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.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

Reproduction of the contents of this manual, in whole or in part, without written permission of Rockwell Automation, Inc., is prohibited.

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.

---

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).

Allen-Bradley, Rockwell Software, Rockwell Automation, and TechConnect are trademarks of Rockwell Automation, Inc.

Trademarks not belonging to Rockwell Automation are property of their respective companies.
Table of contents

Preface

About this publication ........................................................................................................ 7
Intended audience ........................................................................................................... 7
Find additional information ............................................................................................. 7
Help ................................................................................................................................. 7
Release Notes ................................................................................................................ 8
Knowledgebases ............................................................................................................. 8
Technical support ........................................................................................................... 8
Training programs ........................................................................................................... 8
Consulting services ......................................................................................................... 9
Legal notices ................................................................................................................... 9

Chapter 1

Welcome to FactoryTalk Linx

What is FactoryTalk Linx? .............................................................................................. 11
Features and benefits ..................................................................................................... 12
Overview of basic concepts ........................................................................................... 14
FactoryTalk Services Platform ....................................................................................... 14
FactoryTalk Directory ................................................................................................. 15
FactoryTalk Live Data ................................................................................................. 15
FactoryTalk Diagnostics .............................................................................................. 15
FactoryTalk Administration Console .......................................................................... 15
Local applications versus Network applications ....................................................... 16
FactoryTalk Administration Console and FactoryTalk View Studio ......................... 16
Design-time versus runtime ....................................................................................... 16
Installation and configuration checklist ........................................................................ 16

Chapter 2

Install FactoryTalk Linx

System requirements ..................................................................................................... 19
Hardware requirements ................................................................................................. 19
Software requirements ................................................................................................. 19
Software compatibility ................................................................................................. 20
Prerequisite software ................................................................................................. 20
Install FactoryTalk Linx ............................................................................................... 21
Update an existing installation ..................................................................................... 22
Update a system that already has a FactoryTalk-enabled product installed .......... 23

Chapter 3

Start FactoryTalk Linx and explore the user interface

Start FactoryTalk Administration Console ................................................................... 25
FactoryTalk Administration Console user interface components ............................. 26
Add FactoryTalk Linx to the FactoryTalk application ................................................ 26
What's FactoryTalk Linx instance02 service? ............................................................. 27
Explore the FactoryTalk Linx Communication Setup editor .................................... 27
Right-click versus left-click ....................................................................................... 29
**Table of contents**

FactoryTalk Linx Network Browser ................................................................. 31
Network Browser settings ........................................................................... 32

**Chapter 4**

Define FactoryTalk Linx server properties

- Define General server properties ............................................................ 35
- Setup FactoryTalk Linx to support a redundant server (optional) .............. 35
- Setup FactoryTalk Linx to support FactoryTalk Alarms and Events (optional)
  ...................................................................................................................... 36

**Chapter 5**

Create a configuration

- Add a driver .................................................................................................. 39
  - If you are running on an Ethernet network ............................................. 39
  - If you are running on any network other than Ethernet ....................... 39
- Add a device ................................................................................................ 39
  - Automatically add a device by browsing ............................................... 40
    - Browse the virtual backplane ........................................................... 40
  - Manually add a device ........................................................................... 40
- Create shortcuts ............................................................................................ 40
  - Shortcut types ......................................................................................... 42
  - Change shortcut types ........................................................................... 43
  - Predefined items for redundant shortcuts ............................................... 44
- Inhibit Data Communication ........................................................................ 47

**Chapter 6**

Troubleshooting

- What to check first when you have problems ............................................... 49
- Troubleshooting tools for FactoryTalk Linx ................................................. 49
  - FactoryTalk Diagnostics event log ......................................................... 49
  - Predefined items ..................................................................................... 50
- Answers to common questions ..................................................................... 50
  - Where is the help for FactoryTalk Linx? ................................................. 50
  - Why don't I see FactoryTalk Linx on my Start menu? ........................... 50
  - Why can’t I browse for tags? ................................................................. 50
  - Why can't I edit my ME configuration? .................................................... 50
  - Can I run FactoryTalk Linx and RSLinx Classic on the same computer?  .................................................................................................................. 50

**Chapter 7**

Advanced topics

- About the virtual backplane ........................................................................ 51
- Supported network routes ......................................................................... 51
- Move FactoryTalk Linx configurations ...................................................... 52
  - Move your shortcuts ............................................................................... 52
    - Move shortcuts from one computer to another: same application.. 52
    - Move shortcuts on the same computer: different application .... 52
Move shortcuts from one computer to another: different application ................................................................. 53
Move shortcuts from one computer to another: different FactoryTalk Directory .................................................................................................................. 53
Move your physical layout (drivers and devices) ........................................................................ 53
Move from one computer to another ........................................................................ 53
Manage CIP connections ........................................................................................................ 55
Logix controllers with a limited number of connections.......................................................... 55
CIP bridge modules with a limited number of connections .................................................... 55
Use predefined items to count active CIP connections .............................................................. 55
Use FactoryTalk Diagnostics to track and troubleshoot CIP connections ............................... 56
FactoryTalk Diagnostics ........................................................................................................ 56
Change the allocation of CIP connections ........................................................................... 56
CIP Security .......................................................................................................................... 56
CIP Security Indicator .......................................................................................................... 57
Device Multi-Selection ........................................................................................................... 57

Chapter 8

Use FactoryTalk Linx with RSLinx Classic

For Windows Server 2008 and Windows 7 operating systems ......................................................... 59
Dual-channel 1784-PKTX(D) driver ................................................................................................. 59
For all the supported operating systems ......................................................................................... 59
1784-PKTX driver .......................................................................................................................... 60
Serial-DF1 driver (RS232 DF1 devices) ......................................................................................... 60
1784-PCIC(S) driver .................................................................................................................... 60

Chapter 9

Use FactoryTalk Linx with Studio 5000 Logix Designer and ControlFLASH

Select RSLinx Edition in Studio 5000 Logix Designer ................................................................. 61
Select an RSLinx edition in ControlFLASH .................................................................................. 61
Configuring drivers in the Network Browser .................................................................................. 62
Search criteria for a device .............................................................................................................. 63
Perform a search ............................................................................................................................ 63
Search filters ................................................................................................................................. 64
Operators ..................................................................................................................................... 64
Upload and register an EDS file .................................................................................................... 65
Upload and register an EDS file in the Network Browser ............................................................. 65
Register EDS files using the EDS Hardware Installation Tool .................................................... 66
Considerations when uploading and registering EDS files ........................................................ 67
What is EDS Hardware Installation Tool ...................................................................................... 68
Bridge across networks ................................................................................................................ 68
Add a bridge ................................................................................................................................. 69
Edit a bridge ................................................................................................................................. 69
Delete a bridge .............................................................................................................................. 70
Copy and paste items to a list in a bridge configuration ............................................................... 70
Delete an item in a list in a bridge configuration .......................................................................... 71
Add New dialog box .................................................................................................................... 71
Add New dialog box settings ........................................................................................................ 72
Copy a device configuration in a bridge ........................................................................................ 72
## Table of contents

- Bridge Path Selection dialog box ..................................................... 72
- Bridge Configuration dialog box ..................................................... 73
- Bridge Configuration dialog box, Advanced tab settings ............... 73
- Bridge Configuration dialog box, General tab settings ................. 74
- Advanced Settings dialog box (drivers) ........................................... 74
- Add a driver for Local Broadcast ..................................................... 75
- Add a driver for Remote Broadcast .................................................. 76
- Add a driver with a Device List/Range ............................................. 76
- Configure drivers in FactoryTalk Administration Console .......... 77

### Chapter 10

**Install FactoryTalk Linx with command line syntax**

- Comparing different installation methods ........................................ 79
- Use unattended installation .............................................................. 80
  - Perform unattended installation .................................................. 80
  - Parameters ................................................................................. 80
  - Examples ................................................................................... 82
- Use silent installation for FactoryTalk Linx .msi file ....................... 82
  - Before you begin ....................................................................... 82
  - Rockwell Automation x64 driver package .................................... 83
  - Install certificates ...................................................................... 84
  - Perform silent installation ......................................................... 85
  - Uninstall FactoryTalk Linx ............................................................ 85

**Index**
The Getting Results Guide provides you with information on installing, navigating, and using FactoryTalk Linx.

Important: The Getting Results Guide is included as a PDF (portable document format) file on your FactoryTalk Services installation DVD. This file must be viewed using the Adobe Acrobat Reader software.

This section includes the following information:

- Intended audience
- Find additional information
- Legal notices

Intended audience
You should be familiar with:

- Microsoft Windows operating systems
- Allen-Bradley PLCs (programmable logic controllers)
- Rockwell Automation PLC programming tools
- FactoryTalk Administration Console

Find additional information
For additional information about FactoryTalk Linx, consult the following resources:

Help
The Help includes overview, procedural, screen, and reference information for the product. The Help contains these basic components:

- Overview topics
- Quick-start topics
- Step-by-step procedures
- Dialog box descriptions

To view the Help while working in FactoryTalk Administration Console:

- Select Contents from the Help menu on FactoryTalk Administration Console main window and select FactoryTalk Linx Help, or
- Click Help on any FactoryTalk Linx dialog box or property screen, or
- Press F1, or
- From the Start menu, select Programs > Rockwell Software > FactoryTalk Tools > FactoryTalk Help > FactoryTalk Linx Help.
Release Notes

The electronic Release Notes provide a list of the hardware and software that is necessary to use FactoryTalk Linx effectively and a list of known anomalies, anomalies fixed, and new features that are available in the current release.

The Release Notes are available from the FactoryTalk Services installation DVD. The Release Notes for all FactoryTalk components, including FactoryTalk Linx, are available from the FactoryTalk Help. FactoryTalk Help can be launched from FactoryTalk Administration Console or from the Windows Start menu as described in the previous section.

Knowledgebases

The Rockwell Automation Customer Support Center offers an extensive online database that includes frequently asked questions and the latest patches. The Knowledgebase web page leads to a comprehensive, searchable database of support information for all Rockwell Automation products.

To access the Knowledgebase web page, visit www.rockwellautomation.com/support, and select Knowledgebase Support Center.

Technical support

Questions concerning installation and use of FactoryTalk Linx software are handled by the Rockwell Automation Customer Support Center. The center is staffed Monday through Friday, except on U.S. holidays, from 8 a.m. to 5 p.m. Eastern time zone for calls originating within the U.S. and Canada.

To reach the Customer Support Center, call 440-646-3434 and follow the prompts. For calls originating outside the U.S. or Canada, locate the number in your country by visiting http://support.rockwellautomation.com/contact information.

When you call, you should be at your computer and be prepared to provide the following information:

- The product version number
- The type of hardware you are using
- The exact wording of any errors or messages that appeared on your screen
- A description of what happened and what you were doing when the problem occurred
- A description of how you tried to solve the problem

Training programs

Rockwell Automation offers a wide range of training programs, from regularly scheduled classes to custom-tailored classes conducted at your site.

If you would like more information about these training programs, visit the Rockwell Automation site on the Web or contact the Rockwell Automation Training Coordinator. The Web address and telephone numbers appear on the back cover of this document.
Consulting services

Rockwell Automation provides expert consulting and turnkey implementations for making optimal use of Rockwell Software products. Please contact your local representative for more information.

Legal notices

Copyright Notice

Copyright © 2018 Rockwell Automation Technologies, Inc. All Rights Reserved. Printed in USA.

This document and any accompanying Rockwell Software products are copyrighted by Rockwell Automation Technologies, Inc. Any reproduction and/or distribution without prior written consent from Rockwell Automation Technologies, Inc. is strictly prohibited. Please refer to the license agreement for details.

End User License Agreement (EULA)

You can view the Rockwell Automation End-User License Agreement ("EULA") by opening the License.rtf file located in your product's install folder on your hard drive.

Trademark Notices


Any Rockwell Automation software or hardware not mentioned here is also a trademark, registered or otherwise, of Rockwell Automation, Inc.

Other Trademarks

Microsoft, SQL Server, Windows, and Windows Server are registered trademarks of Microsoft Corporation in the United States and other countries.

Adobe, Acrobat, and Reader are registered trademarks of Adobe Systems Incorporated in the United States and other countries.

Intel and Intel Core are registered trademarks of the Intel Corporation in United States and other countries.

OPC (OLE for Process Control) is a registered trademark of the OPC Foundation.
ControlNet is a trademark of ControlNet International.

DeviceNet is a trademark of the Open DeviceNet Vendor Association, Inc. (ODVA).

Ethernet is a registered trademark of Digital Equipment Corporation, Intel, and Xerox Corporation.

Oracle is a registered trademark of Oracle Corporation.

All other trademarks are the property of their respective holders and are hereby acknowledged.

**Warranty**

This product is warranted in accordance with the product license. The product’s performance may be affected by system configuration, the application being performed, operator control, maintenance, and other related factors. Rockwell Automation is not responsible for these intervening factors. The instructions in this document do not cover all the details or variations in the equipment, procedure, or process described, nor do they provide directions for meeting every possible contingency during installation, operation, or maintenance. This product’s implementation may vary among users.

This document is current as of the time of release of the product; however, the accompanying software may have changed since the release. Rockwell Automation, Inc. reserves the right to change any information contained in this document or the software at any time without prior notice. It is your responsibility to obtain the most current information available from Rockwell when installing or using this product.

**Environmental compliance**


**Contact Rockwell Automation**

Customer Support Telephone — 1.440.646.3434

Chapter 1

Welcome to FactoryTalk Linx

This chapter includes the following information:

- What is FactoryTalk Linx?
- Features and benefits
- Overview of basic concepts
- Installation and configuration checklist

**What is FactoryTalk Linx?**

FactoryTalk® Linx™ is a FactoryTalk® Live Data server and communications service designed to deliver control system information from Allen-Bradley® control products to the Rockwell Automation FactoryTalk® software portfolio and Studio5000® design software. While FactoryTalk Linx can communicate with most Allen-Bradley Programmable Logic Controllers (PLC®) and many other control products, it is specifically optimized to work with Logix 5000™ Programmable Automation Controllers (PAC) using EtherNet/IP. This gives the fastest data rates and capacity possible, while minimizing the impact on automation networks and control system operation. FactoryTalk Linx provides a scalable solution that can support small applications running on a single computer with a single controller, to large distributed and even redundant data server configurations communicating with many controllers.

A FactoryTalk Linx configuration consists of:

- A FactoryTalk Services Platform application and optional area to specify each major software component in a system and its workstation or network location.
- FactoryTalk Linx Data server configuration on one or more computers in a system.
- A list of communication devices and their settings (for example, node, baud rate, and alike).
- Device drivers and their associated properties.
- A list of potential target devices, with which FactoryTalk Linx can communicate (that is, exchange data).
- Shortcuts. A shortcut is a name that stands for the device you want to connect to, and the data that device contains. The communication path associated with the shortcut tells the application where to find that data.
For FactoryTalk View Machine Edition applications, you can pre-configure FactoryTalk Linx-based communications needed for the runtime applications, using the design software, FactoryTalk View Studio. You can also edit configurations, using Windows CE-based tools on the PanelView Plus terminals.

**Features and benefits**

FactoryTalk Linx:

- Is delivered and installed with the FactoryTalk Services Platform (FTSP) which is included with most Rockwell Automation software products. FactoryTalk Linx is also delivered within the PanelView Plus Electronic Operator Interface (EOI) terminal’s firmware.

  **Tip:** The FactoryTalk Services Platform installation includes several useful tools. Use FactoryTalk Live Data Test Client to interface with FactoryTalk Linx to read and write data directly to controllers. For more information about FactoryTalk Live Data Test Client, see FactoryTalk Services Platform Online Help.

- Is accessed as an embedded component within each software package that utilizes its services. Configure FactoryTalk Linx using the Communication Setup editor launched from a FactoryTalk application design environment (e.g. FactoryTalk View Studio) or from the FactoryTalk Administration Console.

- Starting with version 6.00.00, EtherNet/IP network drivers can be configured directly from the FactoryTalk Linx Network Browser control embedded within Studio 5000 and other Rockwell Automation design software.

- Provides access to controller and device data from any FactoryTalk application using FactoryTalk Live Data.

- Is highly optimized for Logix 5000 communications.

- Starting with version 5.30.00, supports FactoryTalk Alarms and Events. For more information about FactoryTalk Alarms and Events, see FactoryTalk Alarms and Events Online Help.

- Starting with version 5.30.00, network applications provide the option of specifying a secondary, or redundant, server to take over when the primary server fails.

- Starting with version 5.60.00, reads data directly from devices using parameters specified in the device’s Electronic Data Sheed (EDS) file.

- Starting with version 5.70.00, receives data from Logix 5000 controllers directly via unsolicited message.

- Starting with version 5.70.00, is able to communicate with Micro800 controllers.

