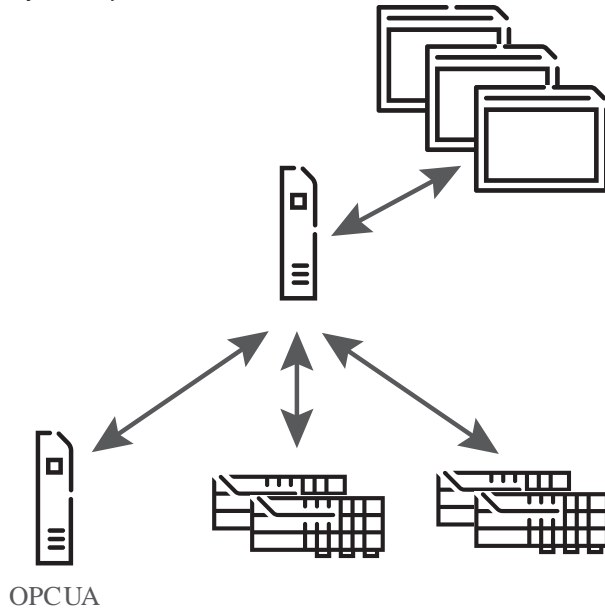
Selections	Tokens
Presentation	
Web HMI Client (3)	2
Features	
Alarms	1
Database	
Embedded	0
Recipe	1
Basic Reporting	1
Event Logger	1
Data Logger	1
controller Connections	
Rockwell EtherNet/IP (Multiple connections)	2
Rockwell Hardware	-1
Siemens S7 TCP (Multiple connections)	2
Interoperability	
OPC UA Client None	0
OPC UA Server None	0
Recommended runtime package:	
Station Runtime Standard (M)	Total = 10

Package includes 11 tokens. 1 token is available.

Station Runtime Standard (L)

This L example shows you a system architecture using an HMI and two web clients.

Figure 11. L System architecture



This example architecture has the following components:

- Single HMI station with typical HMI functionality and ten web clients
- Communicates with multiple Rockwell Automation® controllers and multiple third-party controllers
- Acts as a client to other OPC UA servers

- Logs data to an internal database
- Requires event logging, alarming, recipes, and basic PDF reporting

The following picture shows example runtime sizing for a package that includes these application components.

Figure 12. HMI with three web clients and OPC UA

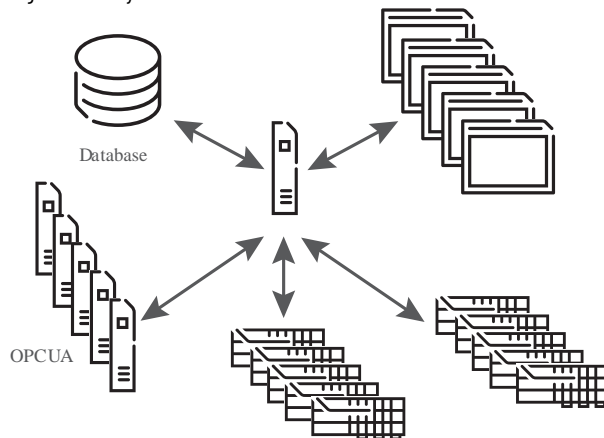
Selections	Tokens
Presentation	
Web HMI Client (10)	5
Features	
Database	
Embedded	0
Data Logger	1
Alarms	1
Recipe	1
Event Logger	1
Basic Reporting	1
controller Connections	
Rockwell EtherNet/IP (Multiple connections)	2
Rockwell Hardware	-1
Siemens S7 TDP (Multiple connections)	2
Interoperability	
OPC UA Client Multiple	2
OPC UA Server None	0
Recommended runtime package:	
Station Runtime Standard (L)	Total = 15

Package includes 15 tokens. 0 tokens are available.

Station Runtime Pro (XL)

This XL example shows you a system architecture using an HMI and two web clients.

Figure 13. XL System architecture



This example architecture has the following components:

- Single HMI station with typical HMI functionality and twenty web clients
- Communicates with multiple Rockwell Automation® controllers and multiple third-party controllers
- Acts as a client to multiple OPC UA servers

- Acts as an OPC UA server to one client
- Logs data to an internal database
- Exchanges data with external databases via ODBC
- Requires event logging, alarming, recipes, and basic PDF reporting

The following picture shows example runtime sizing for a package that includes these application components.

Figure 14. HMI with Extensibility

Selections	Tokens
Presentation	
Web HMI Client (20)	7
Features	
Database	
Embedded	0
ODBC Connections	1
Alarms	1
Recipe	1
Basic Reporting	1
Event Logger	1
Data Logger	1
controller Connections	
Rockwell EtherNet/IP (Multiple connections)	2
Rockwell Hardware	-1
Siemens S7 TCP (Multiple connections)	2
Interoperability	
OPC UA Client Multiple	2
OPC UA Server 1	1
Recommended runtime package:	
Station Runtime Pro (XL)	Total = 19

Package includes 21 tokens. 2 tokens are available.

FactoryTalk Optix software overview

FactoryTalk® Optix™ software is an open, scalable visualization platform with options.

- Design and test HMI projects
- Create an application once and deploy to any device
- Style your HMI graphics for a global audience
- Built from the ground up with OPC UA and extensibility

FactoryTalk® Optix Studio™ software is the integrated design environment where you create HMI applications.

FactoryTalk® Optix™ Runtime software runs on target devices in one of two ways:

- Locally from the computer that is hosting a local installation of FactoryTalk® Optix Studio™ software
- Remotely from the cloud-hosted version of FactoryTalk® Optix Studio™ software

FactoryTalk Optix Installation Guide overview

This installation guide assists you on how to install and configure the design and Runtime components of a FactoryTalk® Optix™ system.

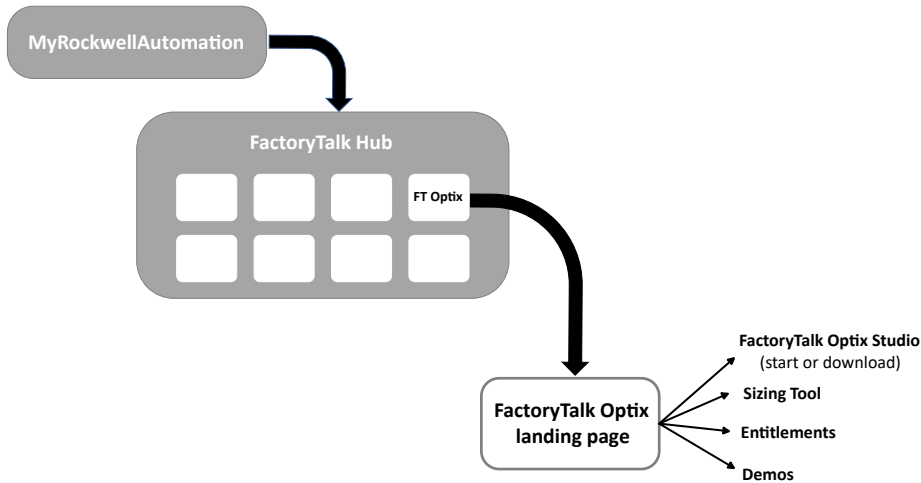
The FactoryTalk Optix system includes:

- FactoryTalk Optix Studio or FactoryTalk Optix Studio with a Pro entitlement
- FactoryTalk Optix Application
- FactoryTalk Optix Runtime Tools
- Entitlements and organizations set up through FactoryTalk® Hub™

NOTE: An organization is a collection of users and services (including FactoryTalk Optix) that can be accessed and managed using FactoryTalk Hub.

NOTE: New users joining or creating an organization may request a FactoryTalk Optix Studio Pro 90-day trial entitlement.

FactoryTalk® Optix™ system



- FactoryTalk Hub:** Online service platform where you can access Rockwell Automation cloud-based SaaS (Software as a Service) solutions to create your organizations and design, build and maintain your assets.
 Cloud-based SaaS solutions are included in FactoryTalk Hub in the form of tiles. Once a new user accesses the FactoryTalk Hub, they will be granted a 90-day trial period for using FactoryTalk Optix Studio Pro.
- FactoryTalk Optix Studio:** Locally installed design editor that is available at no cost. FactoryTalk Optix Studio provides editing tools for designing HMIs. No activation or entitlement is required.

NOTE: FactoryTalk Optix Studio is also referred to as FactoryTalk Optix Studio Standard.

- FactoryTalk Optix Studio with a Pro entitlement:** Cloud design editor that can run in a web browser or as a locally installed application. FactoryTalk Optix Studio Pro requires a subscription based on a user entitlement.
 The Pro entitlement allows the activation of a the web-browser based editor and provides technical support and features that require a cloud connection, such as cloud-based code repository integration, cloud-hosted version control, remote deployment requiring FactoryTalk Remote Access, and multi-user collaboration.

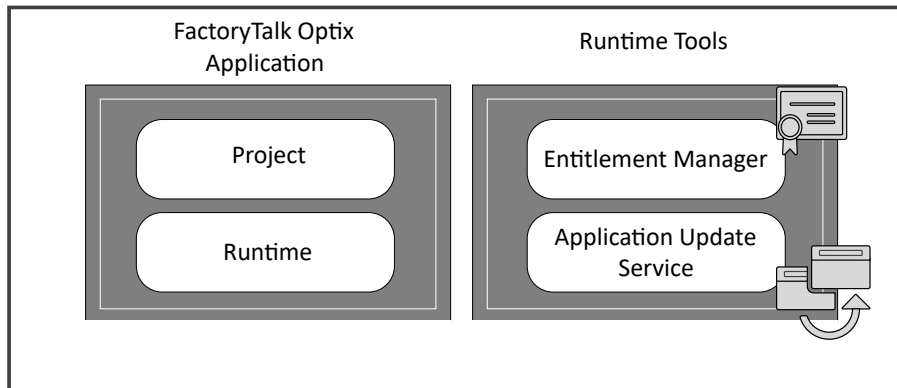
NOTE: FactoryTalk Optix Studio Pro and FactoryTalk Optix Runtime Tools require respectively an entitlement that needs to be allocated to an organization.
 FactoryTalk Optix Studio Pro entitlements are then assigned to organization users, whereas FactoryTalk Optix Runtime Tools entitlements are then assigned to the devices where they are installed.

