



FactoryTalk eProcedure Administrator Guide

FactoryTalk Batch Components 14.00

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Important User Information

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

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

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

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

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



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



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

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

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).

| | | |
|--|---|----|
| Preface | About this manual..... | 9 |
| | Legal Notices | 9 |
| | Additional resources | 10 |
| | Chapter 1 | |
| Customize eProcedure | Use hyperlinks..... | 15 |
| | Make internal documents available..... | 15 |
| | Create a virtual directory..... | 16 |
| | Assign the virtual directory to an equipment resource | 17 |
| | Edit the user.asp | 19 |
| | Add a custom logo to the user.asp | 19 |
| | Add a greeting to the user.asp..... | 21 |
| | ActiveX controls..... | 21 |
| | Add ActiveX controls..... | 21 |
| | Specify the timeout period | 21 |
| | Prepare the SignatureList control for Internet Explorer | 22 |
| | Chapter 2 | |
| Understand communications | FactoryTalk eProcedure communications | 25 |
| | Create a shared directory | 25 |
| | Use OLE for Process Control (OPC) | 26 |
| | OPC group support | 26 |
| | Chapter 3 | |
| Implement security | Understand eProcedure security | 27 |
| | Configure the eProcedure service..... | 27 |
| | Add the Batch Server user account to the client computer..... | 28 |
| | FactoryTalk Batch Client security | 28 |
| | Tighten security for FactoryTalk Batch Clients | 29 |
| | FactoryTalk Batch View security..... | 30 |
| | Change permissions on the BATCHCTL share | 30 |
| | Security for FactoryTalk Batch commands | 31 |
| | Configure security for FactoryTalk Batch commands | 31 |
| | Enable Batch View confirm settings | 33 |
| | Chapter 4 | |
| The FactoryTalk Batch Service Manager | Windows services | 35 |
| | FactoryTalk Batch Service Manager dialog box..... | 36 |
| | Connection | 37 |
| | Service state | 37 |

Server 38

FactoryTalk Batch Server Details dialog box.....39

 FactoryTalk Batch Server Details dialog box - General tab39

 FactoryTalk Batch Server Details dialog box - Messages tab39

 FactoryTalk Batch Server Details dialog box - PCD Communications
tab..... 40

 FactoryTalk Batch Server Details dialog box - View
Communications tab 40

Start the FactoryTalk Batch Server service..... 41

 FactoryTalk Batch Server overview..... 42

 Sample demonstration setup43

 Batch Service Manager dialog box - Server options43

 Enable a grace period.....43

 Grace periods in FactoryTalk Batch Server 44

 Add a custom service..... 44

Chapter 5

The FactoryTalk Batch Server

FactoryTalk Batch Server service configuration47

 Specify the startup type47

FactoryTalk Batch Server option configuration..... 48

 Server Options dialog box - Project Settings tab 48

 Set project directories..... 49

 Configure recipe storage 50

 Recipe versioning..... 50

 Server Options dialog box - Restart Control tab..... 50

 Redundant servers51

 Define redundant servers 51

 Server Options dialog box - Batch Reporting tab 52

 Report Editor.....53

 Perform end of batch archiving.....53

 Perform incremental archiving54

 Perform user-defined end of batch55

 None.....55

 Never55

 Archiver Event Filters tab55

 Batch Server tab56

 Hold propagation.....57

 Communications timeout.....57

 Miscellaneous 58

 Batch identification 58

 Cross Invocation Descriptors and Defaults tab.....59

 Resource types.....59

| | |
|--|----|
| Descriptors | 59 |
| Default values | 60 |
| Hyperlink Descriptors and Defaults tab | 60 |
| Resource types..... | 60 |
| Descriptors | 60 |
| Default values | 61 |
| Material Policies tab..... | 61 |
| Option when Material Server comm is lost | 62 |
| Hold on split feed..... | 62 |
| Modify the .NET registry key..... | 63 |
| Use automatic restart control to restart the FactoryTalk Batch Server | 63 |
| Restart the FactoryTalk Batch Server | 63 |
| Perform a manual failover | 64 |
| Configure the FactoryTalk Batch Server for manual failover | 64 |
| Configure the material-enabled FactoryTalk Batch Server for manual failover..... | 65 |
| Command handshake timeout..... | 66 |

Chapter 6

Windows event log

| | |
|---------------------------------------|----|
| View event log entry properties | 67 |
| Modify event log settings | 70 |

Chapter 7

Cross invocation

| | |
|--|----|
| Cross invocation overview | 73 |
| Cross invocation string configuration | 74 |
| Cross invocation string escape sequences | 75 |
| Cross invocation string example | 76 |
| FactoryTalk Batch View and ActiveX Controls configuration for cross invocation | 77 |

Chapter 8

The FactoryTalk Batch Phase Simulator

| | |
|---|----|
| Start the FactoryTalk Batch Phase Simulator | 79 |
| FactoryTalk Batch Phase Simulator interface..... | 80 |
| Phase Configuration dialog box | 80 |
| Change the dwell time | 81 |
| Change the sequence of requests..... | 81 |
| Indicate a continuous phase | 82 |
| Phase Status dialog box | 82 |
| View phase parameter tag values..... | 83 |
| View and update report parameter tag values | 83 |
| Phase commands | 83 |
| Command a phase | 84 |

| | |
|---------------------------------------|----|
| Change ownership of a phase | 85 |
| Acknowledge and clear a request | 85 |
| Restore and clear requests..... | 85 |
| View request data tag values | 86 |
| Unit Tag Status dialog box..... | 86 |
| Change the value of a unit tag..... | 87 |

Chapter 9

Troubleshooting

| | |
|---|----|
| Troubleshooting eProcedure..... | 89 |
| Objects embedded in HTML code do not display | 89 |
| Control step reactivation error messages | 89 |
| Troubleshooting FactoryTalk Batch..... | 90 |
| Handle abnormal FactoryTalk Batch termination | 90 |
| Determine abnormal termination..... | 91 |
| Name the log file copy | 91 |
| End of batch entries..... | 92 |
| Log tag verification information | 92 |
| Tag verification log file | 93 |
| Windows event log..... | 93 |
| Performance chart | 94 |
| Open the FactoryTalk Batch performance chart | 94 |
| FactoryTalk Batch performance chart..... | 95 |
| Troubleshoot errors | 95 |

Chapter 10

Customize batch IDs

| | |
|---|-----|
| Enable editing of batch IDs..... | 101 |
| Disable editing of batch IDs..... | 102 |
| Define a custom default batch ID | 102 |
| Create a custom BatchIDCreation.dll..... | 102 |
| Modify the user.asp file to allow editing of batch IDs | 104 |
| Modify the user.asp file to prevent editing of batch IDs..... | 105 |

Chapter 11

Archive HTML elements

| | |
|--------------------|-----|
| HTML elements..... | 109 |
|--------------------|-----|

Chapter 12

Change the FactoryTalk Batch server user account

| | |
|---|-----|
| New user account requirements for the FactoryTalk Batch Server | 113 |
| Configure your FactoryTalk Batch system..... | 113 |
| Change the server account password | 114 |
| Change the server user account for the FactoryTalk Batch Server service | 115 |

Change the server user account in FactoryTalk Batch COM+ applications 116

Change the server user account in My Computer properties..... 116

Configure your FactoryTalk Batch system117

Server account password change locations 118

Index

About this manual

This guide contains instructions for procedures specific to FactoryTalk *eProcedure*[®], such as implementing security and configuring the user-defined area active server page. It is one of a set of related manuals that describe installing, programming, and operating the FactoryTalk Batch system.

Included are instructions for tasks specific to FactoryTalk[®] Batch, such as configuring security and services to support *eProcedure*. Instructions are also provided on the implementation and use of components not normally accessed or used by batch operators, such as the FactoryTalk Batch Server, Simulator, and performance chart.

To review FactoryTalk Batch release notes and latest information regarding product compatibility refer to the [Product Compatibility and Download Center \(PCDC\)](#).

Legal Notices

Rockwell Automation publishes legal notices, such as privacy policies, license agreements, trademark disclosures, and other terms and conditions on the [Legal Notices](#) page of the Rockwell Automation website.

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.

The default location of this file is:

C:\Program Files (x86)\Common Files\Rockwell\license.rtf

Open Source Software Licenses

The software included in this product contains copyrighted software that is licensed under one or more open source licenses.

You can view a full list of all open source software used in this product and their corresponding licenses by opening the oss_license.txt file located your product's OPENSOURCE folder on your hard drive. This file is divided into these sections:

- Components
Includes the name of the open source component, its version number, and the type of license.

- **Copyright Text**
Includes the name of the open source component, its version number, and the copyright declaration.
- **Licenses**
Includes the name of the license, the list of open source components citing the license, and the terms of the license.

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You may obtain Corresponding Source code for open source packages included in this product from their respective project web site(s).

Alternatively, you may obtain complete Corresponding Source code by contacting Rockwell Automation via the **Contact** form on the Rockwell Automation website: <http://www.rockwellautomation.com/global/about-us/contact/contact.page>. Please include "Open Source" as part of the request text.

Additional resources

Following is a comprehensive list of documentation for the FactoryTalk® Batch products from Rockwell Automation.

Installation, Quick Start, and Getting Results Guides

| Resource | Description |
|--|--|
| FactoryTalk Batch Components Installation and Upgrade Guide (BATCH-IN002) | Provides information and procedures for FactoryTalk Batch system installation. Includes information for FactoryTalk Batch Material Manager, FactoryTalk Event Archiver, and associated FactoryTalk Batch Client and Server components. |
| FactoryTalk Batch View Quick Start Guide (FTBVS-QS001) | Provides information about using FactoryTalk Batch View to create, view, and command control recipes, acknowledge prompts and signatures, view equipment phases and diagnostic information, and view profile information. |
| FactoryTalk Batch View HMI Controls Quick Start Guide (BATCH-QS001D) | Provides a general overview of FactoryTalk Batch View HMI Controls. |
| FactoryTalk Batch eProcedure® Getting Results Guide (BWEPRO-GR011) | Explains the basics of FactoryTalk Batch eProcedure. |
| FactoryTalk Batch Getting Results Guide (BATCH-GR011) | Introduces the basics of automated batch manufacturing and the FactoryTalk Batch product components. |
| FactoryTalk Batch Material Manager Getting Results Guide (BWMTR-GR011) | Introduces the basics of FactoryTalk Batch Material Manager. |

User Guides

| Resource | Description |
|---|--|
| FactoryTalk Batch ActiveX Controls User Guide (BATCH-UM013) | Provides information and instructions for using the FactoryTalk Batch ActiveX Custom Controls. |
| FactoryTalk Batch Material Editor User Guide (BWMTR-UM001) | Provides access to information and procedural instructions required to configure materials and the containers to hold them. The material data is stored in the material database, which is used to create material-based recipes. This information is intended as a reference for the formulator. |
| FactoryTalk Batch Equipment Editor User Guide (BATCH-UM004) | Provides information on creating and maintaining an equipment database (area model). The area model is stored in a file with a .cfg file extension and is available to all other FactoryTalk Batch programs, including the Recipe Editor, View, and Phase Simulator. |
| FactoryTalk Batch PhaseManager™ User Guide (BATCHX-UM011) | Describes the integration of the FactoryTalk Batch software with the Studio 5000 Logix Designer® application and the Logix 5000™ family of controllers. The integration simplifies the configuration and maintenance of the FactoryTalk Batch automation system, provides better communication between the FactoryTalk Batch Server and the Logix 5000 controller, and significantly reduces the programming effort required to develop the phase logic code that resides in your Logix 5000 controller. |
| FactoryTalk Batch Recipe Editor User Guide (BATCH-UM006) | Provides instructions on using FactoryTalk Batch Recipe Editor to create and configure master recipes for use in batch automation. The interface is based on IEC 61131-3 sequential function charts to graphically organize recipes into procedures, unit procedures, operations, and phases. Build recipes using either the SFC format or a table-based format. |
| FactoryTalk Batch View HMI Controls User Manual (FTBVS-UM003) | Provides details about using FactoryTalk Batch View HMI Controls to monitor and interact with the production process within a FactoryTalk View SE Display Client. |
| FactoryTalk Batch View User Manual (FTBVS-UM002) | Provides information and procedural instructions for using FactoryTalk Batch View in a modern and intuitive portal into a comprehensive batching solution for effective operations, leveraging its own web server using HTML5 technology to provide native connectivity into a FactoryTalk Batch Server. |
| FactoryTalk eProcedure Client User Guide (BWEPRO-UM001) | Provides information and procedural instructions required to create and command batches using the FactoryTalk eProcedure Client, and can be used as a reference information by the operator. |
| FactoryTalk Event Archiver User Guide (BATCH-UM012) | Provides information and instructions specific to the FactoryTalk Event Archiver. Intended for use by the system administrator and production supervisor. |

| Resource | Description |
|---|--|
| FactoryTalk Batch View User Guide (legacy) (FTBVS-UM001) | Provides information and instructions on how to use FactoryTalk Batch View to initiate and execute FactoryTalk Batch automation processing. FactoryTalk Batch View secured objects are located in the FactoryTalk Diagnostics and are modified using the FactoryTalk Administration Console. A system administrator can customize FactoryTalk Batch View security to meet the needs of the facility. FactoryTalk Batch View is used in conjunction with a Human-Machine Interface (HMI). |

Administrator Guides

| Resource | Description |
|--|--|
| FactoryTalk Batch Administrator Guide (BATCH-UM003) | Provides instructions for configuring security and services, and implementation and use of components not typically accessed or used by batch operators, such as the FactoryTalk Batch Server. |
| FactoryTalk Batch eProcedure Administrator Guide (BWEPRO-UM011) | Provides procedures specific to FactoryTalk Batch eProcedure, such as implementing security and configuring the user-defined area Active Server Page. Included are instructions for tasks specific to FactoryTalk Batch, such as configuring security and services to support FactoryTalk Batch eProcedure. Provides instructions on the implementation and use of components not typically accessed or used by batch operators, such as the FactoryTalk Batch Server. |
| FactoryTalk Batch Material Manager Administrator Guide (BWEPRO-UM011) | Provides information and instructions specific to FactoryTalk Batch Material Manager. Intended for use by the system administrator and database administrator. |

Reference Guides

| Resource | Description |
|---|--|
| FactoryTalk Batch ActiveX Controls Library Reference Guide (BATCH-RM001) | Provides reference information and procedural instructions for the FactoryTalk Batch ActiveX Custom Controls. |
| FactoryTalk Batch Material Server API Technical Reference (BWMTR-RM001) | Provides access to information regarding the interface between the FactoryTalk Batch Material Server and the FactoryTalk Batch Material Editor and FactoryTalk Batch. It is intended to be used as a reference information by those who want to develop custom interfaces. |
| FactoryTalk Batch PCD Programming Reference Manual (BATCH-RM004) | Provides information and instructions about the FactoryTalk Batch PCD interface design. It is intended to be used as a reference guide. |
| FactoryTalk Batch Server API Reference Manual (BATCH-RM003) | Provides information regarding the interface between the FactoryTalk Batch Server and FactoryTalk Batch View – the Server Application Programming Interface (API). It is intended to be used as a reference guide by those who want to develop custom interfaces. |

| Resource | Description |
|--|--|
| FactoryTalk Batch System Files Reference Manual (BATCH-RM005) | Provides the technical information for configuration and maintenance of a FactoryTalk Batch system. It can be used as a reference information for implementation engineers and the system administrator. |
| FactoryTalk Batch eProcedure Instruction File Design Reference Manual (BWEPRO-RM001) | Includes information about the building of instruction files for use in equipment database creation and recipe development. This information is intended to be used as a reference by the instruction file author. |

View or download publications at

<http://www.rockwellautomation.com/literature>. To order paper copies of technical documentation, contact your local Allen-Bradley® distributor or sales representative.

Customize eProcedure

eProcedure is used to display hyperlinks associated with equipment resources and to customize the appearance of the eProcedure Client. Hyperlinks are assigned to equipment resources within the FactoryTalk Batch Equipment Editor. The eProcedure Client is customized by editing the *User.asp* file. A company logo and Internet URL can be added; batch IDs can be made editable or not. The URL can point to an intranet site containing maintenance records or material safety documents.

Use hyperlinks

You can use any valid URL to view web pages from the Equipment view, but you can also configure hyperlinks for internal documents such as maintenance history logs, maintenance schedules, personnel schedules, notes about operations, web camera views of units or equipment, and startup or shutdown documentation.

Once the URL of a document (or web camera) is configured, you can view the item through the browser. You can use the **Back** or **Home** button to return to the Equipment view.

Hyperlinks can be assigned to any resources within the equipment database. These hyperlinks are then made available within the eProcedure Client in the Equipment view. You can use the hyperlinks to provide access to documents that reside on your local intranet, pertaining to the specific equipment resource, or you may want to provide access to a manufacturer's web site. The following instructions outline the method for making internal documents available via hyperlinks.

Make internal documents available

In order to make documents or items accessible from within the FactoryTalk Batch Client, you must first create a virtual directory that points to the directory containing the documentation or image files.

A virtual directory is a directory not physically contained within the home directory (*/Inetpub*) on the Web server. Virtual directories give you the ability to publish information located on your hard drive. For example, if you create a virtual directory for *C:\Documents\Reports* and give it an alias of *Reports*, users could view the directory using the URL **Error! Hyperlink reference not valid..**

Create a virtual directory

You must be logged on as a member of the Administrators group on the local computer to perform the following procedures.

To create a virtual directory:

1. Ensure that Internet Information Services are enabled, then open **Internet Information Services (IIS) Manager**.
2. In the **Connections** pane, expand the **Sites** node in the tree, and then navigate to **Default Web Site**.
3. In the **Actions** pane, click **View Virtual Directories**.
4. On the **Virtual Directories** page, in the **Actions** pane, click **Add Virtual Directory**.
5. In the **Add Virtual Directory** dialog box, type a name in the **Alias** text box. This alias is used to access the content from a URL.
6. In the **Physical path** text box, type the physical path of the content folder, or click **Browse(...)** to navigate through the file system to find the folder.
7. Click **OK**.

This creates a virtual directory within your default web directory. See Microsoft's online help for Internet Information Services (IIS) for more information on virtual directories.

Important: When you click **OK** in the **Edit Alias** dialog box, your changes take effect immediately. Clicking **Cancel** does not cancel the alias assignment.

Virtual Directory Examples

Example 1:

- You want to create a virtual directory called *Reports*. The actual directory is *C:\Reports*. Using the steps above, the virtual directory is created under the default web site.

The hyperlink in the Equipment Editor is: `/REPORTS/<file name>`

- You want to create a virtual directory called *Pictures* for custom icons to reference from an instruction file. The actual directory is *C:\Pictures*. Using the steps above, the virtual directory is created under the default web site.

The file reference in an instruction file form is: `img src=/Pictures/<picture.gif>`

Example 2:

- You want to create a virtual directory called *Reports* in the eProcedure virtual directory. The actual directory is *C:\Program Files\Rockwell Software\Batch\Reports*. In step 5 above, enter the alias **/eProcedure/Reports**.

The hyperlink in the Equipment Editor is: `REPORTS/<file name>` (no preceding slash).

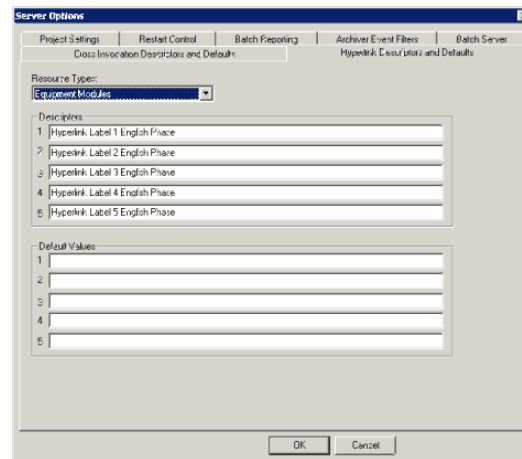
- You want to create a virtual directory called *Pictures* in the eProcedure virtual directory. The actual directory is *C:\Program Files\Rockwell Software\Batch\Pictures*. In step 5 above, enter the alias **/eProcedure/Pictures**.

The file reference in an instruction file form would be: *img src=Pictures/<picture.gif>* (no preceding slash).

Assign the virtual directory to an equipment resource

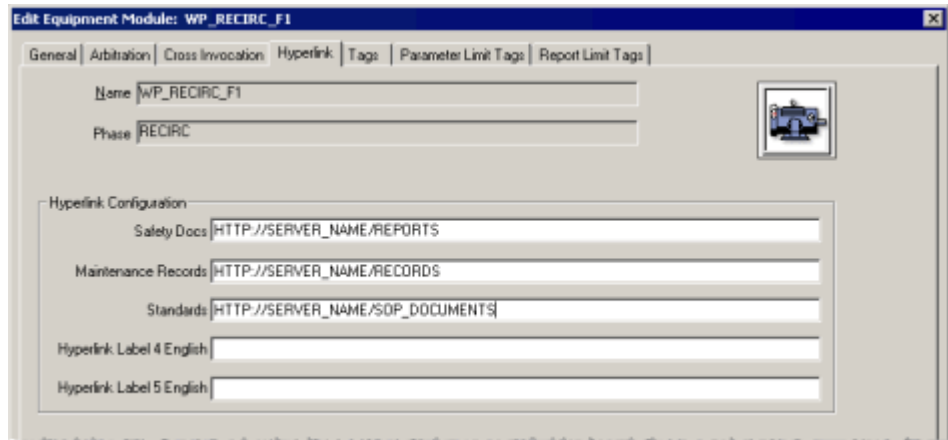
Follow the instructions in the *FactoryTalk Batch Equipment Editor User Guide* for setting up an equipment resource. The **Server Options** dialog box contains some or all of the tabs on the following screen shots, depending on which FactoryTalk Batch modules are installed on your system.

- Open the Equipment Editor.
- From the **Options** menu, click **Server Options**, and then select the **Hyperlink Descriptors and Defaults** tab.

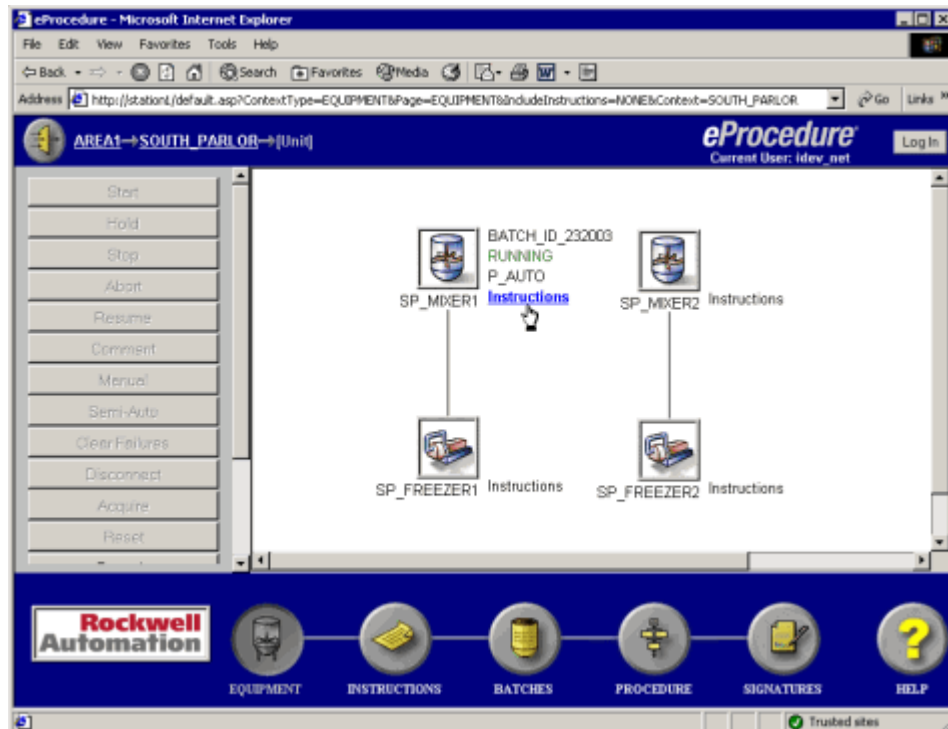


- Select the desired resource type (this example uses **Equipment Modules**).
- In the Descriptors area, type a descriptive name for each hyperlink you want to associate with an equipment module. The example in the figure above lists possible names.
- If necessary, type or change the information listed in the **Default Values** boxes.
- Click **OK**.
- Navigate to the desired equipment module and right-click to display the **Edit Equipment Module** dialog.

8. Select the **Hyperlink** tab.

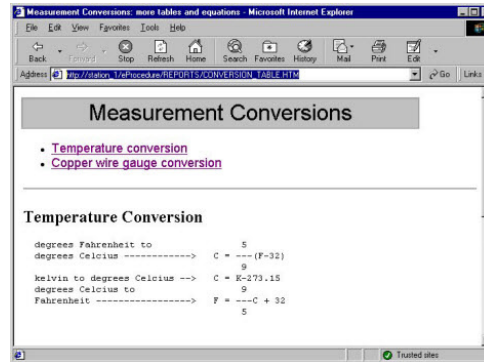


9. In the Hyperlink Configuration area, type each hyperlink. For the example shown above, you would type **http://Server_Name/Reports/<doc_name>**, where <doc_name> is the desired HTML file to display.
10. Click **OK** when done. Stop and restart the FactoryTalk Batch Server and eProcedure Server services (if Warm Restart is not selected in the FactoryTalk Batch Service Manager). When the equipment module is used in a batch and viewed in eProcedure, the hyperlink is displayed to the right of the equipment module icon, as shown below.



11. When you click the hyperlink, the specified web page opens (see the example below). To return to eProcedure, click the **Back** button on the

browser toolbar. Notice how the URL displays in the remote Client's **Address** box.