- Starting with version 5.80.00, reads energy usage information from devices that support the ODVA CIP Energy object.

- Starting with version 5.90.00, reads Logix 5000 tag extended properties (e.g. @Min, @Max, @Description) and deliver them to FactoryTalk View applications. With FactoryTalk Linx version
6.10.00, this capability is enhanced to improve read performance and adds the ability to provide a description using information indirectly associated with a tag. This enables a FactoryTalk View SE client to obtain descriptions for tag elements that do not directly have a description assigned. This is similar to the description pass-through capability of Studio 5000 Logix Designer.

- Starting with version 5.90.00, removes Logix 5000 tag requests when their external access is switched to *no access* in Logix Designer, and the tags can be removed from the controller while it is operating.
- Starting with version 5.90.00, permits communications to specific Logix 5000 shortcuts to be inhibited to reduce the impact of Logix 5000 controllers that are disabled or off-line.
- Starting with version 6.00.00, provides access to Logix 5000 tag based alarm attributes (e.g. *@Alarm...*)
- Offers a variety of communication drivers and routing options.
- Supports Local applications (also called stand-alone applications) for smaller systems, and Network applications (also called distributed applications) for larger systems.
- Starting with version 6.00.00, enables the configuration of two redundant shortcut paths to a single Logix 5000 controller to support high availability systems that desire to retain communications when a path through a network becomes disabled.
- Starting with version 6.00.00, permits configuration of two shortcut paths to the primary and secondary Logix 5000 controllers in a redundant ControlLogix revision 31.5x system to retain communications when a redundancy switchover occurs.
- FactoryTalk Linx 6.00.00 added the ability to provide communications and browsing services for Studio 5000 and ControlFLASH. FactoryTalk Linx version 6.10.00 extends this functionality to support the Connected Components Workbench (CCW) version 12.00.00 and FactoryTalk AssetCentre version 9.00.00.
- FactoryTalk Linx version 6.00.00 updated both the Virtual Backplane and USB drivers and had them signed by Microsoft to permit them to operate on a workstation with Windows 10 Secure boot enabled. FactoryTalk Linx version 6.10.00 extends this functionality to include the drivers associated with the 1784-PCICS, 1784-PCKTS and 1784-PKTX cards.
- FactoryTalk Linx version 6.10.00 added a new standalone version of the FactoryTalk Linx Network Browser that can be launched from the Windows Start Menu. Previously this component was only available from within other Rockwell Automation software (For example, ControlFLASH and Studio 5000 Logix Designer). The Network Browser can be used to visualize the network to determine which devices are active in the system.
Chapter 1  Welcome to FactoryTalk Linx

- FactoryTalk Linx version 6.10.00 added FactoryTalk Security Product Policy to provide more control over the configuration for authorized users.
- FactoryTalk Linx version 6.10.00 added logging of FactoryTalk Audit messages to track configuration changes of FactoryTalk Linx.
- FactoryTalk Linx version 6.10.00 supports a new capability in Logix5000 V32 controllers to change the names of tags and structure members on a running controller. When FactoryTalk Linx detects the rename operation, it will immediately stop requesting the old names and provide an appropriate error status back to the FactoryTalk software that requested the data, making it easier to locate other software that is impacted by the rename operation.
- FactoryTalk Linx version 6.10.00 added the ability to receive unsolicited messages using PLC-2 Unprotected Writes. This enables Logix5000 or legacy controllers to send information to a FactoryTalk software package using FactoryTalk Linx.
- FactoryTalk Linx version 6.10.00 changes the default setting for the “listen on EtherNet/IP Encapsulation port” (port 44818) for its Ethernet driver so that FactoryTalk Linx will respond to network browse requests and receive unsolicited messages from Logix5000 controllers. RSLinx Classic version 4.00.01 or earlier allocated this port by default but was updated with versions 4.10.00 to not allocate the port to reduce the likelihood of a conflict between these two software packages.
- FactoryTalk Linx version 6.10.00 added the ability to configure two independent instances of the data service on a single Windows operation system. It allows applications to have more tags, data clients (e.g. HMI clients), and/or controllers without affecting the other FactoryTalk Linx data server.
- Supports FactoryTalk Security to provide a means for system administrators to control access to resources (such as applications or areas) or the ability to perform tasks, such as read and write, in the automation system using FactoryTalk Security.
- In conjunction with FactoryTalk Linx Gateway, provides standard OPC connectivity into the FactoryTalk system for third-party products. For more information about FactoryTalk Linx Gateway, refer to the FactoryTalk Linx Gateway Help.

Overview of basic concepts

It is important to understand some basic concepts about FactoryTalk and FactoryTalk Linx before you begin working with FactoryTalk Linx within the FactoryTalk Administration Console. For more detailed information about FactoryTalk, refer to the FactoryTalk Help.

FactoryTalk Services Platform

Formerly known as FactoryTalk Automation Platform, the FactoryTalk Services Platform is an underlying architecture and set of services that Rockwell Automation software products build upon.

The FactoryTalk Services Platform:
- Provides common services (such as diagnostic messages, health monitoring services, access to real-time data) and shares plant resources (such as tags and graphic displays) throughout an automation system.

- Allows defining plant-floor resources once, and then allows simultaneous access to those resources across product boundaries.

- Supports centralized security services.

The FactoryTalk Services Platform includes the following components:

- FactoryTalk Directory
- FactoryTalk Live Data
- FactoryTalk Diagnostics
- FactoryTalk Administration Console

**FactoryTalk Directory**

FactoryTalk Directory allows products to share a common address book, which finds and provides access to plant-floor resources, such as data tags and graphic displays.

The FactoryTalk Services Platform includes two separate directories: a Local Directory and a Network Directory. In a Local Directory, a Directory Server, all project information, and all participating software products are located on a single computer. Local applications cannot be shared across a network. A Network Directory organizes project information from multiple FactoryTalk products across multiple computers on a network.

**FactoryTalk Live Data**

FactoryTalk Live Data manages connections between FactoryTalk products and data servers. It reads values from, and writes values to, OPC-DA servers (Open Platform Communications - Data Access) and Live Data servers on behalf of client software products, such as FactoryTalk View and FactoryTalk Transaction Manager.

**FactoryTalk Diagnostics**

FactoryTalk Diagnostics collects and provides access to activity, status, warning, and error messages generated throughout a FactoryTalk system.

**FactoryTalk Administration Console**

FactoryTalk Administration Console is a standalone tool that enables you to configure and manage FactoryTalk-enabled applications and FactoryTalk Linx configurations. A communications tab in the FactoryTalk Administration Console also permits configuring network drivers, browsing, and viewing the available devices that are discovered on the configured networks.

**FactoryTalk Security**

FactoryTalk Security offers centralized security services that provide the ability to control access to your automation system and secure features of a single FactoryTalk product. By setting permissions to a single feature, you can limit a user or a group of users to perform securable actions. For more
Local applications versus Network applications

An application organizes project information, including elements such as data servers, HMI servers, and alarm and event servers. The application makes project information available to all FactoryTalk-enabled products participating in a FactoryTalk system.

- **Network applications** are held in a FactoryTalk Network Directory. Project information and participating software products can be located on a single computer (station) or multiple computers distributed across a network. All of the computers participating in a particular Network application share a common Network Directory Server located on a network computer.

- **Local applications** are held in a FactoryTalk Local Directory. Project information is located on a stand-alone computer and is available only to software products installed on that same local computer. Local applications cannot be accessed remotely and cannot share project information with a Network application.

FactoryTalk Administration Console and FactoryTalk View Studio

To edit FactoryTalk Linx configurations, use FactoryTalk Administration Console or FactoryTalk View Studio as follows:

- In a Network (distributed) application, you can use either FactoryTalk Administration Console or FactoryTalk View Studio.

- In a Local application, you can edit locally or remotely using FactoryTalk Administration Console, or you can edit locally or remotely within FactoryTalk View Studio.


Design-time versus runtime

FactoryTalk Linx is comprised of design-time and runtime components. The design-time components provide the user interface that enables you to set up devices, drivers, and shortcuts that are ultimately used by the runtime components. Based on this configuration data, the runtime components execute read or write requests received during runtime operation.

Installation and configuration checklist

Use the following checklist to guide you through the installation and configuration process.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Refer to</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Read and understand the <em>FactoryTalk Linx Getting Results Guide</em>.</td>
<td>This Guide.</td>
</tr>
<tr>
<td>Step</td>
<td>Description</td>
<td>Refer to:</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>3.</td>
<td>Verify your personal computer meets the minimum hardware and software requirements.</td>
<td>&quot;Minimum system requirements&quot; on page 19</td>
</tr>
<tr>
<td>4.</td>
<td>Install FactoryTalk Services Platform and FactoryTalk Linx.</td>
<td>&quot;Install FactoryTalk Linx&quot; on page 20</td>
</tr>
<tr>
<td>6.</td>
<td>Configure a FactoryTalk Administration Console application</td>
<td>&quot;Manage applications&quot; in FactoryTalk Services Platform Help.</td>
</tr>
<tr>
<td>7.</td>
<td>Add a FactoryTalk Linx server.</td>
<td>&quot;Add FactoryTalk Linx to the FactoryTalk application&quot; on page 26</td>
</tr>
<tr>
<td>8.</td>
<td>Specify general FactoryTalk Linx server properties.</td>
<td>&quot;Define General server properties&quot; on page 35</td>
</tr>
<tr>
<td>9.</td>
<td>Optionally, set up a redundant server to take over if the primary server fails (network applications only).</td>
<td>&quot;Set up FactoryTalk Linx to support a redundant server (optional)&quot; on page 35</td>
</tr>
<tr>
<td>10.</td>
<td>Optionally, set up options for device-based alarms.</td>
<td>&quot;Set up FactoryTalk Linx to support FactoryTalk Alarms and Events (optional)&quot; on page 36</td>
</tr>
<tr>
<td>11.</td>
<td>Add drivers and devices.</td>
<td>&quot;Add a driver&quot; on page 39</td>
</tr>
<tr>
<td>12.</td>
<td>Create shortcuts that point to your target devices.</td>
<td>&quot;Create shortcuts&quot; on page 40</td>
</tr>
<tr>
<td>13.</td>
<td>Test the system using FactoryTalk Live Data Test Client</td>
<td>&quot;Test FactoryTalk communications&quot; in FactoryTalk Services Platform Help.</td>
</tr>
</tbody>
</table>
Chapter 2

Install FactoryTalk Linx

FactoryTalk Linx supports two installation methods: Setup wizard installation and automated installation with command line syntax. This chapter uses the Setup wizard installation method to illustrate the steps.

This chapter contains the following information:

- Minimum system requirements
- Install FactoryTalk Linx software
- Update an existing installation

The automated installation with command line syntax reduces user interaction and provides command line parameters to install FactoryTalk Linx. See Install FactoryTalk Linx with command line syntax on page 79.

System requirements

To use FactoryTalk Linx, your personal computer must meet the following minimum hardware and software requirements:

Hardware requirements

FactoryTalk Linx requires the following hardware:

- Intel Core 2 Duo, 2.8 Ghz processor
- 2 GB of memory
- 16 GB free hard disk space

Software requirements

FactoryTalk Linx runs on either the 32-bit or 64-bit versions of the following Windows operating systems:

- Windows 7 Enterprise with Service Pack 1
- Windows Embedded Standard 7 with Service Pack 1
- Windows 7 Home Premium with Service Pack 1
- Windows 7 Ultimate with Service Pack 1
- Windows 7 Professional with Service Pack 1
- Windows 10 Enterprise build 1607, 1709, and 1803
- Windows 10 Professional build 1607, 1709, and 1803
Chapter 2  
Install FactoryTalk Linx

- Windows 10 IoT Enterprise 2016 Long Term Servicing Branch (LTSB) Embedded**
- Windows Server 2008 R2 Enterprise Edition with Service Pack 1
- Windows Server 2008 R2 Standard Edition with Service Pack 1
- Windows Server 2012 Standard
- Windows Server 2012 Datacenter
- Windows Server 2012 R2 Standard
- Windows Server 2012 R2 Datacenter
- Windows Server 2016 Standard
- Windows Server 2016 Datacenter

**Supported with the Allen-Bradley 61xx family of Industrial Computers or CompactLogix™ 5480 family of controllers.

For the latest information regarding software platform support, refer to http://www.rockwellautomation.com/compatibility/#/scenarios.

Software compatibility

FactoryTalk Linx version 6.10.00 has been tested with, and is compatible with, the following Rockwell Automation products:

- Studio 5000 Logix Designer version 32.00.00
- ControlFLASH version 15.01
- ControlFLASH Plus version 1.01
- FactoryTalk Services Platform version 6.10.00
- FactoryTalk Alarms and Events version 6.10.00
- RSLinx Classic version 4.10.00
- FactoryTalk View version 11.00.00
- FactoryTalk Linx Gateway version 6.10.00
- FactoryTalk Linx OPC UA Connector version 6.10.00
- FactoryTalk Activation version 4.03.03
- Connected Components Workbench version 12.00.00
- FactoryTalk AssetCentre version 9.00.00

Prerequisite software

FactoryTalk Linx is a component of FactoryTalk Services. FactoryTalk Services Setup Wizard supports to install a series of Rockwell Software and
the necessary prerequisite software, including:

**Rockwell Software**

- FactoryTalk Services Platform version 6.10.00
- FactoryTalk Activation Manager version 4.03.03
- FactoryTalk Linx version 6.10.00
- FactoryTalk Linx OPC UA Connector version 6.10.00
- FactoryTalk Alarms and Events version 6.10.00
- Rockwell Automation USB CIP Driver v3.18.06 (for 32-bit operating systems)
- Rockwell Automation x64 Driver v2.01.01 (for 64-bit operating systems)

**Prerequisite Software**

- FactoryTalk Diagnostics version 6.10.00
- Microsoft .NET Framework 4.6.2
- Microsoft Visual C++ 2017 Redistributable (x86) 14.14
- Microsoft Visual C++ 2017 Redistributable (x64) 14.14
- Microsoft SQL Server 2012 Native Client 11.4
- Microsoft SQL Server 2012 Native Client x64 11.4
- Microsoft ODBC Driver 13.1 for SQL Server 13.1.811
- Microsoft ODBC Driver 13.1 for SQL Server x64 13.1.811
- OPC .NET API 2.01
- Windows Firewall Configuration Utility 1.00.11
- Wibu CodeMeter Runtime Kit v6.60

You can install one or more Rockwell Software products to a single personal computer.

**Important:** The user installing or configuring FactoryTalk Linx must have administrative rights in Windows on the computers where the software is being installed or configured. The Windows domain Administrator account has these rights, for example.

To install FactoryTalk Linx software:

1. Start your Windows operating system.
2. Insert the FactoryTalk Services DVD into the DVD-ROM drive.
• Click **Start**, and then click **Run**. The **Run** dialog box appears.
• In the **Open** control, type `x:\setup`, where `x` is the letter of the drive containing the FactoryTalk Services DVD-ROM, and then click **OK**.

3. If Microsoft .NET Framework 4.0 or later is not installed on your computer, the **Microsoft .NET Framework Setup** dialog box shows. Click **Install**.

4. On the **FactoryTalk Services Setup** dialog box, choose one of the following:
• Click **Install Now** to start the software installation with the default settings.
• Click **Customize** to select the products which you want to install, or specify a different drive where you want to install the software, and then click **Install**.

  (optional) If you are running out of storage, clear the **Register EDS Files** check box. However, clearing this check box turns off the **EDS Parameter** shortcut function.

5. On the **End-User License Agreements** dialog box, read the agreements, and click **Accept all** to continue the installation, or click **Decline** to return to the previous page.

6. When prompted to restart your computer during the installation, click **Restart now** to restart your computer and continue the installation, or **Restart later** to suspend and exit the installation.

7. On the **That's it!** dialog box, click **Close** to exit the installation. Meanwhile, you can also:
• Click **Installation Summary** to see the installation details.
• Click **Register for updates** to learn how to receive email updates about product patches.
• Click **Download it free** to install Adobe Acrobat Reader. Adobe Acrobat Reader is required to open the **FactoryTalk Linx Getting Results Guide** and other documents.

8. The FactoryTalk Linx installation is complete. When you finish installing the software, remove the FactoryTalk Services DVD from the DVD-ROM drive, and store it in a safe place.

**Update an existing installation**

RSLinx Enterprise re-brands to FactoryTalk Linx version 6.00.00 in this release. Note the following before upgrading FactoryTalk Linx:
• You must have administrative rights in Windows on the computers
where FactoryTalk Linx is being installed. For example, the Windows domain Administrator account has these rights.

- Be sure that you install FactoryTalk Linx with the compatible Rockwell Automation products.