- FactoryTalk Optix Application:** Comprises two main components:
 - Project:** Represents the design and configuration of your application.
 - Runtime:** The Runtime environment where your application runs.**FactoryTalk Optix Studio** enables you to create your application by combining your project with the appropriate Runtime. The choice of Runtime depends on the target device, for example x86 or ARM and the operating system, Windows or Linux.
- Runtime Tools:** You must install the Runtime Tools package on the target device to allow for entitlement management and application deployment. This package includes two components:
 - Application Update Service:** Service running in the background that allows FactoryTalk Optix Studio to connect to the target device and deploy the application.
 - Entitlement Manager:** Application that manages FactoryTalk Optix entitlements.

IMPORTANT: Runtime Tools are already embedded in OptixPanels™ and EEC (Embedded Edge Computes).

You have to download, install and activate Runtime Tools for Windows and Linux devices.

Target device



Requirements for installation and setup

Installing and using the FactoryTalk Optix system components requires:

- A MyRockwell account associated to your company. To create your RA account, register your company e-mail on the MyRockwellAutomation website: <https://www.rockwellautomation.com/account/>
- Once you create a user account, access the FactoryTalk Hub.
- An Authenticator app on your phone. Microsoft Authenticator grants you access to the FactoryTalk Hub.

A company is typically associated with an organization that can be joined by company users. All of the entitlements activated for a company are allocated to the organization.

IMPORTANT: FactoryTalk Optix Studio Pro entitlements are assigned to specific users, whereas FactoryTalk Optix Runtime entitlements are assigned to a specific Runtime device.

Purchase, allocate, and activate FactoryTalk Optix Studio Pro software

To purchase, allocate, and activate an entitlement with FactoryTalk® Optix™ Studio Pro software, do the following:

1. Purchase FactoryTalk® Optix™ licenses on the Commerce Portal.
2. After you have purchased and received the entitlement for your purchased license, allocate it to your Organization.
All entitlements must be allocated to an Organization.
3. Assign the entitlement to the runtime software.
4. Activate a FactoryTalk Optix Runtime on an online device.


Purchase a FactoryTalk Optix Pro entitlement

FactoryTalk Optix Studio Pro is available by subscription only. FactoryTalk Optix Runtime is only available with a perpetual license. Purchase and allocate or assign an entitlement or license to an organization in order to activate FactoryTalk Optix Pro. You must have a purchase order to purchase software.

Devices that are not activated operate in demo mode and stop running FactoryTalk Optix Applications after 2 hours. The **Emulator** client that runs FactoryTalk Optix Applications on the development computer does not require a runtime license.

1. From the [Commerce Portal](#), log in to your MyRockwell account.
2. Scroll to FactoryTalk Optix and under FactoryTalk Optix, select **Continue**.
3. Select your package, scroll to select options to customize your package, and then under **Select Quantity**, select the number of entitlements.
4. Select **ADD TO CART**. You can change the number of entitlements in your cart.




Tip: If you copied a FactoryTalk Optix Runtime catalog number from the Runtime Sizing tool, you can paste the selected catalog number in the search bar at the top of the Commerce Portal page. Paste the catalog and select  to add the catalog number to your cart.

5. Review your cart and the pricing with your Distributor and then select **CHECKOUT**.
6. Confirm your shipping, billing, contract details, and order summary and then select **SUBMIT ORDER**.
7. On the confirmation page, select **Manage Licenses** and confirm your new contract.

Once the license status is active, the entitlement appears in FactoryTalk Hub. You can also confirm your order status in the [Commerce Portal](#) by selecting **My Subscriptions/Manage Licenses**.

Allocate a FactoryTalk Optix Studio Pro entitlement to your organization

A newly purchased entitlement can be viewed by the purchaser in FactoryTalk Hub. Then, the entitlement must be allocated to the related organization, to be made available to other users as well.

1. Access [FactoryTalkHub.com](#) to view your new entitlement.
2. In the FactoryTalk Hub page title bar, select , then select **View Entitlements**.
The new entitlement appears at the top of **All entitlements** under **Available for allocation**.
3. Verify that the correct organization name appears on the right side of the FactoryTalk Hub title bar.
4. Locate the entitlement that you want to assign to your organization and select **Allocate** next to the entitlement row.
5. Ensure that the entitlement, organization and allocated entitlements quantity are correct, then select **Review Allocation**.



Tip: Once allocated to an organization, an entitlement cannot be deallocated.

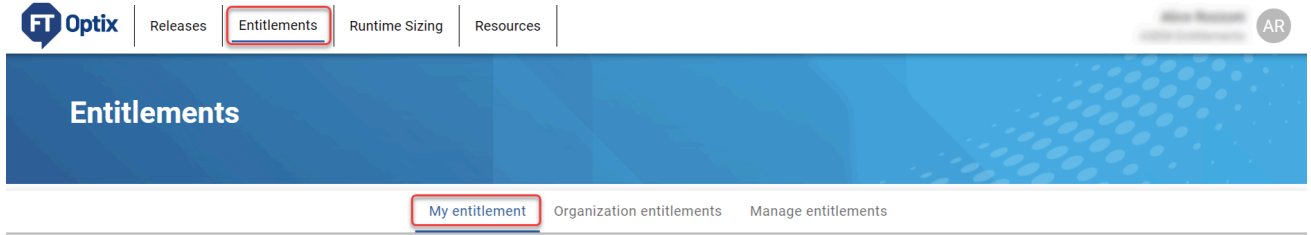
6. When prompted, confirm the allocation.
The entitlement is allocated to the organization.
7. In the upper left corner of the FactoryTalk Hub web page, select **Home**.
8. Select the **FactoryTalk Optix** tile.
9. Authenticate as required.
10. At the top of the FactoryTalk Optix landing page, select **Entitlements**.
11. On the **Entitlements** page, select **Organization entitlements**.

The allocated entitlement appears.

Activate a FactoryTalk Optix Studio Pro entitlement

Before using FactoryTalk Optix Studio Pro you will need to activate the entitlement assigned to you.

1. Access the FactoryTalk Optix landing page.
2. Authenticate as required.
3. Select **My Entitlement** to view the entitlements available in the organization to which you belong.



There is an available FactoryTalk Optix Studio Pro entitlement in the current organization that can be activated.

Activate Entitlement

NOTE: If you do not have a FactoryTalk Optix Studio Pro entitlement already, a message appears saying that you are eligible for one.

4. Select **Activate Entitlement** to assign the entitlement to your account.



Tip: You can only activate a FactoryTalk Optix Studio Pro entitlement for your own account. No user can activate an entitlement for another user.

A message appears confirming the successful entitlement activation.

Purchase, allocate, and activate FactoryTalk Optix Runtime software

To purchase, allocate, and activate an entitlement with FactoryTalk® Optix™ Runtime software, do the following:

1. Purchase FactoryTalk® Optix™ licenses on the Commerce Portal.
2. After you have purchased and received the entitlement for your purchased license, allocate it to your Organization.
All entitlements must be allocated to an Organization.
3. Assign the entitlement to the runtime software.
4. Activate a FactoryTalk Optix Runtime on a target device, either online or offline.

Purchase FactoryTalk Optix Runtime

To run FactoryTalk Optix Runtime, purchase an entitlement on the Commerce Portal and allocate that entitlement to your Organization. A FactoryTalk Optix Runtime license allows you to run FactoryTalk Optix Applications on physical or virtual HMI devices. Devices that are not activated operate in a 2-hour demo mode.

FactoryTalk Optix Runtime is only available with a perpetual license today. The FactoryTalk Optix Studio Emulator does not require a runtime license.

1. Navigate to the [Commerce Portal](#) page and log in with your MyRockwell account.
2. Paste the catalog number from the Runtime Sizing tool in Search at the top of the Commerce Portal page.
3. Paste the catalog and click the cart icon to add the catalog number to your cart.
4. (optional) If required, change the quantity to purchase.




Tip: If you did not copy the FactoryTalk Optix Runtime catalog number when determining the FactoryTalk Optix Runtime package, select the catalog number from the list, scroll to FactoryTalk Optix, select **CONTINUE**, select your package, customize, select quantity and then select Add to cart.

5. Once FactoryTalk Optix Runtime is added to your cart, select CHECKOUT.
6. Review pricing with your Distributor, review your cart, and select CHECKOUT.
7. Go to **My Subscriptions/Manage Licenses** to confirm your order status. You can also select *Manage Licenses* from the order confirmation page.
8. Confirm your Shipping, Billing, Contract Details and Order Summary and submit the order.
9. Once the status is **Active**, your entitlement is available in [FactoryTalk Hub](#).

Allocate a FactoryTalk Optix Studio Pro entitlement to your organization

A newly purchased entitlement can be viewed by the purchaser in FactoryTalk Hub. Then, the entitlement must be allocated to the related organization, to be made available to other users as well.

1. Access [FactoryTalkHub.com](#) to view your new entitlement.
2. In the FactoryTalk Hub page title bar, select , then select **View Entitlements**.
The new entitlement appears at the top of **All entitlements** under **Available for allocation**.
3. Verify that the correct organization name appears on the right side of the FactoryTalk Hub title bar.
4. Locate the entitlement that you want to assign to your organization and select **Allocate** next to the entitlement row.
5. Ensure that the entitlement, organization and allocated entitlements quantity are correct, then select **Review Allocation**.



Tip: Once allocated to an organization, an entitlement cannot be deallocated.

6. When prompted, confirm the allocation.
The entitlement is allocated to the organization.
7. In the upper left corner of the FactoryTalk Hub web page, select **Home**.
8. Select the **FactoryTalk Optix** tile.
9. Authenticate as required.
10. At the top of the FactoryTalk Optix landing page, select **Entitlements**.
11. On the **Entitlements** page, select **Organization entitlements**.

The allocated entitlement appears.

Activate FactoryTalk Optix Runtime on online devices

Activate a Runtime entitlement through License Manager on a Runtime online device.

1. Open License Manager using either the Windows Start menu or the icon on your desktop.
2. Select **Online** to activate a new entitlement on the Runtime device.
3. Select **Activate an entitlement for this device** and **Next**.
Your entitlement key is a 25-character key created by FactoryTalk Optix used to allocate an entitlement to an organization.
4. Access the FactoryTalk Optix landing page.
5. Authenticate as required.
6. Select **Entitlements** to view and copy the entitlement key.
7. Enter the Entitlement Key and select **Activate**.

8. When the entitlement activates successfully, select **OK**.
9. Select **Entitlements** again, and then **Organization entitlements** to display the allocated entitlement.

NOTE: When you deploy FactoryTalk Optix Applications to the Runtime device, all required Runtime files automatically deploy with the application.

Activate FactoryTalk Optix Runtime on offline devices

Once the Runtime Tools are installed on a Runtime offline device, an Activation Request file links the offline device to the entitlement.

Create the Activation Request file on the offline device, map it to the entitlement through an online device, and then transfer it back to the offline device.

