



FactoryTalk eProcedure Getting Results Guide

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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).

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

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eProcedure Glossary

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About this manual

This information was developed to introduce you to the basics of FactoryTalk eProcedure. This manual is one of a set of related manuals that describe installing, programming, and operating the FactoryTalk® Batch system.

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

Document organization

The following subjects are presented in this document:

- eProcedure documentation
- eProcedure components
- eProcedure Server
- Introduction to instruction-based phases
- HTML-Based instruction files
- Glossary

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

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.

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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.

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Includes the name of the license, the list of open-source components citing the license, and the terms of the license.

The default location of this file is:

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<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-GR01)	Explains the basics of FactoryTalk Batch eProcedure.
FactoryTalk Batch Getting Results Guide (BATCH-GR01)	Introduces the basics of automated batch manufacturing and the FactoryTalk Batch product components.
FactoryTalk Batch Material Manager Getting Results Guide (BWMTR-GR01)	Introduces the basics of FactoryTalk Batch Material Manager.

User Guides

Resource	Description
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 formulators.
FactoryTalk Batch Equipment Editor User Guide (BATCH-UM004)	Provides information on creating and maintaining an equipment database (area model). The area model is available to all other FactoryTalk Batch programs, including the Recipe Editor, Batch View, and Phase Simulator.
FactoryTalk Batch PhaseManager™ User Guide (BATCHX-UM01)	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 organize recipes graphically 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.

Resource	Description
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 connectivity into a FactoryTalk Batch Server.
FactoryTalk Event Archiver User Guide (BATCH-UM012)	Provides information and instructions specific to the FactoryTalk Event Archiver. Intended for use by system administrators and production supervisors.

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 system administrators and database administrators.

Reference Guides

Resource	Description
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 custom interface developers.
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 for PCD programmers.
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 custom interface developers.
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 system administrators.
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 instruction file authors.

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.

FactoryTalk eProcedure introduction

FactoryTalk® eProcedure® is part of the FactoryTalk Batch suite of software components. As part of the FactoryTalk family, the FactoryTalk Batch components increase overall plant efficiency by delivering the visibility, control, and reporting needed to optimize manufacturing. Coordinated execution reduces rework and improves product quality and consistency. Real-time management of equipment utilization maximizes return on assets. Implementing optimized recipes and procedures, increases plant capacity. Using electronic, paperless operations improves productivity. Reduce compliance costs by using electronic batch record implementation, paperless manufacturing, and quality sign-offs. Lifting the compliance burden from manufacturing reduces inventory levels and cycle times, which greatly improves customer service.

The FactoryTalk Batch components ensure that plant floor operations are optimized, giving quick returns on net assets. New product definitions are deployed quickly into manufacturing. Production order information is accurate. Business and plant-level control systems are tightly coordinated and multiple sites operate as a team. Our completely open, configurable set of products helps you define, manage, monitor, and control manufacturing at local, remote, or contractor plants. Best of all, deploy the FactoryTalk Batch components wherever needed (one at a time or all at once) to improve productivity and plant control. The FactoryTalk Batch components include:

- FactoryTalk Batch
- FactoryTalk eProcedure
- FactoryTalk Batch Material Manager

What is eProcedure?

As one of the FactoryTalk Batch components, FactoryTalk eProcedure manages, sequences and documents the execution of manual operations. Automating batch sheets and standard operating procedures (SOPs) through interactive web documents, eProcedure provides the control needed to rapidly deploy new products into manufacturing and the data collection necessary to achieve true plant floor to enterprise-wide integration. FactoryTalk eProcedure provides the benefits of procedure automation without the expense of equipment automation. The FactoryTalk Batch components incorporate the principles of batch and procedure automation, an approach defined by ISA's S88.01 standard.

FactoryTalk eProcedure automation provides a means to automate the execution of procedural logic associated with recipes, product grade changes,

computer setup, and computer shutdown procedures. Operators perform the actions on the equipment, but they are prompted and guided by eProcedure. The procedure specifies the sequence and timing of actions that can be manually performed or performed by automation equipment.

Typical procedures that can be automated using FactoryTalk eProcedure include:

- Batch execution
- Equipment startup and shutdown
- Product changeover
- Abnormal condition handling

Benefits of eProcedure

FactoryTalk eProcedure reduces the amount of effort required to create and maintain recipes, as well as minimizes the time required to collect and report Batch data.

The following describes a typical recipe execution process, with and without eProcedure:

Without eProcedure	With eProcedure
A master recipe (a collection of SOPs) is maintained in written form. The master recipe includes instructions for the operator, places to enter data, and places for any required signatures.	A master recipe is created and maintained electronically with the FactoryTalk Batch Recipe Editor. The master recipe includes operator instructions, report data, and prompts for required approvals.
When a batch needs to be run, the recipe is printed and given to the operator, who reads the instructions, manually sequences the process and enters the required information on the printout.	When a batch needs to be run, the operator adds a batch using FactoryTalk Batch View, steps through the instructions, and enters the required data into the system.
When the batch is complete, the completed recipe document is filed.	When the batch is complete, the electronic batch record contains a complete record of the entire batch process.
The data can be manually entered into a database for recording and reporting purposes.	The electronic batch record can be automatically transferred to any ODBC-compliant database using the FactoryTalk Event Archiver.

FactoryTalk eProcedure can be implemented in a completely manual manufacturing facility or in a partially automated facility. With eProcedure, use all manual phases or a combination of manual and automated phases within a single recipe. Regardless of the state of automation, the implementation process is the same.

The FactoryTalk Batch Equipment Editor is used to define the process equipment, both manual and automated. The modular approach in defining equipment is as appropriate with manual facilities as it is in automated facilities. As part of the configuration process, attach instruction files to each of the manual equipment modules.

Instruction files are HTML files that include all of the required control steps for a phase. Each control step can include textual instructions, embedded parameter values, report fields for operator input, and submit buttons. Control steps may also include any valid HTML component.

Once the equipment is defined, and the instruction files are created, create recipes in the same fashion as a completely automated facility.

FactoryTalk eProcedure allows the operator to create and command batches from remote computers. With eProcedure, the operator no longer needs to write processing information on a piece of paper for submission. The operator enters the data directly into the computer where the data is stored in an electronic batch record, which can later be downloaded into your ODBC-compliant database.

FactoryTalk Batch Components

FactoryTalk Batch comes with several components that interact with each other to design, create, configure and run batch recipes.

FactoryTalk Batch Server

The FactoryTalk Batch Server is the engine that runs FactoryTalk Batch. It is the component that controls system information, phases and recipes. The server allows integration with process-connected devices (PCDs) and third-party software packages. Prior to opening FactoryTalk Batch View, the FactoryTalk Batch Server must be running and remain active during all batch functions.

The FactoryTalk Batch Server operates as a Windows service, which means that the FactoryTalk Batch Server can be configured to start automatically and that control of the FactoryTalk Batch Server can be given to the Windows Service Manager. Because the FactoryTalk Batch Server runs as a service, it does not require an operator to log on to run. Therefore, logging on or off Windows during operation does not disrupt the performance of the FactoryTalk Batch Server.

FactoryTalk Batch View

Use FactoryTalk® Batch View to initiate and control the batch process. A batch is a running control recipe. The material produced by a single execution of a recipe is also considered a batch.