Perform the following steps to upgrade from a previous version of the software:

1. Stop your current version of RSLinx Enterprise or FactoryTalk Linx.

2. Insert the FactoryTalk Services product DVD into the DVD-ROM drive. Perform the installation steps in the order presented on the screen. You can refer to Install FactoryTalk Linx on page 20 for the installation steps.

   **Important:** The old version of RSLinx Enterprise that exists on your computer is automatically uninstalled when you install a newer version of FactoryTalk Linx 6.00.00 or later.

3. Restart your computer.

   **Important:** You must restart your computer after installing Rockwell Automation products. If you are installing multiple products, you must restart your computer after all of the products are installed.

If you are installing FactoryTalk Linx on a Windows platform, on which other FactoryTalk-enabled products are currently installed, you must first verify that all products are of the same CPR number. You can do this from Start > Control Panel > Programs and Features (view by small icons).

The CPR number is shown with the product. If any products are of a previous release, you must uninstall the products (following the sequence: uninstall FactoryTalk Activation Manager > uninstall FactoryTalk Services Platform > uninstall FactoryTalk Diagnostics last), restart your computer, and then use the installation DVD to install the correct release version.

If the CPR versions are compatible, verify that FactoryTalk Administration Console is installed, using the following procedure:

1. Select Start > Control Panel > Programs and Features (view by small icons).

2. Right click **FactoryTalk Services Platform** from the program list.

3. Select **Change** to start the installation wizard.

4. Select **Modify** from the **Program Maintenance** screen.

5. Verify the installation status of FactoryTalk Administration Console.
Chapter 3

Start FactoryTalk Linx and explore the user interface

This chapter includes the following information:

- Start FactoryTalk Administration Console
- Basic FactoryTalk Administration Console user interface components
- Add FactoryTalk Linx to the FactoryTalk application
- What's FactoryTalk Linx instance02 service?
- Explore the Communication Setup editor
- FactoryTalk Linx Network Browser

Start FactoryTalk Administration Console

FactoryTalk Linx is launched from within FactoryTalk Administration Console. To start FactoryTalk Administration Console, use the following procedure:

1. From the Start menu, select Programs > Rockwell Software > FactoryTalk Administration Console.

2. Select the FactoryTalk Directory you want to use. Refer to Local applications versus Network applications for more information about Network and Local applications.

   ![Select FactoryTalk Directory](image)

   **Important:** Depending on the security settings, you may be required to enter a User name and Password to open an application. Refer to the FactoryTalk Help for more information.
FactoryTalk Administration Console user interface components

FactoryTalk Administration Console is made up of the following basic user interface components:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Explorer pane contains the Application tab and the Communications tab.</td>
</tr>
<tr>
<td>2</td>
<td>The Application tab shows your applications in tree format as you create them. With the Application tab, you can view and manage your applications. You use FactoryTalk Administration Console to add references to data servers, such as FactoryTalk Linx, within FactoryTalk applications. For more information about creating applications in the FactoryTalk Administration Console, refer to the FactoryTalk Administration Console Help.</td>
</tr>
<tr>
<td>3</td>
<td>The Communications tab provides a view from the computer you are currently using. With the Communications tab, you can browse for devices your computer can access on the network (similar to RSWho in RSLinx Classic) and shows them in tree format. The tree is composed of networks, chassis, devices, and services. The status bar on this tab indicates whether the computer is online or offline, and whether it is browsing or not browsing.</td>
</tr>
<tr>
<td>4</td>
<td>The workspace is an empty pane when you start FactoryTalk Administration Console. When you launch FactoryTalk Linx from the Explorer pane, the Communication Setup editor opens in the workspace.</td>
</tr>
</tbody>
</table>

Add FactoryTalk Linx to the FactoryTalk application

To begin using FactoryTalk Linx after you install it, you must first add it to a FactoryTalk Linx application, which is created in the FactoryTalk Directory. Use the following procedure to add FactoryTalk Linx to an application.

1. In the Explorer window, position the cursor in the area or application where you want to add the FactoryTalk Linx server.

2. Right-click the area or application icon, select Add New Server > Rockwell Automation Device Server (FactoryTalk Linx).

3. In the FactoryTalk Linx Server Properties tabs, set the server properties.

   Add a FactoryTalk Linx Instance02 Server to have more tags, data clients (e.g. HMI clients), and/or controllers without affecting FactoryTalk Linx Instance01 Server.

4. Click OK to save your changes.

5. To modify the properties of a FactoryTalk Linx server, right-click the FactoryTalk Linx server icon, and select Properties.

6. In the FactoryTalk Linx Server Properties tabs, change the information as required, and click OK.
How do I create a FactoryTalk Linx instance02 server?

1. From the Explorer window of FactoryTalk Administration Console or FactoryTalk View Studio, position the cursor in the area or application where you want to add the FactoryTalk Linx server.

   Tip: For a faster tag lookup, it's recommended to put only one FactoryTalk Linx data server per area.

2. Right-click the area or application icon, select Add New Server > Rockwell Automation Device Server (FactoryTalk Linx).

3. In the FactoryTalk Linx Server Properties tabs, under Server Type drop down list, select FactoryTalk Linx Instance02 Server, and then click OK.

Prior to version 6.10, only one instance of the FactoryTalk Linx service could operate on a workstation. With version 6.10, FactoryTalk Linx will support simultaneous operation of a second instance. This permits a single workstation to increase its data delivery capacity.

The FactoryTalk Linx instance02 service, similar to the FactoryTalk Linx Instance01 service, is created by FactoryTalk Linx to provide a separate independent FactoryTalk Linx data server on a single Windows operation system. It allows applications to have more tags, data clients (e.g. HMI clients), and/or controllers without affecting the other FactoryTalk Linx data server.

The FactoryTalk Linx Instance02 service starts once FactoryTalk Linx is installed. It will not be used until the configuration of FactoryTalk Linx Instance02 Server is completed in the FactoryTalk Administration Console or FactoryTalk View Studio.

Tip:
- The FactoryTalk Linx Instance02 Server is not supported on FactoryTalk View SE local station applications.
- The FactoryTalk Linx Instance02 Server doesn't support Logix-based Alarm and Events.
- The FactoryTalk Linx Instance02 Server is limited to Ethernet driver.
- The FactoryTalk Linx Instance02 Server is not supported on FactoryTalk View Machine Edition or PanelView Plus.
- The FactoryTalk Linx Instance02 Server doesn't support the unsolicited message shortcut type.

Explore the FactoryTalk Linx Communication Setup editor

Use the Communication Setup editor to add drivers, add devices, set up driver and device properties, and set up device shortcuts in your FactoryTalk Linx configurations.

To open the Communication Setup editor, perform the following steps:

1. In the Explorer pane, expand the appropriate application in the application tree.
2. Expand FactoryTalk Linx.

3. Double-click **Communication Setup**. The **Communication Setup** editor opens in the workspace.

![Communication Setup Editor](image)

**Important:** Modifying this data at run time could cause unexpected results. See "Making run-time changes in FactoryTalk applications" in the FactoryTalk Linx Help.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the <strong>Device Shortcuts</strong> area, you can add, remove, and modify shortcuts and apply the shortcut properties to the selected shortcut name. A shortcut is a name that stands for the device you want to connect to, and the data that device contains. The shortcut is associated with a communication path to tell the application where to find that data.</td>
</tr>
</tbody>
</table>
| 2    | Tab(s) contain a communication tree control, representing the communication topology. Depending on your product, you will see the following tabs:  
   - **FactoryTalk View SE (Site Edition) Local: Primary** tab  
   - **FactoryTalk View SE Network: Primary** tab and, if server redundancy is selected, **Secondary** tab.  
   Use the tabs to add, remove, and modify devices and drivers.  
   Menu options are shown by right-clicking the various nodes within the communication tree. |
| 3    | **Mode** indicates whether you are Online or Offline. |
| 4    | **Browse status** indicates whether or not FactoryTalk Linx is interrogating the network to determine if there are additional devices present. |
| 5    | **Shortcut Properties Table** indicates the properties associated with the selected shortcut. |
**Shortcut options** indicate the options associated with the selected shortcut type. **Note:** If Unsolicted Message is selected in the **Shortcut Type**, the following shortcut options show under the **Shortcut type** in the **Communication Setup** editor. For any other shortcut type (that is, processor, EDS parameter, or symbolic), the shortcut options are not visible.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td><strong>Shortcut options</strong> indicate the options associated with the selected shortcut type. <strong>Note:</strong> If Unsolicted Message is selected in the <strong>Shortcut Type</strong>, the following shortcut options show under the <strong>Shortcut type</strong> in the <strong>Communication Setup</strong> editor. For any other shortcut type (that is, processor, EDS parameter, or symbolic), the shortcut options are not visible.</td>
</tr>
<tr>
<td>7</td>
<td><strong>Status</strong> shows messages that assist you as you configure your shortcuts.</td>
</tr>
<tr>
<td>OK</td>
<td>Saves any changes and closes the <strong>Communication Setup</strong> editor.</td>
</tr>
<tr>
<td>Cancel</td>
<td>Closes the <strong>Communication Setup</strong> editor without saving the current changes.</td>
</tr>
<tr>
<td>Verify</td>
<td>Shows a summary of the shortcuts you created, and their associated status messages.</td>
</tr>
<tr>
<td>Help</td>
<td>Opens Help.</td>
</tr>
</tbody>
</table>

**Right-click versus left-click**

<table>
<thead>
<tr>
<th>To do this:</th>
<th>Do this:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select a device on the communication tree to apply a shortcut to it.</td>
<td>Left-click the device. If it is a valid device selection, the <strong>Apply</strong> button will become active. If it is an invalid device selection, status message (6) will alert you.</td>
</tr>
<tr>
<td>Start browsing the network.</td>
<td>Left-click a network on the communication tree. The <strong>Browse</strong> status (4) will indicate Browsing. or Right-click a network. Select <strong>Start Browsing</strong> from the context menu.</td>
</tr>
<tr>
<td>Stop browsing the network.</td>
<td>Right-click a network. Select <strong>Stop Browsing</strong> from the context menu.</td>
</tr>
<tr>
<td>View or edit a property screen.</td>
<td>Right-click the device or network. Select <strong>Properties</strong> from the context menu.</td>
</tr>
<tr>
<td>View a context menu.</td>
<td>Right-click.</td>
</tr>
</tbody>
</table>

**Important:** To open the property screen for a device, do not left-click the device to select it before right-clicking to open the property screen. The left-click action selects a shortcut target, which may or may not be the intended target for the highlighted shortcut.

If making an edit in the development environment will adversely affect the run-time system, warnings have been added to FactoryTalk to alert you. If the change is made through a dialog box, this warning icon:

![Warning Icon]

appears next to the component where the edit can be made. Hovering the mouse cursor over the icon shows the following message:

If making an edit in the development environment will adversely affect the run-time system, warnings have been added to FactoryTalk to alert you. If the change is made through a dialog box, this warning icon:

![Warning Icon]

appears next to the component where the edit can be made. Hovering the mouse cursor over the icon shows the following message:
"Modifying this data at run time could cause unexpected results. See Making run-time changes in FactoryTalk applications in the Help."

If the edit is made through a menu item, the message opens when you click the menu item.
FactoryTalk Linx Network Browser

The FactoryTalk Linx Network browser provides a simple user interface to view and navigate an automation system topology and access device properties. This tool provides a standalone version of the Network Browser component that is shared by other Rockwell Automation software. This tool will share the FactoryTalk Linx drivers that are configured in the FactoryTalk Administration Console. The tool will also permit you to add and configure new drivers that can also be utilized by the FactoryTalk Administration Console.

The Network Browser creates and modifies device networking configurations. It shares networking configuration with FactoryTalk Linx in the FactoryTalk Administration Console.

Note: The device list capability in the Ethernet driver can only be configured within the Network Browser control.

You can use the Network Browser dialog box to:

- Navigate a network topology to locate a device for interaction
- Add and delete drivers


- Edit driver settings
- Configure search discovery settings
- Perform a search of a previously discovered device
- Automatically discover a selection

**To access the standalone version of Network Browser:**

1. Click Windows Start.

2. Select Rockwell Software > FactoryTalk Linx > FactoryTalk Linx Browser.

   **Tip:** You can redirect to the shortcut configuration page in FactoryTalk Administration Console by clicking Configure Shortcut.

For more information, click the Help button on the Network Browser.

**Network Browser settings**

Use the general settings for the Network Browser to specify network configuration items and browser display information. Resize the Network Browser to see more or less of a network topology.

<table>
<thead>
<tr>
<th>Settings</th>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto discover</td>
<td>![Auto discover icon]</td>
<td>Enables the Network Browser to continuously discover the selected device or network branch.</td>
</tr>
<tr>
<td>Add Driver</td>
<td>![Add Driver icon]</td>
<td>Adds a driver on the computer to provide communications to a network.</td>
</tr>
<tr>
<td>Advanced Settings</td>
<td>![Advanced Settings icon]</td>
<td>Opens Advanced Settings to configure network discovery settings.</td>
</tr>
<tr>
<td>Zoom</td>
<td>![Zoom icon]</td>
<td>Increases (zoom in) or decreases (zoom out) the view of the network topology tree.</td>
</tr>
<tr>
<td>Help</td>
<td>![Help icon]</td>
<td>Opens the help topics.</td>
</tr>
<tr>
<td>Auto upload</td>
<td>![Auto upload icon]</td>
<td>Enables the Network Browser to automatically upload and register EDS files for unknown devices in the selected device and its child devices.</td>
</tr>
<tr>
<td>Manual upload</td>
<td>![Manual upload icon]</td>
<td>Uploads and registers the EDS file from a selected device.</td>
</tr>
<tr>
<td>Search</td>
<td>![Search icon]</td>
<td>Provides a filtered list of devices upon the searching criteria.</td>
</tr>
<tr>
<td>Anchor</td>
<td>![Anchor icon]</td>
<td>Re-roots a view in the network topology tree to give focus on a specific node and the corresponding children of that node.</td>
</tr>
<tr>
<td>Refresh</td>
<td>![Refresh icon]</td>
<td>Instructs the browser to perform a discover cycle of the selected device or network branch immediately and update the network topology tree with the results. Refresh is only active when Auto discover is not activated.</td>
</tr>
</tbody>
</table>
### Property

<table>
<thead>
<tr>
<th>Property</th>
<th>Image</th>
<th>Used to perform the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>▶️</td>
<td>- Show properties for a selected device.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Launch driver configuration for a selected driver.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Launch the bridged network configuration for the selected bridged network configuration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Adjust device settings in the topology, such as editing the name of the driver, adjusting the discovery method, and copying and pasting <strong>Device List/Range</strong> items.</td>
</tr>
</tbody>
</table>

### Delete

<table>
<thead>
<tr>
<th>Delete</th>
<th>Image</th>
<th>Used to remove a device from the network topology view in a computer. Observe these guidelines to gain a better understanding of the delete command:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✏️</td>
<td>- Deleting a device from the network topology tree does not remove the device from the network. After closing the <strong>Network Browser</strong>, all devices on the network return to the view when the <strong>Network Browser</strong> launches and discovers the devices.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Deleting a driver from the network topology tree permanently removes the driver and all its child nodes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Deleting a module with a network branch also removes the child nodes.</td>
</tr>
</tbody>
</table>

### Discover

<table>
<thead>
<tr>
<th>Discover</th>
<th>Image</th>
<th>Indicates discovery status. An animated icon indicates that the corresponding device is being discovered or a discovery cycle is in progress. A static icon indicates that browsing is complete.</th>
</tr>
</thead>
</table>

### CIP Security Indicator

<table>
<thead>
<tr>
<th>CIP Security Indicator</th>
<th>Image</th>
<th>When the icon is in the tool bar, it works as a switch to show or hide the CIP Security configuration status of a device. When the icon is in front of a device, it shows the device supports CIP Security and no configuration has been taken yet.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Means the device is in the CIP security configuration process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Means the device is successfully configured with CIP security.</td>
</tr>
</tbody>
</table>
Define FactoryTalk Linx server properties

This chapter includes the following information:

- Define General server properties
- Set up FactoryTalk Linx to support redundant servers (optional)
- Set up FactoryTalk Linx to support FactoryTalk Alarms and Events (optional)

To launch the Communication Setup editor, double-click Communication Setup from the Explorer under the FactoryTalk Linx server icon. The FactoryTalk Linx Server Properties dialog box opens.

Define General server properties

Both Local and Network applications require you to specify server properties on the General tab of the FactoryTalk Linx Server Properties dialog box.

- The server name is FactoryTalk Linx and cannot be changed after the server has been created.
- Use the Description area to describe a component’s location, to identify a contact person or number in the event of failure, or to keep track of changes or version information.
- For Local applications, the computer hosting the FactoryTalk Linx server defaults to localhost and cannot be changed. For Network applications, identify the computer where the FactoryTalk Linx server resides by either clicking Browse or typing the computer name.

If you are going to set up a redundant server, click the Redundancy tab. Otherwise, click Apply to save the server information, and then click OK to close the dialog box.