1. On an online device, follow the steps described in [Activate FactoryTalk Optix Runtime on online devices on page 34](#).
2. Copy the Runtime Tools installation package to an offline device by means of a USB drive and run the .exe file.
3. While still on the offline device, open the Entitlement Manager and select **Offline**.
4. Select **Export an entitlement Activation Request for this device to a file** and **Next**. Save the newly generated entitlement key. Your entitlement key is a 25-character key created by FactoryTalk Optix used to allocate an entitlement to an organization.
5. Enter the entitlement key and select **Create**.



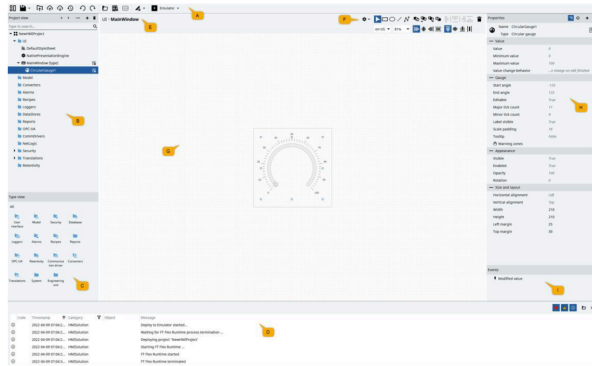
Tip: You are prompted to enter a name for the Activation Request file on the offline device. Rockwell Automation recommends using the entitlement key as a file name.

6. Enter a file name and select **Save**.
7. Select **OK**.
8. Transfer the Activation Request file to a Runtime online device by means of a USB drive.
9. Open Entitlement Manager and select **Online**.
10. Select **Activate an entitlement for a different device** and **Next**.
11. Browse for and select the Activation Request file that you created and copied to the online device.
12. Select **Activate**.
13. Select **OK**.
An Explorer window opens to save the newly activated entitlement file.
14. Accept the file name and select **Save**.
15. Select **OK**.
16. Copy the entitlement file back to the offline device.
 - a. On the offline device, open Entitlement Manager and select **Offline**.
 - b. Select **Install an already activated entitlement file into this device** and **Next**.
17. Browse for the activated entitlement file that you just copied and select **Open**.
18. Select **OK**.
Entitlement Manager now displays the installed entitlement.

The entitlement is now installed and activated on the offline Runtime device. Return to the FactoryTalk Optix landing page and view **Organization Entitlements** to view and confirm the activation date.

FactoryTalk Optix design environment

Figure 15. FactoryTalk Optix Design Environment



E

Table 17. FactoryTalk Optix Design Environment

Interface Section	Description
A	Main toolbar
B	Project panel displays project information model to display and set the structure of nodes. The nodes can be organized according to parent/child logics
C	Types panels with details on: <ul style="list-style-type: none"> • native types, grouped in folders according to their purpose • custom project types, located in folders that reflect the project structure
D	Log panel displays messages related to the operation of the software
E	Path of the object being edited in the editor
F	Toolbar specific to the object type being edited
G	Object editor to set interface objects or to configure other specific object types (such as tag importers or recipes)
H	Properties panel displays the properties of the selected node in the Project or in the object editor
I	Events panel to subscribe methods to events that can be generated

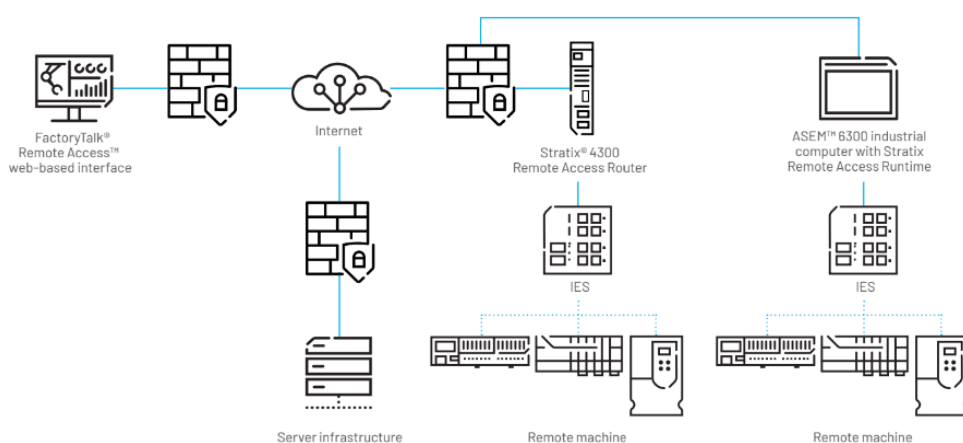
FactoryTalk Remote Access

The FactoryTalk® Remote Access™ solution supports the maintenance of operations with remote access via VPN. Also, in situations where operational plants are remote, the solution lets you investigate and resolve issues before planning travel to the site.

With FactoryTalk® Remote Access™ Manager software, you can manage machines from a centralized web-based interface to perform, configure, and operate the VPN tunnel for remote access. You can apply two-factor authentication to validate the user identities. In addition, the Transport Layer Security (or TLS) encryption protocol ensures confidentiality, integrity, and authenticity of the data exchange session. Logs and audit trails are available for tracking remote access operations and established connections.

The Stratix® 4300 remote access router adds hardware to the solution. The router lets machine builders and OEMs operate on remote systems and its subnetworks. The routers are offered in two and five 10/100/1000 Mbps Gigabit Ethernet copper port variants.

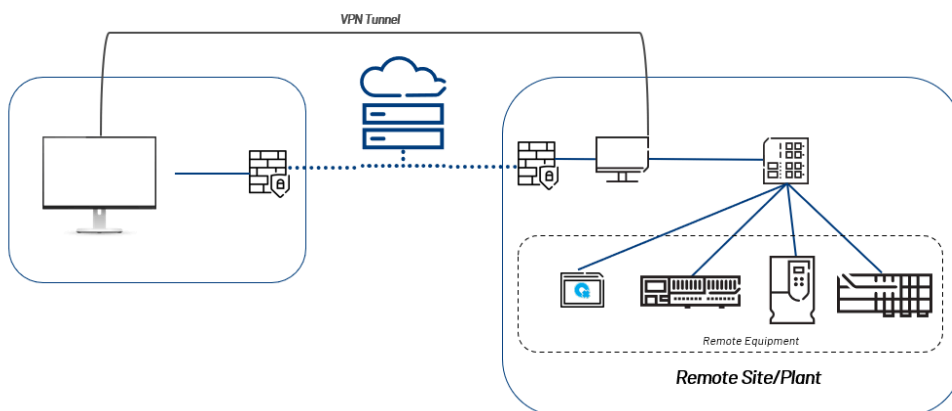
Figure 16. FactoryTalk Remote Access Architecture



Remote Access Architecture

For remote maintenance and troubleshooting of FactoryTalk® Optix™ solutions, configure the FactoryTalk® Remote Access™ Runtime Pro software as the endpoint.

Figure 17. Recommended architecture for remote access



For more information about FactoryTalk® Remote Access™ configurations, see the [online help](#).

Quick start project

Develop, compile, and run a sample HMI FactoryTalk Optix Application that demonstrates FactoryTalk Optix Studio capabilities.

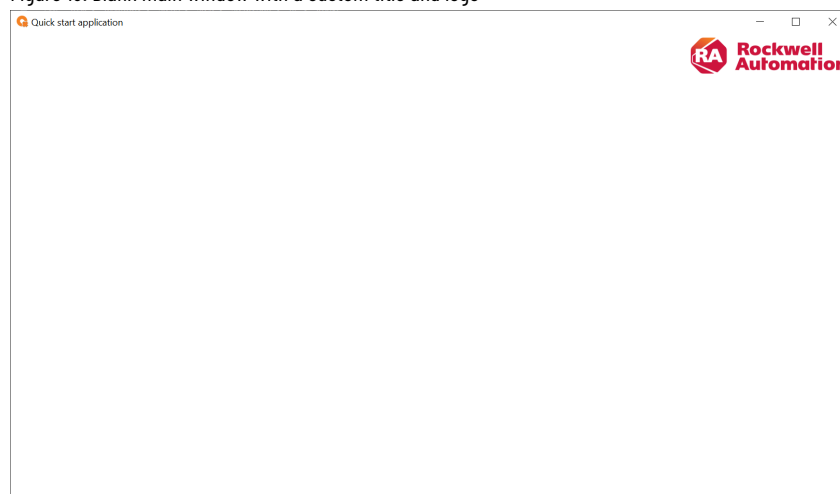
**Tip:**

- Test your application by selecting  **Run** to run your project using the client emulator on your development computer.
- Save changes periodically by pressing **Ctrl > S** or selecting  **Save** from the toolbar.

To develop the project

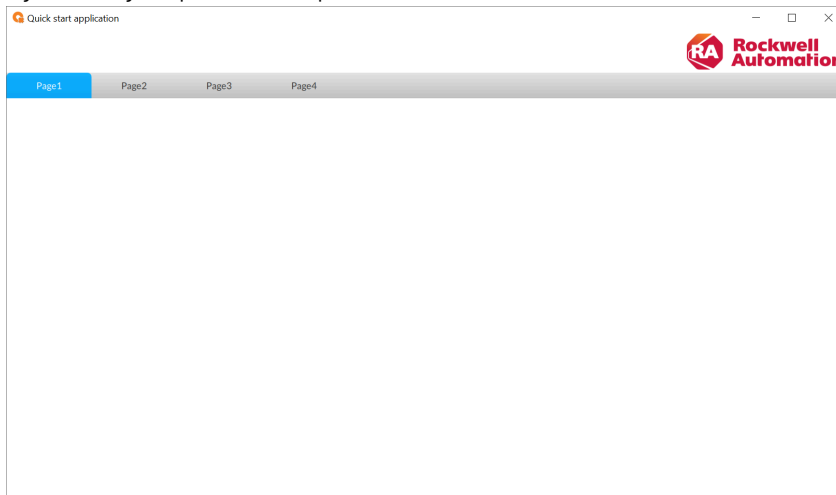
1. Configure and brand the main window:
 - a. [Configure the main window on page 42.](#)
 - b. [Configure a logo on page 43.](#)
 - c. (optional) [Save and commit changes on page 54.](#)

