NEW PanelView Plus 6 with NEW FactoryTalk View ME V6.0 and ViewPoint

For Classroom Use Only!
(IA-11-L01)

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NEW PanelView Plus 6 with NEW FactoryTalk View ME V6.0 and ViewPoint

Contents

Before you begin

During this lab, you can choose to learn about the FactoryTalk® View Studio for Machine Edition (ME) skills that are needed to create FactoryTalk View Machine Edition applications. By using an empty project, you will learn how to add application content and configure communications to create a working system that can both read and write information from a Logix controller. Basic alarming functions are also covered.

You will review some of the more advanced capabilities and new functionality in FactoryTalk View ME v6.0 and have an opportunity to explore the features of FactoryTalk View ME within FactoryTalk® ViewPoint, our "thin client," or browser-based, HMI solution. FactoryTalk ViewPoint ME is used to publish web applications for FactoryTalk View ME projects that run on PanelView™ Plus terminals.

Lastly, a set of optional topics are available where you can pick and choose which FactoryTalk View ME features you wish to work with and learn more about.

All chapters take advantage of the new PanelView Plus 6 terminals that are located at each workstation.

About this lab

Chapter 1 is a demonstration of features for both hardware and software. Using a paint shop application developed in FactoryTalk View ME v6.0, you will see firsthand how features like global objects, the recipe ActiveX control, a PDF file viewer, a FTP server and more can improve maintenance and runtime productivity.

Chapter 2 is for new users and provides a basic overview of FactoryTalk View ME. This chapter can be skipped for those who have a general working knowledge of the product.

Chapter 3 expands your FactoryTalk View ME knowledge and explores what new features are available in the v6.0 release.

Chapters 4 and 5 will take you through the basic and advanced features of FactoryTalk ViewPoint ME including what new features are available with the v1.2 release.

Chapter 6 allows you to pick and choose any section, in any order, to cater to the areas of FactoryTalk View ME you would like to concentrate on.

This lab takes approximately 2 hours to complete.

Tools & prerequisites

Hardware

This hands-on lab does not require a Logix5000 controller however it could be used in place of SoftLogix 5800.

A PanelView Plus 6 terminal is required.

Software

To complete this lab you must use the following hardware and software:

- A Microsoft Windows XP SP3 computer
- A Microsoft Windows® CE 6.0-based PanelView Plus 6 terminal.
- Ethernet connection between computer and PanelView Plus 6 terminal
- FactoryTalk View Machine Edition Studio v6.00 (CPR9 SR3)
- FactoryTalk ViewPoint ME v1.20 (CPR9 SR3)
- FactoryTalk Services Platform 2.30 (CPR9 SR3)
- RSLinx Enterprise v5.30 (CPR9 SR3)
- RSLinx Classic Lite v2.57 (CPR9 SR3)
- RSLogix 5000 v18.00
- SoftLogix 5800 v18.00

Document conventions

Throughout this workbook, we have used the following conventions to help guide you through the lab materials.

This style or symbol:	Indicates:
Words shown in bold italics (e.g., *RSLogix 5000* or *OK*)	Any item or button that you must select, click on, or a menu name from which you must choose an option or command. This will be an actual name of an item that you see on your screen or in an example.
Words shown bolded, underlined and enclosed in single quotes (e.g., 'Controller1')	An entry that you must type in the specified field. This is information that you must supply based on your application (e.g., a variable). **Note:** When you type the text in the field, remember that you do not need to type the quotes; simply type the words that are contained within them (e.g., Controller1).
This is sample text.	Text that appears inside of a gray box is supplemental information regarding the lab materials or learning goals; the information is not required for you to complete the lab exercises. The supplemental text may provide you with helpful hints that can make it easier for you to use this product..
NEW!	This icon denotes new FactoryTalk View Machine Edition v6.0 or new FactoryTalk ViewPoint ME v1.2 functionality.

Note: If the mouse button is not specified in the text, you should click on the left mouse button.

FactoryTalk® View Machine Edition

FactoryTalk® View Machine Edition (ME) is a machine-level HMI product that supports both open and dedicated operator interface solutions for monitoring and controlling individual machines or small processes. It provides a consistent operator interface across multiple platforms, including Microsoft® Windows® CE and 32-bit Microsoft® Windows® 7, XP, Vista solutions.

FactoryTalk View Machine Edition contains two components:

- **FactoryTalk View® Studio** - This is the development environment containing the tools you need for creating all aspects of a human-machine interface (HMI), including graphic displays, trends, alarm reporting and real-time animation. It also provides tools for testing individual displays and entire applications.   When development is completed, a run-time (.MER) file created to run on a PanelView Plus or personal computer.
- **FactoryTalk View® Machine Edition Station** - This is the run-time environment. FactoryTalk View Machine Edition Station executes the run-time (.MER file) application.   FactoryTalk View Machine Edition Station is embedded in PanelView Plus terminals.   Run-time applications may also be executed on a personal computer. Executing run-time applications on a personal computer requires additional software licenses.

NEW!

PanelView™ Plus 6

The PanelView Plus operator interface terminals are designed to optimize system development, performance, and efficiency. The PanelView Plus 6 line is the latest addition to Rockwell Automation's versatile family of Allen-Bradley PanelView operator interface displays for machine level operator terminal applications in industrial environments.

Enhancements to the hardware platform, embedded operating system and development environment enable users to:

- **Take time and costs out of application development** - PanelView Plus 6 dramatically reduces development, setup time and troubleshooting time through features like tag re-use, complete Symbol Factory graphic library and pre-built face plates.
- **Run their processes more effectively** - Improved hardware performance delivers up ***30% faster*** screen response, enabling operators to navigate through screens more quickly, and can help avoid maintenance calls resulting from mistakenly pressing inputs multiple times. In addition, new capabilities wring more value from your process.
- **Reduce maintenance costs** - New features like on-board pdf capability and remote user access enable context-sensitive help and can avoid on-site visits to get processes back up and running faster when things go wrong.

FactoryTalk® ViewPoint

FactoryTalk® ViewPoint is an add-on to FactoryTalk View ME running on PanelView Plus that provides for a fully scalable, fully animated, read-only view of existing applications from a Web browser.

To make information about your plant or process available on demand from a Web browser in your office, home, or hotel, all you have to do is select the FactoryTalk View graphic displays you want to make ready for the Web, and then publish the displays to the FactoryTalk ViewPoint Server which runs on a PanelView Plus.

There is no installation of any Rockwell Software products on the browser computer: all you need to connect to a published FactoryTalk ViewPoint Web application is the name (or IP address) of the PanelView Plus hosting the FactoryTalk ViewPoint Server that stores the application.

Once you enter a simple address directly into your Web browser using the name or IP address, the browser will connect to the published web application and open the initial display selected. Use navigation buttons in the application to view other published displays, or use the web browser's navigation tools.

Displays in a FactoryTalk ViewPoint application are read-only. Graphic objects in the displays are fully animated; however, you cannot use the objects to write to tags or to start and stop HMI components. For example, a numeric input object with a tag connection will display the tag's current value, but will not permit downloads.

Chapter 1: Demo

Completing this section requires approximately 10 minutes.

This chapter simulates an automotive paint shop application to provide a quick look at features offered by FactoryTalk View ME v6.0 and the new PanelView Plus 6 terminals.

The Demo will quickly showcase the following features on the PanelView Plus terminal:

- Global Objects with Parameter Passing
- Recipe ActiveX with FTP Server Data Storage
- HMI Faceplates and PDF Viewer
- Retrieving Data logs using the FTP Server
- Symbol Factory Library
- FactoryTalk ViewPoint

As you navigate through the application, you will get a sense of a machine operator's typical day with focus on Runtime Productivity and Maintenance Productivity.

Load the Demo application on the PanelView Plus Terminal

Execute the following steps to run the ***PVP6_Demo.MER*** application required for the demonstration.

1. If FactoryTalk View ME Station is not already running on the PanelView Plus terminal, double-tap the ***FTView ME Station*** icon on the desktop.

2. Press the ***Load Application [F1]*** button.

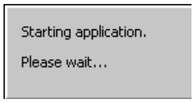
3. Select the ***PVP6_Demo.MER*** file from those available from the terminal's Internal Storage.

4. Press ***Load [F2]*** to load the runtime file in to memory.

5. When prompted, press ***Yes [F7]*** to overwrite the terminal's current communication configuration with the configuration contained within the **PVP6_Demo.MER** file.

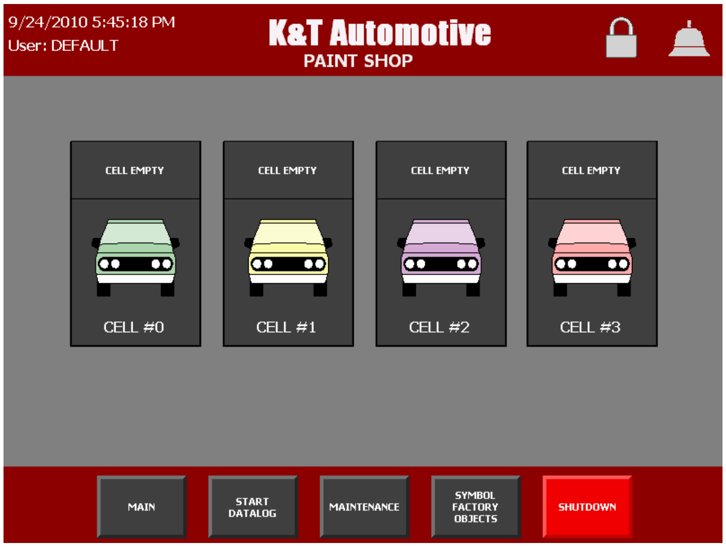
6. Once successfully loaded, press the ***Run Application [F2]*** to start executing the runtime file.

While the terminal is starting the application, an update dialog is displayed.


Starting application.

Please wait...

After the start-up processing completes you should see your applications startup display.


9/24/2010 5:45:18 PM
User: DEFAULT

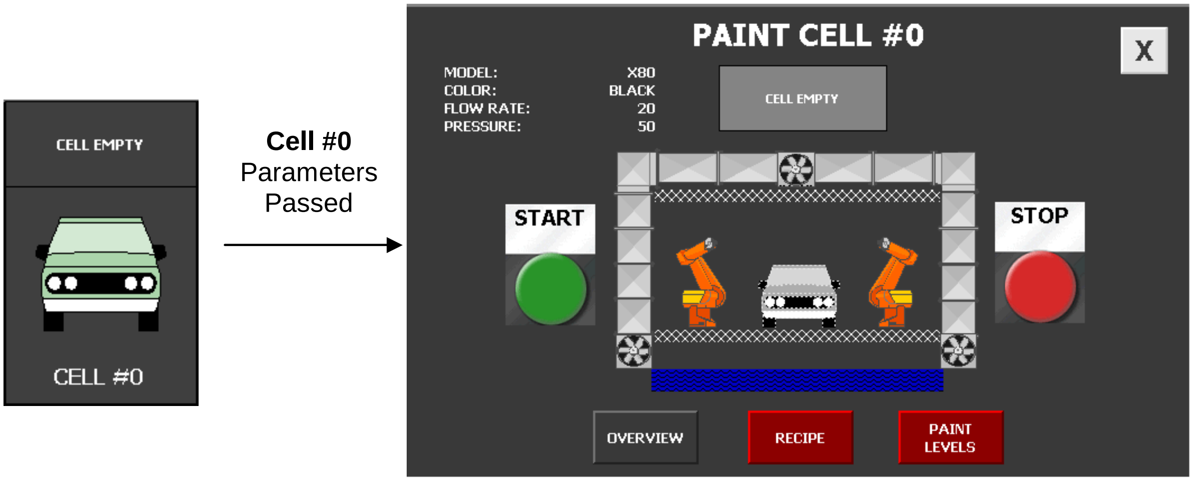
Global Objects with Parameter Passing

Global objects save development time by linking the appearance and behavior of a base graphic object to multiple references of the object throughout an application. Using parameter passing with Global objects lets you define a unique data source for each reference and still make changes to other aspects of the global object.

1. Press on ***Cell #0*** to open the paint cell display for the first cell.

   Each of the available cells represents an instance where a Global Object uses specified parameters to pass into a display.

Global Object **Display**



MODEL: X80
COLOR: BLACK
FLOW RATE: 20
PRESSURE: 50

Data for 4 different cells can be viewed however; only **one Global Object** and **one graphic display** needed to be developed to provide this data.

3. Close the display by selecting the **X** X button.

4. Repeat steps 2 and 3 for each of **Cell #1**, **Cell #2** and **Cell #3** to note how responsive display switching can be on the new terminals.

Recipe ActiveX with FTP Server Data Storage

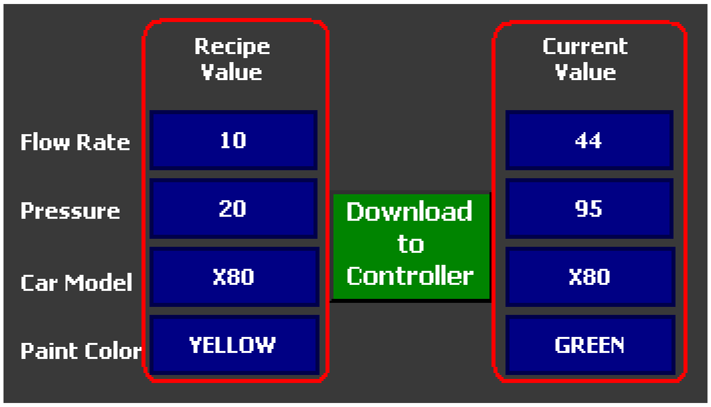
The Recipe ActiveX allows a user to remotely control recipe functions from the controller, via tags and read and write recipes to CSV files. These recipes can be managed over the network using the FTP Server. We will explore these features during the next section.

Creating a new Recipe file

1. Press again on ***Cell #0*** to open the display.

2. Select ***Recipe*** RECIPE.

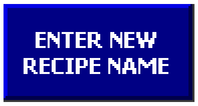
3. Use the **arrow** button ▼ to scroll down to the **YELLOW** recipe and **Enter** ↵ to display its values.



	Recipe Value		Current Value
Flow Rate	10		44
Pressure	20	Download to Controller	95
Car Model	X80		X80
Paint Color	YELLOW		GREEN

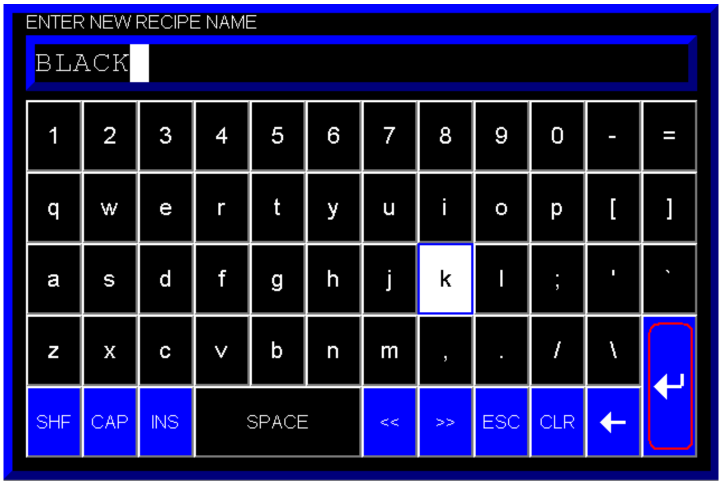
The values for the **Yellow** recipe are displayed under the **Recipe Value** column and are maintained in a recipe file. The values from **Current Value** column represent the values that are currently in the controller.

4. Select ***Enter New Recipe Name*** to create a new recipe file.



ENTER NEW RECIPE NAME

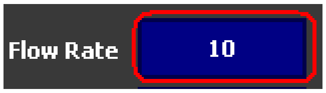
5. With the on-screen keyboard, type in '**<u>Black</u>**' and press **Enter**.



ENTER NEW RECIPE NAME

BLACK

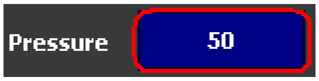
6. Press the **Flow Rate Value** to enter a new setting.



Flow Rate 10

7. Enter the value of '**<u>20</u>**' and press **Enter** ↵.

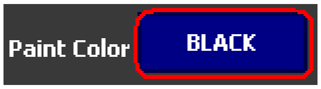
8. Press the **Pressure Value** to enter a new setting.



Pressure 50

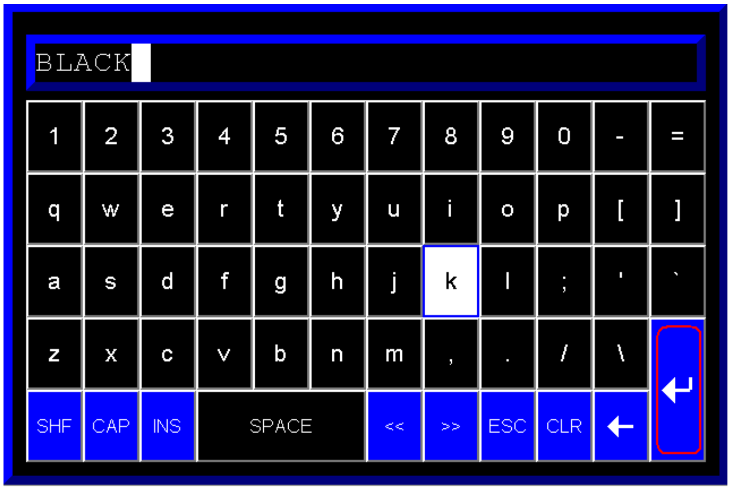
9. Enter the value of '**<u>50</u>**' and press **Enter** ↵.

10. Press the **Paint Color Value** to enter a new description.



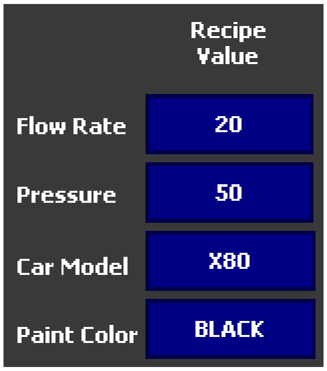
Paint Color BLACK

11. Enter the name of ‘**Black**’ and press **Enter**.



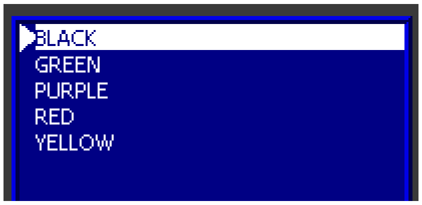
BLACK

Your recipe values should now look like this:



	Recipe Value
Flow Rate	20
Pressure	50
Car Model	X80
Paint Color	BLACK

12. Press on ***Save*** and notice that the new recipe has been added.

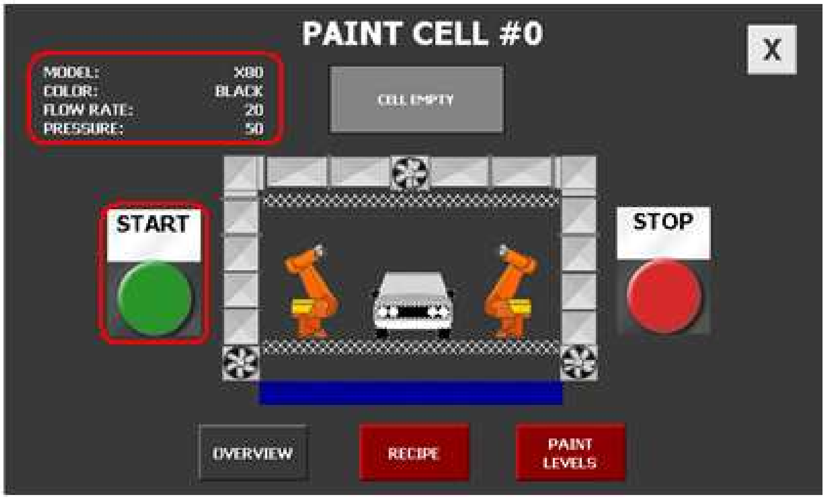


BLACK
GREEN
PURPLE
RED
YELLOW

13. Now that a new recipe file has been created, push ***Download to Controller*** to send the newly entered values to the controller. You will see that the **Current Value** data has been updated and now matches the **Recipe Value** column.

Use a new Recipe file

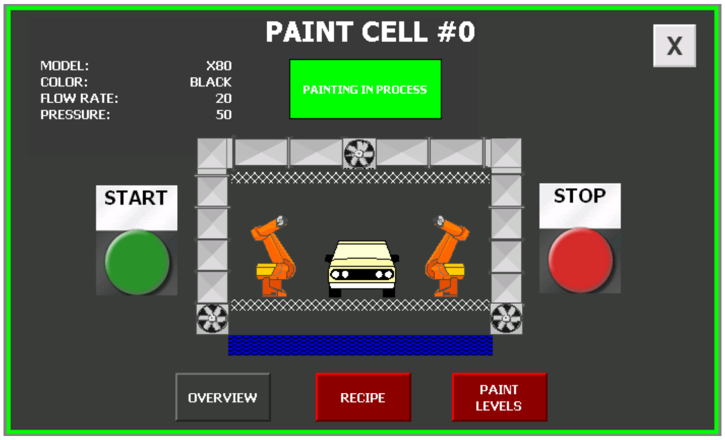
1. Press ***Overview*** OVERVIEW to return to the **Paint Cell #0** display.



MODEL: X80
COLOR: BLACK
FLOW RATE: 20
PRESSURE: 50

The new recipe values are also displayed on this graphic.

2. Press ***Start*** to begin painting, as circled above. Animation is used to give the operator indication that painting is in process.



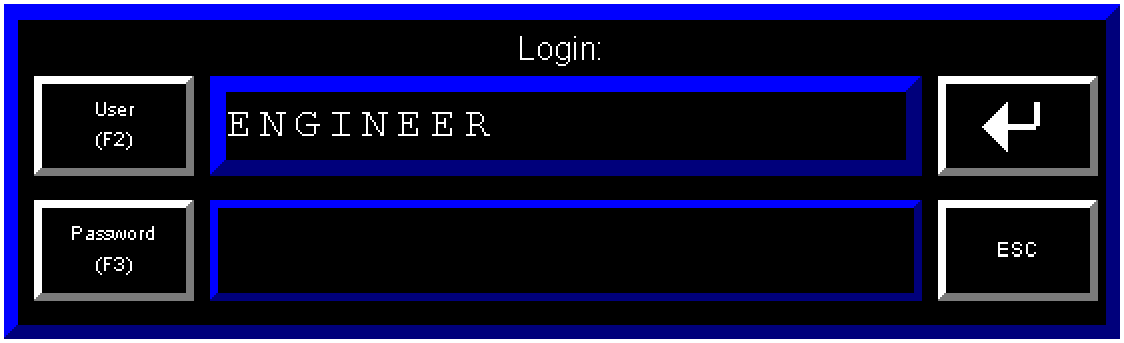
MODEL: X80
COLOR: BLACK
FLOW RATE: 20
PRESSURE: 50

3. Press ***Stop*** STOP to end painting.

In order to continue, an authorized user must log in to restart the painting cycle.

4. Press on the **lock** button 🔒, then ***Login***.

The **Login** display is opened. Press the ***User (F2)*** button and use the keyboard to enter '**<u>ENGINEER</u>**'. Leave the ***Password (F3)*** field blank. It should look like this:



ENGINEER

5. Press ***Enter*** ↵ to complete the login process.

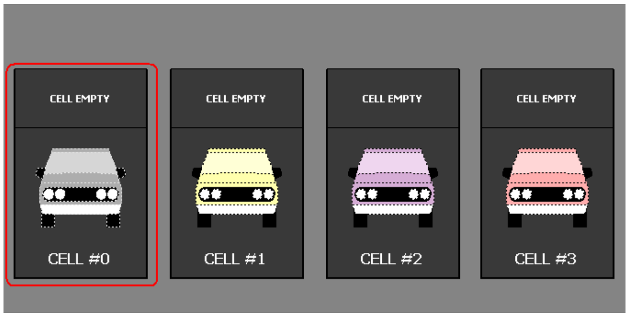
6. Close the **Login** display by selecting the **X** X button.

7. The **Reset** button is now visible since our **Engineer** user has the proper permissions. Click on ***Reset*** RESET.

8. Press on the **lock** button 🔒, then ***Logout***. Close the **Login** display by selecting the **X** X button.

9. Close the **Paint Cell #0** display by selecting the **X** X button.

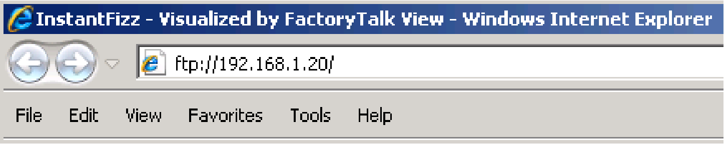
10. **Cell #0** is now indicating that it is painting the vehicles Black.



Transfer recipe files over network to FTP Server

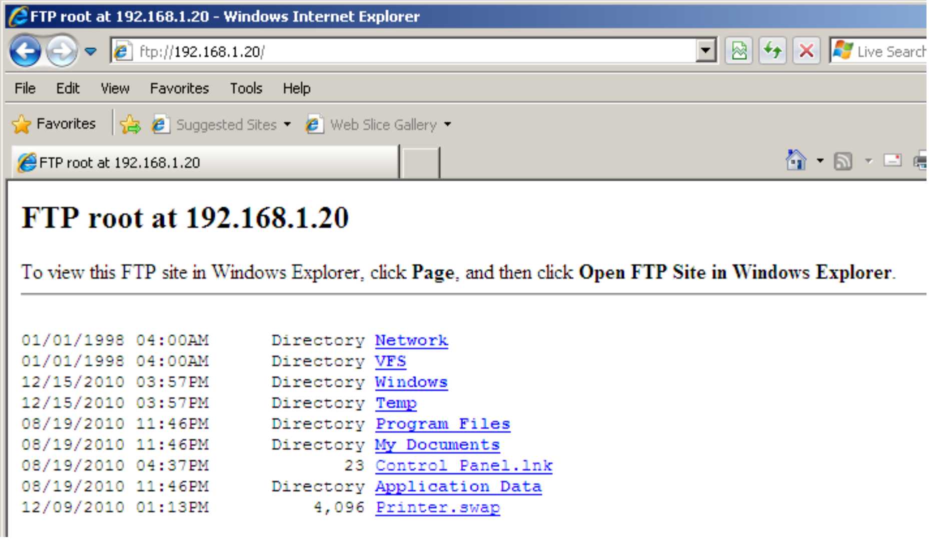
Turn to your desktop computer to start this next section. You will be connecting to the PanelView Plus terminals using Internet Explorer to explore how recipe files can be transferred over a network.

1. Launch Internet Explorer from the desktop icon and enter the following address: **ftp://192.168.1.20** where **192.168.1.20** is the IP address of your PanelView Plus and you are using the **ftp://** syntax.


InstantFizz - Visualized by FactoryTalk View - Windows Internet Explorer
File
Edit
View
Favorites
Tools
Help

ftp://192.168.1.20/

Your window is now updated to show you the files from the PanelView Plus terminal.



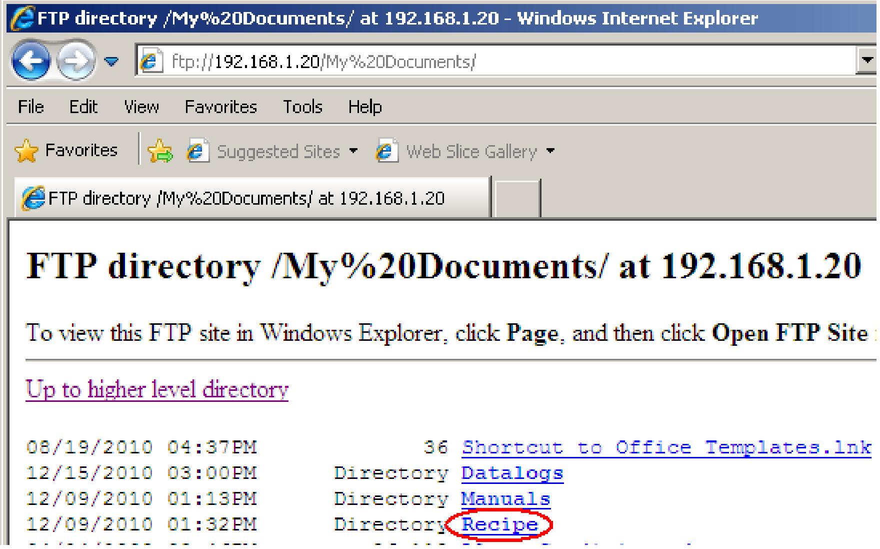
ftp://192.168.1.20/

FTP root at 192.168.1.20

To view this FTP site in Windows Explorer, click **Page**, and then click **Open FTP Site in Windows Explorer**.

```
01/01/1998 04:00AM       Directory Network
01/01/1998 04:00AM       Directory VFS
12/15/2010 03:57PM       Directory Windows
12/15/2010 03:57PM       Directory Temp
08/19/2010 11:46PM       Directory Program Files
08/19/2010 11:46PM       Directory My Documents
08/19/2010 04:37PM              23 Control Panel.lnk
08/19/2010 11:46PM       Directory Application Data
12/09/2010 01:13PM           4,096 Printer.swap
```

2. Click on ***My Documents*** then the ***Recipe*** folder.


FTP directory /My%20Documents/ at 192.168.1.20 - Windows Internet Explorer
File
Edit
View
Favorites
Tools
Help
Favorites
Suggested Sites
Web Slice Gallery
FTP directory /My%20Documents/ at 192.168.1.20

ftp://192.168.1.20/My%20Documents/

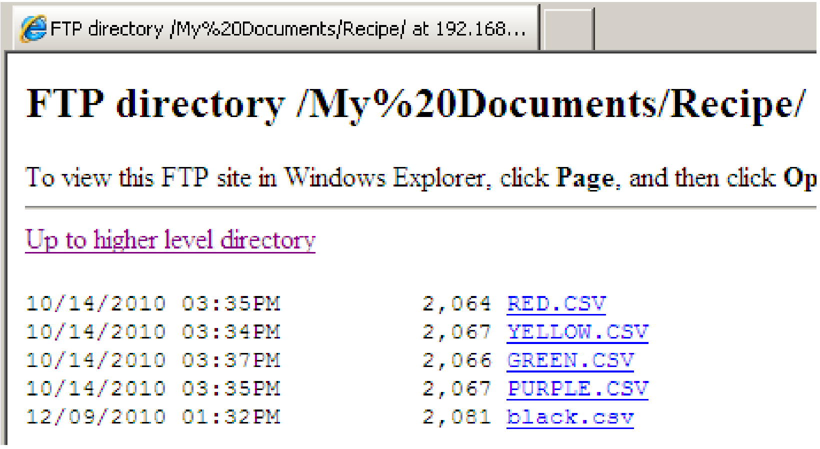
FTP directory /My%20Documents/ at 192.168.1.20

To view this FTP site in Windows Explorer, click **Page**, and then click **Open FTP Site**

Up to higher level directory

```
08/19/2010 04:37PM            36 Shortcut to Office Templates.lnk
12/15/2010 03:00PM     Directory Datalogs
12/09/2010 01:13PM     Directory Manuals
12/09/2010 01:32PM     Directory Recipe
```

3. All the recipes files, including the new **Black** recipe, are available on the PanelView Plus FTP Server.



FTP directory /My%20Documents/Recipe/ at 192.168...

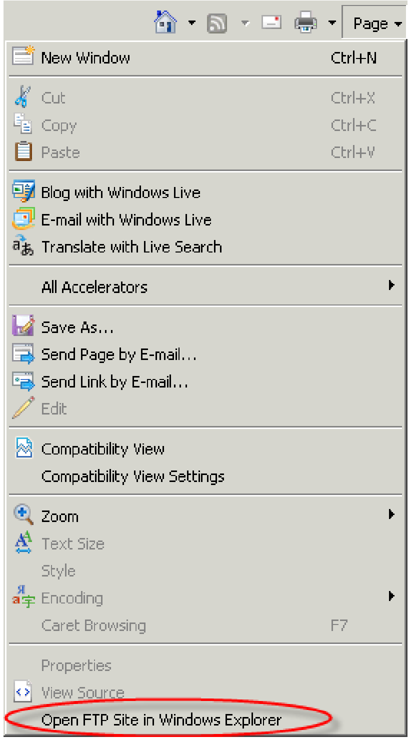
FTP directory /My%20Documents/Recipe/

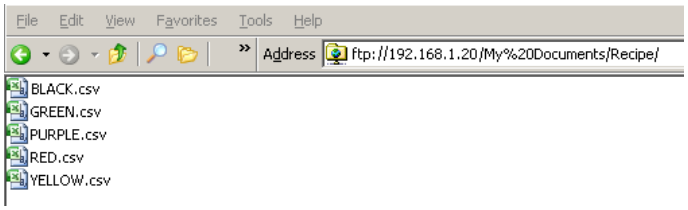
To view this FTP site in Windows Explorer, click **Page**, and then click **Op**

Up to higher level directory

```
10/14/2010 03:35PM          2,064 RED.CSV
10/14/2010 03:34PM          2,067 YELLOW.CSV
10/14/2010 03:37PM          2,066 GREEN.CSV
10/14/2010 03:35PM          2,067 PURPLE.CSV
12/09/2010 01:32PM          2,081 black.csv
```

4. The FTP Server can be used to transfer files over the network to and from your terminal when viewed within Windows Explorer. Click on ***Page*** in the upper right hand corner, then ***Open FTP Site in Windows Explorer*** to see the new view.





ftp://192.168.1.20/My%20Documents/Recipe/

BLACK.csv
GREEN.csv
PURPLE.csv
RED.csv
YELLOW.csv

HMI Faceplates and PDF Viewer

Faceplates are pre-built visualization components, designed to save time and provide easier integration with Integrated Architecture-based motion, drives, and process control such as Logix I/O, Control Devices, Networks, and Process Applications.

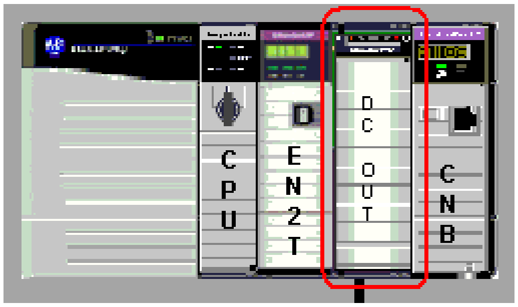
In this next section we will manually trigger a fault and quickly obtain system diagnostics, use the PDF viewer to launch an instruction guide on how to handle faults, control a PowerFlex drive and see its diagnostics using the Logix I/O and Device faceplates and the new PDF Viewer utility.

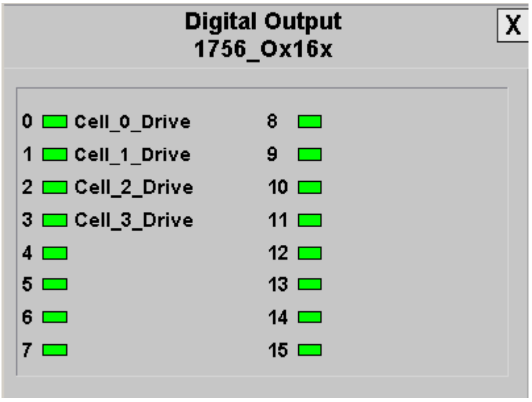
Turn once again to your **PanelView Plus** terminal and return to the **Main** display if the application does not already have this open.

Logix I/O and Device Faceplates plus the PDF Viewer

1. Press on ***Cell #0*** to open the paint cell display and select ***Maintenance*** MAINTENANCE.

2. Press the ***DC Out*** module to launch its Logix I/O faceplate.





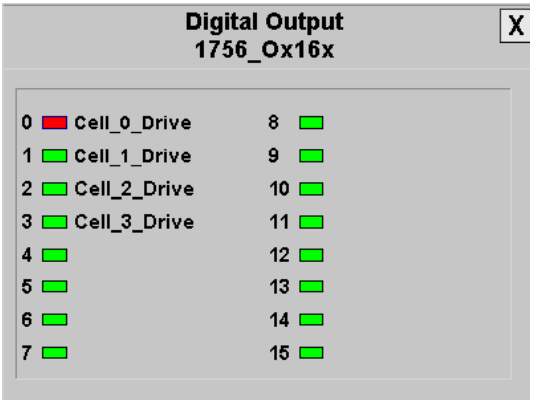
Digital Output
1756_Ox16x

X

0	🟩 Cell_0_Drive	8	🟩
1	🟩 Cell_1_Drive	9	🟩
2	🟩 Cell_2_Drive	10	🟩
3	🟩 Cell_3_Drive	11	🟩
4	🟩	12	🟩
5	🟩	13	🟩
6	🟩	14	🟩
7	🟩	15	🟩

Now we will manually trigger a fault.

3. Press the ***I/O Fault Trigger*** button I/O Fault Trigger and notice that the faceplate is updated with the fault.

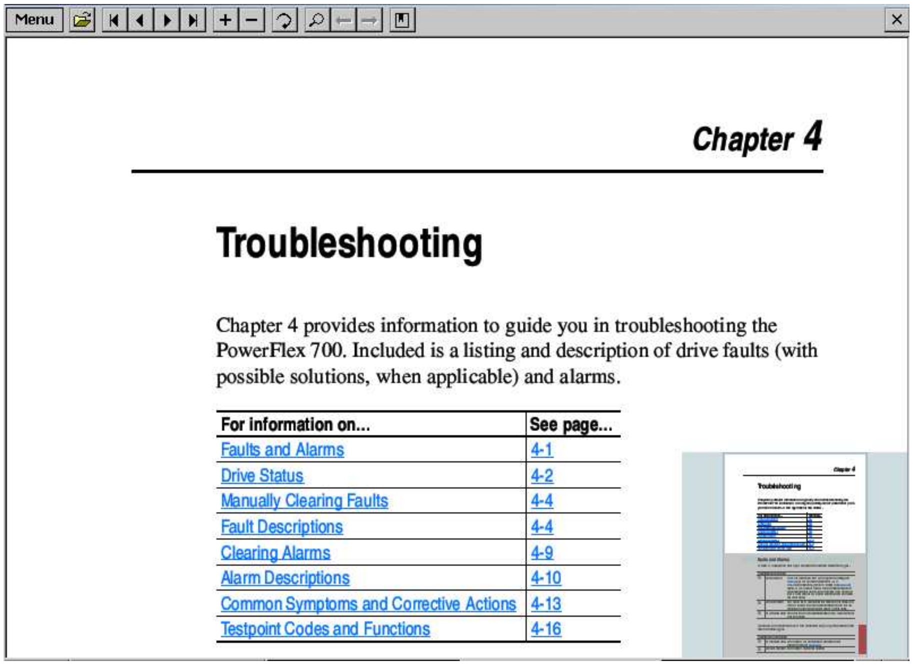


Digital Output
1756_Ox16x

X

0	🟥	Cell_0_Drive	8	🟩
1	🟩	Cell_1_Drive	9	🟩
2	🟩	Cell_2_Drive	10	🟩
3	🟩	Cell_3_Drive	11	🟩
4	🟩		12	🟩
5	🟩		13	🟩
6	🟩		14	🟩
7	🟩		15	🟩

4. In order to get information on troubleshooting the fault, we will launch an Instruction Guide using the PDF Viewer. Press the ***Instruction Guide (PDF Viewer)*** button Instruction Guide (PDF Viewer).



Chapter 4

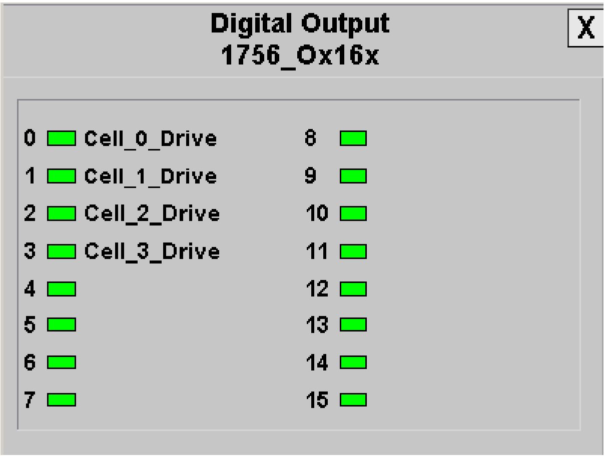
Troubleshooting

Chapter 4 provides information to guide you in troubleshooting the PowerFlex 700. Included is a listing and description of drive faults (with possible solutions, when applicable) and alarms.

For information on...	See page...
Faults and Alarms	4-1
Drive Status	4-2
Manually Clearing Faults	4-4
Fault Descriptions	4-4
Clearing Alarms	4-9
Alarm Descriptions	4-10
Common Symptoms and Corrective Actions	4-13
Testpoint Codes and Functions	4-16

5. Close the **Troubleshooting** document by selecting the **X** X button.

6. Press the ***I/O Fault Clear*** button I/O Fault Clear to clear the fault condition and verify that the faceplate has been updated.

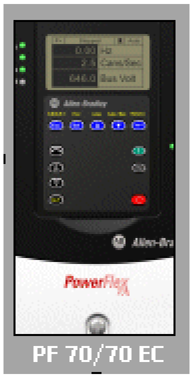


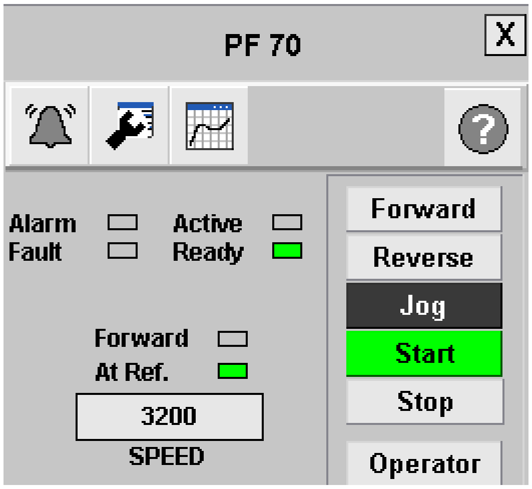
Digital Output
1756_Ox16x

0	🟩	Cell_0_Drive	8	🟩
1	🟩	Cell_1_Drive	9	🟩
2	🟩	Cell_2_Drive	10	🟩
3	🟩	Cell_3_Drive	11	🟩
4	🟩		12	🟩
5	🟩		13	🟩
6	🟩		14	🟩
7	🟩		15	🟩

7. Close the **I/O Module Faceplate** by selecting the **X** X button.

8. Now press the ***PowerFlex*** object to launch its faceplate.





PF 70

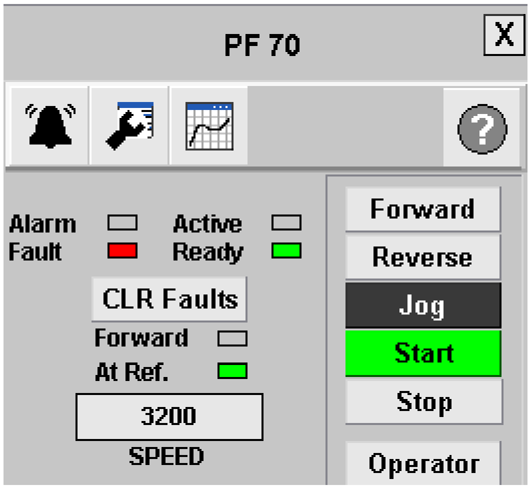
Alarm □ Active □
Fault □ Ready 🟩

Forward □
At Ref. 🟩

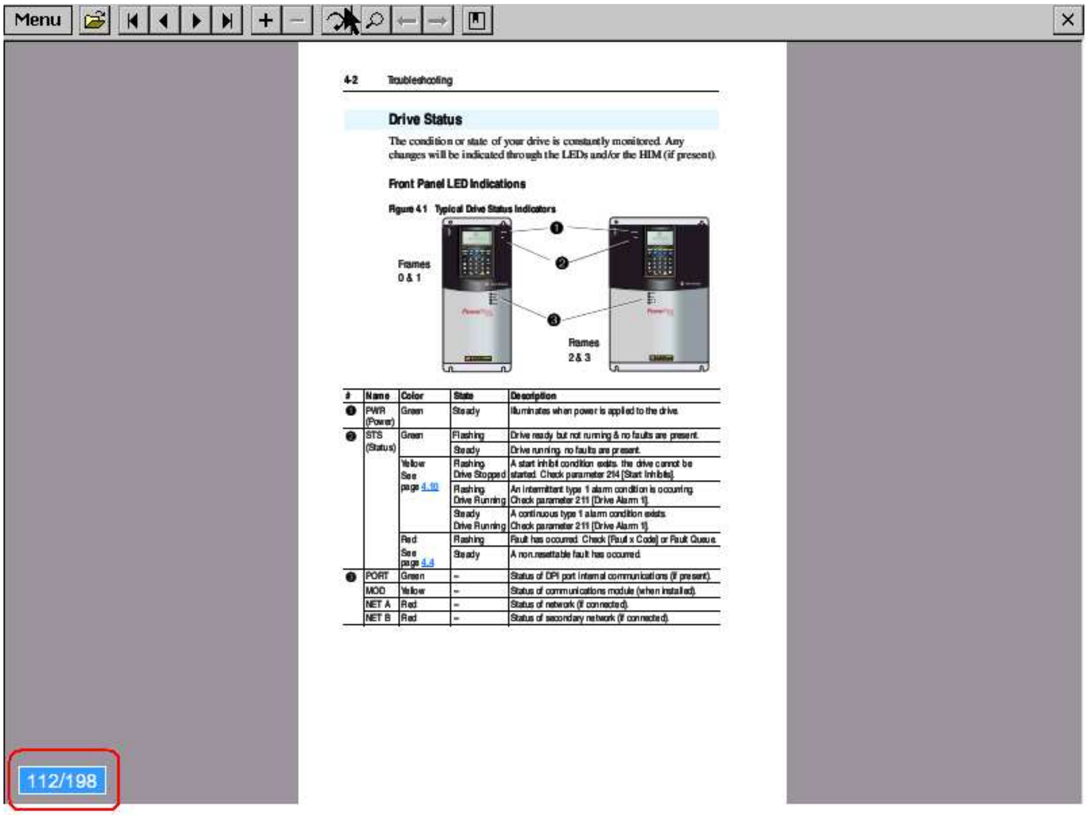
3200
SPEED

We will once again manually trigger a fault.

9. Press the ***Drive Fault Trigger*** button and notice that the faceplate is updated with the fault.



10. In order to get information on troubleshooting the PowerFlex fault, we will again launch the Instruction Guide using the PDF Viewer. Press the ***Instruction Guide (PDF Viewer)*** button .



4-2 Troubleshooting

Drive Status

The condition or state of your drive is constantly monitored. Any changes will be indicated through the LEDs and/or the HIM (if present).

Front Panel LED Indications

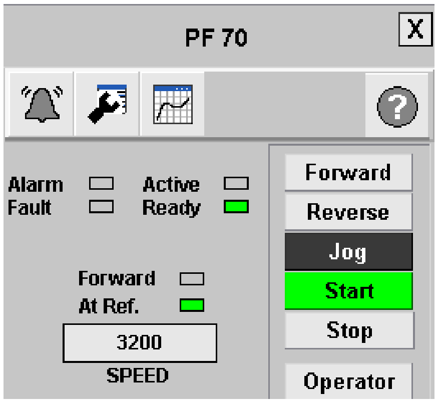
Figure 4.1 Typical Drive Status Indicators

#	Name	Color	State	Description
❶	PWR (Power)	Green	Steady	Illuminates when power is applied to the drive.
❷	STS (Status)	Green	Flashing	Drive ready but not running & no faults are present.
			Steady	Drive running, no faults are present.
		Yellow See page 4.10	Flashing, Drive Stopped	A start inhibit condition exists, the drive cannot be started. Check parameter 214 [Start Inhibits].
			Flashing, Drive Running	An intermittent type 1 alarm condition is occurring. Check parameter 211 [Drive Alarm 1].
			Steady, Drive Running	A continuous type 1 alarm condition exists. Check parameter 211 [Drive Alarm 1].
		Red See page 4.4	Flashing	Fault has occurred. Check [Fault x Code] or Fault Queue.
			Steady	A non-resettable fault has occurred.
❸	PORT	Green	–	Status of DPI port internal communications (if present).
	MOD	Yellow	–	Status of communications module (when installed).
	NET A	Red	–	Status of network (if connected).
	NET B	Red	–	Status of secondary network (if connected).

This time the file was configured to open to a predefined bookmark.

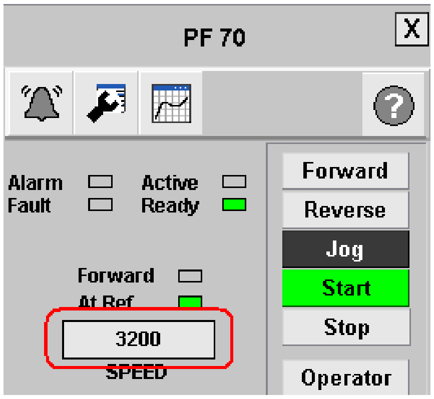
11. Close the **Troubleshooting** document by selecting the **X** X button.

12. Press the ***Drive Fault Clear*** button Drive Fault Clear to clear the fault condition and verify that the faceplate has been updated.

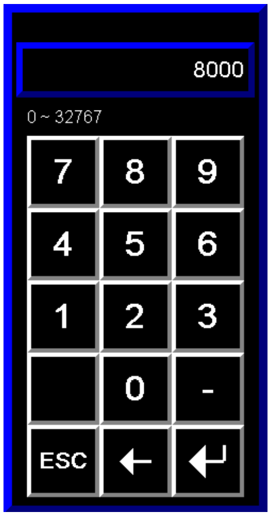


Control a Device using a Faceplate

1. Press the **Drive Speed** field to enter a new value.



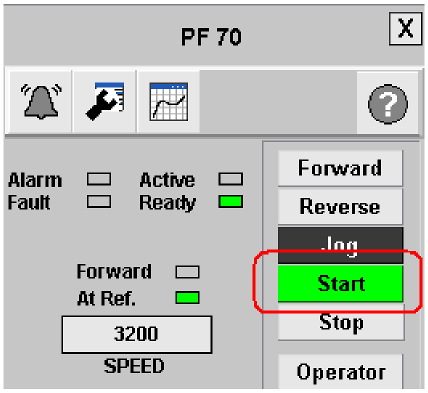
2. Enter a value of '**8000**' and press ***Enter*** ↵.



8000

0 ~ 32767

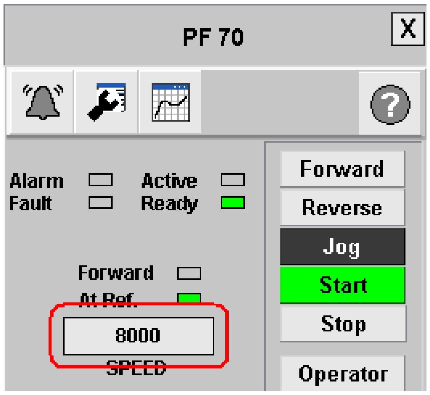
3. Press ***Start*** to control the **PowerFlex** drive.



PF 70

SPEED: 3200

The faceplate automatically updates as the drive ramps up to reflect the new drive speed.



PF 70

SPEED: 8000

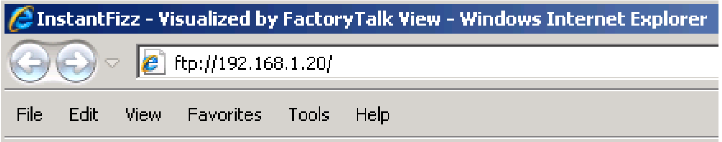
4. Close the **PowerFlex Faceplate** by selecting the **X** X button.

5. Return to the **Main** display.

Retrieving Data logs using the FTP Server

Turn to your **desktop computer** to start this next section. You will be connecting to the PanelView Plus terminals using Internet Explorer to explore how data log files can be managed over a network using the FTP Server.

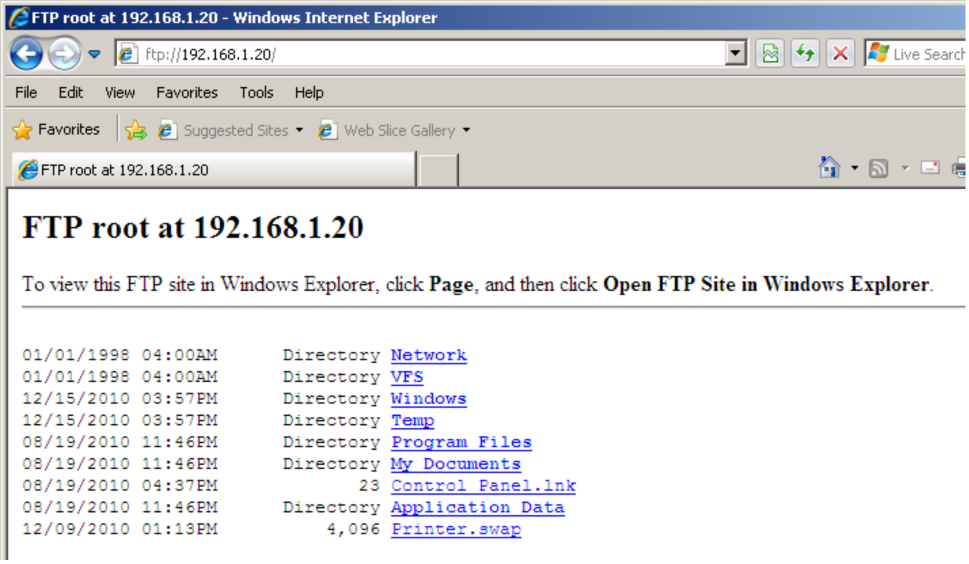
1. If Internet Explorer is not already open from a previous section, launch it using the desktop icon and enter the following address: **ftp://192.168.1.20** where **192.168.1.20** is the IP address of your PanelView Plus and you are using the **ftp://** syntax.



InstantFizz - Visualized by FactoryTalk View - Windows Internet Explorer

ftp://192.168.1.20/

Your window is now updated to show you the files from the PanelView Plus terminal.



FTP root at 192.168.1.20 - Windows Internet Explorer

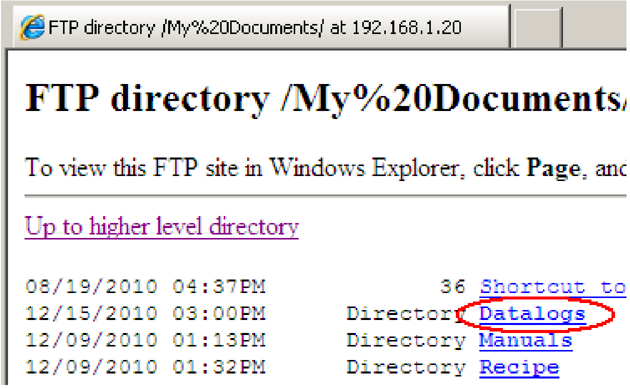
ftp://192.168.1.20/

FTP root at 192.168.1.20

To view this FTP site in Windows Explorer, click **Page**, and then click **Open FTP Site in Windows Explorer**.

```
01/01/1998 04:00AM      Directory Network
01/01/1998 04:00AM      Directory VFS
12/15/2010 03:57PM      Directory Windows
12/15/2010 03:57PM      Directory Temp
08/19/2010 11:46PM      Directory Program Files
08/19/2010 11:46PM      Directory My Documents
08/19/2010 04:37PM             23 Control Panel.lnk
08/19/2010 11:46PM      Directory Application Data
12/09/2010 01:13PM          4,096 Printer.swap
```

2. Click on ***My Documents*** then the ***Datalogs*** folder.



FTP directory /My%20Documents/ at 192.168.1.20

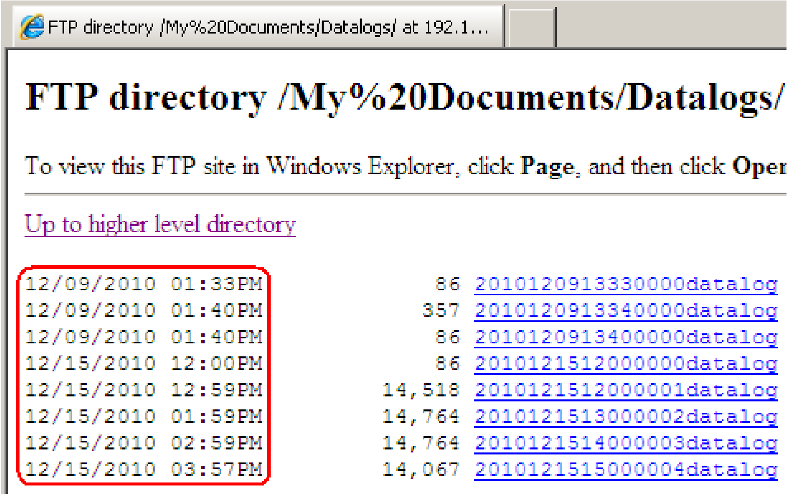
FTP directory /My%20Documents/

To view this FTP site in Windows Explorer, click **Page**, anc

Up to higher level directory

```
08/19/2010 04:37PM              36 Shortcut to
12/15/2010 03:00PM       Directory Datalogs
12/09/2010 01:13PM       Directory Manuals
12/09/2010 01:32PM       Directory Recipe
```

The date and time stamp indicate that there has been no data log activity for a period of time. This is because there is currently no data log model running that is logging to this location. We will now go start one.