- Use **Batches** to create, view, and command a control recipe, observe the execution of a single recipe, and bind units for class-based recipes. Once a control recipe is created, it remains in the **Batches** list until it is removed or until the FactoryTalk Batch Server is restarted with a cold boot. A graphical representation of a running batch and its associated data is displayed.
- Use **Prompts** to alert operators to value requests for parameters, unit binding, material binding, and signatures or manual instructions. A control recipe cannot complete execution until the operator provides the requested information. In most cases, pending requests for information (value prompts, signatures, or manual instructions) are not acknowledged until a user either provides the information or stops or aborts the control recipe.

- Value prompts alert operators to requests for parameter values, unit binding, and material phase/container binding.
- Signatures are requests for signoffs that require user permissions and optional comments. When a signature is generated against a control recipe, acknowledge the signature by completing the associated signoffs. The requested user information in a signature is determined by the signature template defined in the area model.
- Instructions are individual steps of a manually executed phase. As a batch executes, the instruction for each active step appears. Instructions execute in the order specified within the master recipe.
- Use **Equipment** for an equipment-centric view of the defined area model. There are three levels of equipment: process cell, unit, and phase.
- Use **Diagnostics** to view server and service status, server performance, server statistics, arbitration, and journals.
- Use **Profile** to change the default language, view assigned groups, enable or disable the minimal view, and view authorization settings

For more information on using these features, see FactoryTalk Batch View Help.

FactoryTalk Batch Recipe Editor

The FactoryTalk Batch Recipe Editor is used to graphically create and configure recipes.

- The interface is based on IEC 61131-3 sequential function charts (SFC) that graphically organizes recipes into procedures, unit procedures, operations and phases along with any applicable comments.
- In addition to the SFC view, the FactoryTalk Batch Recipe Editor offers a table view. Table-based recipes provide a mechanism for creating simple recipes that do not require a complex recipe structure or elaborate transition expressions. Additionally, you can view table-based recipes and edit all recipe parameters without having to navigate between steps.
- The FactoryTalk Batch Recipe Editor allows you to specify sequences of phases. The actual phase logic must be configured in the process-connected device (PCD) while the interface to the PCD must be configured in the FactoryTalk Batch Equipment Editor.
- Recipe reports can be generated in SFC and/or descriptive format.
- If Recipe Approvals are enabled in the underlying area model, approval signoffs are executed in the FactoryTalk Batch Recipe Editor.
- When Recipe Version Control is enabled, a version of a recipe (a read-only, numbered snapshot of a recipe) can be saved and protected from further editing. New work-in-progress (WIP) copies of a version allow the recipe author to continue to make changes and updates to a recipe. When a versioned recipe no longer matches the underlying area model, or references a deleted or non-existent sub-recipe, it is marked as obsolete.

FactoryTalk Batch Equipment Editor

The FactoryTalk Batch Equipment Editor is a graphical interface through which a database of process equipment is defined and maintained (an area model).

- Components defined in the FactoryTalk Batch Equipment Editor are used to interface with process-connected devices (PCDs) in the facility. During recipe configuration, the area model provides a list of available units and phase classes.
- Configure phases and commands to trigger an electronic signature request when a report or recipe parameter is out of range (parameter deviation), or when specific commands are executed on a batch (such as Abort Batch or Active Step Change).
- During recipe verification, the area model confirms that the designated equipment is capable of executing the procedures.
- During recipe execution, resource arbitration functions use the area model to allocate equipment based on recipe and operator requests.
- The area model is available to all other FactoryTalk Batch applications.

In addition to the area model, the FactoryTalk Batch Equipment Editor allows configuration of the following:

- Communication functions
- Electronic signatures
- Enumeration sets
- Data servers
- Recipe approvals
- Recipe version control
- FactoryTalk Event Archiver functions

FactoryTalk Event Archiver

The FactoryTalk Event Archiver's purpose is to translate the FactoryTalk Batch tab-delimited ASCII electronic batch record files to a user-specified file type. These electronic batch record files are maintained separately for each batch created and viewed with a word processor or spreadsheet. Many plants have standardized on one of the many commercially available Relational Database Management System (RDBMS) software packages. We recommend using a high-performance database, such as SQL Server, due to their better robustness and performance. The Archiver collects data from each electronic batch record file and stores it in the specified RDBMS database format.

FactoryTalk Batch Network Editor

The FactoryTalk Batch Network Editor is a utility that indicates where other FactoryTalk Batch and FactoryTalk Batch Material servers are located on the network. This network configuration allows for ease of integration with other FactoryTalk Batch components and simplifies the process of reconfiguring a multi-computer system. If FactoryTalk Batch Material Manager is also

installed the FactoryTalk Batch Network Editor is also used to indicate the location of the material database.

FactoryTalk eProcedure Server

The FactoryTalk eProcedure Server provides the services to the FactoryTalk Batch Server to enable the use of HTML instruction files. Prior to connecting a client to FactoryTalk eProcedure, FactoryTalk eProcedure Server must be running and remain active during all batch functions.

FactoryTalk Batch Material Manager

FactoryTalk Batch Material Manager is used to track material consumption in batch recipes. It consists of two components: Material Server and Material Editor.

The Material Editor provides an interface to help you create the material database, which consists of material, lot, subplot, container, and storage location data. The Material Server provides the communication between the material database and the FactoryTalk Batch Server. During a batch run, information about available containers is presented to the operator for binding decisions. Binding is the process of mapping steps within a control recipe to actual equipment in a plant. After a batch is run, quantities consumed or distributed are updated in the material database for use in inventory tracking.

The Material Server consists of a group of components that work together to service various applications. The primary applications that the Material Server services are the Material Editor, FactoryTalk Batch Server, FactoryTalk Batch Recipe Editor, and FactoryTalk Batch Equipment Editor. Any third-party application can also use custom solutions based on the exposed Material Object Model (MOM).

The eProcedure Server

For ease of understanding, and for tutorial purposes, this guide refers to configuring and using the sample files installed with FactoryTalk Batch. The SampleDemo folders contain complete area models and recipes for a simulated plant. Before running the demonstrations, you must add a FactoryTalk Security user, configure the FactoryTalk Batch Server to recognize the required project directories, select the initialization path and file name, and then start the FactoryTalk Batch Server, the FactoryTalk eProcedure Server, and the FactoryTalk Batch Phase Simulator.

Tip: This guide outlines the configuration and use of the SampleDemo demonstration files. It is recommended that you follow the directions for using this demonstration step by step.

The FactoryTalk eProcedure Server provides the services to the FactoryTalk Batch Server to enable the use of HTML instruction files. Communication from FactoryTalk Batch View to the eProcedure Server uses HTTPS. FactoryTalk eProcedure uses OLE for Process Control (OPC) for communications between the eProcedure Server and the FactoryTalk Batch Server.

The eProcedure Server coordinates the following functions:

- Provides the services to the FactoryTalk Batch Server to enable the use of HTML instruction files.
- Formats parameters and report parameters from material-based recipes into instruction files.

This section assumes that the FactoryTalk eProcedure Server, the FactoryTalk Batch Server, and FactoryTalk Batch View have been installed and configured. (See the *FactoryTalk Batch Components Upgrade and Installation Guide* for more information.)

Set up sample demonstrations

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 set up sample demonstrations:

1. Add a FactoryTalk Security user.
2. Configure the FactoryTalk Batch Server to locate the area model.
3. Verify the recipes in the area model.

Add sample FactoryTalk Security users

For the sample demonstrations file, create FactoryTalk user accounts for an operator and an engineer. Create these user accounts in the FactoryTalk Directory.