Setup FactoryTalk Linx to support a redundant server (optional)

On the Redundancy tab of the FactoryTalk Linx Server Properties dialog box, you can set up a secondary (redundant) server that will take over in the event that there is service loss of the primary FactoryTalk Linx server.

The secondary server cannot be hosted on the same computer as the primary server. You can set up a redundant data server for a network (distributed) application only. Note that if you have configured FactoryTalk Linx instance02 on the primary computer, you must configure instance02 on the secondary computer too to ensure a constant data communication when the
primary server fails. Refer to the FactoryTalk Linx Help for more information about redundant servers.

To set up a redundant server, on the **Redundancy** tab:

1. Select **Provide redundancy using a secondary server**.
2. Type the name of the computer that the secondary server will run on, or click **Browse** to locate and select a computer.
3. Select a switchover option.

If you are going to set up FactoryTalk Alarms and Events support, click the **Alarms and Events** tab. Otherwise, click **Apply** to save the server information, and then click **OK** to close the dialog box.

On the **Alarms and Events** tab of the **FactoryTalk Linx Server Properties** dialog box, you can configure the selected server for FactoryTalk Alarms and Events device-based alarm monitoring. Refer to the FactoryTalk Linx Help, or click **Help** on the property page before attempting to set up FactoryTalk Alarms and Events support.

---

**Setup FactoryTalk Linx to support FactoryTalk Alarms and Events (optional)**

![FactoryTalk Linx Server Properties dialog box](image)
Chapter 5

Create a configuration

This chapter includes the following information:

- Add a driver
- Add a device
- Create shortcuts

To begin working with FactoryTalk Linx, you must add a FactoryTalk Linx data server to the FactoryTalk Directory. Once you have added FactoryTalk Linx and configured its properties, use the Communication Setup editor to add drivers, set up driver and device properties, and set up device shortcuts.

To launch the Communication Setup editor, double-click Communication Setup from the Explorer under the FactoryTalk Linx data provider.

Add a driver

A driver is software that interacts with a network interface (such as the interface that connects your computer to the Ethernet network) and manages the exchange of communication packets over the network, to which the interface is attached. Refer to the FactoryTalk Linx Help for information about the drivers that are supported.

If you are running on an Ethernet network

If you are running on an Ethernet network, right-click the network shown (for example, Ethernet), and select Start Browsing to populate the driver with devices to add a driver.

Important: Some Ethernet devices may not support the browse protocol used by FactoryTalk Linx on Ethernet. If the devices you expect to appear during the browse do not appear, manually add the devices to the workstation’s Ethernet network by right-clicking on the network and selecting Add Device.

If you are running on any network other than Ethernet

If you are running on any network other than Ethernet, right-click the device shown at this workstation, and select Add Driver to add a driver.

Add a device

You can add devices by browsing the network, or you can manually add devices.
Automatically add a device by browsing

The list of potential device targets for FactoryTalk Linx can be gathered during online browsing. During a browse cycle, FactoryTalk Linx scans the network addresses, determines the present devices, and shows them in tree format. The display shows the set of devices discovered during the most recent browse cycle.

If a device is not found during a browse, it does not appear on the display, regardless of whether or not that device was previously discovered.

If you are running on an Ethernet network, right-click the network shown (for example, Ethernet) to start browsing. The network is automatically populated with devices.

Browse the virtual backplane

When you select the virtual backplane on the user interface, FactoryTalk Linx may not automatically discover devices that reside in it. If you have added the device with a separate software package, such as the SoftLogix Chassis Monitor or RSLinx Classic, this is most likely to happen.

If you think you have devices resident in your virtual backplane that are not showing up on the FactoryTalk Linx user interface, you can right-click the virtual backplane and select **Start Browsing**, or **Show All Devices** to see those devices. If the devices do not appear, saved configuration data is not lost.

Manually add a device

You can manually add the devices to the workstation's network using the following procedure:

1. Right-click the network or driver and select **Add Device**.
   
   A list of **Available Devices** that applies only to the network you selected opens.

2. Select the device you wish to add, and click **OK**. The device is added below the driver or network on the communication tree. Unless your application requires a specific device version, you should select the most recent revision of that device.

   For information on device revisions in the device list, see the drivers, device, and shortcuts section of "Frequently asked question" in the FactoryTalk Linx Help. The Help also provides information about how to add and configure drives and devices.

Create shortcuts

Your application uses a configuration file to communicate with devices on the network. This file contains at least one shortcut, which is a name that stands for the device you want to connect to and the data that device contains. The communication path associated with the shortcut tells the application where to find that data.

   Here are some important aspects about device shortcuts:
A shortcut needs to be configured for each device that the application needs to access. The connected device must be capable of providing data to the application.

Shortcuts are stored on a per-FactoryTalk application basis instead of being associated with the FactoryTalk Linx server itself.

Shortcuts are added, deleted, or modified using the Shortcut Editor in the Device Shortcuts area of the **Communication Setup** editor.

To create a shortcut, use the following procedure:

1. In the **Device Shortcuts** area of the **Communication Setup** editor, click **Add**. A default shortcut named *New_Shortcut* is created.

2. If you wish to change the name of the shortcut, you can enter the new name at this point.

When creating a shortcut name:

- Use the name of the controller, in which the data (tags) resides.
- Ensure that the name is unique within this FactoryTalk View application.
- Do not use any of the following characters: . (period), ], [, %, or /.
- Keep shortcut names as short as possible. The name must be less than 255 characters.
- Do not give the same name to FactoryTalk Linx shortcuts and RSLinx Classic topics. If a shortcut has the same name as a topic, tags will not be shown for one of them during a tag browse.

3. Select the device on the communication tree by clicking the device that contains the data you want to access for this shortcut, and click **Apply**. A dialog box opens to confirm your changes.

4. (Optional) You may also choose to use an Offline Tag File by entering the path and name of the file in the Properties Table or by clicking **Browse**... and browsing for the file. Click **Apply** in the **Device Shortcuts** area. An offline tag file is a ControlLogix project file (.acd) that contains tag data. You can use this file to browse for tags when designing your application when the controller is not online.

| Important: | The ControlLogix program file (.acd) must be located on the local computer, instead of on a networked location. The offline file must be located in the specified directory on all FactoryTalk Linx server machines associated with the shortcut. |

5. (Optional) Enable Alarms and Events support for this shortcut by selecting **Yes** from the menu in the Shortcut Properties Table. Refer to the FactoryTalk Linx Help before enabling Alarms and Events support for a shortcut.
6. In **Shortcut Type**, select a shortcut option to define a shortcut type for the selected shortcut. By default, **Processor** is selected.

   For more information about creating each shortcut type, see *FactoryTalk Linx Online Help*.

   **Tip:**
   - FactoryTalk Linx establishes simultaneous connections to both the primary and secondary controllers. All communications occur with the primary controller but will switch to the secondary controller when FactoryTalk Linx detects the ControlLogix Redundancy system has performed a controller switchover.
   - The Logix 5000 controllers must be at revision 31.50 or above to support redundant controller paths.
   - The ControlLogix 1756-EN2T Ethernet modules must contain a specific revision released with ControlLogix Redundancy system revision 31.50 to support setting fixed IP addresses for each module.
   - Redundant paths are not supported by FactoryTalk View Machine Edition (ME)
   - When switching to **Redundant ControlLogix Controller**, a validation dialog box opens. Click **Yes** to continue.

7. To see the status messages associated with each shortcut you have configured, click **Verify** on the **Communication Setup** editor.

When you have finished adding shortcuts, click **OK** to close the **Communication Setup** editor. The shortcuts are not saved until you click **OK** to close this dialog box. A dialog box opens to confirm your changes.

A shortcut is a name that stands for the device you want to connect to, and the data that device contains. The communication path associated with the shortcut tells the application where to find that data. Shortcuts are added, deleted, or modified using the **Shortcut Properties** table in the **Device Shortcuts** area of the **Communication Setup** editor.

The following table shows the available shortcut types. Select one shortcut type for each shortcut.

<table>
<thead>
<tr>
<th>Shortcut type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Used for the processor type devices, such as 1756-L53, 1756-L61S, 1756-L64, 1756-L75, and CompactLogix L32E Processor.</td>
</tr>
<tr>
<td>EDS Parameter</td>
<td>Used for devices in which the EDS parameter is defined, such as 1734-ADN DeviceNet Adaptor, 1734-ADNX, 1747-AENTR, 1756-DNB, and 1783-MS10T Stratix 8300.</td>
</tr>
<tr>
<td>Symbolic</td>
<td>Used for devices that have tags or symbols defined, such as 1426 PowerMonitor™ 5000, Micro800 series (Micro820, Micro830, and Micro850) controllers, and 193 E1 Plus Solid-State Overload Relays.</td>
</tr>
<tr>
<td>Unsolicited Message</td>
<td>Used for the ControlLogix and PLC-5 controllers via Ethernet. Additional options show when this shortcut type is selected. Starting from version 6.10.00, FactoryTalk Linx supports PLC-2 communication via unsolicited message shortcut type.</td>
</tr>
</tbody>
</table>
Shortcut type | Description
---|---
CIP Object | Supports accessing devices’ CIP Object instance attributes as tags. You must select a sub-option of the CIP Object. Currently FactoryTalk Linx supports the Energy sub-option only.
Redundant Controller Path | Used for a single ControlLogix controller with redundant communication paths. The default path names are Path1 and Path2.
Redundant ControlLogix Controller | Used for two ControlLogix controllers in a single ControlLogix redundancy configuration connected to redundancy modules with different communication paths. The default path names are Primary Controller and Secondary Controller.

Change shortcut types

Use Communication Setup editor to switch between seven shortcut types in Device Shortcuts area.

To change a shortcut type


   **Tip:** When selecting a redundant shortcut, select the root shortcut to turn on the Shortcut Type list.

2. In Shortcut Type, select a new shortcut option.

3. (Optional) If the change involves any redundant shortcut types, a confirmation dialog box opens. Read the change summary and click Yes.

   - If a shortcut is changed to **Redundant Controller Path**, click Path 2, select the same Logix 5000 controller that Path1 assigned to (with a different communication path), and then click Apply.
   - If a shortcut is changed to **Redundant ControlLogix Controller**, click Secondary Controller, select the device which is a redundant pair to the device that Primary Controller assigned to, and then click Apply.

   **Tip:**
   - FactoryTalk Linx establishes simultaneous connections to both the primary and secondary controllers. All communications occur with the primary controller but will switch to the secondary controller when FactoryTalk Linx detects the ControlLogix Redundancy system has performed a controller switchover.
   - The Logix 5000 controllers must be at revision 31.50 or above to support redundant controller paths.
   - The ControlLogix 1756-EN2T Ethernet modules must contain a specific revision released with ControlLogix Redundancy system revision 31.50 to support setting fixed IP addresses for each module.
   - Redundant paths are not supported by FactoryTalk View Machine Edition (ME)
   - When switching to **Redundant ControlLogix Controller**, a validation dialog box opens. Click Yes to continue.

4. Click OK to close the Communication Setup editor.
## Predefined items for redundant shortcuts

When a shortcut is configured, access the diagnostic information associated with this shortcut to monitor the status of the communication. Add pre-define tags to view the diagnostic information in FactoryTalk Live Data Test Client.

The following table shows an example list of pre-define tags that used to view diagnostic information:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>@AddItemCalls</td>
<td>Shows the number of times a client made a call to each AddItem method.</td>
</tr>
<tr>
<td>@AddItems</td>
<td>Shows the number of items a client added to FactoryTalk Linx.</td>
</tr>
<tr>
<td>@AddItemsIgnored</td>
<td>Shows the number of items requested to be added that were ignored as the items were already on-scan.</td>
</tr>
<tr>
<td>@AddShortcutCalls</td>
<td>Shows the number of attempts to add shortcuts to FactoryTalk Linx.</td>
</tr>
<tr>
<td>@AveragePacketResponse</td>
<td>Shows the average packet response time from a Logix controller.</td>
</tr>
<tr>
<td>@CLXDownloadCount</td>
<td>Shows the number of download events for a Logix controller.</td>
</tr>
<tr>
<td>@CLXMaxScanTime</td>
<td>Shows the maximum scan time for a Logix controller.</td>
</tr>
<tr>
<td>@CLXOfflineItemCount</td>
<td>Shows the number of items handled in an offline status for a Logix controller.</td>
</tr>
<tr>
<td>@CLXPacketsReinitialized</td>
<td>Shows the number of packets that were reinitialized due to connection lost or other problems.</td>
</tr>
<tr>
<td>@CLXPresentScanTime</td>
<td>Shows the current scan time for a Logix controller.</td>
</tr>
<tr>
<td>@CLXWritePackets</td>
<td>Shows the number of write command packets sent to a Logix controller.</td>
</tr>
<tr>
<td>@CLXWritesPending</td>
<td>Shows the number of write command packets pending to a Logix controller.</td>
</tr>
<tr>
<td>@ConnectionClosesFailed</td>
<td>Shows the number of times that the action of closing a connection is failed</td>
</tr>
<tr>
<td>@ConnectionClosesRejected</td>
<td>Shows the number of times that the action of closing a connection is rejected.</td>
</tr>
<tr>
<td>@ConnectionOpensFailed</td>
<td>Shows the number of times that the action of opening a connection is failed.</td>
</tr>
<tr>
<td>@ConnectionOpensRejected</td>
<td>Shows the number of times that the action of opening a connection is rejected.</td>
</tr>
<tr>
<td>@ConnectionsActive</td>
<td>Shows the number of active connections.</td>
</tr>
<tr>
<td>@ConnectionsAttempted</td>
<td>Shows the total number of connection open attempts.</td>
</tr>
<tr>
<td>@ConnectionsClosed</td>
<td>Shows the total number of connections that were closed.</td>
</tr>
<tr>
<td>@ConnectionsDropped</td>
<td>Shows the number of dropped connections.</td>
</tr>
<tr>
<td>@CurrentTime</td>
<td>Shows the current time from the Logix controller clock.</td>
</tr>
<tr>
<td>@DataCommunicationsInhibit_Path1</td>
<td>Shows the current inhibit state of redundant path1.</td>
</tr>
<tr>
<td><strong>Tip:</strong></td>
<td>To switch the current inhibit state of redundant path1, right-click the item &gt; Write Item(s) &gt; Async Write, change the Value (1 = True, 0 = False) and then click OK.</td>
</tr>
<tr>
<td>@DataCommunicationsInhibit_Path2</td>
<td>Shows the current inhibit state of redundant path2.</td>
</tr>
<tr>
<td><strong>Tip:</strong></td>
<td>To switch the current inhibit state of redundant path2, right-click the item &gt; Write Item(s) &gt; Async Write, change the Value (1 = True, 0 = False) and then click OK.</td>
</tr>
<tr>
<td>@DevicePath</td>
<td>Shows a string that describes the path to the Logix controller.</td>
</tr>
<tr>
<td>@DevicePathSwitch</td>
<td>Shows the current active path index (0 = Primary, 1 = Secondary).</td>
</tr>
<tr>
<td><strong>Tip:</strong></td>
<td>To switch the current active path, right-click the item &gt; Write Item(s) &gt; Async Write, change the Value (1 = True, 0 = False) and then click OK. If the write value of @DevicePathSwitch is invalid (out of range or same with current path), a write error (E_FAIL: 0x80004005) returns.</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>@DevicePathSwitchCount</td>
<td>Show the times that device path has switched over since service started.</td>
</tr>
<tr>
<td>@DevicePathSwitchTimestampLastMsg</td>
<td>Show the time stamp that last device switch over happened in text format.</td>
</tr>
<tr>
<td>@DPVersion</td>
<td>Shows a string of the CLXDP.DLL version number.</td>
</tr>
<tr>
<td>@FirstConnectionDropTime</td>
<td>Shows a timestamp for the first dropped connection.</td>
</tr>
<tr>
<td>@FreeMem</td>
<td>Shows the free memory in a Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@FreeMemDT</td>
<td>Shows the free Data Table memory in a Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@FreeMemGM</td>
<td>Shows the free General memory in a Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@FreeMemIO</td>
<td>Shows the free I/O memory in a Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@FreeMemSC</td>
<td>Shows the free Security memory in a Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@IsPresent</td>
<td>Shows an integer that means:</td>
</tr>
<tr>
<td></td>
<td>&quot;1&quot; : Logix controller is on-line and contains a program;</td>
</tr>
<tr>
<td></td>
<td>&quot;0&quot; : Logix controller is off-line or there is no program inside.</td>
</tr>
<tr>
<td>@IsPresent_Path1</td>
<td>Shows the present status of redundant path1.</td>
</tr>
<tr>
<td>@IsPresent_Path2</td>
<td>Shows the present status of redundant path2.</td>
</tr>
<tr>
<td>@LastConnectionDropTime</td>
<td>Shows a timestamp for the last dropped connection.</td>
</tr>
<tr>
<td>@Mode</td>
<td>Shows a string describing the mode of the Logix controller:</td>
</tr>
<tr>
<td></td>
<td>• Program</td>
</tr>
<tr>
<td></td>
<td>• Run</td>
</tr>
<tr>
<td></td>
<td>• Remote Program</td>
</tr>
<tr>
<td></td>
<td>• Remote Run</td>
</tr>
<tr>
<td>@NumberOfCLXOptimizedPackets</td>
<td>Shows the number of optimized packets created to a Logix controller.</td>
</tr>
<tr>
<td>@NumberOfDataItems</td>
<td>Shows the number of data items added to FactoryTalk Linx.</td>
</tr>
<tr>
<td>@NumberOfItems</td>
<td>Shows the total number of items added to FactoryTalk Linx. This value is the sum of @NumberOfDataItems and @NumberOfPredefinedItems.</td>
</tr>
<tr>
<td>@NumberOfOptimizedPackets</td>
<td>Shows the number of optimized items stored in ControlLogix Optimized packets.</td>
</tr>
<tr>
<td>@NumberOfPredefinedItems</td>
<td>Shows the number of predefined items added to FactoryTalk Linx.</td>
</tr>
<tr>
<td>@PacketsCancelled</td>
<td>Shows the total number of packets cancelled to the Logix controller.</td>
</tr>
<tr>
<td>@PacketsPerSecond</td>
<td>Shows average number of packets received from the Logix controller per second.</td>
</tr>
<tr>
<td>@PacketsReceived</td>
<td>Shows the number of packets received from the Logix controller.</td>
</tr>
<tr>
<td>@PacketsSent</td>
<td>Shows the number of packets sent to the Logix controller.</td>
</tr>
<tr>
<td>@PollBlocks</td>
<td>Shows the number of poll requests received from the RNA Toolkit.</td>
</tr>
<tr>
<td>@PollBlocksFailure</td>
<td>Shows the number of poll requests failure received from the RNA Toolkit.</td>
</tr>
<tr>
<td>@PollBlocksIgnored</td>
<td>Shows the number of poll requests received from the RNA Toolkit that are pending.</td>
</tr>
<tr>
<td>@PollBlocksSuccess</td>
<td>Shows the number of poll requests received from the RNA Toolkit that are pending.</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>@PollComplete</td>
<td>Shows the number of poll requests completed.</td>
</tr>
<tr>
<td>@PollCompleteFailure</td>
<td>Shows the number of completed poll requests failures.</td>
</tr>
<tr>
<td>@PollCompleteSuccess</td>
<td>Shows the number of completed poll requests success.</td>
</tr>
<tr>
<td>@ProcessorName</td>
<td>Shows a string containing the Logix controller program name. The program name can be a maximum of 40 characters in length.</td>
</tr>
<tr>
<td>@Redundancy Mode</td>
<td>Shows the redundancy state of a Logix controller. The primary controller in a redundant pair returns value &quot;1&quot;. The secondary controller in a redundant pair or a non-redundant controller returns value &quot;0&quot;.</td>
</tr>
<tr>
<td>@RemoveItemCalls</td>
<td>Shows the number of calls a client made to remove item.</td>
</tr>
<tr>
<td>@RemoveItem</td>
<td>Shows the number of items being removed.</td>
</tr>
<tr>
<td>@RemoveItemsDuplicate</td>
<td>Shows the same item being on-scan.</td>
</tr>
<tr>
<td>@Revision</td>
<td>Shows the firmware revision of the Logix controller.</td>
</tr>
<tr>
<td>@SetPropertyCalls</td>
<td>Shows the number of calls a client made to set property.</td>
</tr>
<tr>
<td>@ShortcutsAdded</td>
<td>Shows the number of shortcuts being added in FactoryTalk Linx.</td>
</tr>
<tr>
<td>@Status</td>
<td>Shows the status of the Logix controller. The status can be <strong>OK</strong> or <strong>Faulted</strong>.</td>
</tr>
<tr>
<td>@TimeToUploadGlobalTags</td>
<td>Shows the time in milliseconds to upload the global tags from the Logix controller.</td>
</tr>
<tr>
<td>@TotalMem</td>
<td>Shows the total memory in the Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@TotalMemDT</td>
<td>Shows the total Data Table memory in the Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@TotalMemGM</td>
<td>Shows the total General memory in the Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@TotalMemIO</td>
<td>Shows the total I/O memory in the Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@TotalMemSC</td>
<td>Shows the total security memory in the Logix controller.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Logix L8 (ControlLogix 5580 and CompactLogix 5480) series of controllers do not provide this information because of architectural changes within the controller firmware.</td>
</tr>
<tr>
<td>@WriteCompletes</td>
<td>Shows the number of write requests completed.</td>
</tr>
<tr>
<td>@WriteCompleteSuccess</td>
<td>Shows the number of write packets that successfully completed.</td>
</tr>
<tr>
<td>@WriteItemCalls</td>
<td>Shows the number of calls a client made to write item.</td>
</tr>
<tr>
<td>@WriteItem</td>
<td>Shows the number of items written.</td>
</tr>
<tr>
<td>@WriteItemFailures</td>
<td>Shows the number of requests written that are failed.</td>
</tr>
<tr>
<td>@WriteItemSuccess</td>
<td>Shows the number of requests written that are succeeded.</td>
</tr>
</tbody>
</table>