Figure 18. Blank main window with a custom title and logo



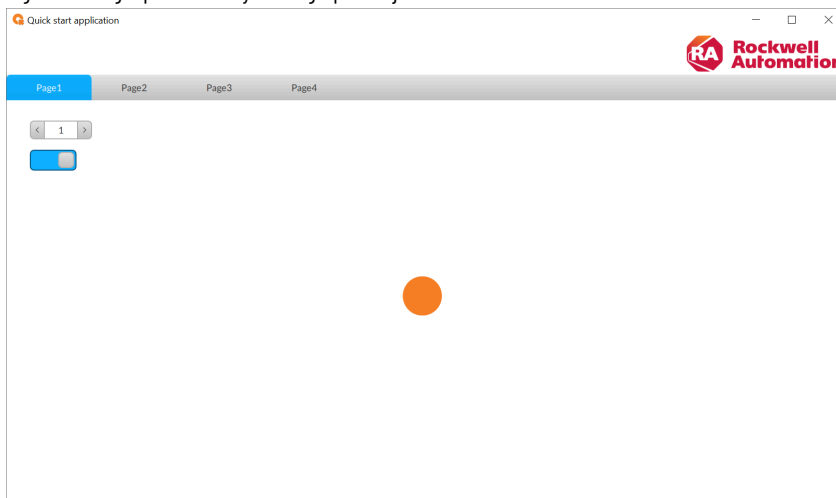
2. Configure panels and tab-based navigation:
 - a. [Configure panel types on page 43.](#)
 - b. [Configure a navigation panel on page 44.](#)
 - c. (optional) [Save and commit changes on page 54.](#)

Figure 19. Navigation panel with blank panels



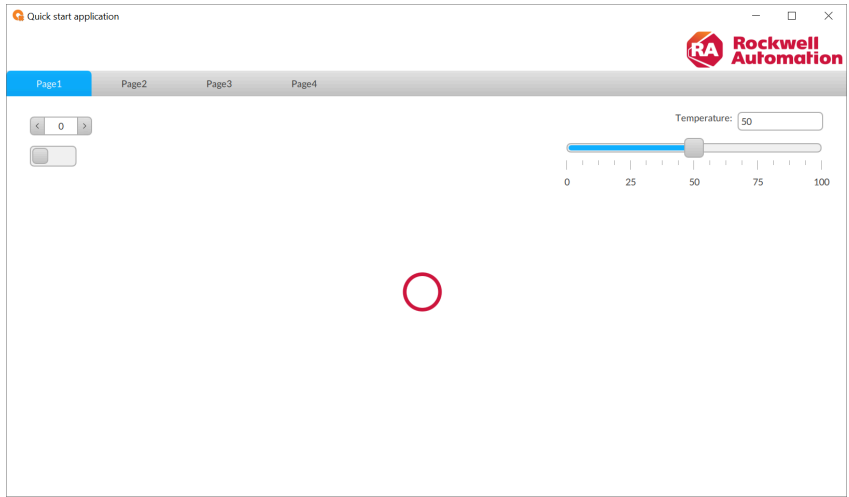
3. Configure dynamic graphic objects:
 - a. [Add graphic objects on page 44.](#)
 - b. [Associate the LED status with the switch on page 45.](#)
 - c. [Associate the LED color with the spin box on page 46.](#)
 - d. (optional) [Save and commit changes on page 54.](#)

Figure 20. Page1 panel with dynamic graphic objects



4. Configure variables and add temperature controls:
 - a. [Create variables on page 48](#) or [Import controller variables on page 49.](#)
 - b. [Configure temperature controls on page 50.](#)
 - c. (optional) [Save and commit changes on page 54.](#)

Figure 21. Page1 panel with dynamic graphic objects and temperature controls



- 5. Configure alarms:
 - a. [Configure a digital alarm on page 51.](#)
 - b. [Configure an alarm grid on page 51.](#)
 - c. [Configure an alarm event logger on page 52.](#)
 - d. [Configure a widget to display logged alarms on page 52.](#)
 - e. [Configure a switch to simulate alarms on page 53.](#)
 - f. (optional) [Save and commit changes on page 54.](#)

Figure 22. Page2 panel with active alarms grid

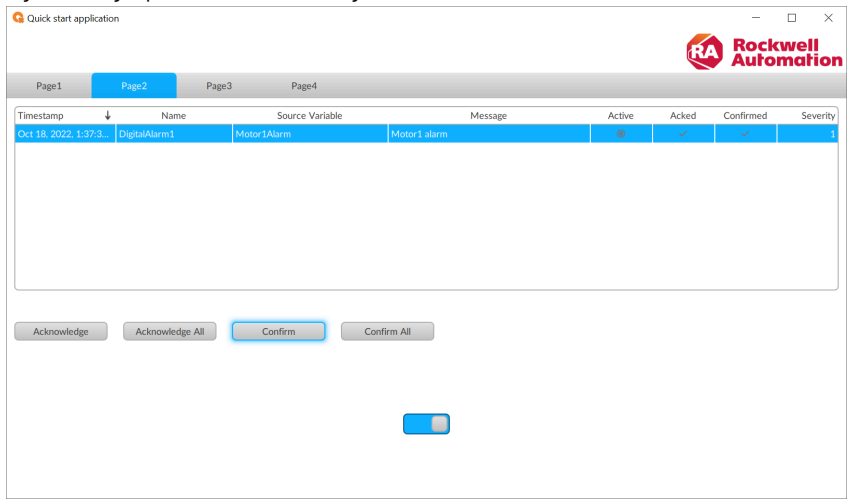


Figure 23. Page3 panel with alarm events history

Timestamp	Name	Source Variable	Message	Active	Acked	Confirmed	Severity
Oct 18, 2022, 1:37:31 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	⊙	✓	✓	1
Oct 18, 2022, 1:37:29 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	⊙	✓	✗	1
Oct 18, 2022, 1:37:23 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	⊙	✗	✓	1
Oct 18, 2022, 12:24:37 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	⊙	✓	✓	1
Oct 18, 2022, 12:24:35 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	⊙	✓	✗	1
Oct 18, 2022, 12:24:32 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	⊙	✗	✓	1
Oct 18, 2022, 12:24:31 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	○	✗	✓	1
Oct 18, 2022, 12:24:24 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	⊙	✗	✓	1
Oct 18, 2022, 12:24:23 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	○	✗	✓	1
Oct 18, 2022, 12:24:17 PM	DigitalAlarm1	Motor1Alarm	Motor1 alarm	⊙	✗	✓	1

From:

To:

6. Configure recipes:

- [Configure a recipe on page 53.](#)
- [Configure a recipes editor on page 54.](#)
- (optional) [Save and commit changes on page 54.](#)

Figure 24. Page4 panel with recipes editor

Ingredient	Quantity	Severity
Ingredient01	2	2
Ingredient02	3	1
Ingredient03	1	2

Create a project

Create a Quick start project to develop your FactoryTalk Optix Application.

- Open FactoryTalk Optix Studio.
- Under **Create a new project**, select **Default**.
- In **Name**, enter the name of the project.
For example, enter `QuickStart`
- (optional) In **Location**, edit the directory in which you want to save the project.
- Verify that **Use version control** is selected.
- Select **Create**.

Configure and brand the main window

Configure the main window

The main window contains all graphical elements displayed at design time in FactoryTalk Optix Studio and at runtime in your FactoryTalk Optix Application.

1. In **Project view**, expand **UI** and double-click **MainWindow (type)**.

The main window area displays in the editor. The main window does not contain any graphical elements.

2. In **Properties**, set **Width** to 1080 and **Height** to 600.

The initial dimensions of the main window are now 1080 x 600. At runtime, you can resize the main window at any time.



Tip: To make the application fit your screen resolution, you can set different **Width** and **Height** values. Alternatively, you can set **Full screen** to `True`, however; it is easier to develop and preview applications with the default **False** settings.

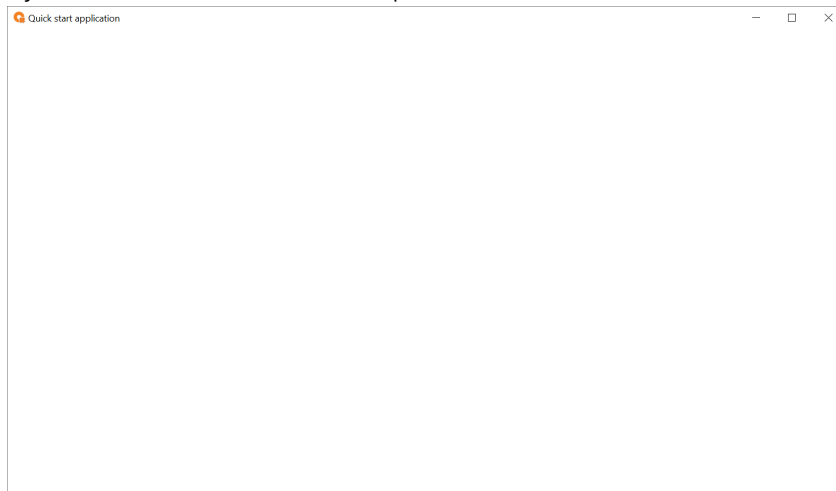
Figure 25. Blank resized main window in the editor



3. (optional) If you want your application window to float above other windows, set **Always on Top** to `True`.
4. (optional) Set **Caption** to provide a custom title for your application window.

For example, set **Caption** to `Quick start application` to replace the default window title.

Figure 26. Blank main window with a custom caption



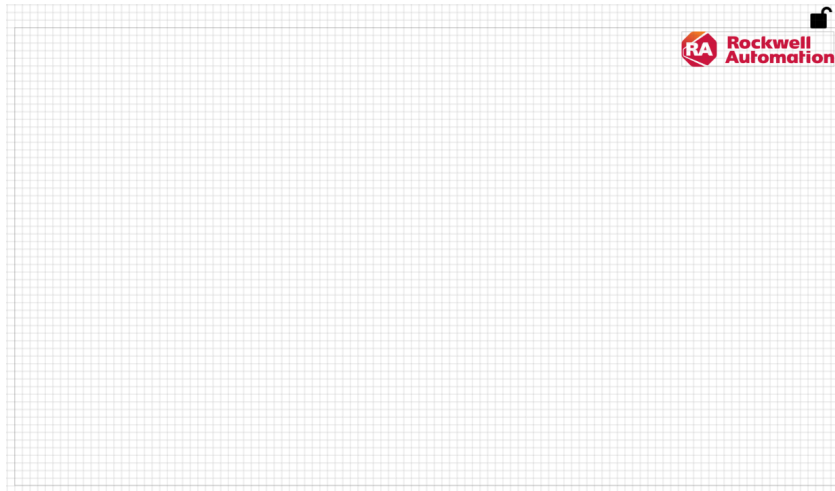
Configure a logo

Add and position a logo of your choice in the right corner of the main window.