FTP directory /My%20Documents/Datalogs/

To view this FTP site in Windows Explorer, click **Page**, and then click **Oper**

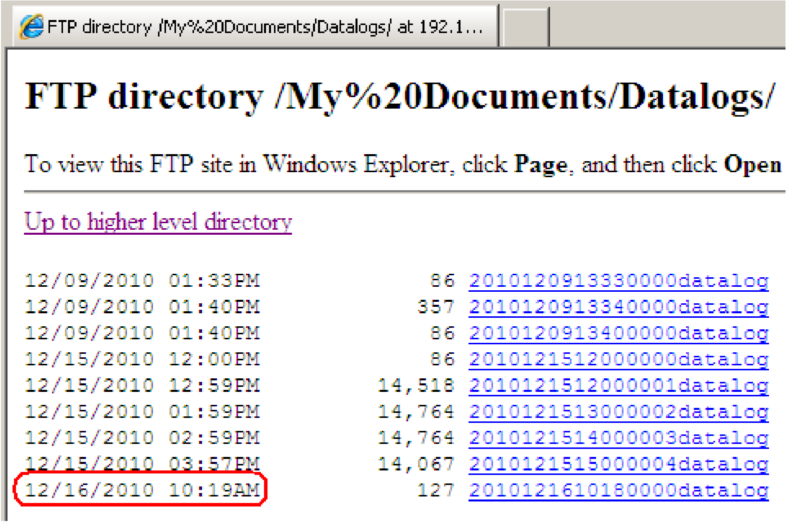
Up to higher level directory

```
12/09/2010 01:33PM            86 20101209133300000datalog
12/09/2010 01:40PM           357 20101209133400000datalog
12/09/2010 01:40PM            86 20101209134000000datalog
12/15/2010 12:00PM            86 20101215120000000datalog
12/15/2010 12:59PM        14,518 20101215120000001datalog
12/15/2010 01:59PM        14,764 20101215130000002datalog
12/15/2010 02:59PM        14,764 20101215140000003datalog
12/15/2010 03:57PM        14,067 20101215150000004datalog
```

3. Turn to your **PanelView Plus** terminal and press the ***Start Datalog*** button .

4. Press the ***Stop Datalog*** button .

5. Return to your Internet Explorer window on your **desktop computer** and click on ***View > Refresh***.



FTP directory /My%20Documents/Datalogs/

To view this FTP site in Windows Explorer, click **Page**, and then click **Open**

Up to higher level directory

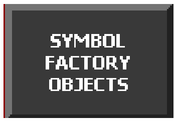
```
12/09/2010 01:33PM            86 20101209133300000datalog
12/09/2010 01:40PM           357 20101209133400000datalog
12/09/2010 01:40PM            86 20101209134000000datalog
12/15/2010 12:00PM            86 20101215120000000datalog
12/15/2010 12:59PM        14,518 20101215120000001datalog
12/15/2010 01:59PM        14,764 20101215130000002datalog
12/15/2010 02:59PM        14,764 20101215140000003datalog
12/15/2010 03:57PM        14,067 20101215150000004datalog
12/16/2010 10:19AM           127 20101216101800000datalog
```

A datalog file is now available on the PanelView Plus FTP Server. The FTP Server can be used to transfer files over the network to and from your terminal when viewed within Windows Explorer.

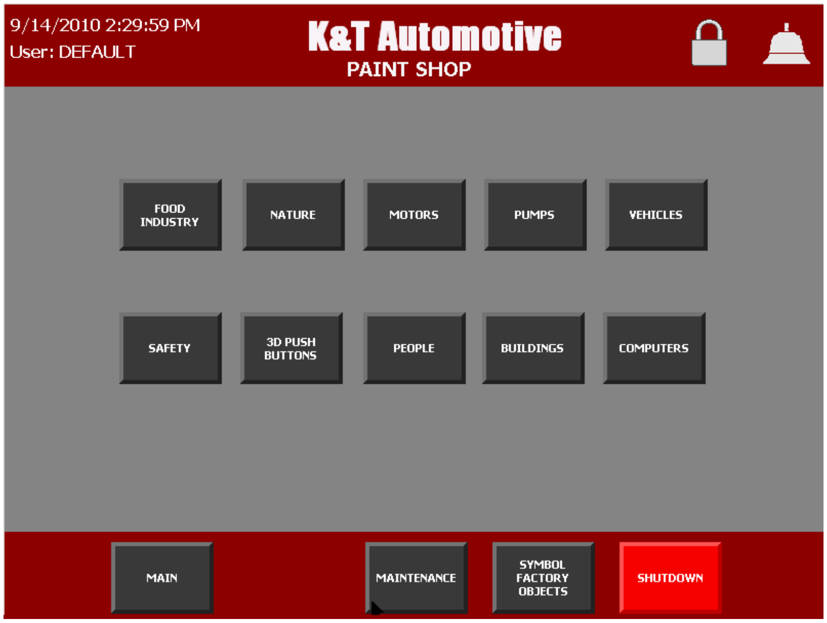
Symbol Factory Library

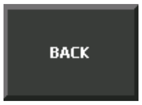
Symbol Factory is a new graphics library interface that can be launched from FactoryTalk View Studio v6.0. It is built on Software Toolbox's Symbol Factory, and contains over 5,000 graphical objects.

In this section you have the opportunity to browse through various categories to see what objects are available.

1. Press the ***Symbol Factory Objects*** button .

2. Explore the different Symbol Factory objects available by **pressing** each of the available category buttons.

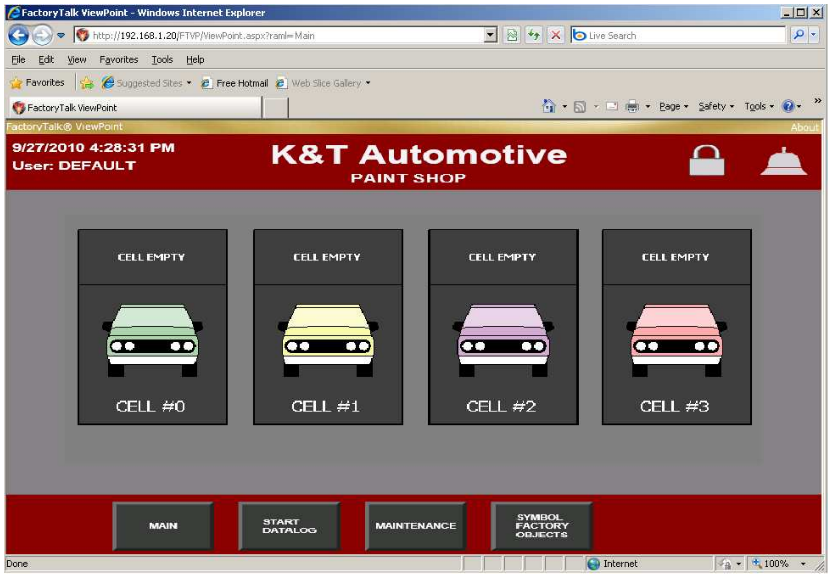


3. Press ***Back***  to return to the above display when finished with each category.

FactoryTalk ViewPoint

FactoryTalk ViewPoint supports fully scalable and animated Web displays of PanelView Plus applications from the office, home, or on the road via an Internet browser. This section will quickly show how to remotely connect to an application that is running on your PanelView Plus with published displays available for a FactoryTalk ViewPoint client.

1. Launch Internet Explorer from the desktop icon and enter the following address: **http://192.168.1.20/FTVP** where **192.168.1.20** is the IP address of your PanelView Plus.



FactoryTalk ViewPoint - Windows Internet Explorer

http://192.168.1.20/FTVP/ViewPoint.aspx?raml=Main

9/27/2010 4:28:31 PM
User: DEFAULT

Chapter 2: FactoryTalk View Machine Edition - Beginner

Completing this section requires approximately 20 minutes.

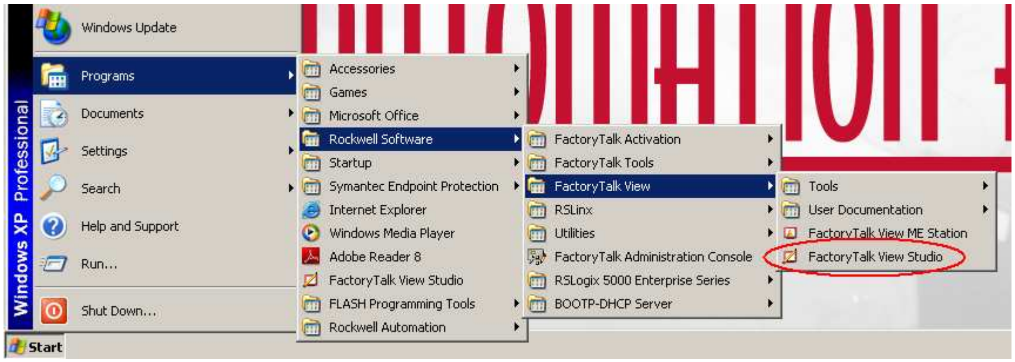
In this section you will learn how to create a *'Hello World'* application by:

- Launching FactoryTalk View Studio for Machine Edition
- Creating a new project, configure project settings, and add content to the project
- Running the project on a PanelView Plus terminal

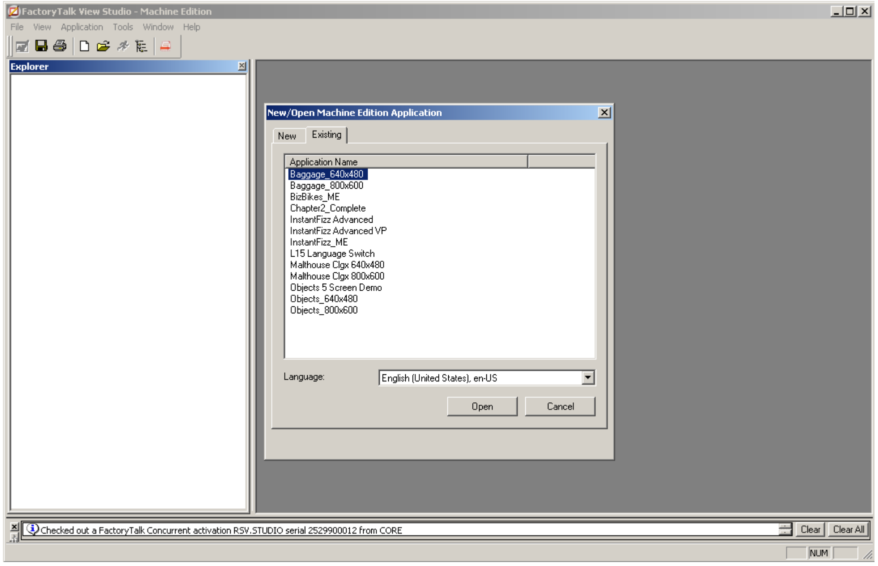
When you have successfully completed this section, you will be able to interact with a running application on a PanelView Plus terminal.

Creating a FactoryTalk ME Application

1. Using the Start menu select ***All Programs >Rockwell Software >FactoryTalk View > FactoryTalk View Studio*** item.



After FactoryTalk View Studio for Machine Edition opens you will see the following:



FactoryTalk View Studio - Machine Edition
File View Application Tools Window Help
Explorer
New/Open Machine Edition Application
New
Existing
Application Name
Open
Cancel
Clear
Clear All
NUM

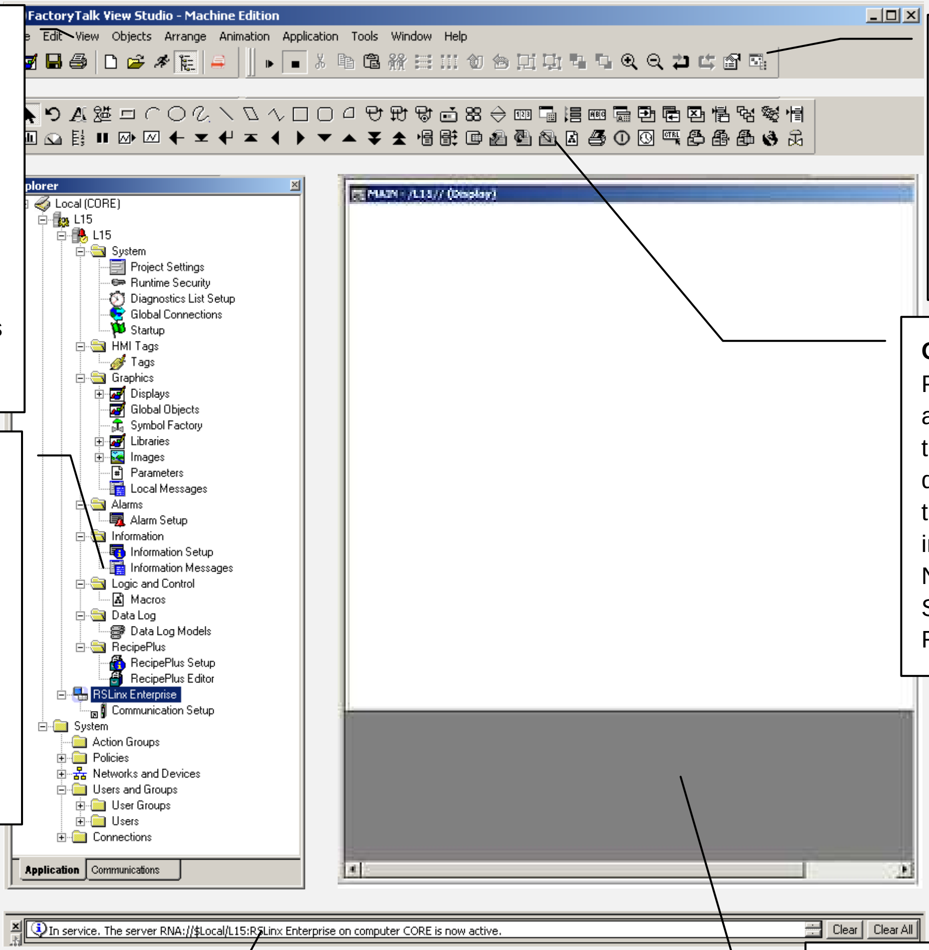
Baggage_640x480
Baggage_800x600
BizBikes_ME
Chapter2_Complete
InstantFizz Advanced
InstantFizz Advanced VP
InstantFizz_ME
L15 Language Switch
Malthouse Clgx 640x480
Malthouse Clgx 800x600
Objects 5 Screen Demo
Objects_640x480
Objects_800x600

Language: English (United States), en-US

Checked out a FactoryTalk Concurrent activation RSV.STUDIO serial 2529900012 from CORE

Exploring FactoryTalk View Studio for Machine Edition Interface

The FactoryTalk View Studio for Machine Edition Application Windows is divided in to several key elements



In service. The server RNA://$Local/L15:RSLinx Enterprise on computer CORE is now active.

Application Menu
Used to interact with the application; Open/ Close/ Create new applications; Import/ Export information.
The menu changes context based on what project object is open in the **Work Pane**

Graphics Toolbar
Provides easy access to tools that are used to manipulate objects on a display.
Ex. Rotate, Group, Ungroup, etc.

Objects Toolbar
Provides easy access to objects that are used on displays to create the user interaction. Ex. Numeric Input, String Display, Ramp button, etc.

Explorer Pane
Contains all objects related to an application project. Application objects are opened in the **Work Pane.**

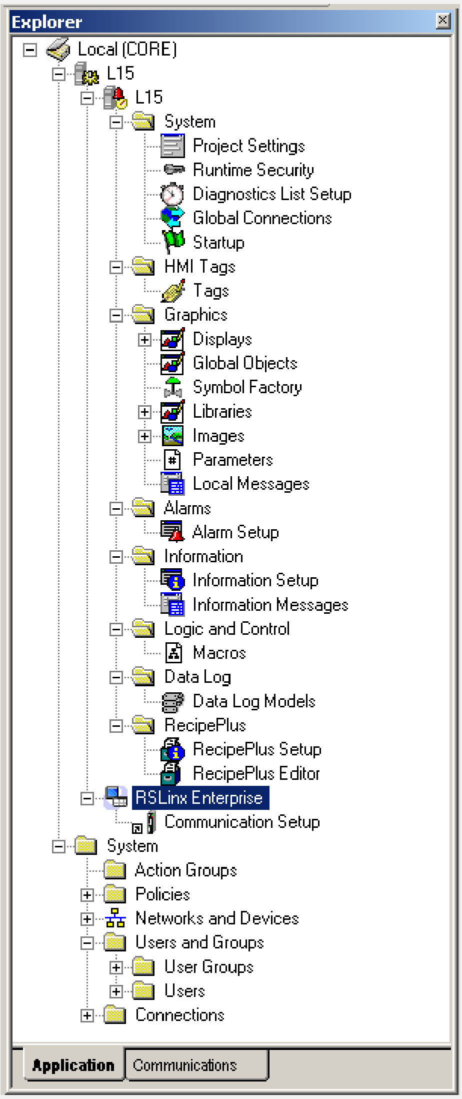
The Explorer's content is described in more detail on the next page.

Diagnostic List
Contains status and error messages related to system, application and project.

Work Pane
Open project object contents are display in this area.

In this example, an untitled display has added to the application.

Now let us take a close look at the objects in the **Explorer Pane.**



Local (CORE) contains computer-scoped components, FactoryTalk View Data Server and FactoryTalk Services Platform objects.

L15 contains application-scoped components like the FactoryTalk View HMI Server and RSLinx Enterprise configurations. . The FactoryTalk View Data Server object is used to add additional data servers (Ex. OPC) to an application project. This is an advanced operation and not covered in the manual.

L15 contains all information scoped to the HMI server such as, Project Settings, HMI Tags, Graphic files, Alarms, Information Messages, Macros, Data Logs, and Recipes.

System contains project-scope settings such as Resolution, Security settings, Startup graphic files, Diagnostic configuration

HMI Tags contains all tags resident in the memory of the HMI Server. Applications for Logix Controllers use direct tag referencing eliminating the need to create HMI tags to communicate with the PLC

Graphics contains all graphic images used in the application as displays, or contained within displays and parameter files. Parameter files are one way to enable graphic reuse between applications.

NEW! Symbol Factory provides access to thousands of stock images organized in an easy to use library.

Alarms contains the application's alarm configuration including triggers and messages.

Information contains the application's information message configuration

Logic and Control contains the application's macros

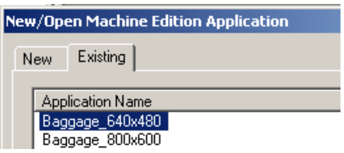
Data Log contains any Data Log Model configured for the application

RecipePlus contains the Recipe management system configuration and any configured recipes

RSLinx Enterprise contains communication shortcuts used by the application

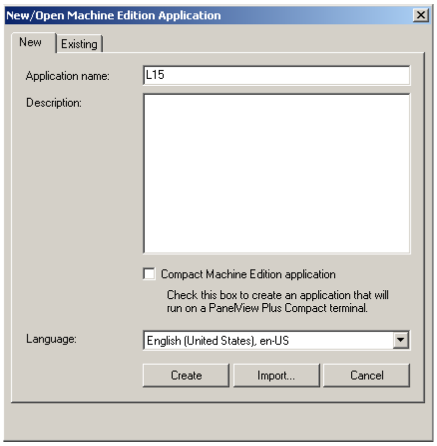
System contains FactoryTalk Services Platform related configuration. This is primarily used to manage users and groups in a FactoryTalk Machine Edition application.

2. Click the ***New*** tab New to activate the tab.



Application Name
Baggage_640x480
Baggage_800x600

3. In the ***Application name*** field, enter '**<u>L15</u>**'.



Application name: L15

Description:

□ Compact Machine Edition application

Check this box to create an application that will run on a PanelView Plus Compact terminal.

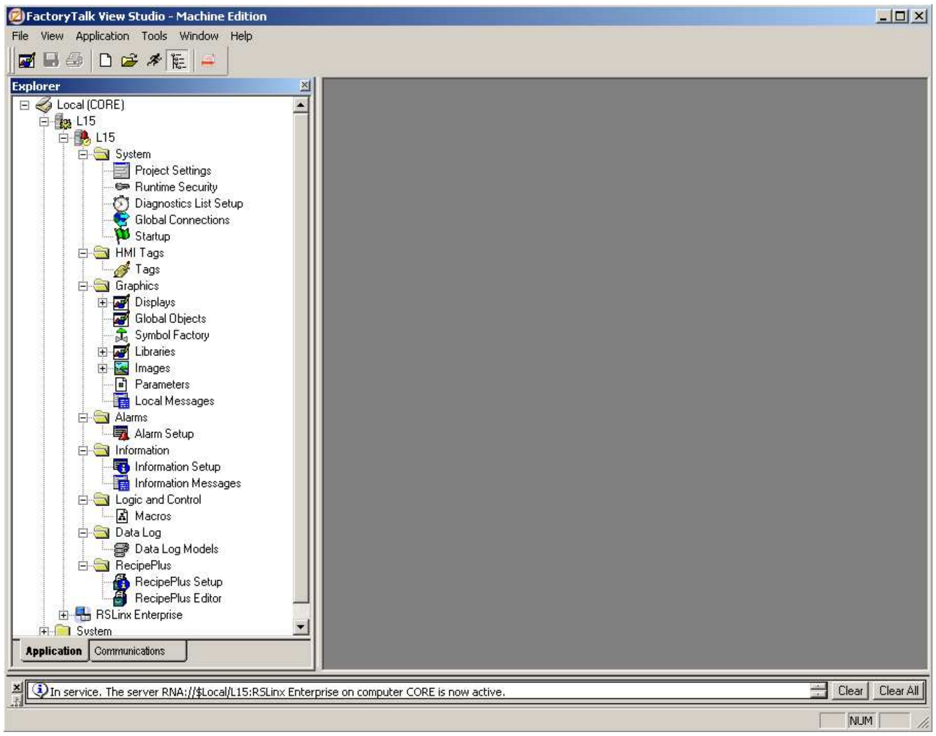
Language: English (United States), en-US

The Import button Import... is used to import:

- PanelBuilder application files for PanelView Standard or PanelView Enhanced.
- PanelView Standard or Enhanced runtime files
- Other FactoryTalk Studio for Machine Edition applications
- This is analogous to using Application Manager to copy the project.

4. Next, click the ***Create*** button Create.

After creating the application, FactoryTalk View Studio for Machine Edition opens the application:



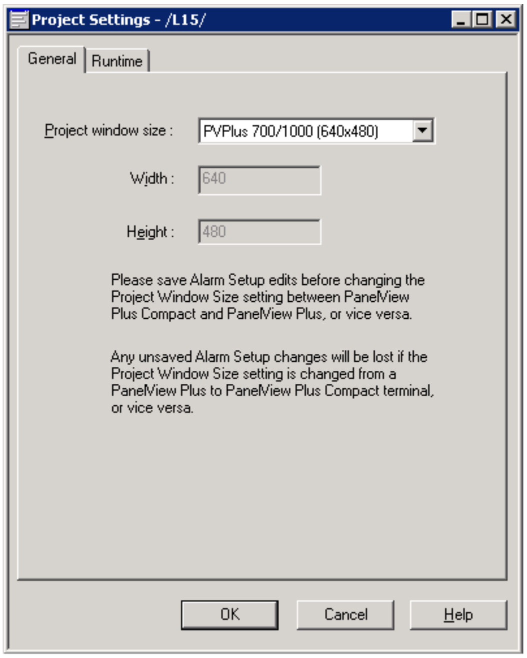
In service. The server RNA://$Local/L15:RSLinx Enterprise on computer CORE is now active.

If you are unfamiliar with FactoryTalk View Studio for Machine Edition, please review the information in Exploring FactoryTalk View Studio for Machine Edition on page 30.

5. Maximize FactoryTalk View Studio by clicking the **maximize** button □ in the upper right-hand corner.

6. Double-click the ***Project Settings*** item located in the **System** container to open its dialog.

   By default, new projects in FactoryTalk View Studio for Machine Edition are configured for a PanelView Plus 700/1000 terminal with a 640x480 resolution. In this lab, you are using PanelView Plus 1000 terminals so these settings do not need to be changed.



Project window size : PVPlus 700/1000 (640x480)

Width : 640

Height : 480

Please save Alarm Setup edits before changing the Project Window Size setting between PanelView Plus Compact and PanelView Plus, or vice versa.

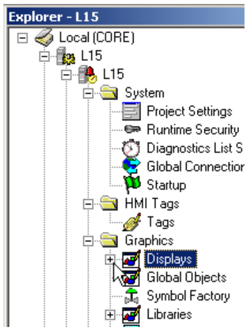
Any unsaved Alarm Setup changes will be lost if the Project Window Size setting is changed from a PanelView Plus to PanelView Plus Compact terminal, or vice versa.

7. Click the ***Cancel*** button Cancel to proceed. There is no need to change any setting on this dialog.

NEW!

Upon creation of a new project, FactoryTalk View ME 6.0 now automatically creates a default display called **Main** which is also defined as the initial startup display. Let's open this now

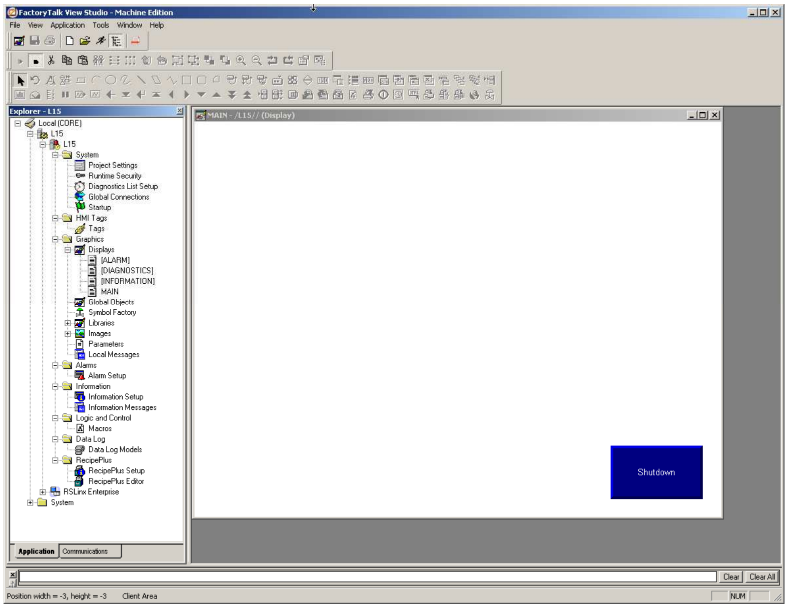
8. To open existing displays, open the **Displays** container by clicking the ***expander*** ⊞ from the **Explorer Pane** window.



9. Double-click on the **Main** display.

   The display will open in the **Work Pane** of FactoryTalk View Studio for Machine Edition.

   You will notice that a Shutdown button has automatically been created for you. You are now ready to add objects to the display.



Adding Content to a Display

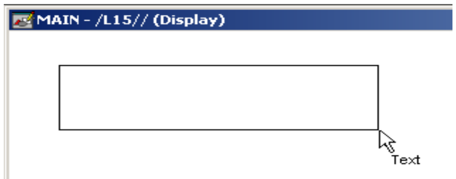
All objects in FactoryTalk View Studio have properties. The properties are organized by function on to tabs on a property dialog. At a minimum, all objects provide a General and Common tab.

Tab Name	Purpose
General	Configure the operation and appearance of the object.
Common	Configure the object’s size (Height and Width) and display position. Display top-left corner is {0,0} coordinate.

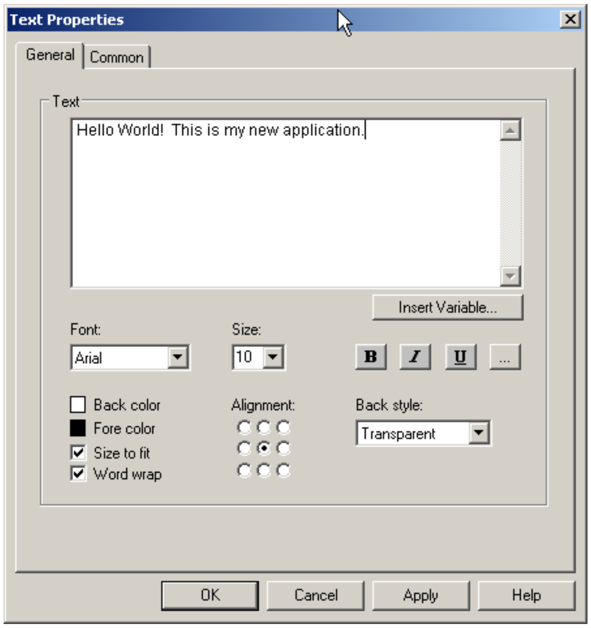
Each object provides a set of tabs that vary with the object type. For instance, most objects that display static text (e.g. Text, Shutdown button) have a Label tab.

Tab Name	Purpose
Label	Configure an object’s caption font, font size, font color.

1. Select the ***Text*** tool , and add a text box to the display.



When you release the mouse button, the ***Text Properties*** dialog will <u>immediately</u> open.


Text Properties

General | Common

Text: Hello World! This is my new application.

Font: Arial

Size: 10

□ Back color
■ Fore color
☑ Size to fit
☑ Word wrap

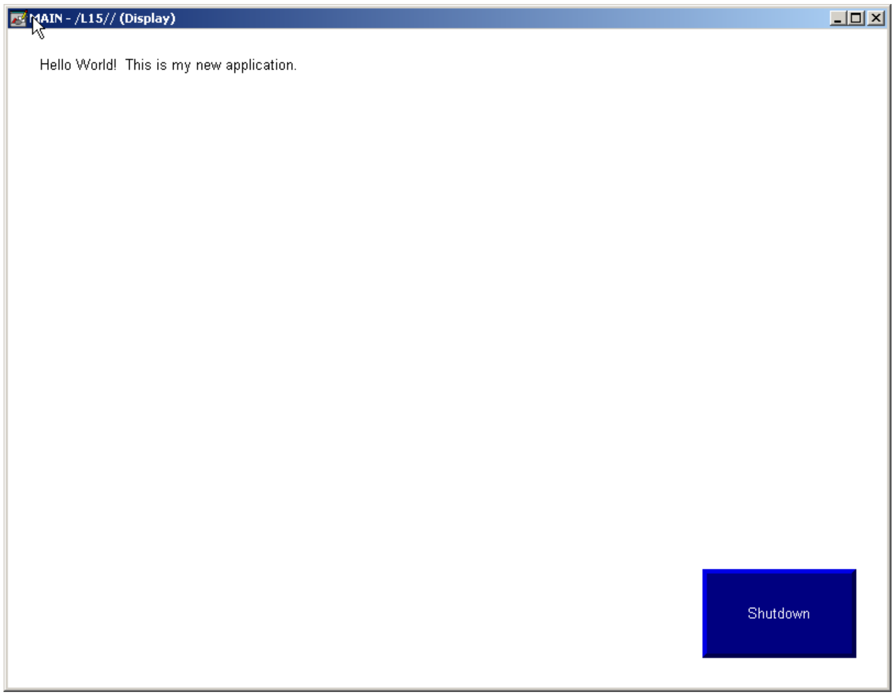
Alignment:
○ ○ ○
○ ● ○
○ ○ ○

Back style: Transparent

2. Click the **Text** field and enter '<u>**Hello World! This is my new application**</u>.'

3. Click the ***OK*** button OK.

This display should now look similar to this


MAIN - /L15// (Display)

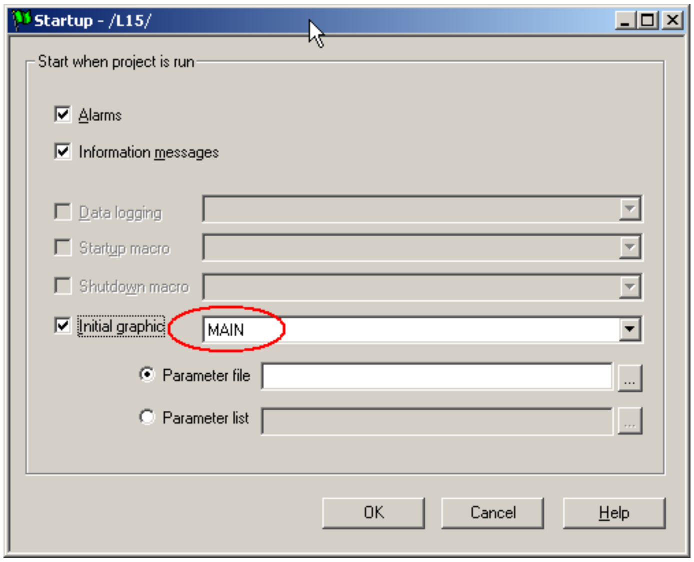
Hello World! This is my new application.

8. Close the display using the ***File > Close*** menu item.

9. When prompted, click ***Yes*** to save the changes.

10. Now that you have created objects on the **Main** display, verify that it is configured as the application's **Startup** graphic.

    To open the **Startup** dialog, double-click on the ***Startup*** item Startup in the **System** container.



Startup - /L15/

Start when project is run

☑ Alarms

☑ Information messages

☐ Data logging

☐ Startup macro

☐ Shutdown macro

☑ Initial graphic MAIN

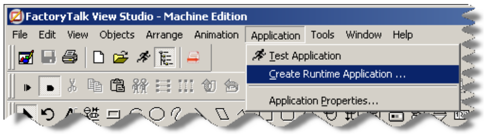
● Parameter file

○ Parameter list

11. Click ***OK*** to close the dialog.

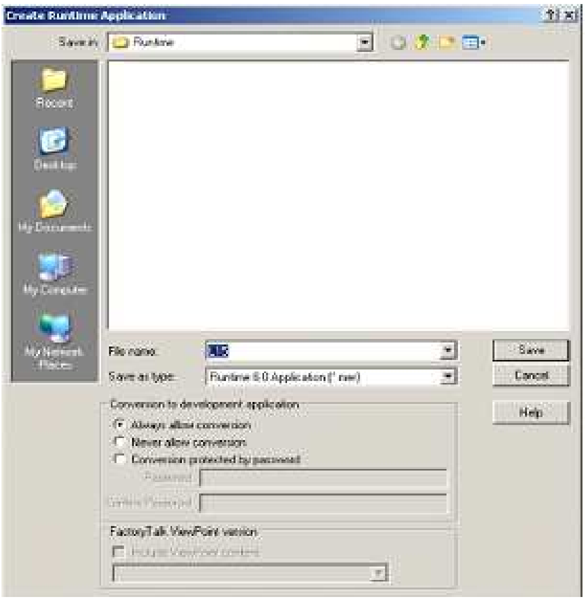
Creating the Runtime Application File

1. Next, you must build the runtime application; select the ***Application > Create Runtime Application*** menu item.



FactoryTalk View Studio - Machine Edition
File
Edit
View
Objects
Arrange
Animation
Application
Tools
Window
Help
Test Application
Create Runtime Application ...
Application Properties...

2. Using the ***Create Runtime Application*** dialog save the runtime project using the suggested name '**L15.mer**' by clicking the ***Save*** button Save.



Create Runtime Application

Save in: Runtime

File name: L15

Save as type: Runtime 6.0 Application (*.mer)

Conversion to development application

● Always allow conversion

○ Never allow conversion

○ Conversion protected by password

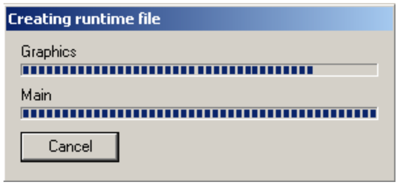
Password:

Confirm Password:

FactoryTalk ViewPoint version

□ Include ViewPoint content

While FactoryTalk View Studio for Machine Edition is creating the runtime MER file a progress dialog will appear



Creating runtime file

Graphics

Main

The ***Conversion to development application*** options allows later recovery of the design files from the runtime project using the Application Manager, if allowed.

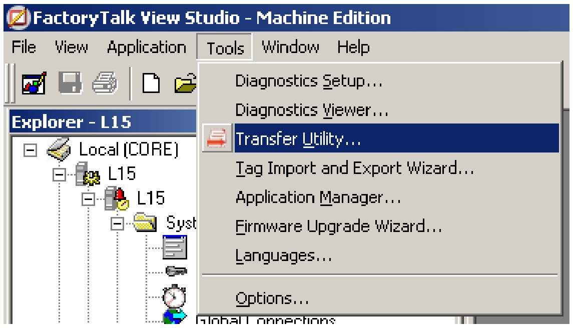
Always allow conversion [Default]
The design information is always included with the runtime, so that it may be restored from the MER.
The resulting MER requires more terminal memory to store the file.

Never allow conversion
Design information cannot be recovered from an MER created with this option selected.
The MER created requires the least amount of terminal memory.

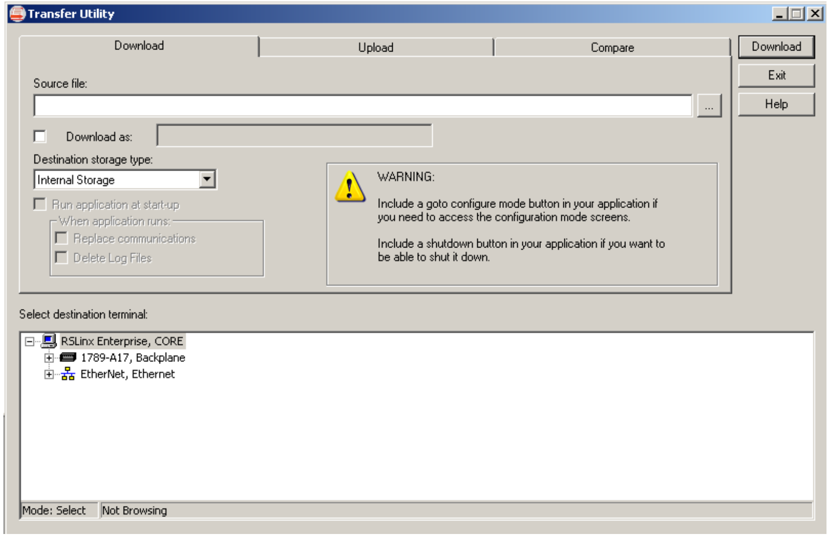
Conversion protected by password
When using Application Manager to extract the design information from the runtime file, the user will be prompted for the configured password.
The resulting MER requires more terminal memory to store the file.

Downloading a runtime MER to a PanelView Plus terminal

1. To download the runtime MER to the PanelView Plus 1000 terminal at your workstation, first, select the ***Tools > Transfer Utility*** menu item.



The Transfer Utility will open.



Destination storage type: Internal Storage

WARNING:

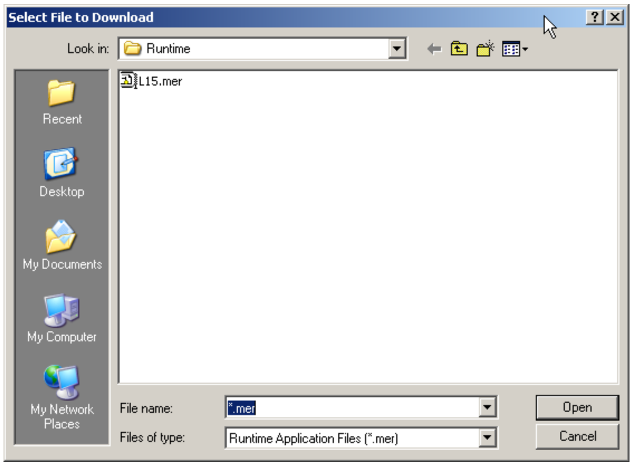
Include a goto configure mode button in your application if you need to access the configuration mode screens.

Include a shutdown button in your application if you want to be able to shut it down.

Mode: Select | Not Browsing

2. Click the **Source File *Browse*** button ... to select the runtime MER file to download.

This opens the ***Select File to Download*** dialog.

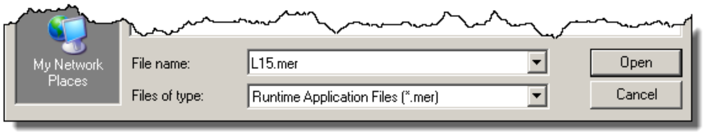


Look in: Runtime

File name: *.mer

Files of type: Runtime Application Files (*.mer)

3. Click on the ***L15.mer*** file to select the project. The **File Name** box should update to reflect the selection.

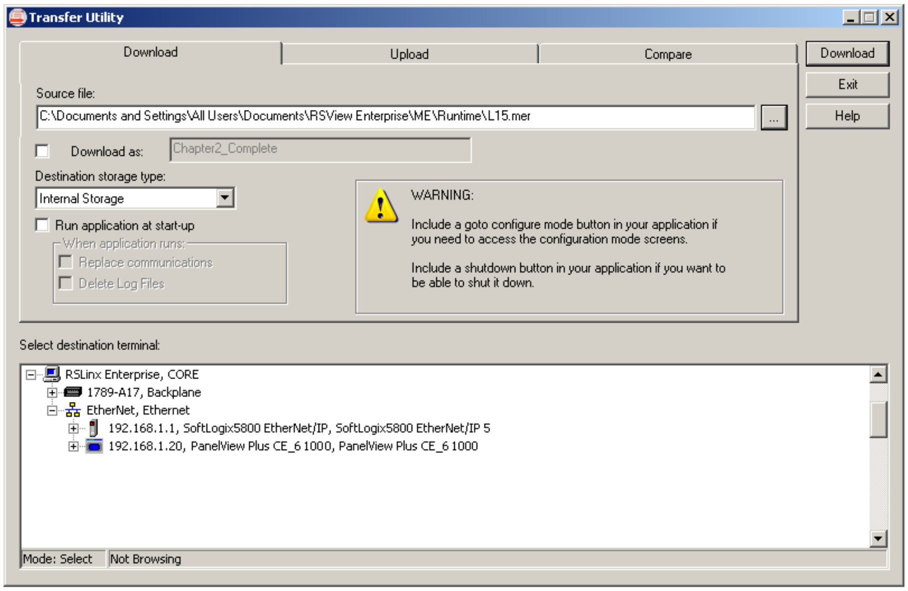


File name: L15.mer

Files of type: Runtime Application Files (*.mer)

4. Click the ***Open*** button Open to complete the project selection.

5. Double-click the ***EtherNet, Ethernet*** driver ⊟ EtherNet, Ethernet to expand the item.



Source file: C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\L15.mer

□ Download as: Chapter2_Complete

Destination storage type: Internal Storage

□ Run application at start-up

When application runs:

□ Replace communications

□ Delete Log Files

WARNING:

Include a goto configure mode button in your application if you need to access the configuration mode screens.

Include a shutdown button in your application if you want to be able to shut it down.

Select destination terminal:

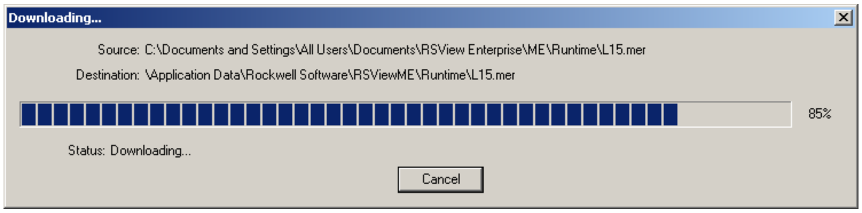
```
⊟ RSLinx Enterprise, CORE
   ⊞ 1789-A17, Backplane
   ⊟ EtherNet, Ethernet
      ⊞ 192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP 5
      ⊞ 192.168.1.20, PanelView Plus CE_6 1000, PanelView Plus CE_6 1000
```

Mode: Select | Not Browsing

6. Select the **192.168.1.20, PanelView Plus CE_6 1000, PanelView Plus CE_6 1000** item by clicking on it once.

7. To initiate the download process, click the ***Download*** button Download

During the download, a progress dialog will update. An example is shown below:



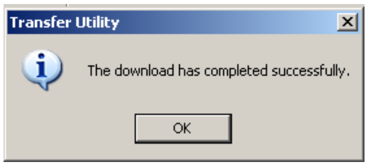
Source: C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\L15.mer

Destination: \Application Data\Rockwell Software\RSViewME\Runtime\L15.mer

85%

Status: Downloading...

When the download process completes a confirmation dialog is shown.



The download has completed successfully.

8. Click the ***OK*** button to acknowledge the dialog.

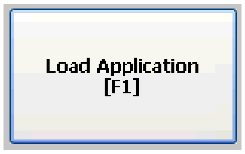
9. Click the ***Exit*** button to close the Transfer Utility.

Running an Application on a PanelView Plus Terminal

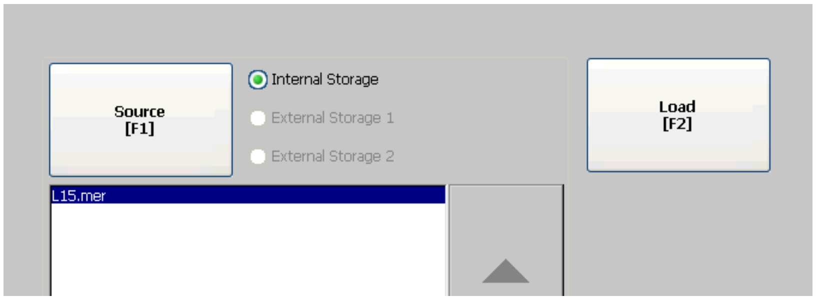
In this lab section, you will work with a PanelView Plus terminal. Execute the following steps to run the FactoryTalk Machine Edition application you just completed.

1. If FactoryTalk View ME Station is not already running on the terminal, double-tap the ***FTView ME Station*** icon on the desktop.

2. Press the ***Load Application [F1]*** button.



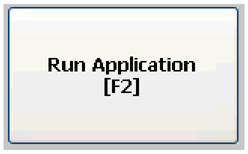
3. Select the ***L15.MER*** file from those available from the terminal's Internal Storage.



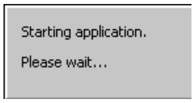
4. Press ***Load [F2]*** to load the runtime file in to memory.

5. When prompted, press ***Yes [F7]*** to overwrite the terminal's current communication configuration with the configuration contained within the **L15.MER** file.

6. Once successfully loaded, press the ***Run Application [F2]*** to start executing the runtime file.



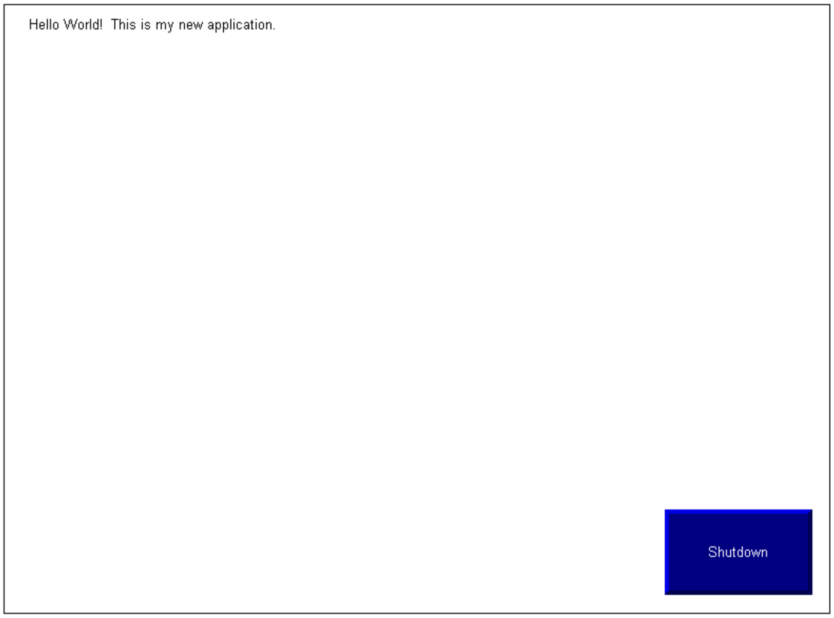
While the terminal is starting the application, an update dialog is displayed.



Starting application.

Please wait…

After the start-up processing completes you should see your applications startup display.



Hello World! This is my new application.

7. Click the **Shutdown** button to terminate the application.

Congratulations!!

You have successfully created a FactoryTalk View Studio for Machine Edition application; added application content; created a runtime file; downloaded the runtime file to a terminal; and, finally, ran the application on a PanelView Plus terminal.

Animating a Display with Control System Data

Completing this section requires approximately 30 minutes.

In this section you will learn how to:

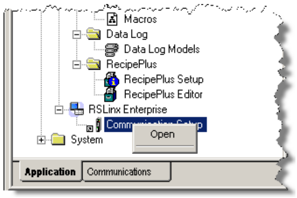
- Configure RSLinx Enterprise Communications for an application
- Add ‘Live’ objects to a display
- Test an application on the Desktop

This application simulates a two-button pump control station.

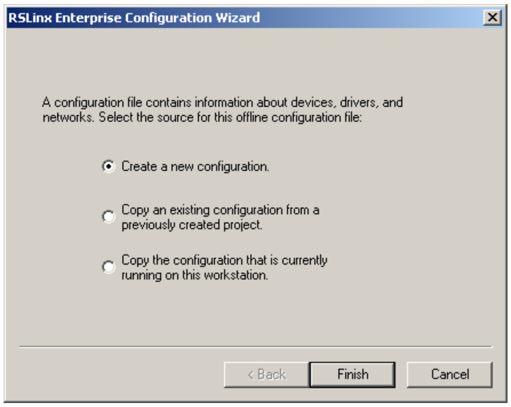
Configuring Communications

1. Double-click the **RSLinx Enterprise** item to expand.

2. Right-click on the **Communication Setup** item and select ***Open*** to launch the **RSLinx Enterprise Configuration Wizard**.



3. Select the ***Create a new configuration*** option; this is the default.



RSLinx Enterprise Configuration Wizard

A configuration file contains information about devices, drivers, and networks. Select the source for this offline configuration file:

● Create a new configuration.

○ Copy an existing configuration from a previously created project.

○ Copy the configuration that is currently running on this workstation.

The purpose of the different options is described here:

Create a new configuration

Generates an empty communication configuration scheme for the application.

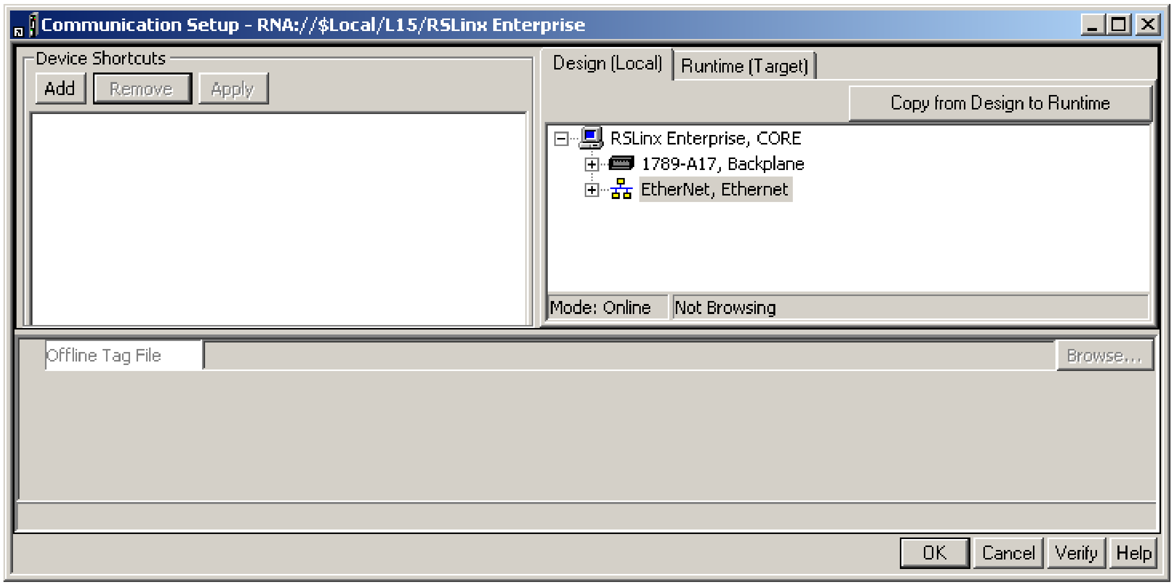
Copy an existing configuration from a previously created project

Reuse a communication configuration from a different application file.

Copy the configuration that is currently running on this workstation

Infrequently used; copies the communication configuration from an application currently being hosted using FactoryTalk Machine Edition Station on the same workstation.

4. Click the ***Finish*** button Finish. The ***Communication Setup*** dialog opens. You may need to resize the dialog.



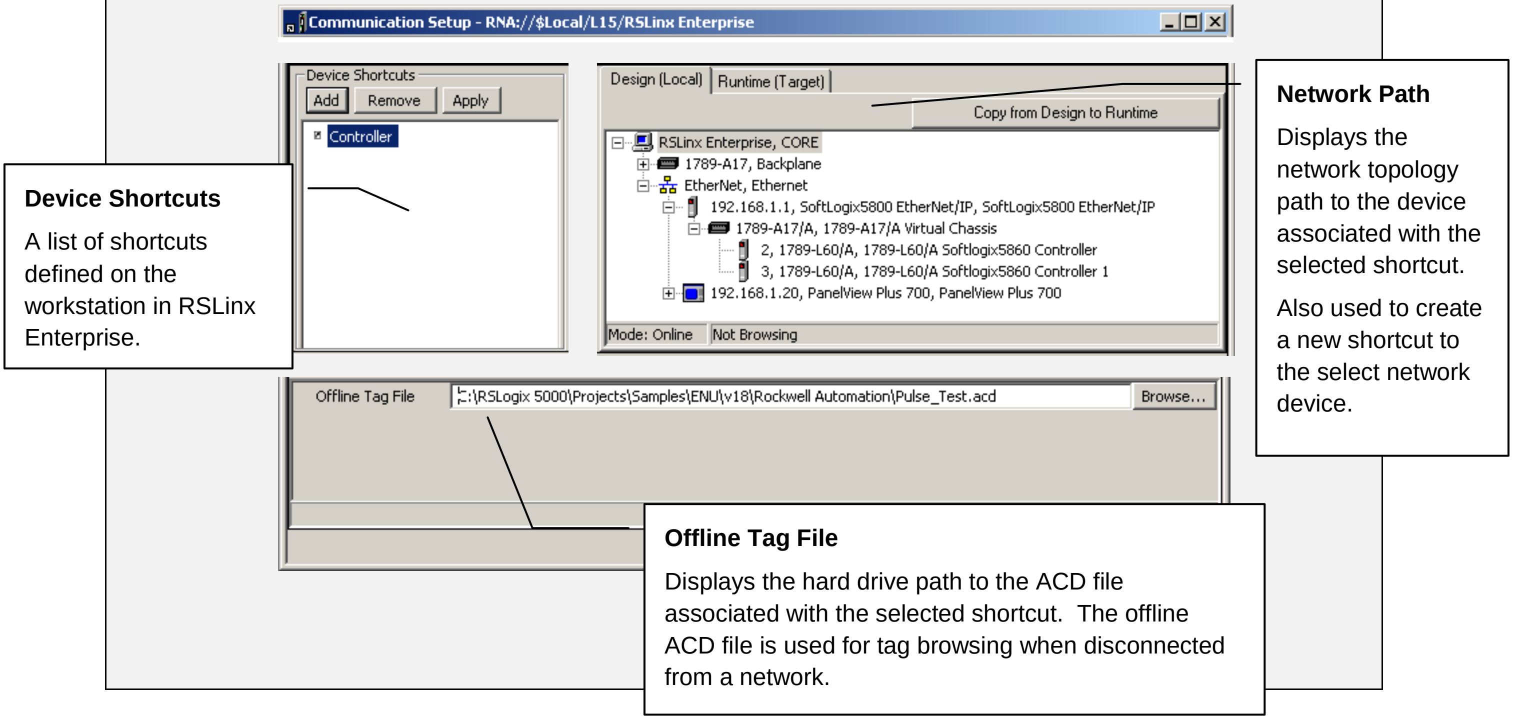
Communication Setup - RNA://$Local/L15/RSLinx Enterprise

RSLinx Enterprise, CORE
1789-A17, Backplane
EtherNet, Ethernet

Mode: Online | Not Browsing

Exploring the Communication Setup Dialog

The Communication Setup dialog has three main areas.



```
RSLinx Enterprise, CORE
  1789-A17, Backplane
  EtherNet, Ethernet
    192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP
      1789-A17/A, 1789-A17/A Virtual Chassis
        2, 1789-L60/A, 1789-L60/A Softlogix5860 Controller
        3, 1789-L60/A, 1789-L60/A Softlogix5860 Controller 1
    192.168.1.20, PanelView Plus 700, PanelView Plus 700
```

Offline Tag File: C:\RSLogix 5000\Projects\Samples\ENU\v18\Rockwell Automation\Pulse_Test.acd

Device Shortcuts

A list of shortcuts defined on the workstation in RSLinx Enterprise.

Network Path

Displays the network topology path to the device associated with the selected shortcut.

Also used to create a new shortcut to the select network device.

Offline Tag File

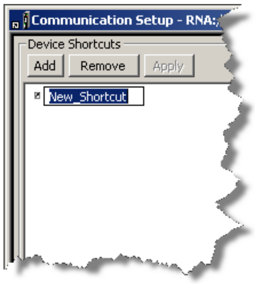
Displays the hard drive path to the ACD file associated with the selected shortcut. The offline ACD file is used for tag browsing when disconnected from a network.

You will notice that the **Network Path** dialog area has two tabs, ***Design (Local)***, and ***Runtime (Target)***. The definitions below should help you to understand how to use these tabs, and why there provide powerful flexibility when designing an application. These tabs allow you to develop and debug an application while at your desk, working on the shop floor, or some other location that is not co-located with the control system.