For more information about pre-define items, see *FactoryTalk Services Platform Online Help.*
Inhibit Data Communication

FactoryTalk Linx enables you to control which shortcuts are active through both the FactoryTalk Admin Console or from an HMI screen. It provides appropriate system diagnostic indications that reflect that communications to the targeted device is intentionally inhibited. By doing this, the system loading time and network bandwidth needs could be reduced. The system usability could be improved as well by inhibiting and enabling data communication flexibly.

Starting from RSLinx Enterprise v5.90.00 (CPR 9 SR 9) (renamed FactoryTalk Linx with version 6.00.00), you can inhibit or enable data communication with a device in FactoryTalk Administration Console or FactoryTalk View Studio.

You can inhibit data communication of a device using the:

- Device Properties dialog box
- Predefined items

**Tip:** For RSLinx Enterprise v5.90.00 and later (renamed FactoryTalk Linx with version 6.00.00), data communication inhibit and enable support Logix 5000 controllers only.

To inhibit data communication using the Device Properties dialog box:

1. From the Communication Setup editor, or from the Communication tab of the Explorer window, right click a device in the communication tree and select Properties.

2. In the Device Properties dialog box, select the Inhibit Data Communications check box.

3. Click OK.

After the device is inhibit, the icon ![inhibit](image) shows on this device icon. If one or more shortcut is linked to the inhibit device, the icon also shows on the shortcut icon.

To inhibit data communication using predefined item:

1. Start FactoryTalk Live Data Test Client.

2. From the Data menu, select Add Item.

3. Select the predefined item @DataCommunicationsinhibit and click OK. The item will added to Live Data Test Client dialog box.

4. Right-click the predefined item @DataCommunicationsinhibit and select Write Item(s) > Async Write.

5. Set the Value to True click OK.
After the device is inhibit, the icon ![warning_icon] shows on this device icon. If one or more shortcut is linked to the inhibit device, the icon also shows on the shortcut icon.

**Tip:**
- If you have set up primary and secondary servers, you need to inhibit data communication with the device on the *Primary* and the *Secondary* tabs respectively.
- If you inhibit a device and delete it from the communication tree, the inhibit data communication status will be removed from the topology. Even if the device can be re-browsed and added, it will be taken as a new one.
Chapter 6

Troubleshooting

This chapter includes the following information:

- What to check first if you are having problems
- Troubleshooting tools for FactoryTalk Linx
- Answers to common questions

What to check first when you have problems

Does your computer meet the minimum hardware and software requirements? Refer to System requirements for these requirements.

Is the FactoryTalk Administration Console installed on your computer?
If you are running on a Windows platform, verify that FactoryTalk Administration Console is installed using the following procedure:

1. Select Start > Control Panel > Programs and Features (view by small icons).

2. Right click FactoryTalk Automation Platform from the program list.

3. Select Change to start the installation wizard.

4. Select Modify from the Program Maintenance screen.

5. Verify the installation status of FactoryTalk Administration Console.

Troubleshooting tools for FactoryTalk Linx

FactoryTalk Linx provides diagnostic tools, with which you can troubleshoot problems when they occur:

- FactoryTalk Diagnostics event log
- Predefined items

FactoryTalk Diagnostics event log

In a FactoryTalk-enabled automation system, Rockwell Software products monitor system activity and generates detailed diagnostic messages. Meanwhile, FactoryTalk Diagnostics collects this activity, warning, error, and audit messages from all participating products throughout a distributed system and routes them to Local Logs (also called event logs) on each computer.

If you encounter a problem, you can review the events in the log that led up to the problem to assist in determining the cause. Or you can monitor the log to identify potential problems and take corrective action before a problem occurs.
Refer to the FactoryTalk Help for more information about FactoryTalk Diagnostics and the event log.

**Predefined items**

Predefined items are counters or strings that are made available by FactoryTalk Linx as data items for diagnostic purposes. These predefined items access information contained in FactoryTalk Linx. Refer to the FactoryTalk Linx Help for more information about predefined items.

**Answers to common questions**

The following are some frequently asked questions about FactoryTalk Linx.

**Where is the help for FactoryTalk Linx?**

From the FactoryTalk Linx, select Help > Contents > FactoryTalk Help > FactoryTalk Linx Help.

**Why don't I see FactoryTalk Linx on my Start menu?**

FactoryTalk Linx uses the FactoryTalk Administration Console to edit all of the configuration data and does not require a standalone interface. FactoryTalk View Studio can also make changes to FactoryTalk Linx configurations. Therefore, if you are using FactoryTalk View SE or FactoryTalk View Machine Edition, you do not have to leave the main user interface.

**Why can't I browse for tags?**

Tag browsing (that is, browsing online for data items) is not supported in the FactoryTalk Administration Console. To browse for tags and connect them to components in your system, you must use the FactoryTalk View Studio or the FactoryTalk Transaction Manager tag browsers.

**Why can't I edit my ME configuration?**

Editing HMI servers within applications, namely FactoryTalk View SE Distributed, SE Local, and ME, is not supported in the FactoryTalk Administration Console. The FactoryTalk Administration Console is intended to configure and manage your application. To edit SE or ME configurations, you must use FactoryTalk View Studio.

**Can I run FactoryTalk Linx and RSLinx Classic on the same computer?**

FactoryTalk Linx and RSLinx Classic can run simultaneously on the same computer, although there are some considerations that you must be aware of to avoid resource conflicts between these two applications. Refer to Use FactoryTalk Linx with RSLinx Classic on page 59 for more information.
Chapter 7

Advanced topics

The following topics are presented in this section:

- About the virtual backplane
- Supported network routes
- Move FactoryTalk Linx configurations
- Manage CIP connections

About the virtual backplane

The virtual backplane is a driver service that provides connectivity between FactoryTalk Linx and various device drivers and other applications within the FactoryTalk Linx server. It allows the software modules and communications resources contained in the server to be configured and visualized in a manner similar to the devices in a ControlLogix system.

For example, both the PCICS and PKTCS device drivers plug into the virtual backplane. Packets received by one of these communications interface cards can be routed across the virtual backplane to (or through) any other interface card whose driver plugs into the virtual backplane, or to any application that plugs into the virtual backplane, such as the SoftLogix5xxx controller.

This is very similar to having a 1756-CNB and a 1756-ENBT module plugged into a ControlLogix chassis: packets received across the ENBT can be routed across the backplane and out the CNB module, or to a controller sitting in the backplane.

It is important to remember that FactoryTalk Linx occupies a slot in the virtual backplane (as can RSLinx Classic), which means that it is able to be both a source and a destination for packets sent over the backplane.

This chassis-like model is carried over to the PanelView Plus platforms in a minimalistic fashion. For ControlNet support, those platforms implement two-slot virtual backplanes, where FactoryTalk Linx sits in one slot (slot #0) and the 2711P-RN15S ControlNet Scanner card sits in the other (slot #1).

Supported network routes

The preferred route for PCCC networks is for the FactoryTalk Linx engine to be connected to the end device. For example, a PanelView Plus device connected directly to a PLC-5, or a FactoryTalk Linx data server on a Windows computer connected directly to a DH+/RIO module in a ControlLogix rack.
FactoryTalk Linx allows you to change the network type used when going across a route that includes multiple CIP (Control and Information Protocol; for example, Ethernet or ControlNet) hops.

FactoryTalk Linx does not support offlink routes. Offlink routes are network paths, in which the underlying network protocol changes. This means if you originally start on a PCCC route (for example, DH+/DH485, DH-RIO), you cannot switch to a CIP route such as ControlNet or Ethernet. The reverse is also true: you cannot start on a CIP route (for example, Ethernet to ControlLogix to DH+ to PLC-5), and then switch to a PCCC route.

**Move FactoryTalk Linx configurations**

**Move your shortcuts**

You can reuse shortcuts developed in one application for FactoryTalk Linx for another FactoryTalk Linx application without having to re-enter the shortcuts using the following procedures. These procedures move only the shortcuts and not the drivers themselves.

1. Right-click the FactoryTalk Linx server in the application tree and select Properties.

2. Change the computer name in the computer hosting the FactoryTalk Linx server box to the new location of the FactoryTalk Linx server.

3. A warning message opens to alert you that this procedure changes the FactoryTalk Linx server reference. You must reapply your shortcuts because the paths may not be set correctly; only the shortcut name is preserved. Follow the instructions provided on the dialog box.

**Move shortcuts from one computer to another: same application**

1. Identify the computer, on which your FactoryTalk Directory Server is located.

2. On that FactoryTalk Directory Server computer, locate the shortcuts.xml file in:

   ```
   C:\Documents and Settings\All Users\Application Data\Rockwell\RNA Server\Global\RnaStore\your_application_name\any_area_or_sub_areas_you_have\your_FactoryTalk_Linx_server_name
   ```

   This assumes that you have not changed your documents and settings location, and that you installed Windows to the C:\ drive

   *Your_application_name* is the name of your application, and within the application are folders and sub folders for areas and sub areas, if used.

   *Any_area_or_sub_areas_you_have* will match a file directory of the same name.

**Move shortcuts on the same computer: different application**
Your_FactoryTalk_Linx_server_name will match the name of your FactoryTalk Linx data server in the application (the default is FactoryTalk Linx).

3. Move the shortcuts.xml file to the path where your new application is; all your shortcuts names will be moved there.

For example:

C:\Documents and Settings\All Users\Application Data\Rockwell\RNAServer\Global\RnaStore\your_NEW_application_name\any_area_or_sub_areas_you_have\your_FactoryTalk_Linx_server_name

4. For each shortcut, you must reapply the path to the end device.

This method works for moving shortcuts between Local applications (remembering that Local applications always use the computer, on which it runs as the Local FactoryTalk Directory server), and for moving shortcuts between Local and Networked applications.

The path for local shortcuts is:

C:\Documents and Settings\All Users\Application Data\Rockwell\RNAServer\Local\RnaStore\your_application_name_here\your_FactoryTalk_Linx_server_name.

**Move shortcuts from one computer to another: different application**

To move shortcuts between computers and between applications, follow the same path on the FactoryTalk Directory server as described in the previous section. Keep in mind that the FactoryTalk Directory server will have a directory for each application and for each FactoryTalk Linx server.

**Move shortcuts from one computer to another: different FactoryTalk Directory**

To move shortcuts between computers, even with different FactoryTalk Directories, follow the same path on the FactoryTalk Directory server as described in the previous section. Keep in mind that the FactoryTalk Directory server will have a directory for each application and for each FactoryTalk Linx server, and you can move from application to application.

It is important to remember that your shortcut names are copied, but not the associated paths; so you must reapply each shortcut.

**Move your physical layout (drivers and devices)**

Applications using FactoryTalk Linx data services from the same FactoryTalk Linx host computer always share the same physical hardware configuration (for example, drivers and devices). In this case, there is no need to move hardware configurations from one application to another.
Important: Only qualified personnel familiar with FactoryTalk Linx and the consequences associated with moving the RSLinxNG.xml file should perform the procedure described in this section. These consequences include:

- Driver mismatch (different driver configurations, including addresses)
- Communications interfaces mismatch (some cards may get inappropriately reconfigured)
- Topology mismatch (including subnets)

Contact Rockwell Automation Technical Support for assistance.

This procedure is typically used for the following reasons:

- You have nearly identical control systems on similar process lines, and you want to copy the same hardware configurations to duplicate FactoryTalk Linx host computers on each line.

or

- You have nearly identical workstations (FactoryTalk Linx hosts) in the same control system, each having the same perspective of the network, and the same hardware configuration is needed in each workstation.