To configure a logo

1. In **Project view**, double-click **MainWindow (type)**.
The editor opens in a separate tab.
2. Drag the logo file from your computer into the main window area in the editor.
The logo appears in the editor. Depending on the logo resolution and the main window resolution, the logo might take too much space or be positioned incorrectly.
3. In **Properties**, set **Width** to 200.
4. Set **Horizontal alignment** to **Right**.
5. Set **Top margin** and **Right margin** to 5.



Figure 27. Main window with a logo in the corner



Configure panels

Configure panel types

Configure panel types to distribute interface elements over multiple pages in the application.

1. In **Project view**, right-click **UI** and select **New > Folder**.
2. Hover-over **NewFolder1**, select , and enter `Pages`.
3. Right-click **Pages** and select **New > Containers > Panel**.
Panel1 (type) appears under **Pages**.
4. Hover-over **Panel1 (type)**, select , and enter `Page`.
5. Set **Width** to 1060 and **Height** to 500.
6. Set **Left margin**, and **Right margin** to 10.
7. Right-click **Pages** and select **New > Pages > Page** four times.

Page1 (type), **Page2 (type)**, **Page3 (type)**, and **Page4 (type)** are created. Each **Page# (type)** inherits its properties from **Page (type)**.



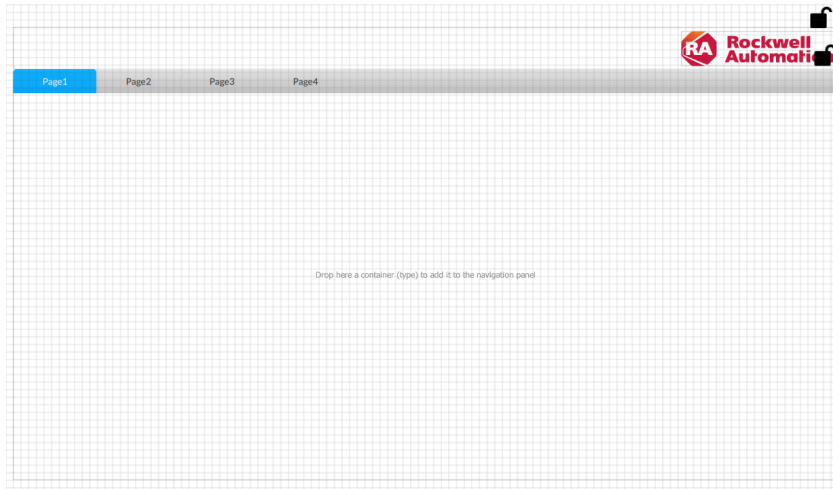
Tip: Create consistent user interfaces by inheriting properties from parent object types. For example, if you want to change **Page1 (type)**, **Page2 (type)**, **Page3 (type)**, and **Page4 (type)** margins, edit the margin properties of **Page (type)**. The modification will propagate to each **Page# (type)**.

Configure a navigation panel

Configure a navigation panel to switch between different panels at runtime.

1. In **Project view**, double-click **MainWindow (type)**.
The window type opens in the editor.
2. Right-click **MainWindow (type)** and select **New > Containers > Navigation panel**.
Navigation panel appears in the main window and is not positioned.
3. In **Properties**, set **Horizontal alignment** and **Vertical alignment** to **Stretch**.
The navigation panel occupies the entire height and width of the main window and covers the logo.
4. Set **Top margin** to 55.
The navigation panel no longer covers the logo.
5. Drag **Page1 (type)**, **Page2 (type)**, **Page3 (type)**, and **Page4 (type)** onto **NavigationPanel1**.

Figure 28. Navigation pane with empty pages



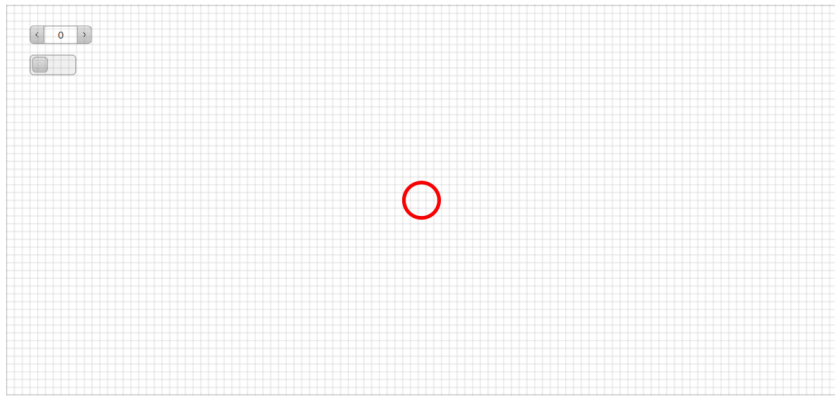
Configure dynamic graphic objects

Add graphic objects

Add a Switch, Spin box, and LED objects to Page1 of your application.

1. In **Project view**, double-click **Page1 (type)**.
Blank Page1 displays in the editor in a separate tab.
2. Right-click **Page1 (type)** and select **New > Base controls > Switch**.
3. Right-click **Page1 (type)** and select **New > Base controls > Spin box**.
4. Right-click **Page1 (type)** and select **New > Base controls > LED**.
5. In the editor, arrange the objects according to your preferences.

Figure 29. Arranged graphical objects

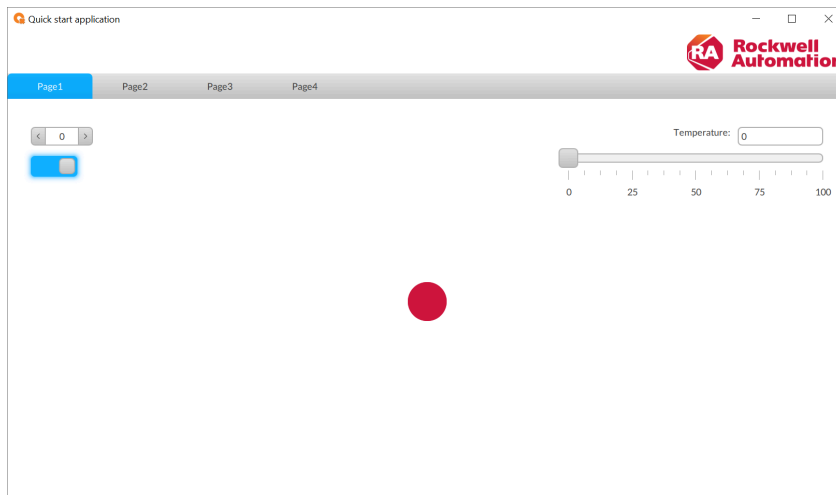
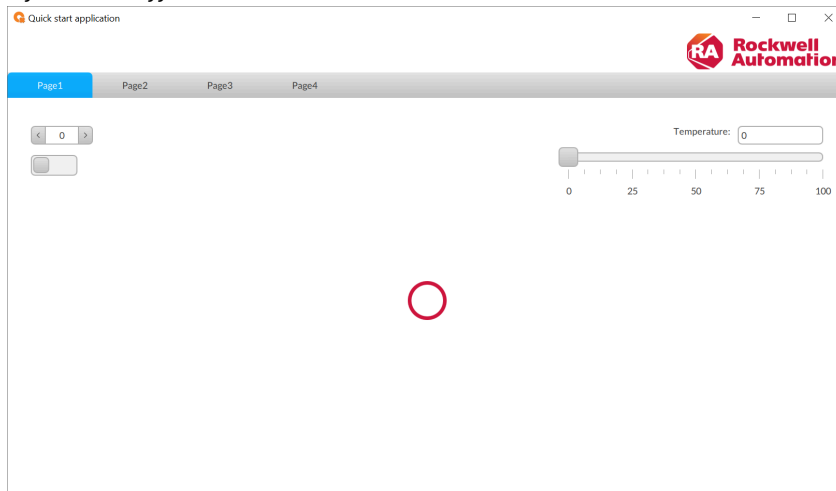


Associate the LED status with the switch

Turn the LED object on and off with the switch.

1. In **Project view**, select **LED1**.
2. In **Properties**, create a dynamic link between **Active** and **ProjectName > UI > Pages > Page1 (type) > Switch1 > Checked**.

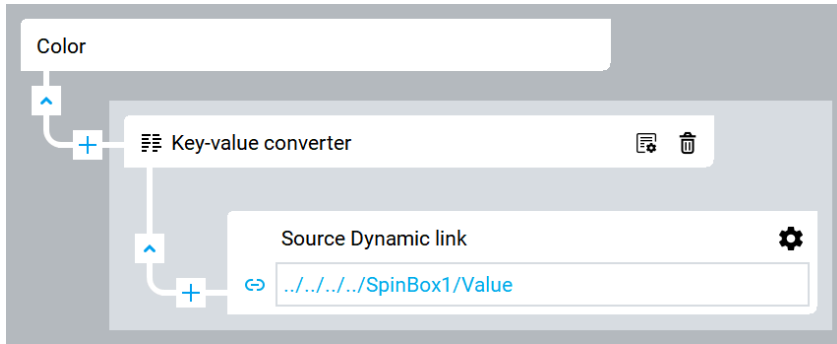
Figure 30. LED toggle



Associate the LED color with the spin box


Control the color of the LED object by changing spin box values at runtime.

1. In **Project view**, select **LED1**.
2. In **Properties**, create a complex dynamic link with a **Key-value converter** between the **Color** and **Value** of **SpinBox1**:



Source Dynamic link

ProjectName > UI > Pages > Page1 (type) > SpinBox1 > Value.

3. In the complex dynamic link editor, next to **Key-value converter**, select .
4. In the editor, next to **Values**, select **String** and select **Color**.



Tip: If you do not see the required option, select the **Show all** checkbox.