The tabs can be used as described below

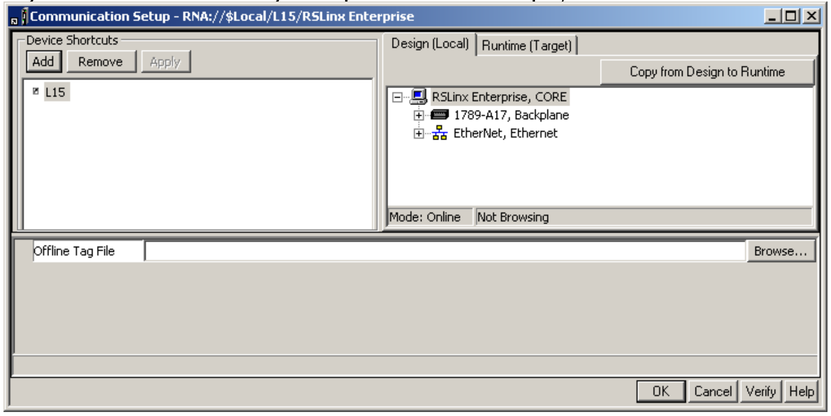
Design (Local)	Configure the network and device path(s) for the development environment in which the application will be designed and debugged. This network topology and device path(s) may be different than the production environment where the application will ultimately run. If the development and production environments are *identical*, you can copy the Design (Local) configuration to the Runtime (Target) configuration using the ***Copy from Design to Runtime*** button Copy from Design to Runtime.
Runtime (Target)	Configure the network and device path(s) for the production environment in which the application will run (e.g. customer facility). The network topology and path(s) may be completely different than those defined using the ***Design (Local)*** tab.

5. To create a new shortcut, click the ***Add*** button Add in the **Device Shortcuts** area. When you click the ***Add*** button, a new shortcut is created. The shortcut's name field is open and ready to be edited.



6. Name the shortcut **L15** by typing '**L15**' and then pressing the ***[Enter]*** key on the keyboard.

   If you have successfully completed these steps, the **Communication Setup** dialog will look like this:

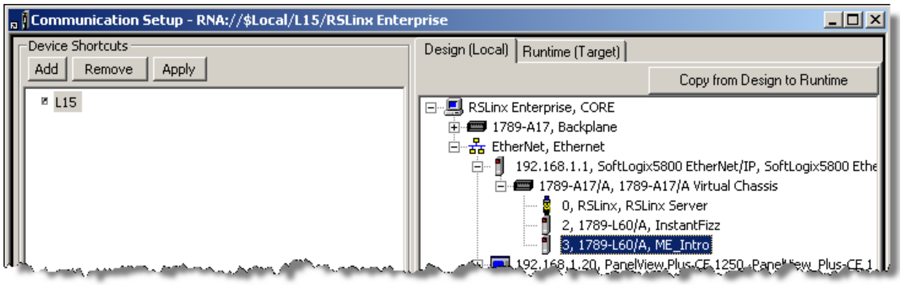


7. Expand the **EtherNet, Ethernet** driver by clicking the ***expander*** ⊞ once.

8. Click the ***expander*** ⊞ once, to open the **192.168.1.1, SoftLogix 5800 EtherNet/IP, EtherNet/IP** item.

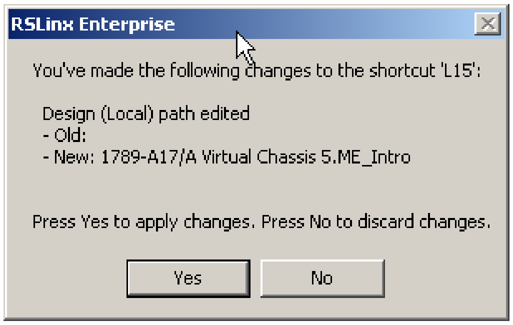
9. Click the ***expander*** ⊞ to open the **1789-A17/A, 1789-A17/A Virtual Chassis** item.

10. Select ***3, 1789-L60/A, 1789-L60/A SoftLogix 5860 Controller*** by clicking on it once. The dialog should now look like this after completing the last few steps.


Communication Setup - RNA://$Local/L15/RSLinx Enterprise
Device Shortcuts
Add
Remove
Apply
L15
Design (Local)
Runtime (Target)
Copy from Design to Runtime
RSLinx Enterprise, CORE
1789-A17, Backplane
EtherNet, Ethernet
192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 Ethe
1789-A17/A, 1789-A17/A Virtual Chassis
0, RSLinx, RSLinx Server
2, 1789-L60/A, InstantFizz
3, 1789-L60/A, ME_Intro
192.168.1.20, PanelView Plus CE 1250, PanelView Plus CE 1

11. Click the ***Apply*** button Apply to associate the selected device (e.g. SoftLogix 5800 Controller) with the selected communication shortcut (e.g. L15).

12. Click the ***Yes*** button Yes to confirm the association.

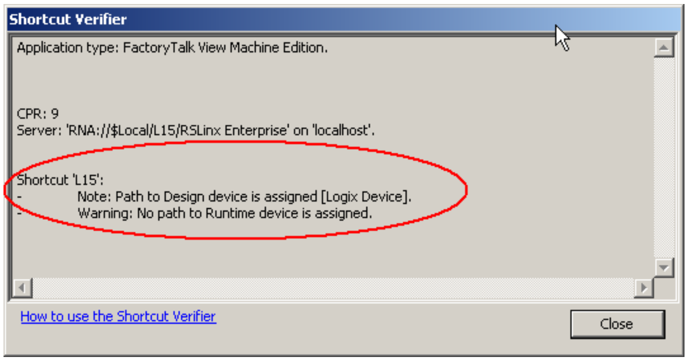

RSLinx Enterprise

You've made the following changes to the shortcut 'L15':

Design (Local) path edited
- Old:
- New: 1789-A17/A Virtual Chassis 5.ME_Intro

Press Yes to apply changes. Press No to discard changes.

13. Click the ***Verify*** button Verify to confirm the association.


Shortcut Verifier

Application type: FactoryTalk View Machine Edition.

CPR: 9
Server: 'RNA://$Local/L15/RSLinx Enterprise' on 'localhost'.

Shortcut 'L15':
- Note: Path to Design device is assigned [Logix Device].
- Warning: No path to Runtime device is assigned.

Note, that for shortcut **L15** only the Design path is assigned.

14. Close the Shortcut **Verifier** dialog by clicking the ***Close*** button Close.

In this lab, the design and production environments are identical. To proceed you have two options:

1. Use the ***Copy from Design to Runtime*** button Copy from Design to Runtime to copy the design environment topology and device paths to the production environment (e.g. Runtime (Target) tab).
   It is estimated this option will require less than 5 minutes to complete.

The ***Copy*** button should be used with care. All devices shown in the ***Design*** tab will be copied to the ***Runtime*** tab.

The only devices required in the ***Runtime*** configuration are the controller(s) the PanelView Plus is communicating with.

2. Manually configure the production environment so that you understand how this functionality works.
   It is estimated manual configuration will require 5 to 10 minutes to complete.

   For **Option B** proceed to page 49.

Option A

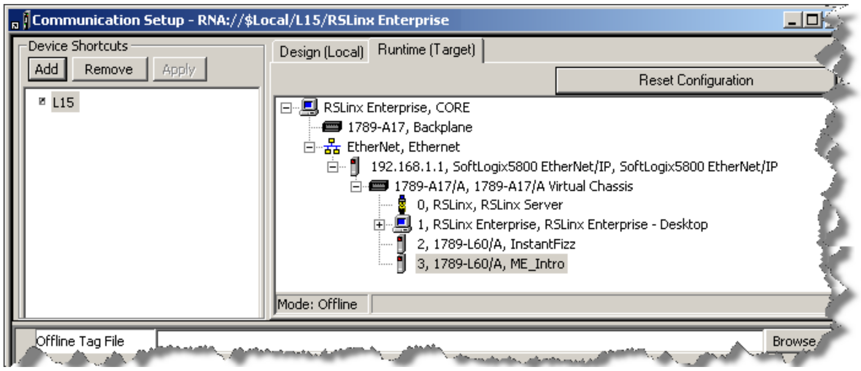
1. Click on the ***Runtime (Target)*** tab Design (Local) Runtime (Target) to select it and note there are two available drivers and no devices.

2. Switch back to the ***Design (Local)*** tab to click the ***Copy from Design to Runtime*** button Copy from Design to Runtime. This copies the communication configuration from the **Design (Local)** tab to the **Runtime (Target)** tab.

2. When prompted click ***Yes*** button Yes to confirm the operation.

3. Click on the ***Runtime (Target)*** tab to view the devices that have now been copied over.

   Using the expanders open the topology items (e.g. drivers and devices) to confirm that the Design (Local) configuration have been replicated.



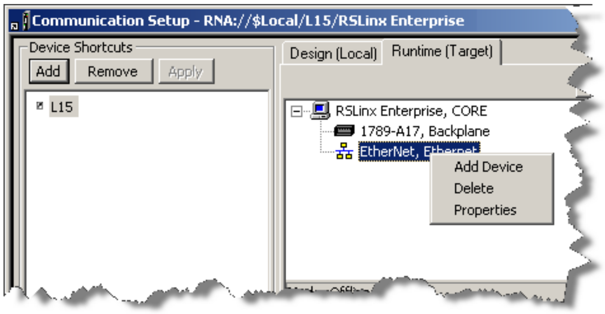
```
RSLinx Enterprise, CORE
    1789-A17, Backplane
    EtherNet, Ethernet
        192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP
            1789-A17/A, 1789-A17/A Virtual Chassis
                0, RSLinx, RSLinx Server
                1, RSLinx Enterprise, RSLinx Enterprise - Desktop
                2, 1789-L60/A, InstantFizz
                3, 1789-L60/A, ME_Intro
```

4. **Proceed** to Step 19 page 52 to continue and skip Option B.

Option B

1. Click on the ***Runtime (Target)*** tab Design (Local) | Runtime (Target) to select it.

2. Right-click on **EtherNet, Ethernet** item to open the context menu.



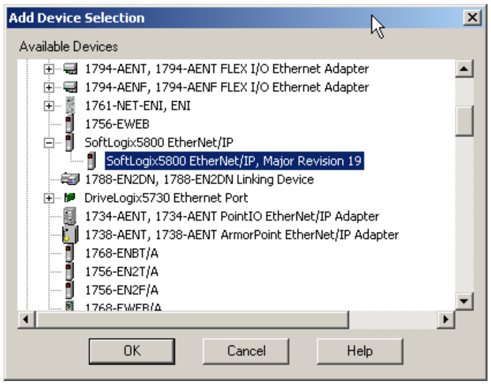
Communication Setup - RNA://$Local/L15/RSLinx Enterprise

RSLinx Enterprise, CORE
1789-A17, Backplane
EtherNet, Ethernet

3. Click ***Add Device*** which opens the **Add Device Selection** dialog

4. Expand the **EtherNet/IP Devices** item by clicking the ***expander*** ⊞

5. **Scroll down** and expand **SoftLogix 5800 EtherNet/IP** item by clicking the ***expander*** ⊞. **Select** the only **SoftLogix 5800 EtherNet/IP** option in this list.

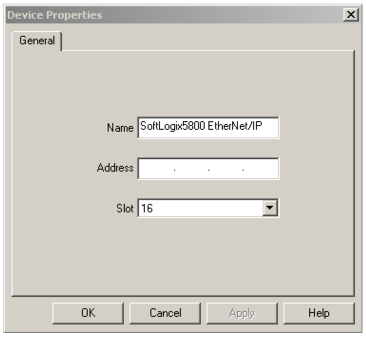


Add Device Selection

Available Devices

1794-AENT, 1794-AENT FLEX I/O Ethernet Adapter
1794-AENF, 1794-AENF FLEX I/O Ethernet Adapter
1761-NET-ENI, ENI
1756-EWEB
SoftLogix5800 EtherNet/IP
SoftLogix5800 EtherNet/IP, Major Revision 19
1788-EN2DN, 1788-EN2DN Linking Device
DriveLogix5730 Ethernet Port
1734-AENT, 1734-AENT PointIO EtherNet/IP Adapter
1738-AENT, 1738-AENT ArmorPoint EtherNet/IP Adapter
1768-ENBT/A
1756-EN2T/A
1756-EN2F/A
1768-EWEB/A

6. Click the ***OK*** button OK to accept the selection. This action opens the **Device Properties** dialog.



Device Properties

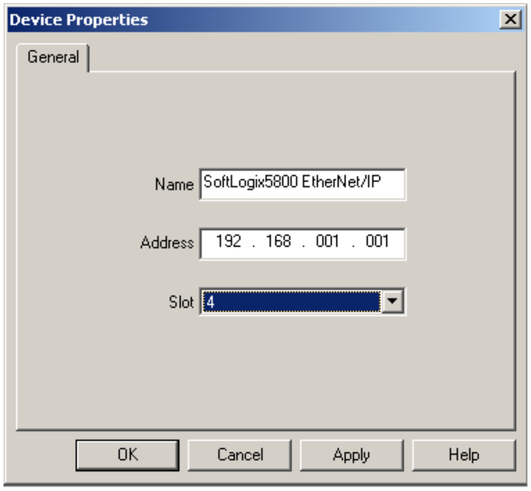
Name SoftLogix5800 EtherNet/IP

Address . . .

Slot 16

7. Enter '**192.168.001.001**' in the **Address** field to set the device's TCP/IP address.

8. Change the selected **Slot** to '**4**'.



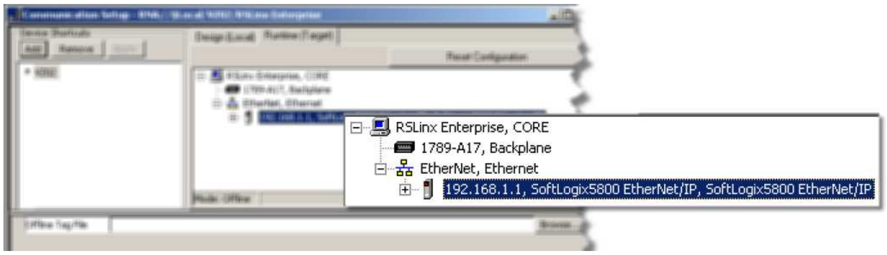
Device Properties

Name SoftLogix5800 EtherNet/IP

Address 192 . 168 . 001 . 001

Slot 4

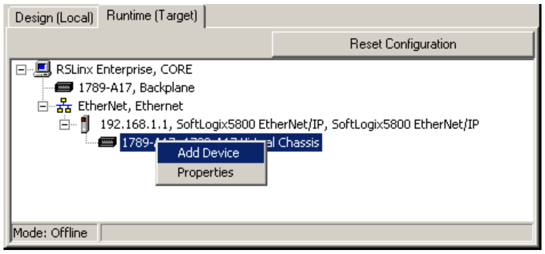
9. Click the ***OK*** button OK to add the device to the **Runtime (Target)** configuration.



RSLinx Enterprise, CORE
1789-A17, Backplane
EtherNet, Ethernet
192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP

10. Use the expander to open the **192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix 5800 EtherNet/IP** device.

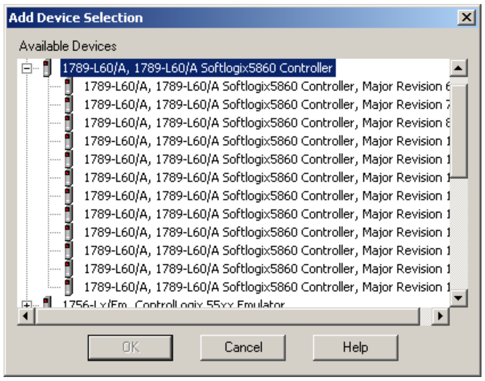
11. Right-click the **1789-A17, 1789-A17 Virtual Chassis** item and select ***Add Device***.



RSLinx Enterprise, CORE
1789-A17, Backplane
EtherNet, Ethernet
192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP
1789-A17, 1789-A17 Virtual Chassis

Mode: Offline

12. Expand the **1789-L60/A, 1789-L60/A SoftLogix 5860** Controller item by double-clicking.

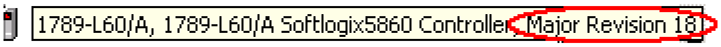


Add Device Selection

Available Devices

```
⊟ 1789-L60/A, 1789-L60/A Softlogix5860 Controller
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 6
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 7
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 8
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
    1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 1
⊞ 1756-Lx/Em, ControlLogix 55xx Emulator
```

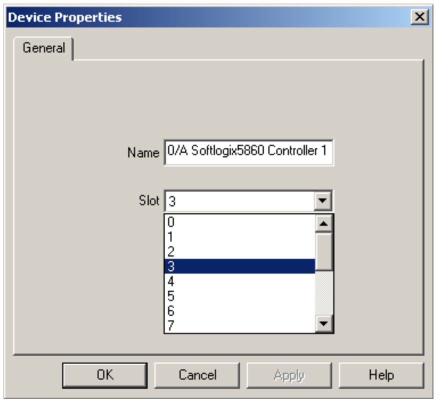
13. Select the **1780-L60/A, 1789-L60/A SoftLogix 5860 Controller, Major Revision 18** item.



1789-L60/A, 1789-L60/A Softlogix5860 Controller, Major Revision 18

14. Click the ***OK*** button OK to accept the selection.

15. Change the controller's ***Slot*** property to '**3**'.



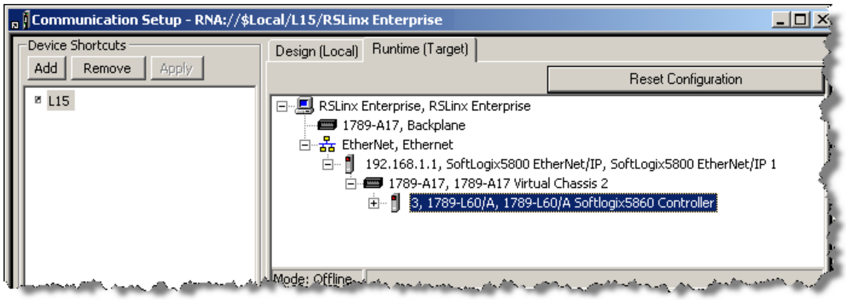
Device Properties

General

Name: 0/A Softlogix5860 Controller 1

Slot: 3

16. Click the ***OK*** button OK to add the device to the **Runtime (Target)** configuration.



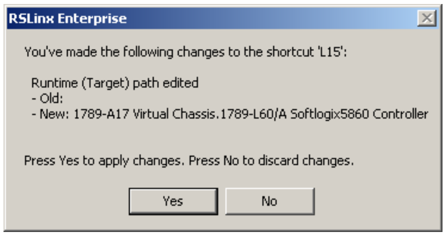
Communication Setup - RNA://$Local/L15/RSLinx Enterprise

```
⊟ RSLinx Enterprise, RSLinx Enterprise
    1789-A17, Backplane
  ⊟ EtherNet, Ethernet
    ⊟ 192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP 1
      ⊟ 1789-A17, 1789-A17 Virtual Chassis 2
        ⊞ 3, 1789-L60/A, 1789-L60/A Softlogix5860 Controller
```

Mode: Offline

17. Click the ***Apply*** button Apply in the **Device Shortcuts** pane.

18. Click the ***Yes*** button Yes to apply the changes to the **L15** shortcut.



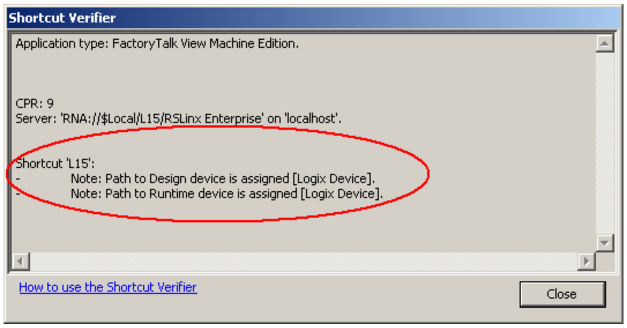
RSLinx Enterprise

You've made the following changes to the shortcut 'L15':

Runtime (Target) path edited
- Old:
- New: 1789-A17 Virtual Chassis.1789-L60/A Softlogix5860 Controller

Press Yes to apply changes. Press No to discard changes.

19. Click the ***Verify*** button Verify to confirm the Design and Runtime associations.



Shortcut Verifier

Application type: FactoryTalk View Machine Edition.

CPR: 9
Server: 'RNA://$Local/L15/RSLinx Enterprise' on 'localhost'.

Shortcut 'L15':
- Note: Path to Design device is assigned [Logix Device].
- Note: Path to Runtime device is assigned [Logix Device].

Confirm both the Design and Runtime devices are assigned for shortcut **L15**.

20. Close the **Shortcut Verifier** dialog by clicking the ***Close*** button Close.

21. Click the ***OK*** button OK to complete the communication setup and close the **Communication Setup** dialog.

> Be sure to use the **OK** button! If you close the dialog with the **Close** button ☒, the communication setup will **not** be committed to the application. You will need to repeat the communication setup process.

Adding 'Live' Objects to a Display

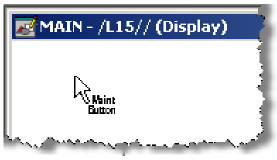
Now that a communication path to a controller is configured, you are ready to add objects (buttons, numeric displays, etc.) to the display that use information from the controller. The lab uses a variety of different buttons, data displays, and images to illustrate FactoryTalk Machine Edition functionality and application capabilities.

1. Double-click the **Main** display in the **Explorer** to open the display.

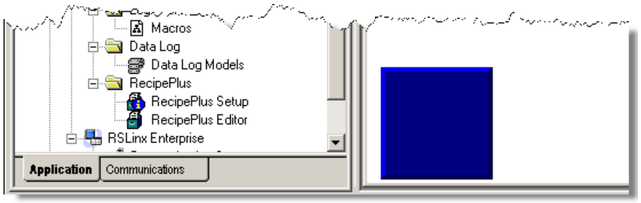
2. Right-click over the existing **Text** object with the caption 'Hello World! This is my new application.' and select ***Delete.***

3. Select the ***Maintained Pushbutton*** tool from the **Objects** toolbar.

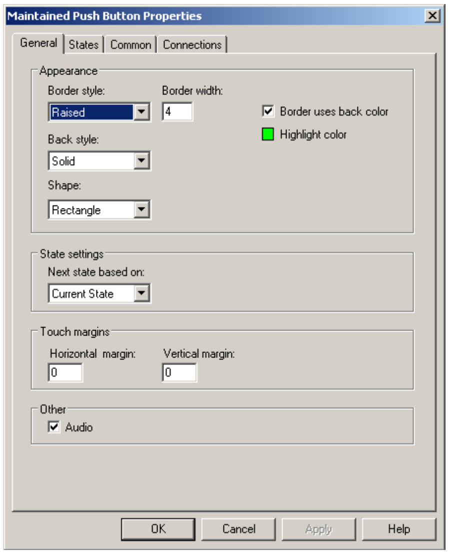
4. When you move the cursor over the **Main** display frame, the mouse cursor will change to
Maint
Button



5. Move the mouse cursor near the lower left-hand corner of the **Main** display frame; click and hold the left mouse button, and then drag down and to the right to create a **Maintained Pushbutton** object.



6. Position the cursor over the **Maintained Pushbutton** and double-click the mouse to open the **Maintained Pushbutton Properties** dialog.



Maintained Push Button Properties

General | States | Common | Connections

Appearance

Border style: Raised

Border width: 4

☑ Border uses back color

🟩 Highlight color

Back style: Solid

Shape: Rectangle

State settings

Next state based on: Current State

Touch margins

Horizontal margin: 0

Vertical margin: 0

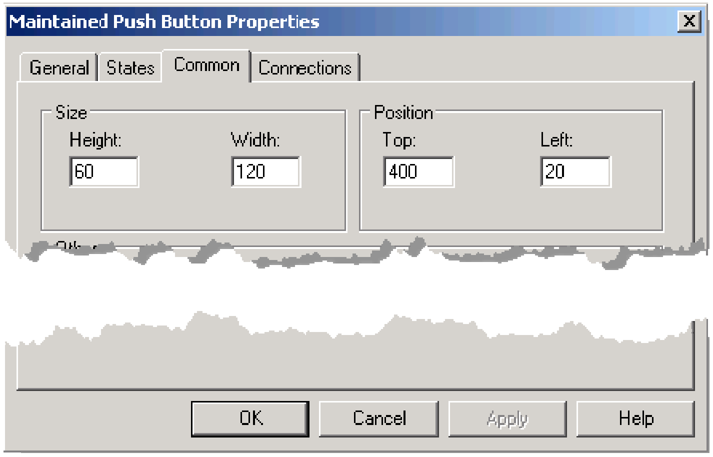
Other

☑ Audio

7. Click the ***Common*** tab to activate.

8. Change the ***Height, Width, Top,*** and ***Left*** fields to size and position the **Maintained Pushbutton** exactly.

Height	60
Width	120
Top	400
Left	20



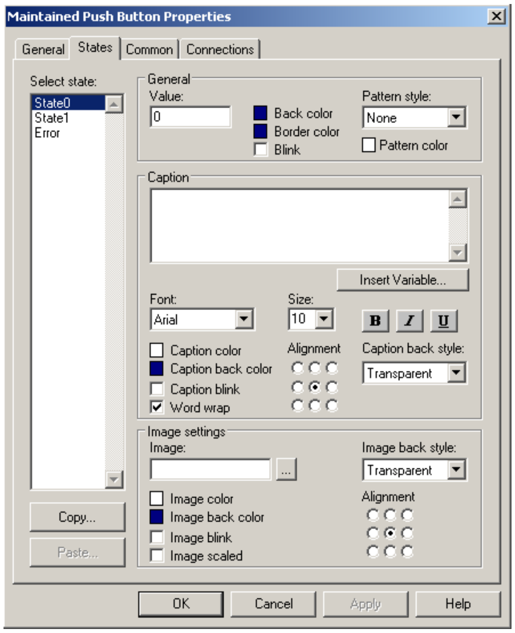
Maintained Push Button Properties

Size
Height: 60
Width: 120

Position
Top: 400
Left: 20

9. Click the ***Apply*** button Apply to commit these changes. The button should move and resize on the display to match these settings.
If you've accidently clicked **OK** button, simply reopen the button's property dialog by double-clicking the button.

10. Click the ***States*** tab to activate.



Value: 0

Pattern style: None

Font: Arial

Size: 10

Caption back style: Transparent

Image back style: Transparent

☑ Word wrap

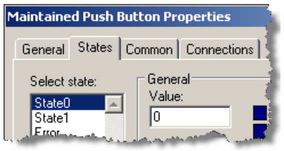
States are explicit events that occur when the value of the configured **Connection: Value** tag *equals* the value defined in the **Value** for the selected state. If the **Connection: Value** tag value does not equal any defined state the **Error** state occurs.

Pushbuttons have three states: State0, State1, and Error. By default, State0 is configured to occur when **Connection: Value** tag value is zero; State 1 when the tag value is one. You can set a State's **Value** to any valid integer that the tag will assume. Most common are zero and one. You can create a Normally Closed pushbutton by setting **State0 Value** to one, and **State1 Value** to zero.

There are other more complex state-based objects that you configure the operation for multiple states. These are called multistate objects; there are two: **Multistate Pushbutton** and **Multistate Indicator**.

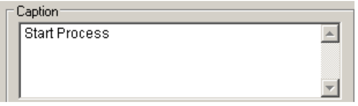
The **Multistate Indicator** is useful for depicting or emulating lamps, stack-lights, etc. The **Multistate Pushbutton** is useful for emulating multi-position selector switches, etc.

11. Select ***State0*** in the **Select state:** field.



Value: 0

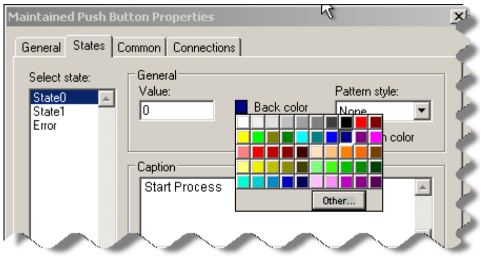
12. Enter '**Start Process**' in the ***Caption*** field.



Caption

Start Process

13. Click the ***Back color*** color swatch in the **General** group. This will open a color picker.

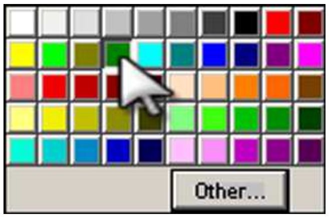


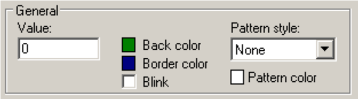
Value: 0

Pattern style: None

Caption: Start Process

14. Select a shade of **Green**.





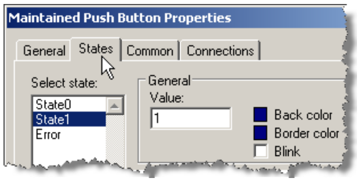
Value: 0

Pattern style: None

The dialog will update to reflect your selection.

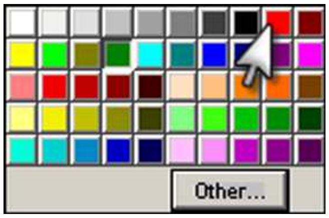
15. Click the ***Apply*** button Apply to commit these changes. The button will update to match the entry you made, a green button with the caption “Start Process”.

16. Select ***State1*** in the **Select State:** field.



Value: 1

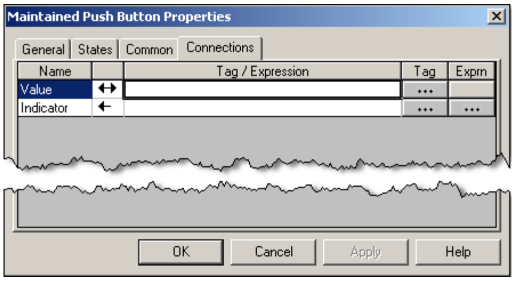
17. Click the ***Back color*** color swatch in the **General** group. Select a shade of **Red**.



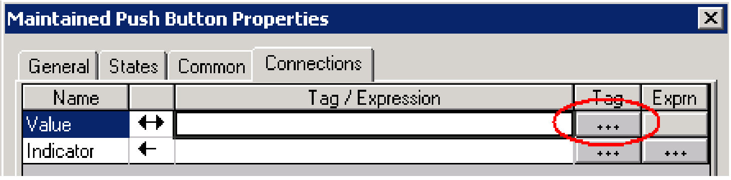
18. Enter ‘**<u>Stop Process</u>**’ in the **Caption** field.

19. Click the ***Apply*** button Apply to commit these changes.

20. Click the ***Connections*** tab to activate.



21. In the **Value** row, click on the ***Browse*** button ... in the **Tag** column



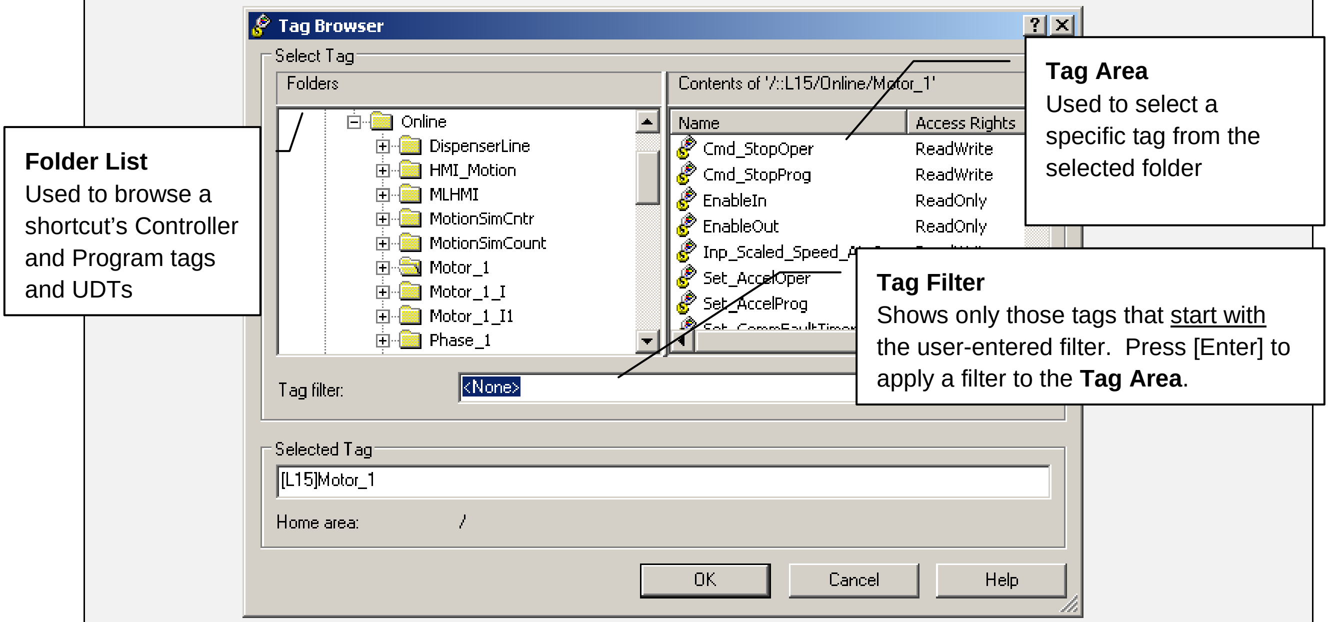
This action opens the **Tag Browser**

Understanding the Tag Browser

The **Tag Browser** is used to view and select tags from the application’s configured data sources.

Understanding the Tag Browser

When you configured **RSLinx Enterprise** earlier in this lab, you were configuring a data source. Other data sources might be a PLC5 or SLC500 processor, or a device accessed using available KEPware drivers.



Folders:

- Online
  - DispenserLine
  - HMI_Motion
  - MLHMI
  - MotionSimCntr
  - MotionSimCount
  - Motor_1
  - Motor_1_I
  - Motor_1_I1
  - Phase_1

Contents of '/::L15/Online/Motor_1'

Name	Access Rights
Cmd_StopOper	ReadWrite
Cmd_StopProg	ReadWrite
EnableIn	ReadOnly
EnableOut	ReadOnly
Inp_Scaled_Speed_A	
Set_AccelOper	
Set_AccelProg	
Set_CommFaultTimer	

Tag filter: <None>

Selected Tag: [L15]Motor_1

Home area: /

Folder List
Used to browse a shortcut's Controller and Program tags and UDTs

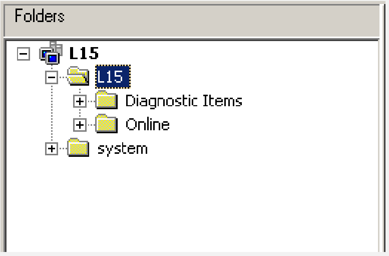
Tag Area
Used to select a specific tag from the selected folder

Tag Filter
Shows only those tags that start with the user-entered filter. Press [Enter] to apply a filter to the **Tag Area**.

Understanding the Tag Browser

The following further defines and highlights the uses and functionality provided in the Tag Browser.

Folder List



HMI Server (e.g. L15)
Contains tags defined in the HMI Server; referred to as *memory tags*. The FactoryTalk Machine Edition runtime manages and updates these tags.

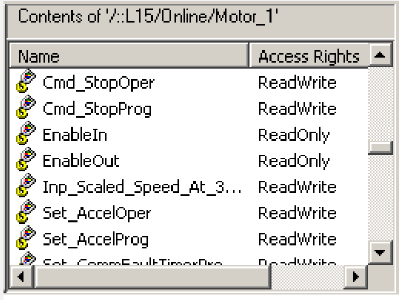
System
Contains default HMI tags for system information, such as, time of day, date, etc.

<Communication Shortcut> (e.g. L15)
Contains tags that exist in the memory of the device the shortcut represents.

Diagnostic Items
Predefined diagnostic and troubleshooting tags useful for monitoring communication and controller status.

Online
Tags contained in a Logix Controller’s memory; the tags are directly referenced by the FactoryTalk Machine Edition runtime.

Tag Area

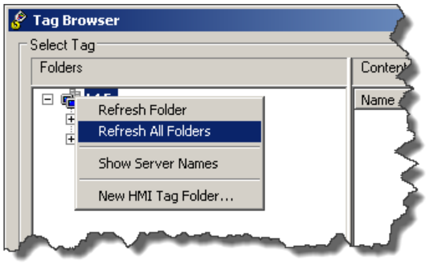

Contents of '/::L15/Online/Motor_1'

Name	Access Rights
Cmd_StopOper	ReadWrite
Cmd_StopProg	ReadWrite
EnableIn	ReadOnly
EnableOut	ReadOnly
Inp_Scaled_Speed_At_3...	ReadWrite
Set_AccelOper	ReadWrite
Set_AccelProg	ReadWrite
Set_CommFaultTimerPro	ReadWrite

Name
Column containing the tag’s name. Use the **Tag filter** function to quickly find tags that <u>start with</u> the user-entered filter.

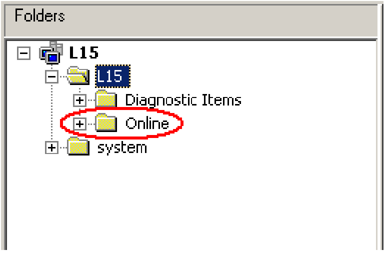
Access Rights
New! In V18 firmware, Logix Controllers implements Access Rights for tags. This column displays a tag’s Access Rights property. Tags are either *ReadOnly* or *ReadWrite.*

22. Right-click on the ***L15*** item in the **Folders** list; select the **Refresh All Folders** item.

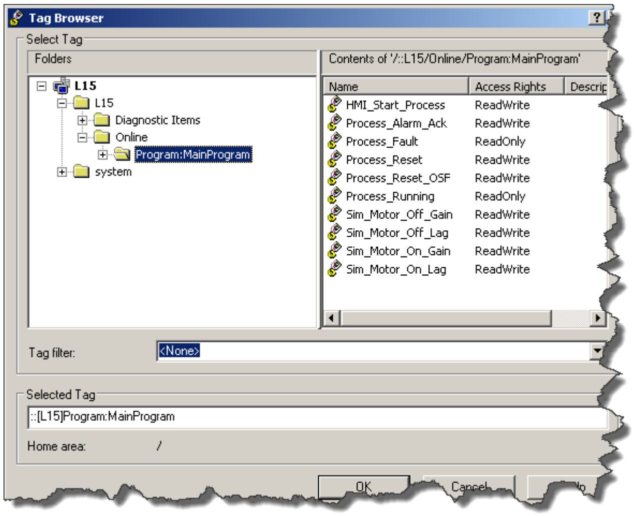


23. Double-click the **L15** folder to expand.

24. Double-click the ***Online*** item to expand.



25. Select the **Program:MainProgram** item.



Contents of '/::L15/Online/Program:MainProgram'

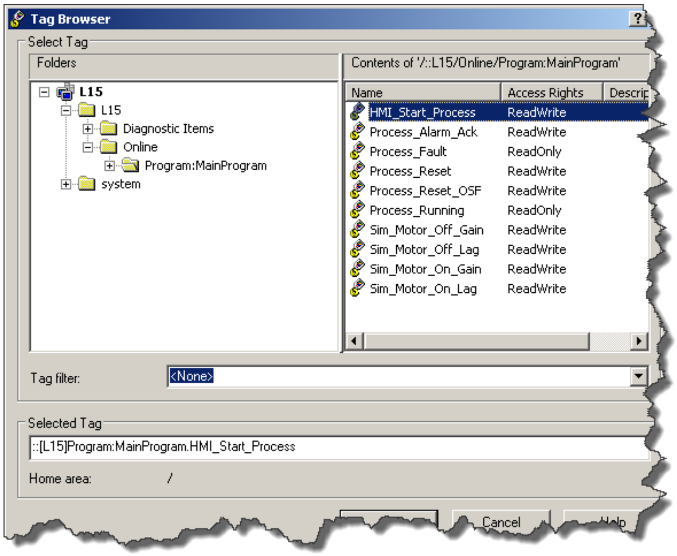
Name	Access Rights	Descrip
HMI_Start_Process	ReadWrite	
Process_Alarm_Ack	ReadWrite	
Process_Fault	ReadOnly	
Process_Reset	ReadWrite	
Process_Reset_OSF	ReadWrite	
Process_Running	ReadOnly	
Sim_Motor_Off_Gain	ReadWrite	
Sim_Motor_Off_Lag	ReadWrite	
Sim_Motor_On_Gain	ReadWrite	
Sim_Motor_On_Lag	ReadWrite	

Tag filter: <None>

Selected Tag: ::[L15]Program:MainProgram

Home area: /

26. In the **Tag Area**, locate and select the tag ***HMI_Start_Process.***



Tag Browser

Select Tag

Folders

- L15
  - L15
    - Diagnostic Items
    - Online
      - Program:MainProgram
  - system

Contents of '/::L15/Online/Program:MainProgram'

Name	Access Rights	Descrip
HMI_Start_Process	ReadWrite	
Process_Alarm_Ack	ReadWrite	
Process_Fault	ReadOnly	
Process_Reset	ReadWrite	
Process_Reset_OSF	ReadWrite	
Process_Running	ReadOnly	
Sim_Motor_Off_Gain	ReadWrite	
Sim_Motor_Off_Lag	ReadWrite	
Sim_Motor_On_Gain	ReadWrite	
Sim_Motor_On_Lag	ReadWrite	

Tag filter: <None>

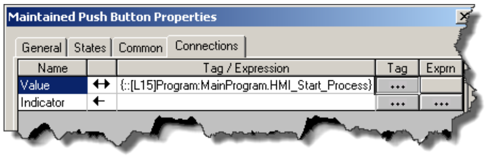
Selected Tag

::[L15]Program:MainProgram.HMI_Start_Process

Home area: /

Note that the **Selected Tag** text box reflects your selection.

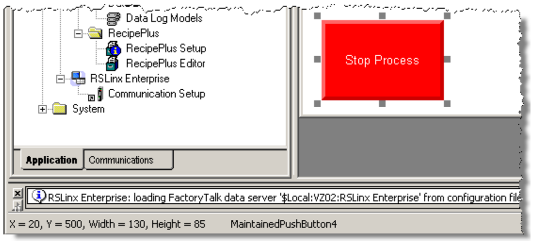
27. Click the ***OK*** button OK to complete the connection configuration.



Maintained Push Button Properties

Name		Tag / Expression	Tag	Exprn
Value	↔	{::[L15]Program:MainProgram.HMI_Start_Process}	...	
Indicator	←		...	...

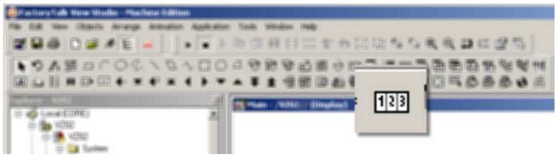
28. Click the ***OK*** button OK to complete the button's properties configuration. You can now see a red colored button in the lower left-hand corner of the **Main** display.



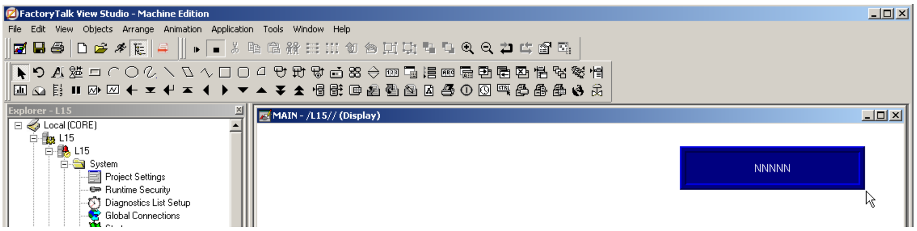
RSLinx Enterprise: loading FactoryTalk data server '$Local:VZ02:RSLinx Enterprise' from configuration file

X = 20, Y = 500, Width = 130, Height = 85 MaintainedPushButton4

29. Select the ***Numeric Display*** tool from the **Objects** toolbar.

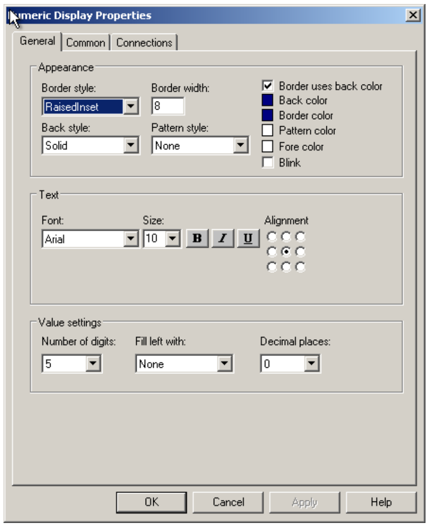


30. Move the mouse near the right-hand margin of the **Main** display frame; click and hold the left mouse button, then drag down and to the right to create a **Numeric Display** box.



FactoryTalk View Studio - Machine Edition

31. Position the cursor over the **Numeric Display** box and double-click the mouse to open the **Numeric Display Properties** dialog.



Appearance

Border style: RaisedInset

Border width: 8

☑ Border uses back color

Back color

Border color

□ Pattern color

□ Fore color

□ Blink

Back style: Solid

Pattern style: None

Text

Font: Arial

Size: 10

Alignment

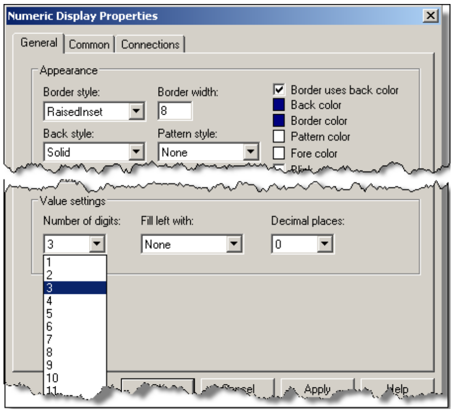
Value settings

Number of digits: 5

Fill left with: None

Decimal places: 0

32. In the **Value** Settings group decrease the ***Number of Digits*** from 5 to ‘**3**’.



Appearance

Border style: RaisedInset

Border width: 8

☑ Border uses back color

Back color

Border color

□ Pattern color

□ Fore color

Back style: Solid

Pattern style: None

Value settings

Number of digits: 3

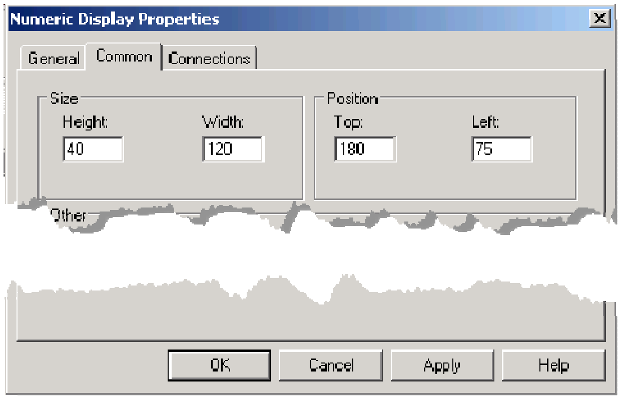
Fill left with: None

Decimal places: 0

33. Click the **Common** tab to activate.

34. Change the ***Height, Width, Top,*** and ***Left*** fields to size and position the **Numeric Display** exactly.

Height	40
Width	120
Top	180
Left	75



Size

Height: 40

Width: 120

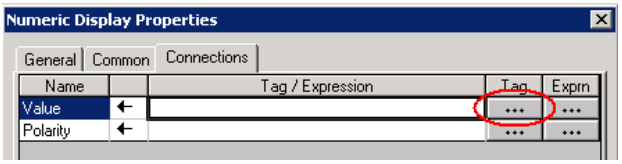
Position

Top: 180

Left: 75

35. Click the ***Connections*** tab to activate.

36. In the **Value** row, click the ***Browse*** button ... in the **Tag** column to open the **Tag Browser**.



Numeric Display Properties

General | Common | Connections

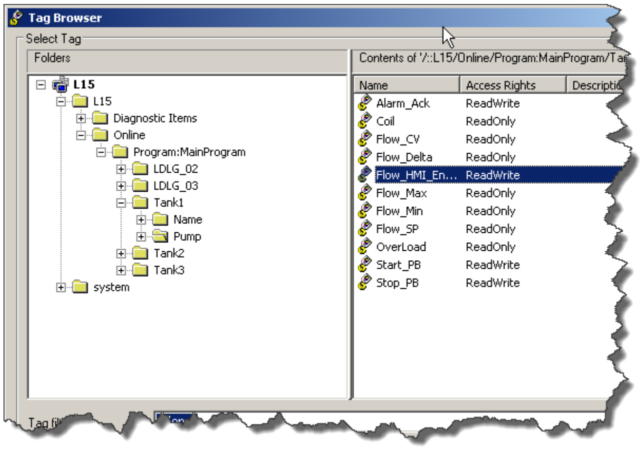
Name		Tag / Expression	Tag	Exprn
Value	←		...	...
Polarity	←		...	...

37. In the Folder List, expand the path **L15 > Online > Program:MainProgram > Tank1** and select the **Pump** item.

38. Select ***Flow_HMI_Entry*** tag.

39. Click the ***OK*** button OK to complete the connection configuration

40. Click the ***OK*** button OK to complete the N***umeric Display's*** properties configuration.



Tag Browser

Select Tag

Folders

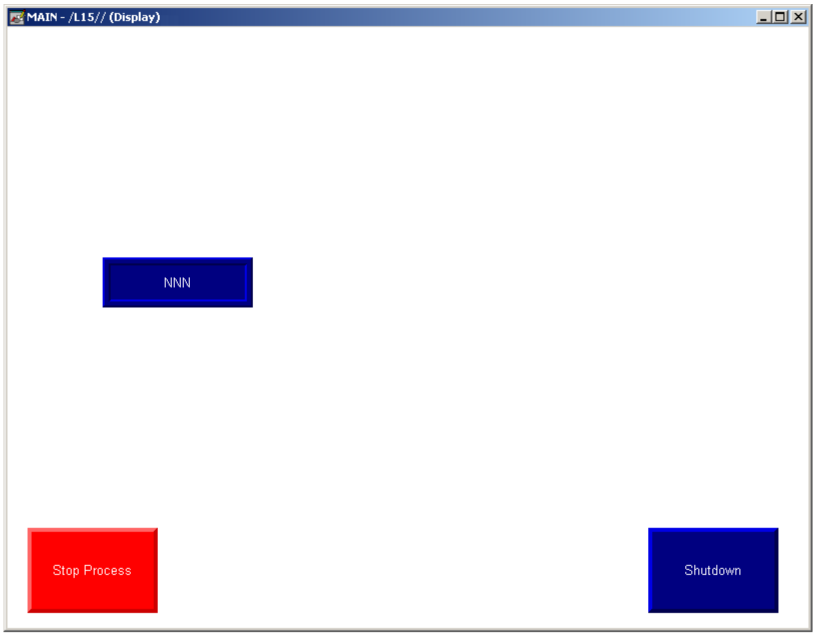
```
⊟ L15
  ⊟ L15
    ⊞ Diagnostic Items
    ⊟ Online
      ⊟ Program:MainProgram
        ⊞ LDLG_02
        ⊞ LDLG_03
        ⊟ Tank1
          ⊞ Name
          ⊞ Pump
        ⊞ Tank2
        ⊞ Tank3
  ⊞ system
```

Contents of '/::L15/Online/Program:MainProgram/Ta

Name	Access Rights	Descriptio
Alarm_Ack	ReadWrite	
Coil	ReadOnly	
Flow_CV	ReadOnly	
Flow_Delta	ReadOnly	
Flow_HMI_En...	ReadWrite	
Flow_Max	ReadOnly	
Flow_Min	ReadOnly	
Flow_SP	ReadOnly	
OverLoad	ReadOnly	
Start_PB	ReadWrite	
Stop_PB	ReadWrite	

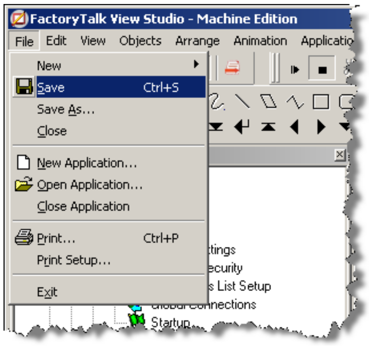
Tag fil

This display now looks like this:



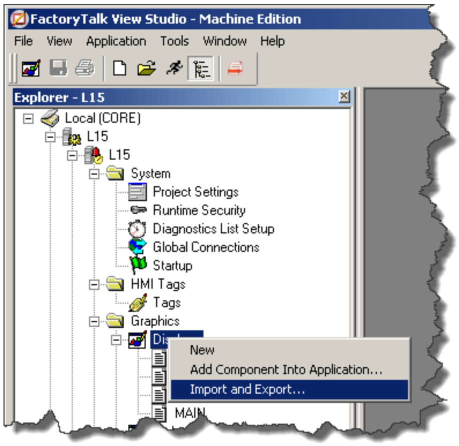
To save time, you will now import additional display content. Importing content from XML files is one way to reuse displays and objects between different FactoryTalk View Machine Edition applications. Some of the content will not be fully configured; once successfully imported you will complete the configuration of several objects.

41. Save the **Main** display using the ***File > Save*** menu item.



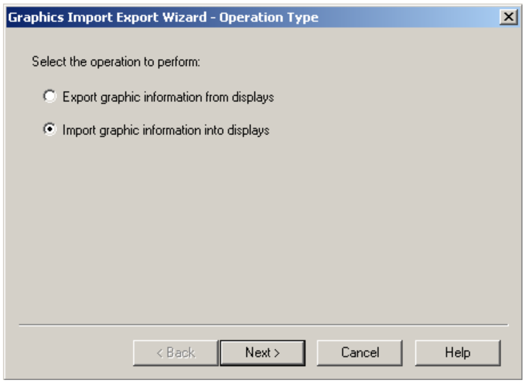
42. Close the **Main** display using the ***File > Close*** menu item

43. Right-click the **Displays** item in the **Project Explorer** and select ***Import and Export…***



44. This opens the **Graphic Import Export Wizard** dialog.

Select ***Import graphic information into displays*** item, and click the ***Next*** button Next >.

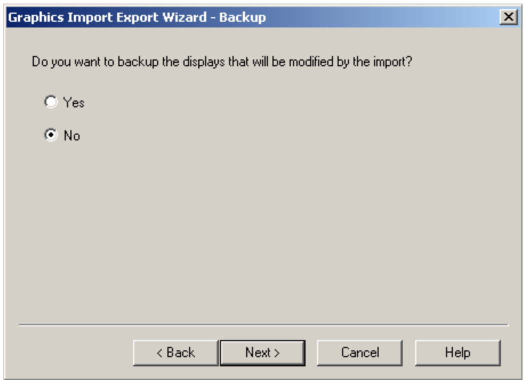


Select the operation to perform:

○ Export graphic information from displays

● Import graphic information into displays

45. There is no need to backup the display that will be modified during the import. Select ***No*** item, and click the ***Next*** button Next >.



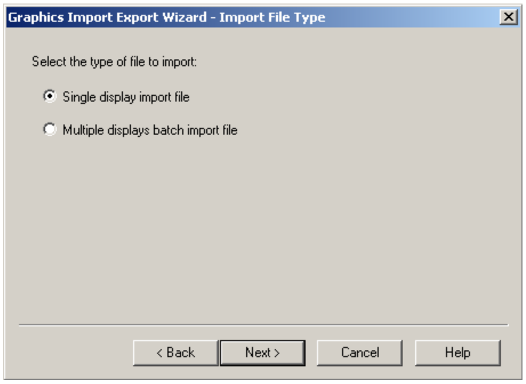
Graphics Import Export Wizard - Backup

Do you want to backup the displays that will be modified by the import?

○ Yes

● No

46. For the lab, you will be importing a single display. Select ***Single display import file*** item, and click the ***Next*** button Next >.



Graphics Import Export Wizard - Import File Type

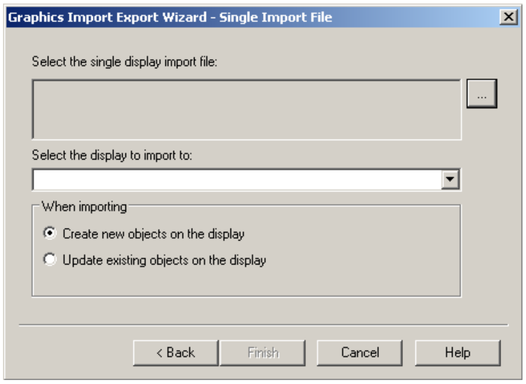
Select the type of file to import:

● Single display import file

○ Multiple displays batch import file

47. You must select the file to be imported. Click the ***Browse*** button ....

This opens a standard Microsoft Windows File Open dialog.



Graphics Import Export Wizard - Single Import File

Select the single display import file:

Select the display to import to:

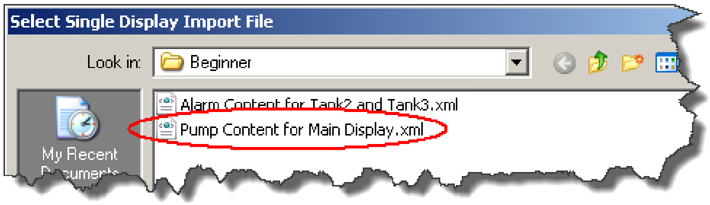
When importing

● Create new objects on the display

○ Update existing objects on the display

48. Navigate to ***C:/Lab Files/ViewME - ViewPoint/ViewME/Beginner*** folder

49. Select the file **Pump Content for Main Display.xml**



Select Single Display Import File

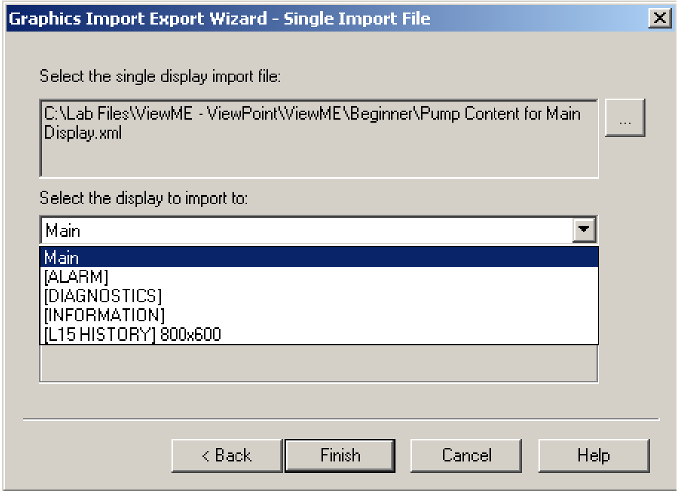
Look in: Beginner

Alarm Content for Tank2 and Tank3.xml

Pump Content for Main Display.xml

50. Click the ***Open*** button Open.

51. Using the dropdown **Select the display to import to** list, select the display named ***Main***. This is the display, to which the content must be added.