You can:

- Copy I/O configurations
- Avoid losing user-assigned device names
- Avoid having to reapply shortcuts for applications copied from the source computer

By using the following procedure:

1. Stop the FactoryTalk Linx service, using the Windows Service Control Panel on both the source and the target computers.

   Important: If a Rockwell Automation application attempts to use FactoryTalk Linx service, FactoryTalk Linx will restart. Rockwell Automation applications that use FactoryTalk Linx must be stopped or shut down before you proceed. This will prevent the service from automatically starting, while you are moving the configuration file.

2. Use Windows Explorer to locate the file an RSLinxNG.xml file in the directory C:\Documents and Settings\All Users\Application Data\Rockwell\FactoryTalk Linx. This assumes you have not changed your documents and settings location and that you installed Windows to the C:\ drive.

3. Copy RSLinxNG.xml from the source computer to the target computer, and restart the computer hosting FactoryTalk Linx. This results in an exact copy of the source computer's hardware configuration.
**Important:** Any time you change the FactoryTalk Linx physical configuration (RSLinxNG.xml), you may break existing application shortcut assignments. Check all shortcut assignments in all applications that use the FactoryTalk Linx service on the same host workstation to ensure that the correct devices are assigned.

---

**Manage CIP connections**

By default, RSLinx Enterprise CPR 9 SR 1 and earlier would open up to five CIP connections to a Logix controller: Four for read operations and one for write operations. In some system configurations, the maximum connection resources in a controller or bridge module could be reached fairly quickly. In this situation, if the client load changed, problems could result. For example, if an HMI terminal was introduced into the system, it could cause performance variation among all terminals in the system, or you might not be able to go online with programming software.

Starting from RSLinx Enterprise CPR 9 SR 2 (renamed FactoryTalk Linx version 6.00.00), checks for devices that support a relatively small number of CIP connections and limits the number of read connections. The number of write connections remains fixed at 1. These devices are described in the following sections. By default, all other devices and bridge modules still open as many as four read connections and one write connection.

**Logix controllers with a limited number of connections**

The following Logix controllers are assigned from 1 to 4 read connections, as configured, with the default being 1 read connection and 1 write connection. This is determined at runtime and is based on the actual controller, not the type specified in the FactoryTalk Linx topology, if it is different.

- 1769-L23E-QB1
- 1769-L23-QBFC1
- 17-69-L23E-QBFC1

**CIP bridge modules with a limited number of connections**

The following communication bridge modules are assigned from 1 to 4 read connections, as configured, with the default being 1 read connection and 1 write connection. This is determination is based on the FactoryTalk Linx topology; only the bridge module closest to the target controller is checked.

- 1756-DHRIO
- 1756-DHRIO
- 1761-NET-ENI

**Use predefined items to count active CIP connections**

To determine how many CIP connections FactoryTalk Linx is using for a particular path, create a shortcut using that path and then check the value in the @ConnectionsActive predefined item. Refer to the FactoryTalk Linx Help for more information on predefined items.
Use FactoryTalk Diagnostics to track and troubleshoot CIP connections

The following FactoryTalk Diagnostics messages are used to support this feature:

- **I_CLXDP_STARTED_ON_ROUTE** is logged when a CLX data provider is started.
- **I_CLXDP_MAX_READ_CONNECTIONS** is logged to indicate the maximum number of read connections that the data provider will attempt to open.

Refer to the FactoryTalk Services Platform Help for more information about FactoryTalk Diagnostics.

Change the allocation of CIP connections

Configuration parameters in the registry file or the RSLinxNG.xml file can be used to override the default values. Refer to Rockwell Automation Knowledgebase Answer ID 39366 for information on manually changing the connection allocation.

CIP Security

The **Common Industrial Protocol**, known as **CIP**, encompasses a comprehensive suite of messages and services for the collection of industrial automation applications — control, safety, energy, synchronization & motion, information and network management. CIP allows users to integrate these applications with enterprise-level Ethernet networks and the Internet.

CIP provides a unified communication architecture throughout the industrial enterprise. CIP allows users to benefit today from the many advantages of open networks and protects their existing automation investments, while providing an extensible and upgradeable communication architecture.

CIP security has multiple layers of security that enables a CIP-connected device to protect itself from malicious CIP communications. Then the device can reject data that has been altered, reject messages send by untrusted people or untrusted devices, and reject messages that request actions that are not allowed. CIP security defines the notion of a security profile, which is a set of well-defined capabilities to facilitate device interoperability and end-user selection of devices with the appropriate security capability.

With CIP Security transportation, you can have:

- **Authentication of the endpoints**. Ensuring that the target and originate devices are both trusted entities.
- **Message integrity and authentication**. Ensuring that the message was sent by the trusted endpoint and was not modified in transit.
- **Message encryption**. Optional capability to encrypt the communications.

To support CIP Security configurations, there are two useful functions in Network Browser that you can utilize:

- Device multi-selection
• CIP Security indicator

CIP Security indicator is a function that can show the CIP Security configuration status in front of devices in topology tree. To turn on this function, click the icon 🗓️ in the toolbar.

The icons have different meanings:

• 🗓️ means the device supports CIP security and no configuration action has been taken yet.
• 🔄 means the device is in the CIP security configuration process.
• 🔄 means the device is successfully configured with CIP security.

>Note: If a device doesn’t support CIP security, there is no icon in front of it.

Device Multi-Selection

Device multi-selection is a function that you can use when adding multiple devices for CIP Security configuration.

To utilize multi-selection with FactoryTalk Policy Manager:

1. In the Zones or Devices tab, click Discover Devices.
2. After the Network Browser dialog box is popped out, select the devices for CIP security configuration.

For more information about how to configure CIP Security, see FactoryTalk Policy Manager Online Help.

The following table shows the shortcut key combinations when selecting multiple devices:

<table>
<thead>
<tr>
<th>To select</th>
<th>Do this</th>
</tr>
</thead>
<tbody>
<tr>
<td>A single device</td>
<td>Click the device</td>
</tr>
<tr>
<td>A range of devices</td>
<td>Click the first device in the range, and then hold down Shift while clicking the last device in the range. To expand the range from above, click the devices above while holding down Shift + Ctrl.</td>
</tr>
<tr>
<td>Nonadjacent devices</td>
<td>Click the first device, and then hold down Ctrl while clicking the other device or devices. Note that if you wrongly select a device, click that device again with Ctrl holding down to unselect that device.</td>
</tr>
</tbody>
</table>
Use FactoryTalk Linx with RSLinx Classic

FactoryTalk Linx and RSLinx Classic can run simultaneously on the same computer. This is a common setup if you need to create or edit a program using RSLogix 5, RSLogix 500, and RSLogix 5000 software or Logix Designer application, which require RSLinx Classic, for use in an application, and you must accomplish this using only one computer.

Important: FactoryTalk Linx and RSLinx Classic cannot support unsolicited messages on the same computer. To support unsolicited message, FactoryTalk Linx needs to bind the TCP/IP port 44818 to receive CIP messages. This port is reserved by CIP standard, which means that other CIP products from third parties (for example, RSLinx Classic and KepServerEx) may also bind this port. To avoid the port binding conflict issue, do NOT enable the unsolicited message function of FactoryTalk Linx on the same machine where other CIP products (such as RSLinx Classic and KepServerEx) need to bind the TCP/IP port 44818.

For Windows Server 2008 and Windows 7 operating systems

Dual-channel 1784-PKTX(D) driver

When running FactoryTalk Linx and RSLinx Classic on a Windows Server 2008 R2 or Windows 7 operating system, if your FactoryTalk Linx configuration consists of a:

FactoryTalk Linx and RSLinx Classic both install and use the same 1784-PKTX(D) driver. FactoryTalk Linx uses the first channel (assigned by default and cannot be changed). RSLinx Classic uses the second channel.

If you are running on Windows Server 2008 R2 or Windows 7 operating system, and your FactoryTalk Linx or RSLinx Classic configuration consists of a dual-channel 1784-PKTX(D) driver, you configure the driver for both FactoryTalk Linx and RSLinx Classic.

See "Configure the 1784-PKTX(D) driver for FactoryTalk Linx and RSLinx Classic" in the FactoryTalk Linx Help for this procedure.

Important: This applies only to the dual-channel 1784-PKTX(D) driver; the single-channel 1784-PKTX driver can be configured in only one product (either FactoryTalk Linx or RSLinx Classic) at a time.

For all the supported operating systems

When running FactoryTalk Linx and RSLinx Classic on any of the supported operating systems (see software requirements for the full list), if your FactoryTalk Linx configuration consists of a:
If your FactoryTalk Linx configuration consists of a 1784-PKTX driver, and you need RSLinx Classic to communicate using that same driver, then you must share the driver within FactoryTalk Linx with RSLinx Classic.

**Important:** You can use this procedure for Windows 7 operating systems; however, the previous procedure is the preferred method.

If your FactoryTalk Linx configuration consists of a Serial-DF1 driver (RS232 DF1 devices), and you need RSLinx Classic to communicate using that same driver, you must share the driver within FactoryTalk Linx with RSLinx Classic.

If your FactoryTalk Linx configuration consists of a 1784-PCIC(S) driver, you configure the driver in FactoryTalk Linx, and then add a virtual backplane to RSLinx Classic. The virtual backplane is a sharable component between RSLinx Classic and FactoryTalk Linx. Because the 1784-PCIC(S) plugs into the virtual backplane, it is sharable as well.

See "Sharing the FactoryTalk Linx virtual backplane with RSLinx Classic" in the FactoryTalk Linx Help for this procedure.
Chapter 9

Use FactoryTalk Linx with Studio 5000 Logix Designer and ControlFLASH

Select RSLinx Edition in Studio 5000 Logix Designer

Studio 5000 V31 or later supports communication software switch between RSLinx Classic and FactoryTalk Linx. This allows you to select which communication software is used for network topology browsing and online communications services. Launch the Who Active dialog box and display the network topology. Studio 5000 Logix Designer defaults to RSLinx Classic.

Tip: Close open projects and multiple sessions of Studio 5000 Logix Designer before selecting Communication Software.

To select Communication Software in Studio 5000 Logix Designer:

1. Launch Studio 5000 Logix Designer.

2. Click Communications > Select Communication Software....

3. In the Select Communication Software dialog box, click either RSLinx Classic or FactoryTalk Linx, and click OK.

4. (Optional) If switching to FactoryTalk Linx, read the warning message, and then click OK.

Select an RSLinx edition in ControlFLASH

When working with ControlFLASH, you can use either RSLinx Classic or FactoryTalk Linx (or RSLinx Enterprise v5.90.00) as your communications software. FactoryTalk Linx (or RSLinx Enterprise v5.90.00) can be used with devices supporting USB and EtherNet/IP communications only.

To select or change an RSLinx edition in ControlFLASH:

1. Launch ControlFLASH.

2. On the Welcome page, click Change RSLinx Edition. The button is enabled only if RSLinx Classic and FactoryTalk Linx (or RSLinx Enterprise v5.90.00) are installed.
• The default choice is RSLinx Classic to communicate over Data Highway Plus, DF1, DH485, ControlNet, DeviceNet, Ethernet, and USB networks.

• The other choice is FactoryTalk Linx (or RSLinx Enterprise v5.90.00), to communicate over USB and Ethernet networks.

The following table shows the RSLinx edition that ControlFlash uses.

<table>
<thead>
<tr>
<th>ControlFLASH uses...</th>
<th>If...</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSLinx Classic</td>
<td>RSLinx Classic is installed, and RSLinx Enterprise (v5.90.00 or later) is not installed.</td>
</tr>
<tr>
<td>FactoryTalk Linx (or RSLinx Enterprise v5.90.00)</td>
<td>FactoryTalk Linx (or RSLinx Enterprise v5.90.00) is installed, and RSLinx Classic is not installed.</td>
</tr>
<tr>
<td>Your preferred RSLinx edition</td>
<td>RSLinx Classic and FactoryTalk Linx (or RSLinx Enterprise v5.90.00) are installed.</td>
</tr>
</tbody>
</table>

Configuring drivers in the Network Browser

A driver is the software interface to the computer or workstation hardware that allows the computer to communicate with a network to detect and communicate with a control system device. If a device is not detected by the Network Browser, use the browser to add or modify a driver configuration. For more information about the Network Browser, see topic FactoryTalk Network Browser.

Besides, utilize the following functions with the Network Browser:

• Search
• Upload and register an EDS file
• Bridge configuration

The Ethernet driver is available with FactoryTalk Linx. The Ethernet driver provides multiple ways for the computer or workstation to discover or detect devices on EtherNet/IP:

• **Local Broadcast** - Broadcast message to the full subnet that the computer is connected to (local)
• **Remote Broadcast** - Broadcast message to a full subnet that is different from the one the computer is connected (remote)
• **Device List/Range** - Directly communicate with a devices that you specify in a list or range

**Note:** Ethernet List and Bridge configured is visible in FactoryTalk Administration Console. But you need to return to the Network Browser to modify the configurations.

You can add a driver for local or remote broadcast, or create a list or range of IP addresses. Perform the applicable task to add a driver.
Search criteria for a device

Use Search to locate a device in the previously viewed or discovered network topology.

Functional details about Search:

- **Search** only examines devices detected or viewed by the browser. Initiating a search will not cause the browser to discover a new device.
- Search text can contain alphanumeric characters and can be full words, compound expressions, fragments of a word, or a single letter or number.
- Click X in the Search bar to cancel the search and return to the normal view.
- Clear the search text in the Search bar to return to the network topology tree view.
- The Search bar includes predefined search criteria to filter search results by:
  - Device Type
  - Online Name
  - Path
  - Address

Perform a search

Use the Network Browser to search for a device to determine its location.

To perform a search:

1. In the Search box, type a keyword and press **Enter**. Search text can contain alphanumeric characters and can be full words, compound expressions, fragments of a word, or a single letter or number.

   To require **Search** to find an exact match to the keyword, enclosing the keyword in quotation marks (For example, "East Section").

   The Network Browser examines the text and presents all known devices in the network topology tree that match the search criteria.

2. (optional) Use a search filter to narrow the search results to keywords associated with the selected device parameter:
3. (optional) Use operators between keywords to refine the search results using a logical statement:

- **AND** to search for two or more keywords. For example, `alarm AND active`.
- **OR** to search for several keywords. For example, `error OR fault`.

  **Tip:** An example of using operators between keywords to refine search results is `Device: 1756-L OR Device: 1768-L` to locate ControlLogix and CompactLogix controllers.

4. The **Network Browser** displays results within a few seconds, regardless of pressing **Enter**.

5. To repeat a previous search, click the down arrow on the right side of the **Search** box and click a previous search.

  **Tip:** Click **X** in the **Search** bar to cancel the search and return to the normal view.

### Search filters

Search filter options for the **Search** function make it easy to refine search results.

<table>
<thead>
<tr>
<th>To filter the search by:</th>
<th>Select this filter from the Search list:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The name of a device</td>
<td>Device</td>
</tr>
<tr>
<td>The online name of a device</td>
<td>OnlineName</td>
</tr>
<tr>
<td>The communications path of a project</td>
<td>Path</td>
</tr>
<tr>
<td>The address of a device</td>
<td>Address</td>
</tr>
</tbody>
</table>

### Operators

Use operators with the keyword **Search** function to return a more precise set of results.

<table>
<thead>
<tr>
<th>To search for:</th>
<th>Use this operator:</th>
<th>Example:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two or more keywords</td>
<td><strong>AND</strong> (all capital letters)</td>
<td><code>alarm AND active</code> returns a list of tags that include the string alarm and active.</td>
</tr>
</tbody>
</table>
Upload and register an EDS file

Upload and register EDS files from devices to allow device communications in the Network Browser.

For an online device in the network topology tree, if there is an EDS file within the device's firmware, you can upload the EDS file and register it to the FactoryTalk Linx data server. Once registered, the device information shows in the Network Browser, and communications to other information within the device is possible.

Upload and register an EDS file in the Network Browser

Starting from FactoryTalk Linx v6.00.00, you can upload and register EDS files of devices within the Network Browser.

For an online device in the network topology tree, if there is an EDS file within the device's firmware, you can upload the EDS file in the Network Browser and register it to FactoryTalk Linx data server. Once registered, the device information shows in the Network Browser, and communications to other information within the device is possible.

Use the Network Browser to:

- Manually upload and register an EDS file
- Automatically upload and register an EDS file

Manually upload and register an EDS file

The manual EDS upload function allows you to upload and register the EDS file of a specific device in the Network Browser. With the manual EDS upload function, you can register an EDS file at a time.

To manually upload and register an EDS file:

1. In the Network Browser, select a device in the network topology tree.

2. Click More and select EDS upload, or right-click the device and select EDS upload.

3. If the target device has registered an EDS file, the following warning message shows:

"An EDS is already registered for this device. Are you sure you still want to upload and register this EDS file?"
Chapter 9  Use FactoryTalk Linx with Studio 5000 Logix Designer and ControlFLASH

Click OK to continue and replace the existing EDS file, or click Cancel to stop the uploading process and retain the existing EDS file on the current computer.