Edit the user.asp

The *User.asp* file is located in the `\Program Files\Rockwell Software\Batch\web` directory on the FactoryTalk Batch Server computer. You can modify this file to support requirements specific to your system. For example, you could add HTML code to the *User.asp* that links eProcedure to displays of other manufacturing applications, such as status information from a SCADA (supervisory control and data acquisition) system. The *User.asp* can be modified so that documents are always available (because they are not related to specific equipment). You can also modify the *User.asp* to specify a timeout period for the Batch List ActiveX control. (For more information on specifying the timeout period, see [Specifying the timeout period](#) on [page 21](#) later in this chapter.)

Important: Do **not** edit any ASPs other than *User.asp*. They are directly related to the successful operation of eProcedure.

Other documents could be maintenance schedules, quality lab schedules, personnel shift schedules, pages for e-mail sent to the area, or web mail e-mail sender pages (to allow the operator to send e-mail from the area). You could even point them to stock pages, where the company's stock price and press releases are posted. You could also add HTML that displays buttons linking to other manufacturing applications like an HMI or LIMS (laboratory information management systems).

Add a custom logo to the user.asp

This example discusses how to add a custom logo and link to a web site to the *User.asp*.

Tip: Images and files must be placed in directories under `\Batch\web\` to use relative ("`./`") paths. Otherwise, absolute path names must be used (for example, "`/full_path/Image.jpg`").

1. Open *User.asp* in a text Editor such as Notepad and save it with the name *User.old*. This allows you to recover the original file should you need it.
2. Open the original *User.asp* file.

- Locate the line that is highlighted in the file (as shown below).

```

user.asp - Notepad
File Edit Format View Help
<!-- LANGUAGE=VBScript %>
<!-- #INCLUDE FILE="constants.inc" -->
<% const binBatchIDEditable = true 'Change this value to false to make the batchID uneditable
in the Batch Creation dialog box when adding a batch. %>
<% const lngBatchListTimeoutPeriod = 60000 'This value is in milliseconds. If batch creation
takes longer than 60 seconds, increase this value. %>
<html>
<head>
<title>user</title>
</head>
<body bgcolor="#000080">
<input type=hidden name=BatchIDEditable id=BatchIDEditable value=<%=binBatchIDEditable%>
<input type=hidden name=BatchListTimeoutPeriod id=BatchListTimeoutPeriod
value=<%=lngBatchListTimeoutPeriod%>
<table border="1" bgcolor="#C0C0C0" bordercolor="#C0C0C0" align="center"
bordercolorlight="#FFFFFF" bordercolordark="#000000">
<tr><td><a target="_parent" href="http://www.rockwellautomation.com"></img></a></td></tr></table>
</body>
</html>
    
```

- Edit this line with the desired information:

- The new URL
For example: `http://www.acmecorp.com/safetydocs.html`
- The text to use when the mouse moves over the logo (Alt)
For example: `IMG alt="Acme Corp"`
- The name of the new logo image (.gif or .jpg)
For example: `src="/images/acmelogo.gif"` (if the image has been copied to the `\Program Files\Rockwell Software\Batch\web\images` directory)
or `src="/fullpath/acmelogo.gif"` (if the file is located outside the `\Program Files\Rockwell Software\Batch\web\images` directory)

The new file should resemble the figure below:

```

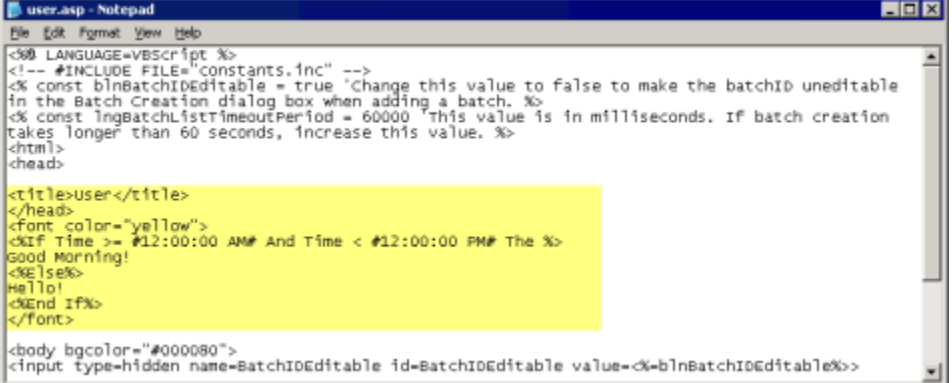
user.asp - Notepad
File Edit Format View Help
<!-- LANGUAGE=VBScript %>
<!-- #INCLUDE FILE="constants.inc" -->
<% const binBatchIDEditable = true 'change this value to false to make the batchid uneditable in
the General Information dialog box of the Create Control Recipe Wizard %>
<% const lngBatchListTimeoutPeriod = 60000 'This value is in milliseconds. If batch creation
takes longer than 60 seconds, increase this value. %>
<html>
<head>
<title>user</title>
</head>
<body bgcolor="#000080">
<input type=hidden name=BatchIDEditable id=BatchIDEditable value=<%=binBatchIDEditable%>
<input type=hidden name=BatchListTimeoutPeriod id=BatchListTimeoutPeriod
value=<%=lngBatchListTimeoutPeriod%>
<table border="1" bgcolor="#C0C0C0" bordercolor="#C0C0C0" align="center"
bordercolorlight="#FFFFFF" bordercolordark="#000000">
<tr><td><a target="parent" href="http://www.AcmeCorp.com"></img></a></td></tr></table>
</body>
</html>
    
```

- Save the file as *User.asp*. Exit the text editor.
- Open eProcedure to verify that the changes take place. The new eProcedure opening page should resemble the image below. Note the mouse over text and the URL in the status bar at the bottom of the window.



Add a greeting to the user.asp

You can even add logic to the *User.asp*. The following example adds a greeting based on the time of day.



```

user.asp - Notepad
File Edit Format View Help
<%@ LANGUAGE=VBScript %>
<!-- #INCLUDE FILE="constants.inc" -->
<% const binBatchIDEditable = true 'Change this value to false to make the batchID uneditable
in the Batch Creation dialog box when adding a batch. %>
<% const lngBatchListTimeoutPeriod = 60000 'this value is in milliseconds. If batch creation
takes longer than 60 seconds, increase this value. %>
<html>
<head>
<title>user</title>
</head>
<font color="yellow">
<%If Time >= #12:00:00 AM# And Time < #12:00:00 PM# The %>
Good Morning!
<%Else%>
Hello!
<%End If%>
</font>
<body bgcolor="#000080">
<input type="hidden" name="BatchIDEditable" id="BatchIDEditable" value="<%=binBatchIDEditable%>">

```

If a user logs onto the eProcedure Client after midnight and before noon, the greeting is "Good Morning!" At any other time the user is greeted with "Hello!"

ActiveX controls

eProcedure uses ActiveX controls to communicate with the FactoryTalk Batch Server and allows you to monitor and interact with control recipes. These controls are necessary for the correct operation of the program. You can specify the timeout period for the batch list ActiveX control to allow for larger batches to be put on the batch list without timing out. You can also embed additional ActiveX controls in HTML recipe forms containing SOPs, which gives you even more flexibility when running a batch recipe with eProcedure.

Add ActiveX controls

All controls must occur within a form in the instruction file or eProcedure ignores the script. When creating an HTML file, the form is designated by the `<Form></Form>` tags. (See the *FactoryTalk eProcedure Instruction File Design Guide* for information on creating instruction files.)

Specify the timeout period

In the *User.asp* file, you can specify the timeout period for the BatchList ActiveX control. The default value is 60000 milliseconds, which equals 60 seconds. If batch creation is taking longer than 60 seconds, you can increase

the value as needed. The following example highlights the line you must modify in the *User.asp* file.

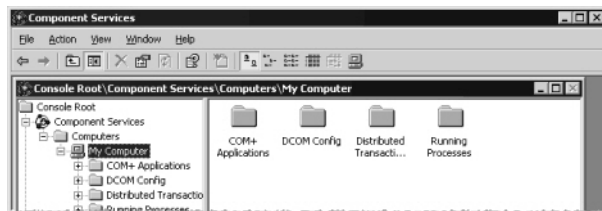
```

<%@ LANGUAGE=VBScript %>
<!-- #INCLUDE FILE="constants.inc" -->
<% const binBatchIDEditable = true "Change this value to false to make the batchID uneditable in the
General Information dialog box of the Create Control Recipe Wizard %>
<% const lngBatchListTimeoutPeriod = 60000 This value is in milliseconds. If batch creation takes longer
than 60 seconds, increase this value. %>
<html>
<head>
<title>User</title>
</head>
<body bgcolor="#000080">
<input type=hidden name=BatchIDEditable id=BatchIDEditable value=<%=binBatchIDEditable%>>
<input type=hidden name=BatchListTimeoutPeriod id=BatchListTimeoutPeriod
value=<%=lngBatchListTimeoutPeriod%>>
<table border="1" bgcolor="#C0C0C0" bordercolor="#C0C0C0" align="center"
bordercolorlight="#FFFFFF" bordercolordark="#000000">
<tr><td><a target="_parent" href="http://www.automation.rockwell.com"></img></a></td></tr></table>
</body>
</html>
    
```

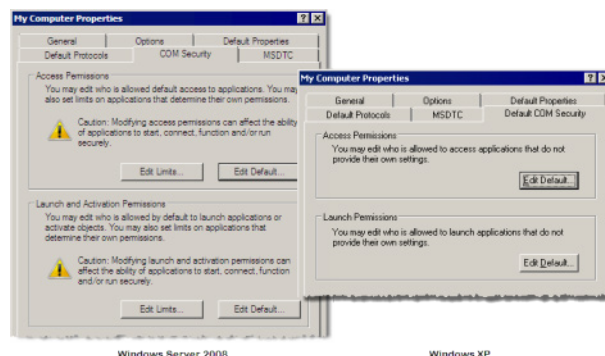
Prepare the SignatureList control for Internet Explorer

For the SignatureList control to work in any client application, including the eProcedure Client, that does not call **CoInitializeSecurity** (this includes Internet Explorer, Visual Basic, and possibly HMI applications), the following steps must be completed on the client computer:

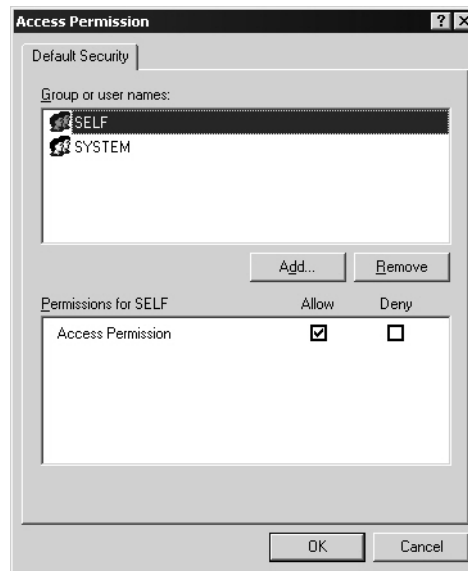
1. If the FactoryTalk Batch Server runs under a local machine account (workgroup), create an account with the same user name and password on the client machine.
2. Navigate to Administrative Tools and select Component Services. The Component Services window opens.



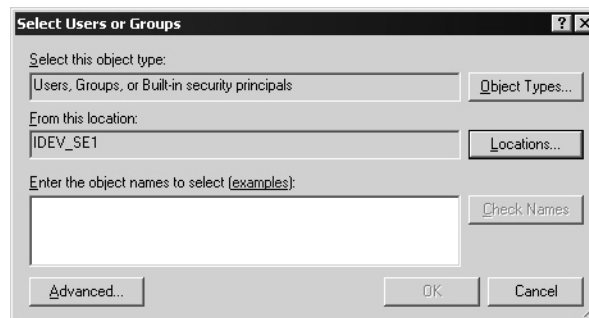
3. Expand **Component Services** and **Computers**, right-click **My Computer**, and then select **Properties**. The **My Computer Properties** dialog box opens.



- Click the **[Default] COM Security** tab, and then click the **Edit Default** button in the Access Permissions area. The **Access Permission** dialog box opens.

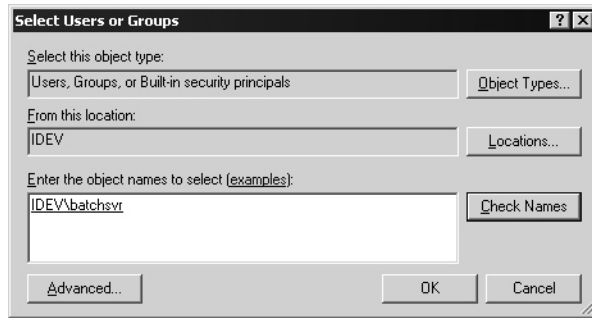


- Click the **Add** button. The **Select Users, Computers, or Groups** dialog box opens.

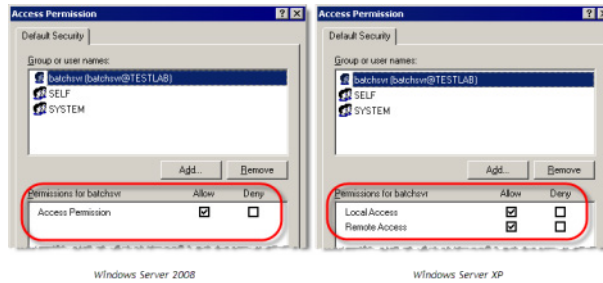


- Select the correct location in the **From this location** box:
 - If the FactoryTalk Batch Server is running on a domain, select the Server domain name.
 - If the FactoryTalk Batch Server is running on a local user account (workgroup), select the Client computer name.
- In the **Enter the object names to select** box, add the account the FactoryTalk Batch Server runs as to the list and click **Check Names**. This verifies that the account exists.
 - If the FactoryTalk Batch Server is running on a domain, choose the Server's domain account (for example, **batchsvr**).

- If the FactoryTalk Batch Server is running on a local user account (workgroup), select the name of the local account under which the Server runs.



8. Select the new user or group in the **Group or user name** area and, in the **Permissions** area, set **Access Permission** to **Allow** (*Windows Server 2008*) or **Local Access** and **Remote Access** to **Allow** (*Windows 7 or XP*).



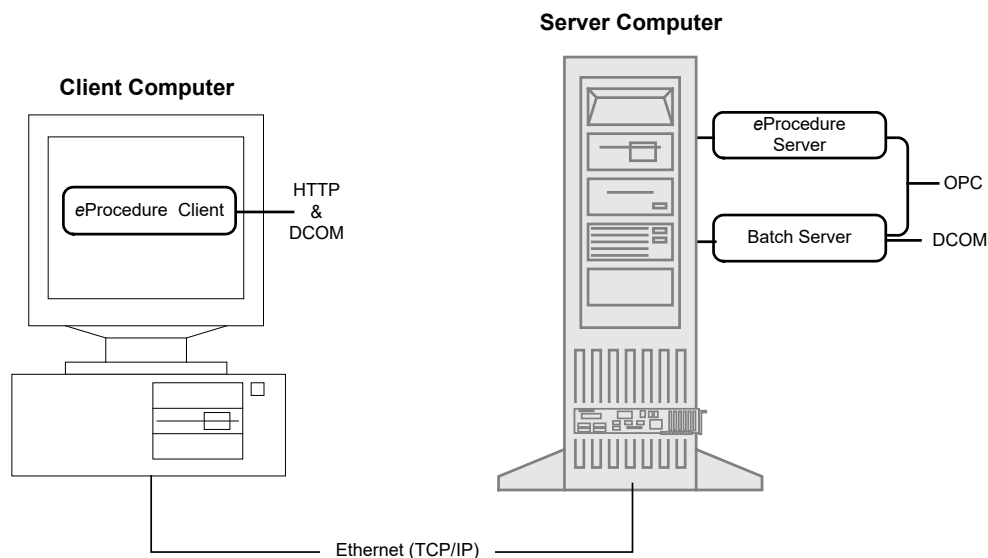
9. Click **OK** to close the **Access Permission** and **My Computer Properties** dialog boxes.
10. Close the **Component Services** window.
11. Log off and then log back on.

Understand communications

FactoryTalk eProcedure itself requires very little in the way of special configuration. Most of the required configuration is performed in the post-installation procedures. (See the *FactoryTalk eProcedure Getting Results Guide* for more information.) The information in this section is provided to enhance your understanding of how eProcedure works in conjunction with FactoryTalk Batch.

FactoryTalk eProcedure communications

eProcedure uses OLE for Process Control (OPC) to communicate between the eProcedure Server and the FactoryTalk Batch Server. Communication from the eProcedure Client to the Server is HTTP (for web content) and DCOM for live data.



Create a shared directory

A shared directory allows computers on the network to read from and write to a common recipe, area model, or data file. The FactoryTalk Batch installation creates a shared directory named **BATCHCTL** where the FactoryTalk Batch software is installed (the default is **C:\Program Files (x86)\Rockwell Software\Batch**). If you installed your project files in a different directory, configure that directory as a shared directory. To configure a shared directory, administrative privileges are required.

To create a shared directory:

1. Navigate to the project file directory, then right-click the folder, and select the sharing option.
2. Use the **File Sharing** dialog box to add each user or user group name that requires access to the project file directory.
3. Repeat for each user or user group, including the user accounts used by the FactoryTalk Batch Server and FactoryTalk Event Archiver.
4. Select **Share**.

Use OLE for Process Control (OPC)

The FactoryTalk Batch Server supports the use of the OLE for Process Control (OPC) communications protocol. OPC provides a defined set of COM interfaces for data access functions.

The OPC communications protocol is used by the FactoryTalk Batch Server to communicate with process-connected devices via a data server and to communicate with FactoryTalk Batch View, SignatureList ActiveX control and PC-Based phases. COM is used to communicate with ActiveX controls or other high-level applications such as FactoryTalk Batch Material Manager.

OPC group support

Within the OPC protocol, data is accessed through collections of data items referred to as groups. Different data servers have varying levels of OPC support, including maximum numbers of groups, maximum numbers of items per group and performance issues, and so on. Because of this, FactoryTalk Batch support of OPC is flexible in order to achieve successful communication with as many different data servers as possible. To achieve this, the FactoryTalk Batch Server is flexible in its definition of Groups, and allows for different OPC grouping configurations to communicate with the data server(s).

The manner in which the FactoryTalk Batch Server organizes the area model tags into groups is defined by data server definition files (DSDF). These files are located in the Batch\Dataservers directory. FactoryTalk Batch comes with a predefined set of DSDF files. If you need to communicate with a data server for which there is no predefined DSDF file, contact Rockwell Automation Application Support.

Implement security

FactoryTalk eProcedure takes advantage of the security features of the FactoryTalk Batch View. The permissions assigned to the users and groups for the View commands are used within the eProcedure Client. The security implemented for the View is also used within the eProcedure Client. (See the *FactoryTalk Batch Administrator Guide* for more information.)

The logged in user should:

- be an FactoryTalk Security user or a Windows-linked user
- be a user with rights to all of the buttons

If operators wish to perform a function that is secured, for instance **Abort**, they must enter a user name and password, which is checked against the FactoryTalk Security settings defined in the FactoryTalk Directory. (See the *FactoryTalk Batch Administrator Guide* for more information.)

Important: It is important to know that FactoryTalk Security cannot be used to secure eProcedure instructions. However, instructions can be secured through verification signatures.

Understand eProcedure security

There are distinct differences between the security capabilities of the FactoryTalk eProcedure Client and the FactoryTalk Batch View:

- Command buttons in the eProcedure Client are shown, but disabled, if the user does not have the appropriate permissions.
- The **Reactivate Step** button on the Instructions view of the eProcedure Client and the **ReactivateStep** Confirm policy setting in FactoryTalk Directory are specific to eProcedure.

Tip: Because the ability to secure FactoryTalk eProcedure instruction files does not currently exist in FactoryTalk Security, you can require an electronic signature on Parameter Change to prevent unauthorized users from executing instructions. (See **Electronic signatures** in the *FactoryTalk Batch Equipment Editor User Guide* for more information.)

Configure the eProcedure service

The eProcedure Service is installed on the FactoryTalk Batch Server computer and requires no special configuration. The eProcedure Service can be configured to start manually by changing the startup type in the **Services** dialog box of the Control Panel. (See the *FactoryTalk Batch Administrator Guide* for more information.)

Add the Batch Server user account to the client computer

FactoryTalk Batch Client security

If the Batch Server user account is a workgroup account or if the FactoryTalk Batch Server computer needs to access files on the client computer, you must add the Batch Server user account to all FactoryTalk Batch client computers. (See the *FactoryTalk Batch Administrator Guide* for more information.)

FactoryTalk Batch View, FactoryTalk eProcedure, ActiveX controls, Equipment Editor, and Recipe Editor use FactoryTalk Security, which allows security settings to be shared among FactoryTalk enabled products across a network or on the same computer. FactoryTalk Directory is the infrastructure which contains the security policies defined for FactoryTalk Security secured resources.

FactoryTalk Batch secured resources include Batch Commands, Phase Commands, the Batch View windows, and log ons to FactoryTalk Batch components. For a complete list of FactoryTalk Batch secured objects and their default security policy settings refer to the *FactoryTalk Batch Administrator Guide*.

FactoryTalk Batch product policies are created in the Local Directory and the Network Directory when the FactoryTalk Services Platform installs. The FactoryTalk Batch product policies are used to restrict access to the FactoryTalk Batch client components and the features within them. (See the FactoryTalk Help for more information.)

The FactoryTalk Services Platform installation process:

- **Creates both a FactoryTalk Local Directory and a FactoryTalk Network Directory on the computer.** When the install process finishes, both directories are fully configured and ready for use.
Tip: Security settings are completely separate in the Network Directory and Local Directory. Changes you make to the security settings in the Network Directory do not affect the Local Directory and vice versa.
- **Allows any Windows Administrator user account to log on to either directory.** The installation process automatically adds the local Windows Administrators group to the FactoryTalk Administrators group in each FactoryTalk Directory.
- **Allows any authenticated Windows user to log on to the FactoryTalk Local Directory.** The installation process automatically adds all members of the local Windows Authenticated Users group to the FactoryTalk Local Directory.
- **Allows all new user accounts full access permissions.** The installation process automatically sets system policies to allow all new user accounts added to either directory full access to that directory by default.

Tighten security for FactoryTalk Batch Clients

Restrict access to specific features of your individual FactoryTalk products. Only users with access can use secured product features.

For example, when you set up product policies for FactoryTalk Batch, restrict use of the Abort command to specific users. This prevents automated batch processes from going down during run time.

To configure security for multiple features in FactoryTalk, use the Feature Security for Product Policies dialog box.

To configure security for the FactoryTalk Batch features, refer to the secured product policies defined for the FactoryTalk Batch Clients.

To tighten security for FactoryTalk Batch Clients:

- Delete the Windows Authenticated Users group from the Local Directory. Secure the FactoryTalk Batch Configuration Options product policies in the Local Directory to avoid tampering or unauthorized changes.
- Create new FactoryTalk user accounts and groups in the FactoryTalk Directory. Create user accounts or groups to secure the FactoryTalk Batch Clients.
- Add user accounts and groups created in Windows to the FactoryTalk Directory. Windows accounts added to the FactoryTalk Directory are called Windows-linked user accounts and groups.

IMPORTANT Windows Workgroup User Accounts are not supported in FactoryTalk. If you use Windows workgroups, you cannot administer user accounts centrally for FactoryTalk Batch Client applications. FactoryTalk Directory does not allow multiple user accounts to have the same name and password.

- Remove the All Users group from the FactoryTalk Batch product policies. The FactoryTalk Services Platform installation process adds the All Users group to all FactoryTalk product policies. To secure FactoryTalk Batch, remove r restrict the All Users group for FactoryTalk Batch product policies. For example, to restrict access to FactoryTalk Batch View windows, remove the All Users group from the associated product policies and then add the necessary user accounts.
- Add user accounts and groups to the FactoryTalk Batch product policies. To secure FactoryTalk Batch resources, add only the necessary user accounts and groups to the corresponding product policies. For a complete list of FactoryTalk Batch product policies, see FactoryTalk Batch default policy settings.

FactoryTalk Batch View security

This section describes the legacy FactoryTalk Batch View Windows desktop application.



Tip: The modern FactoryTalk Batch View is an innovative and intuitive user interface for your comprehensive batch solution. It leverages state-of-the-art web technologies with scalable graphics for consistent visualization across all devices and form factors. The zero-install browser simplifies administration and maintenance. As the only native client application that supports the new features in FactoryTalk Batch and eProcedure, it is the client of the future for modern batch solutions.

For more information about the new FactoryTalk Batch View mobile solution, view the *FactoryTalk Batch View User Manual (FTBVS-UM002)*.

Configure FactoryTalk security to specify which FactoryTalk Batch View toolbar buttons and windows are available to each logged on user. Removing a user group from a security policy disables the corresponding toolbar button for all users who are members of that user group. When a button is disabled, it no longer appears on the toolbar.

Restrict access to resources based on where a user is physically located, such as a computer used to perform actions. (For more information, see FactoryTalk Help.)

To open FactoryTalk Help, select **Start > Rockwell Software > FactoryTalk Help**.

Change permissions on the BATCHCTL share

Change the permissions on the BATCHCTL share to tighten security by removing the **Everyone** group and adding a new group that contains all the Windows users that need to access the share.

IMPORTANT This new group allows applications to access the BATCHCTL share while locking out non-domain users.

Include these user types in the group:

- The FactoryTalk Batch Server and FactoryTalk Event Archiver user.
- Windows users logged in when the FactoryTalk Batch Equipment Editor, FactoryTalk Batch Recipe Editor and FactoryTalk Batch View are launched.