To add sample FactoryTalk Security users:

1. Select **Start > Rockwell Software > FactoryTalk Administration Console**. The **Select FactoryTalk Directory** dialog box opens.

IMPORTANT Administrator privileges are required to perform this procedure.

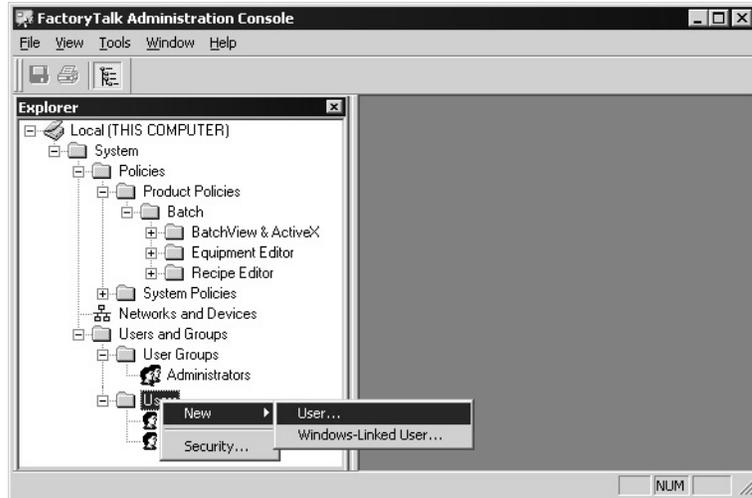


2. Select **Network** to add this user account to the FactoryTalk Network Directory, and select **OK**.
3. If not already logged on to the FactoryTalk Network Directory, the **Log On to FactoryTalk** dialog box opens. In **User name**, type the user name for the Administrator that was configured when the FactoryTalk Services Platform was installed.

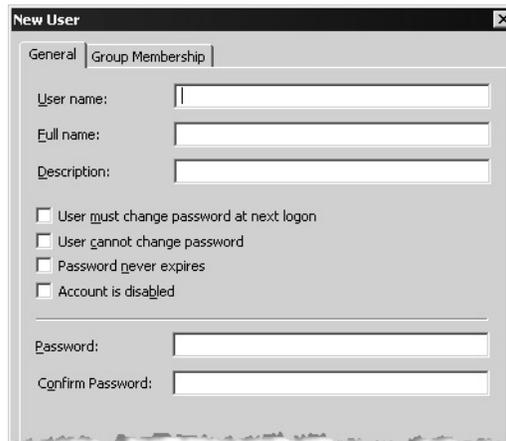


4. In **Password**, type the password for the Administrator.
5. Verify the **Directory** and select **OK**. The **FactoryTalk Administration Console** window opens and displays the specified FactoryTalk Directory.
6. Expand **Users and Groups**.

- Right-click the **Users** folder, and select **New > User** to create a new FactoryTalk Security user account in FactoryTalk Directory.



- The **New User** dialog box opens and displays the **General** tab. In the **User name** box, type **OPER**.



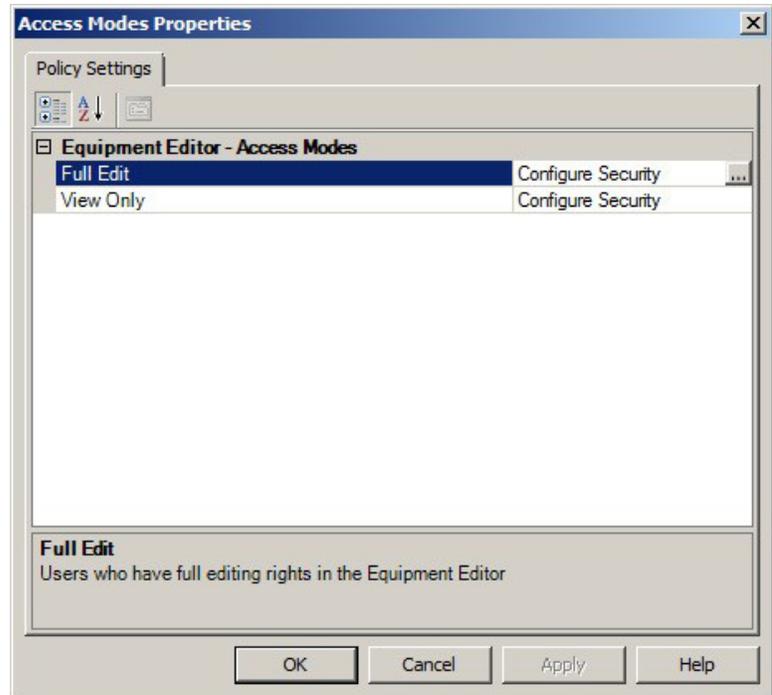
- In **Full name**, type **Operator**.
- In **Password**, type **password**, and confirm it by re-entering **password** in the **Confirm Password** box.
- Select **Create**.
- Repeat steps 7-11, but this time in the **User Name** field, enter **ENG** and in the **Full Name** field, enter **Engineer**.
- Keep the FactoryTalk Administration Console open to configure permissions for these FactoryTalk Security users in the next exercise.

Configure sample permissions for FactoryTalk Security users

After creating the FactoryTalk security users, set up access modes for each FactoryTalk Batch component to specify which users are permitted to view or perform actions. Configure security settings in the FactoryTalk Administration Console. To tighten security in the client, remove the **All Users** group from the **Full Edit** policy setting.

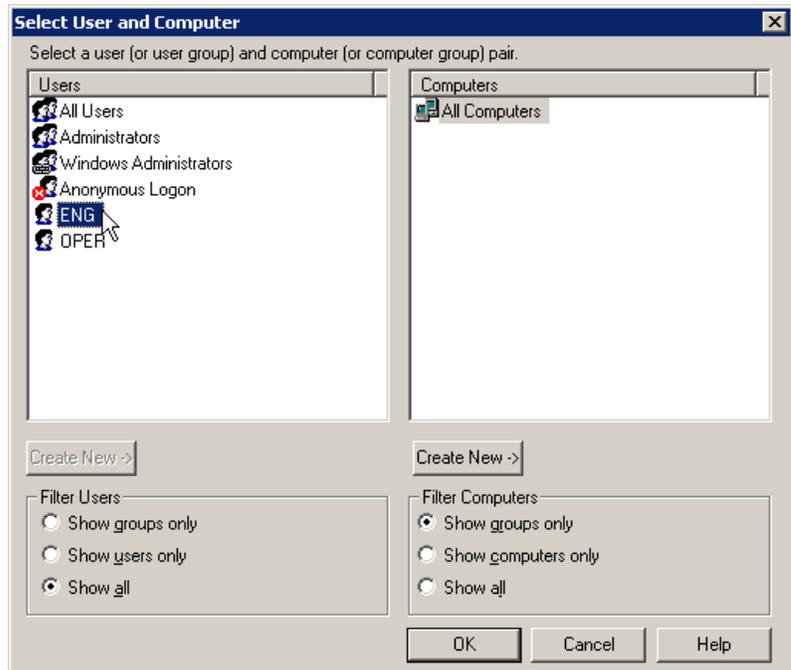
To configure sample permissions for FactoryTalk Security users:

1. In the FactoryTalk Administration Console Explorer pane, navigate to **System > Policies > Product Policies > Batch > Equipment Editor > Access Modes**.
2. Right-click **Access Modes**, and then select **Properties**. The **Access Modes Properties** dialog box opens.