5. Add two rows by selecting **+** two times.
6. Set the values as follows:

Keys (UInt32)	Values (Color)
0	#cd163f
1	#f58025
2	#00aeef

7. In **Project view**, select **SpinBox1**.
8. In **Properties**, set **Minimum value** to 0.



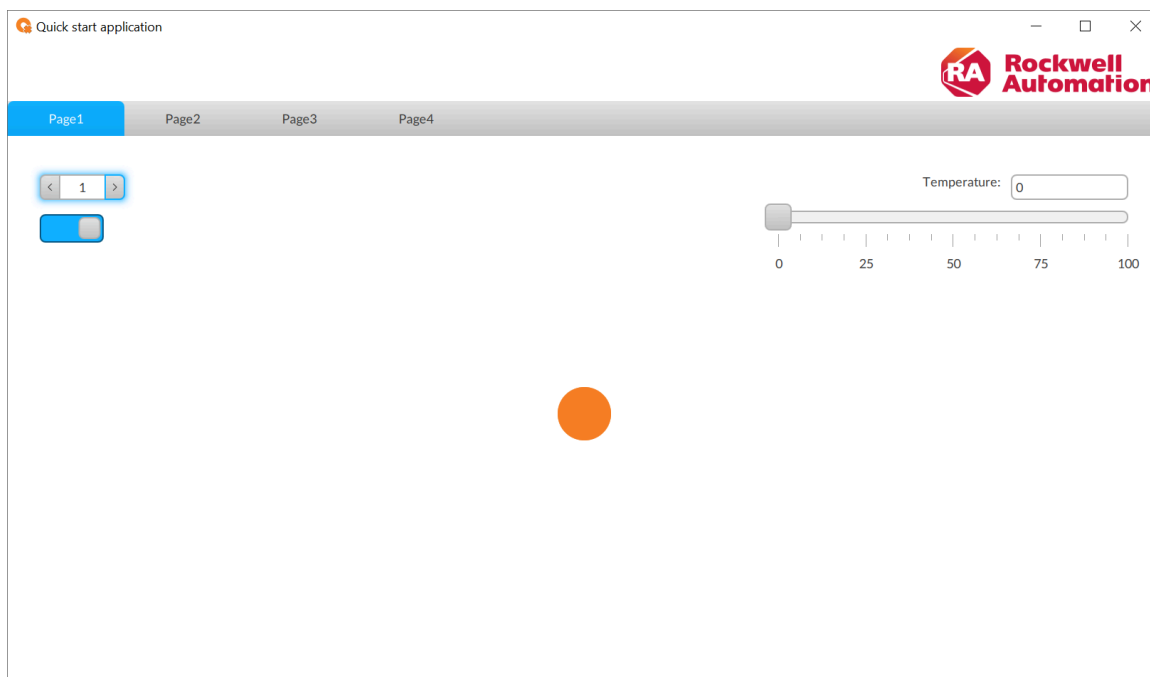
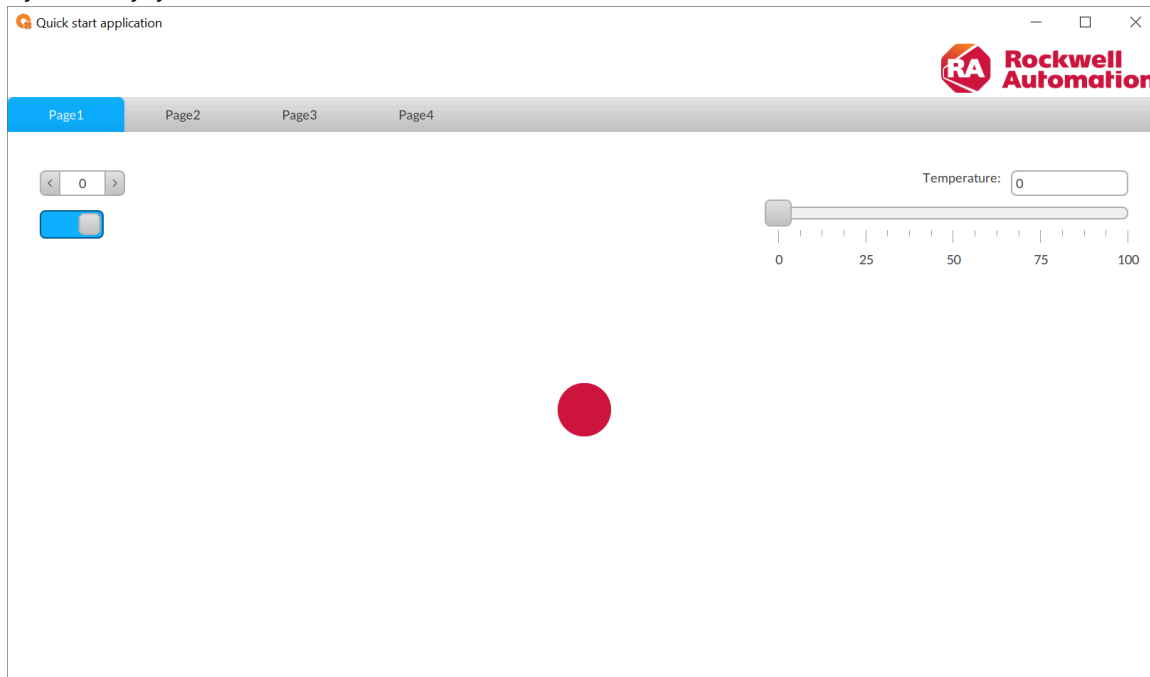
Tip: Setting **Minimum value** prevents you from providing values that are not handled by **Key-value converter** at runtime.

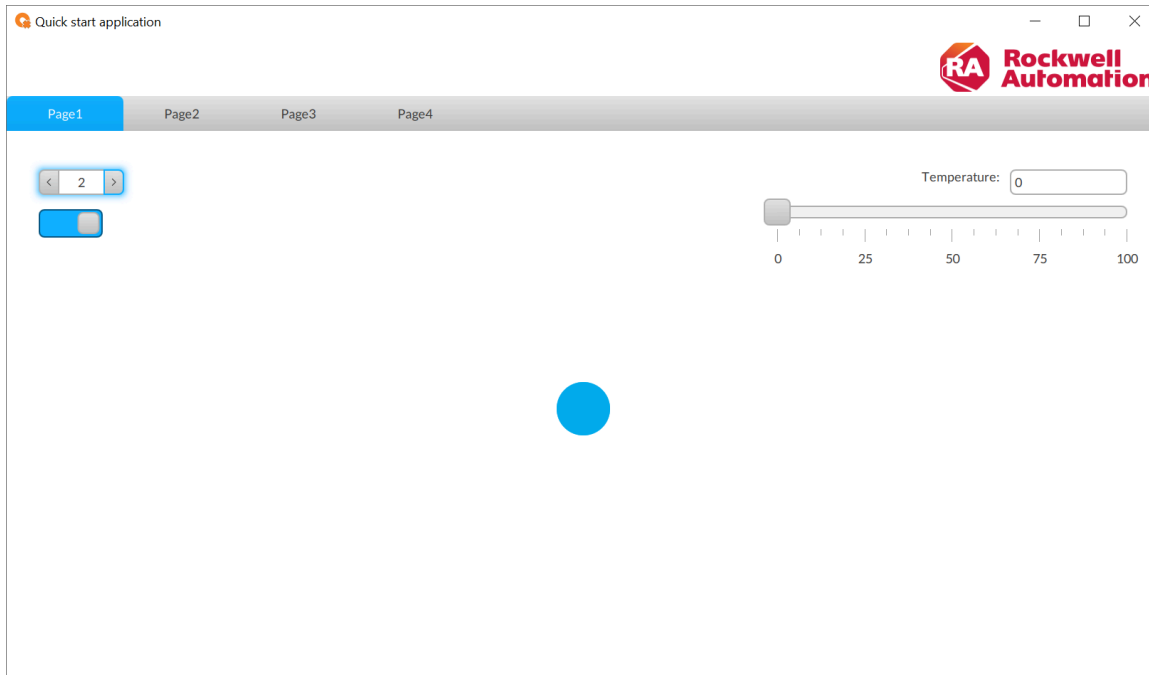
9. In **Properties**, set **Maximum value** to 2.



Tip: Setting **Maximum value** prevents you from providing values that are not handled by **Key-value converter** at runtime.

Figure 31. Changing LED color






Configure variables

Create variables

Create variables that define a motor alarm, temperature, and individual ingredients.

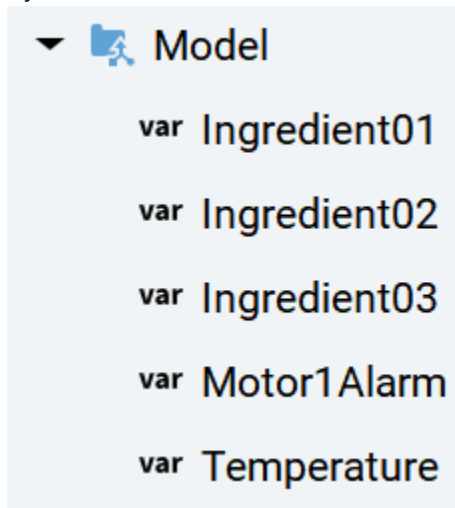


Tip: Instead of creating variables manually, you can import controller variables in the offline mode. See [Import controller variables on page 49](#).

1. In **Project view**, create five variables by right-clicking **Model** and selecting **New > Variable**.
2. Rename the variables by hovering-over each variable, selecting , and entering:
 - Ingredient01
 - Ingredient02
 - Ingredient03
 - Motor1Alarm
 - Temperature
3. In **Project view**, select **Motor1Alarm**.
4. In **Properties**, select **Int32** and select **Boolean**.

The variable value type changes to Boolean. This is needed for the digital alarm that you will configure later.

Figure 32. Model node



Take a note of the variables location.

Import controller variables

Configure a communication driver to import sample tags (controller variables) from a Logix controller.



Tip: Instead of importing controller variables from a Logix controller, you can create variables manually. See [Create variables on page 48](#).

Prerequisites

In the Logix Designer application, download the [LogixTags.ACD](#) project to a physical Logix controller or an emulated FactoryTalk® Logix Echo™ controller. Set the controller in the run mode.

For more information, see the Logix Designer online help.