Graphics Import Export Wizard - Single Import File

Select the single display import file:

C:\Lab Files\ViewME - ViewPoint\ViewME\Beginner\Pump Content for Main Display.xml

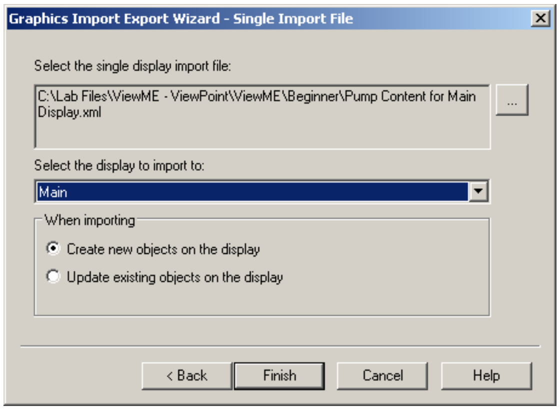
Select the display to import to:

Main

- Main
- [ALARM]
- [DIAGNOSTICS]
- [INFORMATION]
- [L15 HISTORY] 800x600

52. The **When importing** option should remain unchanged.
The default setting **Create new objects on the display** adds unique objects to the display during the import operation; it does not overwrite or update existing objects.

53. Click the ***Finish*** button Finish to begin the process.


Graphics Import Export Wizard - Single Import File

Select the single display import file:

C:\Lab Files\ViewME - ViewPoint\ViewME\Beginner\Pump Content for Main Display.xml

Select the display to import to:

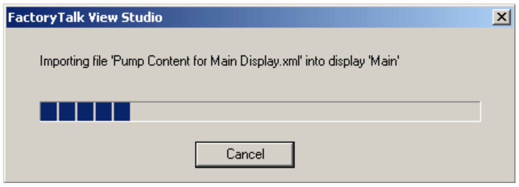
Main

When importing

● Create new objects on the display

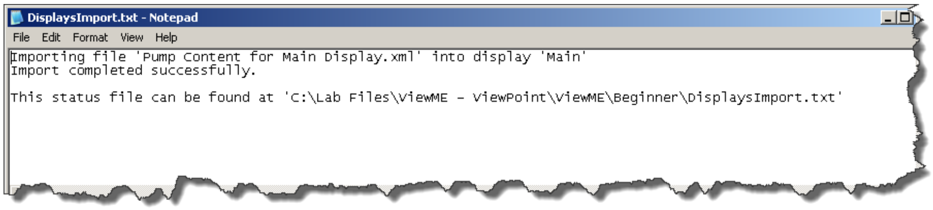
○ Update existing objects on the display

While the import is occurring a status dialog appears


FactoryTalk View Studio

Importing file 'Pump Content for Main Display.xml' into display 'Main'

When the process completes a results file is displayed.

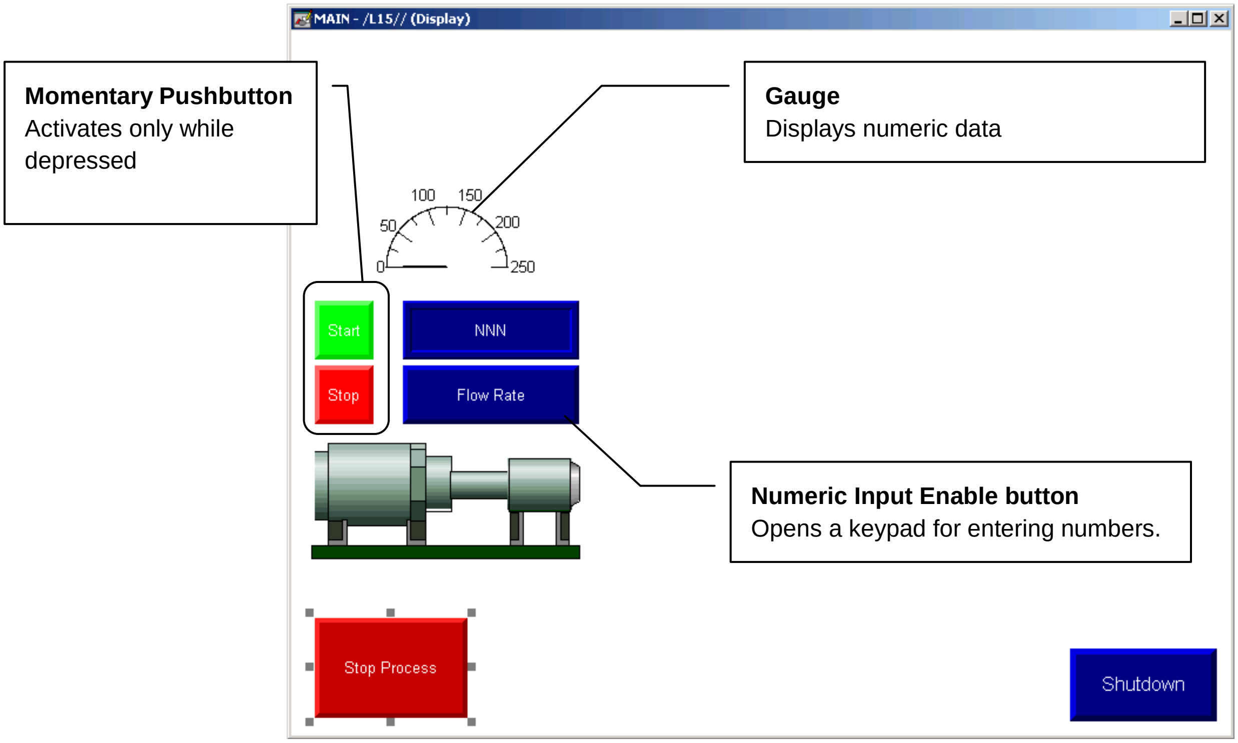

DisplaysImport.txt - Notepad

```
Importing file 'Pump Content for Main Display.xml' into display 'Main'
Import completed successfully.

This status file can be found at 'C:\Lab Files\ViewME - ViewPoint\ViewME\Beginner\DisplaysImport.txt'
```

54. Close the results file.

55. Open the ***Main*** display from the **Project Explorer**.



Momentary Pushbutton
Activates only while depressed

Gauge
Displays numeric data

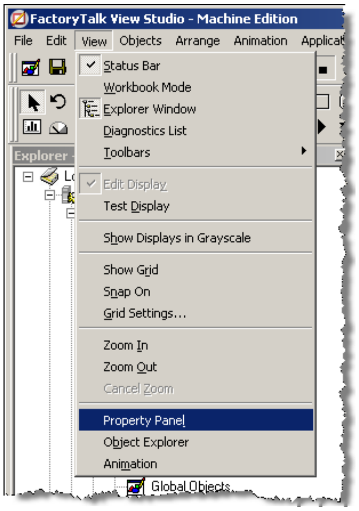
Numeric Input Enable button
Opens a keypad for entering numbers.

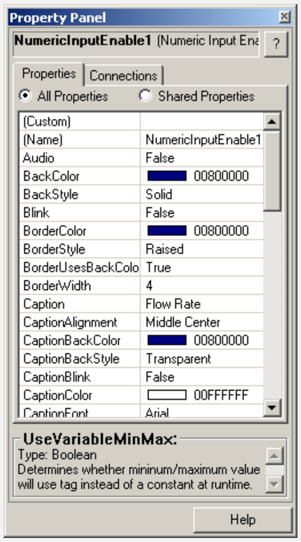
The import process has added two momentary pushbuttons, a gauge, a numeric input enable button and a pump. You will need to complete the properties for some of these objects.

The **Numeric Input Enable Pushbutton** needs both its **Minimum** and **Maximum** connections configured. During this lab, you have used an object's properties dialog to configure an object. In FactoryTalk View Studio for Machine Edition, there are many ways to change an object's properties. No one way is best; and which method you choose to use is a personal preference. To complete configuration of the **Numeric Input Enable Pushbutton**, you will use the **Property Panel**.

56. Select the ***Numeric Input Enable Pushbutton*** with the caption **Flow Rate** visible.

57. Select ***Property Panel*** menu item from the **View** menu.





Property Panel

NumericInputEnable1 (Numeric Input Ena

Properties | Connections

● All Properties ○ Shared Properties

(Custom)	
(Name)	NumericInputEnable1
Audio	False
BackColor	■ 00800000
BackStyle	Solid
Blink	False
BorderColor	■ 00800000
BorderStyle	Raised
BorderUsesBackColo	True
BorderWidth	4
Caption	Flow Rate
CaptionAlignment	Middle Center
CaptionBackColor	■ 00800000
CaptionBackStyle	Transparent
CaptionBlink	False
CaptionColor	□ 00FFFFFF
CaptionFont	Arial

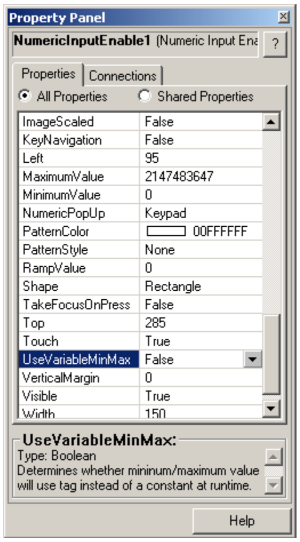
UseVariableMinMax:
Type: Boolean
Determines whether mininum/maximum value will use tag instead of a constant at runtime.

The **Property Panel** presents an object's properties as an alphabetically sorted list. Some people find this arrangement for efficient to work with than the 'regular' tabbed **Property** dialog associated with each object.

With the **Property Panel,** it is possible to simultaneously change a property common to a group of selected objects (e.g. BackColor, Left, Width) by selecting the ***Shared Properties*** radio button.

Once the **Property Panel** opens confirm the ***Properties*** tab is active.

58. Using the **Property Panel** locate the property ***UseVariableMinMax***. You will have to use the vertical scrollbar to find the property.



Property Panel

NumericInputEnable1 (Numeric Input Ena

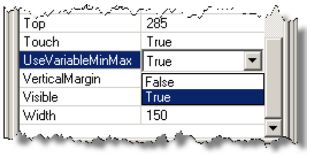
Properties | Connections

● All Properties ○ Shared Properties

ImageScaled	False
KeyNavigation	False
Left	95
MaximumValue	2147483647
MinimumValue	0
NumericPopUp	Keypad
PatternColor	□ 00FFFFFF
PatternStyle	None
RampValue	0
Shape	Rectangle
TakeFocusOnPress	False
Top	285
Touch	True
UseVariableMinMax	False
VerticalMargin	0
Visible	True
Width	150

UseVariableMinMax:
Type: Boolean
Determines whether mininum/maximum value will use tag instead of a constant at runtime.

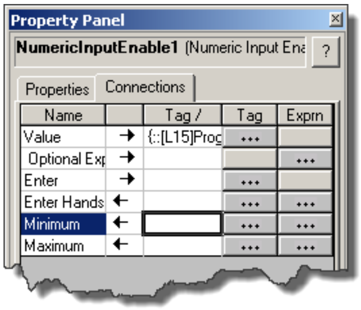
59. Using the **UseVariableMinMax** dropdown control select ***True***.



Top	285
Touch	True
UseVariableMinMax	True
VerticalMargin	False
Visible	True
Width	150

60. Click the ***Connections*** tab to activate.

61. Click the ***Browse*** button ... in the **Tag** column of the **Minimum** row.



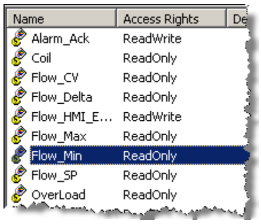
Property Panel

NumericInputEnable1 (Numeric Input Ena

Properties | Connections

Name		Tag /	Tag	Exprn
Value	→	{::[L15]Proc	...	
Optional Exp	→			...
Enter	→		...	
Enter Hands	←		...	...
Minimum	←		...	...
Maximum	←		...	...

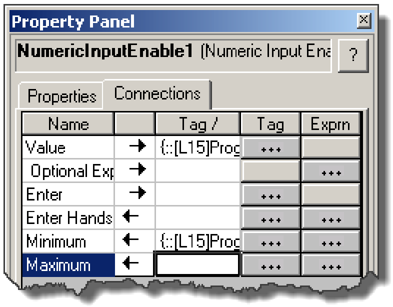
62. Using the Tag Browser select the tag ***::[L15]Program:MainProgram.Tank1.Pump. Flow_Min***



Name	Access Rights	De
Alarm_Ack	ReadWrite	
Coil	ReadOnly	
Flow_CV	ReadOnly	
Flow_Delta	ReadOnly	
Flow_HMI_E...	ReadWrite	
Flow_Max	ReadOnly	
Flow_Min	ReadOnly	
Flow_SP	ReadOnly	
OverLoad	ReadOnly	

63. Click the ***OK*** button OK to complete the tag selection process.

64. Click the ***Browse*** button ... in the **Tag** column of the **Maximum** row.



NumericInputEnable1 (Numeric Input Ena

Name		Tag /	Tag	Exprn
Value	→	{::[L15]Prog	...	
Optional Exp	→			...
Enter	→		...	
Enter Hands	←		...	...
Minimum	←	{::[L15]Prog	...	...
Maximum	←		...	...

65. Using the **Tag Browser** double-click the tag ***::[L15]Program:MainProgram.Tank1.Pump. Flow_Max***. This selects the tag and closes the **Tag Browser** in one step.

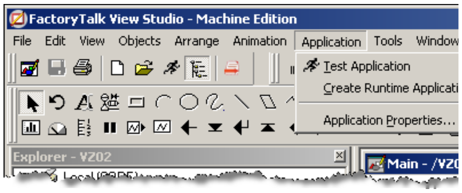
66. Click the ***Close*** button ☒ (upper right-hand corner) to close the **Property Panel**.

67. Save the **Main** display using the ***File > Save*** menu item.

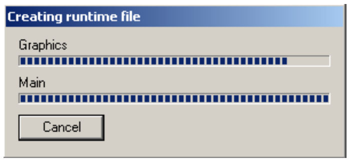
Testing an Application on the Desktop

There are two methods available to test an entire application. One is to download the application to a PanelView Plus terminal. The other is to use the terminal emulation capability that is included with FactoryTalk Studio for Machine Edition. You will be testing the application on the desktop using the terminal emulation functionality.

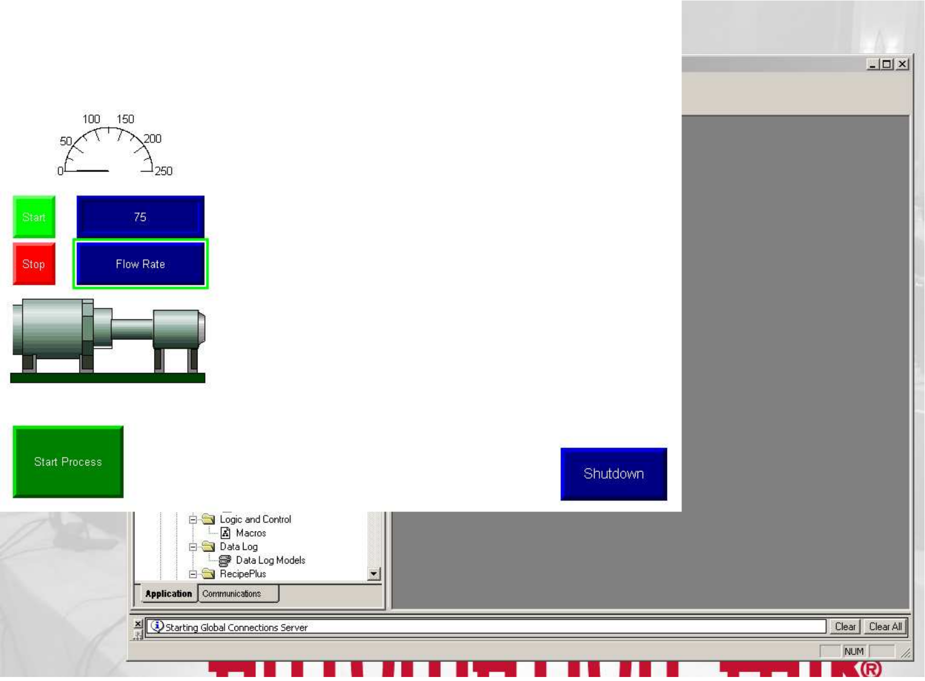
1. From the **Application** menu, select the ***Test Application*** item.



The system will build the runtime MER just as if the application were going to be downloaded to a PanelView Plus terminal.



When the runtime MER file is built, the system loads the runtime MER in to an emulation mode. The application will appear in the upper left-hand corner of the computer display.



Starting Global Connections Server

2. To evaluate the application click on the ***Start Process*** button, Start Process. The button color and caption change.

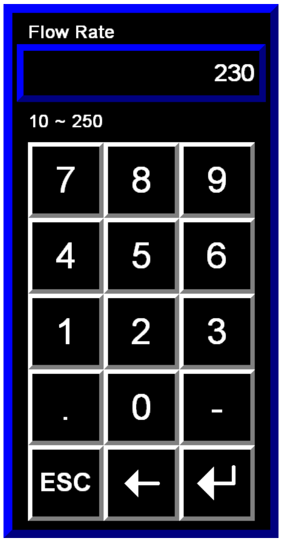
   The color is now red and the caption reads **Stop Process**. If the button is already in this state, proceed to the next step.

3. Click the **Numeric Input Enable Pushbutton *Flow Rate***. This will open a numeric keypad.

4. Set the Flow Rate to '**230**' and click the ***Enter*** button ↵

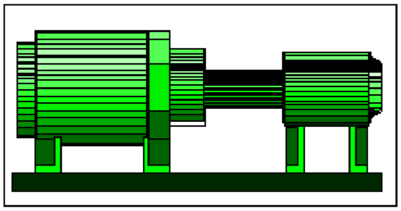
   Note, that the minimum (10) and maximum (250) are displayed using the tags you had configured earlier.

   The **Numeric Display** updates to reflect your entry.

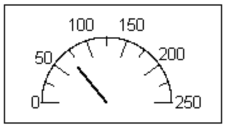


5. Click the green ***Start*** button to start the pump. Several things happen at once.

   - The pump image will turn green with a shaded fill.



   - The gauge needle will begin to move.



   Take a few moments, but not too many, and exercise the application you created.

   - Change the flow rate (ex. 75), what happens to the gauge?
   - Press the ***Stop*** button to turn off the pump. What happens to the pump image? The gauge?

6. When you are done, click the **Stop Process** button to end the simulated process.

7. Click on the **Shutdown** button to end the emulation.

Congratulations!!

You have successfully created your second FactoryTalk View Studio for Machine Edition application; added ‘live’ content; configured communications with a controller, created a runtime file; and, exercised the application on your desktop.

Adding Alarms to an Application

Completing this section requires approximately 20 minutes;

Annunciating irregular system or process events to operators is a critical component of many HMI applications. FactoryTalk View Machine Edition provides an intrinsic alarming function that can be used for this purpose.

In this section you will:

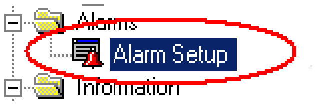
- Learn about Alarms.
- Configure several alarms for the pump application
- Learn how to import alarms from reusable XML format

When you have completed this section the application will appear as it did at the end of the last section, however, as the application executes simulated alarms will occur.

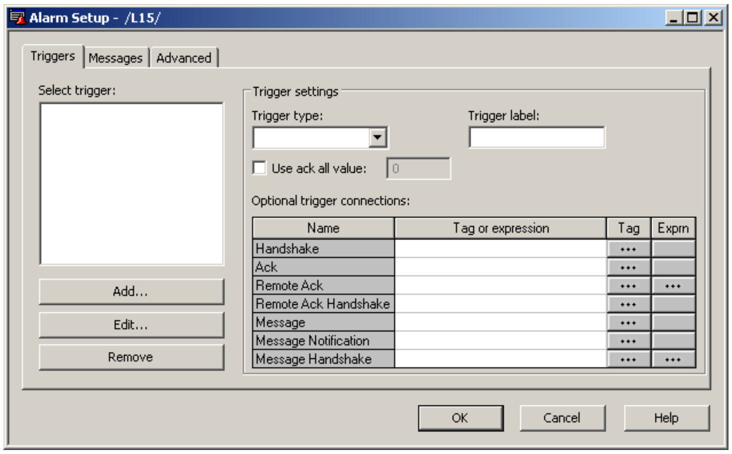
Configuring Alarms

In the simulated application, you are building an application where each Tank contains a User-Defined Data Type; referred to as a UDT. The UDT is custom built by the control system designer using basic data types supported by a Logix controller (Boolean [Bool], Double Integer [DINT], etc.) and other UDTs. The UDT for a Tank contains a Pump. The Pump UDT contains a Fault UDT. You will be using tags from the Tank*X*.Pump.Fault UDT structure.

1. Double-click the ***Alarm Setup*** item Alarm Setup in the **Alarms** container within the **Project Explorer.**



This action opens the **Alarm Setup** dialog



□ Use ack all value: 0

Optional trigger connections:

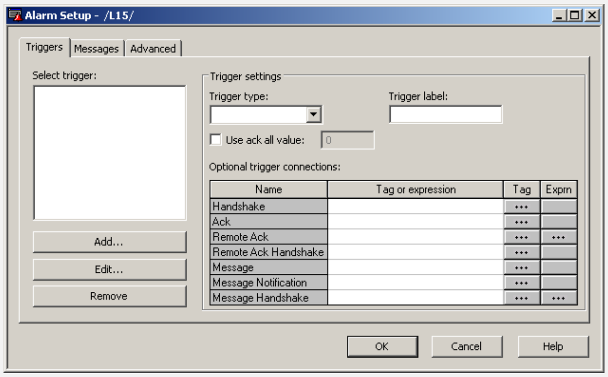
Name	Tag or expression	Tag	Exprn
Handshake		...	
Ack		...	
Remote Ack		...	...
Remote Ack Handshake		...	
Message		...	
Message Notification		...	
Message Handshake		...	...

Understanding the Alarm Setup dialog

The native Alarm subsystem is a powerful feature available to every FactoryTalk View Machine Edition application. The subsystem allows the designer to react to and annunciate irregular application events (e.g. motor overload, hi level conditions, etc.). The alarm system can be configured to be entirely self-contained to the application runtime, or it can be configured to coordinate and communicate with the control system.

Used to define and manage the events that will 'trigger' an alarm to occur.

The designed can also configure the system for alarm coordination with the control system.



Select trigger:

Trigger settings

Trigger type:

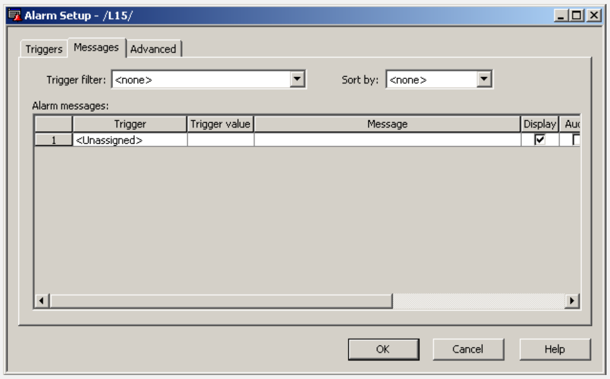
Trigger label:

☐ Use ack all value: 0

Optional trigger connections:

Name	Tag or expression	Tag	Exprn
Handshake		...	
Ack		...	
Remote Ack		...	...
Remote Ack Handshake		...	
Message		...	
Message Notification		...	
Message Handshake		...	...

For each defined alarm event, the designer can configure the message that corresponds with the alarm.



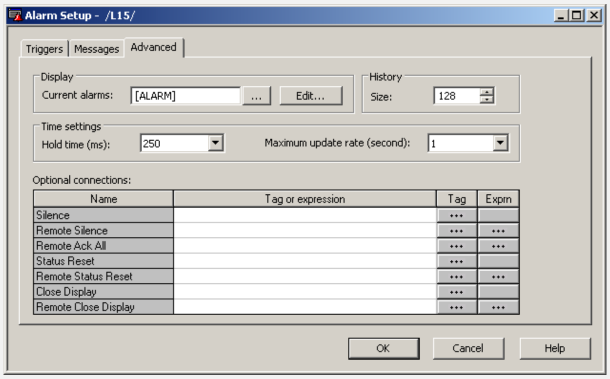
Trigger filter: <none>

Sort by: <none>

Alarm messages:

	Trigger	Trigger value	Message	Display	Auc
1	<Unassigned>			☑	☐

Allows the configuration of the system display on which to show alarms, the alarm history, and additional remote connections for control system coordination.



Display

Current alarms: [ALARM]

History

Size: 128

Time settings

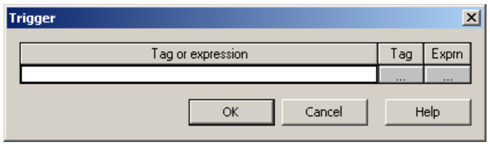
Hold time (ms): 250

Maximum update rate (second): 1

Optional connections:

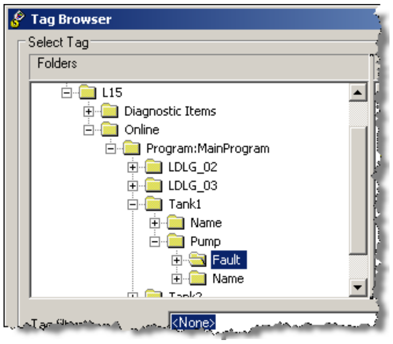
Name	Tag or expression	Tag	Exprn
Silence		...	
Remote Silence		...	...
Remote Ack All		...	...
Status Reset		...	
Remote Status Reset		...	...
Close Display		...	
Remote Close Display		...	...

2. Click the ***Add*** button Add... to begin the process of creating an alarm trigger. This will open the **Trigger** dialog.



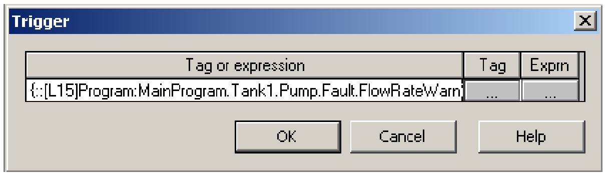
3. Click on the ***Browse*** button ... in the **Tag** column to open the **Tag Browser.**

4. Expand the ***L15 > Online > Program:MainProgram > Tank1 > Pump*** folder structure and select the ***Fault*** container.



5. Double-click on the ***FlowRateWarning*** tag. This selects the tag and closes the **Tag Browser.**

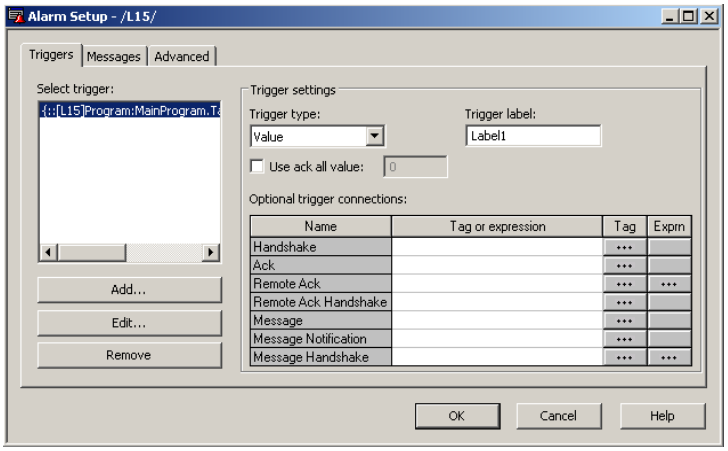
Ensure that you selected the correct tag by verifying the tag in the **Tag or expression** column



Tag or expression
{::[L15]Program:MainProgram.Tank1.Pump.Fault.FlowRateWarn}

6. Click the ***OK*** button OK to complete trigger selection.

7. Confirm the **Trigger type** is set to **Value**. This is the default setting.



Select trigger: {::[L15]Program:MainProgram.T

Trigger type: Value

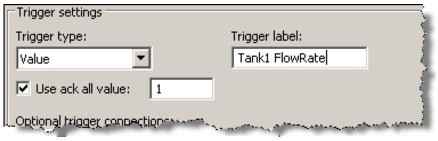
Trigger label: Label1

□ Use ack all value: 0

Name	Tag or expression	Tag	Exprn
Handshake		...	
Ack		...	
Remote Ack		...	...
Remote Ack Handshake		...	
Message		...	
Message Notification		...	
Message Handshake		...	...

8. Enter '**Tank1 FlowRate**' in the **Trigger label** field to identify the trigger.

9. Check the ***Use ack all value*** checkbox; enter '**1**' as the ***Use ack all value***. The FactoryTalk View Machine Edition application sends this value to the control system, via a configured **Ack** tag, when the operator depresses the Ack All button.



Trigger settings

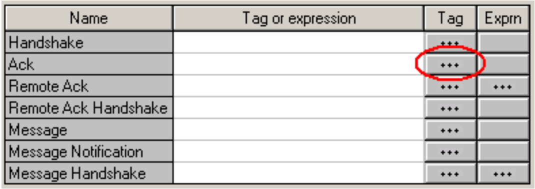
Trigger type: Value

Trigger label: Tank1 FlowRate

☑ Use ack all value: 1

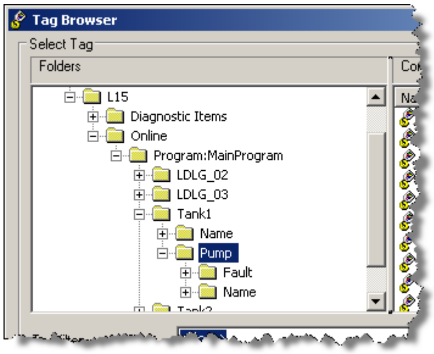
Optional trigger connections

10. Click on the ***Browse*** button ... in the **Tag** column of the **Ack** row to open the **Tag Browser.**

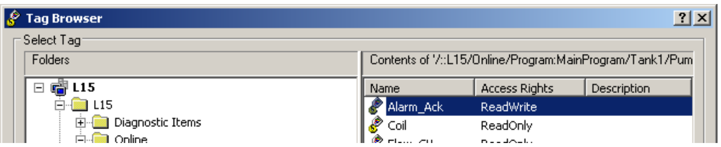


Name	Tag or expression	Tag	Exprn
Handshake		...	
Ack		...	
Remote Ack		...	...
Remote Ack Handshake		...	
Message		...	
Message Notification		...	
Message Handshake		...	...

11. Click on the ***Pump*** container in the path **L15 > Online > Program:MainProgram > Tank1** to select.



12. Select the ***Alarm_Ack*** tag by clicking on it once.



Contents of '/::L15/Online/Program:MainProgram/Tank1/Pum

Name	Access Rights	Description
Alarm_Ack	ReadWrite	
Coil	ReadOnly	

13. Click the ***OK*** button OK to complete **Ack** tag selection.

14. Click the ***Add*** button Add... to begin the process of adding the next trigger.

15. Click on the ***Browse*** button ... in the **Tag** column to open the **Tag Browser.**

16. Expand the ***L15 > Online > Program:MainProgram > Tank1 > Pump*** folder structure and select the ***Fault*** container.

17. Click on the ***HiFlowWarning*** tag.

18. Click the ***OK*** button OK to complete trigger selection.

19. Confirm the **Trigger type** is set to **Value**. This is the default setting.

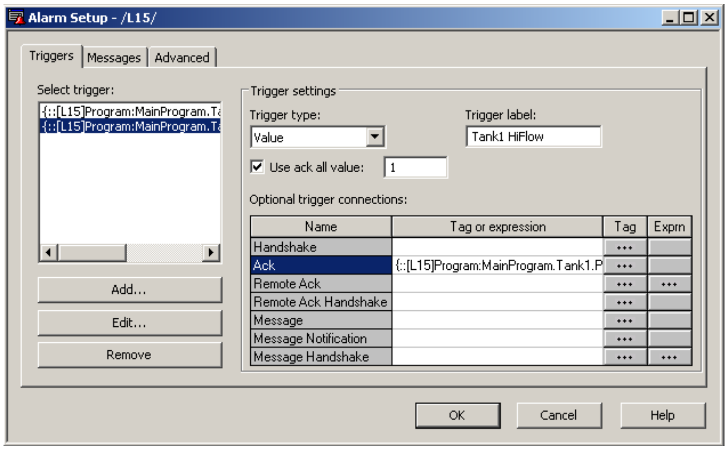
20. Enter '**<u>Tank1 HiFlow</u>**' in the **Trigger label** field to identify the trigger.

21. Check the ***Use ack all value*** checkbox; enter '**<u>1</u>**' as the ***Use ack all value***

22. Click on the ***Browse*** button ··· in the **Tag** column of the **Ack** row to open the **Tag Browser.**

23. Click on the ***Pump*** container in the path **L15 > Online > Program:MainProgram > Tank1** to select.

24. Double-click the ***Alarm_Ack*** tag to select.



Select trigger:

{::[L15]Program:MainProgram.Ta
{::[L15]Program:MainProgram.Ta

Trigger settings

Trigger type: Value

Trigger label: Tank1 HiFlow

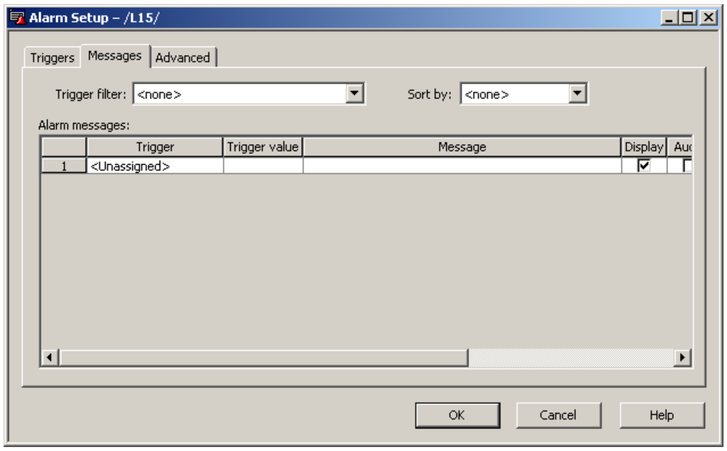
☑ Use ack all value: 1

Optional trigger connections:

Name	Tag or expression	Tag	Exprn
Handshake		···	
Ack	{::[L15]Program:MainProgram.Tank1.P	···	
Remote Ack		···	···
Remote Ack Handshake		···	
Message		···	
Message Notification		···	
Message Handshake		···	···

Next, you must configure the message to be displayed for each alarm trigger you defined.

25. Click on the ***Messages*** tab to activate.



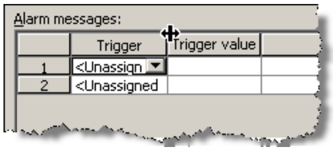
Trigger filter: <none>

Sort by: <none>

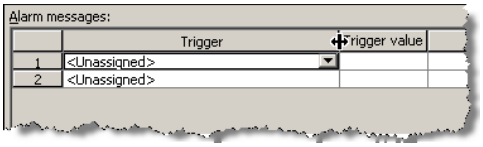
Alarm messages:

	Trigger	Trigger value	Message	Display	Auc
1	<Unassigned>			☑	☐

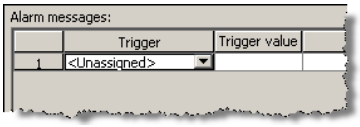
26. First, you need to resize the **Trigger** column so that you can read the complete trigger name. Move the mouse cursor so it is between the **Trigger** and **Trigger value** columns. The cursor will change to a ✥ when you have the mouse properly positioned.



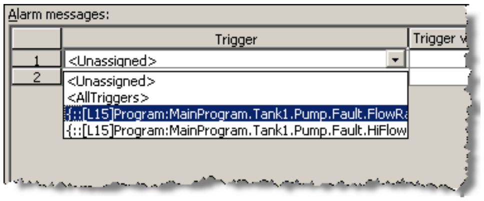
27. Click and hold, then drag the mouse to the right. This will enlarge the **Trigger** column. Release the mouse button when you are done.



28. Click in the ***Trigger*** column to start the process. You will notice that a dropdown list control is enabled within the column. Using this dropdown list, you can select from among the defined **Triggers** for which you will define a message.



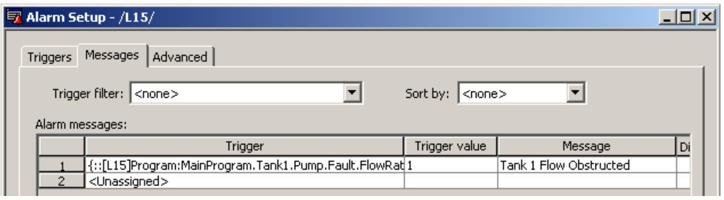
29. Click on the ***Trigger*** dropdown control of **Row** 1 to show a list of the defined triggers.


Alarm messages:
Trigger
Trigger v
1
<Unassigned>
2
<Unassigned>
<AllTriggers>
{::[L15]Program:MainProgram.Tank1.Pump.Fault.FlowRa
{::[L15]Program:MainProgram.Tank1.Pump.Fault.HiFlow

30. Select the trigger ::[***L15]Program:MainProgram.Tank1.Pump.Fault.FlowRateWarning***.

31. Click in the ***Trigger Value*** column of **Row 1** and enter '**1**'. This configures the alarm system to generate an alarm when the tag **Tank1.Pump.Fault.FlowRateWarning** is set to one.

32. Click in the ***Message*** field of **Row 1** and enter '**Tank 1 Flow Obstructed**'.



Trigger filter: <none>

Sort by: <none>

Alarm messages:

	Trigger	Trigger value	Message	Di
1	{::[L15]Program:MainProgram.Tank1.Pump.Fault.FlowRat	1	Tank 1 Flow Obstructed	
2	<Unassigned>			

33. Click on the ***Trigger*** dropdown control of **Row 2** to show a list of the defined triggers.

34. Select the trigger ***::[L15]Program:MainProgram.Tank1.Pump.Fault.HiFlowWarning***.

35. Click in the ***Trigger Value*** column of **Row 2** and enter '**1**'. This configures the alarm system to generate an alarm when the tag **Tank1.Pump.Fault.HiSpeedWarning** is set to one.

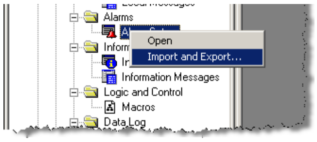
36. Click in the ***Message*** field of **Row 2** and enter '**Tank 1 High Flow**'.

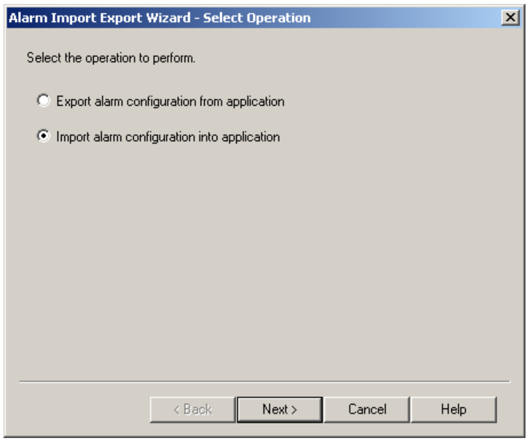
    There is no need for you to change the default settings of any other column in the **Alarm Setup** dialog **Messages** tab.

37. Click the ***OK*** button OK to complete the **Alarm Setup**.

To save time in the hands-on lab environment you will now import additional triggers and messages for Tank1, Tank2 and Tank3. Just as FactoryTalk Studio for Machine Edition supports reusability for displays, it also provides reusability of Alarm setups via XML files.

38. Right-click on the **Alarm Setup** item in the **Project Explorer** and select the ***Import and Export…*** item.





Alarm Import Export Wizard - Select Operation

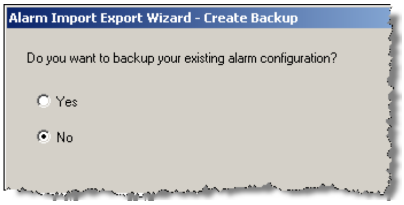
Select the operation to perform.

○ Export alarm configuration from application

● Import alarm configuration into application

39. Select the ***Import alarm configuration into application*** radio button.

40. Click the ***Next*** button Next > to proceed.



Alarm Import Export Wizard - Create Backup

Do you want to backup your existing alarm configuration?

○ Yes

● No

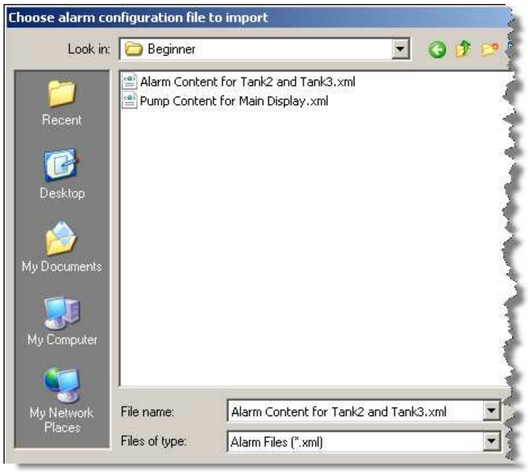
41. Select ***No*** when asked about backing up the existing configuration and click the ***Next*** button Next > to proceed.

42. Click the ***Browse*** button .... This opens the **Choose alarm configuration file to import** dialog.

43. Navigate to ***C:\Lab Files\ViewME - ViewPoint\ViewME\Beginner***

44. Select the file ***Alarm Content for Tank2 and Tank3.xml.***

45. Click the ***Open*** button Open.



Choose alarm configuration file to import

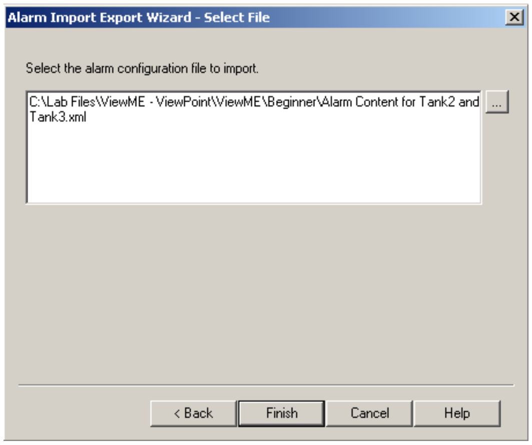
Look in: Beginner

Alarm Content for Tank2 and Tank3.xml
Pump Content for Main Display.xml

File name: Alarm Content for Tank2 and Tank3.xml

Files of type: Alarm Files (*.xml)

46. Click the ***Finish*** button Finish to start the import.



Alarm Import Export Wizard - Select File

Select the alarm configuration file to import.

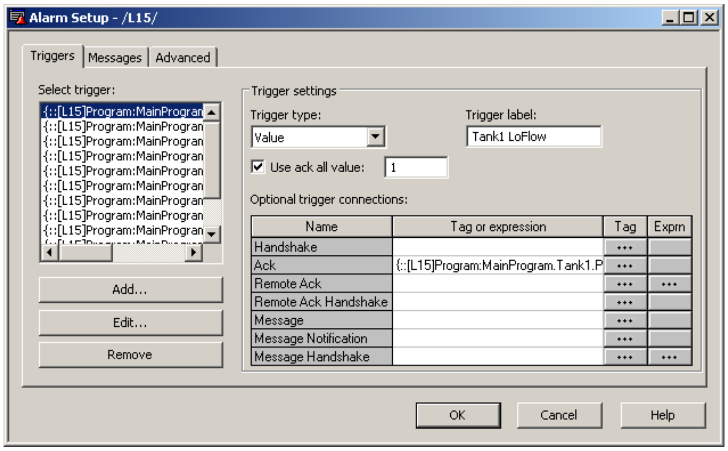
C:\Lab Files\ViewME - ViewPoint\ViewME\Beginner\Alarm Content for Tank2 and Tank3.xml

The FactoryTalk Studio for Machine Edition alarm importation process is destructive. During the import, any existing alarm setup is replaced with the setup being imported. Normally you would export the current alarm setup and manually merge with the alarm setup that will be imported.

47. Close the **AlarmImportLog.txt** file by clicking the ☒ button.

48. Double-click the ***Alarm Setup*** item Alarm Setup in the **Alarms** container within the **Project Explorer.**

There should be twelve defined triggers;



Alarm Setup - /L15/

Triggers | Messages | Advanced

Select trigger:

{::[L15]Program:MainPrograr
{::[L15]Program:MainProgran
{::[L15]Program:MainProgran
{::[L15]Program:MainProgran
{::[L15]Program:MainProgran
{::[L15]Program:MainProgran
{::[L15]Program:MainProgran
{::[L15]Program:MainProgran
{::[L15]Program:MainProgran

Trigger settings

Trigger type: Value

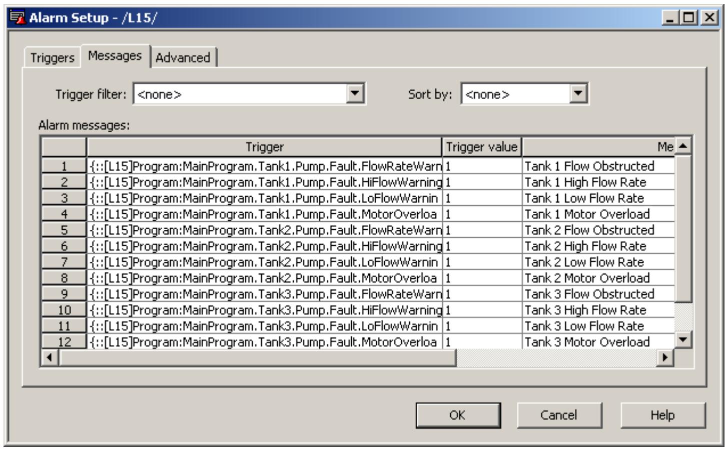
Trigger label: Tank1 LoFlow

☑ Use ack all value: 1

Optional trigger connections:

Name	Tag or expression	Tag	Exprn
Handshake		...	
Ack	{::[L15]Program:MainProgram.Tank1.P	...	
Remote Ack		...	...
Remote Ack Handshake		...	
Message		...	
Message Notification		...	
Message Handshake		...	...

and, twelve defined messages.



Alarm Setup - /L15/

Triggers | Messages | Advanced

Trigger filter: <none>

Sort by: <none>

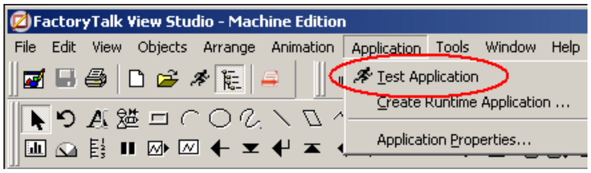
Alarm messages:

	Trigger	Trigger value	Me
1	{::[L15]Program:MainProgram.Tank1.Pump.Fault.FlowRateWarn	1	Tank 1 Flow Obstructed
2	{::[L15]Program:MainProgram.Tank1.Pump.Fault.HiFlowWarning	1	Tank 1 High Flow Rate
3	{::[L15]Program:MainProgram.Tank1.Pump.Fault.LoFlowWarnin	1	Tank 1 Low Flow Rate
4	{::[L15]Program:MainProgram.Tank1.Pump.Fault.MotorOverloa	1	Tank 1 Motor Overload
5	{::[L15]Program:MainProgram.Tank2.Pump.Fault.FlowRateWarn	1	Tank 2 Flow Obstructed
6	{::[L15]Program:MainProgram.Tank2.Pump.Fault.HiFlowWarning	1	Tank 2 High Flow Rate
7	{::[L15]Program:MainProgram.Tank2.Pump.Fault.LoFlowWarnin	1	Tank 2 Low Flow Rate
8	{::[L15]Program:MainProgram.Tank2.Pump.Fault.MotorOverloa	1	Tank 2 Motor Overload
9	{::[L15]Program:MainProgram.Tank3.Pump.Fault.FlowRateWarn	1	Tank 3 Flow Obstructed
10	{::[L15]Program:MainProgram.Tank3.Pump.Fault.HiFlowWarning	1	Tank 3 High Flow Rate
11	{::[L15]Program:MainProgram.Tank3.Pump.Fault.LoFlowWarnin	1	Tank 3 Low Flow Rate
12	{::[L15]Program:MainProgram.Tank3.Pump.Fault.MotorOverloa	1	Tank 3 Motor Overload

49. Click the ***OK*** button OK, or the Cancel button Cancel, to close the **Alarm Setup** dialog.

Testing Alarms

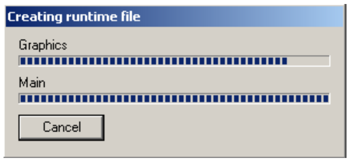
Next, you need to exercise the Alarm configuration in a running application. To accomplish this you will once again use FactoryTalk Studio for Machine Edition's **Test Application** function.



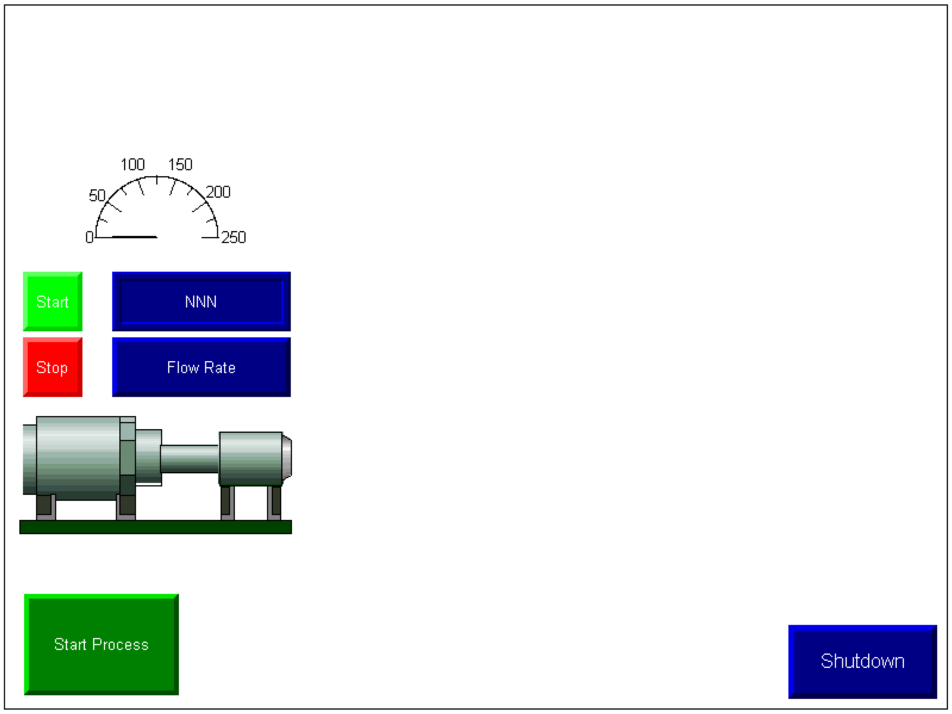
FactoryTalk View Studio - Machine Edition
File
Edit
View
Objects
Arrange
Animation
Application
Tools
Window
Help
Test Application
Create Runtime Application ...
Application Properties...

1. Click the ***Test Application*** button in the toolbar or use the ***Application > Test Application*** menu.

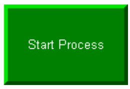
   The system will build the runtime MER just as if the application were going to be downloaded to a PanelView Plus terminal.



When the runtime MER file is built, the system loads the runtime MER in to an emulation mode. The application will appear in the upper left-hand corner of the computer display.



To observe how alarms work:

2. To evaluate the application click on the ***Start Process*** button . The button color and caption change.

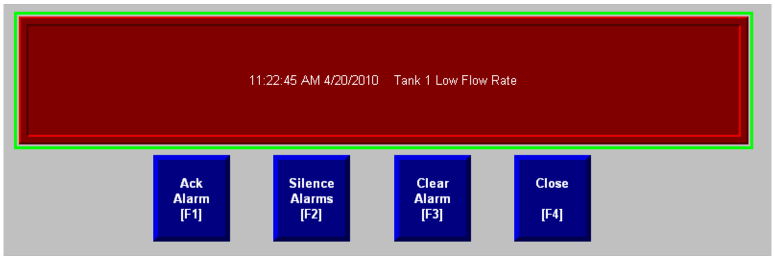
   The color is now red and the caption reads **Stop Process**. If the button is already in this state, proceed to the next step.

3. Click the **Flow Rate** button

4. Enter a value of '**<u>15</u>**' using the keypad.

5. Click the **Start** button.

   A Flow Rate setting below 20 that persists for more than ten seconds generates a Low Flow Rate fault. After approx. ten seconds, the **Alarm Banner** should appear.



11:22:45 AM 4/20/2010 Tank 1 Low Flow Rate

This is FactoryTalk View Machine Edition's simplest alarm display. By default, it only shows you the most current alarm. FactoryTalk View Machine Edition provides additional Alarm objects to provide more functionality. For example, later in this lab you have the option to add an **Alarm History** to this application.

6. Click the ***Ack Alarm [F1]*** button , or depress the **F1** key on the keyboard to acknowledge the "Tank 1 Low Flow Rate" alarm.

7. **<u>Quickly</u>** press the **Flow Rate** button and enter a value of '**<u>25</u>**'.
   You must act quickly because if you are slow the Low Flow Rate alarm will re-occur.

8. After approx. ten seconds, press the **Flow Rate** button again and enter a value of '**<u>245</u>**'.

   While the flow rate is ramping up, after a few seconds the system should display a "Tank 1 Flow Obstructed" alarm.

9. Approx. ten seconds later, the system should display a "Tank 1 High Flow Rate" alarm.

10. Click the ***Ack Alarm [F1]*** button , or depress the **F1** key on the keyboard to acknowledge the "Tank1 High Flow Rate" alarm.

    Remember, in its default configuration the **Alarm Banner** displays the most current alarm. Thus, the 'Tank 1 High Flow Rate' alarm superseded the 'Tank 1 Flow Obstructed' alarm.

11. Click the **Stop Process** button to end the simulated process.

12. Click the **Shutdown** button to end the FactoryTalk View Machine Edition **Test Application** emulation.

Congratulations!!

You have successfully created a FactoryTalk View Studio for Machine Edition application that uses alarms, created a runtime file; and, exercised the application on your desktop.

Chapter 3: FactoryTalk View Machine Edition - Advanced

Completing this section requires approximately 25 minutes.

Symbol Factory is a new graphics library interface that can be launched from FactoryTalk View Studio v6.0. It is a common library between FactoryTalk View ME and SE. Symbol Factory is built on Software Toolbox's Symbol Factory, and contains over 5,000 graphical objects. Approximately 4,000 of these are vector graphics, the remainder are static bitmaps. The Symbol Factory library supports drag-and-drop and copy/paste onto a native FactoryTalk View display.

In addition to the addition of the Symbol Factory graphics library, FactoryTalk View ME v6.0 also provides improved color animation. Color animation now has a Shaded fill type which gives depth to the object's current state by using a tight dot pattern to give the appearance of shades. While choosing the new Original fill type option allows you to keep the look and feel of the original object.

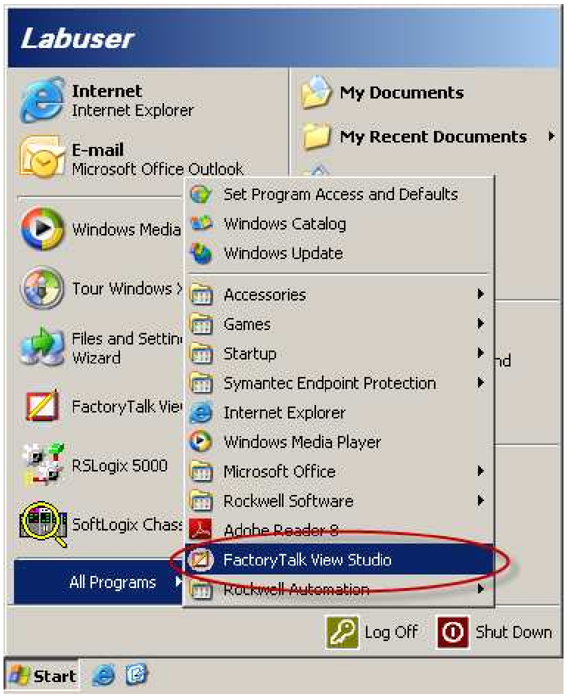
In this section you will get a look at the following new features available in v6.0 of FactoryTalk View ME:

- Symbol Factory library
- Enhanced color animation

Opening FactoryTalk View Studio

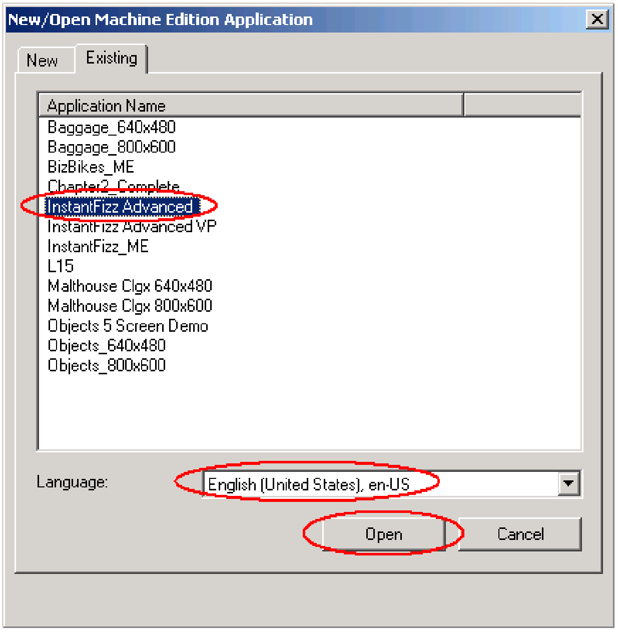
You need to start FactoryTalk View Studio to work with a FactoryTalk View Machine Edition application.