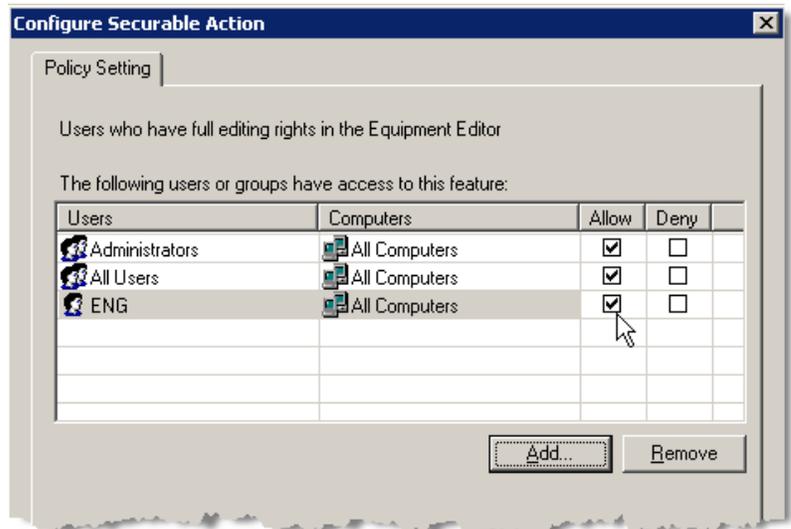


3. In the **Full Edit** row, select the **Configure Security** browse button. The **Configure Securable Action** dialog box opens.
4. Select **Add**. The **Select User and Computer** dialog box opens.
5. In the **Filter Users** box, select **Show All**.

6. In **Users**, select **ENG**.



7. Select **OK**. The **Configure Securable Action** dialog box is updated, showing **ENG** in the list of **Users** with the **Allow** checkbox selected.



8. Select **OK** to close the **Configure Securable Action** dialog box.
9. In the **Access Modes Properties** dialog box, select **View Only**.
10. In the **View Only** row, select the **Configure Security** browse button.
The **Configure Securable Action** dialog box opens.
11. Select **Add**. The **Select User and Computer** dialog box opens.
12. In the **Filter Users** box, select **Show All**.
13. In **Users**, select **OPER**.
14. Select **OK**. The **Configure Securable Action** dialog box is updated, showing **OPER** in the list of **Users** with the **Allow** checkbox selected.
15. Select **OK** to close the **Configure Securable Action** dialog box.
16. Select **OK** to close the **Access Modes Properties** dialog box.

See the *FactoryTalk Batch Administrator Guide* for more information on security.

Configure the sample FactoryTalk Batch Server

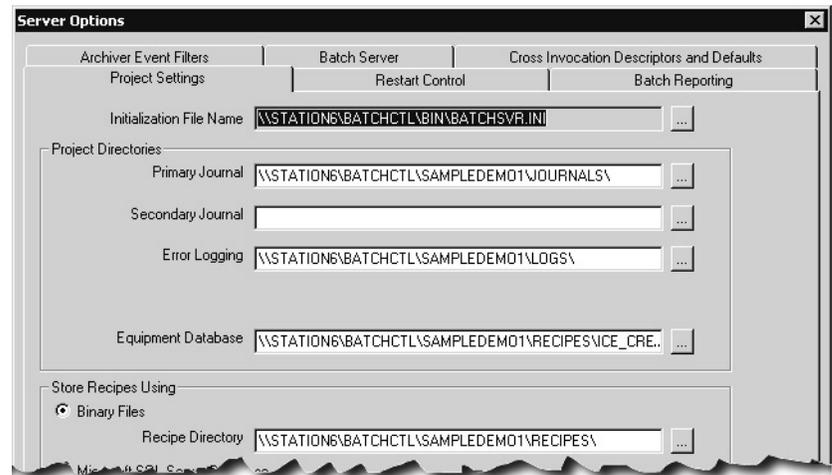
To set up the sample demonstrations, configure the FactoryTalk Batch Server to locate the folders that contain the demonstration files and to the **\Restart** and **bin** folders where the FactoryTalk Batch Server writes data upon system failure. Configure the FactoryTalk Batch Server in the FactoryTalk Batch Equipment Editor.

To configure the sample FactoryTalk Batch Server:

1. Select **Start > Rockwell Software > Equipment Editor**. The FactoryTalk Batch Equipment Editor opens (log on to FactoryTalk if prompted).

IMPORTANT Administrator privileges are required to perform this procedure.

2. Select **Options > Server Options**. The **Server Options** dialog box opens to the **Project Settings** tab.

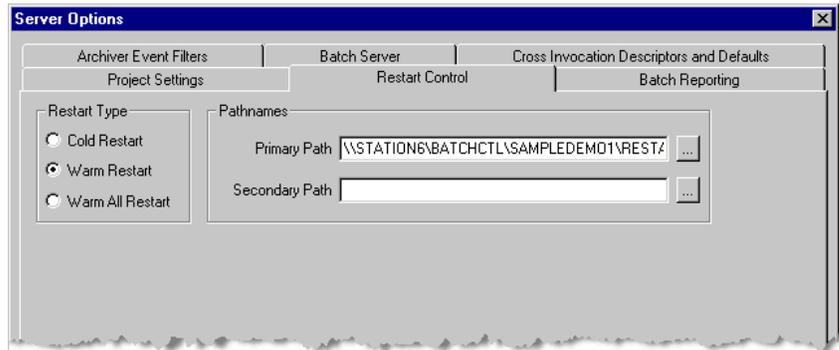


3. In the **Project Directories** area, select the **Primary Journal** browse button. The **Select Directory** dialog box opens.
4. From the **Look in** list, select the **SampleDemo1\Journals** folder, and then select **Open**.
5. Select the **Error Logging** browse button. The **Select Directory** dialog box opens.
6. From the **Look in** list, select the **SampleDemo1\Logs** folder, and then select **Open**.
7. Click the **Instructions** browse button. The **Select Directory** dialog box opens.

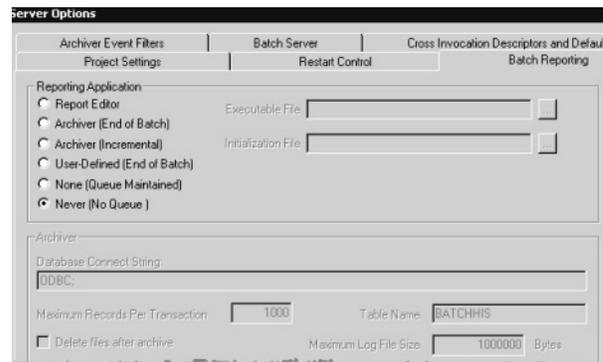
IMPORTANT In order for the eProcedure Server to start, you must define the instruction path and an instruction file for each instruction-based phase in the area model. (See the *FactoryTalk Batch Equipment Editor User Guide* for instructions on defining instruction-based phases.)

8. Select the **Equipment Database** browse button. The **Select Equipment Database** dialog box opens.

9. From the **Look in** list, open the **SampleDemo1\Recipes** folder, select the **ice_cream1.cfg** file, and then select **Open**.
10. In the **Store Recipes Using** area, select **Binary Files**, and then select the **Recipe Directory** browse button. The **Select Directory** dialog box opens.
11. From the **Look in** list, select the **SampleDemo1\Recipes** folder, and then select **Open**.
12. Select the **Restart Control** tab.