To import controller variables


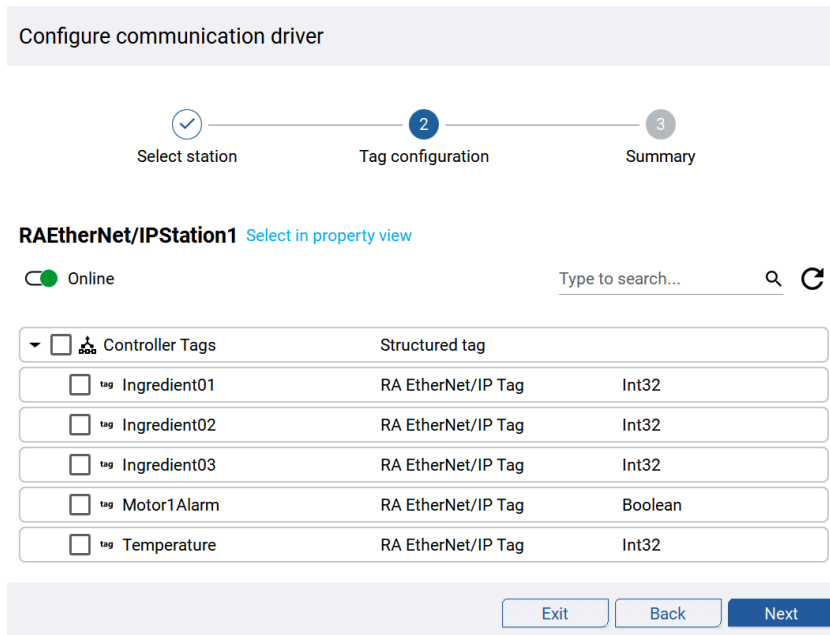
1. From the toolbar, select  **Open dashboard page**.
2. In the central pane, select **Configure communications to devices**.
3. Select **New stations**.
4. Select **RA EtherNet/IP Station** and select **Next**.
5. (optional) To import the controller tags in the online mode, in **Route**, enter `IP_Address\Backplane\Chassis_Slot_Number` and select **Next**.
6. Select **Next**.
7. Fetch the controller tags:
 - To fetch the controller tags in the offline mode, select **Browse** and select the downloaded `LogixTags.ACD` file.
 - To fetch the controller tags in the online mode, select the **Offline/Online** toggle to change it to the **Online** position.
8. Select all controller tags and select **Next**.

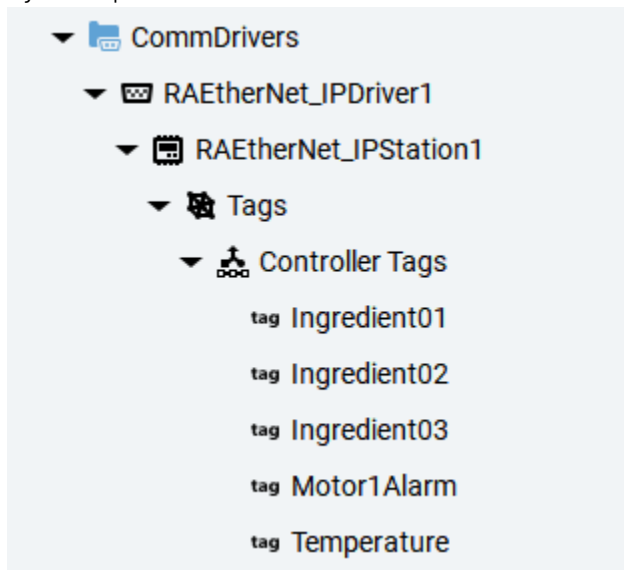
Figure 33. Selected tags in the online mode



9. Select **Exit**.

In **Project view**, the imported controller variables are available in the **ProjectName > CommDrivers > RAEtherNet/IPDriver1 > RAEtherNet/IPStation1 > Tags > Controller Tags** node. Note this location.

Figure 34. Imported controller variables



Configure temperature controls

Create Label, Textbox, and Linear gauge objects to visualize and control the temperature variable.

1. In **Project view**, double-click **Page1 (type)**.
Page1 (type) opens in the editor.
2. Right-click **Page1 (type)** and select **New > Base controls > Label**.
3. In **Properties**, set **Text** to `Temperature:`.
4. In **Project view**, right-click **Page1 (type)** and select **New > Base controls > Text box**.

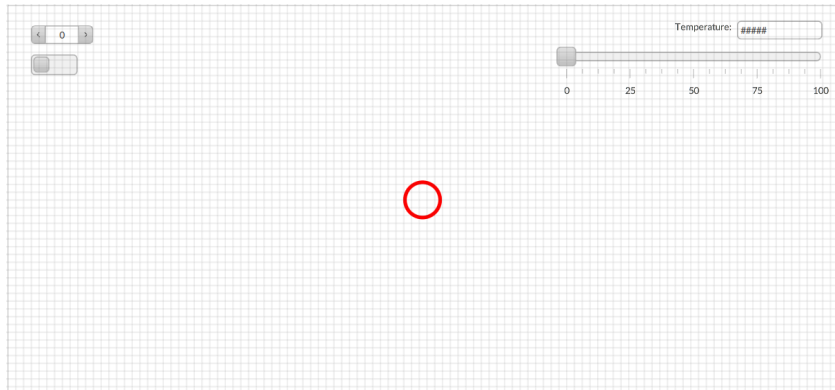
- In **Properties**, create a dynamic link between **Text** and the **Temperature** variable.



Tip: You can create the dynamic link by dropping the **Temperature** variable from **Project view** into the **Text** property value of the **Text box** in **Properties**.

- In **Project view**, right-click **Page1 (type)** and select **New > Base controls > Linear gauge**.
- In **Properties**, create a dynamic link between **Value** and the **Temperature** variable.
- In the editor, arrange the objects according to your preferences.

Figure 35. Temperature controls in the top-right corner



Configure alarms

Configure a digital alarm

Configure a simple Boolean alarm that warns you about issues with Motor1 at runtime.



Tip: By default, a digital alarm triggers when its **Input variable** equals to 1.

- In **Project view**, right-click **Alarms** and select **New > Digital alarm**.
- In **Properties**, create a dynamic link between the **Input variable** and **Motor1Alarm** variable.
- In **Message**, enter a warning message.
For example, enter `Motor1 alarm`.

Configure an alarm grid

Add a table that displays alarms status in real time.


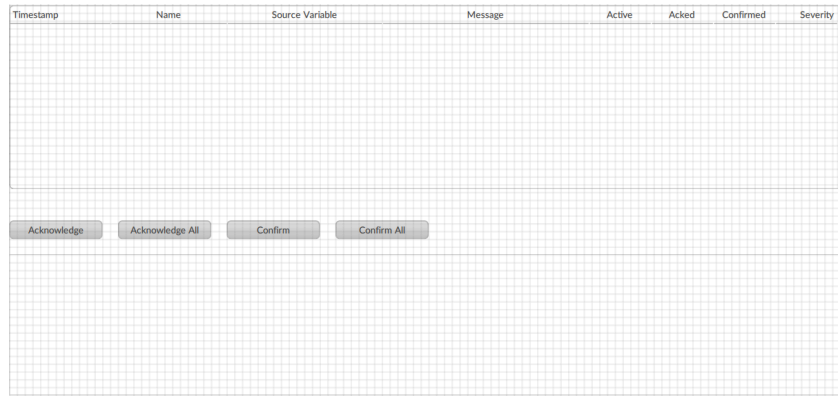


- From the toolbar, select  **Template Libraries**.
- In **Libraries**, search for `Alarm Grid`.
- Under **Components**, drag **Alarm Grid** onto **Page2 (type)** in **Project view**.
AlarmGrid1 appears under **Page2 (type)**.
- Select **Close**.
- In **Project view**, select **AlarmGrid1**.
- In **Properties**, set **Horizontal alignment** to **Stretch**.
The object adjusts its width to the container at runtime.

Figure 36. AlarmGrid1 in Page2



Configure an alarm event logger

Store logs about past events related to alarms in a database.

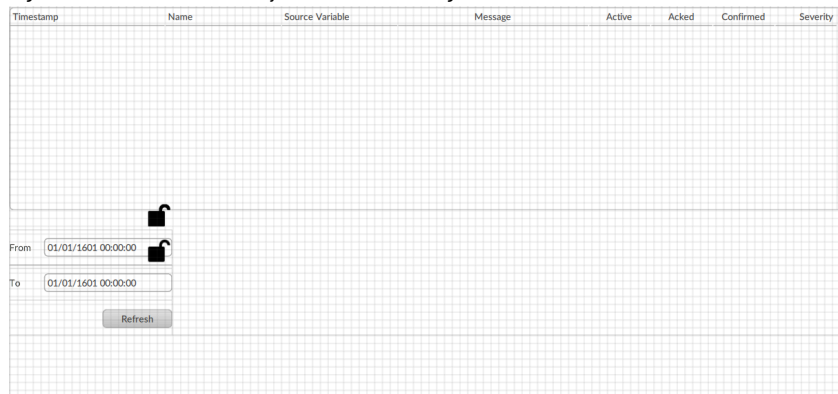
1. In **Project view**, right-click **DataStores** and select **New > Embedded database**.
2. Hover-over **EmbeddedDatabase1**, select , and enter `AlarmDB`.
3. From the toolbar, select  **Template Libraries**.
4. In **Libraries**, search for **Alarms Event Logger**.
5. Under **Components**, drag **Alarms Event Logger** onto **Loggers** in **Project view**.
6. Select **Close**.
7. In **Project view**, select **AlarmsEventLogger1**.
8. In **Properties**, create a dynamic link between **Database** and **ProjectName > DataStores > AlarmDB**.

Configure a widget to display logged alarms

Add a widget that displays historical data about alarms at runtime.

1. From the toolbar, select  **Template Libraries**.
2. In **Libraries**, search for **Alarm History Grid with filter**.
3. Under **Components**, drag **Alarm History Grid with filter** onto **Page3 (type)** in **Project view**.
4. Select **Close**.
5. In **Project view**, select **FilteredAlarmHistoryGrid1**.
6. In **Properties**, set **Horizontal alignment** to **Stretch**.
The object adjusts its width to the container at runtime.
7. Create a dynamic link between **AlarmsEventLogger** and **ProjectName > Loggers > AlarmsEventLogger1**.

Figure 37. Filtered Alarms History Grid with filter in Page3

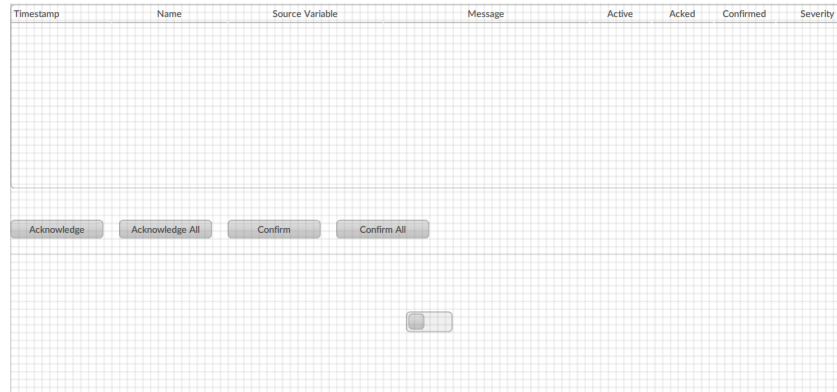


Configure a switch to simulate alarms

Configure a switch that simulates Motor1 alarms.

1. In **Project view**, double-click **Page2 (type)**.
2. Right-click **Page2 (type)** and select **New > Base controls > Switch**.
3. In **Properties**, create a dynamic link between **Checked** and the **Motor1Alarm** variable.
4. In the editor, arrange **Switch1** according to your preferences.