To change permissions on the BATCHCTL share

1. In **Windows Explorer**, locate the Batch folder. The default location is C:\Program Files (x86)\Rockwell Software\Batch.
2. Right-click the Batch folder, and then select **Properties**.
3. Select the **Security** tab and do the following:
 - a. Select **Edit**, select the **Everyone** group, and then select **Remove**.
 - b. After removing the **Everyone** group, select **Add**.

4. From the **Select Users, Computers, Service Accounts, or Groups** dialog box, select **Advanced** and then click **Find Now**.
5. Select a group from the **Search results** list, and then select **OK**.
6. Select **OK** to return to the **Properties** dialog box.
7. From the **Group or user name** list, select a user or group, and then select the permissions in the **Permissions** area. Repeat for each user or group.
8. Select **OK**.

Security for FactoryTalk Batch commands

Configure FactoryTalk Security to require user confirmation for batch commands and phase commands. A command that has the confirm feature enabled does not execute until the user account is validated in the **Log on to Confirm User** dialog box.

To enable the Confirm feature, configure the FactoryTalk Batch product policy for the command and then set the associated *<Command>* Confirm policy setting to True. These policy settings are defined in FactoryTalk Directory for each command button within FactoryTalk Batch View and every phase command issued from the **Phase Control** window.



Tip: When the Confirm feature is enabled for a command, only active user accounts assigned to the Command are allowed to execute the command. Users validated in the **Log on to Confirm User** dialog box are not logged on to FactoryTalk Batch View.

The *<Command>* **Confirm** policy settings are found in the following locations:

- FactoryTalk Directory\Local | Network\System\Policies\Product Policies\Batch\BatchView and ActiveX\Commands
- FactoryTalk Directory\Local | Network\System\Policies\Product Policies\Batch\BatchView and ActiveX\Phase Commands

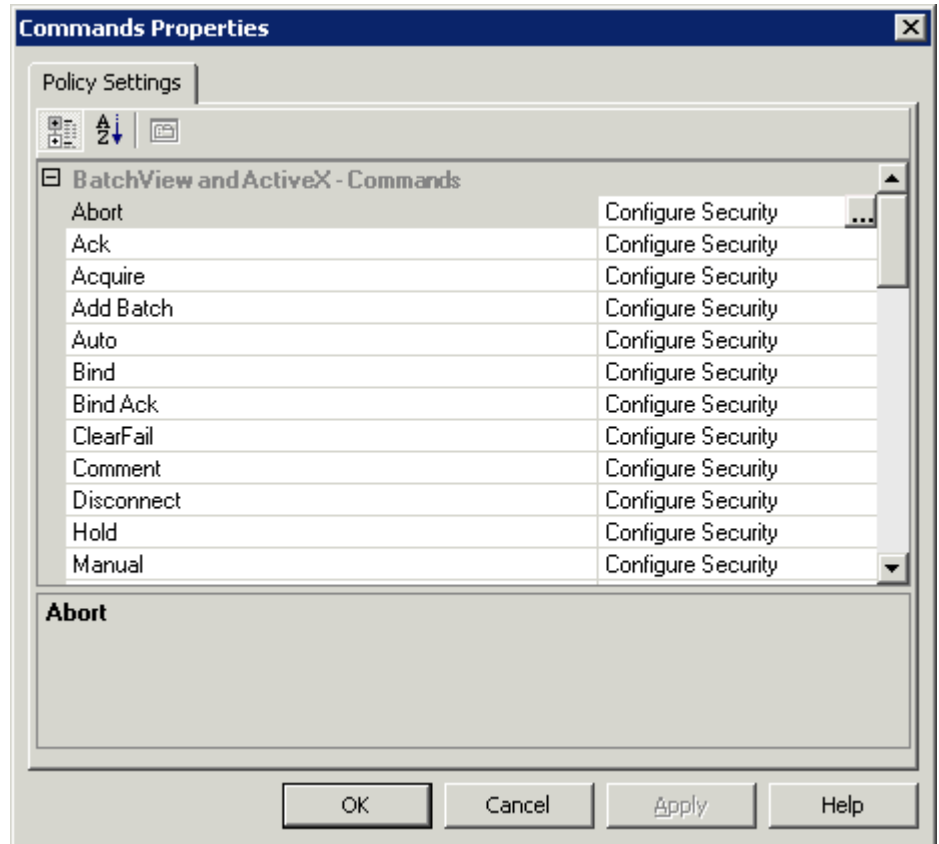
Configure security for FactoryTalk Batch commands

To allow only specified users to issue commands against a batch or a phase, add the appropriate users or user groups to the **Command** or **Phase Command** policy setting. Then remove or restrict the **All Users** group.

To configure security for FactoryTalk Batch commands:

1. Open the FactoryTalk Administration Console and log on to the appropriate FactoryTalk Directory.
2. Expand **System > Policies > Product Policies > Batch > BatchView & ActiveX**.

3. Right-click **Commands** and then select **Properties**.



4. Select the policy setting to configure and then select the corresponding browse button.
5. (optional) In the **Configure Securable Action** dialog box:
 - Select a user or group and then select **Remove**.
 - Allow or deny a user or group access to the feature by selecting or clearing the corresponding check box and then selecting **OK**.
 - Add a user account or user group by selecting **Add**. This option displays the **Select User and Computer** dialog box.
6. (optional) In the **Select User or Group** dialog box:
 - Select a user, user group, computer, or computer group and then select **OK**.
 - Select **Create New** to create and then add a new user, user group, computer, or computer group.
7. Select **OK** to close the **View Properties** dialog box.



Tip: Restart all FactoryTalk Batch components to update security changes made in the FactoryTalk Directory.

Enable Batch View confirm settings

If you assign specific users and/or groups to a Batch Command or Phase Command and enable the corresponding Confirm policy setting, then only the specified users are allowed to issue the command. (See the *FactoryTalk Batch Administrator Guide* for more information.)

The **Reactivate Step** button on the Instructions view of the eProcedure Client is disabled if you do not have permission to reactivate steps. When you access the Instructions view, the eProcedure Client checks the FactoryTalk Security policy settings for the command. If you have permission to reactivate steps, but the **CONFIRM** value for the ReactivateStep policy setting is **True**, the **Log on to Confirm User** dialog box prompts for a user ID and password when the **Reactivate Step** button is clicked. If the user is authenticated, the step reactivation proceeds. If not, an error message is displayed. (See the *FactoryTalk Batch Administrator Guide* for more information.)

The FactoryTalk Batch Service Manager

The FactoryTalk Batch Service Manager is used with the FactoryTalk Batch Server, FactoryTalk Batch View Server, and FactoryTalk Event Archiver, when FactoryTalk Event Archiver is configured as a Windows service. The Service Manager manually starts and stops the FactoryTalk Batch Server and manually starts, pauses, continues or stops FactoryTalk Event Archiver services. The Service Manager accesses the **Batch Server Statistics** dialog box, which gives access to COM server information, COM client status, error information, and other FactoryTalk Batch Server information.



Tip: To command the FactoryTalk Batch Server, FactoryTalk Batch View Server, or FactoryTalk Event Archiver services, you must have local administrator privileges on the computer where the server and/or FactoryTalk Event Archiver services are installed. If you do not have local administrator privileges, you will have view-only privileges.

Windows services

The FactoryTalk Batch Server, FactoryTalk Batch View Server, and FactoryTalk Event Archiver operate as Windows services. During FactoryTalk Batch installation, the user account specified during the installation is assigned to the **Log On As: This Account:** option, found in the (Administrative Tools) **Services** dialog box.

Running as a Windows service allows the FactoryTalk Batch Server to run in the absence of an interactive Windows logon. Logging on or logging off Windows during operation does not disrupt the server execution.

Configure the FactoryTalk Batch Server to start automatically, giving server control to Windows Services, or control the FactoryTalk Batch Server manually using the FactoryTalk Batch Service Manager. The Service Manager also controls the type of boot method that the server uses, and runs the server in demo mode.



Tip: Specifying the boot method or demo mode in the FactoryTalk Batch Service Manager does not alter the Batchsvr.ini file and has no effect on the server when automatically starting.

FactoryTalk Batch Service Manager dialog box

The **FactoryTalk Batch Service Manager** dialog box is organized into three areas:

- Connection
- Service state
- Server

The **Connection** area contains:

| Item | Definition |
|-----------------|---|
| Computer | Displays the selected computer. |
| Select Computer | Selects the computer where the service is located. |
| Service | Allows you to select a service from a list of batch services for the selected computer. |

The **Service state** area contains two sections.

- The buttons allow you to select a service state:

| Item | Definition |
|--------------------|---|
| Stop | Stops the selected service. |
| Pause | Pauses the selected service. This button is not enabled for the batch server. |
| Start/ Continue | Starts the selected service or continues a service that has been paused. |

- The traffic light graphic displays the current service status with an accompanying color:

| | |
|----------------------|--------|
| STARTING | None |
| RUNNING | Green |
| STOPPED | Red |
| PAUSED | Yellow |
| NOT CONNECTED | None |
| START PENDING | None |



Tip: The state of the FactoryTalk Batch Service Manager (information from the **Connection** and **Server** groups) is stored from the last time the Service Manager was run. These values are written when the FactoryTalk Batch Server is closed.

The **Server** area options include:

| Item | Definition |
|--------------------|---|
| Allow Demo Mode | The FactoryTalk Batch Server runs with full functionality without a license for a two-hour period. After two hours, the server stops running. |
| Allow Grace Period | The FactoryTalk Batch Server starts when a valid activation is not found. The grace period is seven days, after which a valid FactoryTalk Activation license is required. |
| Cold Boot | The FactoryTalk Batch Server starts in a completely initialized condition. All restart data is erased and all recipe content is removed from the Batch List. |

| Item | Definition |
|--------------------------|--|
| Warm Boot | The FactoryTalk Batch Server starts and attempts to restore the set of batches that were on the batch list when the server previously terminated. The restart files are altered so only one warm restart may be attempted. |
| Warm All Boot | Restarts the FactoryTalk Batch Server only if it is able to restore all of the batches to the batch list. Restart does not alter the restart files so another warm-all or warm restart may be attempted. This is the default setting for automatic restarts. |
| Verify/Deploy Area Model | Opens the Verify/Deploy Area Model dialog box. |
| Server Details | Opens the Batch Server Details dialog box. |

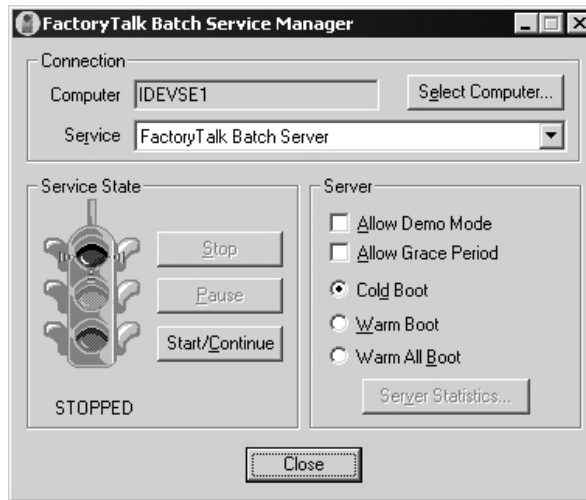
Connection

The **Connection** area contains:

| Item | Definition |
|-----------------|---|
| Computer | Displays the selected computer. |
| Select Computer | Selects the computer where the service is located. |
| Service | Allows you to select a service from a list of batch services for the selected computer. |

Service state

The **Service State** area contains buttons, text and a graphic traffic light service state representation.



The following server states and corresponding colors are displayed:

| | |
|----------------------|--------|
| STARTING | None |
| RUNNING | Green |
| STOPPED | Red |
| PAUSED | Yellow |
| NOT CONNECTED | None |

| | |
|---------------|------|
| START PENDING | None |
|---------------|------|

The **Service State** area contains the following buttons:

| Item | Definition |
|--------------------|---|
| Stop | Stops the selected service. |
| Pause | Pauses the selected service. This button is not enabled for the batch server. |
| Start/ Continue | Starts the selected service or continues a service that has been paused. |

Tip: The state of the FactoryTalk Batch Service Manager (information from the **Connection** and **Server** groups) is stored from the last time the Service Manager was run. These values are written when the FactoryTalk Batch Server is closed.

Server

The **Server** area provides various server options.



The **Server** area options include:

| Item | Definition |
|--------------------|--|
| Allow Demo Mode | The FactoryTalk Batch Server runs with full functionality without a license for a two-hour period. After two hours, the server stops running. |
| Allow Grace Period | The FactoryTalk Batch Server starts when a valid activation is not found. The grace period is seven days, after which a valid FactoryTalk Activation license is required. |
| Cold Boot | The FactoryTalk Batch Server starts in a completely initialized condition. All restart data is erased and all recipe content is removed from the Batch List. |
| Warm Boot | The FactoryTalk Batch Server starts and attempts to restore the set of batches that were on the batch list when the server previously terminated. The restart files are altered so only one warm restart may be attempted. |

| Item | Definition |
|--------------------------|--|
| Warm All Boot | Restarts the FactoryTalk Batch Server only if it is able to restore all of the batches to the batch list. Restart does not alter the restart files so another warm-all or warm restart may be attempted. This is the default setting for automatic restarts. |
| Verify/Deploy Area Model | This button opens the Verify/Deploy Area Model dialog box. |
| Server Details | This button opens the Batch Server Details dialog box. |

FactoryTalk Batch Server Details dialog box

The **FactoryTalk Batch Server Details** dialog box displays an overview of the current system's status and the current running area model. The area model file referenced is specified in the **Server Options** dialog box accessed from FactoryTalk Batch Equipment Editor. The **FactoryTalk Batch Server Details** dialog box is organized into five tabs.

FactoryTalk Batch Server Details dialog box - General tab

The **General** tab lists data on the number of batches and prompts being currently handled by the FactoryTalk Batch Server, as well as the Windows time on the server, the time the batch server started, and the name and creation date of the current area model.

The **General** tab contains the following:

| Field | Definition |
|----------------------|--|
| Batch Count | The number of batches loaded in the FactoryTalk Batch Server. |
| Prompts Count | The number of prompts currently existing within all batches. |
| Version | The version number of the FactoryTalk Batch Server. |
| Time | The time as specified by Windows on the FactoryTalk Batch Server. |
| Started at | The time the FactoryTalk Batch Server started. |
| Area Model File Name | The name of the currently active area model. |
| Area Model Date | The file date of the currently active area model at the time of FactoryTalk Batch Server startup or the last update. |

FactoryTalk Batch Server Details dialog box - Messages tab

The **Messages** tab is used to monitor FactoryTalk Batch Server log information. The messages displayed in the three sections are the most recent messages written to the server log by the server.

The **Messages** tab consists of the following:

| Field | Definition |
|-------|--|
| Info | The most recent Info -type entry in the log file. Info entries are log entries recorded as a part of the normal execution. |

FactoryTalk Batch Server Details dialog box - PCD Communications tab

| Field | Definition |
|---------|---|
| Warning | The most recent Warning -type entry in the log file. Warning entries indicate that a minor irregularity the system detected. The irregularity was handled by the system or the system is not sure of the occurrence's implications. |
| Severe | The most recent Severe -type entry in the log file. Severe entries indicate that the system encountered a severe error condition. The system handled the situation as best it could. |

The **PCD Communications** tab is used to monitor the FactoryTalk Batch Server communication status and any data servers that are communicating with the server. Verification of all tags, phases, and equipment operation sequences associated with the current area model is also performed.

The **PCD Communications** tab consists of the following components:

| Field | Definition |
|---------------------|--|
| Data Server Status | Lists of all configured data servers in the area model and the communication status between FactoryTalk Batch and these data server(s). |
| Tag Verify Status | Indicates if the verification function is READY, IN PROGRESS, or COMPLETED. |
| Tag Verify Verified | Indicates the number of tags, phases, and equipment operation sequences that the server processed during tag verification. |
| Tag Verify Bad | Indicates the number of tags, phases, and equipment operation sequences that the server was unable to verify. Bad tags, phases, and equipment operation sequences indicate either the data server cannot supply the data requested by the FactoryTalk Batch Server or the data was not of the expected type. |
| Tag Verify Total | Indicates the total number of tags, phases, and equipment operation sequences. |
| Start | Starts the verification process. |
| Stop | Stops the verification process. |

FactoryTalk Batch Server Details dialog box - View Communications tab

The **View Communications** tab is used to monitor the number of Dynamic Data Exchange (DDE), Component Object Model (COM) and Ole for Process Control (OPC) conversations taking place between the FactoryTalk Batch Server and Client software, such as FactoryTalk Batch View and ActiveX Controls.

The **View Communications** tab consists of the following:

| Item | Definition |
|-----------------|---|
| DDE Connections | The number of DDE connections attached to the FactoryTalk Batch Server. |
| COM Connections | The number of COM connections attached to the server. |
| OPC Connections | The number of OPC connections attached to the server. |
| Items | The number of connection items the server currently supports. |

Start the FactoryTalk Batch Server service

The FactoryTalk Batch Service Manager communicates with the Windows Services of the selected computer to determine available services. There may be a noticeable delay as communications are established, marked by the cursor displayed as an hourglass. If the FactoryTalk Batch Service Manager cannot communicate with the selected computer's Windows Services, a message box is displayed stating that the FactoryTalk Batch Service Manager failed to connect to the specified computer.

The FactoryTalk Batch Phase Simulator must be running to test FactoryTalk Batch in a demo environment. For more information, see **The FactoryTalk Batch Phase Simulator** in the *FactoryTalk Batch Administrator Guide*.

IMPORTANT The FactoryTalk Batch Server cannot start if **Security Authority** is enabled and there is a mismatch between the Security Authority Identifiers (SAIs) in the area model and the FactoryTalk Network Directory. For information on your recovery options, see **Troubleshooting** in the *FactoryTalk Batch Equipment Editor User Guide*.

To start the FactoryTalk Batch Server service:

1. Select **Start > Rockwell Software > Batch Service Manager**. The **Batch Service Manager** opens.
2. Select **Select Computer**. The **Select Computer** dialog box opens.

IMPORTANT Administrator privileges are required to perform this procedure.

3. In the **Enter the object name to select** area, enter the name of the computer where the FactoryTalk Batch Server is installed (or select the **Advanced** button to search for a computer).
4. Select **OK** to close the **Select Computer** dialog box.
5. From the **Service** list, select **FactoryTalk Batch Server**.
6. (optional) Select **Allow Demo Mode** if you want to run FactoryTalk Batch in demo mode. If you run FactoryTalk Batch in the demo mode, be aware that the Server stops after two hours of operation.
7. Select the method to use for restarting the server after a service halt.
 - **Cold Boot:** Restarts the server in a cold state. All journal data or recipe content is erased upon startup. If Security Authority is enabled, SAIs in a secured area model and any secured recipes must match the current Network FactoryTalk Directory SAI.
 - **Warm Boot:** Restarts the server, restoring the set of batches that were on the batch list when the server previously terminated. No validation for Security Authority is performed.
 - **Warm All Boot:** Restarts the server only if it is able to restore all of the batches to the batch list. No validation for Security Authority is performed.
8. Select the **Start/Continue** button to start the service. Wait for the status to change to RUNNING and the light is green.

9. Select the **Server Details** button. The **FactoryTalk Batch Server Details** dialog box opens.
10. Select the **PCD Communications** tab. The **Data Server Status** box displays the status of the conversation. Make sure that conversation is **GOOD**.
11. Select **Start**. The tag verification process begins. When tag verification is **COMPLETED**, select **OK**, or select **Stop** to end the verification process and then select **OK**.



Tip: If the number of COM servers exceeds the viewable area within the **Data Server Status** box, a scroll bar displays, enabling you to scroll through the list.

12. Select **Close**. The **Batch Service Manager** dialog box closes.



Tip: If software component conversation becomes *LOST* while running in Demo mode, make sure that the simulator is running and try starting the server(s) again. For more information, see **Start the FactoryTalk Batch phase simulator**.

FactoryTalk Batch Server overview

The FactoryTalk Batch Server is the engine that runs FactoryTalk Batch. It is this component that allows integration with the process-connected devices (PCDs) and third-party software packages.

The FactoryTalk Batch Server operates as a Windows Service, which means you can configure the Server to start automatically and give control of the Server service to the Windows Service Manager. Because the FactoryTalk Batch Server runs as a service, logging on or off Windows during operation does not disrupt the operation of the Server.

Using the FactoryTalk Batch Service Manager, you can control the FactoryTalk Batch Server manually, select the boot method for the Server, and configure the Server to run in Demo mode. Use the FactoryTalk Batch Equipment Editor to configure the FactoryTalk Batch Server.

The FactoryTalk Batch Server coordinates the following functions:

- **Creating a Batch:** Transforms the configured recipe into an executable working recipe.
- **Executing a Recipe:** Communicates with the process-connected devices to execute phases.
- **Arbitrating Equipment:** Allocates resources based on recipe and operator requirements.
- **Collecting Data:** Gathers and stores production information for reporting and archiving.
- **Performing Client Communications:** Transfers data between the process-connected devices (PCDs), operator displays, Human Machine Interfaces (HMIs), databases, and various other software packages.

See the *FactoryTalk Batch Equipment Editor User Guide* and the *FactoryTalk Batch Administrator Guide* for more detailed information about the FactoryTalk Batch Server.

Sample demonstration setup

The installation process placed the *SampleDemo1* and *SampleDemo2* folders in the **BATCHCTL** share on your hard drive. Within each of these *SampleDemo* folders are four subfolders that contain the files for the area model. To run the sample demonstrations, add a FactoryTalk Security user, configure the FactoryTalk Batch Server to locate the area model, and then verify the recipes in the area model.

Batch Service Manager dialog box - Server options

The following methods are available for restarting the FactoryTalk Batch Server after a service halt:

| | |
|----------------------|--|
| Cold Boot | Restarts the FactoryTalk Batch Server in a cold state. All journal data or recipe content is erased upon startup. If Security Authority is enabled, SAls in a secured area model and any secured recipes must match the current Network FactoryTalk Directory SAI. |
| Warm Boot | Restarts the FactoryTalk Batch Server, restoring the set of batches that were on the batch list when the FactoryTalk Batch Server previously terminated. No validation for Security Authority is performed. |
| Warm All Boot | Restarts the FactoryTalk Batch Server only if it is able to restore all of the batches to the batch list. No validation for Security Authority is performed. |

Enable a grace period

Use the **Allow Grace Period** option on the **Batch Service Manager** dialog box to start the FactoryTalk Batch Server in the event that it cannot find a valid activation license. The grace period is seven days.

To enable a grace period:

1. Select **Start > Rockwell Software > Batch Service Manager**. The **Batch Service Manager** opens.
2. Select **Select Computer**. The **Select Computer** dialog box opens.
3. In the **Enter the object name to select** area, enter the computer name where the batch server is installed (or click the **Advanced** button to search for a computer).
4. Click **OK** to close the **Select Computer** dialog box.
5. From the **Service** list, select **FactoryTalk Batch Server**.
6. Select **Allow Grace Period** enable grace period activation.
7. Click the **Start/Continue** button to start the service. Wait for the status to change to **RUNNING**.

The FactoryTalk Batch Server searches for valid activations first. If the appropriate activation is not found, the server will start under a grace period activation. The FactoryTalk Batch Server checks for valid

activation licenses every four hours until it either finds one or the grace period expires.

8. Click **Close**. The **Batch Service Manager** dialog box closes.

Grace periods in FactoryTalk Batch Server

When the FactoryTalk Batch Server starts, it performs a license check. If a valid activation is found, a successful license check is returned to the server. As a result of the license check, the server determines which applications have a license.

If its normal license check process fails, the server requests grace period activation from FactoryTalk Activation. The manner in which the grace period activation is requested depends on the area model and why the license check process failed. The server will log the request for, and receipt of, the grace period license.

When grace period activation is requested for multiple activations by one process, the grace period is ended and the timer reset when any of the multiple activations can be successfully obtained.

Every four hours the FactoryTalk Activation software attempts to check out each activation requested as a grace period activation by the FactoryTalk Batch Server. If any one of these activations is successfully checked out, the grace period for the server ends.



Tip: If the FactoryTalk Batch Server is started in the Demo mode, an exception is made to the license and unit checks. Even if no licenses are found, the server will run for two hours and then shut down.

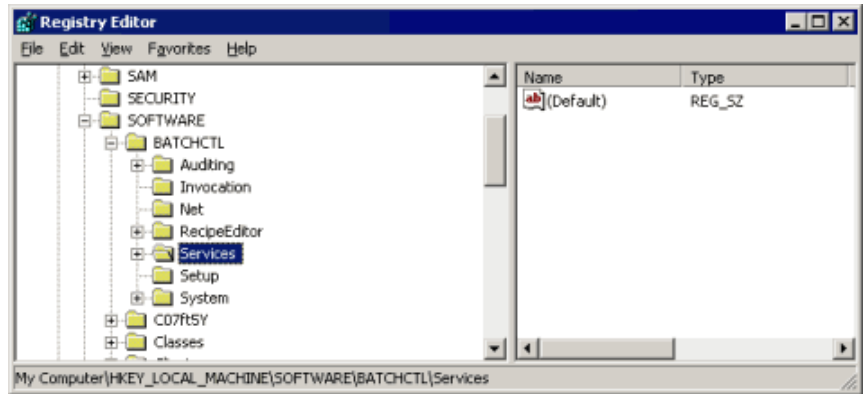
Add a custom service

Define a custom service to command the FactoryTalk Batch Server and FactoryTalk Event Archiver services using the FactoryTalk Batch Service Manager. To make a service available to the Service Manager, you must enter the file name of the executable for the service in a service registry key. This key is located at:

```
HKEY_LOCAL_MACHINE\SOFTWARE\BATCHCTL\Services
```


To add a custom service:

1. In the Registry Editor, select the **HKEY_LOCAL_MACHINE\SOFTWARE\BATCHCTL\Services** subkey.



2. From the **Edit** menu, select **New > Key**. A new key folder is added.
3. Enter the **Key Name** without the file extension.