1. On the Windows ***Start*** menu, select ***Programs > FactoryTalk View Studio***:



Note that you can also select ***Programs > Rockwell Software > FactoryTalk View > FactoryTalk View Studio*** on the Start menu.

2. Select the ***InstantFizz Advanced*** project in the existing application list. Verify that **English** is the selected **Language** and click ***Open***.



New/Open Machine Edition Application

New | Existing

Application Name
Baggage_640x480
Baggage_800x600
BizBikes_ME
Chapter2_Complete
InstantFizz Advanced
InstantFizz Advanced VP
InstantFizz_ME
L15
Malthouse Clgx 640x480
Malthouse Clgx 800x600
Objects 5 Screen Demo
Objects_640x480
Objects_800x600

Language: English (United States), en-US

Open | Cancel

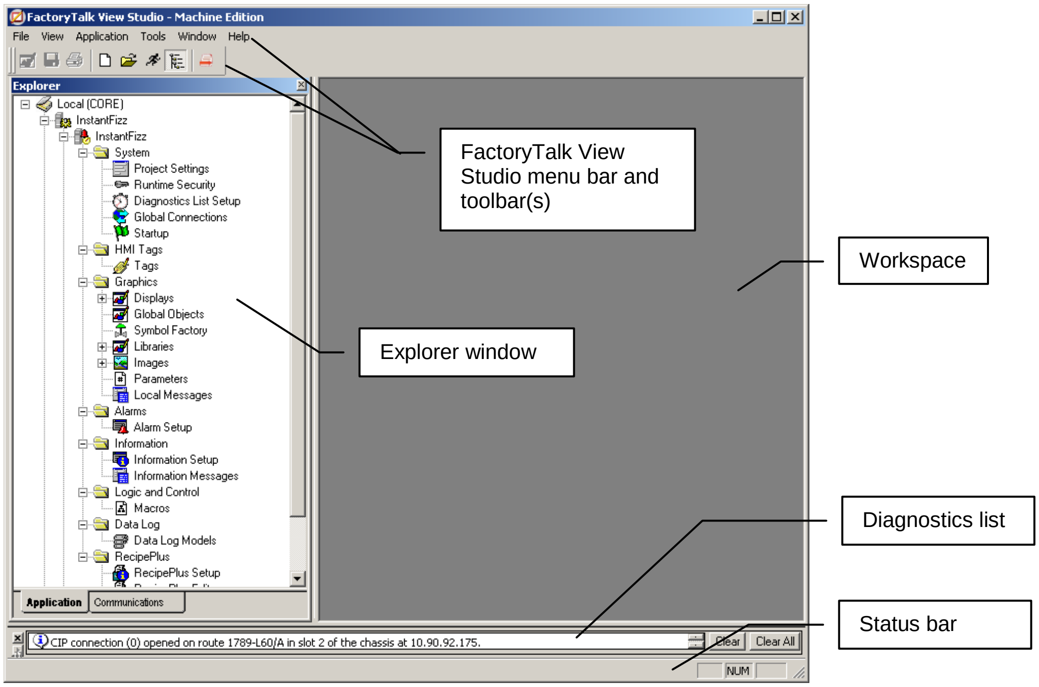
FactoryTalk View Studio loads the application – it will take a few seconds.

3. Click the **Maximize** button _ □ ✕ to maximize FactoryTalk View Studio.

Using Symbol Factory graphics

In this section you will create a new display, add a Multistate Pushbutton and Multistate Indicator to the display and edit those objects to display graphics from the new Symbol Factory library. This will allow you to get a look at the types of graphics that can be found in the Symbol Factory library, as well as how the library fits into the FactoryTalk View Studio interface.

Overview of the FactoryTalk View Studio interface



CIP connection (0) opened on route 1789-L60/A in slot 2 of the chassis at 10.90.92.175.

FactoryTalk View Studio menu bar and toolbar(s)

Workspace

Explorer window

Diagnostics list

Status bar

Menu bar – contains the menus for the active window. Available windows depend on which type of editor or window is active.

Toolbar(s) – contains buttons for commands commonly used in the active window.

Explorer window – displays folders containing FactoryTalk Directory structure and FactoryTalk View Studio editors. At the top is the local computer and local directory, below them are application-specific folders, and at the bottom are system and security folders. The Explorer includes the Application window and the Communications window, accessible through tabs at the bottom.

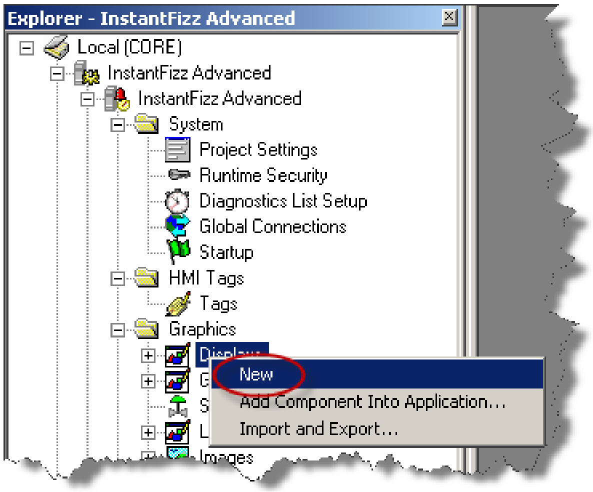
Workspace – graphic displays and various editors are displayed in this area, depending on what is selected in the Explorer. If Workbook Mode is selected on the View menu, this pane displays tabs that allow you to switch between each currently open display or graphic.

Diagnostics list – the exact information displayed here depends on how FactoryTalk Diagnostics has been set up, but generally this list displays messages from FactoryTalk Diagnostics.

Status bar – provides information about the active window or selected tool or command.

Create a new display

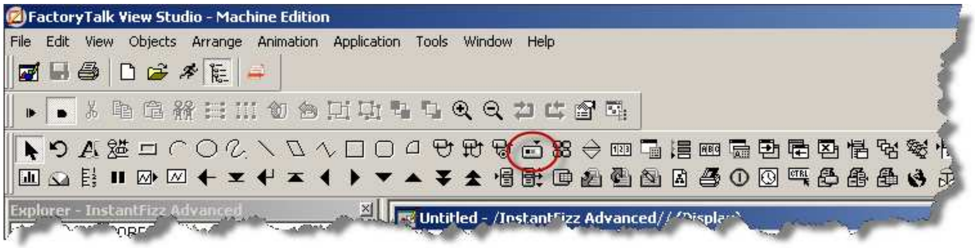
1. Expand the **Graphics** folder in the Explorer pane. Right-click **Displays** and select ***New*** to create a new Display.



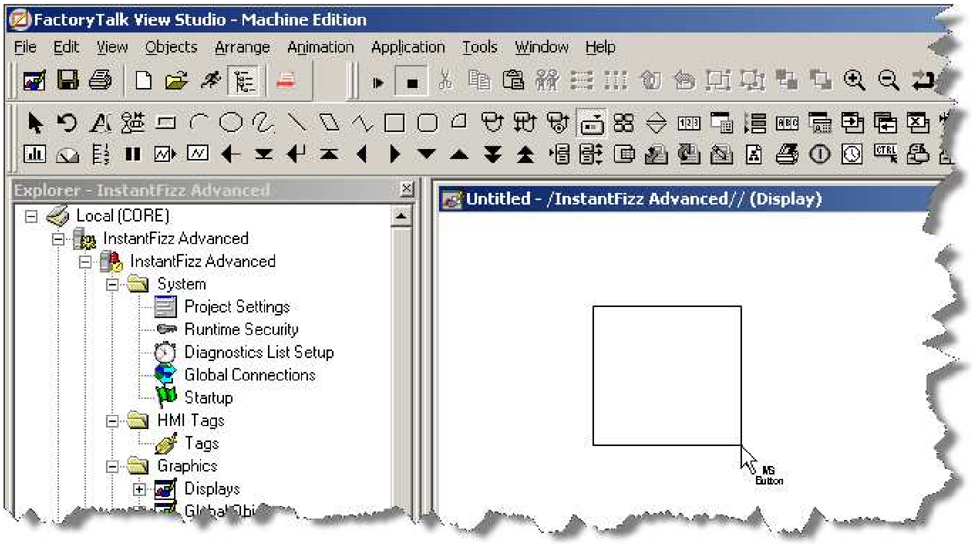
A new display is opened in the workspace area.

Add and configure a Multistate Pushbutton

1. Select the **Multistate Pushbutton** object in the Objects toolbar,


FactoryTalk View Studio - Machine Edition
File
Edit
View
Objects
Arrange
Animation
Application
Tools
Window
Help
Explorer - InstantFizz Advanced
Untitled - /InstantFizz Advanced// (Display)

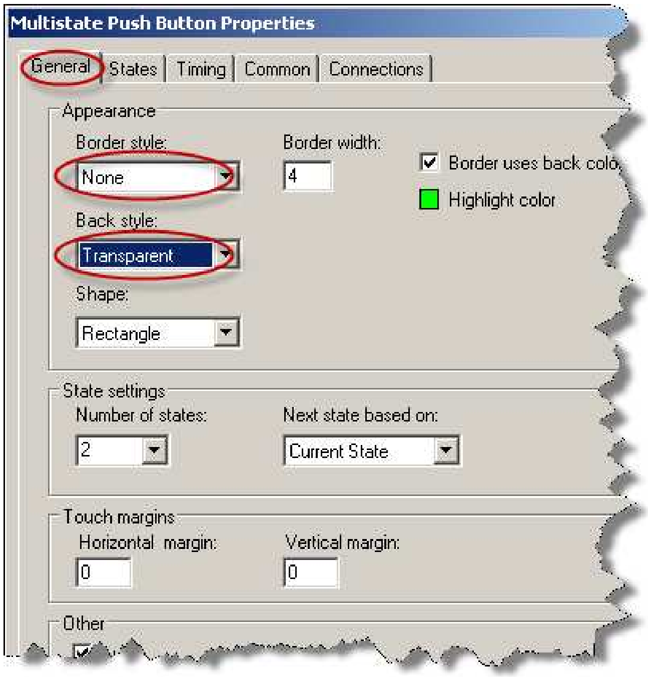
then click and drag the mouse to draw a square on the display:



When you release the mouse button, a Multistate Pushbutton is drawn on the display.

2. Double-click the new **Multistate Pushbutton** to open its properties window.

3. On the ***General*** tab you can configure general properties of the Multistate Pushbutton, such as its appearance and the number of states. Set the **Border style** to ***None*** and the **Back style** to ***Transparent***:



Multistate Push Button Properties

Appearance

Border style: None

Border width: 4

☑ Border uses back colo

🟩 Highlight color

Back style: Transparent

Shape: Rectangle

State settings

Number of states: 2

Next state based on: Current State

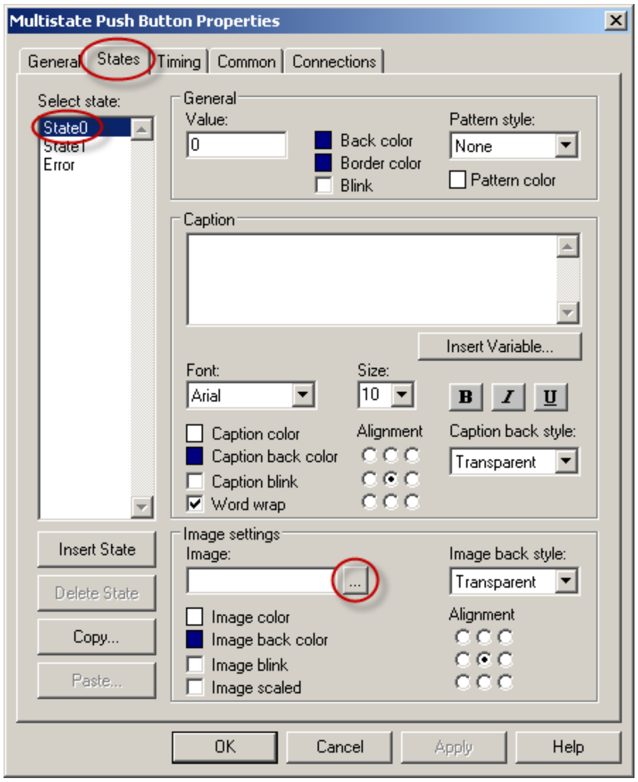
Touch margins

Horizontal margin: 0

Vertical margin: 0

Other

4. Click the ***States*** tab to configure button states. Select ***State0*** to configure a graphic image to display on the button for the "off" or 0 state. Click the browse button ... to select an image as shown below.



Multistate Push Button Properties

Select state:

State0
State1
Error

General

Value: 0

■ Back color

■ Border color

□ Blink

Pattern style: None

□ Pattern color

Caption

Font: Arial

Size: 10

□ Caption color

■ Caption back color

□ Caption blink

☑ Word wrap

Alignment

○ ○ ○
○ ● ○
○ ○ ○

Caption back style: Transparent

Image settings

Image:

Image back style: Transparent

□ Image color

■ Image back color

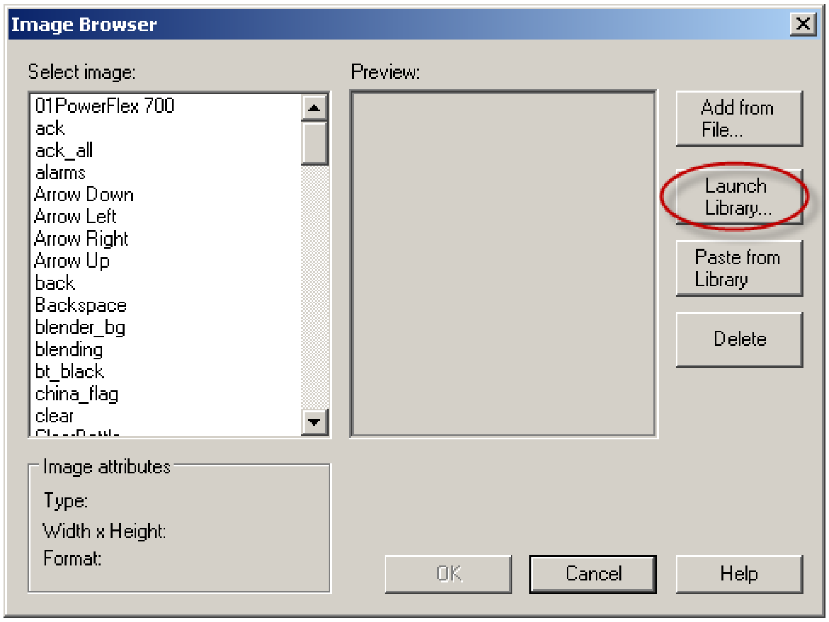
□ Image blink

□ Image scaled

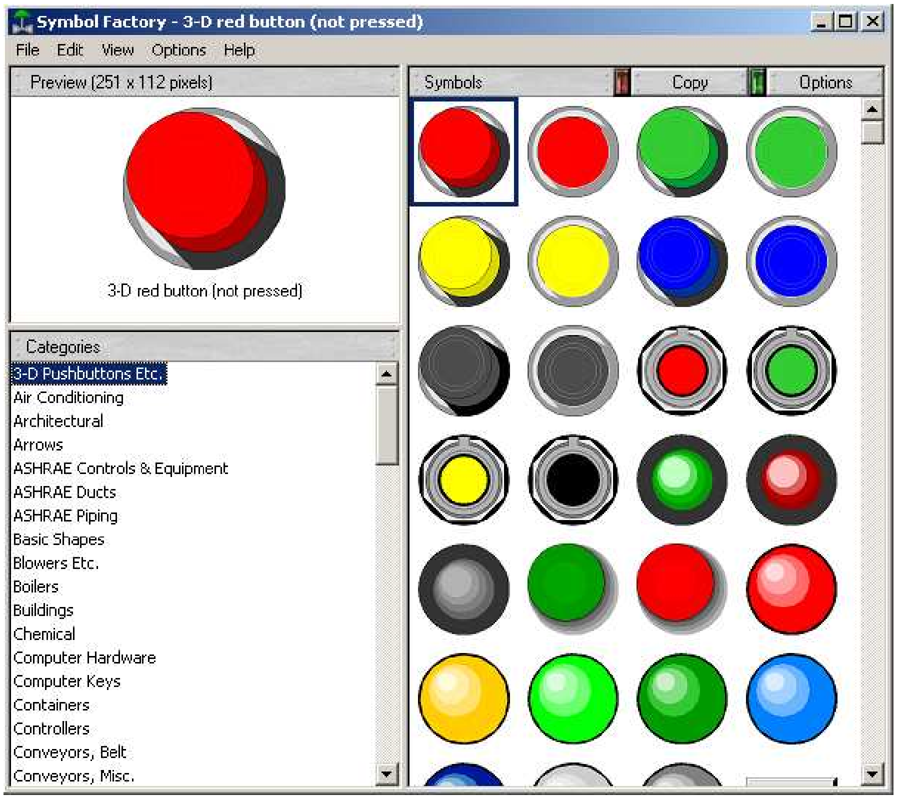
Alignment

○ ○ ○
○ ● ○
○ ○ ○

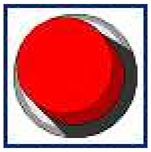
The **Image Browser** is opened:



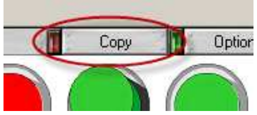
5. Images listed on the Image Browser are in the FactoryTalk View ME Image library. To select an image from the new Symbol Factory graphic library, click the ***Launch Library…*** button as shown above. The Symbol Factory library is opened, with **3-D Pushbuttons Etc** displayed:



Select a pushbutton graphic in the “off” state, such as:



6. Click the ***Copy*** button to copy the selected button to the Windows clipboard:



The Symbol Factory library window is automatically minimized.

7. Click the ***Paste from Library*** button to paste the graphic you selected from Symbol Factory into the project’s Image library. You will be prompted for a unique image name; leave the default name of ‘**<u>3-D red button (not pressed)</u>**’ and click ***OK***. The selected image is shown in the Preview box:

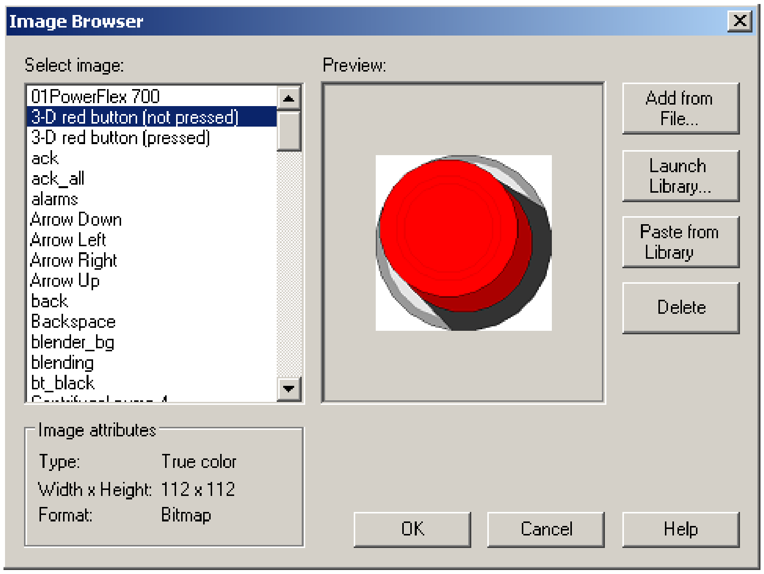


Image attributes

Type: True color

Width x Height: 112 x 112

Format: Bitmap

Note that images are copied from the Symbol Factory library to the project’s Image library so that they are included when you back up the project and move it to another location. You can see the Symbol Factory image in your project’s Image library by opening the Images folder in the application Explorer and looking for the **3-D red button (not pressed)** image.

8. Click ***OK*** to apply the image to your pushbutton.

9. Click the ***Image scaled*** checkbox to scale the State0 graphic to the size of your pushbutton:

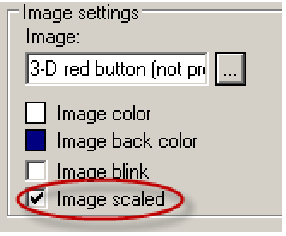


Image settings

Image: 3-D red button (not pr

□ Image color

■ Image back color

□ Image blink

☑ Image scaled

10. Now repeat these steps for pushbutton **State1**.

    Select ***State1*** to configure a graphic image to display on the button for the “on” or 1 state. Click the browse button ... to select an image:

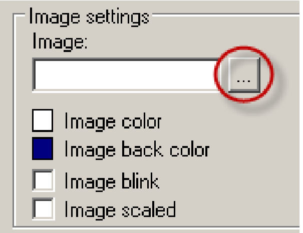
    

    Image settings

    Image:

    □ Image color

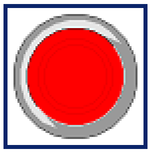
    ■ Image back color

    □ Image blink

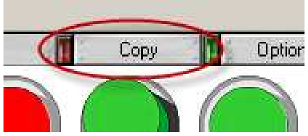
    □ Image scaled

11. Click ***Launch Library…*** to select an image from the new Symbol Factory graphic library.

12. This time, select a pushbutton graphic in the “on” state, such as:

13. Click the ***Copy*** button to copy the selected button to the clipboard:

    The Symbol Factory library window is again automatically minimized.

14. Click the ***Paste from Library*** button to paste the graphic you selected from Symbol Factory into the project’s Image library. You will be again prompted for a unique image name; this time give the graphic a name of ‘**3-D red button (pressed)**’ and click ***OK***. The selected image is shown in the Preview box:

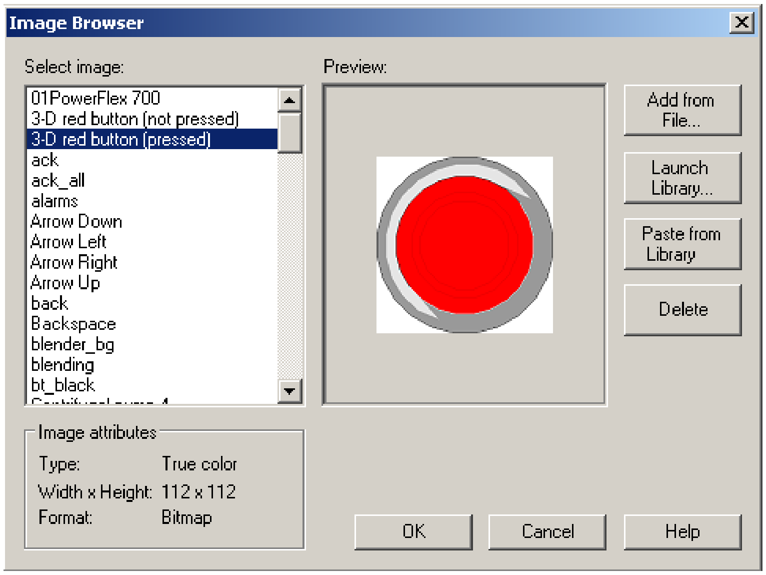
    

    Image Browser

    Select image:

    01PowerFlex 700
    3-D red button (not pressed)
    3-D red button (pressed)
    ack
    ack_all
    alarms
    Arrow Down
    Arrow Left
    Arrow Right
    Arrow Up
    back
    Backspace
    blender_bg
    blending
    bt_black

    Preview:

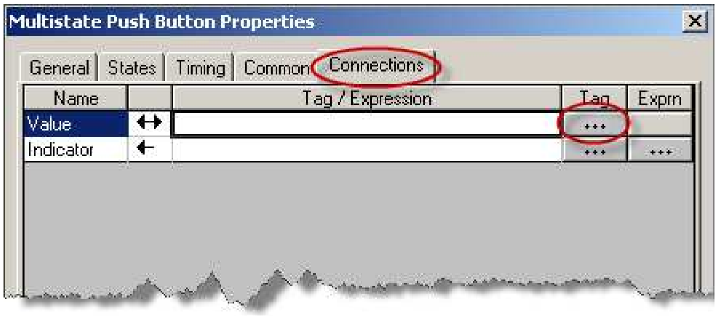
    Image attributes

    Type: True color
    Width x Height: 112 x 112
    Format: Bitmap

15. Click ***OK*** to apply the image to your pushbutton.

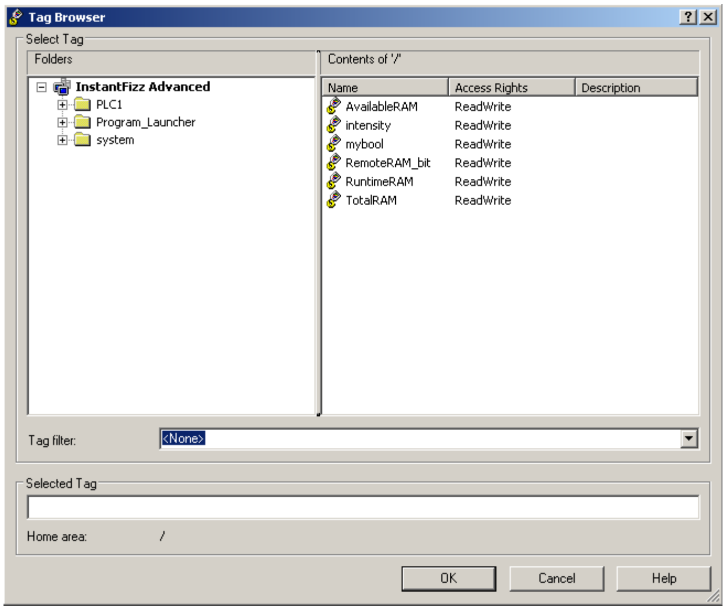
16. Click the ***Image scaled*** checkbox to scale the State1 graphic to the size of your pushbutton.

17. Click the ***Connections*** tab to select a tag for your pushbutton.



Name		Tag / Expression	Tag	Exprn
Value	↔		...	
Indicator	←		...	...

18. Click the tag browse button for the ***Value*** property (as shown above) to open the Tag Browser:

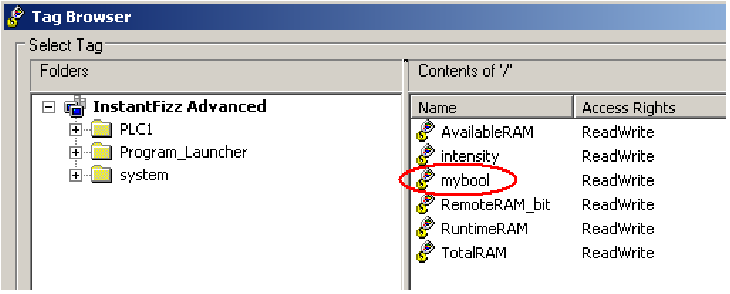


Name	Access Rights	Description
AvailableRAM	ReadWrite	
intensity	ReadWrite	
mybool	ReadWrite	
RemoteRAM_bit	ReadWrite	
RuntimeRAM	ReadWrite	
TotalRAM	ReadWrite	

Tag filter: <None>

Home area: /

A Boolean tag called **mybool** has been created for you. Click ***InstantFizz Advanced*** in the Folder list, and select the ***mybool*** tag in the list as shown below. Click ***OK***.

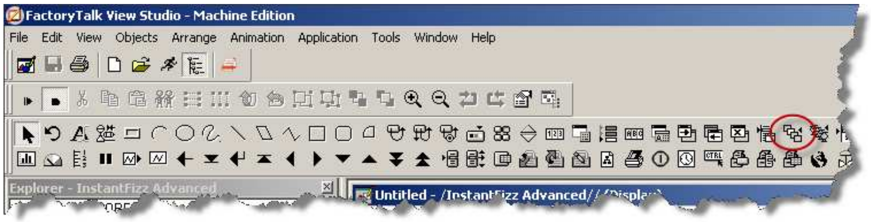


Name	Access Rights
AvailableRAM	ReadWrite
intensity	ReadWrite
mybool	ReadWrite
RemoteRAM_bit	ReadWrite
RuntimeRAM	ReadWrite
TotalRAM	ReadWrite

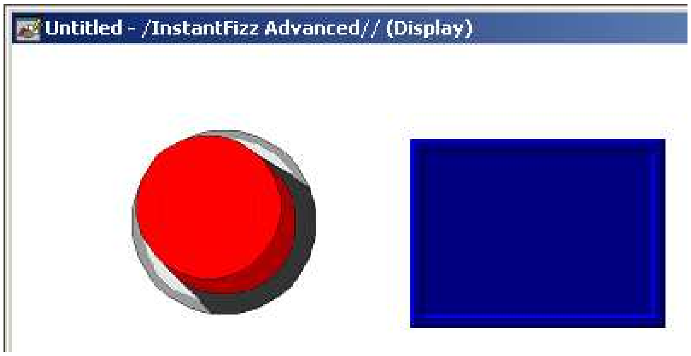
19. Click ***OK*** on the Multistate Pushbutton Properties dialog to accept all of your changes.

Add and configure a Multistate Indicator

1. Select the **Multistate Indicator** object in the Objects toolbar,

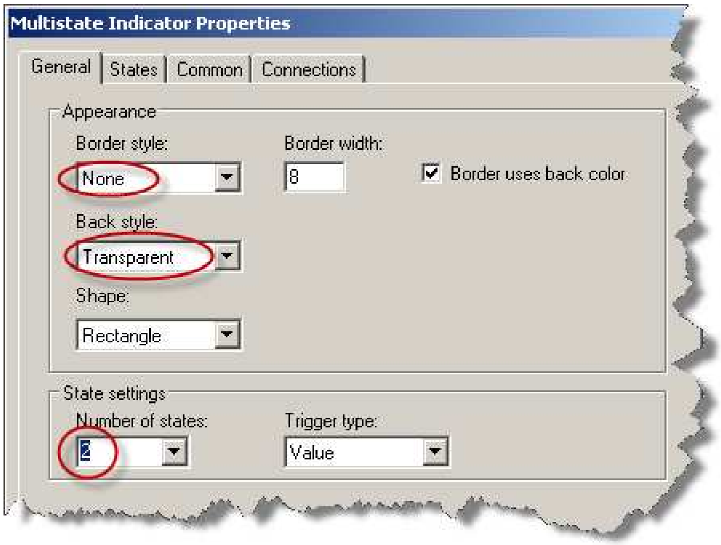

FactoryTalk View Studio - Machine Edition
File Edit View Objects Arrange Animation Application Tools Window Help
Explorer - InstantFizz Advanced
Untitled - /InstantFizz Advanced// (Display)

then click and drag the mouse to draw a square on the display next to the Multistate Pushbutton you already added. When you release the mouse button, a Multistate Indicator is drawn on the display:



2. Double-click the **Multistate Indicator** to configure its properties.

On the General tab, set the Border style to ***None*** and the Back style to ***Transparent****.* Set the Number of states to ***2***:



Multistate Indicator Properties

General | States | Common | Connections

Appearance

Border style: None

Border width: 8

☑ Border uses back color

Back style: Transparent

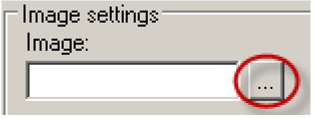
Shape: Rectangle

State settings

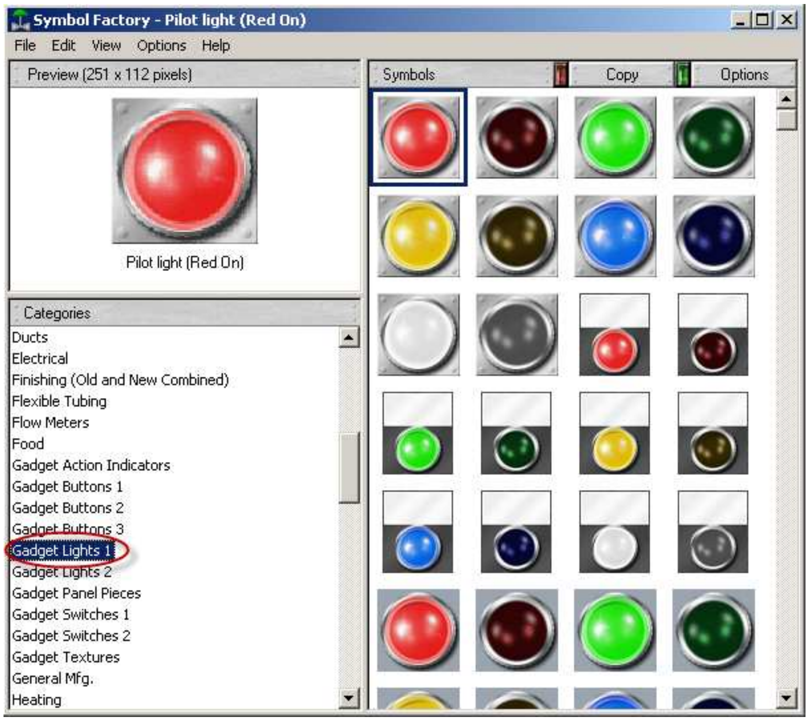
Number of states: 2

Trigger type: Value

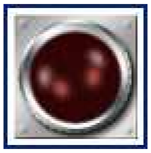
3. On the **States** tab, select ***State0***, then click the browse button to select an Image for the 'off' state:



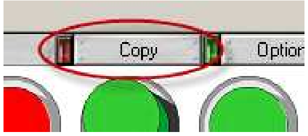
4. Click ***Launch Library…*** on the Image Browser to select a graphic from the Symbol Factory library. The Symbol Factory library is opened, with **3-D Pushbuttons Etc** displayed. Browse the list of **Categories** to find the ***Gadget Lights 1*** category:



Select a light graphic in the "off" state, such as:



5. Click the ***Copy*** button to copy the selected button to the Windows clipboard:



The Symbol Factory library window is automatically minimized.

6. Click the ***Paste from Library*** button to paste the graphic you selected from Symbol Factory into the project's Image library. You will be again prompted for a unique image name; this time give the graphic a name of '**<u>Pilot light (Red Off)</u>**' and click ***OK***. The selected image is shown in the Preview box.

7. Click ***OK*** to apply the image to your Multistate Indicator.

8. Click the ***Image scaled*** checkbox to scale the State0 graphic to the size of your Multistate Indicator object:

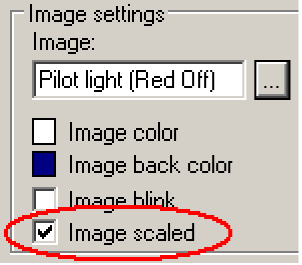


Image settings
Image:
Pilot light (Red Off) ...
□ Image color
■ Image back color
□ Image blink
☑ Image scaled

9. Now repeat these steps for State1. Select ***State1***. Click the browse button to select an Image for the 'on' state:

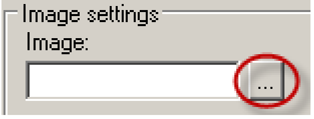


Image settings
Image:
...

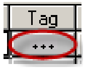
10. Click ***Launch Library…*** on the Image Browser to select a graphic from the Symbol Factory library. The Symbol Factory library is opened, with the **Gadget Lights 1** category still displayed. Select a light graphic in the "on" state, such as:

11. Click the ***Copy*** button to copy the selected button to the Windows clipboard. The Symbol Factory library window is automatically minimized.

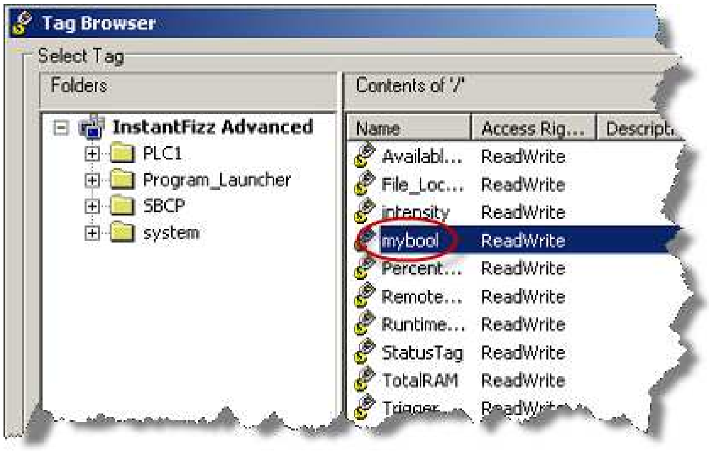
12. Click the ***Paste from Library*** button to paste the graphic you selected from Symbol Factory into the project's Image library. You will be again prompted for a unique image name; this time give the graphic a name of '**Pilot light (Red On)**' and click ***OK***. The selected image is shown in the Preview box.

13. Click ***OK*** to apply the image to your Multistate Indicator.

14. Click the ***Image scaled*** checkbox to scale the State1 graphic to the size of your Multistate Indicator object.

15. Click the ***Connections*** tab to select a tag for your Multistate Indicator. Click the tag browse button  to open the Tag Browser for the **Indicator** property.

16. Select the Boolean tag called **mybool** on the tag list and click ***OK***.



Tag Browser

Select Tag

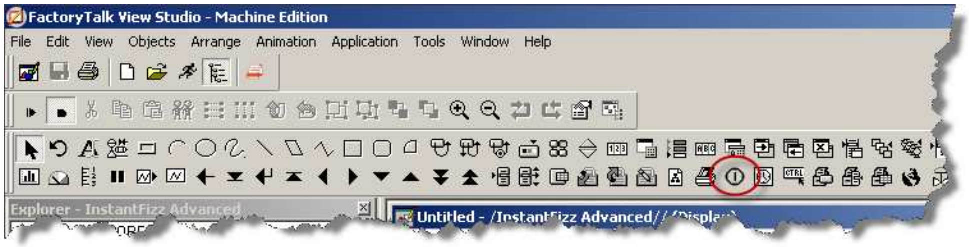
Name	Access Rig...	Descripti...
Availabl...	ReadWrite	
File_Loc...	ReadWrite	
intensity	ReadWrite	
mybool	ReadWrite	
Percent...	ReadWrite	
Remote...	ReadWrite	
Runtime...	ReadWrite	
StatusTag	ReadWrite	
TotalRAM	ReadWrite	
Trigger...	ReadWrite	

17. Click ***OK*** on the Multistate Indicator Properties dialog to accept all of your changes.

Add a shutdown button

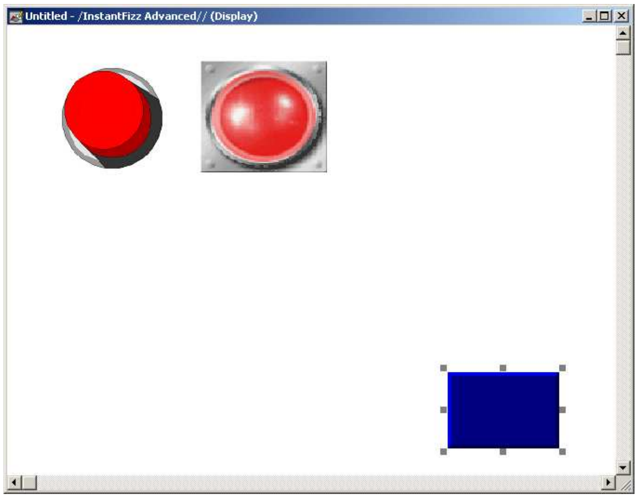
At runtime, the Shutdown button is used to stop the running application, stop all project components, and return to Windows.

1. Select the **Shutdown button** object on the Objects toolbar,



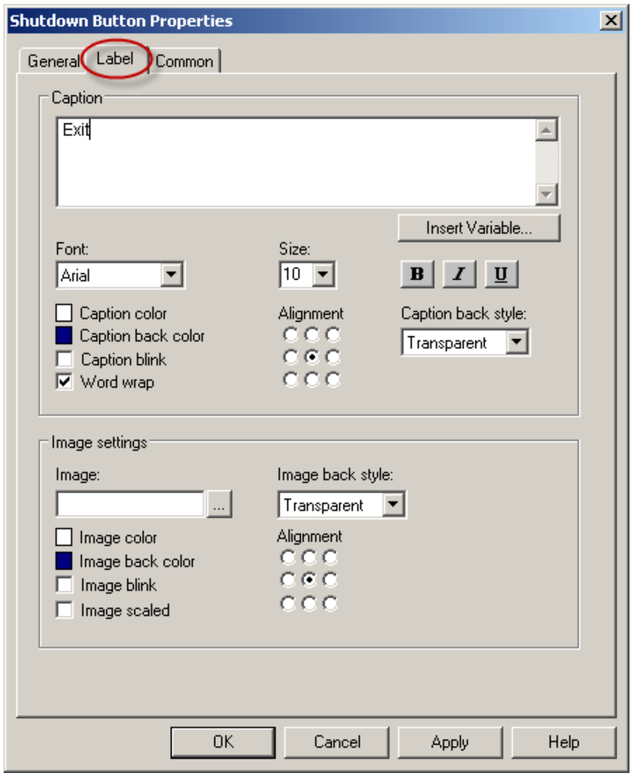
FactoryTalk View Studio - Machine Edition
File
Edit
View
Objects
Arrange
Animation
Application
Tools
Window
Help
Explorer - InstantFizz Advanced
Untitled - /InstantFizz Advanced// (Display)

then draw a Shutdown button at the bottom of the display so that the display looks like this:



Double-click the Shutdown button to open its Properties dialog.

2. Click the **Label** tab and Enter '**Exit**' for the shutdown button caption:



Caption: Exit

Font: Arial

Size: 10

☐ Caption color
■ Caption back color
☐ Caption blink
☑ Word wrap

Alignment:
○ ○ ○
○ ● ○
○ ○ ○

Caption back style: Transparent

Image settings

Image:

Image back style: Transparent

☐ Image color
■ Image back color
☐ Image blink
☐ Image scaled

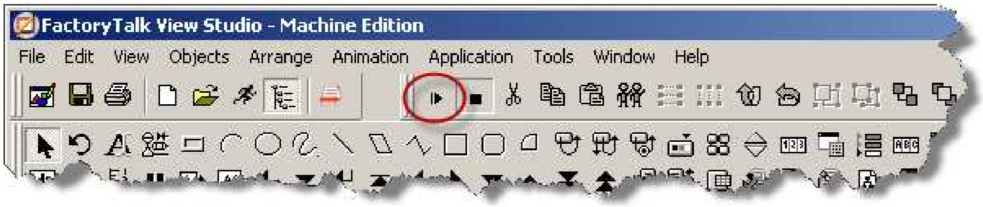
Alignment:
○ ○ ○
○ ● ○
○ ○ ○

3. Click **OK** to accept your changes.

Test the application

Now that you have added Multistate Pushbutton and Indicator objects, you can test your application.

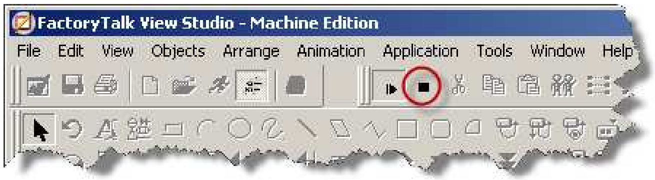
1. Click the **Test Display** button on the toolbar.



The display switches to test mode.

2. Click the **pushbutton** on your display. Watch as the pushbutton and the indicator light change to the 'on' state. You should see the different Symbol Factory graphics you selected for each state.

3. When you are finished, click the **Edit Display** button on the toolbar to return to edit mode.

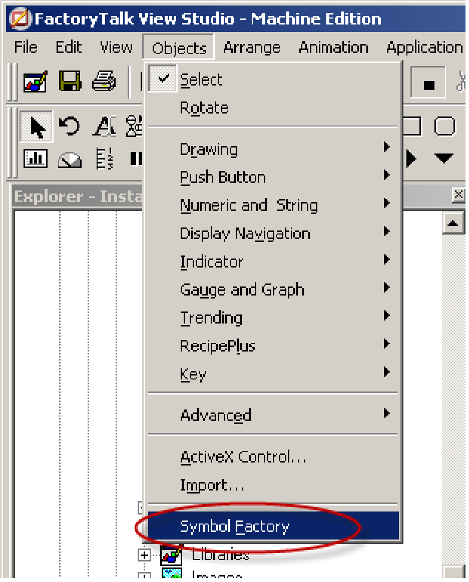


Animation enhancements

In this section you will add a Symbol Factory graphic to your display and configure enhanced color animation for it.

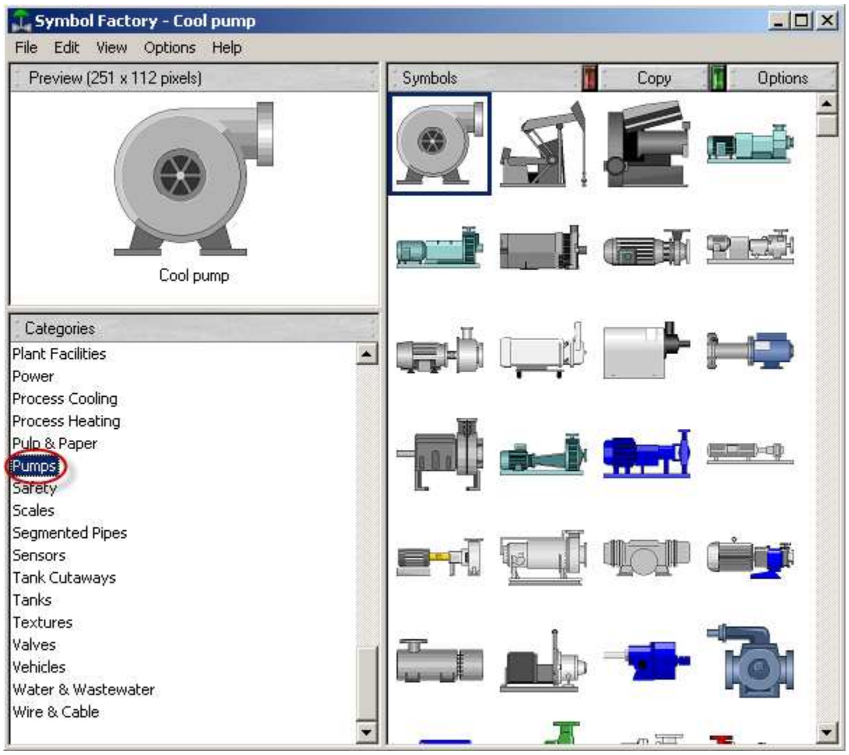
Add graphics to the display

1. Click the **Objects** menu item and select ***Symbol Factory***. (You must click in the display to give it focus and make the **Objects** menu visible.)

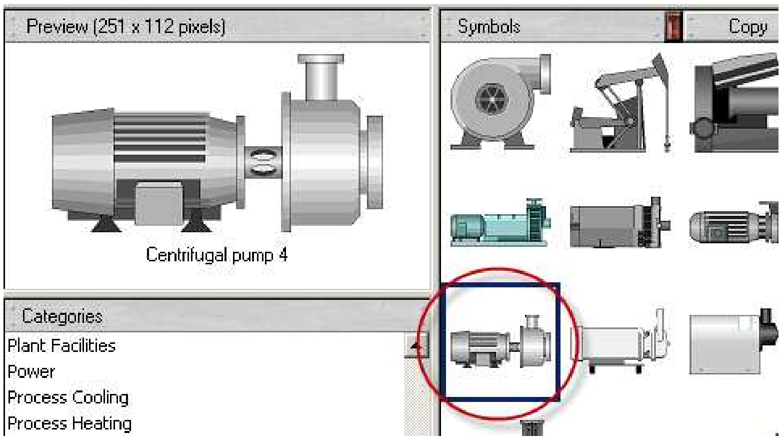


The Symbol Factory library is opened or restored from being minimized if it was not closed from a previous instance.

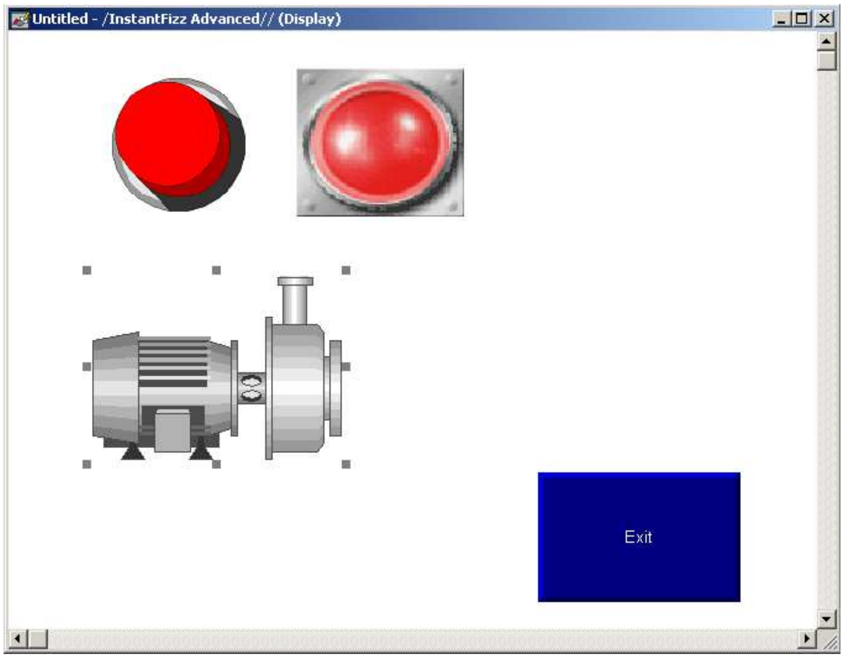
2. Browse the list of **Categories** and select **Pumps**. The available types of Symbol Factory pump graphics are displayed:



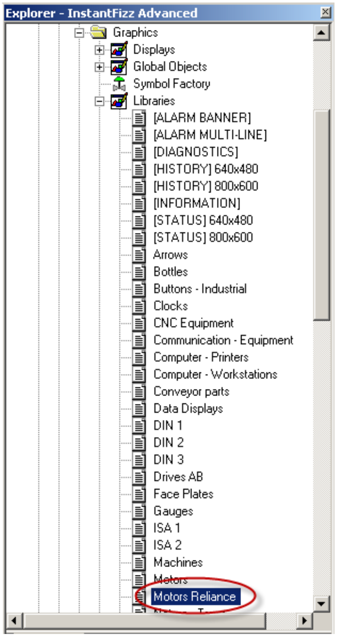
3. Look for the graphic called **Centrifugal Pump 4**, as shown below:

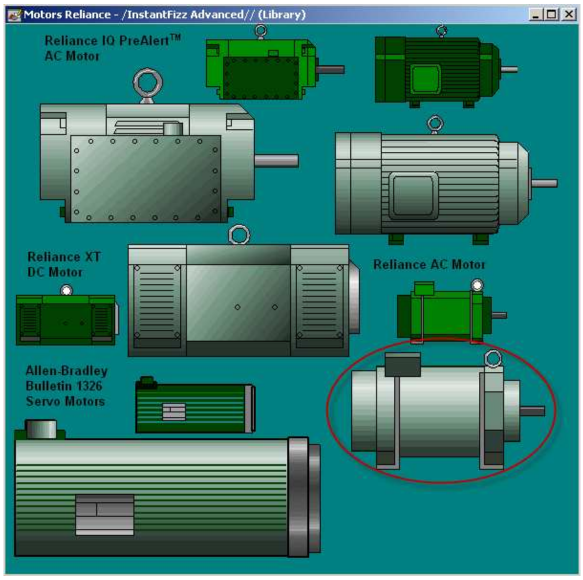


4. You can drag-and-drop graphics from the Symbol Factory library directly to a display; click the **pump** and **drag and drop** it on your display. Minimize the Symbol Factory window when finished and **resize** the pump graphic to make it larger. Your display should now look something like this:

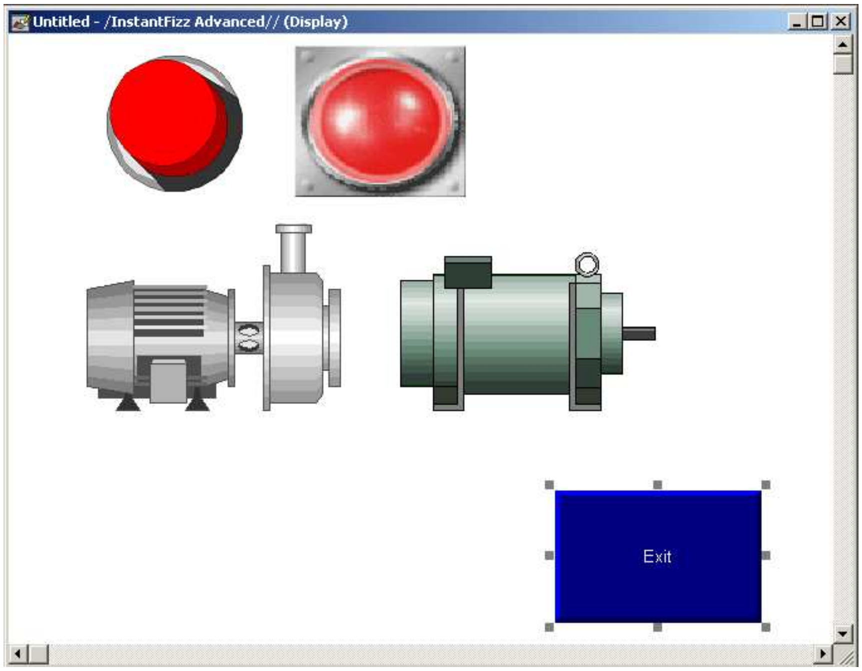


5. For comparison, you will also add a graphic from the existing FactoryTalk View ME graphics library. In the FactoryTalk View Studio application Explorer, expand **Graphics** and then **Libraries**. Find and double-click the **Motors Reliance** graphics library:



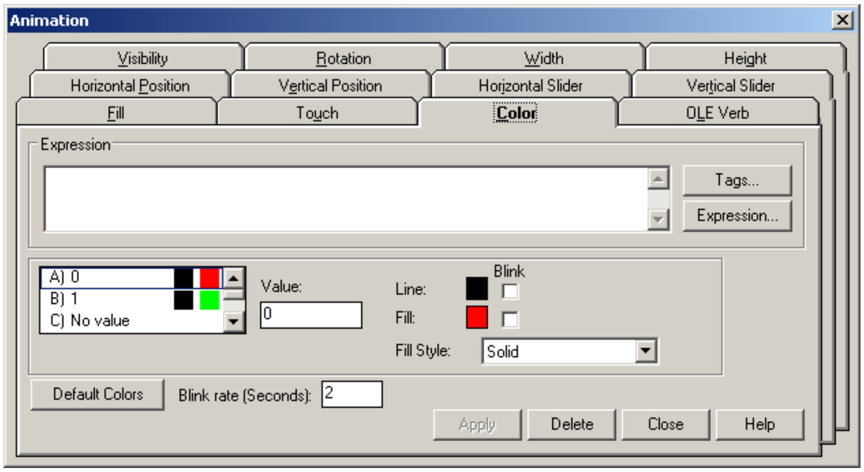


6. Select the motor graphic shown circled above, and **drag and drop** it to your display. **Resize** it to be about the same size as the Symbol Factory pump graphic. Your display should now look something like this:



Configure animation for the graphics

1. Right-click on the Symbol Factory pump graphic. Select ***Animation***, then ***Color***. The Animation dialog is opened to the **Color** tab:



A) 0
B) 1
C) No value

Value: 0

Line: ■ □

Fill: 🟥 □

Fill Style: Solid

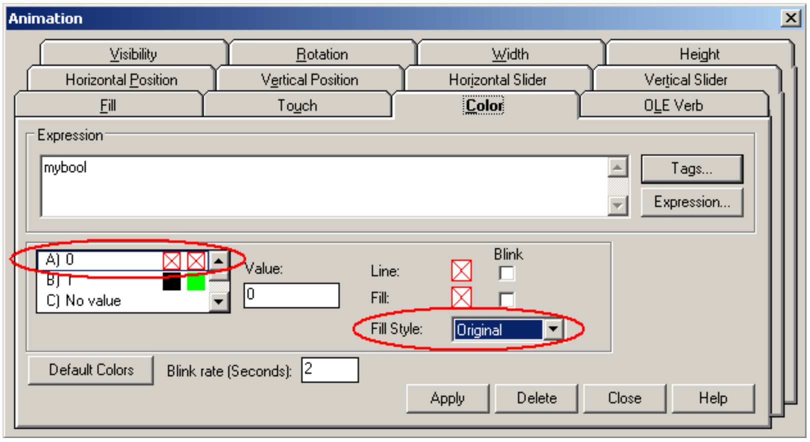
Blink rate (Seconds): 2

2. First you must select the tag that the graphic will reference for its animation value. Click the ***Tags*** button to select a tag. The **Tag Browser** is opened.

   Select the ***mybool*** tag you used for the Pushbutton and Indicator objects and click ***OK***. The tag name is shown in the Animation dialog.

   The default animation colors are red for a value of 0 and green for a value of 1. You will set the 0 (off) color to be the graphic's "original" color and leave 1 (on) at green.