Figure 38. Switch to simulate alarms at the bottom of Page2



At runtime, toggle the switch to trigger an alarm.

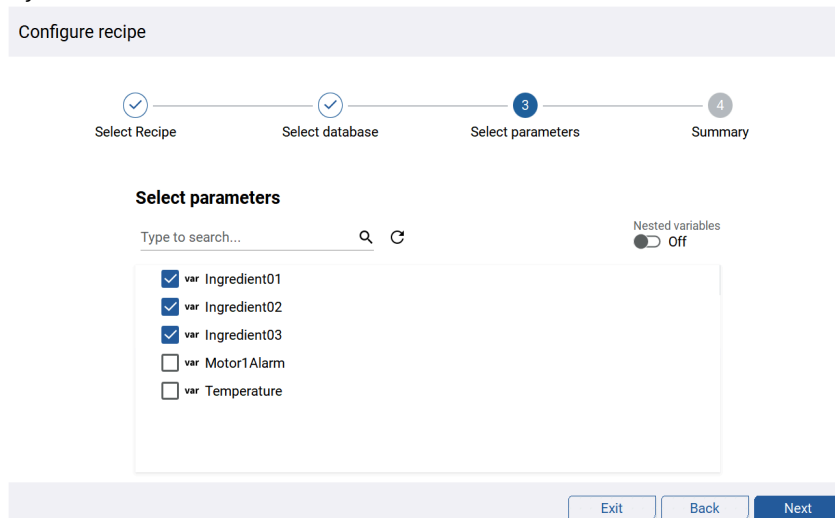
Configure recipes

Configure a recipe

Create a recipe schema that uses the Ingredient01, Ingredient02, and Ingredient03 variables.

1. From the toolbar, select **Open dashboard page**.
2. In the central pane, select **Configure a recipe**.
3. Select **New recipe**.
4. Create a dynamic link between **Target node** and:
 - If you created variables, **ProjectName > Model**.
 - If you imported Logix controller variables, **ProjectName > CommDrivers > LogixDriver1 > LogixStation1 > Tags > Controller Tags**.
5. Select **Next** and select **Next**.
6. Select **New database**.
7. In **Name**, enter `RecipeDB` and select **Next**.
8. Select **Next** and select **Next**.
9. Select **Ingredient01**, **Ingredient02**, and **Ingredient03**, and select **Next**.

Figure 39. Selected variables




10. Select **Exit**.

In **Project view**, **RecipeSchema1** appears under **Recipes**.

Configure a recipes editor

Configure the recipes editor to manage recipes at runtime.

1. From the toolbar, select  **Template Libraries**.
2. In **Libraries**, search for `Recipes Editor`.
3. Under **Components**, drag **Recipes Editor** onto **Page4 (type)** in **Project view**.
4. Select **Close**.
5. In **Project view**, select **RecipesEditor1**.
6. In **Properties**, set **Horizontal alignment** to **Stretch**.
The object adjusts its width to the container at runtime.
7. In **Project view**, select **RecipesEditor1**.
8. In **Properties**, create a dynamic link between **RecipeSchema** and **ProjectName > Recipes > RecipeSchema1**.
9. Right-click **RecipesEditor1** and select **Execute Setup**.

Save and commit changes

Save your progress and commit changes to the local version-control repository.

1. From the toolbar, select  **Save and Commit**.
2. If needed, in the prompt, select **Open FactoryTalk Optix Studio options** to configure your user name and email.
The user name and email are needed to commit changes to the repository.
3. Enter a meaningful commit message.
For example, enter `Configured quick start project`.
4. Select **OK**.


To see the commits history and restore the project to a commit, select  **View history**.

Figure 40. Commits history

View history Filter by: All Updates ↓ ↑

- NS

Configured recipes
 Wed Oct 19 10:46:47 2022 +0200 by Name Surname 📄
- NS

Configured alarms
 Wed Oct 19 10:43:04 2022 +0200 by Name Surname 📄
- NS

Configured variables
 Wed Oct 19 10:36:17 2022 +0200 by Name Surname 📄
- NS

Configured dynamic graphic objects
 Wed Oct 19 10:31:15 2022 +0200 by Name Surname 📄
- NS

Configured panels
 Wed Oct 19 10:25:45 2022 +0200 by Name Surname 📄
- NS

Configured the main window
 Wed Oct 19 10:21:52 2022 +0200 by Name Surname 📄

▾ QuickStart

▾ UI

▾ MainWindow (type)

▶ NavigationPanel1 ⊕

▶ Pages ⊕

⚠ Commits that occurred after a restored version will be removed permanently. Restore

Deployment guidelines

After you create your project, you need to deploy it to a target device. This section helps you to ensure that you deploy it correctly.

1. Confirm that the FactoryTalk® Optix™ Application Update Service runs on the target device.
The Application Update Service is part of the Runtime Tools. OptixPanel and Embedded Edge Compute devices come with Runtime Tools pre-installed. You must install Runtime tools on other target devices.
To operate correctly, the Application Update Service requires the TCP port 49100 to be reachable and a valid username with a configured password.
2. If needed, assign entitlements to target devices.
Some target devices come with pre-assigned entitlements. You only need to assign an entitlement if you upgrade a pre-assigned entitlement or if the target device has no entitlement.
3. Configure the target device to accept the application.
4. Deploy the application to the target device.

Configure a target device

Configure a target device from the System Manager. The following steps show how to configure an OptixPanel or Embedded Edge Compute target device.

1. On the Configuration dialog, check these settings.

Figure 41. Configuration settings for target device

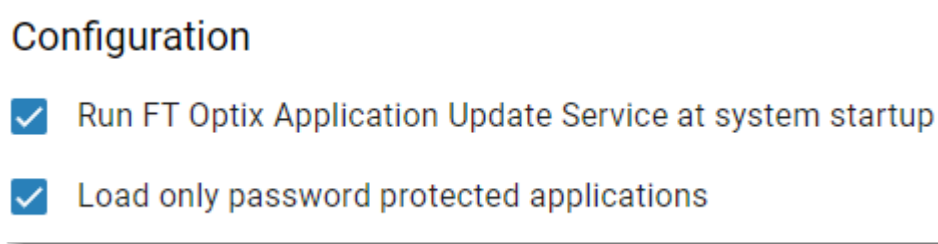
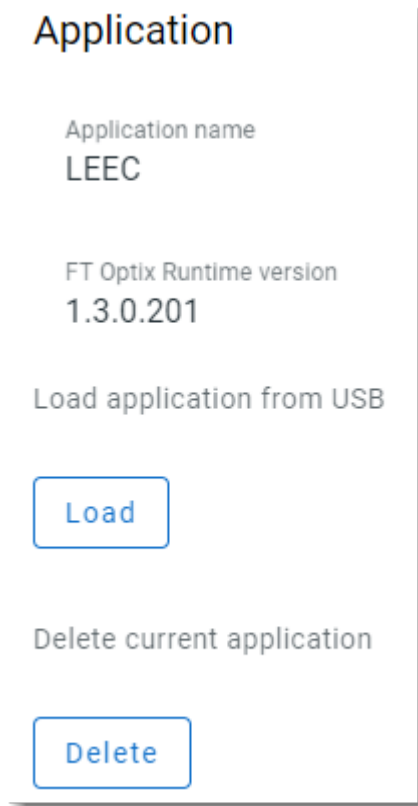


Table 18. Configuration settings for a target device

Field	Description
Run FactoryTalk Optix update server at system startup	When this setting is enabled, the FactoryTalk Optix update server activates at device startup, allowing the download and update of FactoryTalk Optix applications using FactoryTalk Optix Studio. If not enabled, downloading and updating FactoryTalk Optix applications on the device is not possible.
Load only password protected applications	When this setting is enabled, will be possible to load and execute on the device only password protected applications.

2. On the Application dialog, configure this information.

Figure 42. Application settings for a target device

**Table 19. Application settings for a target device**

Field	Description
Application name	This section displays the name of the project that has been loaded onto the device.
FT Optix Runtime version	This section displays the version of the FactoryTalk Optix Studio Runtime that was used to develop the loaded project. The FactoryTalk Optix Studio Runtime provides a development environment for creating and testing HMI projects before deploying them to the device. The version number is important for ensuring compatibility between the project and the runtime environment and may be useful for troubleshooting issues related to project development and deployment.
load application from USB	The Load button allow to transfer an FT Optix Application from a USB Memory to the target device (if it supports a USB port).
Delete current application	The Delete button allow to delete the current application stored on the device.

Deploy a FactoryTalk Optix Application

Rockwell Automation client devices automatically run FactoryTalk Optix Applications upon deployment. Other client devices require you to start the application manually on the device or configure the application for automatic startup.

Use FactoryTalk Optix Studio desktop editor to deploy to either local or remote devices. Use FactoryTalk Optix Studio web editor to deploy to remote devices only.

FactoryTalk Optix Studio uses FactoryTalk Remote Access to deploy to remote devices.

IMPORTANT: If a FactoryTalk Optix Application is already running on a client device, deploying another FactoryTalk Optix Application stops the other application.

Prerequisites

- Configure the presentation engine for the mode in which you will be running FactoryTalk Optix.
 - Confirm that FactoryTalk Optix Application Update Service runs on the client device.
-




IMPORTANT: To operate correctly when running as an application, FactoryTalk Optix Application Update Service requires the TCP port 49100 to be reachable and a valid username with a configured password.


- Confirm that the client device has a valid license.
-

IMPORTANT: If the client device is not licensed, FactoryTalk Optix Applications run in the demo mode and stop automatically after 2 hours.

- Configure a device.

To deploy a FactoryTalk Optix Application

1. Select the configured device.
2. If you selected a remote device, you must first establish a VPN connection to that device. Select  **VPN** or a remote desktop connection by selecting 
Remote Desktop.
3. Select  **Run.**
4. Enter the user password for the client device and select **OK.**

To stop the FactoryTalk Optix Application on the client device, select  **Stop.**

NOTE: Clicking and holding a button on remote desktop when remote desktop does not have focus automatically increments the button if it is configured with **MouseUp** and **MouseClicked** events. This is because bringing focus to remote desktop by clicking and holding the button automatically performs **MouseUp** and **MouseClicked** events.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and usermanuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	rok.auto/pcdc

Documentation feedback

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.

Waste Electrical and Electronic Equipment (WEEE)



At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental information on its website at rok.auto/pec.

Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

Connect with us.

rockwellautomation.com

expanding **human possibility**[™]

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

ASIA PACIFIC: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846