The FactoryTalk Batch Server

The FactoryTalk Batch Server is the FactoryTalk Batch component that controls and coordinates system information, phases, and recipes. The FactoryTalk Batch Server allows integration with process-connected devices and third-party software packages. The FactoryTalk Batch Server must be started and remain active during all batch functions.

FactoryTalk Batch Server service configuration

FactoryTalk Batch Server configuration can be verified and customized as needed. Configuration includes specifying the startup method (Automatic or Manual), specifying the restart type (Warm, Warm All, or Cold), and setting the server options.



Tip: The FactoryTalk Batch Server service is configured to run as a Windows Server 2012 user. Changing the user account in which the server runs is done through Services.

Specify the startup type

Verify the FactoryTalk Batch Server startup and account types using the Services Administrative Tool. You must be logged on with local administrative privileges to configure the server.

To specify the startup type:

1. Select **Administrative Tools > Services**.
2. From the list of services, double-click **Batch Server**.
3. In the **Startup type** area, select **Automatic** to allow the batch server to start automatically upon system startup.
4. Select the **Log On** tab.
5. From the **Log On As** area, select **This account**.
6. Select **Browse**. The **Select Users** dialog box opens.
7. Select the **User** to be used for the batch server, and then select **OK**.
8. In the **Password** box, enter the password for the batch server account.
9. In the **Confirm password** box, enter the password.
10. Select **OK** to close the **Batch Server Properties** dialog box.
11. Close the **Services** dialog box.

FactoryTalk Batch Server option configuration

Configure the FactoryTalk Batch Server and FactoryTalk Event Archiver using the **Server Options** dialog box in FactoryTalk Batch Equipment Editor. The configuration information for the server indicates how it communicates with FactoryTalk Batch View and the data server(s). Configure FactoryTalk Event Archiver to specify if and how electronic batch record files (.evt) are inserted into the ODBC-compliant database.

Changing items such as FactoryTalk Batch Server information, area model, and the error logging directory take effect when the server is restarted. Changing items such as the recipe directory and batch journal directory take effect the next time the server accesses these items. None of the items in FactoryTalk Event Archiver configuration require the server to be restarted. These changes take effect the next time the server needs that configuration item.

IMPORTANT FactoryTalk Batch does not support the use of mapped drives. Do not use mapped drives for project directories.

Server Options dialog box - Project Settings tab

The default project settings for a computer on which the FactoryTalk Batch Server is installed are universal naming convention (UNC) names for all

except the **Initialization File Name**. If the server is installed on another computer, then the **Initialization File Name** would use UNC names.

The screenshot shows the 'Server Options' dialog box with the 'Project Settings' tab selected. The 'Batch Server' sub-tab is active. The 'Initialization File Name' field contains the path '\\ROCKWEL-VM1\BATCHCTL\BIN\BATCSVR.INI'. Under 'Project Directories', the 'Primary Journal' field is set to '\\ROCKWEL-VM1\BATCHCTL\SAMPLEDEMO1\JOURNALS\'. The 'Secondary Journal' field is empty. The 'Error Logging' field is set to '\\ROCKWEL-VM1\BATCHCTL\SAMPLEDEMO1\LOGS\'. The 'Equipment Database' field is set to '\\ROCKWEL-VM1\BATCHCTL\SAMPLEDEMO1\RECIPES\ICE...'. Under 'Store Recipes Using', the 'Microsoft SQL Server Database' radio button is selected. The 'Recipe Directory' field is set to '\\ROCKWEL-VM1\MSA\BATCHCTL\SAMPLEDEMO1\RECIPES\'. The 'Node' field is set to 'ROCKWEL-VM1' and the 'Database' field is set to 'MASTERRECIPES'. The 'XML Files' radio button is unselected, and its 'Recipe Directory' field is set to 'C:\PROGRAM FILES (X86)\ROCKWELL SOFTWARE\BATCH\S...'. There is also an unchecked checkbox for 'Enable Recipe Versioning' with a descriptive note.

Set project directories

Set directories for the following: Primary Journal, Secondary Journal, Error Logging, Instructions (if you are using FactoryTalk eProcedure), and Equipment Database.

IMPORTANT The **Primary Journal** path must be defined or the FactoryTalk Batch Server will not start. The **Primary Journal** path must be on the server computer in the BATCHCTL share. In addition, if the **Primary Journal** or **Secondary Journal** path is invalid, the server will not start. If an invalid path is used, an error message indicating the invalid path is written to the **batchsvr.log** file.

To set project directories:

1. In FactoryTalk Batch Equipment Editor, select **Options > Server Options**.
2. Select the **Project Settings** tab.
3. Select **Browse** to open the **Select Directory** dialog box.
4. Select the appropriate directory, and then select **OK** to return to the **Server Options** dialog box. The selected UNC directory path name is inserted into the appropriate box.

Configure recipe storage

Recipes can be stored either as binary files, in a SQL Server Database, or as XML files

To configure recipe storage

1. Open FactoryTalk Batch Equipment Editor.
2. On the menu bar, select **Options** to open the **Server Options** dialog box
3. Under **Store Recipes Using**, select one of these options for storing recipes:
 - **Binary Files (default format):** Stores recipes in separate files according to the recipe level and specified directory:
 - Stores procedures as .bpc files
 - Stores unit procedures as .upc files
 - Stores operations as .uop files
 - **Microsoft SQL Server Database:** Stores recipes in a SQL Server database.

Tip: If SQL Server is not installed on the same computer as the Batch Client, perform a custom installation of SQL Server and install the **Client Tools Connectivity** option. This displays a list of available SQL Server databases in the **Server Options** dialog box.
 - **XML Files:** Stores recipes in separate .xml files:
 - Stores procedures as .pxml files
 - Stores unit procedures as .uxml files
 - Stores operations as .oxml files
4. Select **OK** to apply the configuration settings.

Recipe versioning

Below the **Store Recipes Using** area is the **Enable Recipe Versioning** check box. Check this box to enable Recipe Versioning, a system-enforced naming convention that stores and protects recipe revisions. By default the box is unchecked and recipe versioning is disabled.

IMPORTANT FactoryTalk Full Edit access to FactoryTalk Batch Equipment Editor is required to enable and disable recipe versioning.

Server Options dialog box - Restart Control tab

The **Restart Control** tab allows you to specify a restart method to initiate in the event of a server computer failure. Selecting **Cold Restart** will restart the FactoryTalk Batch Server in an uninitialized state and all recipe content is erased. Selecting **Warm Restart** (the default) forces the server (or backup server) to restart in the same state it was in prior to the failure, without any

loss of journal data or recipe content. Selecting **Warm All Restart** allows the server to restart only if it is able to restore all of the batches to the batch list. Warm All Restart is the default setting used by the automatic restart function.

The **Restart Control** tab also allows you to specify primary and secondary path names for the storage of files containing restart information. (See Specify the startup type for more information.)

IMPORTANT You must define a valid **Primary Restart** path or the FactoryTalk Batch Server will not start, and the following error message is logged in the Windows Server event log file: Unable to start because RestartDirectoryPath key not specified in **Batchsvr.ini**. In addition, if the **Primary Restart** or **Secondary Restart** path is invalid, the server will not start.

Redundant servers

FactoryTalk Batch can be configured to store batch journals and batch restart information in two separate locations. If there is a hardware failure on the primary FactoryTalk Batch Server computer, secondary server performs a manual failover. The second computer must be capable of running the server. Define redundant servers by specifying the primary and secondary restart path names. These path names indicate where system files are written to should the system experience a failure. If the secondary path name is not specified, FactoryTalk Batch does not create secondary files.



Tip: **Archiver recovery** – The **eventdir.txt** and the **archque.txt** are not updated as secondary files. As part of the manual failover procedure, manually copy the files from the primary directory to the secondary directory.

Install the area model file and all recipe files and, if using *eProcedure*, all instruction files on both the primary server and the secondary server.

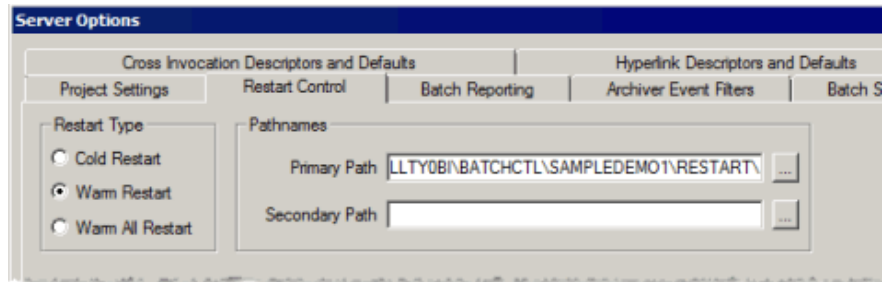
Define redundant servers

FactoryTalk Batch can be configured to store batch journals and batch restart information in two separate locations.

To define redundant servers:

1. From the FactoryTalk Batch Equipment Editor **Options** menu, click **Server Options**.

2. Select the **Restart Control** tab.



3. In the **Restart Type** area, click on a selection, or accept the default, **Warm Restart**.
4. Click the **Primary Path** browse button. The **Select Directory** dialog box opens.
5. Select the **MyProject\restart** folder located in the **BATCHCTL** share on the primary server's hard drive (the default is **c:\Program Files (x86)\Rockwell Software\Batch\MyProject\restart**), and then click **OK**.
6. Click the **Secondary Path** browse button. The **Select Directory** dialog box opens.
7. Locate and select the **MyProject\restart** folder located in the **BATCHCTL** share on the secondary server's hard drive, and then click **OK**.
8. Repeat steps 1 through 7 on the redundant server computer, selecting the **Batch\MyProject\restart** folder on the redundant server as the Primary Path. The Secondary Path can remain blank or point to another redundant server. Additionally, you must configure a data server to communicate with the process controller on the redundant server computer. The redundant server computer needs to communicate with the process controller that is running the phase logic.



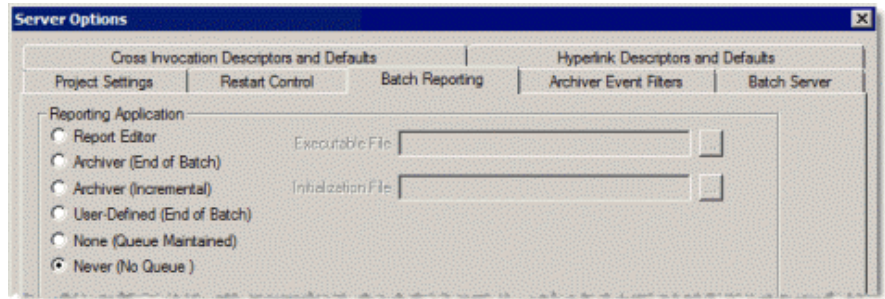
Tip: You must also verify that the primary and secondary journal project directories are defined.

Server Options dialog box - Batch Reporting tab

Use the **Batch Reporting** tab to select the reporting application for generating batch reports and archiving Batch data. **Never** is the default reporting application.

To use the Server Options dialog box - Batch Reporting tab:

1. Select the **Batch Reporting** tab.



2. Select the appropriate option from the **Reporting Application** area. The following sections define the available reporting application options.

Report Editor

As of version 10.00, the Report Editor functionality is no longer supported or available. If you are currently using the Report Editor functionality, it is recommended that you transition to the standard reporting that is available using the Rockwell Automation Knowledgebase - Answer ID 62366.

Perform end of batch archiving

Selecting **Archiver (End of Batch)** defers control of batch reporting to FactoryTalk Event Archiver and only performs batch reporting upon removal of the batch from the Batch List. The End of Batch runs in the security context of the FactoryTalk Batch Server. When using End of Batch archiving, FactoryTalk Event Archiver must be disabled as a Windows service and cannot be controlled using the FactoryTalk Batch Service Manager. (See the *FactoryTalk Event Archiver User Guide* for information on disabling FactoryTalk Event Archiver as a service.)



Tip: If Event Journal Signatures are enabled, specify **Archiver (End-of-Batch)** archiving to ensure that all event journal records are properly archived.

To perform end of batch archiving:

1. Select **Archiver (End of Batch)**.
2. In the **Archiver** area, select **Delete files after archive** to allow for the deletion of the **.evt** files after FactoryTalk Event Archiver has stored the data in the ODBC database.

IMPORTANT Deleting files after archiving is not a reversible action and is not recommended.

3. In **Table Name**, type the name of the table that contains the Batch data. The default is **BATCHHIS**.

The **Database Connect String** box should contain, at a minimum, **ODBC;**. It updates automatically when the data source is selected the first time FactoryTalk Event Archiver is started after installation. However, if you know the name of the data source, enter **ODBC;DSN=DataSourceName;** and skip the FactoryTalk Event Archiver setup function.

To change the default **Table Name** from **BATCHHIS**:

4. Create a new table.
5. Update the stored procedure named **BHInsert** to use the new table name. (See the *FactoryTalk Event Archiver User Guide* for instructions on creating a new table.)

Perform incremental archiving

Use **Archiver (Incremental)** to defer control of batch archiving to FactoryTalk Event Archiver and to perform batch reporting at user-defined intervals during batch execution. Specify the Incremental period between active archiving in **Minutes** or **Seconds**. The minimum setting is 5 seconds. The maximum is 9999 minutes. Setting the value outside of this range causes FactoryTalk Event Archiver to run in 5 minute incremental periods.

To update the incremental period after making changes, stop and restart the Incremental Archiver.

Configure the Incremental Archiver with a Windows user account that has administrative privileges to log on to the system. When using incremental archiving, configure FactoryTalk Event Archiver to run as a Windows service with an automatic startup type. Use the FactoryTalk Batch Service Manager to monitor and control FactoryTalk Event Archiver service. (See the *FactoryTalk Event Archiver User Guide* for information on enabling FactoryTalk Event Archiver as a service.)

To perform incremental archiving:

1. Select **Archiver (Incremental)**.
2. In the **Archiver** area, select **Delete files after archive** to enable the deletion of the **.evt** files after FactoryTalk Event Archiver has stored the data in the ODBC database.

IMPORTANT Deleting files after archiving is not a reversible action and is not recommended.

3. In **Table Name**, type the name of the table that contains the batch data. (The default is **BATCHHIS**.)
4. In **Incremental Period**, type a value and select **Minutes** or **Seconds**.

Perform user-defined end of batch

Select **User-Defined (End of Batch)** to define a batch reporting application that is not listed in the Reporting Application area. Specify paths and names of the application's .ini and .exe files.

To perform user-defined end of batch:

1. Select **User-Defined (End of Batch)**.
2. Select the **Executable File** browse button to locate the application's executable file. The dialog box opens.
3. In the **Select Archiver Executable File** dialog box, select the appropriate .exe file, and then select **Open**.
4. Select the **Initialization File** browse button to locate the application's initialization file.
5. In the **Select Archiver Initialization File** dialog box, select the appropriate .ini file, and then select **Open**.

None

Select this option if no batch reporting or archiving application is to be used.

Never

Does not maintain a queue. This is the default selection.

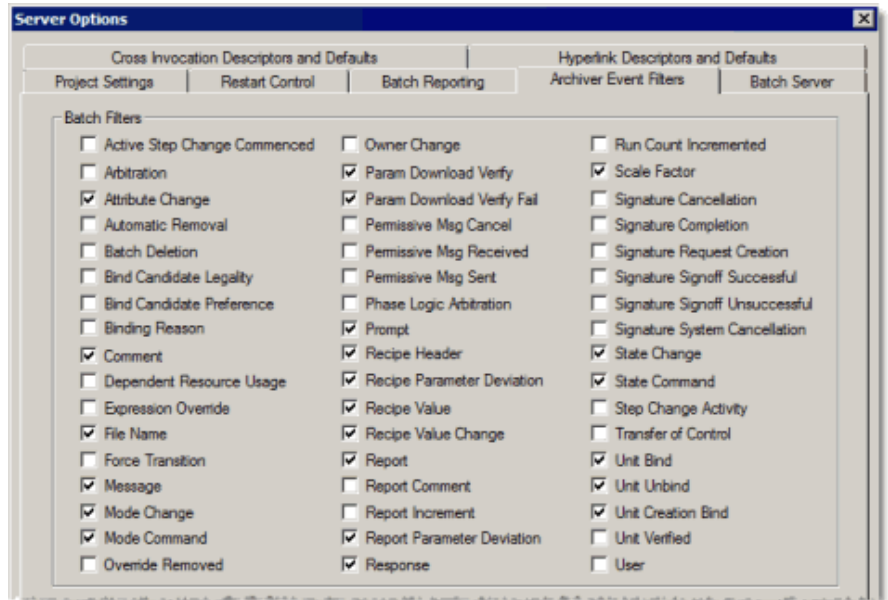
IMPORTANT The **Never** setting causes the archiver queue file to not get written to. For a custom archiver and when writing to this queue file, use a setting other than **Never** and manually maintain the size of the archive queue file.

Archiver Event Filters tab

The options listed under the **Archiver Event Filters** tab determine what electronic batch record data FactoryTalk Event Archiver inserts into the **BATCHHIS** table. To enable an event filter, select the appropriate check box. To disable an event filter, clear the appropriate check box.

To enable or disable an event filter:

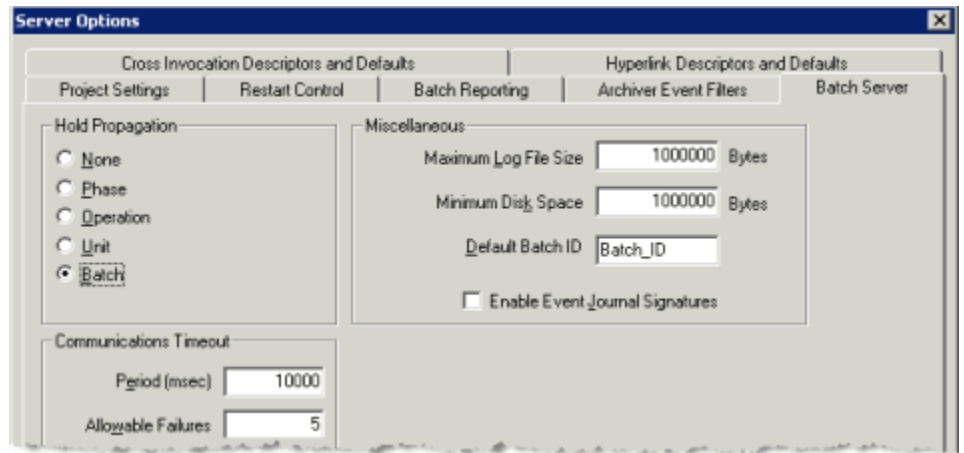
1. Select the **Archiver Event Filters** tab.



2. Select the appropriate check boxes to indicate the event type data for the FactoryTalk Event Archiver collection. Clear the check boxes for the data that is not to be collected.

Batch Server tab

The **Batch Server** tab allows you to select and/or configure FactoryTalk Batch Server options (including the hold propagation type), watchdog communications timeout settings, FactoryTalk Event Archiver log file size, minimum disk space required to add a batch, default batch ID, and whether to enable/disable event journal signatures.

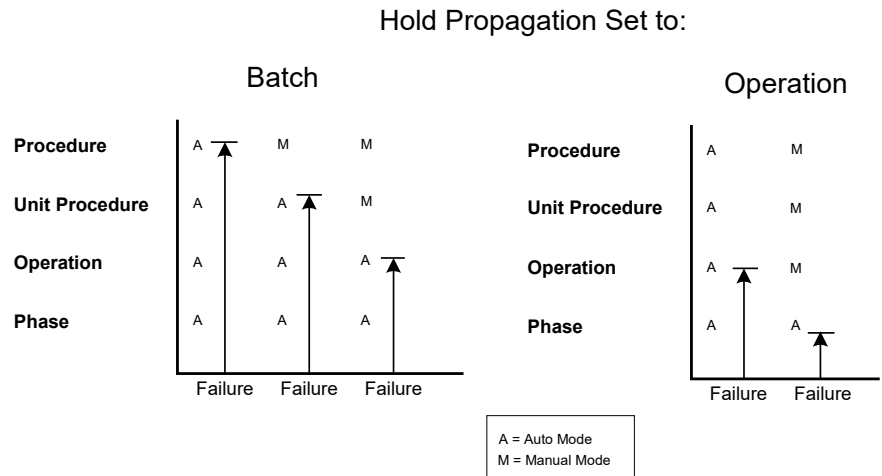


Hold propagation

The **Hold Propagation** area allows you to indicate the hold propagation type to use when the FactoryTalk Batch Server detects a failure caused by a watchdog timeout, a handshake timeout, or a phase failure (PHASE_F > 0). A Hold command associated with a failure propagates up through the recipe hierarchy as high as the mode and selected option allows.

| Hold Propagation Type | Description |
|-----------------------|---|
| Phase | Only the affected phase is held, allowing the balance of the phase's unit and all other units to continue running. |
| Operation | Only the affected phase and the related operation are held, allowing the balance of the operation's unit and all other units to continue running. |
| Unit | The phase and the related unit are held and all other units continue running. |
| Batch | (Default) Holds the entire batch when a failure is detected by the FactoryTalk Batch Server. |

The following diagram shows how a step's mode can affect the hold propagation. Depending on the step's mode, the batch may be held at a lower level than the selected hold propagation option.



Communications timeout

The **Communications Timeout** area allows you to configure the FactoryTalk Batch Server's watchdog timer.

The **Period (msec)** box allows you to set the watchdog timer setpoint in milliseconds. When the timer expires, the FactoryTalk Batch Server checks communication with the process-connected device's data server and performs the set/reset test on the data server watchdog timer. In the event of a failed conversation, the server attempts to reconnect. The default is **10000**.

The **Allowable Failures** box allows you to indicate how many Set/Reset retries the FactoryTalk Batch Server should perform before it declares that conversation with the server is BAD and issues a HOLD command. The default is **5**.



Tip: The **recommended configuration** for Batch watchdog and PCD watchdog is that the PLC watchdog timer setpoint must be configured to have a value that is **5 % or less** of the **total** value of the FactoryTalk Batch Server watchdog timer's period value and allowable failures value.

Example: If the server's watchdog timeout period is set to 10000 milliseconds (10 seconds), and the allowable failures is set to 5, then set the PLC watchdog timer setpoint to 47500 milliseconds (47.5 seconds):

$$.95 (5 \times 10000) = 47500$$

IMPORTANT When the watchdog times out in the PCD, the PLI should be designed to set the Phase Failure Tag to a nonzero value that represents an understandable message in the Phase Failure Enumeration Set such as **PCD1 Batch Watchdog Timed Out**.

(See the *FactoryTalk Batch Equipment Editor User Guide* for details on editing enumerations and enumeration sets.)

Miscellaneous

The **Miscellaneous** area allows you to define options relating to the batchsvr.log and the batchSvr.ini file.

The **Maximum Log File Size** box allows you to input the maximum size (in bytes) for the log file. When the log file reaches the maximum specified size, all new data is appended to the top of the log and old information is overwritten.

The **Minimum Disk Space** box allows you to input the minimum disk space (in bytes) that must be available before a batch can be added to batch list. This helps to avoid data loss due to inadequate disk space.

The **Default Batch ID** box allows you to specify a default batch ID; this batch ID automatically populates the Batch ID box when each batch is created.

Enable Event Journals Signatures turns event journal signatures on or off. The Event Journal Signature function is a tool for detecting any unauthorized changes to electronic batch records (.evt files). (See the *FactoryTalk Batch System Files Reference Guide* for more information about Event Journal Signatures.)



Tip: Do not edit the batchsvr.log or batchsvr.ini files directly unless you are specifically instructed to do so by Rockwell Automation Technical Support. The **batchsvr.ini** file contains data items that determine the configuration of the FactoryTalk Batch Server and how the server operates in relation to the other FactoryTalk Batch components.

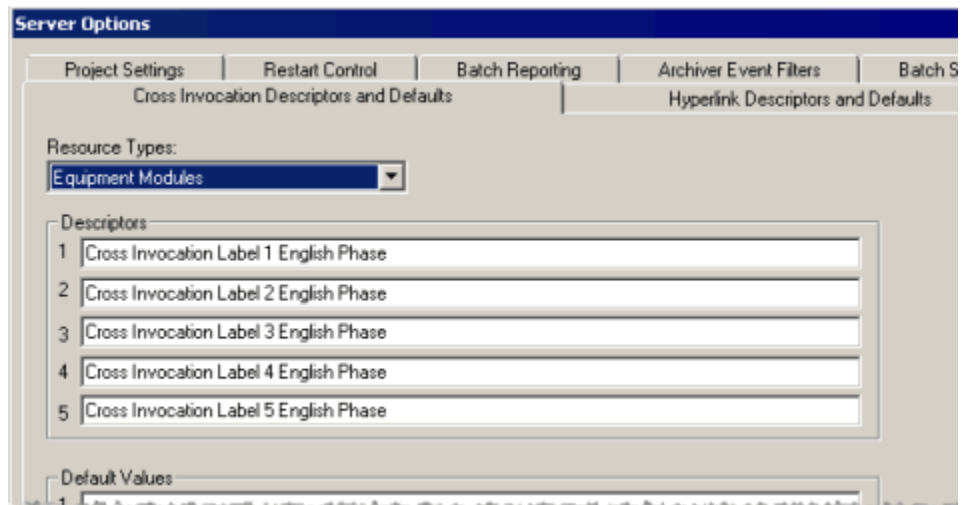
Batch identification

For purposes of batch identification, you can create custom default batch IDs, and allow or prevent editing of batch IDs. You can also automatically generate custom batch IDs. In order to implement this option, you must perform steps

in FactoryTalk Batch View and FactoryTalk Batch Equipment Editor, edit some Visual Basic code and compile it into a new DLL. If you are using the FactoryTalk Batch ActiveX controls, you can use the **BatchID** editable property to enable or disable editing of batch IDs. For more information, see the *FactoryTalk Batch ActiveX Controls Library Reference*.