A progress circle shows the registration status. Wait while the system registers the device. If you want to register several EDS files, repeat Step 1 to Step 3.

The automatic EDS upload function enables the Network Browser to automatically upload and register EDS files for a selected node and its child nodes. For an online device whose EDS file is not registered, the system detects whether there is an EDS file within the device's firmware. If there is an EDS file found, the system automatically uploads it from the device and registers it on the current computer. With the automatic EDS upload function, you can register several EDS files at a time.

To automatically upload and register an EDS file:

1. Turn on the EDS file auto-upload button in the Network Browser.

   ![Network Browser](image)

   Tip: This enables the automatic upload and registration function. By default, the function is disabled.

2. In the communication tree of the Network Browser, double-click (or click the ">") sign beside) a node to expand and view its child devices.

   The system automatically browses the selected node and its child devices. If an unregistered online device is found, and it has an EDS file within its firmware, the system automatically uploads and registers the EDS file on your computer. A progress circle shows beside the unregistered device indicating the auto EDS upload status.

You can register the EDS files of hardware devices using the EDS Hardware Installation Tool.

Before you begin:

- To register the EDS file of a hardware device, you must have a valid and complete EDS file of the hardware device. To search and download the EDS file of a specific hardware device, visit Rockwell Automation Network Resources.
- If an icon file (*.ico) exists for the hardware device, save it with the same name as the EDS file in the same directory. You can save one or more EDS files (and the related icon files) in one directory.
To register EDS files using the EDS Hardware Installation Tool:

1. From Windows Start menu, select All Programs > Rockwell Automation > RSLinx > Tools > EDS Hardware Installation Tool.


3. In the Registration dialog box:
   - Select Register a single file to register one EDS file at a time, or
   - Select Register a directory of EDS files to register two or more EDS files at a time.

4. In the Registration dialog box, click Browse to select the EDS file (if you are registering a single file), or the directory of the EDS files (if you are registering two or more EDS files), and click Next.

5. In the EDS File Installation Test Results dialog box, review the hardware device list and click Next.

6. In the Change Graphic Image dialog box, review the icon(s) of the hardware device(s) and click Next.

   **Tip:** Rockwell Automation's EDS Wizard assigns a default icon to each hardware device. You can specify a different icon for the hardware device(s) by selecting the hardware device and clicking the Change icon button.

7. In the Final Task summary dialog box, review the hardware device list and click Next.

8. When the registration is completed, click Finish to return to the Rockwell Automation - Hardware Installation Tool dialog box.

9. Click Exit.

Considerations when uploading and registering EDS files

To manually or automatically upload and register EDS files in the Network Browser, consider the following:

- This function updates the EDS files on the computer which hosts the FactoryTalk Linx data server. Once registered, the EDS file is available for use in clients computers which exchanges data with the FactoryTalk Linx data server.
- To support a new device on computers with different FactoryTalk Linx data servers, you must register the hardware device's EDS file on each target computer respectively.
- Some hardware devices, such as Data Highway Plus (DH+) devices, do not have EDS files and therefore do not support upload and registration.
• Some hardware devices, such as Micro800 series devices and PanelView Plus terminals, require a patch or a new release of FactoryTalk Linx that officially adds support for the new hardware devices. These devices cannot communicate with FactoryTalk Linx merely by EDS file upload and registration.

• If an EDS file is invalid, or an error occurs during the upload and registration, the EDS file cannot be registered, and a diagnostics message is logged into FactoryTalk Diagnostics Viewer. To view the diagnostics messages:
  • From Windows Start menu, select All Programs > Rockwell Software > FactoryTalk Tools > Diagnostics Viewer, or
  • In FactoryTalk Administration Console, from the Tools menu, select FactoryTalk Diagnostics > Viewer.

• If you upgrade or re-install FactoryTalk Linx, the EDS files that are previously registered on your computer are lost. You need to register the EDS files again.

To automatically upload and register EDS files in the Network Browser, consider the following:

• If automatic EDS upload function is enabled, the system detects and uploads EDS files from the child devices of a selected node. If a selected node contains a grandchild device, the grandchild device's EDS file is not uploaded automatically. To upload and register an EDS file from a grandchild device, select its upper-level node to ensure the automatic browsing and uploading, or right-click the device in the network topology tree and select EDS upload.

• The auto EDS upload function only uploads and registers EDS files for unknown devices. If an existing device contains a new EDS file, the system does not upload and register it. To update the new EDS file, right-click the existing device in the network topology tree and select EDS upload.

• If there are many EDS files being registered, the Network Browser may respond slowly.

What is EDS Hardware Installation Tool

How do I access the EDS Hardware Installation Tool?

From Windows Start menu, select All programs > Rockwell Software > EDS Hardware Installation Tool.

The EDS Hardware Installation Tool allows you to change the hardware description information currently installed on your computer.

Use EDS Hardware Installation Tool to register EDS files for unrecognized devices.

Bridge across networks

Use a bridge to connect two networks and, if necessary, convert
communications from one network protocol to another so that they can communicate. Creating a bridge in the Network Browser enables the browser to detect devices on another physical network and enables users to perform diagnostic and configuration functions on those devices. After adding a bridge, the name given to the bridge appears in the Network Browser tree topology.

**Add a bridge**

Create a bridge to enable the Network Browser to detect devices on another network and perform diagnostic and configuration functions on those devices.

**To add a bridge:**

1. In the Network Browser, below a bridged module, click the Ethernet network browser and click the Property icon.
   
   **Tip:** You can also add a bridge from Advanced tab in the Advanced Settings dialog box.

2. In the Bridged Configuration dialog box, click Add New.

3. From the Add New dialog box, in the Name box, enter a name for the bridge.

4. Next to the Select Target Bridge Network box, click Browse (...).

5. From the Bridge Path Selection dialog box, select a device for the Network Browser to detect on another network.

   **Tip:** To add an existing configuration path from another bridge instead of creating a new target bridge path, click the Copy Setting From list and select a configuration. If there are no existing configuration paths to select, Empty is displayed in the Copy Setting From list.

6. Click the General tab and configure the browsing discovery options for the bridge.

   - Enable Automatic Discover
   - Make Discovery Continuous
   - Show unrecognized devices

7. Click OK to save.

**Edit a bridge**

Edit a bridge to update settings and make changes to the IP addresses for devices in the bridge configuration.

**To edit a bridge:**

1. In the Network Browser, below a bridged module, select the Ethernet network branch and click the Property icon.
2. In the **Bridge Configuration** dialog box, click the Advanced tab and configure the tuning settings to change how fast the **Network Browser** discovers items on the network.

3. Click **Apply**.

4. Click the **General** tab.

5. Click **Add New**.

6. To remove an IP address or range from the list, select the check box next to the address and click **Delete**.

7. To modify the information for an existing IP address or range in the list, select item in the list and then edit the associated properties.

8. Click **OK** to save the changes.

### Delete a bridge

Deleting a bridge removes the connection between devices on a bridged network. If devices on a bridged network are no longer valid, delete the bridge in the **Network Browser**.

**To delete a bridge:**

1. In the **Network Browser**, below a bridged module, locate the Ethernet branch.

   **Tip:** You can also delete a bridge from the **Bridged** tab in the **Advanced Settings** dialog box.

2. Click the **Delete** icon to delete the bridge.

### Copy and paste items to a list in a bridge configuration

To have a list of devices stored in a spreadsheet or a database to manage updates and maintenance schedules, copy the list from a **Device List/Range** configuration. Additionally, if updating the included devices, paste additional items into the **Device List/Range** instead of manually entering the device information.

**To copy and paste list items in a bridge configuration:**

1. In the **Network Browser** click **Advanced Settings**.

2. In the **Advanced Settings** dialog box, click **Bridged**.

3. Click a bridge node and click **Edit**.
4. In the **Bridge Configuration** dialog box, in the **Device List/Range** area, select the check boxes next to the list items to copy and click **Copy**.

   **Tip:** To select all the items, select the check box next to the **No.** list.

5. Paste the copied items into the desired editing tool and make the desired modifications.

6. After making the modifications, copy the items.

7. In the **Bridge Configuration** dialog box, select the location in the list to paste the items and click **Paste**.

8. Click **OK** to save changes.

---

**Delete an item in a list in a bridge configuration**

Delete an item to a list or range of IP addresses for a bridge.

**To delete an item to a list in a bridge configuration:**

1. In the **Network Browser** click **Advanced Settings**.

2. In the **Advanced Settings** dialog box, click **Bridged**.

3. Click the bridge node to modify an item and click **Delete**.

   **Tip:** To delete all the items in the list at once, select the check box next to the **No.** column and then click **Delete**.

4. When a verification message appears, click **OK**.

---

**Add New dialog box**

How do I open the Add New dialog box?

1. In the **Who Browser** click **Advanced Settings**.

2. In the **Advanced Settings** dialog box, click **Bridged**.

3. Click **Add New**.

Use the **Add New** dialog box to:

- Create a name for a new bridge
- Select a target path for a new bridge
- Copy an existing configuration path into a new bridge

**See also**

- [Add a bridge](#) on page 69
Add New dialog box settings

When adding a bridge, define the name and target bridge network using the Add New dialog box.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Used to create a name for the bridge. Names can include letters, numbers, spaces, and special characters.</td>
</tr>
<tr>
<td>Select Target Bridge Network</td>
<td>Used to select a device that has two communication ports for two different networks or a separate device in the same chassis to connect with a different network.</td>
</tr>
<tr>
<td>Copy Setting From</td>
<td>Used to copy an existing configuration path into the new bridge. If there is not an existing configuration path, empty will appear in the list.</td>
</tr>
</tbody>
</table>

Copy a device configuration in a bridge

Copy a configuration for a device that is being deleted or replaced with a new module or moved to a new location. For example, if replacing a module, copy the configuration from the old module and add it to the new module.

Important: Deleting a module from a bridged network permanently removes the module configuration from the Network Browser. If removing or replacing a module, be sure to copy the module configuration to a different module prior to deletion. Once a module is deleted, the corresponding module configuration is also deleted and cannot be retrieved.

To copy a device configuration in a bridge:

1. In the Network Browser click Advanced Settings.
2. In the Advanced Settings dialog box, click Bridged.
3. Select the device in the applicable bridge configuration and click Add New.
4. In the Add New dialog box, click the Copy setting From list and select the bridge that contains the desired device.
5. Click Browse next to Select Target Bridge Network to open the Bridge Path Selection dialog box.
6. Select the desired device and click OK.

Bridge Path Selection dialog box

How do I open the Bridge Path Selection dialog box?

1. In the Who Browser click Advanced Settings.
2. In the Advanced Settings dialog box, click Bridged.
3. Click Add New.
4. From the Add New dialog box, in Name, enter a name for the bridge.
5. Click **Browse (...)** next to the **Select Target Bridge Network** box.

The **Bridge Path Selection** dialog box includes the devices from the network topology tree in the **Network Browser**. In the **Bridge Path Selection** dialog box, select the network to connect the current network.

**See also**

- [Add a bridge](#) on page 69
- [Edit a bridge](#) on page 69
- [Add New dialog box](#) on page 71
- [Add New dialog box settings](#) on page 72

**Bridge Configuration dialog box**

How do I access the Bridge Configuration dialog box?

1. In the **Who Browser** click **Advanced Settings**.
2. In the **Advanced Settings** dialog box, click **Bridged**.
3. Click a bridge node and click **Edit**.

Use the **Bridge Configuration** dialog box to:

- Edit settings in a bridge
- Copy and paste items in a **Device List/Range**
- Add new items in a range
- Edit items in a range
- Delete items in a range
- Configure discovery depth and discovery scope of the devices displayed in the **Network Browser**

**See also**

- [Edit a bridge](#) on page 69
- [Delete an item in a list in a Bridge Configuration](#) on page 71
- [Bridge Configuration dialog box, Advanced tab settings](#) on page 73
- [Bridge Configuration dialog box, General tab settings](#) on page 74
- [Copy a device configuration in a bridge](#) on page 72

**Bridge Configuration dialog box, Advanced tab settings**

Use the **Advanced** tab on the **Add Driver** dialog box to configure settings that control how the devices in the bridge configuration are distributed over
the network.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poll interval between discovery cycles (msec)</td>
<td>The number of milliseconds that occur between each time the <strong>Network Browser</strong> queries the network.</td>
</tr>
<tr>
<td>Poll timeout (msec):</td>
<td>Specifies the amount of time (in milliseconds) to wait for poll responses.</td>
</tr>
<tr>
<td>Maximum concurrent packets to this network</td>
<td>Used to configure the maximum number of requests that can be waiting for a response on this network at any given time as part of the browsing process.</td>
</tr>
<tr>
<td>Enable discovery using subnet mask</td>
<td>Enables the <strong>Network Browser</strong> to communicate with each device on the subnet. Important: Enabling the discovery command significantly increases the amount of traffic on a network. Determine the impact on your network prior to enabling this command.</td>
</tr>
<tr>
<td>Reset</td>
<td>Used to return the Tuning settings to the default values.</td>
</tr>
</tbody>
</table>

**Bridge Configuration dialog box, General tab settings**

The **General** tab on the **Bridge Configuration** dialog box contains this information:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The descriptive name for the bridge. Adding a descriptive name for a bridge makes it easier to find the bridge in the <strong>Network Browser</strong> network topology tree. The name can contain characters, including letters, numbers, and special characters.</td>
</tr>
<tr>
<td>Device Serial Number</td>
<td>The unique identification number of the device.</td>
</tr>
<tr>
<td>Port Number/IP Address</td>
<td>The downstream IP address and port number of the bus node to help identify a unique bridge configuration.</td>
</tr>
<tr>
<td>No.</td>
<td>Indicates the number of an item in the list.</td>
</tr>
<tr>
<td>Device List/Range</td>
<td>A list of items in the applicable range. Select the check box next to an item in the <strong>Device List/Range</strong> to edit the item settings.</td>
</tr>
<tr>
<td>Pencil Icon</td>
<td>Used to modify an IP address.</td>
</tr>
<tr>
<td>Add New</td>
<td>Used to add a new item to the list.</td>
</tr>
<tr>
<td>Delete</td>
<td>Used to delete an item from the list.</td>
</tr>
<tr>
<td>Copy</td>
<td>Used to copy an item(s) in the list.</td>
</tr>
<tr>
<td>Paste</td>
<td>Used to paste an item(s) in the list.</td>
</tr>
</tbody>
</table>

**Advanced Settings dialog box (drivers)**

How do I access the Advanced Settings dialog box?

- From the **Who Browser**, click the **Advanced Settings** icon.

Use the **Advanced Settings** dialog box to:

- Configure discovery settings
- Display recognized and unrecognized devices in the **Network Browser** dialog box
- Configure discovery depth and discovery scope of the devices displayed in the **Network Browser** dialog box
- Create a bridge

**See also**

- [Perform a search](#) on page 63
- [Search for a device](#) on page 63
- [Search filters](#) on page 64
- Advanced Settings dialog box, Bridged tab settings on page 75
- Advanced Settings dialog box, General tab settings on page 75

### Advanced Settings dialog box, General tab settings

Use the **General** tab on the Advanced Settings dialog box to control the discovery behavior of the Network Browser.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable Automatic Discovery</td>
<td>Used to enable the discovery type.</td>
</tr>
<tr>
<td>Make Discovery Continuous (Auto browse)</td>
<td>Used to turn on continuous browsing of the network.</td>
</tr>
<tr>
<td>Show Unrecognized Devices</td>
<td>Used to enable unrecognized devices found during network discovery to be included in the Network Browser topology tree.</td>
</tr>
</tbody>
</table>

### Advanced Settings dialog box, Bridged tab settings

Use the **Bridged** tab on the Advanced Settings dialog box to configure network bridges.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add New</td>
<td>Opens the Add New dialog box where the settings for a new bridge are specified.</td>
</tr>
<tr>
<td>Edit</td>
<td>Opens the Bridge Configuration dialog box where the settings for a bridge can be edited.</td>
</tr>
<tr>
<td>Delete</td>
<td>Deletes the selected bridge.</td>
</tr>
</tbody>
</table>

### Add a driver for Local Broadcast

To add a driver for Local Broadcast:

1. From the Network Browser, click the Add Drivers icon.
2. In the Add Driver dialog box, select a driver, and click OK. The General and Advanced tabs display in the Add Driver dialog box.
3. Click the **Advanced** tab and select the physical port of the computer, and configure the tuning settings to change how fast the **Network Browser** discovers items on the network.