13. Select the **Primary Path** browse button. The **Select Directory** dialog box opens.
14. From the **Look in** list, select the **SampleDemo1\Restart** folder, and then select **Open**.
15. Select the **Secondary Path** browse button. The **Select Directory** dialog box opens.
16. From the **Look in** list, select the **Bin** folder.
17. Select the **Batch Reporting** tab. Leave **Never (No Queue)** as the default reporting application.



18. Select **OK** to close the **Server Options** dialog box.
19. Select **File >Exit** to exit the FactoryTalk Batch Equipment Editor.



Tip: These steps set up the FactoryTalk Batch Server to run the tutorial steps in this manual. There are many other settings to consider when setting up the FactoryTalk Batch system. (See the *FactoryTalk Batch Administrator Guide* for more information on the **Server Options** dialog box.)

Rebuild the recipe directory

To run the demonstration recipes, rebuild the recipe directory and verify the recipes in the area model using the FactoryTalk Batch Recipe Editor.

To rebuild the recipe directory:

1. Select **Start**, point to **All Programs > Rockwell Software > FactoryTalk Batch Suite > FactoryTalk Batch**, and then select **Recipe Editor**. The Recipe Editor reads the area model.
2. Log on to FactoryTalk if prompted.

IMPORTANT Administrator privileges are required to perform this procedure.

If a message to verify the recipes displays, select **Cancel**.

3. Select **File > Rebuild Recipe Directory**. When the rebuild completed, select **OK**, and then select **Yes** to verify the recipes.
4. When the recipe verification completes, select **Accept** to save the recipes, and then select **Close**.
5. Select **File > Exit** to exit the FactoryTalk Batch Recipe Editor.

Start the Batch and eProcedure Servers

The FactoryTalk Batch and FactoryTalk eProcedure Servers may start automatically when the computer starts. By default the FactoryTalk Batch Server starts in production mode. If FactoryTalk Batch is not activated, run the tutorial in demo mode. While in demo mode, the FactoryTalk Batch Server runs for a two-hour period and then stops.

Tip: The FactoryTalk Batch Server does not start in production mode without activation. (See the *Activate Rockwell Software Products* insert included with the software CD.)

IMPORTANT: If you are using Windows Server to host your Batch and eProcedure Server, ensure that the Internet Explorer Enhanced Security Configuration setting on the server has been turned off. For instructions, see the [Microsoft Web site](#).

To start the Batch and eProcedure Servers:

1. Select **Start**, point to **All Programs > Rockwell Software > FactoryTalk Batch Suite > FactoryTalk Batch**, and then select **Batch Service Manager**. The **FactoryTalk Batch Service Manager** opens.

IMPORTANT Administrator privileges are required to perform this procedure.

2. If the FactoryTalk Batch Server is not already listed in the **Service** box, select it from the list.

- If the FactoryTalk Batch Server is running, select **Stop**.



- If the name of the computer where the FactoryTalk Batch Server is installed does not display in the **Computer** box, select the **Select Computer** button. The **Select Computer** dialog box opens.
- In the **Enter the object name to select** area, type the name of the computer where the Batch Server is installed (or select **Advanced** to search for a computer). Select **OK**.

Tip: The FactoryTalk Batch Service Manager must communicate with the Windows Service Manager of the selected computer to determine what services are available. There may be a noticeable delay as communications are established. If the Service Manager cannot communicate with the Windows Service Manager of the selected computer, a message displays.

- From the **Service** list, select **FactoryTalk Batch Server**.

Tip: If **No Batch Services** displays in the list, the FactoryTalk Batch Server is not installed on the selected computer. See the *FactoryTalk Batch Components Installation and Upgrade Guide* for instructions.

- To start the FactoryTalk Batch Server in Demo mode, select **Allow Demo Mode**.

- Select the method to use for booting the server.

Cold Boot	Restarts the FactoryTalk Batch Server in a cold state. All journal data or recipe content is erased upon startup.
Warm Boot	Restarts the FactoryTalk Batch Server, restoring the set of batches that were on the batch list when the server previously terminated.
Warm All Boot	Restarts the FactoryTalk Batch Server only if it is able to restore all of the batches to the batch list.

- Select **Start/Continue**. The Service State area changes from STOPPED to START PENDING. After a few moments, RUNNING displays and the light changes to green.

The FactoryTalk Batch Phase Simulator may start automatically and open a window. If so, minimize the window.

10. Select the eProcedure Server from the **Service** list.



11. Select the method to use for booting the server.

Cold Boot - checked Restarts the FactoryTalk eProcedure Server in a cold state. All control steps, plus all signatures and previously-entered values associated with the control step due to parameter deviation or cancelled step verification signatures, are removed.

Cold Boot - unchecked Restarts the FactoryTalk eProcedure Server, restoring the control steps that were active when the server previously terminated (the control step is restarted with a new reactivation number).

(See [Effects of warm boot on control step](#) on [page 26](#) for more information.)

12. Select **Start/Continue**. The eProcedure Server starts running.

13. Click **Close** to close the FactoryTalk Batch Service Manager.

Tip: If conversation becomes LOST while running in Demo mode, make sure that the Simulator is running and try starting the server(s) again.

Start the sample FactoryTalk Batch Phase Simulator

FactoryTalk Batch comes with a phase logic simulation program, referred to as the FactoryTalk Batch Phase Simulator used to simulate the batch process without connecting to a PCD. The Phase Simulator imitates the functionality of a data server and can communicate with the FactoryTalk Batch Server using OPC communication protocol. The Phase Simulator is a powerful tool for testing, experimentation and demonstration purposes. In this guide, run the sample demonstration using the Phase Simulator.



Tip: If the Phase Simulator is required and OPC protocol is used for communications, the FactoryTalk Batch Server automatically starts the Phase Simulator. Check the Windows taskbar to see if the Phase Simulator is started.

To run the sample demonstration correctly, open the **ice_cream1.sim** file in the Phase Simulator.

To start the sample FactoryTalk Batch Phase Simulator:

1. If the Phase Simulator is already running, maximize it from the Windows taskbar. If the Phase Simulator is not running, select **Start > Rockwell Software > Simulator**. The FactoryTalk Batch Phase Simulator opens.

IMPORTANT Administrator privileges are required to perform this procedure.

2. Select **File > Open**. The **Open Simulator Configuration File** dialog box opens.
3. From the **Look in** list, open the **Program Files > Rockwell Software > Batch > SampleDemo1 > Recipes** folder. Select the **ice_cream1.sim** file, and then select **Open**.
4. Minimize the **FactoryTalk Batch Phase Simulator** window.

Open the sample demonstration in the FactoryTalk Batch Phase Simulator

To open the sample demonstration, you must open the **ice_cream1.sim** file in the Phase Simulator.

To open the sample demonstration in the FactoryTalk Batch Phase Simulator:

1. From the **File** menu, select **Open**. The **Open Simulator Configuration File** dialog box opens.
2. From the **Look in** list, open the **Program Files (x86)\Rockwell Software\Batch\SampleDemo1\Recipes** folder. Select the **ice_cream1.sim** file, and then select **Open**.
3. Minimize the **Phase Simulator** window.