Cross Invocation Descriptors and Defaults tab

The **Cross Invocation Descriptors and Defaults** tab allows you to specify cross invocation labels and set default cross invocation strings for different resource types. Use FactoryTalk Batch Equipment Editor to define up to five cross invocation strings for each resource within the area model. Each time a selection changes in FactoryTalk Batch View and ActiveX Controls, the cross invocation strings associated with the equipment resource are retrieved from the FactoryTalk Batch Server and evaluated. The contents of these strings can indicate a shortcut menu item and subitems, the caption(s) for the shortcut menu item(s), and the data that is passed to the automation server.



Resource types

Use the **Resource Types** list to select a resource type for cross invocation labels and strings. Select one of the following from the list: **Equipment Modules**, **Process Cells**, **Resources**, or **Units**.

Descriptors

The **Descriptors** area allows you to enter up to five cross invocation labels for each resource type. These labels are used within the resource's **Edit** dialog box.

Default values

The **Default Values** area allows you to assign default cross invocation strings to each of the cross invocation labels defined above for the selected resource type. Any default cross invocation string can be overwritten when a specific resource type instance is edited.

Tip: Changes to the default value are not applied to the currently configured equipment in your area model. However, any new equipment you add to your area model uses the new default value settings.

Hyperlink Descriptors and Defaults tab

This feature is used in conjunction with FactoryTalk eProcedure only.

The **Hyperlink Descriptors and Defaults** tab specifies the hyperlink labels and default values used with different resource types. The labels and default values are used in the resource's **Edit** dialog box. You can define up to five hyperlink labels and default values for each resource within the area model. (Refer to the *FactoryTalk eProcedure Administrator Guide* for additional hyperlink information.)

The **Resource Types** list allows you to select a resource type for the hyperlink labels and URLs you define. Select one of the following from the list: **Phases**, **Process Cells**, **Resources**, or **Units**.

The **Descriptors** area allows you to enter up to five hyperlink labels for each resource type. These labels are used within the resource's **Edit** dialog box.

The **Default Values** area allows you to assign default URLs to each hyperlink label defined for the selected resource type. Enter the URL address for the hyperlink in the box that corresponds to the correct hyperlink label. The label in box **1** of the **Descriptors** area corresponds to the URL address in box **1** of the **Default Values** area. Default URLs can be overwritten when a specific resource type instance is edited.



Tip: If a hyperlink value is not defined, either as a default or when the specific resource type instance is created, the hyperlink label is not visible in eProcedure.

Resource types

Use the **Resource Types** list to select a resource type for hyperlink labels and URLs. Select one of the following from the list: **Phases**, **Process Cells**, **Resources**, or **Units**.

Descriptors

In the **Descriptors** area, enter up to five cross invocation labels for each resource type. These labels are used within the resource's **Edit** dialog box.

Default values

Use the **Default Values** area to assign default URLs to each hyperlink label defined for the selected resource type. Enter the URL address for the hyperlink in the box that corresponds to the correct hyperlink label. The label in box **1** of the **Descriptors** area corresponds to the URL address in box **1** of the **Default Values** area. Default URLs can be overwritten when a specific resource type instance is edited.

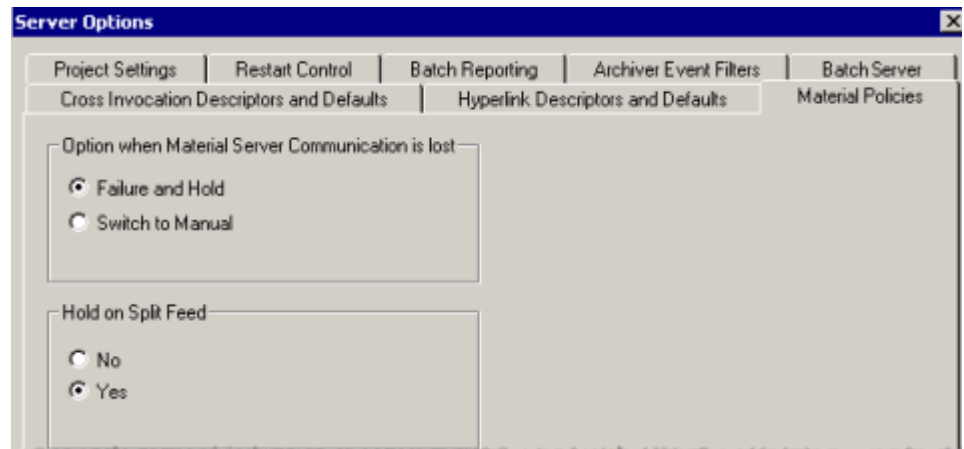


Tip: If a hyperlink value is not defined, either as a default or when the specific resource type instance is created, the hyperlink label is not visible in *a*Procedure.

Material Policies tab

These features are used in conjunction with FactoryTalk Batch Material Manager only.

- Option When Material Server Communication is lost
- Hold on Split Feed



Option when Material Server Communication is lost

When communication with the Material server is lost, these two options are available: **Failure and Hold** or **Switch to Manual**.

By default, the FactoryTalk Batch Server is configured to **Failure and Hold**. In this case, batches are placed in the HELD state when communication with the Material server is lost. The FactoryTalk Batch Server automatically resumes communication with the Material server when it becomes available.

To run batches even when communication is lost, configure the FactoryTalk Batch Server to **Switch to Manual**. In Manual mode, the server prompts the operator for information normally supplied by the Material Server. Restore the communication manually when the Material server becomes available. (For more information on restoring communication manually, see the *FactoryTalk Batch Material Manager Administrator Guide*.)

Hold on split feed

Choose the **Yes** option to hold batches or the **No** option to continue to run batches in the event of a split feed.

The **Yes** option is the default option and the batch is HELD when a split feed occurs.

For the **No** option, create a loop in the recipe so that the binding process can select another container for material additions when a split feed occurs. Add a material loop to the recipe with the **Create Material Loop** button in FactoryTalk Batch Recipe Editor. (For information regarding material loops, see the *FactoryTalk Batch Recipe Editor User Guide*.)

Option when Material Server comm is lost

You can choose from two options when communication with the Material Server is lost: **Failure and Hold** or **Switch to Manual**.

By default, the FactoryTalk Batch Server is configured to **Failure and Hold**. In this case, batches are placed in the HELD state when communication with the Material Server is lost. The FactoryTalk Batch Server automatically resumes communication with the Material Server when it becomes available.

If you want to run batches even when communication is lost, configure the FactoryTalk Batch Server to **Switch to Manual**. In Manual mode, the Server prompts the operator for information normally supplied by the Material Server. You must restore the communication manually when the Material Server becomes available. (For more information on restoring communication manually, see **Restoring Communication** in the *FactoryTalk Batch Material Manager Administrator Guide*.)

Hold on split feed

You can choose the **Yes** option to hold batches or the **No** option to continue to run batches in the event of a split feed.

By default, the **Yes** option is selected and the batch is HELD when a split feed occurs.

If you select the **No** option, you must create a loop in the recipe so that the binding process can select another container for material additions when a split feed occurs. You can easily add a material loop to your recipe with the Create Material Loop button in the FactoryTalk Batch Recipe Editor. (For information regarding material loops, see the *FactoryTalk Batch Recipe Editor User's Guide*.)

Modify the .NET registry key

The .NET registry key contains the FactoryTalk Batch Server computer name and is used by remote clients to locate the server computer. During a FactoryTalk Batch Client computer installation, the setup program prompts you for the server computer name and then places the name into the .NET key. In the event that you change the server computer name, or if you are switching control to another FactoryTalk Batch Server computer, you need to manually modify the .NET registry key on all remote client computers to point to the server computer.

To modify the .NET registry key:

1. Open the Registry Editor.
2. Select the HKEY_LOCAL_MACHINE on Local Machine window. Navigate to the **SOFTWARE\BATCHCTL\Net** subkey.
3. Double-click the **Server** registry value.
4. Modify the value data: Server = <MachineName>, where <MachineName> is the computer name on which the FactoryTalk Batch Server is installed.

Use automatic restart control to restart the FactoryTalk Batch Server

The FactoryTalk Batch Server maintains a detailed record of every recipe's state as the recipe is running. If the server computer were to lose power or otherwise fail, use the automatic restart control feature to restart the server. Upon restarting the server on a failed server node, the following functions are placed into the state that existed prior to termination of the server:

- Control Recipes
- Semi-Auto Phase Control
- Arbitration

Restart the FactoryTalk Batch Server

If the FactoryTalk Batch Server computer experiences a system failure, then restarting the computer starts the server. However, if the FactoryTalk Batch Server service fails, then you need to restart the service using the FactoryTalk Batch Service Manager.

To restart the FactoryTalk Batch Server:

1. Open the FactoryTalk Batch View. Batches on the batch list prior to the failure are still on the batch list. All batches that had phases in an active state now have transitions in the HELD state, and are in MANUAL mode with a failure.

2. Select the batch, and then click the **Auto** button to place a batch in AUTOMATIC mode.
3. Click the **Clear All Failures** button to clear the failures.
4. Select the batch, and then click the **Restart Batch** button. The previously active phases return to a RUNNING state and the batch completes.

Perform a manual failover

FactoryTalk Batch can be configured to store batch journals and batch restart information in two separate locations. The use of a secondary server allows you to perform a manual failover if there is a hardware failure on the primary FactoryTalk Batch Server. The second computer must be capable of running the server.

You must install your area model file and all recipe files (and all instruction files if using *eProcedure*) on both the primary server and the secondary server.



Tip: **Archiver recovery** - As part of the manual failover procedure you must manually copy the **eventdir.txt** and the **archque.txt** from the primary directory to the secondary directory.

Configure the FactoryTalk Batch Server for manual failover

When the FactoryTalk Batch Server fails, complete the following steps.



Tip: If you are using FactoryTalk Batch Material Manager, refer to the procedure for material-enabled configuration.

To configure the FactoryTalk Batch Server for manual failover:

1. Start the process-connected device communication software on the secondary server. The secondary server computer needs to communicate with the process controller that is running the phase logic.
2. Ensure that the secondary server's project directories are assigned to local directories in the **Server Options** dialog box located in FactoryTalk Batch Equipment Editor.
3. Use the FactoryTalk Batch Service Manager to start the FactoryTalk Batch Server on the secondary server computer, select **Warm** or **Warm All** as the startup type. The secondary server allows the batches to be restarted based upon information written by the primary server.
4. (optional) If you are also using *eProcedure*, use the FactoryTalk Batch Service Manager to start the *eProcedure* Server on the secondary server computer.
5. For each computer running FactoryTalk Batch View, enter the secondary server's computer name as the NET registry key value.

6. Stop and restart each FactoryTalk Batch View instance and any other software that communicates directly with the FactoryTalk Batch Server. This causes the instance to connect with the secondary server.



Tip: The existing batches are placed in the MANUAL mode with transitions in the HELD state. Place the batches in AUTOMATIC mode, clear the failures, and then restart the batch.

Configure the material-enabled FactoryTalk Batch Server for manual failover

Upon failure of the primary FactoryTalk Batch Server computer, if this is a FactoryTalk Batch Material Manager system, complete the following steps:

To configure the material-enabled FactoryTalk Batch Server for manual failover:

1. On the Material server computer, start the Network Editor.
2. Select the network model for the primary FactoryTalk Batch Server.
3. Right-click BATCHSERVER in the tree and select Remove Server.
4. From the File menu, click Synchronize.
5. Select the network model for the Material server.
6. Right-click any <Undefined> FactoryTalk Batch Server in the tree, and then click Add Server.
7. Type a name in the Alias box.
8. Click the Computer Name box, and then select the computer to be used as the secondary server.
9. From the File menu, click Synchronize.
10. Start the process-connected device communication software on the secondary server. The secondary server computer needs to communicate with the process controller running the phase logic.
11. Ensure that the project directories for the secondary server are assigned to local directories. Use the Server Options dialog box in FactoryTalk Batch Equipment Editor.
12. Use the FactoryTalk Batch Service Manager to start the FactoryTalk Batch Server software on the secondary server computer. Select Warm or Warm All as the startup type. The secondary server allows the batches to be restarted based upon information written by the primary server.
13. If you are also using *e*Procedure, use the FactoryTalk Batch Service Manager to start the *e*Procedure Server on the secondary server computer.
14. For each computer running the FactoryTalk Batch View, enter the computer name of the secondary server as the NET registry key value.
15. Stop and restart each FactoryTalk Batch View instance and any other software that communicates directly with the FactoryTalk Batch Server. This causes the FactoryTalk Batch View instance to connect with the secondary server.



Tip: The existing batches are placed in the MANUAL mode with transitions in the HELD state. Place the batches in AUTOMATIC mode, clear the failures, and then restart the batch.

Command handshake timeout

The FactoryTalk Batch Server uses a command handshake protocol ensuring that commands issued to phases are handled in a serial manner and are not lost or overwritten. The protocol has a configurable timeout period. When a command handshake timeout condition occurs, an error is generated in the phase object that represents the phase, and the batch is placed on HOLD based upon the configured hold propagation settings. This allows the operator to disconnect the server from the affected phase should the timeout period expire. Without this feature, the server must be shut down and restarted if the phase stops responding.

When a command handshake timeout period occurs, the step representing the troubled phase in the **SFC** display turns red and a failure is generated for the phase. The message PHASE NOT RESPONDING is shown on the status bar when the step is selected. It is also displayed in the **Phase List Display** area of the **Phase Control** window when the phase is selected.

A **System Message** event type is logged into the electronic batch record. The description includes the fact that a time-out occurred as well as the type and ID of the command that timed out. In addition, the event is recorded in the FactoryTalk Batch Server log file with a severity status of SEVERE and the description is the type and ID of the timed-out command.

If a communication error is detected while the command handshake is in process, the command handshake timer is stopped. The timer is reset and restarted if communication is successfully restored. If the command handshake completes after the timeout period, then the commands that are pending the handshake completion are processed. However, the error must be cleared before the batch can be restarted.

In order to restart a batch, you must issue the CLEAR_FAILURES command. If the command handshake completes successfully, the error is cleared and the batch can be restarted. Otherwise, the error is not cleared and the batch is not restarted. The operator should check the execution status of the process-connected device.

The **Batchsvr.ini** file contains an item used to configure the length of time, in seconds, that the FactoryTalk Batch Server waits for a command handshake before issuing a timeout. If the item is not included in the **Batchsvr.ini** file, it defaults to **60**. The valid range is 5 to 600.

[XMAN] CommandTimeOut=90

This value is read when the FactoryTalk Batch Server starts. If you change the value, stop and restart the server.

Windows event log

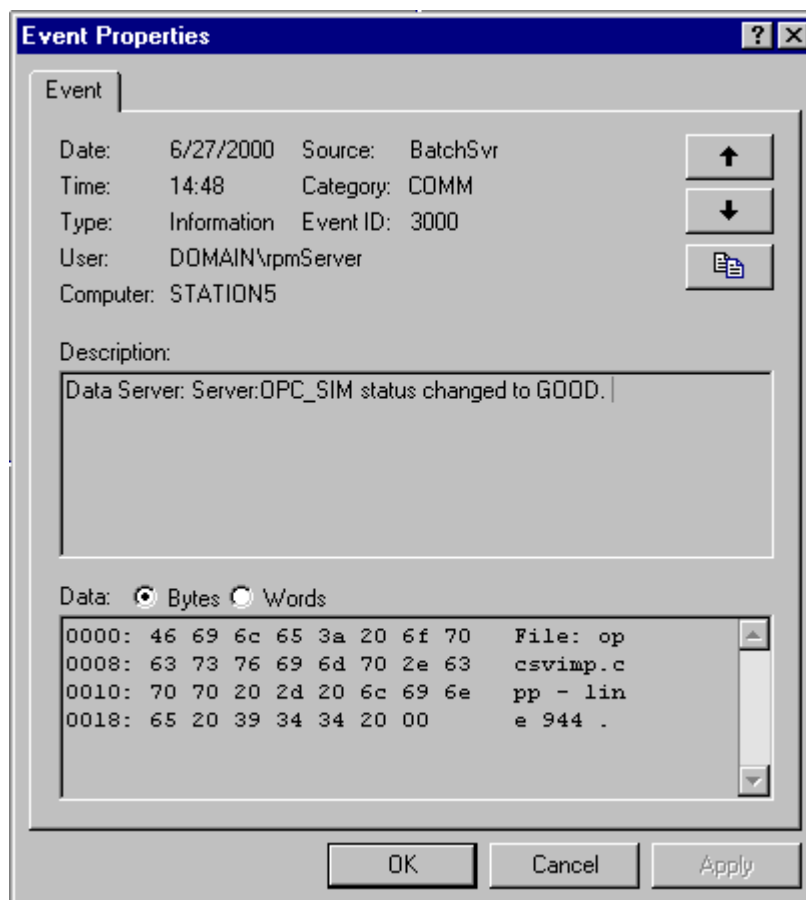
The Windows Event Log service records application, system, and security information. This information can be viewed using the Event Viewer.



Tip: Supported Windows versions for FactoryTalk Batch are listed in the *FactoryTalk Batch Components Upgrade and Installation Guide*.

View event log entry properties

From the Windows Event Viewer, you can double-click any log entry to display its properties.



There are 10 items for a Windows event log entry. Six of these are identical for all FactoryTalk Batch Server events. These items, along with a description, are listed below. The Category, Event ID, and Description are described in the table following the list.

| Item | Description |
|-------------|--|
| Date | Date that the event occurred. |
| Time | Time that the event occurred. |
| Type | Type of the event (i.e., Information, Error, etc.). |
| User | Configured domain user. |
| Computer | Computer on which the FactoryTalk Batch Server is running. |
| Source | BatchSvr |
| Category | Category of the event. |
| Event ID | ID of the event. |
| Description | Description of the event. |
| Data | File and line number within the FactoryTalk Batch Server source code that generated the entry. |

| Category | Event ID | Description |
|----------|----------|---|
| Start | 1000 | Server demand started successfully in demo mode. |
| Start | 1001 | Server demand started successfully in production mode. |
| Start | 1002 | Server auto started successfully. |
| Start | 1003 | Server failed to auto start. See the <i>Batchsvr.log</i> file for more information. |
| Start | 1004 | Server failed to demand start. See the <i>Batchsvr.log</i> file for more information. |

Important: Do not edit the *Batchsvr.log* files. The *Batchsvr.log* contains critical information Technical Support needs to determine the cause of a FactoryTalk Batch Server failure.

| | | |
|-------|------|---|
| Start | 1005 | Command line arguments are inconsistent. |
| Start | 1006 | Unexpected command line argument [Descriptive String]. |
| Start | 1007 | Service handler not installed. |
| Start | 1008 | Not running as a service or <i>StartServiceCtrlDispatcher</i> failed. |
| Start | 1009 | Log directory does not exist. Validate ErrorLogDirectory key value in <i>Batchsvr.ini</i> . |

Important: Do not edit the *Batchsvr.ini* file unless specifically instructed by Technical Support.

| | | |
|-------|------|--|
| Start | 1010 | Unable to start due to access permissions on log directory specified by ErrorLogDirectory key value in <i>Batchsvr.ini</i> . |
| Start | 1011 | <i>Batchsvr.log</i> file could not be created/opened. Validate pathname in <i>Batchsvr.ini</i> . |
| Start | 1012 | Unable to start. Log file (<i>Batchsvr.log</i> or <i>Verify.log</i>) does not have write access permission. |
| Start | 1013 | Unable to start. Unable to access log file (<i>Batchsvr.log</i> or <i>Verify.log</i>). |
| Start | 1014 | Unable to start. <i>Verify.log</i> file does not have write access permission. |
| Start | 1015 | Unable to start due to missing <i>Batchsvr.ini</i> file. |
| Start | 1016 | Unable to start due to access permissions on <i>Batchsvr.ini</i> file. |
| Start | 1017 | Unable to start due to access problem with <i>Batchsvr.ini</i> file. |
| Start | 1018 | Access error on <i>Batchsvr.ini</i> detected prior to logging on as user specified in <i>Batchsvr.ini</i> . |
| Start | 1019 | Access error on <i>Batchsvr.ini</i> detected while running as user specified in <i>Batchsvr.ini</i> . |
| Start | 1020 | Access error on log file detected while running as user specified in <i>Batchsvr.ini</i> . |

| Category | Event ID | Description |
|----------|----------|--|
| Start | 1021 | Access error on event files detected while running as user specified in <i>Batchsvr.ini</i> . |
| Start | 1022 | Unable to start because primary event file directory specified by EventDirectoryPath key in <i>Batchsvr.ini</i> is missing. |
| Start | 1023 | Unable to start because secondary event file directory specified by EventDirectoryPathSecondary key in <i>Batchsvr.ini</i> is missing. |
| Start | 1024 | Unable to start because of access permissions on primary event file directory specified by EventDirectoryPath key in <i>Batchsvr.ini</i> . |
| Start | 1025 | Unable to start because of access permissions on secondary event file directory specified by EventDirectoryPathSecondary key in <i>Batchsvr.ini</i> . |
| Start | 1026 | Unable to start because of access permissions on <i>Archque.txt</i> file in primary event file directory. |
| Start | 1027 | Unable to start because of access permissions on <i>Archque.txt</i> file in secondary event file directory. |
| Start | 1028 | Unable to start because of access permissions on <i>Eventdir.txt</i> file in primary event file directory. |
| Start | 1029 | Unable to start because of access permissions on <i>Eventdir.txt</i> file in secondary event file directory. |
| Start | 1030 | Unable to start because RestartDirectoryPath key not specified in <i>Batchsvr.ini</i> . |
| Start | 1031 | Unable to start because RestartDirectoryPath specified in <i>Batchsvr.ini</i> missing. |
| Start | 1032 | Unable to start because of access permissions on RestartDirectoryPath specified in <i>Batchsvr.ini</i> . |
| Start | 1033 | Unable to start because of access permissions (security?) on RestartDirectoryPath specified in <i>Batchsvr.ini</i> . |
| Start | 1034 | Unable to start because RestartDirectoryPath2 specified in <i>Batchsvr.ini</i> missing. |
| Start | 1035 | Unable to start because of access permissions on RestartDirectoryPath2 specified in <i>Batchsvr.ini</i> . |
| Start | 1036 | Unable to start because of access permissions (security) on RestartDirectoryPath2 specified in <i>Batchsvr.ini</i> . |
| Start | 1037 | Server started by an ActiveX client. |
| Start | 1038 | Domain user name is blank and must be initialized in the SECURITY section of the <i>Batchsvr.ini</i> . The Server will not have any network credentials, which means it cannot access anything off node (i.e., data servers, event journal files, or recipes). |
| Start | 1039 | Internal Error. Call to ColnitalizeSecurity failed. |
| Start | 1040 | Internal Error. Call to RegisterClassObjects failed. |
| Start | 1041 | The SQL Server database cannot be opened. |
| Boot | 2000 | Server warm booting. |
| Boot | 2001 | Server cold booting. |
| Boot | 2002 | Server started. |
| Boot | 2003 | Server warm all booting. |
| Boot | 3000 | Data Server: [Descriptive String] status changed to GOOD. |
| Boot | 3001 | Data Server: [Descriptive String] status changed to SUSPECT. |
| Boot | 3002 | Data Server: [Descriptive String] status changed to LOST. |
| Boot | 3003 | Data Server: [Descriptive String] status changed to BAD. |
| Boot | 3004 | Data Server: [Descriptive String] status changed to an unknown conversation status. |

| Category | Event ID | Description |
|------------------|----------|---|
| Boot | 3005 | Data Server: [Descriptive String]. |
| Shutdown | 4000 | Server shutting down. |
| Shutdown | 4001 | Server exception occurred. See the <i>Batchsvr.log</i> file for information. |
| Shutdown | 4002 | Server automatically shutting down from demo mode. |
| Tag_Verification | 5000 | Server tag verification process Started. |
| Tag_Verification | 5001 | Server tag verification process Aborted. |
| Tag_Verification | 5002 | Server tag verification completed, [Descriptive String1] of [Descriptive String2] tags verified successfully. |
| Registration | 6000 | Server registered. |
| Registration | 6001 | Server unregistered. |
| Registration | 6002 | Server registered as a service. |
| Control | 7000 | Notify SCM: The service is stopping. |
| Control | 7001 | Notify SCM: Service stopped. |
| Control | 7002 | Notify SCM: The service is starting. |
| Control | 7003 | Notify SCM: The service is running. |
| Control | 7004 | SERVICE_CONTROL_STOP received from Service Control Manager. |
| Control | 7005 | Unexpected SERVICE_CONTROL_PAUSE received from Service Control Manager. |
| Control | 7006 | Unexpected SERVICE_CONTROL_CONTINUE received from Service Control Manager. |
| Control | 7007 | SERVICE_CONTROL_INTERROGATE received from Service Control Manager. |
| Control | 7008 | SERVICE_CONTROL_SHUTDOWN received from Service Control Manager. |
| Control | 7009 | Bad Service Request. |
| Category_Debug | 8000 | Command Line: [Descriptive String]. |
| Category_Debug | 8001 | Argument received from SCM or BatchSCM: [Descriptive String]. |
| Category_Debug | 8002 | HRESULT = [Descriptive String]. |
| Category_Debug | 8003 | Thread [Descriptive String] started. |
| Category_Debug | 8004 | Exception in object [Descriptive String1] in method [Descriptive String2]. |
| Category_Debug | 8005 | Service could not be marked for deletion by the SCM. |
| Category_Debug | 8006 | Debug: [Descriptive String]. |

Modify event log settings

To prevent the system event logs from exceeding the maximum allowable size, configure the application and system log to overwrite events as needed.