4. Click **Apply**.

5. Click the **General** tab, and in the **Name** box, enter a name for the driver.

6. In the **Discovery Method** list, click **Broadcast**.

7. Click **Local Broadcast** click **OK**.

### Add a driver for Remote Broadcast

To add a driver to a different subnet than the one the computer is connected to, configure the driver for **Remote Broadcast**.

To add a driver for Remote Broadcast:

1. From the **Network Browser**, click the **Add Drivers** icon.

2. In the **Add Driver** dialog box, select a driver, and click **OK**. The **General and Advanced** tabs display in the **Add Driver** dialog box.

3. Click the **Advanced** tab and select the physical port of the computer, and configure the tuning settings to change how fast the **Network Browser** discovers items on the network.

4. Click **Apply**.

5. Click the **General** tab, and in the **Name** box, enter a name for the driver.

6. In the **Discovery Method** list, click **Broadcast**.

7. Click **Remote Broadcast**.

8. In **IP Address** and **Subnet Mask** fields, enter the addressing information for the driver distribution.

9. Click **OK** to add the driver and save the settings.

### Add a driver with a Device List/Range

When adding a driver, use a list or range of IP addresses to make sure broadcast messages reach the desired devices.

**Note:** Ethernet List and Bridge configured is visible in FactoryTalk Administration Console. But you need to return to the Network Browser to modify the configurations.

**To add a driver with a Device List/Range:**

1. From the **Network Browser**, click the **Add Drivers** icon.
2. In the **Add Driver** dialog box, select a driver, and click **OK**. The **General** and **Advanced** tabs display in the **Add Driver** dialog box.

3. Click the **Advanced** tab and select the physical port of the computer, and configure the tuning settings to change how fast the **Network Browser** discovers items on the network.

4. Click **Apply**.

5. Click the **General** tab, and in the **Discovery Method** list, click **Device List/Range**.

6. In the box under **Device List/Range**, enter the desired subnet range.

7. In the **Name** box, enter a name for the driver and click **OK**.

**Configure drivers in FactoryTalk Administration Console**

To configure a driver in FactoryTalk Administration Console:

1. From the **Explorer**, under the FactoryTalk Linx data server, double-click **Communication Setup**.

2. From the **Communication Setup** editor, right-click on the device shown at the root, and click **Add Driver**.

3. In the **Add Driver Selection** dialog box, the available drivers will appear. Select the driver you want to add, and click **OK**.

4. From the applicable driver properties dialog box, enter the settings and click **OK**.

5. After you add the driver, right-click on the driver and then click **Start Browsing** to populate the driver with devices.

**Tip:**

- If you are adding a driver via an Ethernet network, from the **Communications Setup** editor, right-click on the network shown, then select **Start Browsing** to populate the driver with devices.

- Some Ethernet devices may not support the browse protocol used by FactoryTalk Linx on Ethernet. If the devices you expect to appear during the browse do not display, right-click the network and click **Add Device** to manually add the device to the Ethernet network of the workstation. Before you add a device manually, you must register it using the EDS Hardware Installation Tool.

- Ethernet list configured in the network browser control is visible in the FactoryTalk Administration Console but you need to return to the network browser control to modify the configuration.
Install FactoryTalk Linx with command line syntax

Besides the Setup Wizard installation, FactoryTalk Linx also supports automated installation using command line syntaxes. You can typically use this automated installation method during large-scale rollouts, when it might be too slow and costly to have administrators or technicians interactively install the software on individual computers.

This automated installation method requires you enter a command line at the beginning of the installation. During the installation process, instead of prompting you for installation and configuration information interactively, the process follows the specific command line, without user intervention.

FactoryTalk Linx supports the following automated installation:

- Unattended installation (recommended)
- Silent installation for FactoryTalk Linx .msi file

Comparing different installation methods

FactoryTalk Linx supports setup wizard installation, and installation with command line syntax (that is, unattended installation and silent installation). The following table illustrates the differences among each installation method.

<table>
<thead>
<tr>
<th>Installation method</th>
<th>Description</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setup wizard installation</td>
<td>The standard method to install FactoryTalk Linx. It installs all the necessary prerequisites software and required components. The installation processes are visible, easy to use, and provides full installation details such as installation summary and how to register for products updates.</td>
<td>Chapter 3 Install &lt;FTX&gt; on page 20</td>
</tr>
<tr>
<td>Unattended installation</td>
<td>An automated installation method in RSLogix Enterprise version 5.90.00 and later (renamed FactoryTalk Linx with version 6.00.00). It installs all the necessary prerequisites software and required components with little (or no) user intervention, and provides multiple parameters that allow customized installations. It is recommended for large-scale rollouts. <strong>Tip:</strong> Depending on the customized parameters, you can silently install FactoryTalk Linx, prerequisite software, and required components using this method. See Example 1 on page 82.</td>
<td>Use unattended installation on page 80</td>
</tr>
</tbody>
</table>
Use unattended installation

Starting with CPR 9 SR 9, FactoryTalk Services support unattended installation. In the unattended installation, you enter a specified command line syntax with multiple parameters. You can customize the parameters to meet your needs.

Perform unattended installation

To perform unattended installation, follow the steps below. The steps may vary slightly. Follow the on-screen instructions that apply to your operating system.

1. Close all open Windows programs.
2. Open the Command Prompt window as administrator.
3. In the Command Prompt window, navigate to D:, where D: is the drive containing the FactoryTalk Linx installation DVD or installation package, and press Enter.
   
   Tip: The User Account Control dialog box may show after you press Enter, click Yes to continue.

4. Type a command line with the following syntax:
   
   `Setup.exe {/Q | /QS} /IAcceptAllLicenseTerms [/AutoRestart] [/SetupLanguage=language] [/InstallDrive=drive]`

5. Press Enter. The installation process starts with the parameters you specified.

6. For detailed description about each parameter, see Parameters on page 80. You can also type `Setup /?` in the Command Prompt window, and press Enter to view the help information of all parameters and examples.

Parameters

The parameters and values are not case sensitive. If the value includes spaces, you need to enclose it in quotation marks (" ").

/Q

Required if /QS or /Record is not specified.
Installs the product in the silent mode without any user interface.

/QS

Required if /Q or /Record is not specified.

Installs the product in the unattended mode without user interaction during installation, and shows the progress, errors, or complete messages on the user interface.

/IAcceptAllLicenseTerms

Required. Specifies that you read and acknowledge all license agreements, and agree to continue the installation.

/AutoRestart

Optional. If specified, the computer will be restarted automatically after the installation, if a restart is required to complete the installation.

The parameter is ignored if a restart is not required.

/SetupLanguage=value

Optional. Specifies which language will be displayed during the installation process. The value must be one of ENU, CHS, DEU, ESP, FRA, ITA, JPN, KOR, or PTB.

If omitted, the default language is the user or system user interface language.

/Record

Optional. Records the installation options chosen to a recording file.

/Playback

Optional. Plays back a recording file to specify the installation options.

/IgnoreWarning

Optional. If specified, the setup will ignore warnings and continue.

/InstallDrive=value

Optional. Specifies the installation drive. If omitted, the default drive and location are:

- C:\Program Files (x86)\Rockwell Software (64-bit) or
- C:\Program Files\Rockwell Software (32-bit).
/Uninstall

Optional. Use to uninstall the software.

Examples

The following examples show how to use the commands during the unattended installation.

Example 1

Setup.exe /Q /IAcceptAllLicenseTerms

means:

The software is installed silently with no customized parameters. It uses the default settings during the installation process, with no user interface.

Example 2

Setup.exe /QS /IAcceptAllLicenseTerms /AutoRestart /SetupLanguage=CHS /InstallDrive=D:

means:

- During the installation, the progress, error, or complete messages show on user interfaces. The displayed language is Chinese.
- FactoryTalk Linx will be installed to D:\Program Files (x86)\Rockwell Software if you are using a 64-bit operating system, or D:\Program Files\Rockwell Software if you are using a 32-bit operating system.
- After the installation, if a restart is required, the computer will be restarted automatically.

Example 3

Setup.exe /Q /Uninstall

means:

- The software is uninstalled silently with no user interface.

Use silent installation for FactoryTalk Linx .msi file

RSLinx Enterprise v5.60.00 (CPR 9 SR 6) (Renamed FactoryTalk Linx with version 6.00.00) and later supports silent installation for .msi file. In the silent installation, FactoryTalk Linx is installed with default settings, with no (or little) dialog boxes, messages, or user intervention.

Before you begin

Before installing the .msi file of FactoryTalk Linx using the silent installation, you must manually install the following prerequisite software and required components, in the following sequences:
• Microsoft .NET Framework 4.62
  \Redist\DotNETFX_4.6.2

• Microsoft SQL Server Compact 4.0
  \Redist\SQLServerCE_4.0.

• OPC .NET API 4.5
  \Redist\OPCNETAPIRedist_2.01.10600\x86.

• FactoryTalk Diagnostics v6.10.00
  \Redist\FTDiagnostics_6.10.00.

• Windows Firewall Configuration Utility 1.00.11
  \Redist\WFCU_1.00.11.

• Certificates installation
  For detailed instructions about how to install it, refer to Install certificates on page 84.

• USB CIP driver package (for 32-bit operating systems)
  \Redist\USBCIP_3.18.06.

• x64 driver package (for 64-bit operating systems)
  \Redist\KN64Bit_2.01.01.

• FactoryTalk Services Platform v6.10.00
  \Common\3.00.00-FTSP.

• FactoryTalk Alarms and Events v6.10.00
  \Common\3.00.00-FTAE.

---

**Rockwell Automation x64 driver package**

Rockwell Automation x64 driver package includes the following drivers:

• 1747-UIC (DH485)
• 1752-SmartGuard USB
• 1784-PCIC(S) (ControlNet)
• 1784-PKTCS (ControlNet)
• 1784-PKTX (DH485 / DH+ / RIO)
• 1784-U2DHP (DH+)
• Micro800 Remote LCD (208-REMLCD / 820 Remote LCD)
• Micro810
• Virtual Backplane
• USB CIP

In addition, this release of x64 driver package includes a number of enhancements, including Virtual Backplane driver improvements. The driver installation folder is `C:\Program Files\Rockwell Automation`.

Install certificates

The following certificates are available in the installation directory `\Redist\Cert`:

• 2016-Rockwell-Driver-SHA1.cer
• 2016-Rockwell-SHA256.cer
• DriverCodeSigning2012-1.cer
• Drivers-12-06-2016.cer
• Logix-11-04-2016.cer
• Rockwell_2013.cer
• Rockwell_2014.cer
• Rockwell_2015.cer
• rockwellcert2010.cer
• rockwellcert2013.cer
• VeriSign Class 3 Public Primary Certification Authority - G5 2036.cer

Use the following steps to perform manually install a certificate when automatically installation fails:

The steps below take the `VeriSign Class 3 Public Primary Certification Authority - G5 2036.cer` certificate as an example.

1. Locate the certificate file at FactoryTalk Services installation directory `\Redist\Cert\VeriSign Class 3 Public Primary Certification Authority -G5 2036.cer`, and double click it.


3. In the Certificate Import Wizard dialog box, click Next.

4. Select Place all certificates in the following store, and click Browse.

5. In the Select Certificate Store dialog box, select the Trusted Root Certificate Authorities folder, and click OK.

6. In the Certificate Import Wizard dialog box, click Next.
7. Click Finish.


Perform silent installation

To perform silent installation, follow the following steps:

1. Close all open Windows programs.

2. Open the Command Prompt window as administrator.

3. In the Command Prompt window, navigate to 
   `D:\Common\6.00.00-FTLinx`, where `D:` is the drive containing the FactoryTalk Services installation DVD or installation package, and press Enter.

   Tip: The User Account Control dialog box may show after you press Enter, click Yes to continue.

4. Type the following command line syntax, and press Enter.

   `Msiexec /I "FactoryTalk Linx.msi" /qn /L*v+ "%Temp%\Rockwell - FactoryTalk Linx Install.log"

   The command line install has two options:
   - /qb: basic UI (user interface) - simple progress and error handling
   - /qn: no UI - completely silent installation

   The installation process starts silently. For the installation log file, type the following command line syntax in the Command Prompt window:

   `%Temp%\Rockwell - FactoryTalk Linx Install.Log`

Uninstall FactoryTalk Linx

To uninstall FactoryTalk Linx software, do any of the following:

- Open Programs and Features in Windows Control Panel, right-click FactoryTalk Linx version 6.00.00 and then click Uninstall.

- Open Setup.exe, and then click modify or uninstall.

- Open the Command Prompt window and type a command with the following syntax:

  `Setup.exe [/Q | /QS] /Uninstall`

  **Note:** Components, such as FactoryTalk Activation Manager, that are shared with other products will not be uninstalled.

For more information about command-line parameter, see Parameters on page 80.
Index

A
adding a data server 26
adding a device
  automatically 40
  manually 40
adding drivers 39
Alarms and Events tab 36
applications, about 16

B
browsing
  for devices 40
tag 52
  virtual backplane 40

C
checklist, installation and configuration 16
CIP (Control and Information Protocol) 53
Communication Setup editor, exploring 28
configurations
  creating 39
  moving 54
consulting services 9
contacting
  Customer Support Center 8
creating 40
creating shortcuts 40
Customer Support Center, contacting 8

D
data server, adding 26
design-time component 16
device shortcuts, creating 40
devices
  adding 39
  moving 55
drivers
  adding 39
  moving 55

E
Ethernet network, adding drivers to 39
event log, FactoryTalk Diagnostics 51

F
FactoryTalk Administration Console 15
  starting 25
  user interface components 25, 51
FactoryTalk Diagnostics 51, 58
FactoryTalk Directory 15
FactoryTalk Linx
  adding a device 39
  adding drivers 39
  basic concepts 14
  Communication Setup editor 28
  creating a configuration 39
  creating shortcuts 40
  definition 11
  design-time vs runtime 16
  features and benefits 12
  installing 21
  moving configurations 54
  system requirements 19
  troubleshooting 51
  updating an existing installation 22
  using with RSLogix Classic 63
FactoryTalk Linx Server properties, General tab 35
FactoryTalk Linx Server Properties, Redundancy tab 35
FactoryTalk Live Data 15
FactoryTalk Security 15
FactoryTalk Services Platform
  about 14
FactoryTalk View Machine Edition 52
FactoryTalk View Site Edition 52
FactoryTalk View Studio 16, 52
FactoryTalk, basic concepts 14

G
General tab 35
H
hardware requirements, FactoryTalk Linx 19
Help, accessing 7

I
inhibit data communication 48
installation and configuration checklist 16
installing FactoryTalk Linx 21

K
Knowledgebase 8

L
Local applications 16

M
Machine Edition, FactoryTalk View 52
moving
devices and drivers 55
FactoryTalk Linx configurations 54
shortcuts 54

N
Network applications 16
network routes, supported 53

O
offline tag file 40

P
PCCC networks 53
predefined items 52

R
Redundancy tab 35
Release Notes 8
RSLinx 2.x, see RSLinx Classic 63
RSLinx Classic 52

RSLinx Classic, using with FactoryTalk Linx 63
runtime component 16

S
shortcuts
creating 40
moving 54
shortcuts types
CIP Object 42
EDS Parameter 42
Processor 42
Redundant Controller Path 42
Redundant ControlLogix Controller 42
Symbolic 42
Unsolicited Message 42
Site Edition, FactoryTalk View 52
software requirements, FactoryTalk Linx 19
system requirements, FactoryTalk Linx 19

tag browsing 52
technical support 8
training programs 8
troubleshooting 51

U
updating an existing RSLinx Enterprise or FactoryTalk Linx installation 22

V
virtual backplane
about 53
browsing 40
Rockwell Automation support

Rockwell Automation provides technical information on the web to assist you in using its products. At http://www.rockwellautomation.com/support you can find technical and application notes, sample code, and links to software service packs. You can also visit our Support Center at https://rockwellautomation.custhelp.com for software updates, support chats and forums, technical information, FAQs, and to sign up for product notification updates.

In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit http://www.rockwellautomation.com/services/online-phone.

Installation assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

<table>
<thead>
<tr>
<th>United States or Canada</th>
<th>1.440.646.3434</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside United States or Canada</td>
<td>Use the Worldwide Locator available at <a href="http://www.rockwellautomation.com/locations">http://www.rockwellautomation.com/locations</a>, or contact your local Rockwell Automation representative.</td>
</tr>
</tbody>
</table>

New product satisfaction return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

<table>
<thead>
<tr>
<th>United States</th>
<th>Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside United States</td>
<td>Please contact your local Rockwell Automation representative for the return procedure.</td>
</tr>
</tbody>
</table>

Documentation feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete the feedback form, publication RA-DU002.

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

www.rockwellautomation.com

Rockwell Automation Publication LNXENT-GR001S-EN-E - November 2018

Copyright © 2018 Rockwell Automation Technologies, Inc. All Rights Reserved. Printed in the U.S.A.