Verify PCD communications

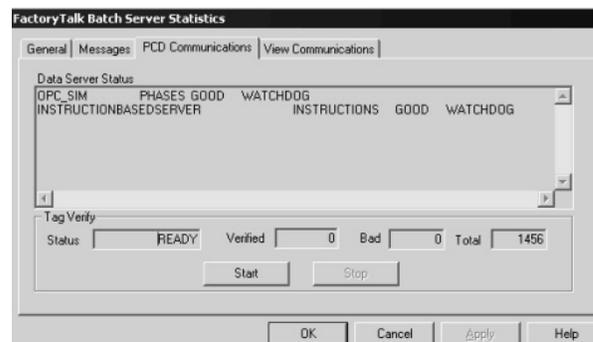
Use the following instructions to verify PCD communications.

To verify PCD communications:

1. Select **Start**, point to **All Programs > Rockwell Software > FactoryTalk Batch Suite > FactoryTalk Batch**, and then select **Batch Service Manager**. The **FactoryTalk Batch Service Manager** opens.

IMPORTANT Administrator privileges are required to perform this procedure.

2. Make sure **FactoryTalk Batch Server** is selected in the **Service** box.
3. Select **Server Statistics**. The **FactoryTalk Batch Server Statistics** dialog box opens.
4. Select the **PCD Communications** tab. The Data Server Status area displays the status of the conversation with the OPC_SIM data server (Phase Simulator), which should be PHASES GOOD, and the INSTRUCTIONBASEDSEVER, which should be INSTRUCTIONS GOOD.



5. In the **Tag Verify** area, select **Start** to begin the verify process. The tag verification process takes several minutes.
6. When the **Status** box shows COMPLETED, select **OK** to close the **FactoryTalk Batch Server Statistics** dialog box.

Effects of warm boot on control steps

A warm restart (boot) of the eProcedure Server has the following effects on control steps:

- **Reactivated steps** are not active after a warm boot. Instead, the previously active control step is active. The left column in Past instructions contains the usual information (the reactivation number is remembered). The middle column displays **Reactivated Control Step Terminated by eProcedure Server shutting down** and the right column has a check mark. An **InstructionComplete** event record containing the step's HTML is created. In addition, a **ControlStepStop** event record is added. These control steps are not eligible for reactivation.
- **Control steps** that were active during a warm boot of the eProcedure Server are still active when the server starts again, but the control step is restarted with a new reactivation number. All signatures and previously-entered values associated with the control step due to parameter deviation or canceled step verification signatures are removed. A Past control step is added, which states **Control Step Terminated by eProcedure Server shutting down**.

Summary

In this chapter, you:

- Set up the FactoryTalk Batch Server to run the sample demonstration
- Started the FactoryTalk Batch and eProcedure Servers in demo mode
- Opened the *.sim* file in the Phase Simulator to run the sample demonstration
- Verified PCD communications status

This chapter provided a brief overview of the capabilities of the FactoryTalk Batch and eProcedure Servers. (See the *FactoryTalk Batch Administrator Guide* for more information about the FactoryTalk Batch Server. See the *FactoryTalk eProcedure Administrator Guide* for more information about the eProcedure Server.)

Tip: The rest of this document is designed to give you a tour through eProcedure using the sample demonstration. Follow the step-by-step instructions to learn how to run instruction-based recipes using eProcedure.

Introduction to instruction-based phases

An instruction-based phase is a phase that is linked to an instruction file — when the phase executes, the contents of the instruction file display in a browser window.

Create instruction-based phases

An instruction-based phase consists of an instruction file that is assigned to the phase.

To create instruction-based phases:

1. Create the instruction file.
2. Assign the instruction file to a phase

Create an instruction file

An instruction file contains the series of steps, such as operation instructions and operator feedback entries that present to the operator through Internet Explorer. All the actions performed are recorded in the Event Journal for a permanent record of the process. For example, you can add a step in the instruction file that prompts the operator to verify a temperature; the temperature value and the approval indication appears in the Event Journal.

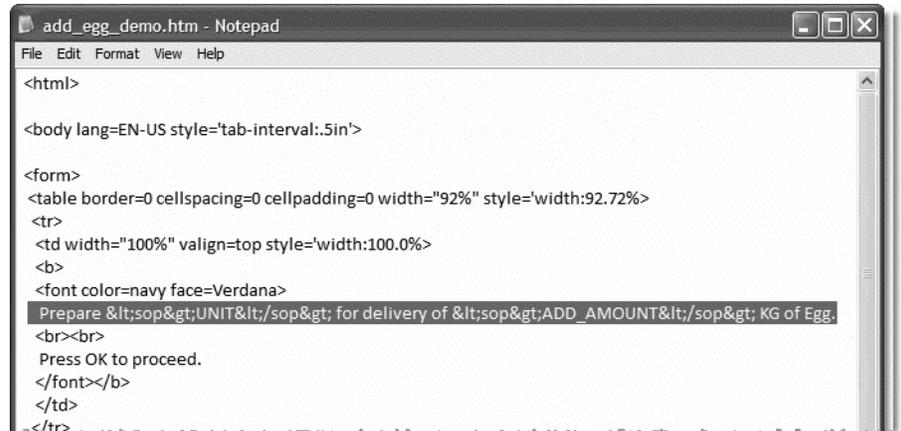
For this exercise you will use Microsoft® Notepad to view an existing HTML-based web page that uses standard HTML tags and custom HTML tags designed for use with the eProcedure Server. To understand how the instructions are written, see **Custom tags**.

To create an instruction file:

1. Open Notepad.
2. From the **File** menu, select **Open**. Navigate to *C:\Program Files\Rockwell Software\Batch\SampleDemo1\instructions* (if you did not use the default install path, navigate to the correct location).
3. Select **add_egg_1.htm** and select **Open**.
4. Select **File > Save As**, and save the htm file with the name **add_egg_demo.htm**.

The file consists of several short forms, designated by the **<form>** and **</form>** HTML tags.

- Locate the text highlighted in the first form in the following illustration:



- The highlighted line tells the *e*Procedure client to: **Prepare <sop>UNIT</sop> for delivery of <sop>ADD_AMOUNT</sop> KG of Egg.**

This line appears as the first step in the manual phase and at run time replaces <sop>ADD_AMOUNT</sop> with the actual amount to add to the recipe.

- The code and text in the second form tells the *e*Procedure client to: **Begin charging <sop>ADD_AMOUNT</sop> KG of Egg into <sop>UNIT</sop>. Press OK when complete.**

- Locate the third form in the file. Change the word Egg to **Egg_Demo**, as shown here:



Note that this form also contains a text box (<INPUT TYPE="TEXT" SIZE="20" NAME="AMOUNT_ADDED">). At run time the operator enters the amount of Egg that was added to the recipe.

- Select **File > Save**. Be sure to save the file in the *SampleDemo1/Instructions* folder for the project.

The full path is

c:\Program Files\Rockwell Software\Batch\SampleDemo1\Instructions or *\\computername\BATCHCTL\SampleDemo1\Instructions* if you are developing on a remote computer.

10. Close the file and exit Notepad.

Custom tags

The instructions are written using plain text. To obtain specific server-related information, use the custom tags shown in this table.