Leave the **A) 0** state selected and choose ***Original*** for the Fill Style:



Expression: mybool

Value: 0

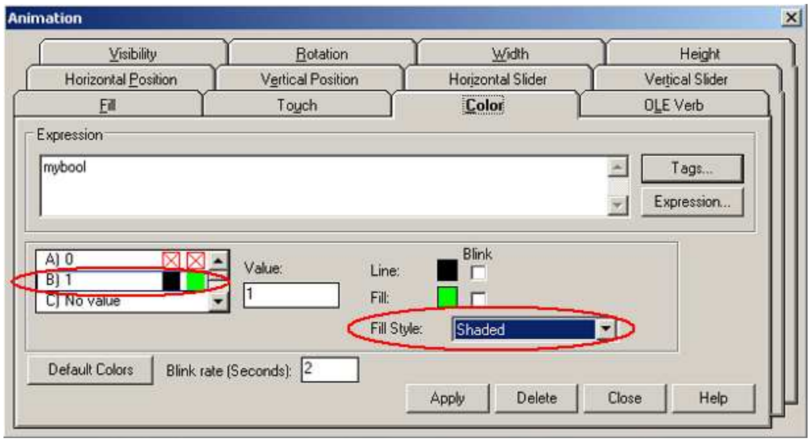
Fill Style: Original

Blink rate (Seconds): 2

Note that the custom color selections are disabled when you select the **Original** Fill Style. This is because the graphic is displayed in its original colors for the selected state.

3. Select the **B) 1** state to configure its color animation. You can leave the color selections for the **B) 1** state as is.

4. For the **B) 1** state **Fill Style**, select ***Shaded***.



Expression: mybool

Value: 1

Fill Style: Shaded

Blink rate (Seconds): 2

5. Click ***Apply*** to apply your animations, then ***Close*** to close the dialog.

6. Now configure the color animation for the FactoryTalk View ME library graphic. Right-click the motor and click ***Animation***, then ***Color***. The Animation dialog is opened.

7. Just like with the Symbol Factory graphic, you first need to select the Tag that will be referenced for the graphic animation. Click the ***Tags*** button to select a tag. The **Tag Browser** is opened.

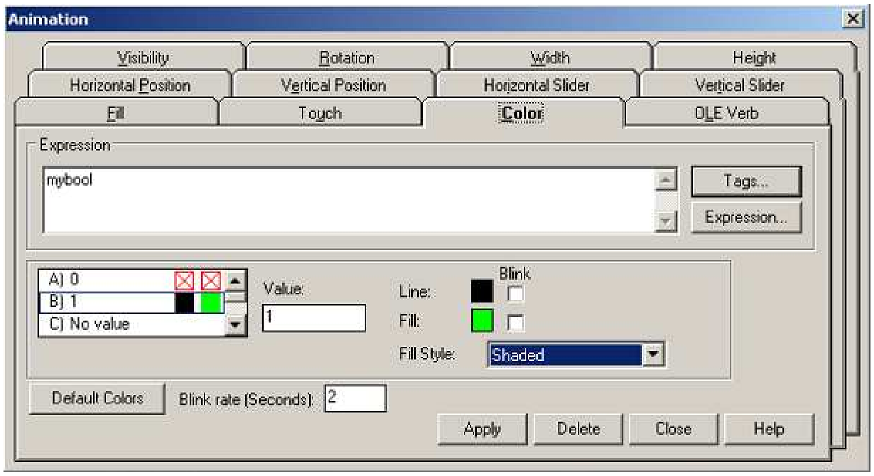
   Select the ***mybool*** tag you used for the Pushbutton and Indicator objects and click ***OK***. The tag name is shown in the Animation dialog.

   The default animation colors are again red for a value of 0 and green for a value of 1. You will set the 0 (off) color to be the graphic's "original" color and leave 1 (on) at green.

   Select the **A) 0** state and choose ***Original*** for the Fill Style.

8. Select the **B) 1** state to configure its color animation. You can leave the color selections for the **B) 1** state as is.

   For the **B) 1** state Fill Style, select ***Shaded***. The Animation Color tab should look like this:



Expression: mybool

State	Line	Fill
A) 0	☒	☒
B) 1	■	🟩
C) No value		

Value: 1

Line: ■ Blink □

Fill: 🟩 Blink □

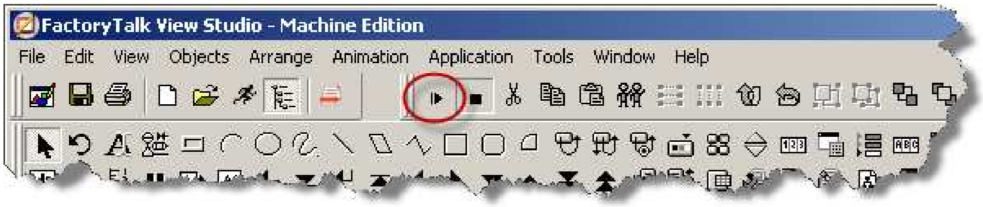
Fill Style: Shaded

Blink rate (Seconds): 2

9. Click ***Apply*** to apply your animations, then ***Close*** to close the dialog.

Test the graphic animation

1. Click the **Test Display** button on the toolbar to try your animation.

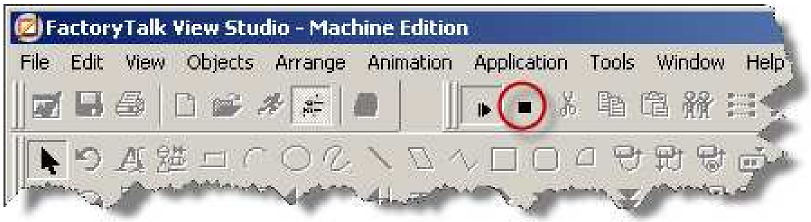


   The display switches to test mode.

2. The pushbutton, indicator, and two graphics should be in the ‘off’ state. The motor and pump should be in their original colors.

   Click the **pushbutton** on your display to see the color animations. The Symbol Factory object shading should be retained but with its color changed to green. The FactoryTalk View ME graphic shading should also be retained. In previous versions of FactoryTalk View ME, shading was not retained for graphic color animations.

3. When you are finished, click the **Edit Display** button on the toolbar to return to edit mode.



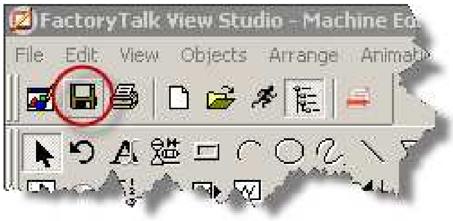
Test the application

Recall that there are two methods available to test an entire application. One is to download the application to a PanelView Plus terminal. The other is to use the terminal emulation capability that is included with FactoryTalk Studio for Machine Edition.

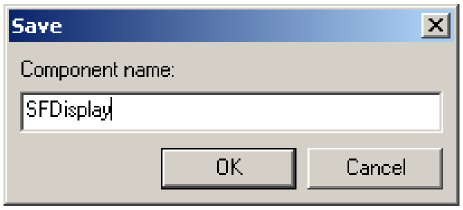
You will be testing the application on your PanelView Plus terminal but before the application can be executed on either the desktop or on a terminal, you must set the **Startup** configuration. This configuration allows you to specify which project components to start at run time. It is very important to set the initial display for an application.

Set the startup configuration

1. First, save the new display you created in the last section. Click the ***Save*** button:

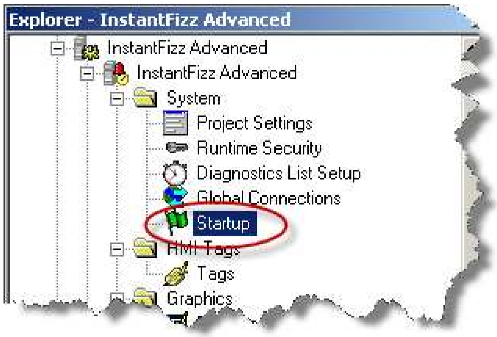


You are prompted for a name for the display. Enter '**SFDisplay**' and click ***OK***.


Save

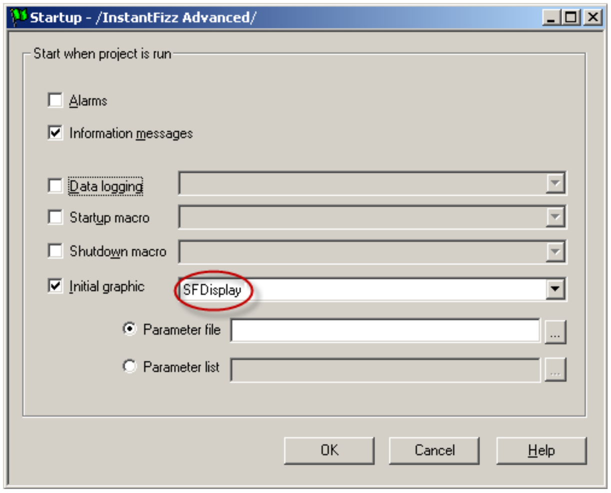
Component name: SFDisplay

2. Now find and double-click ***Startup*** in the application Explorer:



The Startup configuration dialog is opened.

3. Select the ***SFDisplay*** in the **Initial graphic** list:



Startup - /InstantFizz Advanced/

Start when project is run

☐ Alarms

☑ Information messages

☐ Data logging

☐ Startup macro

☐ Shutdown macro

☑ Initial graphic SFDisplay

● Parameter file

○ Parameter list

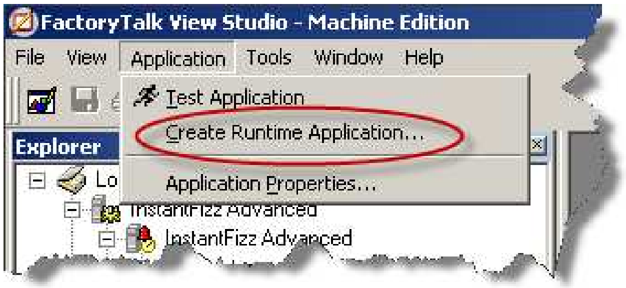
All other settings can remain at their default. Click ***OK*** to accept your configuration.

Running the application on a PanelView Plus terminal

Now you will test the entire application on your PanelView Plus terminal. To do this, you have to build a run time application and transfer it to the PanelView.

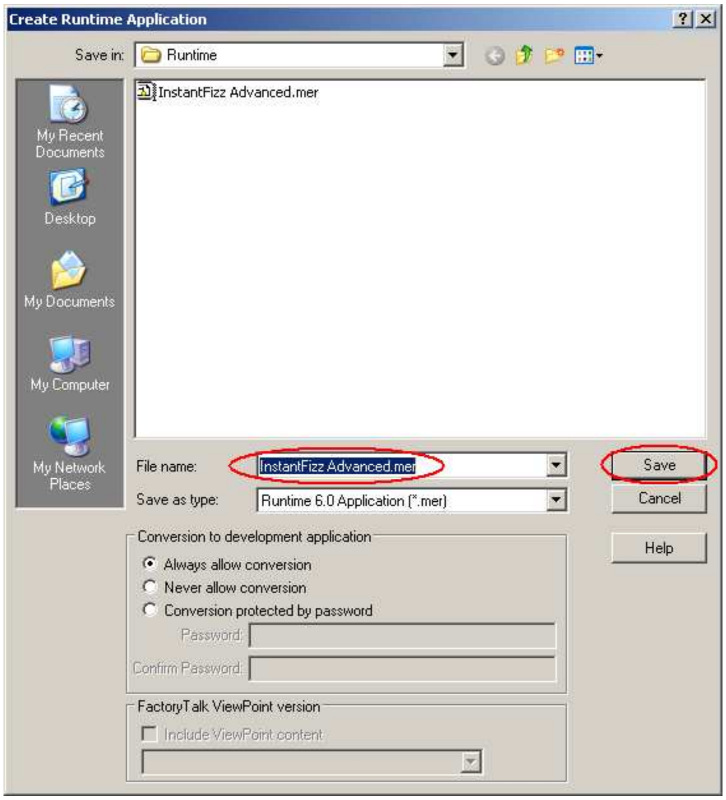
Build the .MER

1. Select ***Create Runtime Application*** on the **Application** menu:



2. On the **Create Runtime Application** dialog, verify that the runtime file name is '**InstantFizz Advanced.mer**'.

   The file is saved to the default Runtime file location, **C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime**.



Create Runtime Application

Save in: Runtime

InstantFizz Advanced.mer

File name: InstantFizz Advanced.mer

Save as type: Runtime 6.0 Application (*.mer)

Conversion to development application

● Always allow conversion
○ Never allow conversion
○ Conversion protected by password
Password:
Confirm Password:

FactoryTalk ViewPoint version

□ Include ViewPoint content

The ***Conversion to development application*** options on the Create Runtime Application dialog allow later recovery of the design files from the runtime project using the Application Manager, if allowed. Options are:

Always allow conversion [Default]
The design information is always included with the runtime, so that it may be restored from the .MER.
The resulting .MER requires more terminal memory to store the file.

Never allow conversion
Design information cannot be recovered from an MER created with this option selected.
The .MER created requires the least amount of terminal memory.

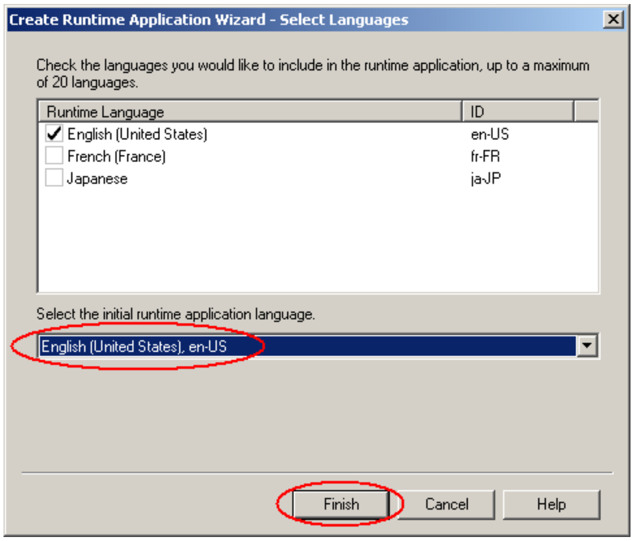
Conversion protected by password
When using Application Manager to extract the design information from the runtime file, the user will be prompted for the configured password.
The resulting .MER requires more terminal memory to store the file.

The ***FactoryTalk ViewPoint version*** option allows the user to specify whether or not published displays will be included in the MER file.

Include ViewPoint Content

Must be selected for the application to include the ViewPoint published displays.

3. On the **Select Languages** dialog, make sure that ***English*** is selected as the initial runtime application language and click ***Finish***:



Create Runtime Application Wizard - Select Languages

Check the languages you would like to include in the runtime application, up to a maximum of 20 languages.

Runtime Language	ID
☑ English (United States)	en-US
□ French (France)	fr-FR
□ Japanese	ja-JP

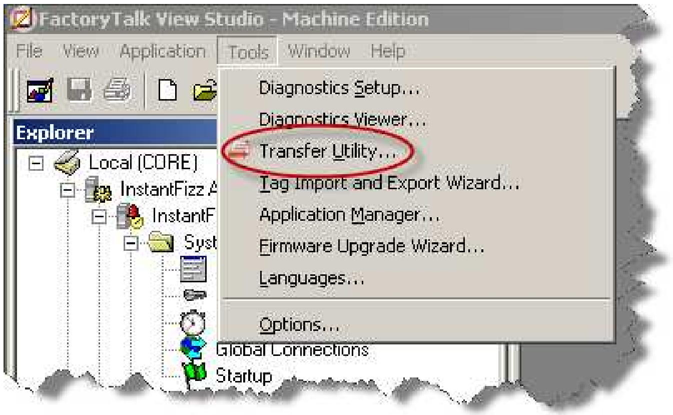
Select the initial runtime application language.

English (United States), en-US

A progress dialog will be displayed while the runtime file is being created.

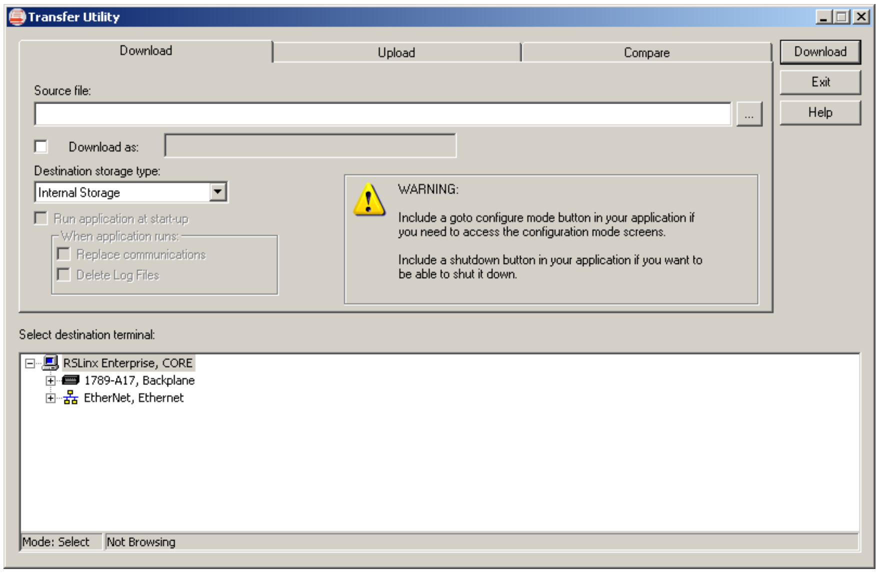
Download the runtime .MER to a PanelView Plus terminal

1. To download the runtime .MER to the PanelView Plus terminal at your workstation, click ***Transfer Utility*** on the **Tools** menu:



Note that you can also click the Transfer Utility icon on the toolbar.

The Transfer Utility is opened:



Source file:

□ Download as:

Destination storage type: Internal Storage

□ Run application at start-up

When application runs:

□ Replace communications

□ Delete Log Files

WARNING:

Include a goto configure mode button in your application if you need to access the configuration mode screens.

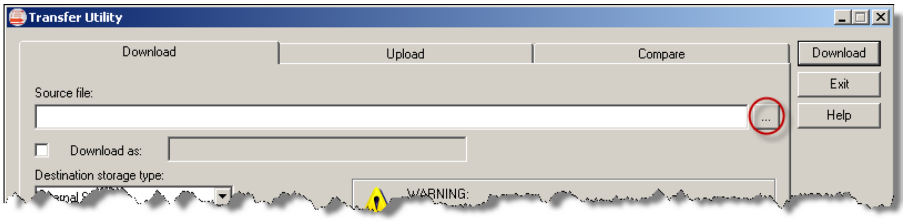
Include a shutdown button in your application if you want to be able to shut it down.

Select destination terminal:

- RSLinx Enterprise, CORE
  - 1789-A17, Backplane
  - EtherNet, Ethernet

Mode: Select | Not Browsing

2. Click the **Source File *browse*** button ... to select the runtime .MER file to download. Select the **InstantFizz Advanced.mer** file you created in the last step and click ***Open***.



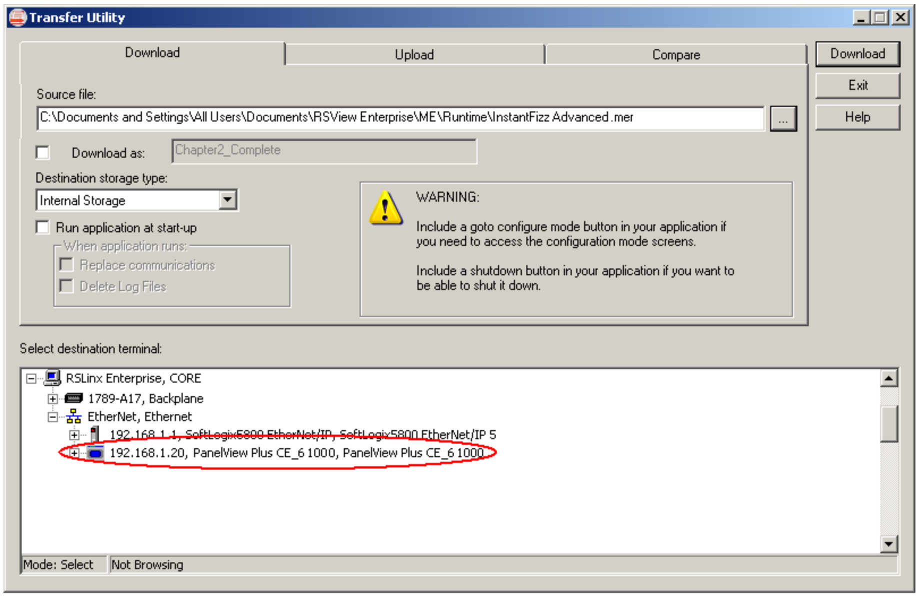
Source file:

□ Download as:

Destination storage type:

WARNING:

3. Double-click the ***EtherNet, Ethernet*** driver EtherNet, Ethernet to expand the item.



Source file: C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\InstantFizz Advanced.mer

□ Download as: Chapter2_Complete

Destination storage type: Internal Storage

□ Run application at start-up

When application runs:

□ Replace communications

□ Delete Log Files

WARNING:

Include a goto configure mode button in your application if you need to access the configuration mode screens.

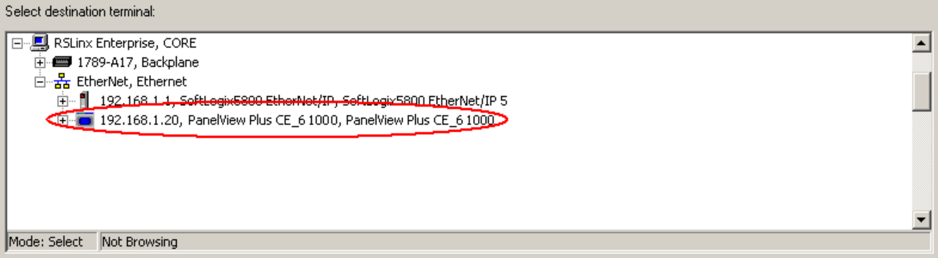
Include a shutdown button in your application if you want to be able to shut it down.

Select destination terminal:

- RSLinx Enterprise, CORE
  - 1789-A17, Backplane
  - EtherNet, Ethernet
    - ~~192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP 5~~
    - 192.168.1.20, PanelView Plus CE_6 1000, PanelView Plus CE_6 1000

Mode: Select | Not Browsing

4. Select the PanelView Plus found at IP address ***192.168.1.20*** by clicking on it once. (It may look different from the screen shot below.)

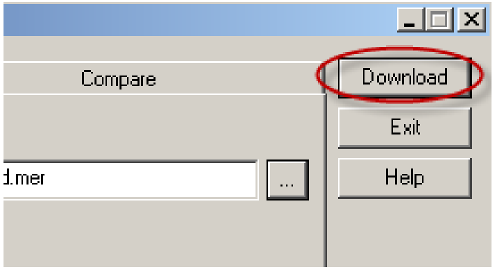


Select destination terminal:

```
RSLinx Enterprise, CORE
  1789-A17, Backplane
  EtherNet, Ethernet
    192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP 5
    192.168.1.20, PanelView Plus CE_6 1000, PanelView Plus CE_6 1000
```

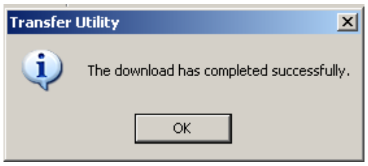
Mode: Select | Not Browsing

5. Click ***Download*** to transfer the runtime file to your PanelView Plus terminal.



If you are asked if you want to overwrite the existing file, click ***Yes***.

6. You will see a progress bar, and when the download process completes a confirmation dialog is shown:



Transfer Utility

The download has completed successfully.

Click ***OK*** to acknowledge the dialog.

7. Click the ***Exit*** button Exit to close the Transfer Utility.

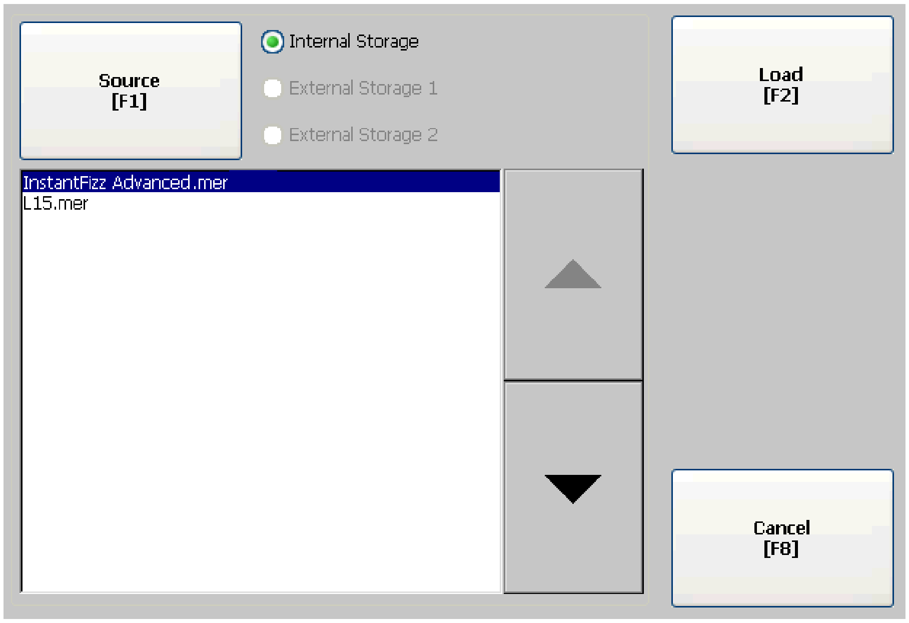
Run the application on a PanelView Plus terminal

In this section, you will work with a PanelView Plus terminal. Follow the steps below on your terminal to run the FactoryTalk View ME runtime application you just created.

1. If FactoryTalk View ME Station is not already running on the terminal, double-tap the ***FTView ME Station*** icon on the desktop. FT View ME Station

2. Press the ***Load Application [F1]*** button.

3. Select the ***InstantFizz Advanced.mer*** file from those available from the terminal's Internal Storage.



● Internal Storage
○ External Storage 1
○ External Storage 2

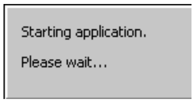
InstantFizz Advanced.mer
L15.mer

4. Press ***Load [F2]*** to load the runtime file into memory.

5. When you are prompted, press ***Yes [F7]*** to overwrite the terminal's current communication configuration with the configuration contained within the InstantFizz Advanced.mer file.

6. Once successfully loaded, press the ***Run Application [F2]*** to start executing the runtime file.

7. While the terminal is starting the application, an update dialog is displayed:



Starting application.
Please wait...

8. After the start-up processing completes, you should see your application's startup display.

9. Click the **pushbutton** on your display to see the color animations on the PanelView Plus terminal. The Symbol Factory object shading should be retained but with its color changed to green. The FactoryTalk View ME graphic shading should also be retained. In previous versions of FactoryTalk View ME, shading was not retained for graphic color animations.

   When you are finished, press the **Exit** button to terminate the application.

Congratulations!!! You have successfully used the new Symbol Factory library and enhanced color animation feature of FactoryTalk View 6.0.

Chapter 4: FactoryTalk ViewPoint Machine Edition - Beginner

Completing this section requires approximately 20 minutes.

FactoryTalk® ViewPoint is an add-on to FactoryTalk View ME running on PanelView Plus that provides for a fully scalable, fully animated, read-only view of existing applications from a Web browser.

To make information about your plant or process available on demand from a Web browser in your office, home, or hotel, all you have to do is select the FactoryTalk View graphic displays you want to make ready for the Web, and then publish the displays to the FactoryTalk ViewPoint Server which runs on a PanelView Plus.

There is no installation of any Rockwell Software products on the browser computer: all you need to connect to a published FactoryTalk ViewPoint Web application is the name (or IP address) of the PanelView Plus hosting the FactoryTalk ViewPoint Server that stores the application.

Once you enter a simple address directly into your Web browser using the name or IP address, the browser will connect to the published web application and open the initial display selected. Use navigation buttons in the application to view other published displays, or use the web browser's navigation tools.

Displays in a FactoryTalk ViewPoint application are read-only. Graphic objects in the displays are fully animated; however, you cannot use the objects to write to tags or to start and stop HMI components. For example, a numeric input object with a tag connection will display the tag's current value, but will not permit downloads.

About this Lab

This chapter focuses on developing and running web applications for FactoryTalk View ME, using FactoryTalk ViewPoint ME.

1. First, you will learn how to create a FactoryTalkViewPoint ME web application that will run on the FactoryTalk ViewPoint server installed on PanelView Plus.
2. Second, you will run the application by connecting the ViewPoint client to the PanelView Plus. You will also explore other FactoryTalk ViewPoint features and capabilities, and use some of the advanced FactoryTalk View ME features from within FactoryTalk ViewPoint.

Setting up a FactoryTalk ViewPoint ME application

In this section, you will follow step-by-step instructions to complete the publishing process. This process involves taking an existing FactoryTalk View ME application and creating a Web application using the FactoryTalk ViewPoint Administration tool.

You will learn how to:

- Publish displays from an existing FactoryTalk View ME application
- Configure FactoryTalk ViewPoint ME Security
- Transfer the published application to the PanelView Plus terminal

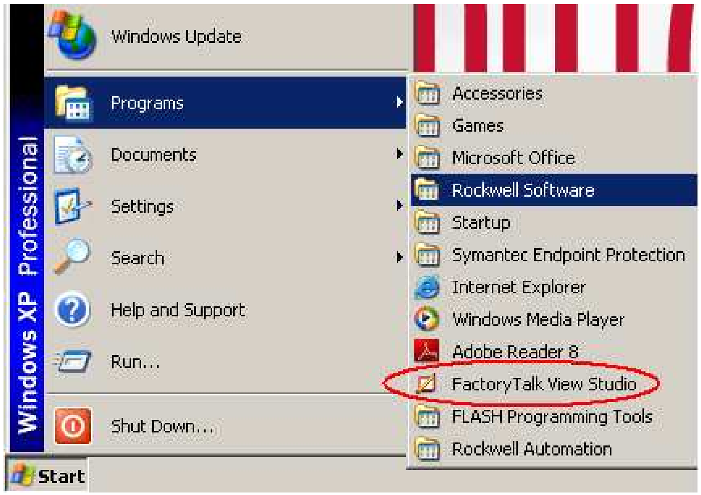
FactoryTalk ViewPoint Administration

FactoryTalk ViewPoint's configuration is done through the FactoryTalk ViewPoint Administration tool, launched from FactoryTalk View Studio. Here, the desired displays are selected and published so that they will be available to any browser client connecting to your operator interface terminal.

With FactoryTalk ViewPoint ME, the Administration tool runs on the same computer as FactoryTalk View Studio and is installed using the FactoryTalk ViewPoint ME install available on the ViewPoint CD. The FactoryTalk ViewPoint ME Administration tool is separate from the ViewPoint ME server that runs on PanelView Plus because the components used to convert and publish ViewPoint displays are not supported on the PanelView Plus and are too large to store on the terminal.

For the purpose of this lab, FactoryTalk ViewPoint ME is already installed. The install is available from the FactoryTalk ViewPoint CD or as a stand-alone install. See Answer ID 66110 on the Rockwell Automation knowledgebase for more details.

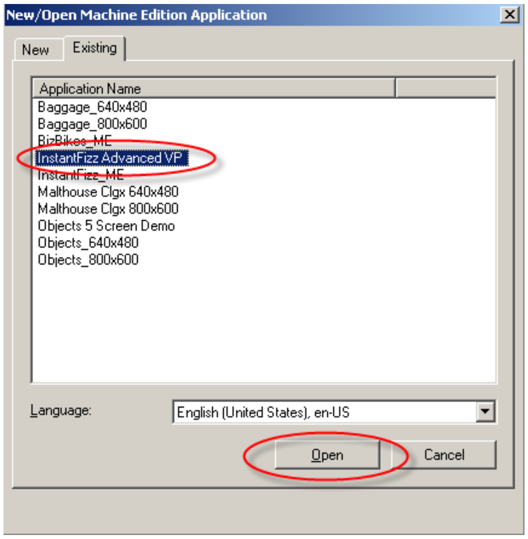
1. From the **Start** menu, select **Programs > Rockwell Software > FactoryTalk View > FactoryTalk View Studio** or **Programs > FactoryTalk View Studio** as shown below.



   If FactoryTalk View Studio is already open, select ***File > Open Application…,*** then ***Yes*** when asked to Close the application that is currently open. **Skip to step 3.**

2. Select **Machine Edition** on the Application Type Selection screen:

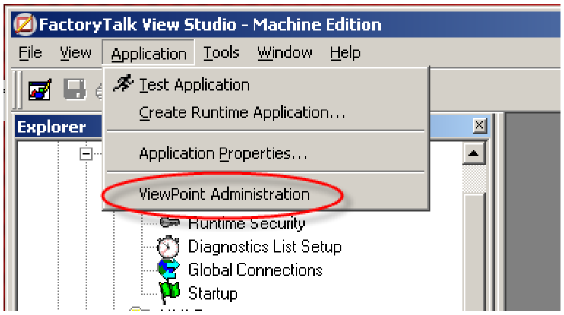
3. Open the existing project called **InstantFizz Advanced VP**.



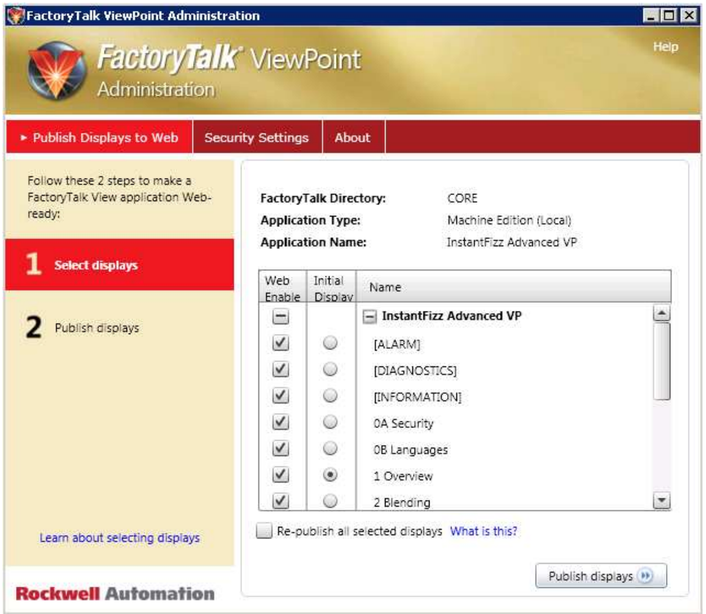
Application Name
Baggage_640x480
Baggage_800x600
BizBikes_ME
InstantFizz Advanced VP
InstantFizz_ME
Malthouse Clgx 640x480
Malthouse Clgx 800x600
Objects 5 Screen Demo
Objects_640x480
Objects_800x600

Language: English (United States), en-US

4. Select **ViewPoint Administration** from the Application menu to launch the tool.



The Administration tool should now be displayed.



Follow these 2 steps to make a FactoryTalk View application Web-ready:

FactoryTalk Directory: CORE
Application Type: Machine Edition (Local)
Application Name: InstantFizz Advanced VP

Web Enable	Initial Display	Name
⊟		⊟ InstantFizz Advanced VP
☑	○	[ALARM]
☑	○	[DIAGNOSTICS]
☑	○	[INFORMATION]
☑	○	0A Security
☑	○	0B Languages
☑	●	1 Overview
☑	○	2 Blending

□ Re-publish all selected displays What is this?

Publishing a FactoryTalk View ME Application

Use the FactoryTalk ViewPoint Administration tool to publish the displays that will be included in the web application. You can easily select all displays or choose the displays on an individual basis. These selected displays are then published and will be included with the runtime file when created.

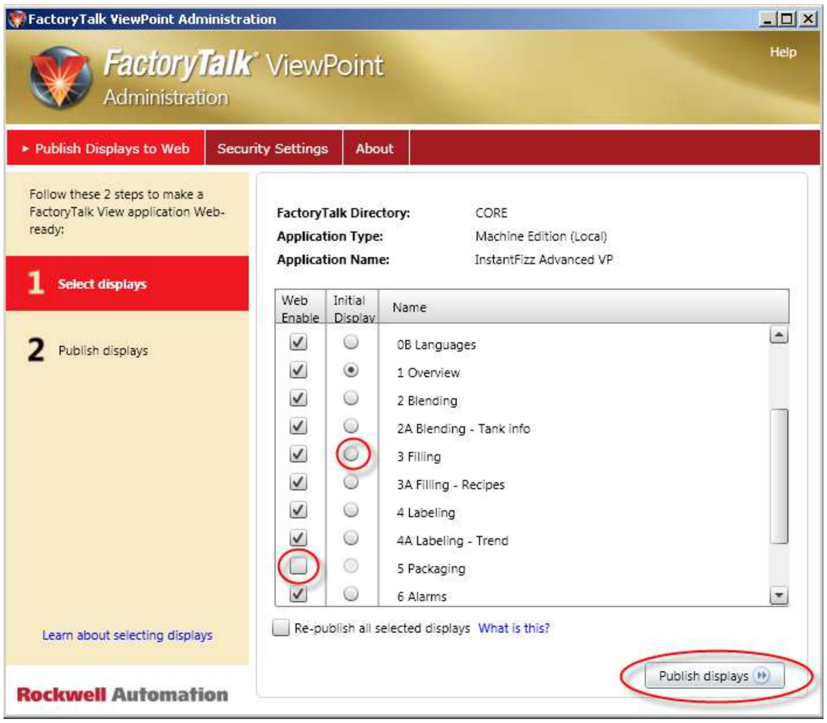
Let's go ahead and publish the application.

1. **Maximize** the FactoryTalk ViewPoint Administration tool window.

2. A list of displays within the **InstantFizz Advanced VP** application will be displayed.

3. Depending on the size and number of displays, the publishing process may take several minutes when performed for the first time. Subsequent publish actions are optimized to analyze and prepare any displays that have been changed or selected to be published. In the interest of time, a majority of the displays have already been published and are currently selected in the Web Enable column.

   However, the **5 Packaging** display is not currently published so let's add it to the list and complete the publishing process. To publish the application, change the initial display to **3 Filling,** select the checkbox next to **5 Packaging** and click the **Publish displays** button.



Follow these 2 steps to make a FactoryTalk View application Web-ready:

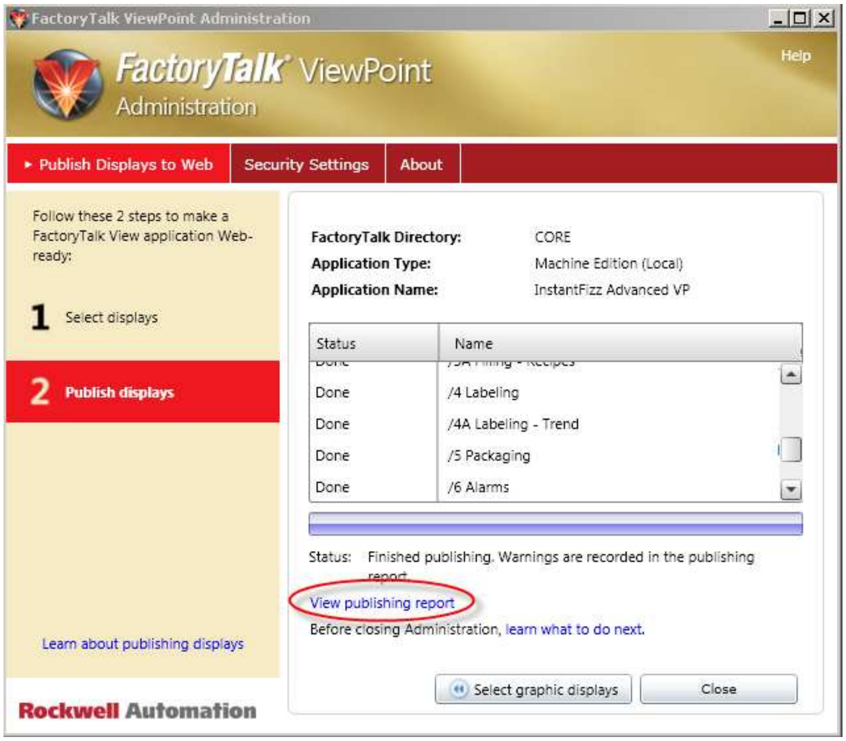
FactoryTalk Directory: CORE
Application Type: Machine Edition (Local)
Application Name: InstantFizz Advanced VP

Web Enable	Initial Display	Name
☑	○	0B Languages
☑	●	1 Overview
☑	○	2 Blending
☑	○	2A Blending - Tank Info
☑	○	3 Filling
☑	○	3A Filling - Recipes
☑	○	4 Labeling
☑	○	4A Labeling - Trend
□	○	5 Packaging
☑	○	6 Alarms

□ Re-publish all selected displays What is this?

   Observe progress as the tool analyzes the selected displays and prepares these displays to be hosted in the browser. This will take a few minutes.

4. When the publishing process is complete, you will be provided with a link to the publishing report which will describe any errors or warnings that may have occurred during publication. Any objects which are not supported in FactoryTalk ViewPoint will be listed as a warning.



Follow these 2 steps to make a FactoryTalk View application Web-ready:

1 Select displays

2 Publish displays

Learn about publishing displays

FactoryTalk Directory: CORE
Application Type: Machine Edition (Local)
Application Name: InstantFizz Advanced VP

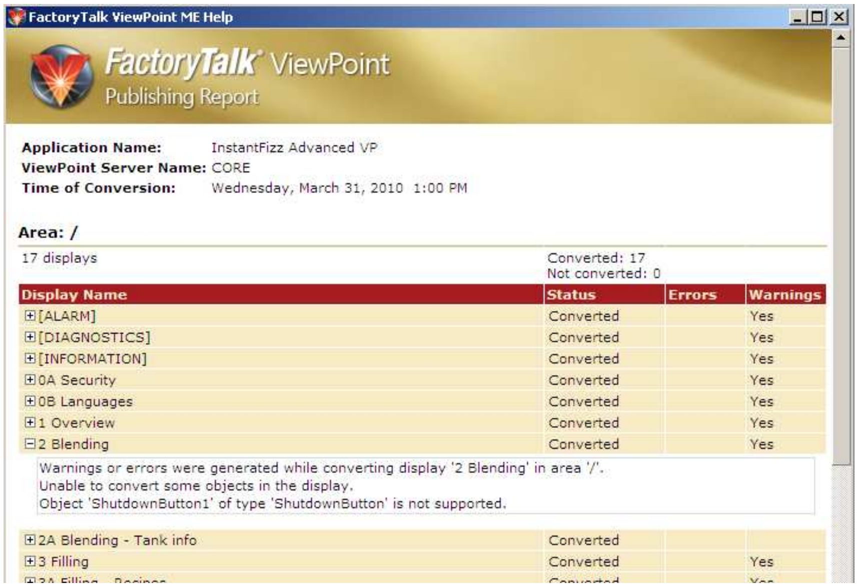
Status	Name
Done	/3A Filling - Recipes
Done	/4 Labeling
Done	/4A Labeling - Trend
Done	/5 Packaging
Done	/6 Alarms

Status: Finished publishing. Warnings are recorded in the publishing report.

View publishing report

Before closing Administration, learn what to do next.

Feel free to open this report and review its content. Close the report when finished.



Application Name: InstantFizz Advanced VP
ViewPoint Server Name: CORE
Time of Conversion: Wednesday, March 31, 2010 1:00 PM

Area: /

17 displays — Converted: 17, Not converted: 0

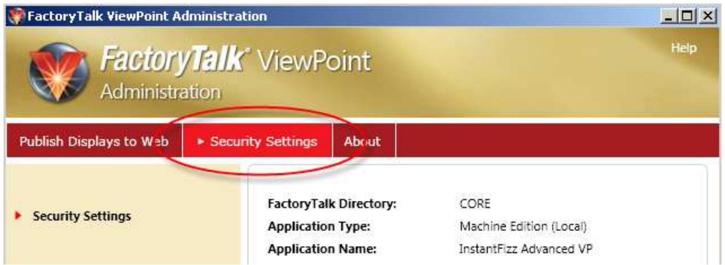
Display Name	Status	Errors	Warnings
⊞[ALARM]	Converted		Yes
⊞[DIAGNOSTICS]	Converted		Yes
⊞[INFORMATION]	Converted		Yes
⊞0A Security	Converted		Yes
⊞0B Languages	Converted		Yes
⊞1 Overview	Converted		Yes
⊟2 Blending	Converted		Yes
Warnings or errors were generated while converting display '2 Blending' in area '/'. Unable to convert some objects in the display. Object 'ShutdownButton1' of type 'ShutdownButton' is not supported.			
⊞2A Blending - Tank info	Converted		
⊞3 Filling	Converted		Yes
⊞3A Filling - Recipes	Converted		Yes

You have successfully published the FactoryTalk View ME application. Before we learn how to transfer the published displays to the PanelView Plus terminal, let's configure security.

Configuring FactoryTalk ViewPoint ME Security

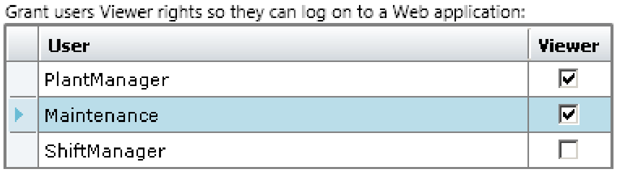
FactoryTalk ViewPoint ME security allows you to secure access to the published web application.

1. Select **Security Settings** on the red navigation bar in the FactoryTalk ViewPoint Administration tool window.



FactoryTalk Directory: CORE
Application Type: Machine Edition (Local)
Application Name: InstantFizz Advanced VP

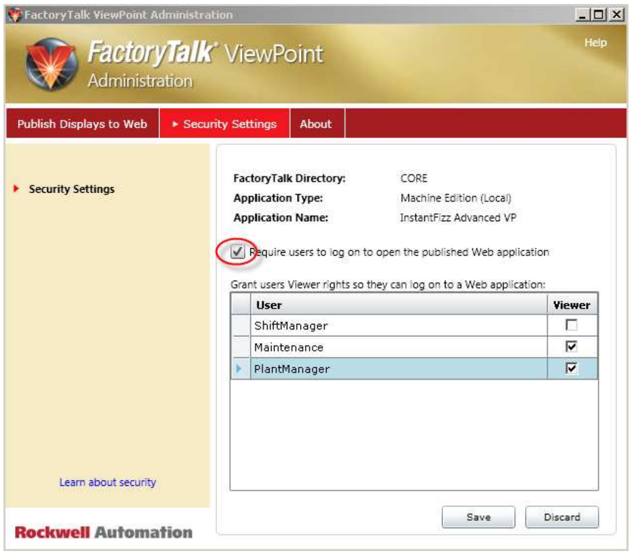
2. From the Security Settings area you can change FactoryTalk ViewPoint security for currently configured FactoryTalk users of the Machine Edition (Local) directory. There are currently 3 users (Maintenance, ShiftManager & PlantManager) that have been configured in FactoryTalk Security for this application. Additional users can be added using FactoryTalk View Studio or the Administration Console. Let’s start by giving the users, Maintenance & Plant Manager, access to the published web application. Check the **Viewer** checkbox next to the **Maintenance** and **PlantManager** users.



Grant users Viewer rights so they can log on to a Web application:

User	Viewer
PlantManager	☑
Maintenance	☑
ShiftManager	□

3. Since security is optional and disabled by default in FactoryTalk ViewPoint, we can enable security by clicking the: **Require users to log on to open the published Web application** checkbox. When you are done, your security should be setup as follows:



FactoryTalk Directory: CORE
Application Type: Machine Edition (Local)
Application Name: InstantFizz Advanced VP

☑ Require users to log on to open the published Web application

Grant users Viewer rights so they can log on to a Web application:

User	Viewer
ShiftManager	□
Maintenance	☑
PlantManager	☑

4. Finally, you need to save the security settings. Click the **Save** button.

5. Close the FactoryTalk ViewPoint Administration Tool window by clicking on ☒ in the upper right-hand corner.

Creating a runtime file with ViewPoint content

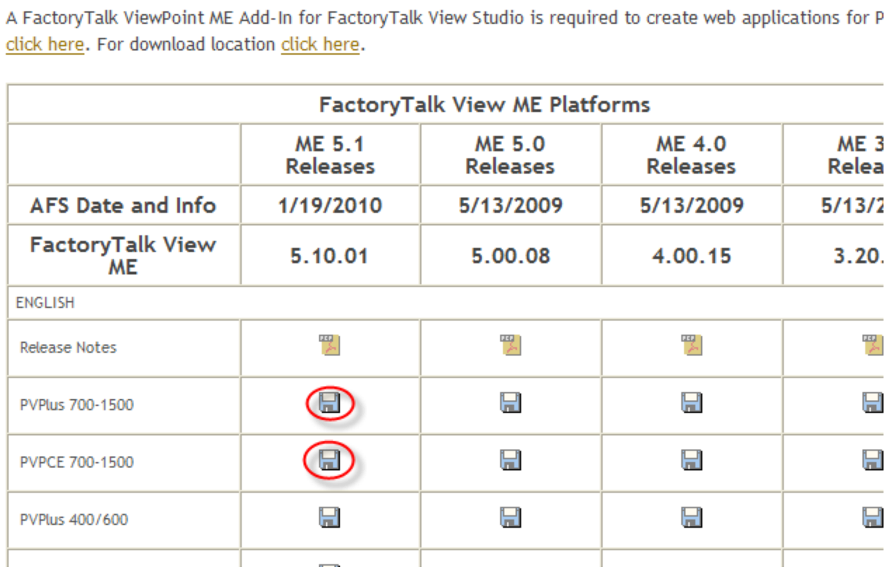
Now that the selected displays have been published and security is configured, when the runtime file (*.MER) is created, the published displays and security settings will automatically be included in this file. The transfer of the MER file to the terminal will download the FactoryTalk View ME application as well as the published displays and security settings.

In subsequent creation of the runtime application, FactoryTalk ViewPoint will automatically check to see if any of the selected published displays have been modified since their last publish. If they have, the newer version of those displays are re-published in the background before being included in the MER file. There is no need for you to launch the FactoryTalk ViewPoint Administration again!

FactoryTalk ViewPoint is supported on the PanelView Plus 700-1500 terminals and allows one client connection in the FactoryTalk ViewPoint 1.1 release. Additional client licenses may be sold in a future release. The PanelView Plus terminals must have a minimum of 64MB Flash and 128 MB RAM to use ViewPoint.

As of 5.10.01 firmware (or higher), FactoryTalk ViewPoint is available as an option to load on the supported PanelView Plus terminals and is embedded into the firmware. The firmware upgrade wizard is used to upgrade terminals in the field.

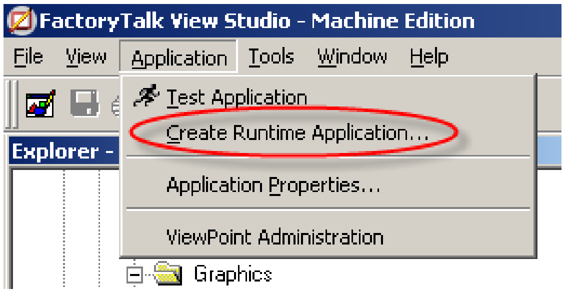
The firmware can be downloaded from - http://support.rockwellautomation.com/ControlFlash/FUW.asp



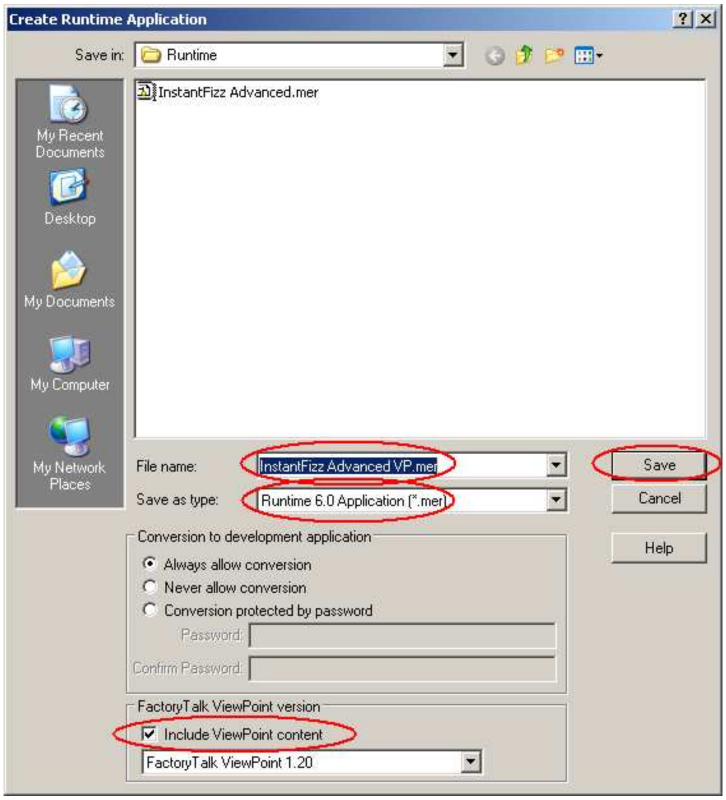
A FactoryTalk ViewPoint ME Add-In for FactoryTalk View Studio is required to create web applications for P click here. For download location click here.

FactoryTalk View ME Platforms				
	ME 5.1 Releases	ME 5.0 Releases	ME 4.0 Releases	ME 3 Relea
AFS Date and Info	1/19/2010	5/13/2009	5/13/2009	5/13/2
FactoryTalk View ME	5.10.01	5.00.08	4.00.15	3.20.
ENGLISH				
Release Notes	📄	📄	📄	📄
PVPlus 700-1500	💾	💾	💾	💾
PVPCE 700-1500	💾	💾	💾	💾
PVPlus 400/600	💾	💾	💾	💾

1. Now let's create our runtime application that you will download to the PanelView Plus. Select **Application > Create Runtime Application.**


FactoryTalk View Studio - Machine Edition
File
View
Application
Tools
Window
Help
Explorer -
Test Application
Create Runtime Application...
Application Properties...
ViewPoint Administration
Graphics

2. Make sure **Runtime 6.0 Application** is selected for the MER type. Make sure the **Include ViewPoint Content** checkbox is selected; this will ensure that the ViewPoint published displays and security settings are included in the MER. Click **Save.**


Create Runtime Application

Save in: Runtime

InstantFizz Advanced.mer

File name: InstantFizz Advanced VP.mer

Save as type: Runtime 6.0 Application (*.mer)

Conversion to development application

- ● Always allow conversion
- ○ Never allow conversion
- ○ Conversion protected by password

Password:

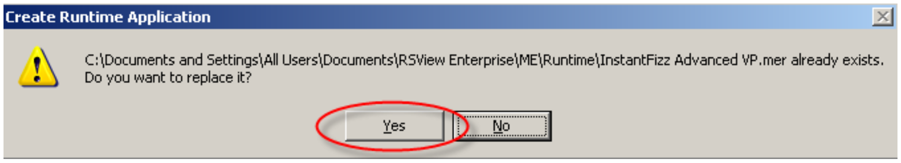
Confirm Password:

FactoryTalk ViewPoint version

☑ Include ViewPoint content

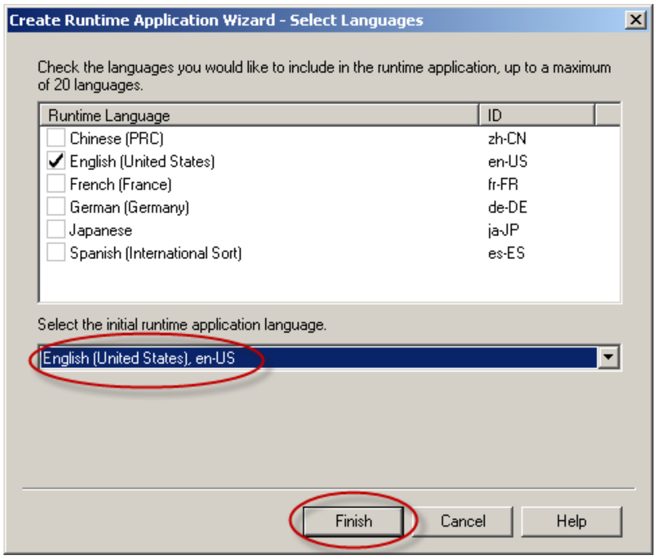
FactoryTalk ViewPoint 1.20

3. Select **Yes** if prompted to replace existing file.


Create Runtime Application

C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\InstantFizz Advanced VP.mer already exists.
Do you want to replace it?

4. Verify **English** is the only language selected to include in the runtime application. Click **Finish.**



Create Runtime Application Wizard - Select Languages

Check the languages you would like to include in the runtime application, up to a maximum of 20 languages.

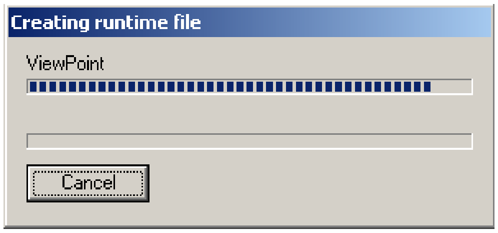
Runtime Language	ID
□ Chinese (PRC)	zh-CN
☑ English (United States)	en-US
□ French (France)	fr-FR
□ German (Germany)	de-DE
□ Japanese	ja-JP
□ Spanish (International Sort)	es-ES

Select the initial runtime application language.

English (United States), en-US

The selected default language of the application in the FactoryTalk View ME Language Configuration editor, will determine which language is published in FactoryTalk ViewPoint. Support for multiple languages is available as of FactoryTalk ViewPoint 1.1. However, only one language can be published at a time.

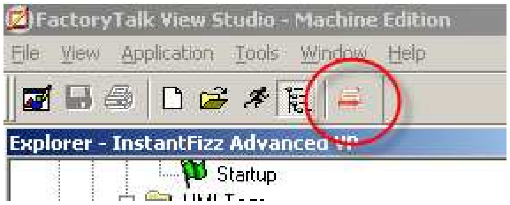
5. As the runtime file is created, you will see the different stages. **ViewPoint** is one of the stages in this process and it may take some time to incorporate all of the published displays.