To modify event log settings:

1. Navigate to **Control Panel > Administrative Tools > Event Viewer**.
2. Right-click **Application**, and then select **Properties**. The **Application Properties** dialog box opens.
3. In the **Log size** area, select **Overwrite events as needed**, and then click **OK**.

4. Repeat steps 2 and 3 for the **System**.
5. Exit the **Event Viewer**.

Cross invocation

Cross Invocation is the means by which the FactoryTalk Batch View and ActiveX Controls pass data to, and activate, an automation server such as an HMI or Visual Basic program. The data passed is specific to an equipment resource selected from the FactoryTalk Batch Client applications.

FactoryTalk Batch provides a procedure-centric view of the batches running in the plant. The HMI provides an equipment-centric view of these batches. If the HMI is an automation server that supports the Cross Invocation interface, cross invocation can send equipment-specific information about a batch to your HMI. The HMI can then act based on the data received. For example, it may invoke a graphic specific to the selected equipment resource or information specific to an Equipment Module's running logic.

Cross invocation overview

Cross invocation is accomplished by way of user-defined and selectable cross invocation menu items. If configured for a selected equipment resource, the cross invocation menu items are visible and selectable from:

- FactoryTalk Batch View when the **Goto HMI** button is selected.
- The ActiveX Controls when the ActiveX control shortcut menus are invoked by right-clicking on the running object.

If a recipe step is not bound to an equipment resource:

- The FactoryTalk Batch **ProcedureView** ActiveX control does not display the **Cross Invocation** menu when you right-click on the step.
- FactoryTalk Batch View displays a message indicating the step is not bound when you select the **Goto HMI** button.

Within the FactoryTalk Batch Client applications, there are a number of selectable procedural elements. Each of these procedural elements relates to a specific equipment resource. Each equipment resource may be configured to have cross invocation strings (defined on the **Cross Invocation** tab of any configurable equipment resource in the area model).

Procedural Element > Equipment Resource > Cross Invocation Strings

Each cross invocation string defines the following:

- The text for displaying the **Cross invocation** menu item.
- The data for passing to the automation server.

The following table shows the various FactoryTalk Batch View windows and the equipment resource to which a selected procedural element is linked. For cross invocation to be implemented, the cross invocation strings must be configured for the equipment resource.

| FactoryTalk Batch View window | Selectable elements | Corresponding equipment resource |
|-------------------------------|------------------------|----------------------------------|
| Batch List | Batch | Process Cell (Procedure) |
| | | Unit (Unit Proc or Operation) |
| Procedure as SFC/Table | Batch | Process Cell (Procedure) |
| | | Unit (Unit Proc or Operation) |
| | Unit Procedure | Unit |
| | Operation | Unit |
| | Recipe Phase | Phase |
| Event Journal | Batch | Process Cell (Procedure) |
| | | Unit (Unit Proc or Operation) |
| Unacknowledged Prompts | Unacknowledged Prompts | Phase |
| Phase Control | Process Cell | Process Cell |
| | Unit | Unit |
| | Phase | Phase |
| Arbitration | Recipe | Process Cell (Procedure) |
| | | Unit (Unit Proc or Operation) |
| | Process Cell | Process Cell |
| | Unit | Unit |
| | Phase | Phase |
| | Resource | Resource |
| Alarm Summary | N/A | N/A |
| Phase Summary | Phase | Phase |

Cross invocation string configuration

Use FactoryTalk Batch Equipment Editor to define up to five cross invocation strings for each resource defined within the area model. Each time a procedural element is selected in FactoryTalk Batch View or from the ActiveX Controls, the cross invocation strings associated with the equipment resource corresponding to the selected element are retrieved from the FactoryTalk Batch Server and evaluated. The contents of these strings become the caption(s) for the cross invocation menu item(s) and optional sub-menu items as well as the context data that is passed to the automation server. The context data is encapsulated in escape sequences.

Cross invocation strings are defined according to the following syntax:

- A cross invocation string must be enclosed entirely in square brackets []. Anything outside of the square brackets is ignored by the Server.
- Within the square brackets, the initial text (to the first semicolon) indicates the menu item(s) caption(s).

- All text within the square brackets after the first semicolon defines the context data passed to the automation server when the menu item is selected.
- A single string can specify one cross invocation item with any number of subitems. The first comma-delimited portion of the cross invocation string identifies the menu item for the shortcut menu, and each subsequent sub-string identifies a subitem.
- The data passed in response to all subitems is identical. Subitems are optional.

Example:

[Menu Item, Subitem 1, Subitem 2; %P, %S, %R]

The cross invocation string portion that specifies the data to pass to the automation server when selecting a menu item is defined by escape sequences. The escape sequences are replaced by the context data they represent before the string is passed. The valid escape sequences are identified in the following table along with their meaning.

| Escape sequence | Replace by |
|-----------------|--|
| %P | The path to the selected step. In some instances, this value can be empty. (See Context Data Responses for more information.) Examples: CreateID CreateID \t Procedure \t Unit Procedure \t Operation \t Phase |
| %N | Equipment resource name to which the selected control recipe corresponds. |
| %C | Class name from which the equipment resource corresponding to the step was created. |
| %T | Equipment resource type to which the selected control recipe corresponds. |
| %S | Computer on which the FactoryTalk Batch Server is executing. |
| %B | Batch ID of the selected control recipe. |
| %M | Menu item caption that was selected. If submenu items exist, they appear in the following order: the caption of the menu item appended with a colon, then the index number of the submenu item appended with a colon, and then the caption of the submenu item selected. |
| %R | Resource ID of the equipment resource to which the selected control recipe corresponds. |

Cross invocation string escape sequences

The escape sequences used in the cross invocation strings correspond to the current selection in FactoryTalk Batch View or ActiveX Controls applications. The context data passed to the automation server is relative to the current selection. (See the *FactoryTalk Batch View User Guide* for information regarding selectable elements.)

The following describes each escape sequence relative to the type of procedural element selected:

| Escape Sequence | Procedure | Unit Procedure | Operation | Phase |
|-----------------|-----------|----------------|-----------|-------|
| %P | Path | Path | Path | Path |

| | | | | |
|----|--|--------------------------------|--------------------------------|---------------------------------|
| %N | Corresponding Process Cell Name | Corresponding Unit name | Corresponding Unit name | Corresponding Phase name |
| %C | Corresponding Process Cell class name | Corresponding Unit Class name | Corresponding Unit Class name | Corresponding Phase Class name |
| %T | 1 (Process Cell) | 2 (Unit) | 2 (Unit) | 3 (Phase) |
| %S | Node | Node | Node | Node |
| %B | Batch ID | Batch ID | Batch ID | Batch ID |
| %M | Menu caption | Menu caption | Menu caption | Menu caption |
| %R | Corresponding Process Cell resource ID | Corresponding Unit resource ID | Corresponding Unit resource ID | Corresponding Phase resource ID |

If the control recipe runs across multiple process cells, the context data replaced by %N and %C is the first process cell in the process cells list of associated with the recipe.

The following describes each escape sequence relative to the element selected within the FactoryTalk Batch View **Phase Control** window. (See the *FactoryTalk Batch View User Guide* for information regarding selectable elements.)

| Escape Sequence | Process Cell | Unit | Phases |
|-----------------|--------------------------|--|---|
| %P | Empty | Path (if exists). The context data that replaces %P (when selecting a unit) is the unit procedure path or operation that owns that unit, and blank otherwise. | Create ID (if exists). The context data that replaces %P when selecting an equipment phase is the Create ID of the batch within which the phase is executing. This only exists if that equipment phase is currently executing within the context of a batch. |
| %N | Name of process cell | Name of unit | Name of phase |
| %C | Process Cell Class name | Unit Class name | Phase Class name |
| %T | 1 (process cell) | 2 (unit) | 3 (phase) |
| %S | Node | Node | Node |
| %B | Empty | Batch ID (if exists) | Batch ID (if exists) |
| %M | Menu caption | Menu caption | Menu caption |
| %R | Process cell resource ID | Unit resource ID | Phase resource ID |

Cross invocation string example

This is an example of a cross invocation string configured in FactoryTalk Batch Equipment Editor and the resulting cross invocation menu as seen from FactoryTalk Batch View.

[DETAIL DISPLAY, VIEW MODE, EDIT MODE; %P, %N, %T, %C, %S, %B, %R, %M]



This illustrates the type of data that could be passed to the automation server when the Batch ID is selected in FactoryTalk Batch View and the batch is running.

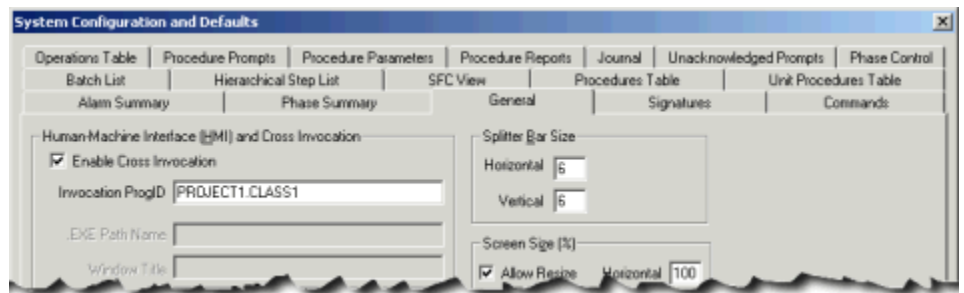


Tip: The automation server must be configured for responding appropriately to the data.

FactoryTalk Batch View and ActiveX Controls configuration for cross invocation

Once the cross invocation strings are defined, FactoryTalk Batch View and ActiveX Controls must be configured to support cross invocation.

FactoryTalk Batch View is configured to support cross invocation under the **General** tab of the **System Configuration and Defaults** window. On this tab, cross invocation must be selected and the program identifier of the automation server must be specified.

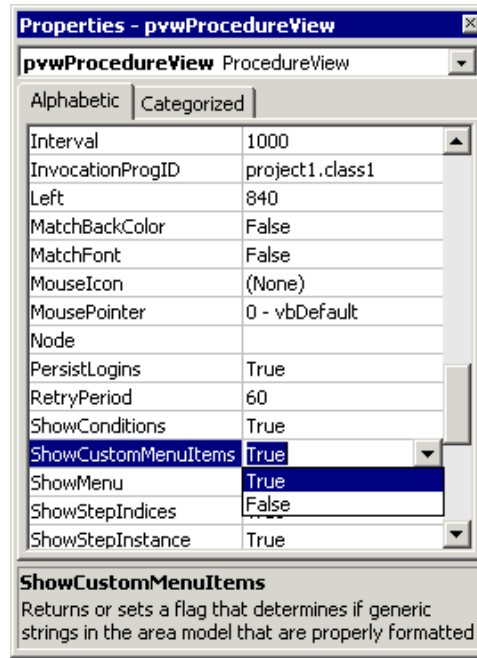


Once configured in FactoryTalk Batch View, the cross invocation menu items become visible when a procedural element is selected (that corresponds to an Equipment Resource with configured cross invocation strings) followed by selecting the **Goto HMI** button.

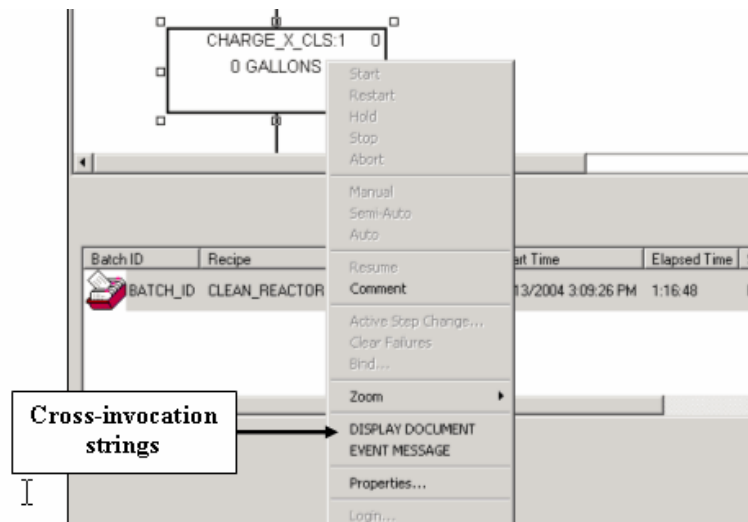
The ActiveX Controls are configured to support cross invocation when the following two properties are configured for the ActiveX object:

- InvocationProgID

- ShowCustomMenu



The InvocationProgID property must contain the program identifier of the automation server. The ShowCustomMenu property must be set to **True** so that the cross invocation strings are visible on the ActiveX object's shortcut menu during runtime as shown:



The FactoryTalk Batch Phase Simulator

FactoryTalk Batch comes with a phase logic simulation program that allows you to run the FactoryTalk Batch software and simulate your batch process without being connected to a PCD. The FactoryTalk Batch Phase Simulator imitates the functionality of a data server and communicates with the FactoryTalk Batch Server using the OPC communication protocol. This is a powerful tool for testing, experimentation and demonstration purposes.



Tip: The Simulator is automatically started by the FactoryTalk Batch Server if required by the area model.

The Simulator allows you to save report parameter values.



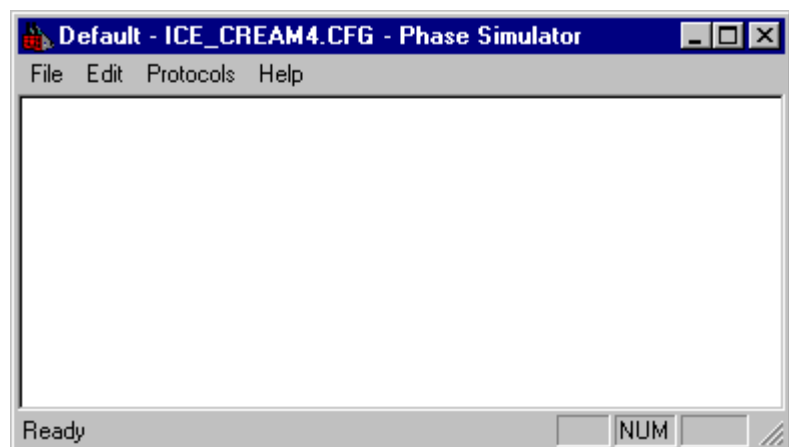
Tip: When running a material-enabled phase, RUNNING logic should not have any configured requests. You must set the FEED_COMPLETE report parameter to **1** and set a value for the ACTUAL_AMOUNT report parameter. Save the simulation file after making these changes.

Start the FactoryTalk Batch Phase Simulator

Start the FactoryTalk Batch Phase Simulator for the FactoryTalk Batch Server and FactoryTalk Batch View to run in a simulated environment.

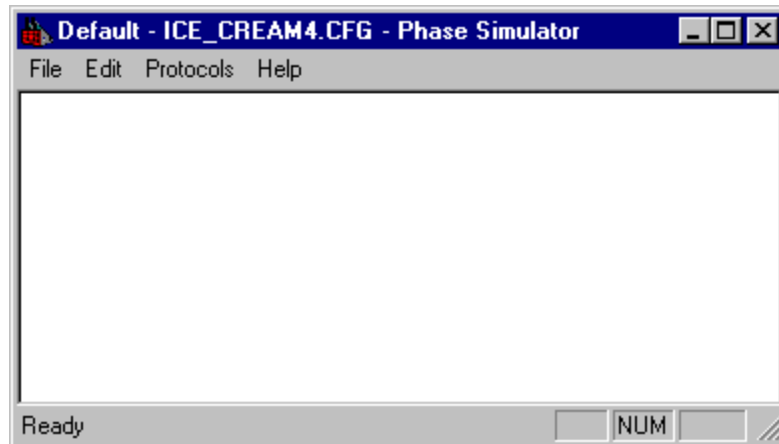
To start the FactoryTalk Batch Phase Simulator:

- Select **Start > Rockwell Software > Simulator**. The Phase Simulator opens.



FactoryTalk Batch Phase Simulator interface

Upon startup, the FactoryTalk Batch Phase Simulator reads the area model that is specified in the Batchsvr.ini file. The area model file name is displayed on the title bar. By default, when you first install the software it is set up to read ice_cream1.cfg, one of the sample area models shipped with FactoryTalk Batch. This file contains the equipment required to run the Sampledemo1 recipe. The Simulator simulates the RUNNING, STOPPING, HOLDING, ABORTING, and RESTARTING states for all phases configured in the recipe.



Tip: The Simulator simulates only phase states for area models that have no more than 50 parameters and 50 report parameters.

The Simulator menu bar consists of the following options:

| Option | Definition |
|------------------|---|
| File | Open a simulator (.sim) file, save a file, or exit the Simulator. |
| Edit | Edit phase configuration, phase status, or unit tag status. |
| Protocols | Enable or disable the Watchdog and Command Handshake functions. |
| Help | Open the Simulator About box. |

Phase Configuration dialog box

The FactoryTalk Batch Phase Simulator allows you to edit a phase's configuration. You can set the following items for each sequencing state of a phase:

- **Dwell Time**
Indicates the length of time, in seconds, that a specific state is active for the selected phase.
- **Time of Request**
Indicates the time, within the dwell period, at which a request is made.
- **Type of Request**
Indicates the type of request to make. (Refer to the FactoryTalk Batch PCD Programmer Technical Reference Guide for more information about requests.)
- **Request Parameters**
Each request can have up to three parameters that further describe the request.

- **Continuous Phase Indication**
A continuous phase is a phase whose phase logic does not transition to the COMPLETE state. You can simulate continuous phase logic by selecting Continuous Phase. When a transition that follows a step running continuous phase logic evaluates to TRUE, and the step is not involved in Transfer of Control, then the FactoryTalk Batch Server sends a STOP command to the phase. If the phase with continuous phase logic is involved in Transfer of Control, and the transition evaluates to TRUE, the Transfer of Control procedure is executed, transferring ownership of the phase from the step prior to the transition to the step following the transition. A NEW_PARAMETERS command is issued to the phase's phase logic when the Transfer of Control occurs, notifying the phase logic that new recipe parameter values associated with the new recipe step are available for download if the phase logic requests a download.



Tip: To use a continuous phase in an actual batch, write appropriate phase logic to define non-terminating behavior.

Refer to the NEW_PARAMETERS Command section in the FactoryTalk Batch PCD Programmer Technical Reference Guide for more information.

Change the dwell time

Change the length of time that a specific state is active for the selected phase.

To change the dwell time:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit > Phase Configuration**. The **Phase Configuration** dialog box opens.
3. From the **Select Phase** list, select the appropriate phase.
4. From the **Select State** list, select the state to change the dwell time.
5. In **Dwell Time**, type the desired dwell time for the selected state.
6. Select **Update Phase**.

Change the sequence of requests

Change the time, type, and parameters of the request in a phase.

To change the sequence of requests:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit > Phase Configuration**.
3. In the **Phase Configuration** dialog box, from the **Select Phase** list, select the appropriate phase.

4. Type an appropriate value in **@Time** (time is in seconds). This value determines when the request is processed. This value must not be greater than the **Dwell Time**.
For example, if the **Dwell Time** is 30 seconds, and the **@Time** value is 20 seconds, then this request will be processed after the selected state has been active for 20 seconds.
5. Type an appropriate request number in **_RQ**. (Refer to the *FactoryTalk Batch PCD Programmer Technical Reference Guide* for information on request numbers.)
6. Type any required request parameter data in **Qo1**, **Qo2**, and **Qo3**. These parameters are used to further define the request.
7. Select the **Update Phase** button.
8. Select **Close**.

Indicate a continuous phase Simulate continuous phase logic by selecting **Continuous Phase**.

To indicate a continuous phase:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit > Phase Configuration**. The **Phase Configuration** dialog box opens.
3. From the **Select Phase** list, select the appropriate phase.
4. If this is a continuous phase, select **Continuous Phase**.
5. Select **Update Phase**.
6. Select **Close**.

Phase Status dialog box

The status of a phase can be changed during run time to test phase logic prior to implementation.

- View parameter tag values and associated parameter names
- View request tag values
- Set owner of phase to External
- Change the phase's state for phases under External Control
- Restore active requests for HELD/RESTARTED phases
- Change report parameter tag values
- Change value of the Failure bit
- Set phase to COMPLETE
- Acknowledge/Clear requests of phases under External control

View phase parameter tag values

The phase parameter tag values are read-only and cannot be modified in the Simulator. The FactoryTalk Batch Server writes these tags when a download request is processed.

To view phase parameter tag values:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit > Phase Status**.
3. Select the appropriate phase from the **Select Phase** list.
4. In the **Arrays** list, select **Phase Parameter Tags**. Each parameter tag associated with this phase is displayed, along with its current value and type.

View and update report parameter tag values

The report parameter tag values can be modified and uploaded to the FactoryTalk Batch Server. The uploaded value(s) are reflected in the electronic batch record (.evt files).

To view and update report parameter tag values:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit > Phase Status**.
3. In the **Select Phase** list, select the appropriate phase.
4. In the **Arrays** list, select **Report Parameter Tags**. Each report parameter tag associated with this phase displays, along with its current value and type.
5. Enter a new value for the appropriate Report Parameter Tag.
6. Select **Update Report Data** to update the tag value. The report tag values are uploaded to the Batch Server when an upload request is processed.

Phase commands

The FactoryTalk Batch Phase Simulator allows you to change the state of a phase. An active phase can be commanded to COMPLETE without gaining phase ownership. All other state change commands require the phase be under external control. The **Start/Stop**, **Abort/Reset** and **Hold/Restart** buttons are modal, in that the command issued is determined based on the phase's active state at the time the button is clicked. Only legal state change commands are executed. For example, if a phase is RUNNING and the **Start/Stop** button is clicked, the STOP command is issued. START is not a legal command to a phase in the RUNNING state. (Refer to the *FactoryTalk*

Batch PCD Programmer Technical Reference Guide for additional information on legal state transitions.)

The following table shows the phase's transition when the state change command is received, along with the associated state value (##).

| COMMAND | INITIAL STATE | FINAL STATE |
|----------|-----------------|---------------|
| COMPLETE | | COMPLETE (70) |
| START | | RUNNING (50) |
| STOP | STOPPING (30) | STOPPED (80) |
| ABORT | ABORTING (10) | ABORTED (90) |
| RESET | | IDLE (100) |
| HOLD | HOLDING (20) | HELD (60) |
| RESTART | RESTARTING (40) | RUNNING (50) |

Command a phase

The FactoryTalk Batch Phase Simulator allows you to change the state of a phase.

To command a phase:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. In the **Edit** menu, click **Phase Status**.
3. In the **Select Phase** list, select the phase to command.
4. To set the phase to COMPLETE, click the **Set Complete** button.
5. For all other state change commands, set the **Owner** of the phase to External.
6. Click the appropriate state change command button (**Start/Stop**, **Abort/Reset**, or **Hold/Restart**).

If the requested state change is legal, the server sends the command to FactoryTalk Batch View and the phase transitions to the appropriate state. The new state value is displayed in the **Status** register in the **Phase Status** dialog box.

- If the phase is running and the **Abort/Reset** button is selected, the phase goes to ABORTING. To transition the phase to the ABORTED state, select the **Set Complete** button.
- If a phase is running and the **Hold/Restart** button is selected, the phase goes to HOLDING. To transition the phase to the HELD state, select the **Set Complete** button.

Change ownership of a phase

The **Owner** button acts as a toggle, switching the value in the **Owner** register between zero and one. A zero represents Batch as the owner and a one represents an external owner.

To change ownership of a phase:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit > Phase Status**.
3. From the **Select Phase** list, select the appropriate phase.
4. To set ownership to **External**, select **Owner** when the value in the **Owner** register is **0**.

To set ownership to **Batch**, select **Owner** when the value in the **Owner** register is **1**.

Acknowledge and clear a request

Requests must be acknowledged and then cleared to allow a phase to continue processing when running under External control. The **Ack/Clear Request** button must be clicked twice, first to acknowledge the request, then to clear the request.

To acknowledge and clear a request:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit > Phase Status**.
3. In the **Select Phase** list, select the phase to be commanded.
4. If the **Request** register contains a request, select **Ack/Clear Request** to acknowledge the request. The value in the **Request** register changes to **10**, indicating that the request confirmation was received from the Batch Server.
5. Select **Ack/Clear Request** to clear the request. Upon clearing the request, the value in the **Request** register changes to **0**, indicating that the request was cleared. The phase continues to process.

Restore and clear requests

Requests generated by a phase can be stored in the request buffer registers should the phase receive a Hold command. The requests can then be copied back to the request registers when the phase receives a Restart command. The **Restore Req** and **Clear Req** registers must both contain a **1** (one) to allow for the saving and restoring of requests for a HELD/RESTARTED phase.

To restore and clear requests:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit > Phase Status**.
3. In the **Select Phase** list, select the phase to be commanded.
4. In the **Restore Req** register, type a **1**.
5. In the **Clear Req** register, type a **1**.