Data Type	HTML Code	Display Value
Batch Data	<sop>BatchID</sop>	Batch ID of the running recipe
	<sop>Unit</sop>	Unit name for the current phase
	<sop>Cell</sop>	Process cell
	<sop>Phase</sop>	Current phase name
Parameter Data	<sop>parameter.Name</sop>	Parameter name
	<sop>parameter.EU</sop>	Parameter engineering units
	<sop>parameter.Min</sop>	Parameter minimum allowed value
	<sop>parameter.Max</sop>	Parameter maximum allowed value
	<sop>parameter.LowLowLowLimit</sop>	Parameter Low-Low-Low limit
	<sop>parameter.LowLowLimit</sop>	Parameter Low-Low limit
	<sop>parameter.LowLimit</sop>	Parameter Low limit
Parameter Data (continued)	<sop>parameter.HighLimit</sop>	Parameter High limit
	<sop>parameter.HighHighLimit</sop>	Parameter High-High limit
	<sop>parameter.HighHighHighLimit</sop>	Parameter High-High-High limit
	<sop>parameter.Value</sop>	Parameter value
	<sop>parameter.Default</sop>	Parameter default value
Report Data	<sop>report.Name</sop>	Report Name
	<sop>report.EU</sop>	Report engineering units
	<sop>report.Value</sop>	Report value
	<sop>report.LowLimit</sop>	Report low limit
	<sop>report.LowLowLimit</sop>	Report low-low limit
	<sop>report.LowLowLowLimit</sop>	Report low-low-low limit
	<sop>report.HighLimit</sop>	Report high limit
	<sop>report.HighHighLimit</sop>	Report high-high limit
Electronic Signatures	<sop>VERIFICATIONSIG=SignatureTemplate</sop>	Signature template to be used for a verification signature

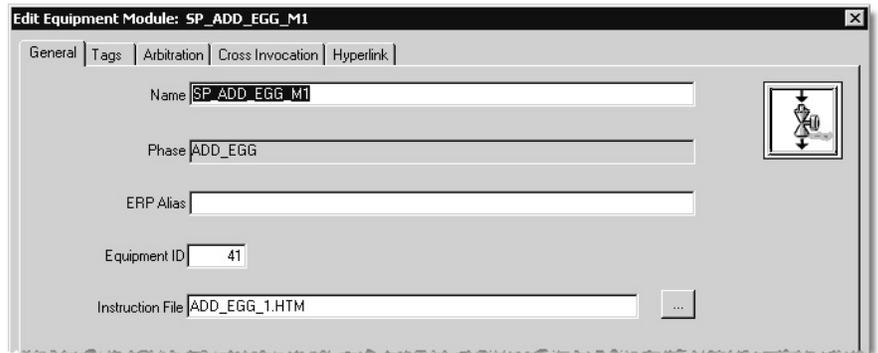
Assign an instruction file to a phase

After you create the instruction file you must assign it to a phase in the FactoryTalk Batch Equipment Editor. When the phase is activated in the recipe, the FactoryTalk Batch Server runs the instruction file.

To assign an instruction file to a phase:

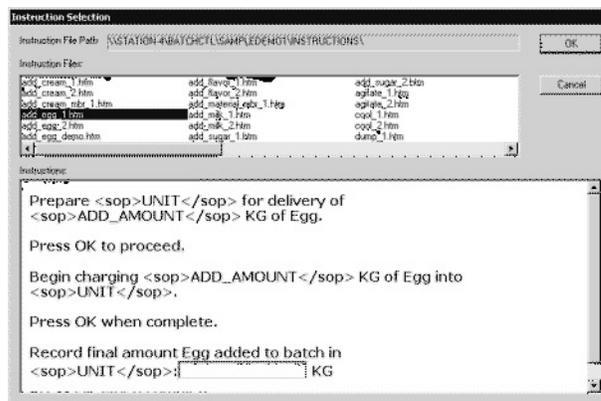
1. Start the FactoryTalk Batch Equipment Editor and open the *ice_cream1ep.cfg* area model.
2. Double-click the **South Parlor** process cell.

3. Double-click **SP_MIXER1**.
4. Double-click **SP_ADD_EGG_M1**. The **Edit Equipment Module** dialog box opens to the **General** tab.



The **Instruction File** box indicates that an instruction file is already assigned to this phase. You will replace it with the instruction file that you just created.

5. Select the **Browse** button next to the **Instruction File** box. The **Instruction Selection** box opens to display the HTML code within the file.



6. Select **add_egg_demo.htm**, and then select **OK** twice.
 7. Save the area model and exit the FactoryTalk Batch Equipment Editor.
- Tip:** Since you made changes to the area model, you need to verify and deploy the area model at this point if you want to run any batches.

Include a step verification signature template

You can require a step verification signature using a specific signature template for a control step. You can add a step verification signature to any control step that must be signed off before recipe execution can continue. The verification signature template is defined in the FactoryTalk Batch Equipment Editor. The signature must be completed before recipe execution can continue.

To include a step verification signature template:

1. Open or create a blank instruction file. (See **Create an instruction file** for more information.)
2. Place your cursor at the beginning of the first cell.

- Using the correct naming conventions, enter the tagged data item.

Example:

<sop>VERIFICATIONSIG=SignatureTemplate</sop>

where *SignatureTemplate* is the name of the desired template.

Summary

In this chapter, you:

- Created an instruction file using Microsoft Word and FrontPage.
- Assigned the instruction file to a phase using the FactoryTalk Batch Equipment Editor.

This chapter provided a brief overview of instruction-based phases. (See the *FactoryTalk Batch Equipment Editor User Guide* for more information on instruction-based phases.)

For further information about designing FactoryTalk eProcedure instruction files, see the *FactoryTalk Batch eProcedure Instruction File Design Reference Manual* ([BWEPRO-RM001](#)).

eProcedure Glossary

Acquiring

Acquiring is a possible state of the Firing attribute of a transition. When the transition is in the Acquiring state, it has made non-binding related arbitration requests for resources needed by one or more steps following the transition.

Activation file

A text file that contains all of the activation information that is required to license a software product and allow it to properly function. While the file is simply plain text, the contents of the file are protected by a signature.

Binding

Binding is the process of mapping steps within a control recipe to actual equipment in a plant.

Binding (in transitions)

Binding is a possible state of the Firing attribute of a transition. When the transition is in the Binding state, it is in the process of attempting to bind one or more of the steps following the transition. The binding process may involve the generation of binding prompts and/or the generation of arbitration requests.

Comm Err

Comm Err is a possible state of the Firing attribute of a transition. When the transition is in the Comm Err state, a communications error with phase logic has been detected while the transition was in the Stopping/Resetting/Pending states of the firing process. The transition has rolled back to the beginning of the Stopping/Resetting/Pending process and is awaiting good communications and a RESTART command before re-initiating the firing process.

Comment descriptor

In a signature dialog, the text in parentheses that indicates if the comment field is optional, required, or not allowed.

Committed

Committed is a possible state of the Firing attribute of a transition. When the transition is in the Committed state, it has committed to the firing process, but is not in the process of firing because either the transition is in the HELD state or the parent procedure is in MANUAL mode.

Control step

One instruction in an eProcedure phase. An eProcedure phase consists of one or more control steps. Also referred to as step, eProcedure step, or instruction step.

Control step reactivation

Making a completed control step in an eProcedure phase active again so that mistakenly entered values can be re-entered.

Dedicated resource

A resource used by only one step at a time inside a recipe structure.

Deviation event

A deviation event is a probable new event type for the event journals that records the deviation information.

Diagnostics client

System components that retrieve diagnostic information from FactoryTalk Diagnostics. Clients can be FactoryTalk system elements or applications.

Diagnostics destinations

Storage or destinations of diagnostics messages such as the FactoryTalk Diagnostics native store, RSMACC, etc. The FactoryTalk Diagnostics framework was designed to be extensible to allow additional message destinations to be defined and added to the system.