Creating runtime file

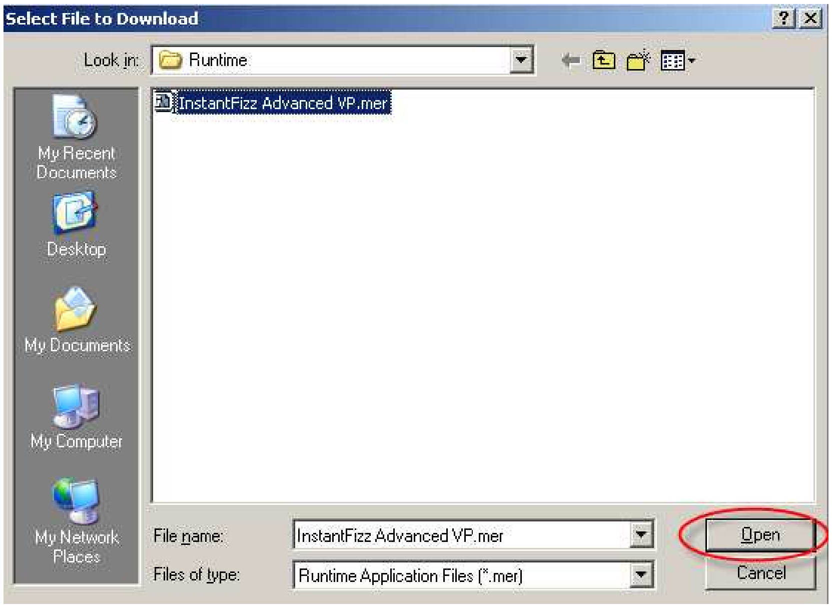
ViewPoint

6. When the runtime file is finished compiling, launch the **File Transfer Utility** from the tool bar.



FactoryTalk View Studio - Machine Edition
File
View
Application
Tools
Window
Help
Explorer - InstantFizz Advanced VP
Startup

7. Click on ... to browse for the runtime file. Select ***InstantFizz Advanced VP.mer*** runtime file and click ***Open***.

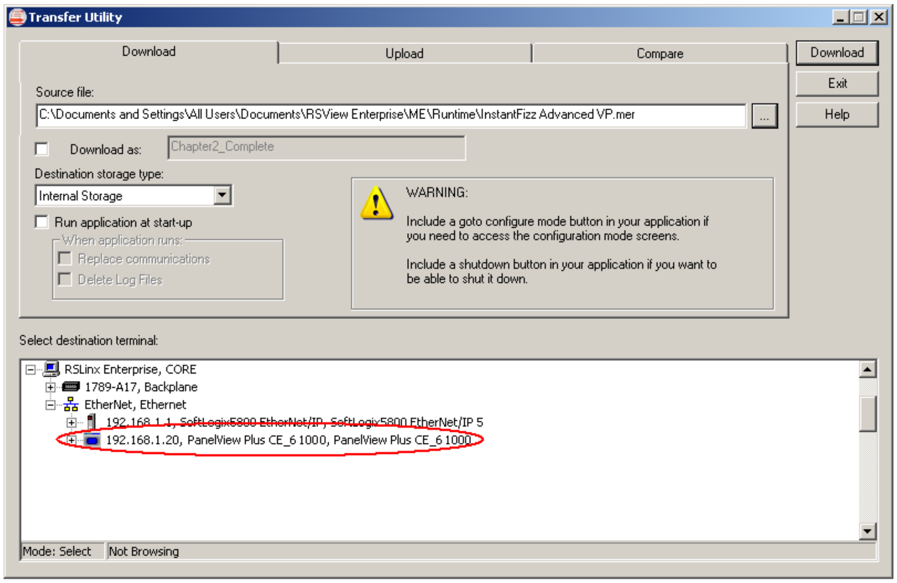


InstantFizz Advanced VP.mer

File name: InstantFizz Advanced VP.mer

Files of type: Runtime Application Files (*.mer)

8. Select the PanelView Plus at **192.168.1.20** and **Download** your application to the terminal.



Source file: C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\InstantFizz Advanced VP.mer

□ Download as: Chapter2_Complete

Destination storage type: Internal Storage

□ Run application at start-up

When application runs:

□ Replace communications

□ Delete Log Files

WARNING:

Include a goto configure mode button in your application if you need to access the configuration mode screens.

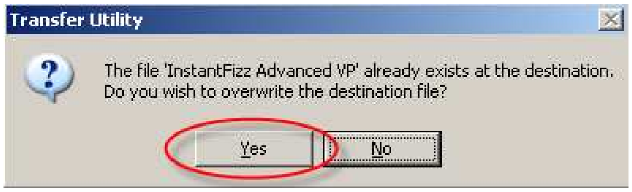
Include a shutdown button in your application if you want to be able to shut it down.

Select destination terminal:

```
⊟ RSLinx Enterprise, CORE
  ⊞ 1789-A17, Backplane
  ⊟ EtherNet, Ethernet
     ⊞ 192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP 5
     ⊞ 192.168.1.20, PanelView Plus CE_6 1000, PanelView Plus CE_6 1000
```

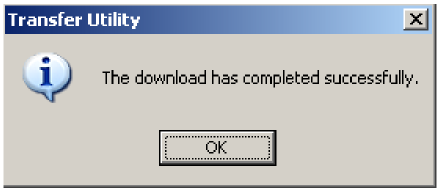
Mode: Select | Not Browsing

9. If prompted, click **Yes** to overwrite the existing file.



The file 'InstantFizz Advanced VP' already exists at the destination. Do you wish to overwrite the destination file?

10. Once the download completes, click **OK** and close the Transfer Utility



Transfer Utility

The download has completed successfully.

11. Now, turn to your **PanelView Plus**. Launch **FactoryTalk View ME Station** from the desktop icon on the PanelView Plus if it is not already running.

12. On the FactoryTalk View ME Station configuration screen, click **Load Application [F1]** and select **InstantFizz Advanced VP.mer**. Then click **Load [F2]** and **Yes [F7]** to replace the existing communication settings.

13. When the application is finished loading, click **Run Application [F2]** to start the Project. If you are unfamiliar with this project, please take a few minutes to explore the project on PanelView Plus before running it in FactoryTalk ViewPoint.

Running an application in a browser

The next two sections involve running the ViewPoint ME application in a browser.

You can connect to an existing FactoryTalk ViewPoint application from any computer running a supported Web browser. All you need is the name or the IP address of the operator interface terminal (PanelView Plus 700 -1500) running the FactoryTalk ViewPoint Server for the application.

What is Silverlight?

FactoryTalk ViewPoint uses Microsoft's Silverlight technology to visualize FactoryTalk View content in a browser. Microsoft Silverlight is a new Web presentation technology that was created to run on a variety of platforms to deliver applications for the Web. It enables the creation of rich, visually stunning and interactive experiences that can run everywhere: within browsers and on multiple devices and desktop operating systems.

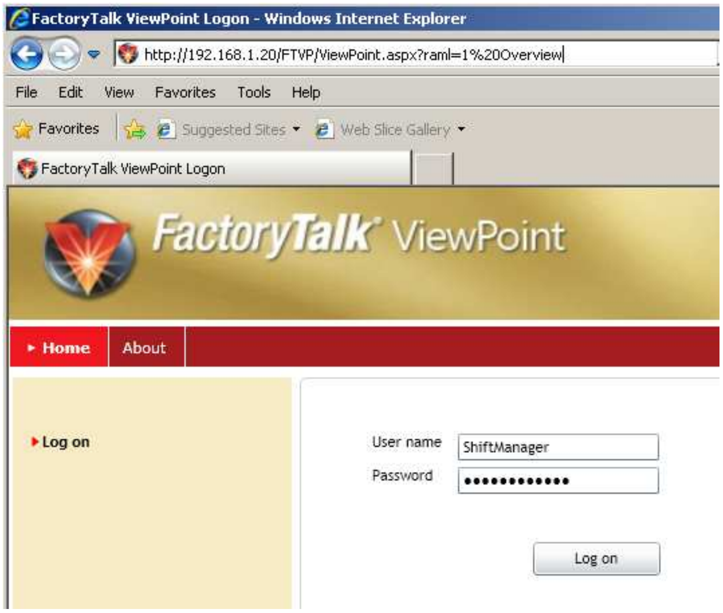
If Silverlight is not installed on a client computer that connects to the PanelView Plus and the client computer is connected to the internet, the client computer is automatically redirected to the Microsoft Silverlight installation site for download. If the client computer is not connected to the internet, instructions for installing Silverlight are automatically provided in the browser.

For the purpose of this lab, Silverlight has already been installed.

Connecting a Client

1. Launch Internet Explorer from the desktop icon and enter the following address: http://192.168.1.20/FTVP where **192.168.1.20** is the IP address of your PanelView Plus.

2. Earlier, you had enabled Security and you are now required to login to access the ViewPoint application. Login using the username **ShiftManager** and password **ShiftManager**.

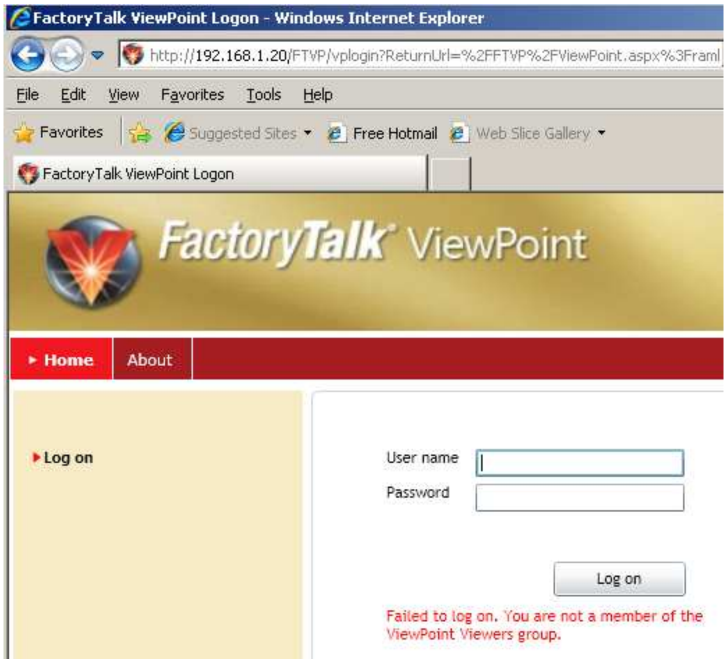

FactoryTalk ViewPoint Logon - Windows Internet Explorer
File Edit View Favorites Tools Help
Favorites
Suggested Sites
Web Slice Gallery
FactoryTalk ViewPoint Logon
FactoryTalk ViewPoint
Home
About
Log on
Log on

http://192.168.1.20/FTVP/ViewPoint.aspx?raml=1%20Overview

User name: ShiftManager

Password: ••••••••••••

3. Remember that you did not grant “viewer rights” to **ShiftManager**. An error is displayed on the log on page.


FactoryTalk ViewPoint Logon - Windows Internet Explorer
File Edit View Favorites Tools Help
Favorites
Suggested Sites
Free Hotmail
Web Slice Gallery
FactoryTalk ViewPoint Logon
FactoryTalk ViewPoint
Home
About
Log on
Log on

http://192.168.1.20/FTVP/vplogin?ReturnUrl=%2FFTVP%2FViewPoint.aspx%3Framl

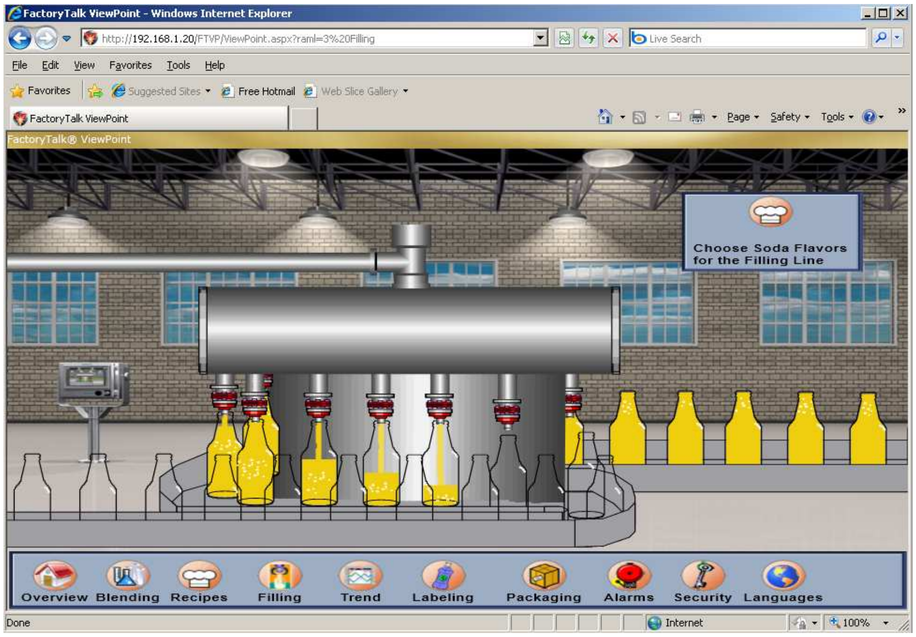
User name:

Password:

Failed to log on. You are not a member of the ViewPoint Viewers group.

4. Login using the username **PlantManager** and password **PlantManager**. The PlantManager has viewer rights to the application.

5. In Internet Explorer, you will be redirected to the InstantFizz **Filling** display since we had selected this as our initial display in the FactoryTalk ViewPoint Administration tool. The FactoryTalk ViewPoint screens automatically scales to fit the size of the browser window.

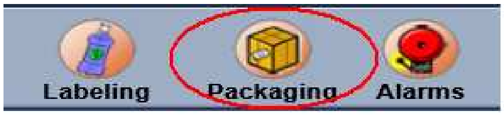


6. Maximize the browser window if it is not already at full size.

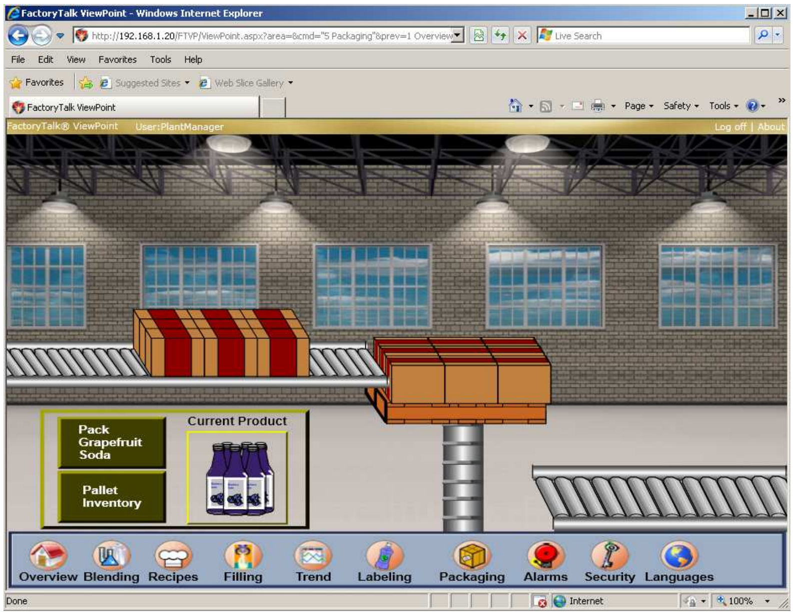
   FactoryTalk ViewPoint provides a thin client solution for FactoryTalk View. There is no need to install and maintain any Rockwell Software on the client machine. This lowers total cost of ownership, minimizes downtime and improves security. FactoryTalk ViewPoint also provides convenient access to FactoryTalk View applications from anywhere (central office, home, internet) which extends the reach of visualization to remote, casual and mobile users such as plant managers, central maintenance engineers, OEMs and System Integrators.

7. FactoryTalk ViewPoint provides a rich, interactive browser user experience. All of the navigation built into the FactoryTalk View ME InstantFizz Advanced VP application also works in the browser.

   In Internet Explorer, navigate from the **Filling** display to the **Packaging** display to observe how the navigation functionality works in FactoryTalk ViewPoint.

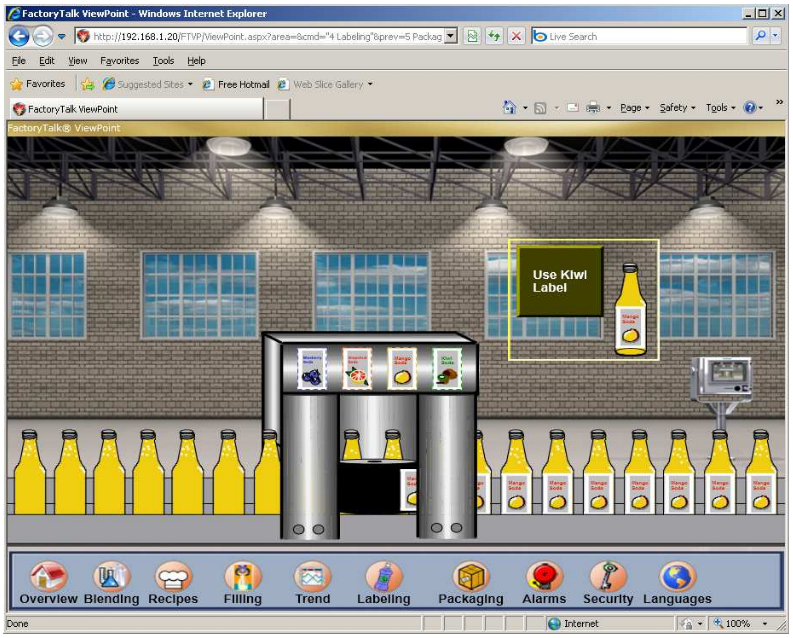


8. The **Packaging** display was added to the published displays list earlier on and should now be shown in the browser. Observe that the animation used to simulate the boxes moving along the line is fully functional in FactoryTalk ViewPoint. FactoryTalk ViewPoint supports full animation of FactoryTalk View ME displays without the need to refresh your browser.

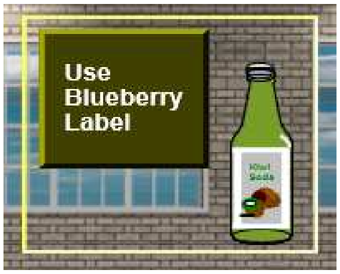


9. Navigate from the **Packaging** display to the **Labeling** display.

10. The **Labeling** display should now be shown in FactoryTalk ViewPoint. Once again, observe that the labeling line is used to show line status and is updating dynamically. FactoryTalk ViewPoint is fully interactive and does not use static “screen captures” to display information in the browser.



11. Now, turn to your **PanelView Plus** and navigate to the **Labeling** display. Use the **'Product_Name' Label** button to change the product label currently used in the line. Note how quickly the ViewPoint client updates back on the desktop computer. Since FactoryTalk ViewPoint does not currently support tag writes, this change cannot be made from the ViewPoint client.

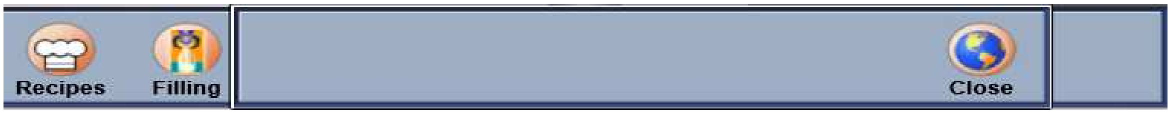


12. Returning to your browser, resize the window by clicking on the bottom right hand corner of the Internet Explorer window, while holding down the left mouse key and dragging the window to a new size. If the Internet Explorer window is maximized, you can double-click on the top blue Internet Explorer title bar to re-size the window.

    Notice the screen resizes at runtime. This allows you to develop a single display and run it on a wide variety of client devices with different screen sizes and resolutions (including wireless, mobile devices).

13. Navigate from the **Labeling** display to the **Languages** display.

14. The **Languages** display is now shown over the navigation button that was just clicked on. This display has been configured in FactoryTalk View ME as a "pop-up" display and is supported by FactoryTalk ViewPoint.



    You'll see a blank area where it appears as if some objects have been removed from the "pop-up" display. Any objects which are not supported by FactoryTalk ViewPoint are removed from the displays during the publishing process.

15. Turn to your **PanelView Plus** terminal and navigate to the same **Languages** display. Note that the Language Switch Button objects, with flag images, exist within FactoryTalk View ME on the terminal but not within FactoryTalk ViewPoint on the desktop. This is due to the fact that these objects are unsupported in FactoryTalk ViewPoint.

ⓘ Support for language switching and alarming is targeted for a future release.

16. In Internet Explorer on the desktop PC, click on the **Close** button Close to shut down the **Languages** display.

Congratulations! You have successfully published the FactoryTalk View ME InstantFizz Advanced VP application and can now connect to it using your web browser. Note that FactoryTalk ViewPoint automatically converted and published the displays to be included in the ME application; you did not need to make any modifications to the FactoryTalk View ME application to accomplish this.

Keep the browser open and move to the next exercise to learn how to run the **InstantFizz Advanced VP** application using standard browser features.

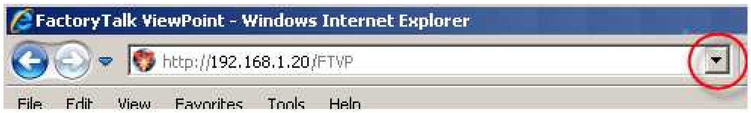
Using browser features with FactoryTalk ViewPoint

We all use the internet frequently as a daily part of our work and home lives, so most people are familiar with how to use Browser functionality. Many applications run in the browser but do not utilize the features of the browser. One of the major advantages of using FactoryTalk ViewPoint is that it allows you to use the features of the browser that you are already familiar with and does not require the installation of any Rockwell Software. This section focuses on exploring your FactoryTalk ViewPoint project using the features in the browser.

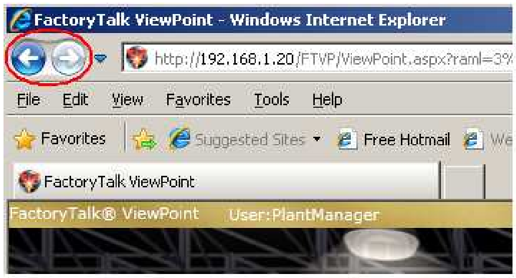
Using Browser Features

1. If the Internet Explorer on your PC is not currently open to ViewPoint, connect to the FactoryTalk ViewPoint server by typing the following link in Internet Explorer: **http://192.168.1.20/FTVP** where **192.168.1.20** is the IP address of your PanelView Plus.

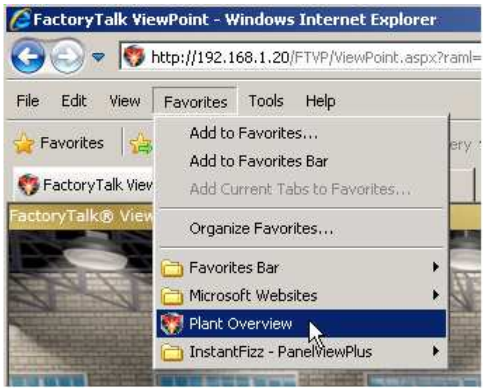
2. You will be instructed to enter this URL several more times throughout the remainder of the lab. If you get tired of manually entering the URL, just use the Address Bar located at the top of the Internet Explorer window. FactoryTalk ViewPoint supports all of the standard browser features!



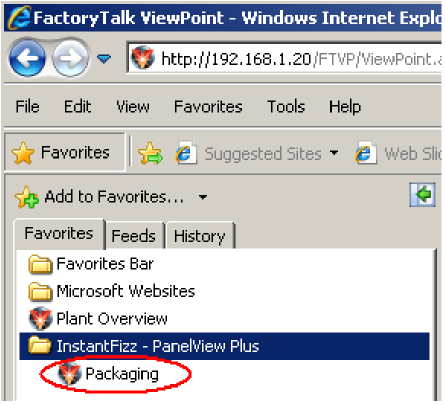
3. Navigate to several displays. Use the **Back**, then **Forward** buttons in your browser. You will see that this allows you to navigate through your browser history just as if you were viewing any other website.



4. Select ***Favorites***, then ***Plant Overview***. The use of pre-configured Favorites provides quick, on-demand access to important FactoryTalk ViewPoint displays.


FactoryTalk ViewPoint - Windows Internet Explorer
http://192.168.1.20/FTVP/ViewPoint.aspx?raml=
File Edit View Favorites Tools Help
Favorites
FactoryTalk View
FactoryTalk® View
Add to Favorites...
Add to Favorites Bar
Add Current Tabs to Favorites...
Organize Favorites...
Favorites Bar
Microsoft Websites
Plant Overview
InstantFizz - PanelViewPlus

5. Select ***Favorites*** again and under the **InstantFizz - PanelViewPlus** folder to select ***Packaging***. Browser folders can help organize multiple Favorites to different applications.


FactoryTalk ViewPoint - Windows Internet Explo
http://192.168.1.20/FTVP/ViewPoint.
File Edit View Favorites Tools Help
Favorites
Suggested Sites
Web Sli
Add to Favorites...
Favorites Feeds History
Favorites Bar
Microsoft Websites
Plant Overview
InstantFizz - PanelView Plus
Packaging

Congratulations!!! We hope you have enjoyed using some of the features present in Internet Explorer that help make using FactoryTalk ViewPoint an intuitive and enjoyable experience. You can keep your browser open and move to the next exercise.

Chapter 5: FactoryTalk ViewPoint Machine Edition - Advanced

Completing this section requires approximately 25 minutes.

This section focuses on using some of the advanced features that FactoryTalk View ME has to offer with FactoryTalk ViewPoint.

In this section you will learn about the following FactoryTalk ViewPoint features:

- Trending
- Parameter Files
- Symbol factory
- Color animation
- Inactivity Timeout

If the InstantFizz Advanced VP application and your Internet Explorer browser are already open, you can skip to the next section, **Trending**.

If not, please follow the steps below before proceeding to the next section.

Opening the application

1. **Turn** to your PanelView Plus and launch FactoryTalk View ME Station from the desktop icon on the PanelView Plus if it is not already running.

2. On the FactoryTalk View ME Station configuration screen, click **Load Application [F1]** and select **InstantFizz Advanced VP.mer**.

3. Click **Load [F2]** then **Yes [F7]** to replace the existing communication settings.

4. When the application is finished loading, click **Run Application [F2]** to start the Project. If you are unfamiliar with this project, please take a few minutes to explore the project on PanelView Plus before running it in FactoryTalk ViewPoint.

5. To run the application in FactoryTalk ViewPoint, launch **Internet Explorer** from your Desktop.

6. Type in the following link in Internet Explorer address field: **http://192.168.1.20/FTVP** where **192.168.1.20** is the IP address of your PanelView Plus.

Trending

FactoryTalk View ME trending is now supported in FactoryTalk ViewPoint. During the publishing process, the FactoryTalk View ME trend control is replaced by a compatible Silverlight Web control developed by Rockwell Automation. Therefore, the control will look differently in your browser than it does on the PanelViewPlus terminal.

The FactoryTalk ViewPoint trend displays real-time data for the pens defined in FactoryTalk View Studio for the original trend object. Support for FactoryTalk View ME historical data is not available in this version. The properties that are retained in a FactoryTalk ViewPoint trend, if they were configured in the original FactoryTalk View ME trend object, are:

General tab

Chart style (Standard only), Chart update mode (Automatic only)

Display tab

No display settings are supported.

Pens tab

Tag or Expression definition, Visible (On or Off), Width, Min and Max values

X-Axis tab

Chart time span, Major grid lines (number).

Y-Axis tab

Automatic (Use best fit for data), Preset (Use pens' Min and Max) and Custom (Actual min/max) value options, Major grid lines (number), Draw pens on independent scale (only).

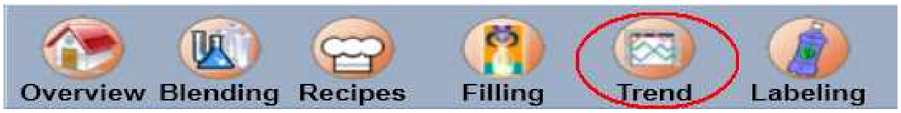
Common tab

Size (overall) and Position settings.

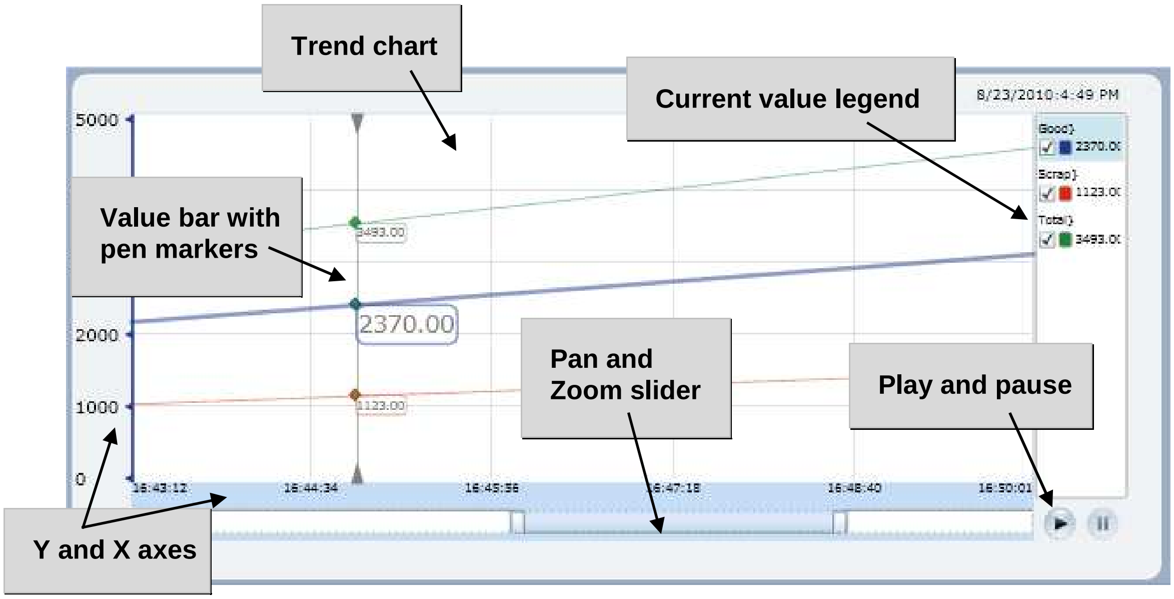
Connections tab

Pen connections (tags or expressions) only.

1. In the ViewPoint client, navigate to the **Trend** display.

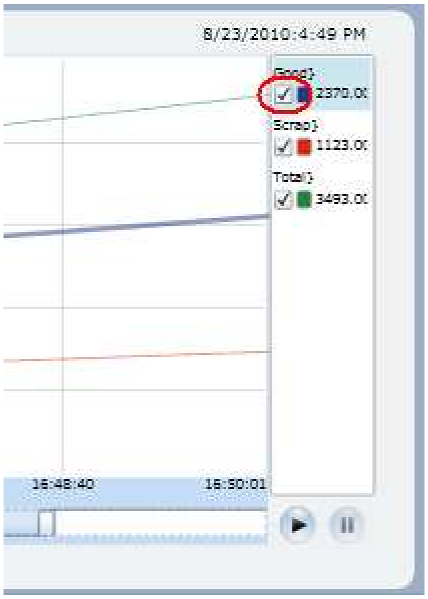


2. A FactoryTalk ViewPoint trend consists of the trend chart, the pens, a current value legend, a value bar, an X and Y axis, play and pause buttons, and a pan and zoom slider. Note all the components that make up the trend control.

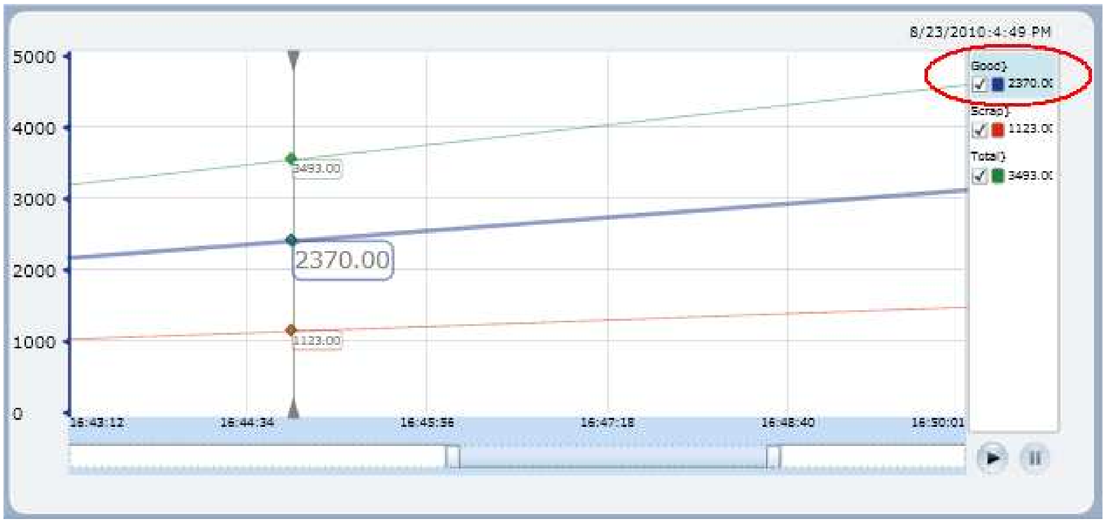


3. The current value legend on the right edge of the trend chart lists all the pens defined in the original FactoryTalk View trend object. It indicates the tag name or pen description, the value and color.

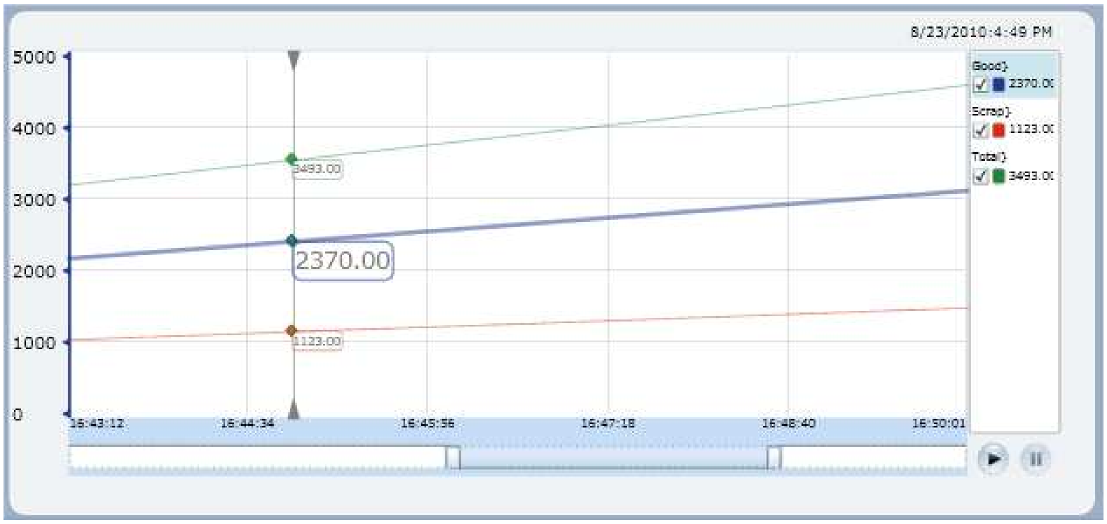
   Clear or **select** the pen's checkbox to hide or show the associated pen.



4. Click on the ***Good*** pen to: display its value range on the Y-axis, highlight it in the trend chart and if it intersects the value bar, its tooltip will be larger than others on the value bar.



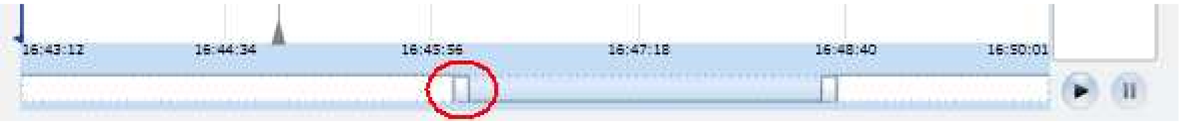
5. ***Drag*** the value bar across the trend data in a FactoryTalk ViewPoint trend to display values associated with specific trend data points. Note the pen values in the tooltip and current value legend also update to the value where the pen intersects the value bar



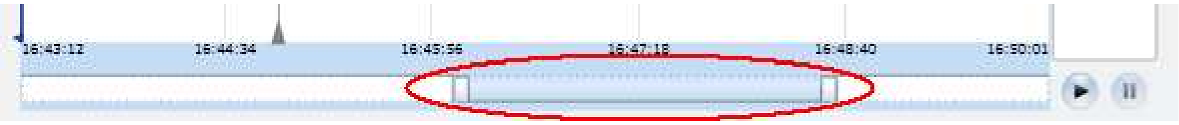
6. Click ***Play*** to resume viewing data from the point where the trend was paused

7. The horizontal slider beneath the X-axis or the chart itself can be used to pan and zoom data.

Click and drag the left handle on the slider to zoom into the trend data.



8. ***Click and drag*** the slider to pan the trend data.

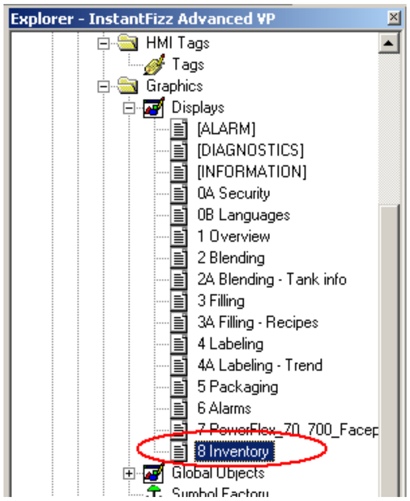


9. Pause the trend by clicking on the **Pause** button under the legend and click anywhere on the trend chart to ***drag back and forth*** as another method to pan the data.

Symbol Factory

Symbol Factory is built on Software Toolbox's Symbol Factory, and contains over 5,000 graphical objects. Approximately 4,000 of these are vector graphics, the remainder are static bitmaps. The Symbol Factory library is now available in FactoryTalk View ME 6.0 and supported by FactoryTalk ViewPoint.

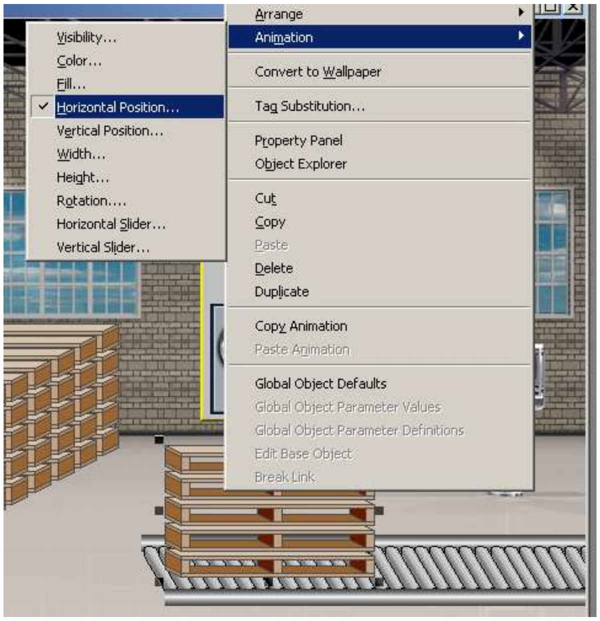
1. In FactoryTalk View Studio, open the **8 Inventory** display.



Explorer - InstantFizz Advanced VP

HMI Tags
Tags
Graphics
Displays
[ALARM]
[DIAGNOSTICS]
[INFORMATION]
0A Security
0B Languages
1 Overview
2 Blending
2A Blending - Tank info
3 Filling
3A Filling - Recipes
4 Labeling
4A Labeling - Trend
5 Packaging
6 Alarms
7 PowerFlex_70_700_Facep
8 Inventory
Global Objects
Symbol Factory

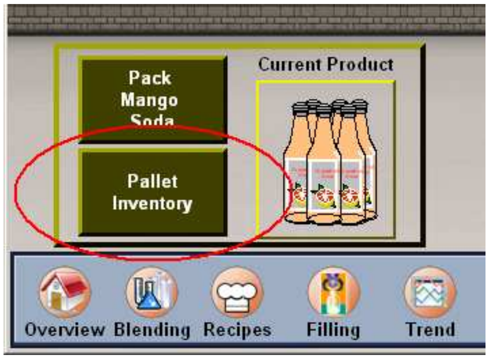
2. Right click on the pallet stack located on the conveyor and select ***Animation*** then ***Horizontal Position*** to view how animation is applied to a Symbol Factory object.



The pallet is just one of the thousands of Symbol Factory graphic objects that FactoryTalk ViewPoint supports when used within your FactoryTalk View ME 6.0 application. Object arrangement, such as grouping, and animation are an example of the functionality that can be applied to these graphic objects in the same manner they are used with native FactoryTalk View ME objects.

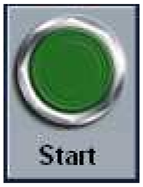
3. Click ***Close*** Close to shutdown the animation window.

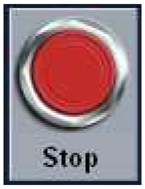
4. Switch to your internet browser and navigate to ***Packaging***, then click on the ***Pallet Inventory*** button.



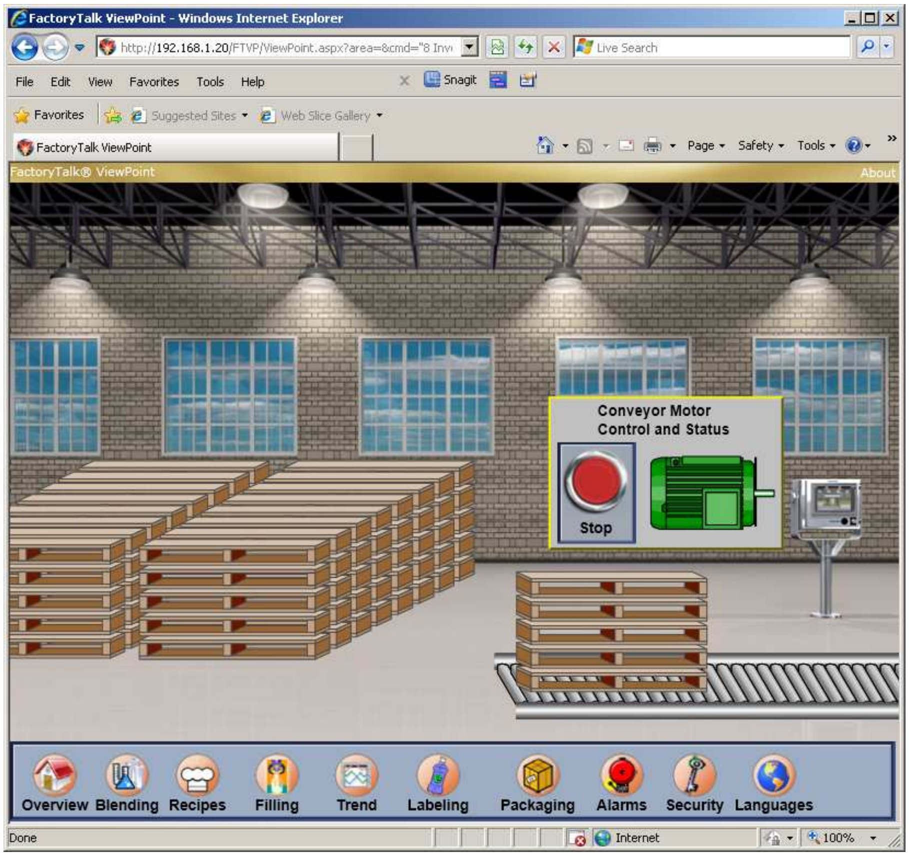
5. Now, turn to your **PanelView Plus** terminal and also navigate to ***Packaging***, then ***Pallet Inventory***.

6. Click on the **Start** or **Stop** Motor Control buttons to start and stop the conveyor motor. These button images are also part of the Symbol Factory library and have been used with a Maintained pushbutton object.





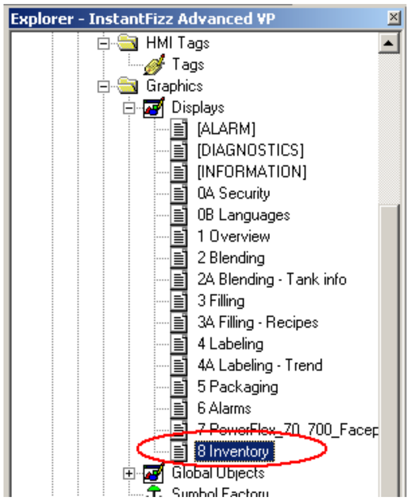
Note how quickly the ViewPoint client updates back on the desktop computer. Since FactoryTalk ViewPoint does not currently support tag writes, this change cannot be made from the ViewPoint client.



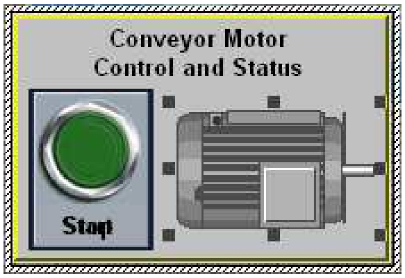
Enhanced Color Animation

FactoryTalk View ME color animation has been enhanced and now has a **Shaded** fill type which gives depth to the object's current state by using a tight dot pattern to give the appearance of shades. While choosing the new **Original** fill type option allows you to keep the look and feel of the original object. These new options are now supported in FactoryTalk ViewPoint.

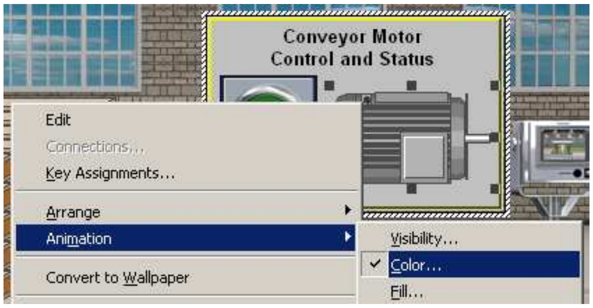
1. In FactoryTalk View Studio, open the **8 Inventory** display if it is not already open from the previous section.



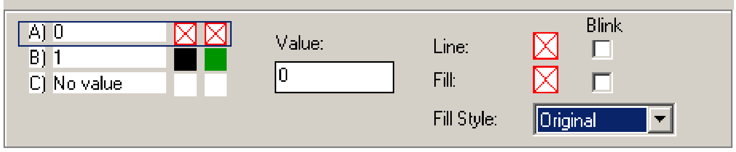
2. Double-click on the Conveyor Motor Control and Status object group, then single click on the **motor** object.



3. Right click on the motor and select ***Animation,*** then ***Color*** to view how the new **Shaded** and **Original** color animation options have been used.



4. Click on ***A) 0***. The Original fill type has been selected so that the motor will remain displayed with its original colors while in the 'Off' state.



A) 0 ☒ ☒
B) 1 ■ 🟩
C) No value

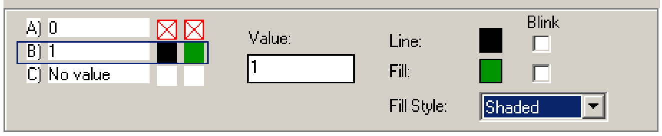
Value: 0

Line: ☒ Blink □

Fill: ☒ □

Fill Style: Original

5. Click on ***B) 1***. Note that the **Shaded** fill type will be during the motors 'On' state.



A) 0 ☒ ☒
B) 1 ■ 🟩
C) No value

Value: 1

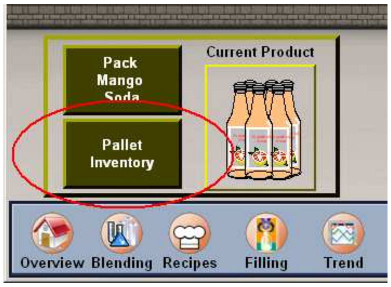
Line: ■ Blink □

Fill: 🟩 □

Fill Style: Shaded

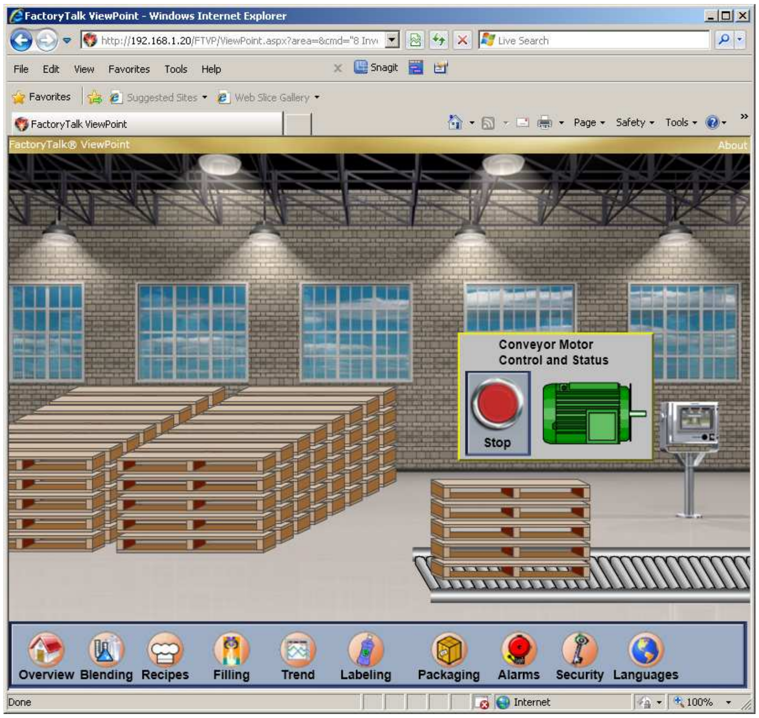
6. Click ***Close*** Close to shutdown the animation window.

7. Navigate to ***Packaging***, then click on the ***Pallet Inventory*** button in both **Internet Explorer** running on your desktop and on your **PanelView Plus** terminal.



8. On your **PanelView Plus** terminal, click on the **Start** or **Stop** Motor Control buttons to start and stop the conveyor.

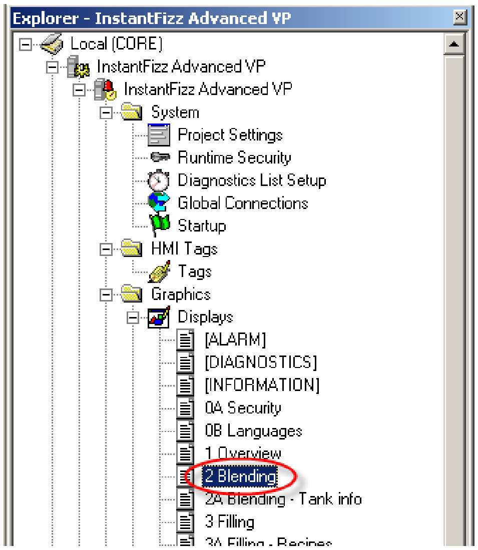
FactoryTalk ViewPoint updates between the motor's Original coloring and the new Shaded option as it changes states.



Parameter Files

Parameter Files are used with Display navigation buttons to load parameter files for a display. This FactoryTalk View ME functionality is supported in FactoryTalk ViewPoint.

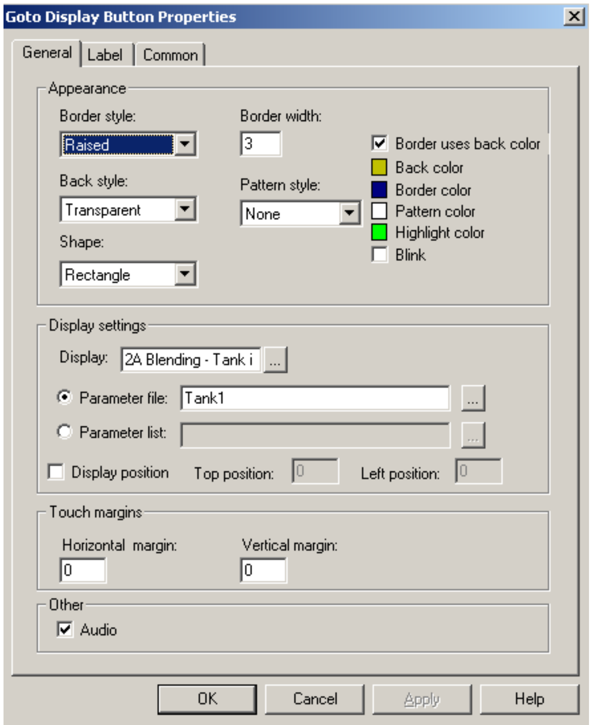
1. In FactoryTalk View Studio, open the **2 Blending** display.



Explorer - InstantFizz Advanced VP

```
⊟ Local (CORE)
  ⊟ InstantFizz Advanced VP
    ⊟ InstantFizz Advanced VP
      ⊟ System
          Project Settings
          Runtime Security
          Diagnostics List Setup
          Global Connections
          Startup
      ⊟ HMI Tags
          Tags
      ⊟ Graphics
        ⊟ Displays
            [ALARM]
            [DIAGNOSTICS]
            [INFORMATION]
            0A Security
            0B Languages
            1 Overview
            2 Blending
            2A Blending - Tank info
            3 Filling
            3A Filling - Recipes
```

2. Double-click on the **Information** button , for **Blending Tank 1** (far left) and view the Goto Display button properties.



Goto Display Button Properties

Appearance

Border style: Raised	Border width: 3	☑ Border uses back color
Back style: Transparent	Pattern style: None	Back color
Shape: Rectangle		Border color
		Pattern color
		Highlight color
		□ Blink

Display settings

Display: 2A Blending - Tank i

● Parameter file: Tank1

○ Parameter list:

□ Display position Top position: 0 Left position: 0

Touch margins

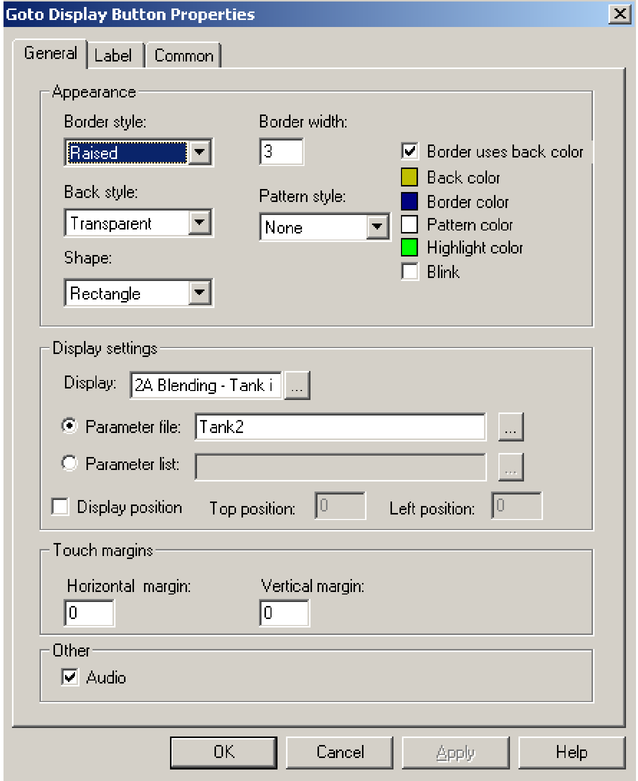
Horizontal margin: 0 Vertical margin: 0

Other

☑ Audio

Note that the **Tank1** Parameter file has been selected and will be passed to the 2A Blending – Tank Info display when the button is pressed. Click **Cancel** to close the properties window.

3. Double click on the **Information** button, , for Blending tank 2 (middle) and view the Goto Display button properties.



Goto Display Button Properties

General | Label | Common

Appearance

Border style: Raised

Border width: 3

☑ Border uses back color

Back color

Border color

Pattern color

Highlight color

□ Blink

Back style: Transparent

Pattern style: None

Shape: Rectangle

Display settings

Display: 2A Blending - Tank i

● Parameter file: Tank2

○ Parameter list:

□ Display position Top position: 0 Left position: 0

Touch margins

Horizontal margin: 0

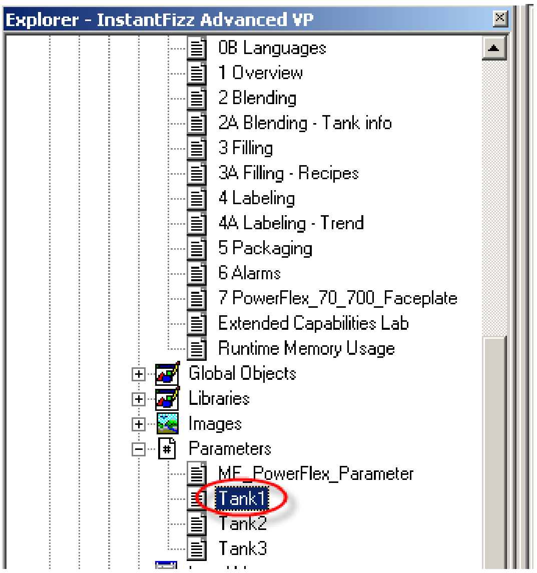
Vertical margin: 0

Other

☑ Audio

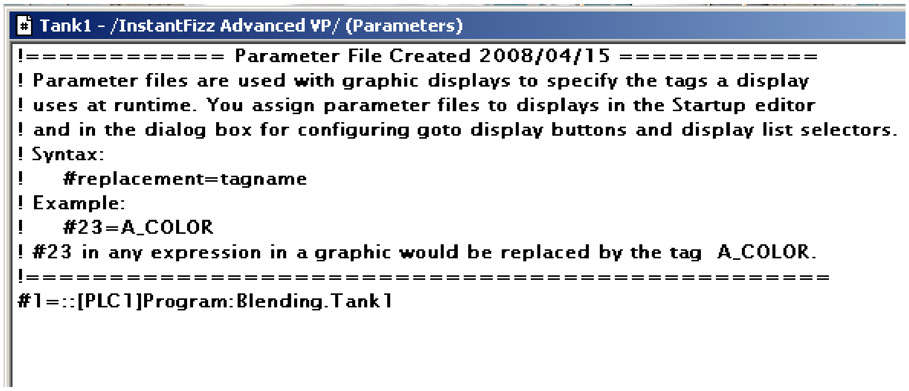
Note that the same display has been selected here as it was for Tank 1, however, the **Tank2** Parameter file has been chosen so that the tags defined in that specific file will be passed when the button is pressed. Click **Cancel** to close the properties window.