View request data tag values

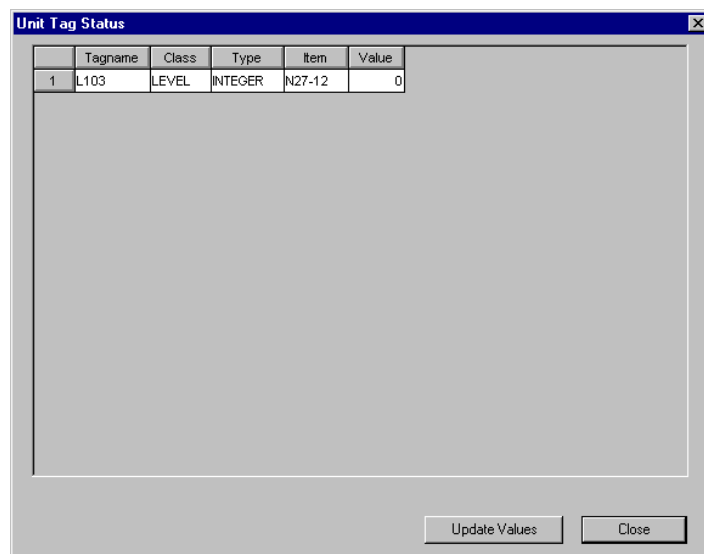
The request data tag values are read-only. These may be set by the FactoryTalk Batch Phase Simulator when making a configured request or may be written to the FactoryTalk Batch Server when processing a phase logic Receive Message request.

To view request data tag values:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit >Phase Status**.
3. Select the appropriate phase from the **Select Phase** list.
4. From the **Arrays** list, select **Request Data Tags**. Each request data tag associated with this phase is listed, along with its current value and type.

Unit Tag Status dialog box

Values of unit tags configured in the area model can be changed during run time in the **Unit Tag Status** dialog box.



The **Unit Tag Status** dialog box consists of the following:

| Item | Definition |
|----------------------|--|
| Tagname | A list of all configured unit tags for the active area model. |
| Class | The class associated with the unit tag. |
| Type | The type value associated with the unit tag. |
| Item | The item (addressable location) associated with the unit tag. |
| Value | The current value for the unit tag. This value can be modified and sent to the FactoryTalk Batch Server. |
| Update Values | Updates the tag values in the Simulator. |

Change the value of a unit tag

Change the value of a unit tag using FactoryTalk Batch Phase Simulator.

To change the value of a unit tag:

1. Start the **FactoryTalk Batch Phase Simulator**.
2. Select **Edit > Unit Tag Status**.
3. Make any required modifications to the Unit Tag Values, and select **Update Values**. The new values are written into the FactoryTalk Batch Phase Simulator unit tags.
4. Select **OK** to return to the FactoryTalk Batch Phase Simulator window.

Troubleshooting

This section contains information on possible troubleshooting solutions for FactoryTalk eProcedure and the FactoryTalk Batch Server.

Troubleshooting eProcedure

This section contains information on eProcedure problems and possible work-arounds.

Objects embedded in HTML code do not display

By design, the eProcedure service does not look for embedded objects in the HTML template files. It simply passes that HTML code through to the Client and allows the browser to interpret it. There are two approaches that can be used to display objects embedded in the HTML code:

- Put them in the default web share directory, which is the recommended approach for objects that would span multiple projects.
OR
- For project-specific objects, use the MMC (Internet Service Manager) to create a virtual directory that points to the `\project\instructions` directory. Security may be configured for this virtual directory such that it is read-only, without scripting or browsing privileges. (See **Creating a virtual directory** for more information.)

Modify the template file to reference the object via the virtual directory. The path to the object will look something like:

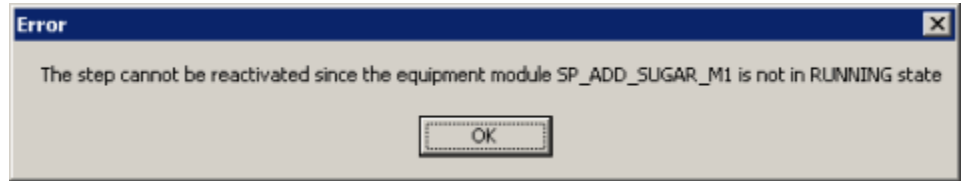
`http://iis_name/virtualdirectory/object.ext.`

Tip: Make sure the object's HTML code occurs within the Form tags in the instruction file.

Control step reactivation error messages

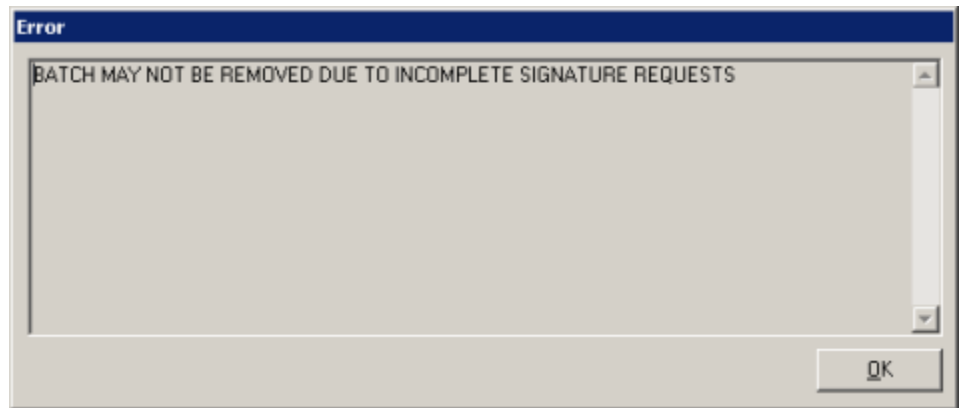
The following messages may be seen when attempting to reactivate a control step in the eProcedure Client Instructions View:

Cannot reactivate step



Only past control steps that have not been reactivated, are in phases that are currently in the RUNNING state, and do not have any pending reactivated steps are eligible to be reactivated.

Cannot remove batch



If there are any incomplete Signature Requests pending for the batch, it cannot be removed from the batch list. Complete all Signature Requests and try again.

Permission Denied

If you do not have security permission to reactivate steps, you will see the "Permission denied to reactivate step" message. Another user with valid permission will have to reactivate the step.

Troubleshooting FactoryTalk Batch

This section contains information on error log and tag verification log generation, and how these logs are used to troubleshoot system problems. This section also contains a list of specific error messages that may be encountered after installing and/or running FactoryTalk Batch, and possible troubleshooting solutions.

Handle abnormal FactoryTalk Batch termination

In the event of a FactoryTalk Batch Server failure, FactoryTalk Batch allows you to restart your batches where they were before the failure. However, the ability to restart your batches may not be enough. If the reason for the Server failure is not something obvious, like a power failure, you will probably want to know the cause. If you need Rockwell's Application Support group to assist you with the determination, they need information regarding the Server's status just prior to the failure.

The FactoryTalk Batch Server is designed to write this critical information to a log file. This file contains the information the Application Support group needs when determining the cause of a Server failure. However, the log file is a circular file, and eventually overwrites itself. To eliminate the possibility of losing this critical information, the Server copies the log file upon startup if it determines that the Server terminated abnormally.

Determine abnormal termination

Upon startup, the FactoryTalk Batch Server reads the value of the `AbnormalTermination` field within the `Batchsvr.ini` file. If the field value is `NO`, or the field is not present, then no action is taken. If the field value is `YES`, then the current `Batchsvr.log` file is copied to the path specified by the `ErrorLogDirectory` entry in the `Batchsvr.ini` file. The name of the copied log file is determined based on the `CopyFileID` field.

After determining whether or not to make a copy of the current log file, the FactoryTalk Batch Server writes a value of `YES` into the field. At completion of a normal shutdown, the Server writes a value of `NO` into the field.

Name the log file copy

The value of the `CopyFileID` field is an integer from which a file name of the following format is generated:

<nnn>.LOG

where <nnn> is the value of the `CopyFileID` field obtained from the `Batchsvr.ini` file, with leading zeros. The leading zeroes help sort the files when viewed from Windows Explorer or a similar program. Every time the FactoryTalk Batch Server uses this value to generate a name for a copied log file, it increments the integer value stored in the field. An attempt to increment the integer beyond a value of 999 results in a wrapping of the value back to one.

If this value is not present or is invalid, then a current value of one (1) is assumed. This results in the creation of a log file copy with the name `001.log` and the updating of the field to a value of two (2).

If the FactoryTalk Batch Server generates a name for a copied log file, and the file name already exists in the directory where the copy is to be stored, the Server attempts to create a new name for the copied log file. The Server generates new log file names by incrementing the `CopyFileID` value until an unused file name is found. The integer used to generate this file name is incremented one last time and this value stored into the `CopyFileID` field in the `Batchsvr.ini` file. If no unused file names are found, then the Server is forced to overwrite the file name generated with the `CopyFileID` field's original value.

End of batch entries

The electronic batch record (.evt file) contains entries if the batch is terminated by a FactoryTalk Batch Server cold boot, or if the batch is terminated due to an error when attempting to restore the batch from a Server warm restart.

The electronic batch record contains three entries if one of the above-mentioned methods for batch termination occurs. The first entry is a repeat of the Event File Name event field. The second is a System Message event field indicating the reason the batch was terminated. The last is a System Message event field indicating the end of the batch.

Example

Termination of FactoryTalk Batch Due to Cold Boot

| Description | Event | PValue |
|----------------------|-----------------|--|
| | Event File Name | \\MachineName\Program Files\Rockwell Software\Batch\YourProject\ JOURNALS\4123.evt |
| YourBatchDescription | System Message | Batch terminated by COLD boot of FactoryTalk Batch Server |
| YourBatchDescription | System Message | End Of BATCH |

Termination of FactoryTalk Batch During Warm Restart

| Description | Event | PValue |
|----------------------|-----------------|--|
| | Event File Name | \\MachineName\Program Files\Rockwell Software\Batch\YourProject\ JOURNALS\4125.evt |
| YourBatchDescription | System Message | Batch terminated due to error attempting to restore batch during WARM restart |
| YourBatchDescription | System Message | End Of BATCH |

Log tag verification information

Tag verification is an operator-initiated process that causes the FactoryTalk Batch Server to attempt to read the current value of most tags defined in the area model. The tags are read up to 30 at a time, based on the value specified in the *Batchsvr.ini* file, and as reads are completed, new reads are initiated.

The FactoryTalk Batch Server allows you to verify up to 30 tags in parallel to reduce tag verify duration and the ability to stop a tag verification in progress via a menu item on the Server. A dedicated log file, *Verify.log*, records the most recent tag verification results. This file is replaced with a new copy each time a tag verification is begun. The *Verify.log* file is written to the same directory as the *Batchsvr.log* file.

Tag verification start, completion, and abort records are recorded in the standard FactoryTalk Batch Server log file, *Batchsvr.log*. Individual tag results are recorded in the tag verification log file, *Verify.log*.

Tag verification log file

The record structure in the *Verify.log* file is identical to the record structure used in the *Batchsvr.log* file. The file structure reserves the first record for field labels. The installation program installs a default tag verify results log file into the directory specified by the **ErrorLogDirectory** value in the *Batchsvr.ini* file. The default file contains two records. The first record is the standard header record that labels the fields. The second record indicates if the tag verify function was performed. The format of this record is depicted below:

| Field# | Name | Value |
|--------|--------------|--|
| 1 | Time | This field is left blank. |
| 2 | Severity | INFO |
| 3 | File | This field is left blank. |
| 4 | Line | This field is left blank. |
| 5 | RC_ID | This field is left blank. |
| 6 | Batch ID | This field is left blank. |
| 7 | Path | This field is left blank. |
| 8 | Element ID | This field is left blank. |
| 9 | Element Name | This field is left blank. |
| 10 | Message | The text "Tag Verify Has Not Been Run" |

The tag verification log file is not intended to wrap. In the event of an unexpected problem or circumstance, the *Verify.log* file is limited to 9,000,000 bytes. If the *Verify.log* file exceeds this size, the file is wrapped, just like the *Batchsvr.log* file.

An analysis of an existing tag verification log file showed that an area model with 888 tags generated a log file with a size of 159,050 bytes, which indicates an average of 180 bytes per tag in the verification log file. This implies that a 9,000,000-byte file should be able to verify approximately 50,000 tags before the log file would wrap.

The FactoryTalk Batch Server only keeps the tag verification log file open during the tag verification process. When a program has a file open, the file cannot be deleted or renamed. The Server overwrites any existing tag verification log file each time a tag verification begins. If the Server encounters a tag verification log file that is Read Only, the Server changes the protection on the file to allow it to be overwritten.

Windows event log

The following events regarding tag verification are recorded in the Windows Event Log.

| Event | Generated Windows Event Log |
|-------|---|
| Start | "Batch Server Tag Verification Process Started" |

| Event | Generated Windows Event Log |
|-------------------|--|
| Abort | "Batch Server Tag Verification Process Aborted" |
| Completion | "Batch Server Tag Verification Completed, <xxx> of <yyy> tags verified successfully" where <xxx> is the number of tags that were successfully verified, and <yyy> is the total number of tags on which verification was attempted. |

Performance chart

The performance chart included with FactoryTalk Batch is a pre-defined set of charts for use with the Windows System Monitor.

Tip: The predefined performance monitor charts are in English only. Non-English customers must configure the charts manually. (Refer to your Windows documentation for more information on performance charts.)

The System Monitor can examine the use of computer resources by FactoryTalk Batch components, as well as other processes and applications, and it can help determine if a process or application is using too much CPU time or memory. The pre-defined Performance Chart, supplied with FactoryTalk Batch, charts specific processes that can affect the performance of FactoryTalk Batch, and can be an important tool in identifying and troubleshooting system problems.

Tip: The performance chart is intended to be used primarily as a debugging and diagnostic tool by FactoryTalk Batch product support personnel.

The Windows System Monitor is used to view chart data, alerts, logs and reports. Additionally, charts can be saved for future review. To view the FactoryTalk Batch performance chart, make sure that the System Monitor is set to chart view mode. (Refer to your Windows documentation for more information on using the System Monitor.)

Open the FactoryTalk Batch performance chart

The performance chart automatically opens the Windows System Monitor with the pre-defined charts loaded.

To open the FactoryTalk Batch performance chart:

1. Select **Start > Rockwell Software > FactoryTalk Batch Suite > FactoryTalk Batch.**
2. Click **Performance Chart.** The **Performance** dialog box opens with the pre-defined charts listed.

FactoryTalk Batch performance chart

The FactoryTalk Batch performance chart is a pre-defined set of charts for use with the Windows System Monitor.



Tip: The predefined performance monitor charts are in English only. Non-English customers must configure the charts manually. (Refer to your Windows documentation for more information on performance charts.)

The Windows System Monitor can examine the use of computer resources by FactoryTalk Batch components, as well as other processes and applications, and help determine if a process or application is using too much CPU time or memory. The performance chart charts specific processes that can affect the performance of FactoryTalk Batch, and is an important tool in identifying and troubleshooting system problems.



Tip: The performance chart is intended to be used primarily as a debugging and diagnostic tool by FactoryTalk Batch product support personnel.

The Windows System Monitor is used to view chart data, alerts, logs and reports. Additionally, charts can be saved for future review. To view the FactoryTalk Batch performance chart, make sure that the System Monitor is set to chart view mode.

Troubleshoot errors

This section outlines errors that may be encountered while running FactoryTalk Batch and possible solutions to these errors.

Automatic repair of Batch component installation fails

This can happen if one or more necessary folders were unintentionally moved (in Windows explorer). For example, if the Schema folder gets moved away from its original install path, the install package starts up automatically and tries to 'repair' the problem. This 'repair' can clear out the Model and Server keys in the registry, which can make the Batch client editors generate warning dialogs because they are not able to find the Network Model.

If this happens, completely uninstall the application and then reinstall it.

FactoryTalk Batch Server does not start

Error Message: *(none)*

- Journal path has not been defined in FactoryTalk Batch Server options. Modify the FactoryTalk Batch Server options to include a valid Primary Journal path. Verify that the Secondary Journal path, if defined, is valid.
- Restart path has not been defined in FactoryTalk Batch Server options.

Modify the FactoryTalk Batch Server options to include a valid Primary Restart path. Verify that the Secondary Restart path, if defined, is valid.

- Incorrect *Net* registry key value.

The FactoryTalk Batch Server is always installed with the default user and password.

The FactoryTalk Batch Server's logon/password settings are not migrated from the Server *.ini* file during an upgrade. To run the Server as a different user, you must change the logon/password settings, using the Control Panel **Services** dialog box, after a new installation.

FactoryTalk Batch Server runs for a specific period of time and then stops, and consistently stops at the same time interval.

Error Message: *(none)*

- Check the FactoryTalk Batch Service Manager. If the **Allow Demo Mode** check box is selected, this could be the problem.

FactoryTalk Batch Service Manager does not display the FactoryTalk Batch Server and/or Event Archiver.

Error Message: *(none)*

- The computer where the services are located is not selected.
Use the **Select Computer** button to select the appropriate computer.
- The FactoryTalk Batch Server and/or Archiver services are not registered with the Windows Registry.

To register a service, click the **Start** button, point to **All Programs**, and then select **Command Prompt**. Navigate to the *Program Files\Rockwell Software\Batch\bin* directory. To register the FactoryTalk Batch Server type **batchsrv /service** at the command prompt, and then press enter. To register the FactoryTalk Event Archiver, type **batcharc /service** at the command prompt, and then press enter.

FactoryTalk Batch Service Manager displays "Batch.Server Class" instead of "Batch Server".

Error Message: *(none)*

- The service displays the class name instead of the display name.

This is caused by DCOMCNFG configuring the FactoryTalk Batch Server service to display the class name of the service instead of the display name. When this occurs, the Server no longer supports its COM interface and must be reinstalled.

The FactoryTalk Batch View/Client is properly configured, but can't view the Event Journals.

Error Message: *(none)*

- There may be a version conflict in one or more of the required files.

The text in FactoryTalk Batch dialog boxes does not display properly.

Error Message: *(none)*

- FactoryTalk Batch does not support the use of large system fonts. Use the **Display Properties** dialog box to change the default system font size to **Small Fonts**.

Unable to locate files.

Error Message: "The Recipe directory file could not be found."

- The server options for the FactoryTalk Batch Server are not configured to point to the folder that contains the *Recipe.dir* file. (See **FactoryTalk Batch Server option configuration** in the *FactoryTalk Batch Administrator Guide* for more information.)

An Application Log error is generated.

Error Message: "The Application log file is full."

- The Application log is not set for wrapping.

Use the **Event Viewer** to change the Application Event Log Wrapping setting to **Overwrite Events as Needed**:

1. Click the **Start** button, point to **All Programs > Administrative Tools**, and then select **Event Viewer**. The **Event Viewer** opens.
2. Right-click **Application Log**, and select **Properties**. The **Application Log Properties** dialog box opens.
3. In the Log size section, select **Overwrite events as needed**.
4. Click **OK**.

5. Exit the **Event Viewer**.

A Licensing error message is generated in Microsoft Visual Basic.

Error Message: "License information for this component not found. You do not have an appropriate license to use this functionality in the design environment."

- The ActiveX controls did not install correctly.

Visual Basic should be installed *before* FactoryTalk Batch is installed. If you have already installed FactoryTalk Batch:

1. Uninstall the FactoryTalk Batch client to remove the ActiveX controls. (Refer to the *FactoryTalk Batch Components Upgrade and Installation Guide* for information on removing the ActiveX Controls).
2. Re-install Visual Basic.
3. Re-install the FactoryTalk Batch client using the FactoryTalk Batch Setup program.

Recipes not visible from FactoryTalk Batch View program.

Error Message: *(none)*

- When the Create a Batch button is clicked, no recipes show up in the **Select a Recipe** dialog box.

The **Released to Production** item is not selected in the recipe header data. For each recipe that should appear in the **Select a Recipe** dialog box, ensure that the **Released to Production** check box is selected. This can be done by selecting the Header data option for the recipe and selecting the **Released to Production** check box.

List of available SQL Server databases not displayed in the Server Options dialog box.

Error Message: *(none)*

When the browse button for SQL Server databases is clicked, no databases are displayed in the **Database Selection** dialog box. Install SQL Server's ClientTools Connectivity option. Do a custom installation of SQL Server to install the Client Tools Connectivity option.

Event Journal files are not being created.

Error Message: *(none)*

- The primary journal directory must be located on the FactoryTalk Batch Server computer in the *BATCHCTL* share. If the Primary Journals directory is located on a computer other than the Server computer, or not within the *BATCHCTL* share, and that computer becomes inaccessible, the Server continues executing batches but is unable to create event journals for those batches. You will not receive a notification of the problem.

Customize batch IDs

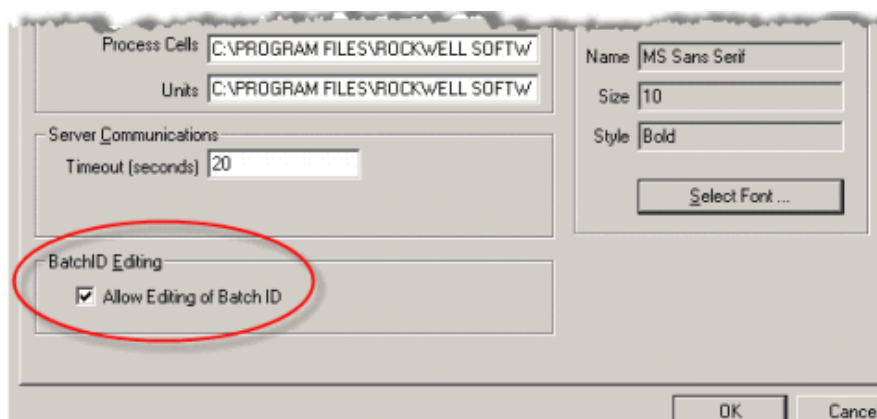
For purposes of batch identification, you can create custom default batch IDs, and allow or prevent editing of batch IDs. You can also automatically generate custom batch IDs. In order to implement this option, you must perform steps in the FactoryTalk Batch View and the FactoryTalk Batch Equipment Editor, edit some Visual Basic code (provided with your FactoryTalk Batch installation CD) and compile it into a new DLL. If you are using the FactoryTalk Batch ActiveX controls, you can use the **BatchID** editable property to enable or disable editing of batch IDs. (See the *FactoryTalk Batch ActiveX Controls Library Reference* for more information.)

By default, *eProcedure* allows editing of batch IDs. However, you can modify the *user.asp* file to disable editing of batch IDs; or to re-enable editing batch IDs if it was disabled. (See ["Modifying the user.asp file to prevent editing of batch IDs"](#) on page 105 and ["Modifying the user.asp file to allow editing of batch IDs"](#) on page 104.)

Enable editing of batch IDs

The batch ID is shown on the **Batch Creation** dialog box when a batch is created, and by default, is editable. However, if editing of batch IDs has been disabled, follow these steps to enable this option.

1. Open the FactoryTalk Batch View.
2. Click the **Configuration and Defaults** button.
3. Enter your system configuration password, and then click **OK**.
4. Select the **General** tab, and in the BatchID Editing area, select the **Allow Editing of Batch ID** check box.



Disable editing of batch IDs

If you create a custom batch ID, we recommend that you prevent editing of batch IDs. This ensures that the custom batch ID you specified appears when you add a batch to the batch list, and that it cannot be changed by the operator.

The following steps disable editing of the batch ID. In this case, the box on the **Batch Creation** dialog, which displays when a batch is added to the batch list, is grayed out.

Tip: If a failure occurs in the generation of a custom batch ID, the batch ID is editable regardless of the setting.

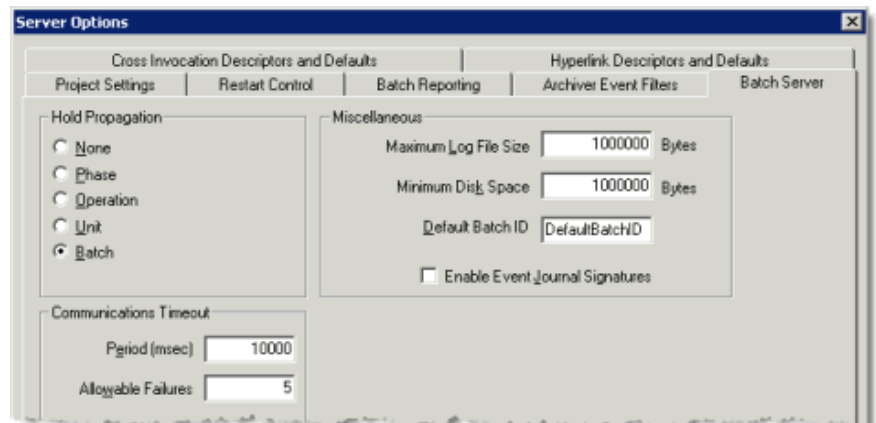
1. Perform steps 1-3 in the previous section, "Enable Editing of Batch IDs."
2. Click the **General** tab, and then in the BatchID Editing section, deselect the **Allow Editing of Batch ID** check box.

Define a custom default batch ID

If you define a custom default batch ID, when a new batch is added to the batch list, the box on the **Batch Creation** dialog is automatically populated with the custom default batch ID.

To define a custom default batch ID:

1. Open the FactoryTalk Batch Equipment Editor.
2. From the **Options** menu, select **Server Options**.
3. Select the **Batch Server** tab.
4. In the Miscellaneous section, type a default batch ID in the **Default Batch ID** box.



5. Select **OK**.

Create a custom BatchIDCreation.dll

The option to automatically generate custom batch IDs, in any values or increments you require, is easily implemented. If you choose this option, you must modify some Visual Basic code, compile it into a new DLL (Dynamic Link Library) file and then place it in the *BATCHCTL\Bin* folder. We

recommend that you make a back up copy of the original BatchIDCreation.dll before making any changes. The currently supported version of Visual Basic is shown in the *System Requirements* of the *FactoryTalk Batch Getting Results Guide*.

Tip: The FactoryTalk Batch Server and the Visual Basic development environment must be installed on the same computer.

Tip: If the AutoBatchID execute fails or the generated batch ID contains invalid characters, the **Batch ID** box in the FactoryTalk Batch View becomes editable even if the **Allow Editing of Batch ID** check box in the View/Configuration and Defaults/General is disabled. If you created a default batch ID, it populates the **Batch ID** box and is editable. This feature allows the operator to enter the batch ID manually in the event of a failure.