Diagnostics native store

Persistent storage of data logged by the FactoryTalk Diagnostics subsystem. In a distributed system, these logs can reside local to the machine. When diagnostic data is retrieved, all information from diagnostic logs within a system can be merged. There is no implied implementation or format of diagnostic logs in this specification.

Diagnostics message

Diagnostics information furnished by a diagnostic client with self-describing internal structure and content.

Dynamic unit allocation

The process of binding a specific unit to a class-based unit procedure or operation. Dynamic unit allocation can be defined only at the procedural level.

Dynamic HTML elements

Elements, such as text areas, buttons, etc., that are used for user interaction, or elements in which one or more event handlers are defined. For example:

```
<IMG src=./images/Earl.JPG>
```

would not be a dynamic element, but

```
<IMG src=./images/Earl.JPG onclick='msgbox "Kabooooooooom!'">
```

would be a dynamic element. Clicking on it displays a message box containing the text "Kabooooooooom!".

Electronic signature

An electronic representation of a signature, including all associated data. Can consist of one or two signoffs. Associated data includes meanings for the signoffs, comments, security requirements, and timestamps.

Equipment phase

An equipment phase is the S88 terminology for the equipment phase and equipment phase interface. In FactoryTalk Batch, equipment phases are configured in the FactoryTalk Batch Equipment Editor as instances of the recipe phases. Equipment phases are bound to the recipe at runtime.

FactoryTalk Asset Centre

Formerly RSMACC (Rockwell Software Maintenance Automation Control Center).

Firing attribute

The Firing Attribute (formerly the Acquiring attribute) has nine legal states, defined as follows:

"0": Not Firing - The transition is not in the firing process.

"1": Acquiring - The transition is in the process of acquiring resources for the following steps.

"2": Binding - The transition is in the process of binding one or more of the following steps.

"3": Committed - The transition is committed to the firing process, but is not proceeding due to either a HELD state, or the parent procedure being in MANUAL mode.

"4": Stopping - The transition is waiting for one or more prior steps to achieve a terminal state after having been issued STOP commands.

"5": Resetting - The transition is waiting for one or more prior steps to transition to IDLE after having been issued RESET commands.

"6": Pending - The transition is waiting for one or more prior steps to transition into a legal state for a Transfer of Control operation.

"7": Paused - The transition is waiting for a RESUME command or a return of the parent procedure to AUTO mode.

First Available binding

This is one of the ways that units are selected for binding. This is called late unit binding or dynamic unit allocation. When automatically selecting a unit for binding, the FactoryTalk Batch Server tries to use the unit that the recipe can acquire first. The unit selected must meet two criteria:

- The acquired unit must belong to the unit class of the unit procedure step.
- Recipes can configure upstream and/or downstream dependencies defining a series of unit classes that a recipe requires as a recipe executes. The acquired unit supports the flow path to other units.

Formula

A category of recipe information that includes process inputs, process parameters and process outputs.

Formula value

A value that is assigned to a parameter defined for a specific step of a phase, operation or unit procedure. A formula value may have a literal value assigned to it or it may receive a value from the next higher recipe level when the batch is run.

Initial step

The logical start of a sequential function chart (SFC).

Late binding

This is a binding method where a step is bound to equipment just before it is used.

- For unit procedure steps, this is also called dynamic unit allocation. Two types of late unit binding are supported: First Available and Prompt binding.

Manual binding

Manual binding is the process an operator can use to select steps in a control recipe and interactively bind them to equipment. This can be performed before or during a recipe's execution.

Mode

The manner in which the transition of sequential functions are carried out within a procedural element and the accessibility for manipulating the states (manually or by other control functions) of equipment.

Not Firing

Not Firing is a possible state of the Firing attribute of a transition. When the transition is in the Not Firing state, it is not in the process of firing and not committed to the firing process.

Parameter deviation

A parameter deviation exists when a parameter value is not within the limits defined in the recipe.

Paused

Paused is a possible state of the Firing attribute of a transition. When the transition is in the Paused state, its expression has evaluated to TRUE and it is ready to fire. It is suspended the firing process due to the parent procedure being in SEMI-AUTO mode. It is awaiting either

a RESUME command or a transition of the parent procedure to AUTO mode before continuing with the firing process.

Pending

Pending is a possible state of the Firing attribute of a transition. When the transition is in the Pending state, it is waiting for one or more prior steps to transition into a legal state for a Transfer of Control operation.

Providers

System components that provide diagnostic information to the FactoryTalk Diagnostics system. Providers can be FactoryTalk system elements or applications such as the FactoryTalk Batch Equipment Editor and FactoryTalk Batch Recipe Editor.

Reactivation number

Every active eProcedure control step is given a Reactivation Number. If the step has never been reactivated, the value is 0. If the step has been reactivated once, the value is 1, etc. The recipe path, step index, and reactivation number form a unique identifier for a control step.

Recipe path

Every active eProcedure control step has a recipe path. It describes, to the phase level, what part of the recipe the step is from.

Resetting

Resetting is a possible state of the Firing attribute of a transition. When the transition is in the Resetting state, it has issued RESET commands to the preceding steps and is waiting for them to transition to IDLE states in response to the command.

SFC Validation

A function of the FactoryTalk Batch Recipe Editor, this error check looks for "logic" errors in the SFC structure defined within a recipe.

Shared resource

A resource used in parallel by an unlimited number of steps at a time inside a recipe structure.

Signature event

A probable new event type for the event journals that records the signatures and the comment entered for the verification signature.

Signature ID

A 32-bit unsigned integer that uniquely identifies a Signature Request within the FactoryTalk Batch system.

Signature list

A list of pending signatures and their related commands, report parameters, etc. maintained on the FactoryTalk Batch Server.

Signature list UI

User interface for accessing all types of signatures not associated with eProcedure phases.

Signature template

A collection of all the data needed to define a signature - number of signoffs, signoff meanings, signoff security requirements, and signoff comment requirements. Signature templates will be defined centrally, and are referred to whenever defining signature requirements.

Signature states

A signature can be in one of the following states: Incomplete (the signature is still pending one or two signoffs), Complete (all signature signoffs have been completed), Cancelled (a user has cancelled the signature), or System Cancelled (the FactoryTalk Batch Server has cancelled the signature).

Signoff

A component of an electronic signature in which a user enters his username and password and optionally a comment. An electronic signature can require one, two, or three signoffs.

Signoff meaning

A short phrase describing the meaning attached to a given signoff. For example, "Done By" or "Checked By".

Static binding

A binding method where a step or set of steps is bound to equipment when the recipe is built in the FactoryTalk Batch Recipe Editor

(equipment bindings are specified in the master recipe). Material phase steps are never statically bound.

Step index

Every active eProcedure control step has a step index. The step index represents the position of the step within the phase, e.g. the first step has a step index of 1, the second step has a step index of 2, etc.

Stopping

Stopping is a possible state of the Firing attribute of a transition. When the transition is in the Stopping state, it has issued STOP commands to one or more of the preceding steps and is waiting for them to transition to terminal states.

System cancelled

A Signature is considered to be System Cancelled when the signature is cancelled by FactoryTalk Batch Server logic instead of through operator action.

Target Parameter

The target parameter is the recipe parameter used in calculating the limit when the limit type is percent or value.

Terminal signature state

All signature states except Incomplete are terminal states - once the signature is in any of those states it cannot change to any other state.

Viewing context

eProcedure users can define a viewing context for the instructions they view. The viewing context defines the set of equipment or recipes for which they are shown instructions. For example, a user can view instructions for a given unit, for an entire area, or for a specific operation.

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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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