To customize the DLL:

1. Copy the entire **Custom** folder, found on the FactoryTalk Batch CD, including all subdirectories, to the local hard drive, leaving the structure intact.
2. Double-click *BatchIDCreation.vbp*. The Visual Basic project opens. If you see error messages about references that are not yet in the Visual Basic project, click **Yes** until you see the message that Visual Basic is unable to set the version compatible component. Click **OK**.
3. From the **Project** menu, select **References**. The **References** dialog box opens.

There are several files that are required for references used in the Visual Basic project. These references must be set manually within the Visual Basic IDE.

4. From the **Available References** list, select the following references:
 - **COM+ Services Type Library**
The COM+ Runtime library, *COMSVCS.dll*, that is needed for COM+ functionality. If this file is not on your system use *MTXAS.dll*.
 - **OLE Automation**
The OLE Automation support DLL, *STDOLE32.tlb*, which is usually a standard Visual Basic reference.
 - **batchidcreationinsertion 1.0 Type Library**
The AutoBatchID type library, *batchidcreationinsertion.tlb*, required to create your customized version of the *BatchIDCreation.dll*.
5. Click **OK**.
6. From the **Project** menu, select **BatchIDCreation Properties**. The **Project Properties** dialog box opens.
7. Select the **Component** tab, and then select **Binary Compatibility**.
8. Click the browse button, locate *C:\Program Files\Rockwell Software\Batch\Bin\BatchIDCreation.dll*, and then click **Open**.

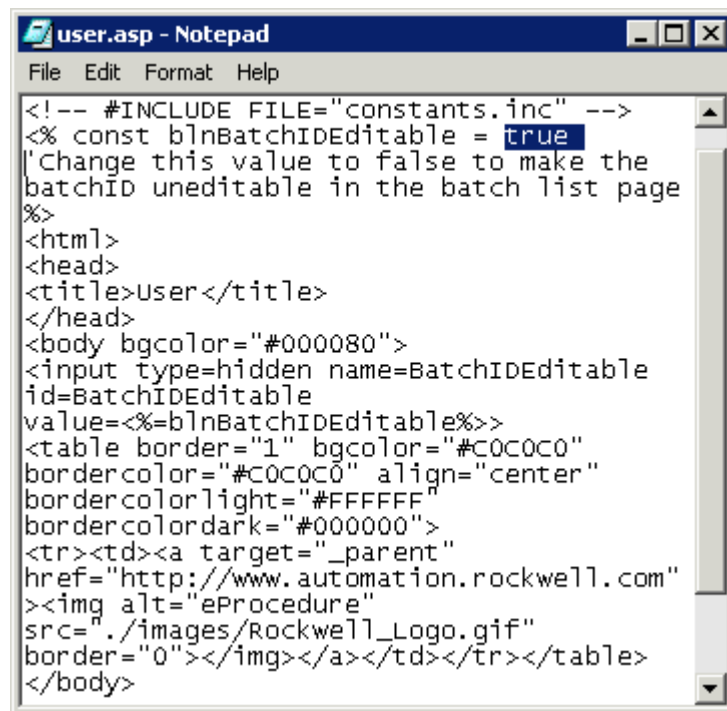
9. Click **OK**.
10. Modify the source code located between the **Begin - Code Modifications** heading and the **End - Code Modifications** heading within [GenerateBatch] to define the BatchID value.

Tip: The batch ID can contain a maximum of 255 characters with no spaces or invalid characters. The batch ID can be comprised of any characters except the following: The defined list separator, single or double quotes, brackets, parentheses, the percent sign (%), the tab character (\t), the carriage return character (\r), or the new line character (\n).
11. From the **File** menu, click **Make BatchIDCreation.dll**. The **Make Project** dialog box opens. Compile the project into a .dll named *BatchIDCreation.dll*.
12. Click **OK**.
13. Replace the default *BatchIDCreation.dll* in the *BATCHCTL\Bin* folder with the newly compiled *BatchIDCreation.dll*.
14. Restart your computer.

Modify the user.asp file to allow editing of batch IDs

In order for eProcedure to allow editing of batch IDs you must modify the *user.asp* file.

1. Open Windows Explorer.
2. Navigate to *C:\Program Files\Rockwell Software\Batch\Web*.
3. Open the *user.asp* file using Notepad or the Editor of your choice.



```

user.asp - Notepad
File Edit Format Help
<!-- #INCLUDE FILE="constants.inc" -->
<% const blnBatchIDEditable = true
|Change this value to false to make the
batchID uneditable in the batch list page
%>
<html>
<head>
<title>User</title>
</head>
<body bgcolor="#000080">
<input type=hidden name=BatchIDEditable
id=BatchIDEditable
value=<%=blnBatchIDEditable%>>
<table border="1" bgcolor="#C0C0C0"
bordercolor="#C0C0C0" align="center"
bordercolorlight="#FFFFFF"
bordercolordark="#000000">
<tr><td><a target="_parent"
href="http://www.automation.rockwell.com"
></img></a></td></tr></table>
</body>

```

4. Set the following value to **true**:


```
<% const blnBatchIDEditable = true
```
5. Save the *user.asp* file.
6. Exit Notepad or the Editor you are using.

7. You must close and then restart the *eProcedure Client* for the change to take effect.

Modify the *user.asp* file to prevent editing of batch IDs

In order to prevent editing batch IDs you must modify the *user.asp* file.

1. Open Windows Explorer.
2. Navigate to *C:\Program Files\Rockwell Software\Batch\Web*.
3. Open the *user.asp* file using Notepad or the Editor of your choice.
4. Set the following value to **false**:
<% const blnBatchIDEditable = false
5. Save the *user.asp* file.
6. Exit Notepad or the Editor you are using.
7. You must close and then restart the *eProcedure Client* for the change to take effect.

Archive HTML elements

The archived HTML represents the completed control step as the operator saw it when it completed, and includes any data entered by the operator. When an *eProcedure* user completes a control step, the *eProcedure* Client captures the step's HTML. Client-side scripting removes any script blocks the step may contain and disables all dynamic elements in the step. The *eProcedure* Client then sends the instructions to the *eProcedure* Server, which sends the step HTML to the FactoryTalk Batch Server. The FactoryTalk Batch Server then writes the step HTML to the event journal as part of an Instruction Complete event.

Script Blocks

Before sending control step HTML to the *eProcedure* Server, the *eProcedure* Client removes all script blocks, and disables all buttons, text boxes, and other dynamic HTML elements the step contains. For example, before being sanitized, the HTML for a step may look like the following:

```
<FORM>
  <INPUT type=button value="Click This Button"
    onclick=ButtonClick>
  <INPUT type=text value="Kilroy Was Here">
  <IMG src=./images/Image.JPG onclick='msgbox
    "Hello!'">
  <SCRIPT language=vbscript>
    sub ButtonClick
      window.alert "Hi There"
    end sub
</SCRIPT>
</FORM>
```

After sanitization, the HTML looks like this:

```
<FORM>
  <INPUT type=button value="Click This Button"
    onclick=ButtonClick disabled>
  <INPUT type=text value="Kilroy Was Here" disabled>
  <IMG src=./images/Image.JPG onclick='msgbox "Hello!'"
    disabled>
</FORM>
```

Tip: Images and files must be placed in directories under *lBatch\Web1* to use relative (".") paths. Otherwise, absolute path names must be used (for example, *"full_path/Image.jpg"*).

OBJECT Elements

In HTML stored in the event journal, <OBJECT> elements are removed and are replaced with a message. Before sending control step HTML to the eProcedure Server, the eProcedure Client removes all <OBJECT> elements and their child elements the step contains and replaces them with the message "Note: Object Removed For Archiving" and the class ID of the removed object. For example, the HTML for a step may look like this:

```
<FORM>
  Add a CIP Batch to the Batch List. Click "OK" when
  done."&nbsp;"
  <OBJECT classid=clsid:29DAC4FF-034F-11D3-91DE-
  0800366B4903
  codeBase=./components/batchv01.cab height=100%
  id=crl name=crl style="POSITION: relative"
  width=100%>
  <PARAM NAME="Node" VALUE="DEV_CLCASE02">
</OBJECT>
</FORM>
```

After sanitization, removing the object element and its child element, and inserting the message, the HTML would look like this:

```
<FORM>
  Add a CIP Batch to the Batch List. Click "OK" when
  done."&nbsp;"
  <I>Note: Object clsid:29DAC4FF-034F-11D3-91DE-
  0800366B4903 Removed for Archiving</I>
</FORM>
```

TAB Characters and CRLFs

Before sending control step HTML to the eProcedure Server, the eProcedure Client removes all TAB characters and CRLFs and replaces them with spaces. As the event journal is a TAB-delimited document, and individual records are separated by CRLFs, this prevents corruption of the data stored in the file. This does not change the way HTML is rendered.

List Separator Characters, Parentheses, and Forward Slashes

List separator characters, parentheses, and forward slashes (/) will not be removed from archived instructions.

HTML Placeholder

The eProcedure Server adds a hidden input element called "StepHTML" to all active control steps. This is used by the eProcedure Client as a placeholder for step HTML before step submission. When you view the source code of an active instruction, the input element resembles the following: <input type=hidden name=StepHTML id=StepHTML>

After sanitizing the instructions, the control step HTML is stored in this element. Server-side scripting will extract the HTML from this element and send it to the eProcedure Server.

HTML elements

The following list defines HTML elements that can be contained in an instruction step, can be dynamic and therefore must be disabled before archiving. (Source: MSDN Library. See the MSDN library for documentation as to the types of events that can be defined for each element.)

| Name | Description |
|------------|---|
| a | Designates the start or destination of a hypertext link. |
| acronym | Indicates an acronym abbreviation. |
| address | Specifies information, such as address, signature, and authorship, of the current document. |
| applet | Places executable content on the page. |
| area | Defines the shape, coordinates, and associated URL of one hyperlink region within a client-side image map. |
| b | Specifies that the text should be rendered in bold. |
| Base | Specifies an explicit URL used to resolve links and references to external sources such as images and style sheets. |
| baseFont | Sets a base font value to be used as the default font when rendering text. |
| bdo | Allows authors to disable the bidirectional algorithm for selected fragments of text. |
| bgSound | Enables an author to create pages with background sounds or sound tracks. |
| big | Specifies that the enclosed text should be displayed in a larger font than the current font. |
| blockquote | Sets apart a quotation in text. |
| Body | Specifies the beginning and end of the document body. |
| br | Inserts a line break. |
| button | Specifies a container for rich HTML that is rendered as a button. |
| caption | Specifies a brief description for a table. |
| center | Centers subsequent text and images. |
| cite | Indicates a citation by rendering text in italic. |
| Code | Specifies a code sample. |
| col | Specifies column-based defaults for the table properties. |
| colGroup | Specifies property defaults for a column or group of columns in a table. |
| comment | Indicates a comment that is not displayed. |
| custom | Represents a user-defined element. |
| dd | Indicates the definition in a definition list. The definition is usually indented in the definition list. |
| del | Indicates text that has been deleted from the document. |
| dfn | Indicates the defining instance of a term. |
| dir | Denotes a directory list. |
| div | Specifies a container that renders HTML. |
| DI | Denotes a definition list. |
| Dt | Indicates a definition term within a definition list. |

| Name | Description |
|----------------------|---|
| em | Emphasizes text, usually by rendering it in italic. |
| embed | Allows documents of any type to be embedded. |
| fieldSet | Draws a box around the text and other elements that the field set contains. |
| font | Specifies a new font, size, and color to be used for rendering the enclosed text. |
| frame | Specifies an individual frame within a FRAMESET element. |
| frameSet | Specifies a frameset, which is used to organize multiple frames and nested framesets. |
| Head | Provides an unordered collection of information about the document. |
| hn | Renders text in heading style. |
| hr | Draws a horizontal rule. |
| html | Identifies the document as containing HTML elements. |
| i | Specifies that the text should be rendered in italic, where available. |
| iframe | Creates inline floating frames. |
| img | Embeds an image or a video clip in the document. |
| Input | Creates a variety of form input controls. |
| Input type=button | Creates a button control. |
| Input type=check box | Creates a check box control. |
| Input type=file | Creates a file upload object with a text box and Browse button. |
| input type=image | Creates an image control that, when clicked, causes the form to be immediately submitted. |
| input type=password | Creates a single-line text entry control similar to the INPUT type=text control, except that text is not displayed as the user enters it. |
| input type=radio | Creates a radio button control. |
| input type=reset | Creates a button that, when clicked, resets the form's controls to their initial values. |
| input type=submit | Creates a button that, when clicked, submits the form. |
| input type=text | Creates a single-line text entry control. |
| ins | Specifies text that has been inserted into the document. |
| isIndex | Causes the browser to display a dialog window that prompts the user for a single line of input. |
| kbd | Renders text in a fixed-width font. |
| label | Specifies a label for another element on the page. |
| legend | Inserts a caption into the box drawn by the fieldSet object. |
| li | Denotes one item in a list. |
| link | Enables the current document to establish links to external documents. |
| listing | Renders text in a fixed-width font. |
| map | Contains coordinate data for client-side image maps. |
| marquee | Creates a scrolling text marquee. |
| menu | Creates an unordered list of items. |
| meta | Conveys hidden information about the document to the server and the client. |
| noBR | Renders text without line breaks. |
| noFrames | Contains HTML for browsers that do not support FRAMESET elements. |
| noScript | Specifies HTML to be displayed in browsers that do not support scripting. |
| object | Inserts an object into the HTML page. |
| ol | Draws lines of text as a numbered list. |
| optGroup | Allows authors to group choices logically in a select element. |

| Name | Description |
|-----------|--|
| option | Denotes one choice in a SELECT element. |
| p | Denotes a paragraph. |
| plainText | Renders text in a fixed-width font without processing tags. |
| pre | Renders text in a fixed-width font. |
| q | Sets apart a quotation in text. |
| rt | Designates the ruby text for the RUBY element. |
| ruby | Designates an annotation or pronunciation guide to be placed above or inline with a string of text. |
| s | Renders text in strike-through type. |
| samp | Specifies a code sample. |
| script | Specifies a script for the page that is interpreted by a script engine. |
| select | Denotes a list box or drop-down list. |
| small | Specifies that the enclosed text should be displayed in a smaller font. |
| span | Specifies an inline text container. |
| strike | Renders text in strike-through type. |
| strong | Renders text in bold. |
| style | Specifies a style sheet for the page. |
| sub | Specifies that the enclosed text should be displayed in subscript, using a smaller font than the current font. |
| sup | Specifies that the enclosed text should be displayed in superscript, using a smaller font than the current font. |
| table | Specifies that the contained content is organized into a table with rows and columns. |
| tBody | Designates rows as the body of the table. |
| td | Specifies a cell in a table. |
| textArea | Specifies a multiline text input control. |
| tFoot | Designates rows as the table's footer. |
| th | Specifies a header column. Header columns are centered within the cell and are bold. |
| tHead | Designates rows as the table's header. |
| title | Contains the title of the document. |
| tr | Specifies a row in a table. |
| tt | Renders text in a fixed-width font. |
| u | Renders text that is underlined. |
| ul | Draws lines of text as a bulleted list. |
| var | Defines a programming variable. Typically renders in an italic font style. |
| xmp | Renders text used for examples in a fixed-width font. |

Change the FactoryTalk Batch server user account

Depending on your facility's security requirements you may need to change the FactoryTalk Batch server user name and password periodically. If you change the server's user account after installing the FactoryTalk Batch components you must configure your FactoryTalk Batch system to use the new server user account.



Tip: The user account for the FactoryTalk Batch server, Batch Archiver, eProcedure server services and the Batch COM+ Application must be identical.

New user account requirements for the FactoryTalk Batch Server

When creating a new user account for the FactoryTalk Batch Server, the following requirements must be met.

- The password must be configured never to expire--if the password ever expires, the service eventually fails to log on.
- The user account must never be disabled or deleted--if this account is ever disabled/deleted, the service eventually fails to log on.
- The domain user account must have a unique name--if the user account is a domain account, remove any local user accounts with the same name.
- The user account/user group must exist on all workgroup computers--if you want a local account to have access to resources on other computers in a workgroup environment, you must create accounts with the same name and password on each computer in the workgroup.

Configure your FactoryTalk Batch system

After you create a new user account for the FactoryTalk Batch Server, configure your FactoryTalk Batch system.

To configure your FactoryTalk Batch system

1. Configure the FactoryTalk Batch Server computer:
 - a. Add the new server user account to the **batchsvr_group** and administrators group. By adding the new account to the

- batchsvr_group** it inherits all the required user rights and access permissions.
- b. If FactoryTalk Batch Material Manager is part of your system, add the new FactoryTalk Batch Server user account to the **MTBatchServer** group on the Material Server computer.
 - c. Add the new FactoryTalk Batch Server user account to the **FactoryTalk Batch Server** service.
 - d. If you are running FactoryTalk Event Archiver in incremental mode, add the new FactoryTalk Batch Server user account in the **Batch Archiver** service.
 - e. If FactoryTalk eProcedure is part of your system, add the new FactoryTalk Batch Server user account to the **eProcedure Server** service.
 - f. Add the new FactoryTalk Batch Server user account to the **Batch COM** object in **Component Services > My Computer > COM+ Applications**.
2. Configure the FactoryTalk Batch Client computer(s):
 - a. If you are using workgroup security, create the new FactoryTalk Batch Server user account on all FactoryTalk Batch Client computers in the workgroup.
 - b. Add the new FactoryTalk Batch Server user account to **Component Services > My Computer > Properties > COM Security** on all remote FactoryTalk Batch View computers. Configure the account with **Access Permissions: Local Access and Remote Access**.
 - c. If eProcedure is part of your system, add the new FactoryTalk Batch Server user account to **Component Services > My Computer > Properties > COM Security** on all remote eProcedure Client computers. Configure the account with **Access Permissions: Local Access and Remote Access**.

Change the server account password

If you change the password for the existing FactoryTalk Batch Server user account, change the password in these locations:

- If you are using Workgroup security, change the password for the FactoryTalk Batch Server user account on all FactoryTalk Batch computers in the workgroup.
- Change the password for the FactoryTalk Batch Server user account in the FactoryTalk Batch server service.

- If you are running FactoryTalk Event Archiver in incremental mode, change the password for the FactoryTalk Batch Server user account to the **Batch Archiver** service.
- If eProcedure is part of your system, change the password for the FactoryTalk Batch Server user account in the **eProcedure Server** service.
- Change the password for the FactoryTalk Batch Server account in the **Batch COM** object in **Component Services > My Computer > COM+ Applications**.

Change the server user account for the FactoryTalk Batch Server service

To change the user account for the FactoryTalk Batch Server service, complete these steps on the server computer.

To change the server user account for the FactoryTalk Batch Server service

1. Select **Start > Windows Administrative Tools > Services**. The **Services** dialog box opens.
2. Right-click **FactoryTalk Batch Server**, and then click **Properties**. The **FactoryTalk Batch Server Properties** dialog box opens.
3. On the **Log On** tab, select **This Account** and type the new user and/or password.
4. Click **OK**.
 - If you are using FactoryTalk Event Archiver in incremental mode, change the user account name and/or password for the **Batch Archiver** service.
 - If eProcedure is part of your system, change the user account name and/or password for the **eProcedure Server** service.
5. Close **Services**.

Change the server user account in FactoryTalk Batch COM+ applications

To change the FactoryTalk Batch Server user account in Batch COM+ applications, complete these steps on the FactoryTalk Batch Server computer.

To change the server user account in FactoryTalk Batch COM+ applications

1. Select **Start > Windows Administrative Tools > Component Services**.
2. Expand **Component Services, Computers, My Computer** and **COM+ Applications**.
3. Right-click **Batch**, and then select **Properties**. The **Batch Properties** dialog box opens.
4. On the **Identity** tab, select **This user** and type the new FactoryTalk Batch Server user name and/or password.
5. Click **OK**.



Tip: The new permissions are applied the next time the FactoryTalk Batch Server is started on the computer.

Change the server user account in My Computer properties

To change the FactoryTalk Batch Server user account in **My Computer** properties, complete these steps on the FactoryTalk Batch Client computers.

To change the server user account in My Computer properties

1. Select **Start > Windows Administrative Tools > Component Services**.
2. Expand **Component Services** and **Computers**.
3. Right-click **My Computer**, and then click **Properties**. The **My Computer Properties** dialog box opens.
4. On the **COM Security** tab, click the **Edit Default** button in the **Access Permissions** area. The **Access Permission** dialog box opens.
5. Click the **Add** button to open the **Select Users, Computers, or Groups** dialog box.
6. Type the new FactoryTalk Batch Server user account name and then click **OK**.
7. In the **Access Permission** dialog box, select the new FactoryTalk Batch Server account. In the **Permissions** list, select **Allow** for Local Access and Remote Access.
8. Click **OK** twice.
9. Close **Component Services**.
10. Restart the computer.

Configure your FactoryTalk Batch system

After you create a new user account for the FactoryTalk Batch Server, configure your FactoryTalk Batch system.

To configure your FactoryTalk Batch system

1. Configure the FactoryTalk Batch Server computer:
 - a. Add the new server user account to the **batchsvr_group** and administrators group. By adding the new account to the **batchsvr_group** it inherits all the required user rights and access permissions.
 - b. If FactoryTalk Batch Material Manager is part of your system, add the new FactoryTalk Batch Server user account to the **MTBatchServer** group on the Material Server computer.
 - c. Add the new FactoryTalk Batch Server user account to the **FactoryTalk Batch Server** service.
 - d. If you are running FactoryTalk Event Archiver in incremental mode, add the new FactoryTalk Batch Server user account in the **Batch Archiver** service.
 - e. If FactoryTalk eProcedure is part of your system, add the new FactoryTalk Batch Server user account to the **eProcedure Server** service.
 - f. Add the new FactoryTalk Batch Server user account to the **Batch COM** object in **Component Services > My Computer > COM+ Applications**.
2. Configure the FactoryTalk Batch Client computer(s):
 - a. If you are using workgroup security, create the new FactoryTalk Batch Server user account on all FactoryTalk Batch Client computers in the workgroup.
 - b. Add the new FactoryTalk Batch Server user account to **Component Services > My Computer > Properties > COM Security** on all remote FactoryTalk Batch View computers. Configure the account with **Access Permissions: Local Access and Remote Access**.
 - c. If eProcedure is part of your system, add the new FactoryTalk Batch Server user account to **Component Services > My Computer > Properties > COM Security** on all remote eProcedure Client computers. Configure the account with **Access Permissions: Local Access and Remote Access**.

Server account password change locations

If you change the password for the existing FactoryTalk Batch Server user account, change the password in these locations:

- If you are using Workgroup security, change the password for the FactoryTalk Batch Server user account on all FactoryTalk Batch computers in the workgroup.
- Change the password for the FactoryTalk Batch Server user account in the FactoryTalk Batch server service.
 - If you are running FactoryTalk Event Archiver in incremental mode, change the password for the FactoryTalk Batch Server user account to the **Batch Archiver** service.
 - If *eProcedure* is part of your system, change the password for the FactoryTalk Batch Server user account in the **eProcedure Server** service.
- Change the password for the FactoryTalk Batch Server account in the **Batch COM** object in **Component Services > My Computer > COM+ Applications**.

Index

.

.NET registry key 63

A

administrative Tools 35

allowable failures 56

Archiver

(Incremental) 52

event filters 55

service 113

automatic

restart control 63

B

Batch IDs

customize 58

Batch Server

cold boot 38

computer name 63

demo mode 35, 38

grace period 38

options 48

performance chart 95

warm all boot 38

warm boot 38

Batch Server Service

start 41

startup type 47

Batch Server Statistics

COM information 35

dialog box 39

Batch Service Manager

interface 36

BATCHHIS table

select 52

boot methods

cold boot 38

warm all boot 38

warm boot 38

C

command handshake timeout 66

communications timeout 56

continuous phase 80

cross invocation

default values 59

example 76

D

data server definition file (DSDF) 26

default

cross invocation values 59

hyperlink values 60

descriptors

cross invocation 59

hyperlink label 60

directory share 25

disable

Archiver service 52

DSDF 26

dwel time 81

E

eProcedure

hyperlinks 60

event journal signatures

electronic batch records 56

Event Viewer 67

F

failure

handshake timeout 56

phase 56

watchdog timeout 56

H

hold propagation

setting 56

hyperlink

default values 60

I

Incremental Archiver 52

M

manual failover 64
Material Manager 61
Maximum Log File Size box 56
Minimum Disk Space box 56

O

Object Database Connectivity (ODBC) 52
OLE for process control (OPC) 26
OPC groups 26

P

Period (msec) box 56
permissions 25
phase
 material-enabled 79
phase logic simulation 79
product policies 29

R

resource types
 cross invocation 59
 hyperlinks 60

S

security
 Batch View 30
Server Options
 Archiver (End of Batch) 52
 Archiver (Incremental) 52
 Archiver Event Filters 55
 Batch Reporting tab 52
 Batch Server tab 56
 Cross Invocation tab 59
 edit 48
 redundant servers 50
 Restart Control tab 50
Server Options dialog box 39
shared directory 25
simulator 79
 ack/clear requests 85
 change dwell time 81
 command a phase 84
 indicate a continuous phase 82
 interface 80
 phase configuration 80
 phase ownership 85

 phase parameter tag 82
 phase status 82
 report parameter tag 83
 request data tags 83
 request sequence 81
 restore/clear requests 85
 unit tag status 87

U

User-Defined (End of Batch) 52

W

Windows Event Log
 modify settings 70
Windows registry
 .NET key 63
Windows services
 Archiver 35
 Batch Server 35
workgroup
 configuring client 29

Rockwell Automation support

Use these resources to access support information.

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

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Waste Electrical and Electronic Equipment (WEEE)



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





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

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