4. Under **Graphics > Parameters** in the Explorer window, double click on the **Tank1** parameter file.



Explorer - InstantFizz Advanced VP

- 0B Languages
- 1 Overview
- 2 Blending
- 2A Blending - Tank info
- 3 Filling
- 3A Filling - Recipes
- 4 Labeling
- 4A Labeling - Trend
- 5 Packaging
- 6 Alarms
- 7 PowerFlex_70_700_Faceplate
- Extended Capabilities Lab
- Runtime Memory Usage
- Global Objects
- Libraries
- Images
- Parameters
  - ME_PowerFlex_Parameter
  - Tank1
  - Tank2
  - Tank3

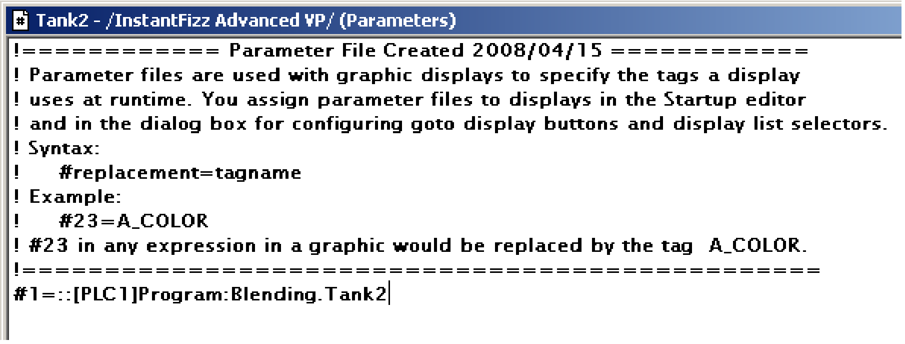


Tank1 - /InstantFizz Advanced VP/ (Parameters)

```
!============ Parameter File Created 2008/04/15 ============
! Parameter files are used with graphic displays to specify the tags a display
! uses at runtime. You assign parameter files to displays in the Startup editor
! and in the dialog box for configuring goto display buttons and display list selectors.
! Syntax:
!     #replacement=tagname
! Example:
!     #23=A_COLOR
! #23 in any expression in a graphic would be replaced by the tag  A_COLOR.
!===============================================
#1=::[PLC1]Program:Blending.Tank1
```

Here we can see what tag is being passed into parameter #1.

5. Repeat the previous step for the **Tank2** parameter file and note the new tag that will be passed for Blending Tank 2.

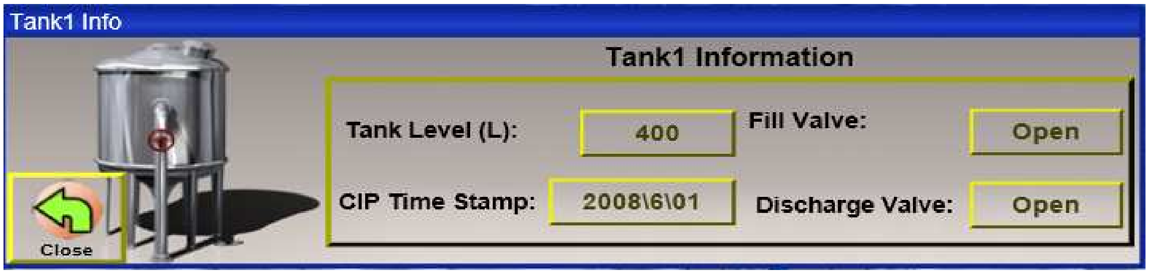


Tank2 - /InstantFizz Advanced VP/ (Parameters)

```
!============ Parameter File Created 2008/04/15 ============
! Parameter files are used with graphic displays to specify the tags a display
! uses at runtime. You assign parameter files to displays in the Startup editor
! and in the dialog box for configuring goto display buttons and display list selectors.
! Syntax:
!     #replacement=tagname
! Example:
!     #23=A_COLOR
! #23 in any expression in a graphic would be replaced by the tag  A_COLOR.
!===============================================
#1=::[PLC1]Program:Blending.Tank2
```

6. **Switch back** to your internet browser and navigate to the **Blending** display. Click on any of the Tank info buttons to call the display and its associated parameter file.

   We can see how tag data is successfully being passed into this pop-up display. The behavior of parameter files is the same in both FactoryTalk View ME Station and FactoryTalk ViewPoint. Also note that the title bar text uses **Embedded Variables** which are also supported by FactoryTalk ViewPoint.



Tank1 Info

Tank1 Information

Tank Level (L): 400

Fill Valve: Open

CIP Time Stamp: 2008\6\01

Discharge Valve: Open

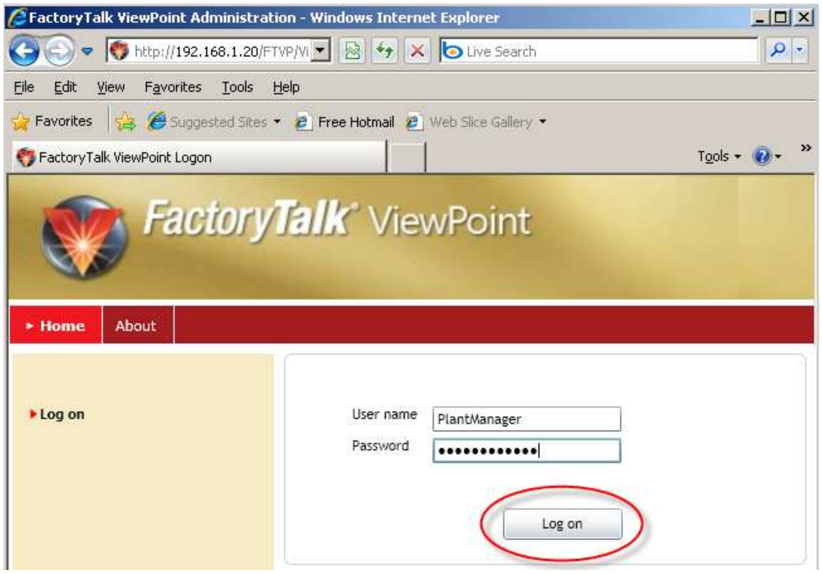
7. Close your internet browser window.

Inactivity Timeout

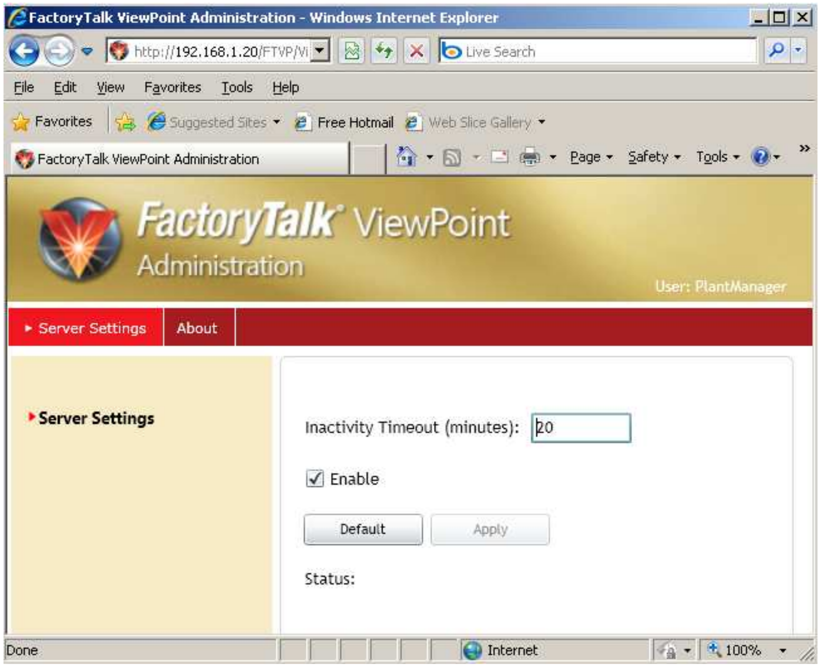
FactoryTalk ViewPoint contains an inactivity timeout setting. If a web browser has been inactive for a period of time, a message is displayed stating that the session has expired. The inactive period is defined by a browser connected to the terminal with no display changes. When the session expires, the client access license is released which allows another client to connect to the terminal. If the application is secure, the currently logged on user will also be logged out.

1. Connect to the FactoryTalk ViewPoint server by typing the following link in Internet Explorer: http://192.168.1.20/FTVP/ADMIN where **192.168.1.20** is the IP address of your PanelView Plus. Pay special attention to include the **/admin** at the end of the URL.

   Log on with the User Name: **PlantManager** and Password: **PlantManager**

   
   FactoryTalk ViewPoint Administration - Windows Internet Explorer
http://192.168.1.20/FTVP/Vi
Live Search
File Edit View Favorites Tools Help
Favorites
Suggested Sites
Free Hotmail
Web Slice Gallery
FactoryTalk ViewPoint Logon
Tools
FactoryTalk ViewPoint
Home
About
Log on
User name
PlantManager
Password
Log on

2. The FactoryTalk ViewPoint Administration is served from the PanelView Plus to your browser. The default inactivity timeout is 20 minutes. The inactivity timeout can be disabled or you can modify the inactivity timeout period.

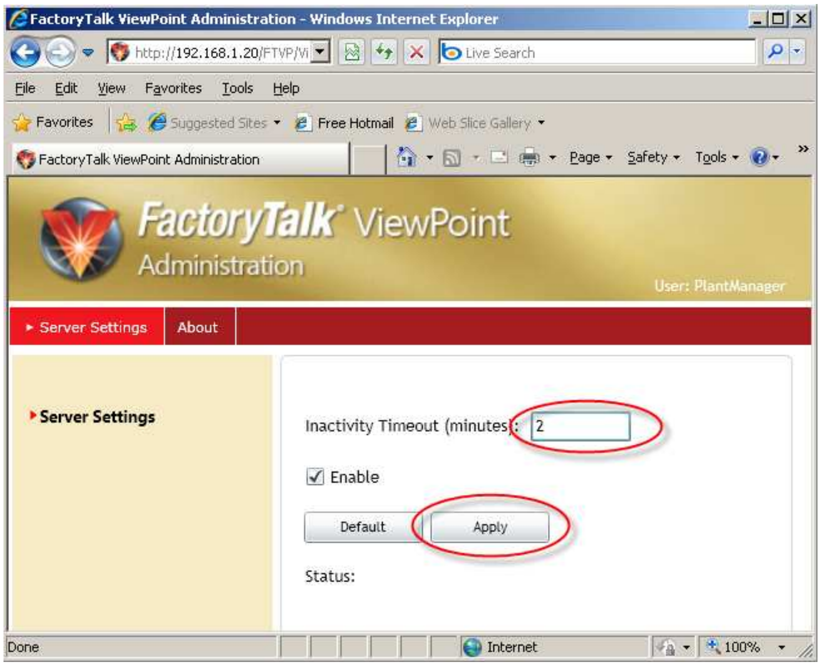


Inactivity Timeout (minutes): 20

☑ Enable

Status:

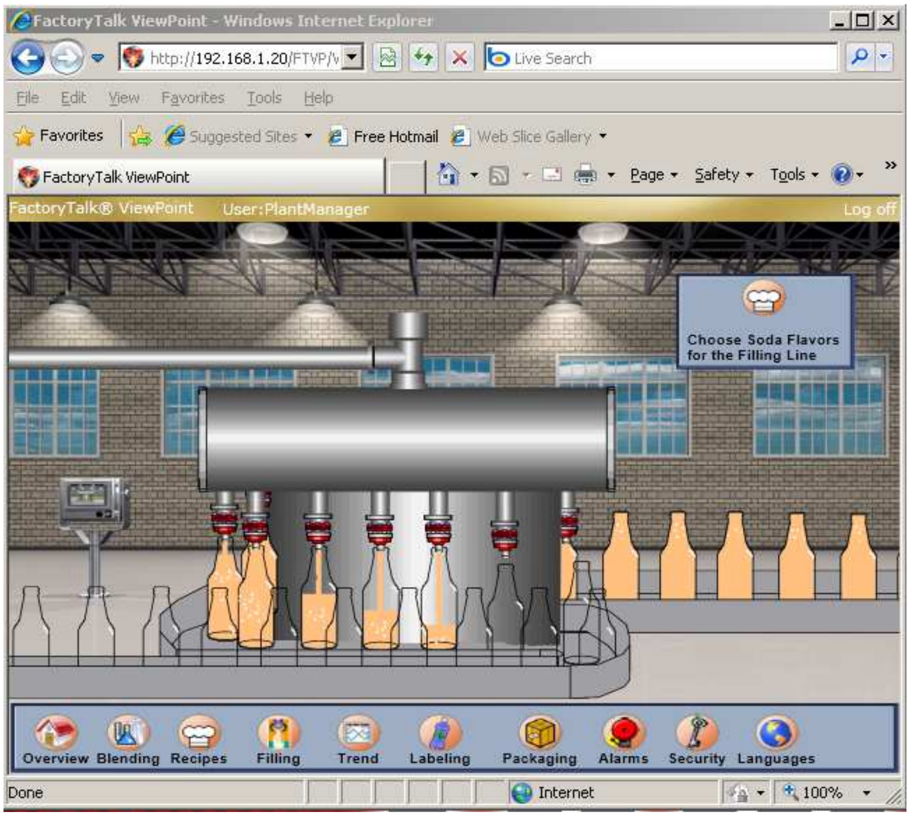
3. Change the inactivity timeout to **2** minutes and click the **Apply** button.



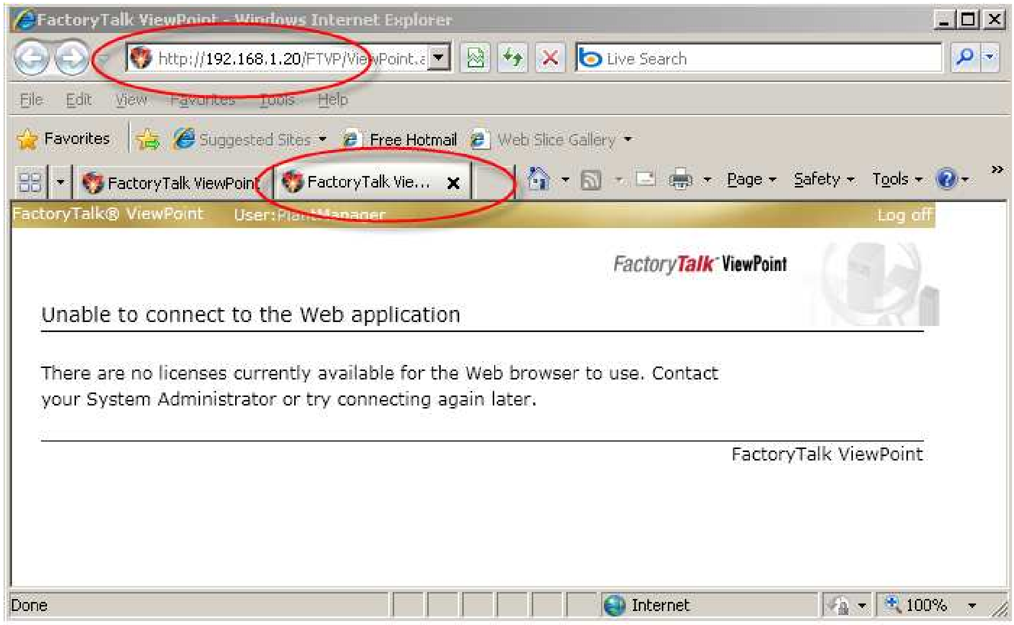
Inactivity Timeout (minutes): 2

☑ Enable

4. Connect to the running ViewPoint application by typing the following link in Internet Explorer: **http://192.168.1.20/FTVP/** where **192.168.1.20** is the IP address of your PanelView Plus (hint: you can avoid typing the URL by using the address bar at the top of the browser window).



5. Before the session expires, open a 2nd tab or browser instance and try to connect to the terminal by typing the following link in Internet Explorer: **http://192.168.1.20/FTVP/**. Note that you are unable to connect to the terminal because the client license is already in use by tab 1.

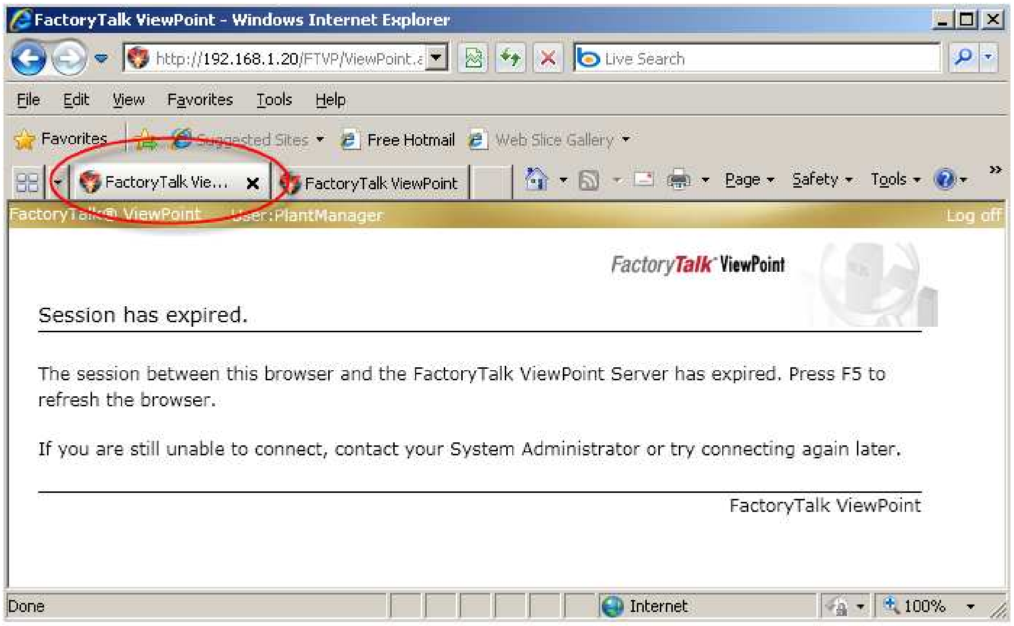


Unable to connect to the Web application

There are no licenses currently available for the Web browser to use. Contact your System Administrator or try connecting again later.

FactoryTalk ViewPoint

6. Switch back to the first tab and wait for the session to expire. Remember, the session will not expire if you switch between displays. When the session expires you will see the message below in your browser.



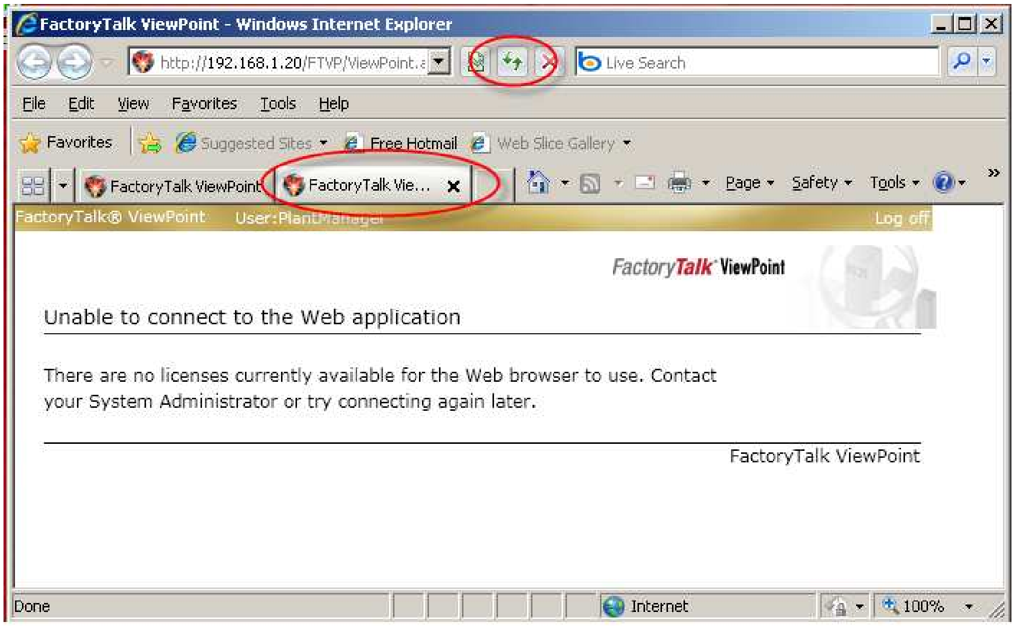
Session has expired.

The session between this browser and the FactoryTalk ViewPoint Server has expired. Press F5 to refresh the browser.

If you are still unable to connect, contact your System Administrator or try connecting again later.

FactoryTalk ViewPoint

7. After the session expires, the currently logged in user is logged off and the client access license is now available for another client to connect. Go back to the 2nd tab and refresh the browser.

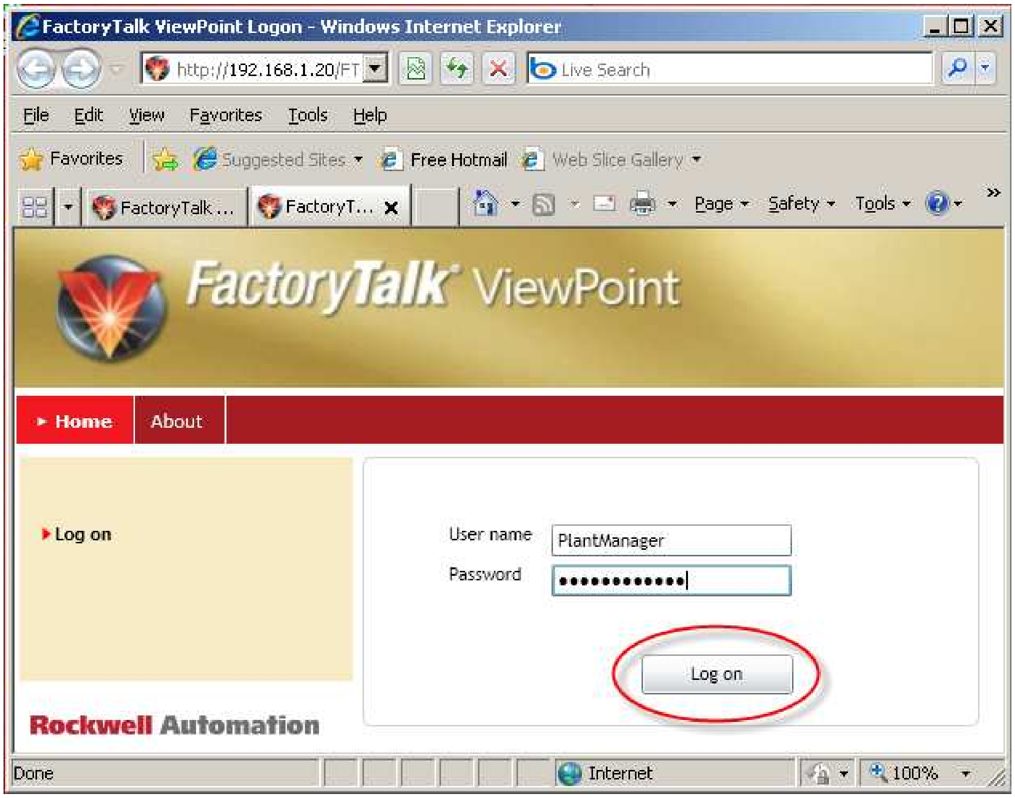


Unable to connect to the Web application

There are no licenses currently available for the Web browser to use. Contact your System Administrator or try connecting again later.

FactoryTalk ViewPoint

8. You can now log on with the User Name: **PlantManager** and Password: **PlantManager**



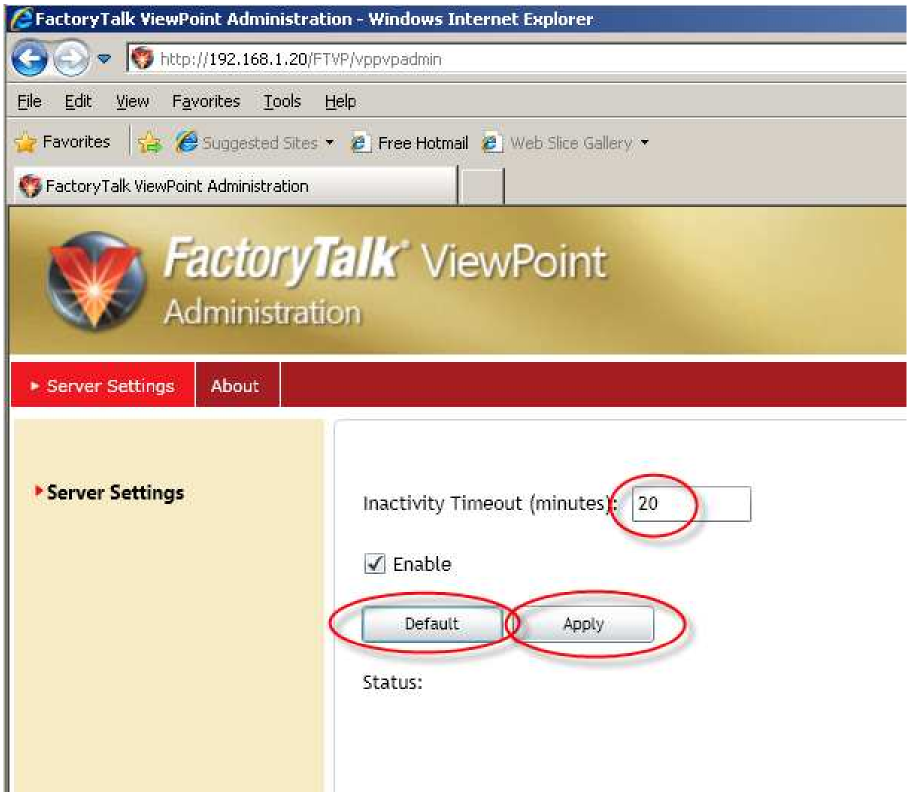
User name: PlantManager

Password: ••••••••••••

After log on, you can access the FactoryTalk ViewPoint application.

9. Connect to FactoryTalk ViewPoint Administration again by typing the following link in Internet Explorer: **http://192.168.1.20/FTVP/ADMIN** where **192.168.1.20** is the IP address of your PanelView Plus. Pay special attention to include the /admin at the end of the URL.

10. Change the Inactivity Timeout back to **Default** settings and click **Apply**



Inactivity Timeout (minutes): 20

☑ Enable

Status:

11. Close Internet Explorer (including all open tabs).

Congratulations!! You have successfully used FactoryTalk ViewPoint advanced features, like trending, parameter files, symbol factory, enhanced color animation and inactivity timeout.

Chapter 6: FactoryTalk Machine Edition - Pick and Choose

This section of the lab is a collection of several smaller exercises designed to guide the user through additional features of FactoryTalk ME. The format allows you to select the features you want to work with and you can complete these sections in any order. To help you choose, we have estimated the time it should take for each of them.

The following table lists the available sections and the page number each starts on.

This feature…	Starts on page…
Integrating other applications (10 minutes)	144
Recipe Management (15 minutes)	152
Working with security (15 minutes)	170
Additional Alarming Features (20 minutes)	183
Language Switching (20 minutes)	196
Improving productivity with parameter passing (30 minutes)	213
Logging data (20 minutes)	232

Integrating other applications (10 minutes)

Completing this section requires approximately 10 minutes.

Sometimes, to integrate functions or restrict access to the desktop on a PanelView CE, the task of launching other programs needs to be done from within a FactoryTalk View ME application. This can be easily accomplished by using the Program Launcher ActiveX control.

The Program Launcher ActiveX control allows the operator to launch an .EXE (executable) program from within a FactoryTalk View ME application. This tool allows users to view manuals, CAD drawings, spreadsheets, websites, even videos, without having to browse to the desktop or storage card. For more information on the Program Launcher ActiveX control, refer to answer ID **20474** in the Rockwell Automation Knowledgebase.

NEW!

With the new Foxit .PDF viewer, you can view files created with current versions of Adobe. It gives a clear and crisp view of all pictures and font styles on PanelView terminals, and navigation is by touch for zoom, next page/previous page, goto page, and rotate functions. From a FactoryTalk View ME application, you can also open a .PDF to a particular page number, bookmark, or named destination, as well as zoom and fit width.

You are also able to use the Program Launcher to open files in Word and Excel viewers, a media player, or Internet Explorer. The executable files for each of these file viewers are installed with FactoryTalk View Studio and Station on the desktop, and are pre-loaded and registered on the PanelView terminal.

In this section you will:

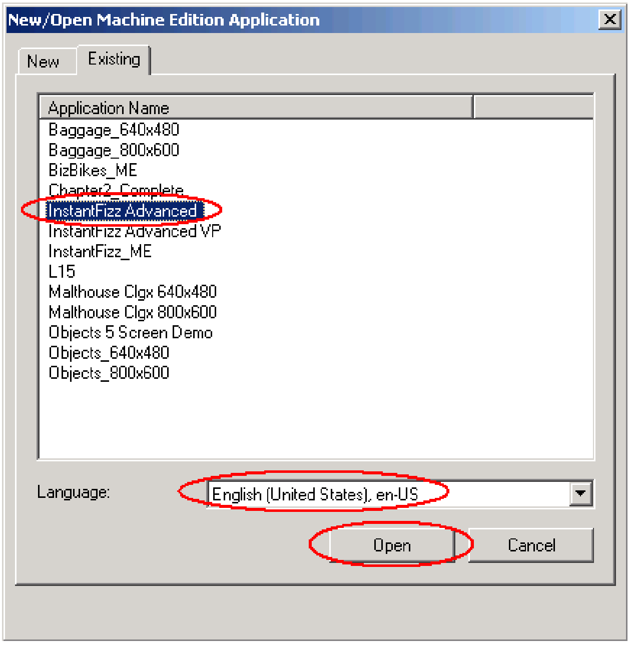
- Look at how the Program Launcher ActiveX control can be used to view a .PDF with the new Foxit file viewer that is installed on PanelView Plus.
- Have the option to see how the Program Launcher opens files in Word and Excel viewers, a media player, or Internet Explorer.

Open the InstantFizz Advanced application

If you already have the InstantFizz Advanced application open from a previous section, you can move on to the next section, **Adding a graphic display to a project**.

1. To open FactoryTalk View Studio, click ***Start > All Programs > Rockwell Software > FactoryTalk View > FactoryTalk View Studio***. If FactoryTalk View Studio is already open, then select ***File > Open Application…*** to switch applications.

2. Select the existing ***InstantFizz Advanced*** application, make sure ***English*** is selected for the **Language**, and click ***Open***:



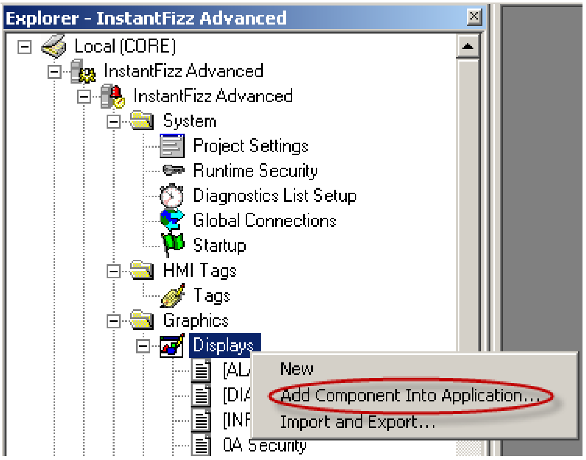
Application Name
Baggage_640x480
Baggage_800x600
BizBikes_ME
Chapter2_Complete
InstantFizz Advanced
InstantFizz Advanced VP
InstantFizz_ME
L15
Malthouse Clgx 640x480
Malthouse Clgx 800x600
Objects 5 Screen Demo
Objects_640x480
Objects_800x600

Language: English (United States), en-US

Adding a graphic display to a project

You have been provided with a ready-to-use display called **Program Launcher**. You will need to add the display to the project.

1. In the application Explorer, right-click **Displays** and select ***Add Component Into Application***.

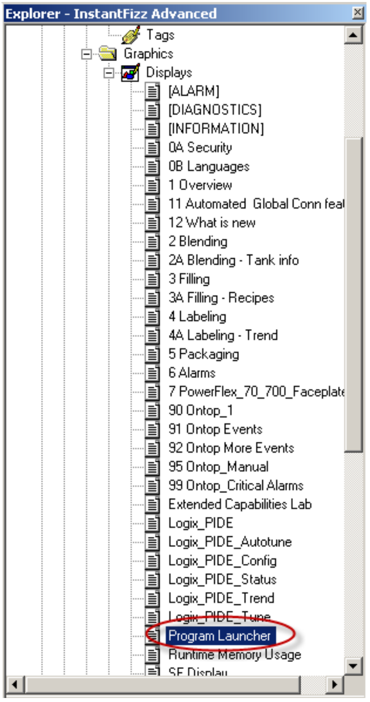


2. Browse to **C:\Lab Files\ViewME - ViewPoint\ViewME\Pick and Choose** folder and select ***Program Launcher.gfx***. Click ***Open*** to add the display to the project.

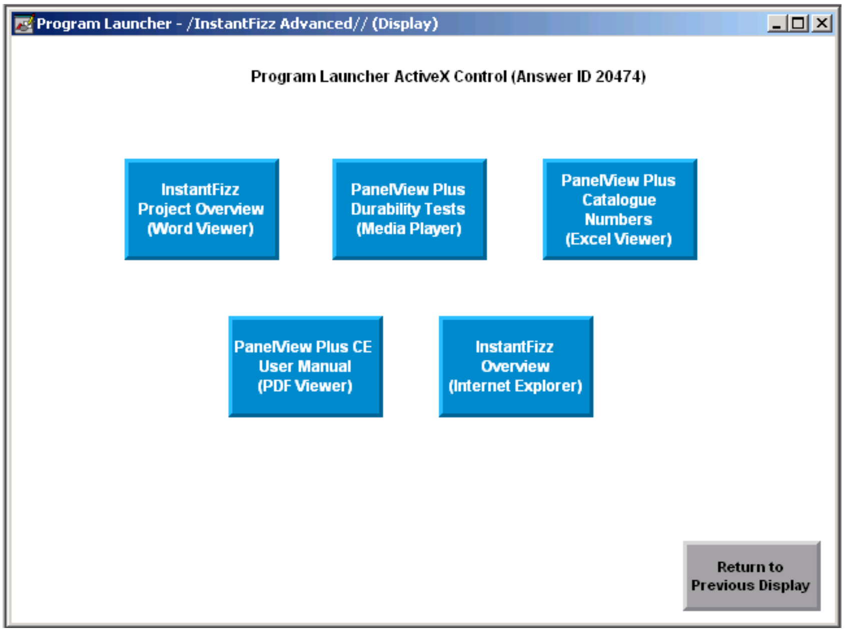
Configure the Program Launcher ActiveX properties

Now, you will need to configure its properties to allow the program launcher to launch a specific executable (.EXE) at run time.

1. Find the ***Program Launcher*** display in the application Explorer and double-click to open it.

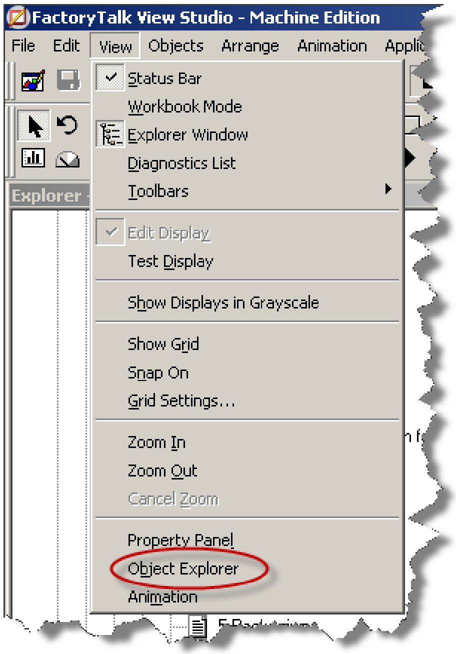


The Program Launcher display opens:

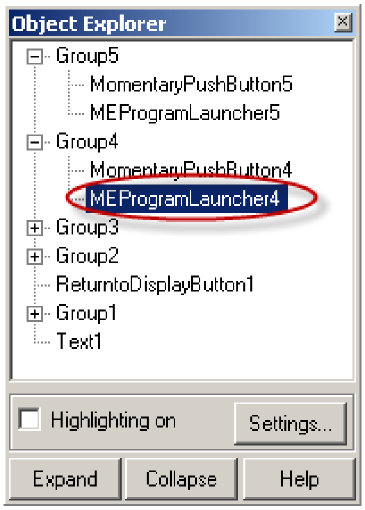

Program Launcher - /InstantFizz Advanced// (Display)
Program Launcher ActiveX Control (Answer ID 20474)
InstantFizz Project Overview (Word Viewer)
PanelView Plus Durability Tests (Media Player)
PanelView Plus Catalogue Numbers (Excel Viewer)
PanelView Plus CE User Manual (PDF Viewer)
InstantFizz Overview (Internet Explorer)
Return to Previous Display

New to FactoryTalk View ME v6.0, the ActiveX controls are installed and registered for you. There is no need to have to register these controls manually.

2. With the Program Launcher display open, click ***Object Explorer*** on the **View** menu.



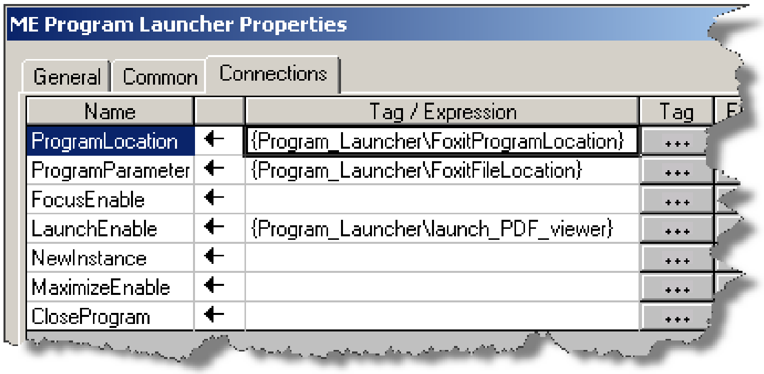
The Object Explorer is opened. Group 4 includes the push button control and the Program Launcher control for opening a .PDF file with the Foxit PDF Viewer. Expand **Group 4** and double-click ***MEProgramLauncher4*** to open the Properties dialog for the Program Launcher control.



3. Click the ***Connections*** tab. The following are the available properties for the Program Launcher control:

   - **ProgramLocation** – This is the complete path and filename of the EXE program you wish to execute (ex. "ctlpnl.exe"). This property can be a string or a string tag. This property cannot be empty and is not optional.
   - **ProgramParameter** – Some programs require a parameter to be typed at the command line (ex. "\Windows\cplmain.cpl,5"). This property is used with the ProgramLocation. This property can be a string or a string tag. This property is optional.
   - **FocusEnable** – While another program is running, the FactoryTalk View ME project may not be visible if it is in the background and/or minimized. This property will restore the FactoryTalk View ME project and bring it to the foreground of Win32 or Win CE. This property is triggered on a zero-to-one transition. This is a BOOL (i.e. Digital) property and is optional.
   - **LaunchEnable** – Although the ActiveX control is a button, you may want to trigger it from a tag instead. This property will trigger the ActiveX control when the assigned tag goes from a zero to non-zero transition. This is a BOOL (i.e. Digital) property and is optional.
   - **NewInstance** - This property defines what to do if the specified program (ProgramLocation) is already running. Set this property to 0 to restore the already running program. Set this property to 1 to open a new instance of the program (if the program supports this). This is a digital property and is not optional if launching multiples of the same application.

   Below is a snapshot of the properties of this specific Program Launcher ActiveX Control configured in FactoryTalk View Studio. Notice the **"ProgramLocation"** property is set to a tag called "FoxItProgramLocation". This tag contains the path name of the new Foxit .PDF viewer's executable on the PanelView terminal. The **"ProgramParameter"** property is set to a tag "FoxItFileLocation", which contains the path name (on the PanelView terminal) of the .PDF file to open. These two properties can also accept the path directly; you can see that configuration on one of the other Program Launcher controls. Finally, the **"LaunchEnable"** property is set to the tag associated with the pre-configured push button. A new instance of the Program Launcher ActiveX will be needed every time a different executable or parameter needs to be launched. This is a typical property set up of the Program Launcher ActiveX control. For more technical information regarding these properties, please refer to answer ID **20474** in the Rockwell Automation Knowledgebase.



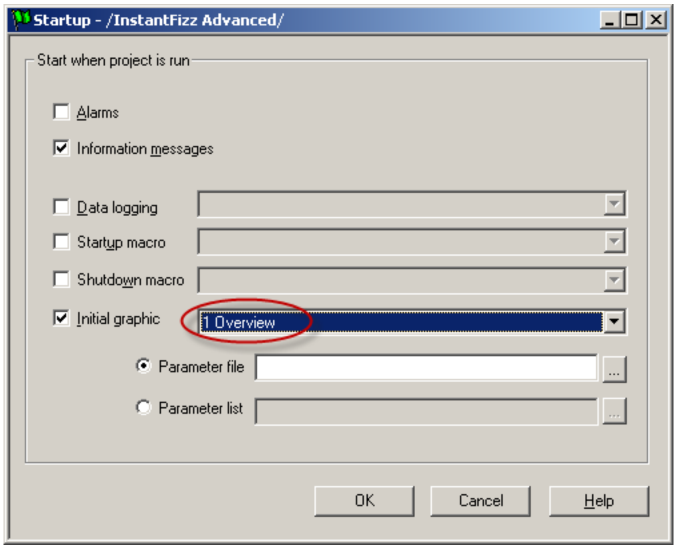
ME Program Launcher Properties

Name		Tag / Expression	Tag	E
ProgramLocation	←	{Program_Launcher\FoxitProgramLocation}	...	
ProgramParameter	←	{Program_Launcher\FoxitFileLocation}	...	
FocusEnable	←		...	
LaunchEnable	←	{Program_Launcher\launch_PDF_viewer}	...	
NewInstance	←		...	
MaximizeEnable	←		...	
CloseProgram	←		...	

Each button on the Program Launcher display has its own Program Launcher ActiveX object, with different property configurations on its **Connections** tab to open the corresponding .EXE.

4. Now that you have seen how the Foxit Reader is launched with the Program Launcher ActiveX control, open the properties for each of the other Program Launcher controls on the display and look at how they call up the different applications.

5. When you are finished looking at the Program Launcher controls' settings, you need to create a run time file to download to your PanelView terminal. Before you do that, you need to change the startup display in the application. Double-click **Startup** in the application Explorer, check the ***Initial graphic*** checkbox if it isn't selected already and select ***1 Overview*** as the **Initial graphic**. Click ***OK*** when you are done.



Startup - /InstantFizz Advanced/

Start when project is run

☐ Alarms

☑ Information messages

☐ Data logging

☐ Startup macro

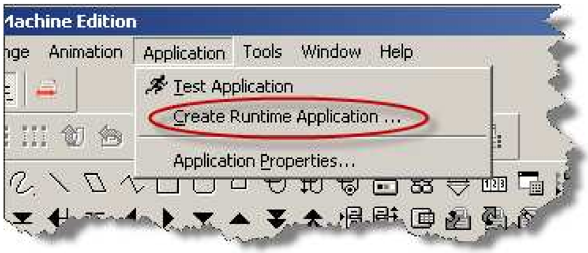
☐ Shutdown macro

☑ Initial graphic 1 Overview

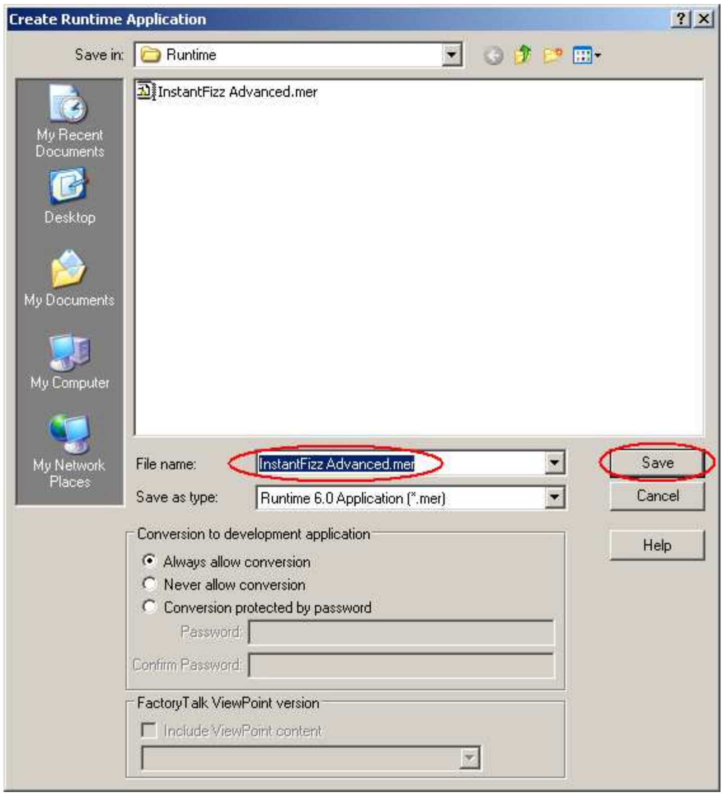
● Parameter file

○ Parameter list

6. Click ***Create Runtime Application*** on the **Application** menu to create the run time .MER file.



7. Make sure the file is named **InstantFizz Advanced.mer** and the **Runtime 6.0** application type is selected, then click ***Save.***



Create Runtime Application

Save in: Runtime

InstantFizz Advanced.mer

File name: InstantFizz Advanced.mer

Save as type: Runtime 6.0 Application (*.mer)

Conversion to development application

● Always allow conversion

○ Never allow conversion

○ Conversion protected by password

Password:

Confirm Password:

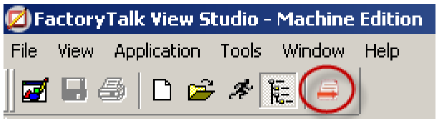
FactoryTalk ViewPoint version

□ Include ViewPoint content

Click ***Yes*** if asked if you want to overwrite the existing file. Select ***English*** as the initial runtime language and click ***Finish***.

The run time file is created. It will take a minute or two to compile the application and generate the .MER file.

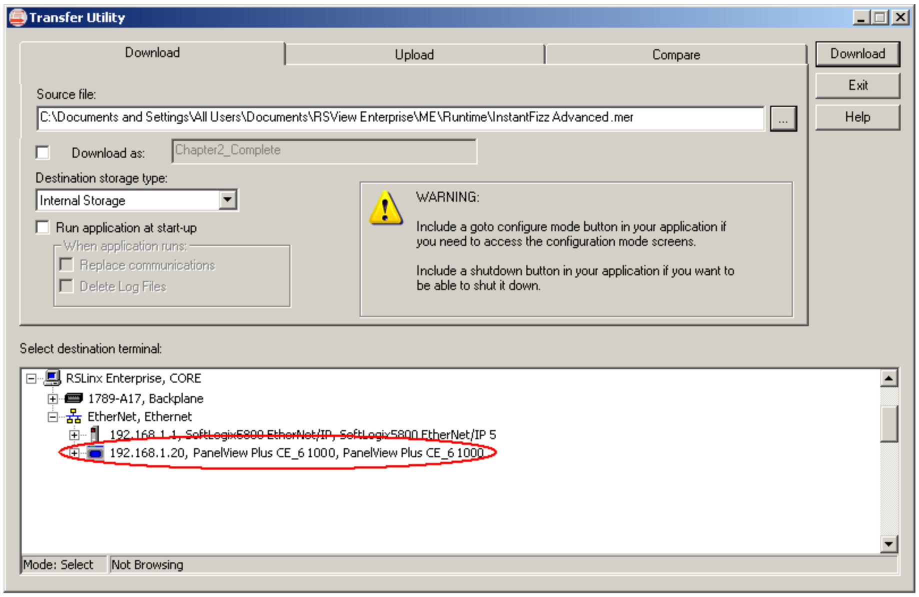
8. When it is finished, click the **Transfer Utility** button on the FactoryTalk View Studio toolbar:



FactoryTalk View Studio - Machine Edition

9. Click the browse button for the Source file and select: ***C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\InstantFizz Advanced.mer***.

10. In the bottom pane, select your **PanelView Plus** terminal as the destination. The Transfer Utility should look something like this:



Source file: C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\InstantFizz Advanced.mer

□ Download as: Chapter2_Complete

Destination storage type: Internal Storage

□ Run application at start-up

When application runs:

□ Replace communications

□ Delete Log Files

WARNING:

Include a goto configure mode button in your application if you need to access the configuration mode screens.

Include a shutdown button in your application if you want to be able to shut it down.

Select destination terminal:

```
RSLinx Enterprise, CORE
  1789-A17, Backplane
  EtherNet, Ethernet
    192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP 5
    192.168.1.20, PanelView Plus CE_6 1000, PanelView Plus CE_6 1000
```

Your terminal may look slightly different – look for the PanelView Plus terminal with the IP address of **192.168.1.20**.

11. Click ***Download*** to download the project to the terminal. If you are asked if you want to overwrite the destination file, click ***Yes***. You will see a progress bar, and when the download is complete a message box will tell you the download completed successfully. Click ***OK***.

12. Click ***Exit*** to close the Transfer Utility.

Using the Program Launcher on a terminal

1. Move over to your PanelView Plus terminal. If **FTView ME Station** is not already running, start it by double-tapping the icon on the desktop: FT View ME Station

2. Tap ***Load Application [F1]***. Select **InstantFizz Advanced.mer** in the file list, then tap ***Load [F2]*.**

3. Tap ***Yes*** to replace the communications setup. When the application is loaded successfully, you will see the file name in the ***Current application*** box. Tap ***Run Application [F2]*** to run your project.

4. Tap the ***Extended Capabilities Lab*** button on the **Overview** display, then the ***Program Launcher ActiveX Display*** button. Try each of the Program Launcher buttons to see how they work at run time. Feel free to work with the Foxit .PDF Reader and try its new features.

5. Tap ***Exit*** to close the application when you are finished.

Congratulations!! You have successfully used the Program Launcher ActiveX control with the new Foxit file viewer to view a .PDF file as well as opened files in Word and Excel viewers, a media player, or Internet Explorer.

Recipe Management (15 minutes)

Completing this section requires approximately 15 minutes.

Why do you need to use recipes?

A recipe is a set of numeric and string data values (ingredients) that can be downloaded /uploaded to their associated tags in a controller. Each ingredient has a pre-set data value assigned to it.

The set of data values for all the ingredients in a recipe is called a data set.

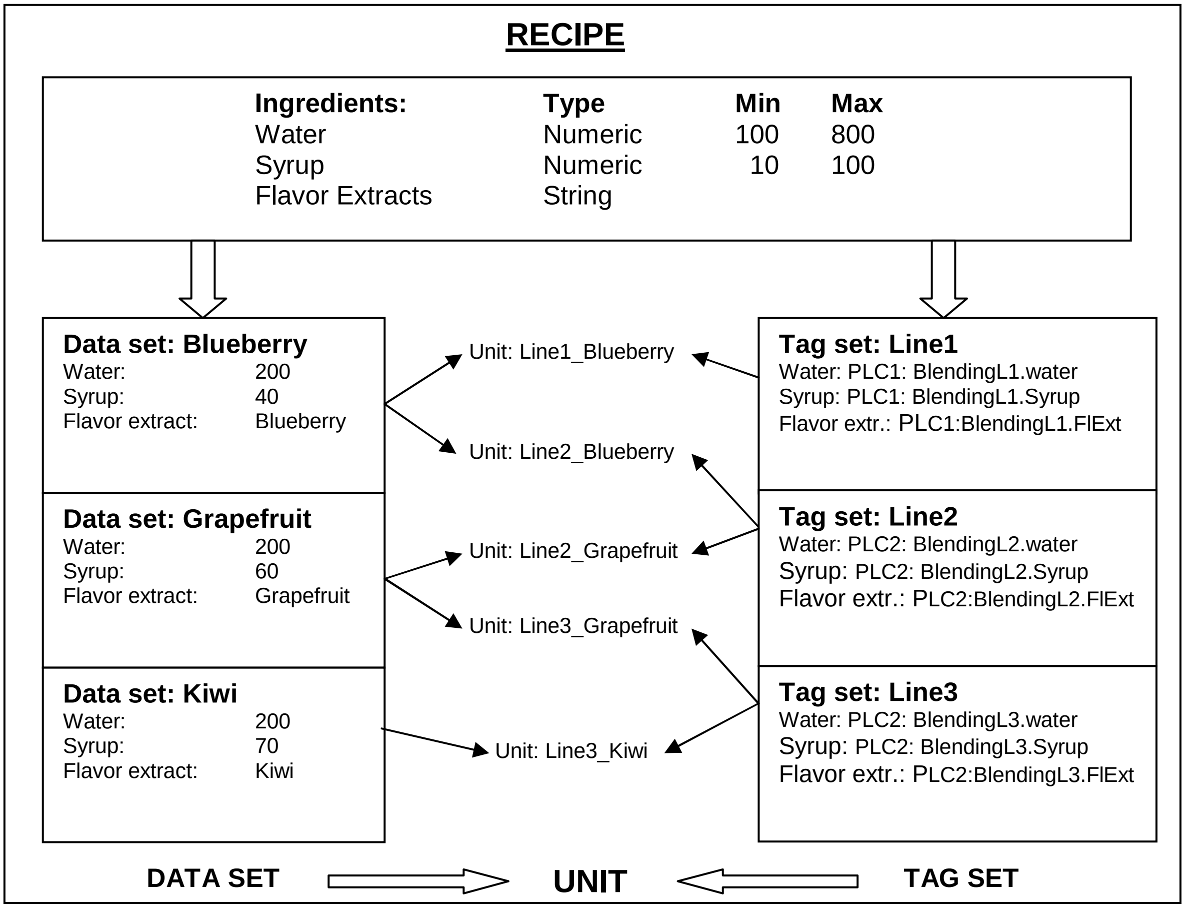
The set of numeric and string tags assigned to the ingredients in the recipe is called a tag set.

The ingredients, data sets, and tag sets are stored together in a recipe file.

You can create different pairs of data sets and tag sets for the same set of ingredients. Each pairing of data set with tag set is called a unit. Each unit is like a unique recipe.

At run time, the operator can select the unit (recipe) that applies to the current operation.

For example: A factory making soda could use the same ingredients and tag sets (tags in the controller), but depending on the flavor desired, could use different data sets to specify to use of certain flavor extracts. As another example, you might want to have multiple blending lines making the same soda. In this case, the data set for all the production lines will be the same, but the tags receiving the recipe information would be different for each production line. Units allow you to combine different tag sets and data sets for the same set of ingredients.



RECIPE

Ingredients:	Type	Min	Max
Water	Numeric	100	800
Syrup	Numeric	10	100
Flavor Extracts	String		

Data set: Blueberry

Water:	200
Syrup:	40
Flavor extract:	Blueberry

Data set: Grapefruit

Water:	200
Syrup:	60
Flavor extract:	Grapefruit

Data set: Kiwi

Water:	200
Syrup:	70
Flavor extract:	Kiwi

Tag set: Line1
Water: PLC1: BlendingL1.water
Syrup: PLC1: BlendingL1.Syrup
Flavor extr.: PLC1:BlendingL1.FlExt

Tag set: Line2
Water: PLC2: BlendingL2.water
Syrup: PLC2: BlendingL2.Syrup
Flavor extr.: PLC2:BlendingL2.FlExt

Tag set: Line3
Water: PLC2: BlendingL3.water
Syrup: PLC2: BlendingL3.Syrup
Flavor extr.: PLC2:BlendingL3.FlExt

As you can see in this example there are 3 production lines. Line 1 is using its own Controller (PLC1), Line 2 and 3 are using the same controller (PLC2) but different tags. Each line has its own set of tags which are grouped in a Tag Set. Each tag in the tag set is linked to an ingredient.

In the recipe there are 3 different Data sets of soda flavors: Blueberry, Grapefruit and Kiwi.

Every data type within the data set is linked to an ingredient.

These three data sets can be used by all the production lines because we use a Unit to combine a Tag Set and a Data Set

The FactoryTalk® View RecipePlus system overview :
Each recipe file can contain:

- 15,000 ingredients
- 500 data sets
- 50 tag sets
- 2,500 units (Combination of the data sets and tag sets)

When using 1 production line (1 tag set) the maximum number of units is 500.

Your factory is currently running 3 different types of Soda drinks. The sales of the Grapefruit soda are going so well they want a separate blending line to make this soda drink.

The company has invested in a new blending line but they want to re-use the recipe from the original blending line.

In this section you will:

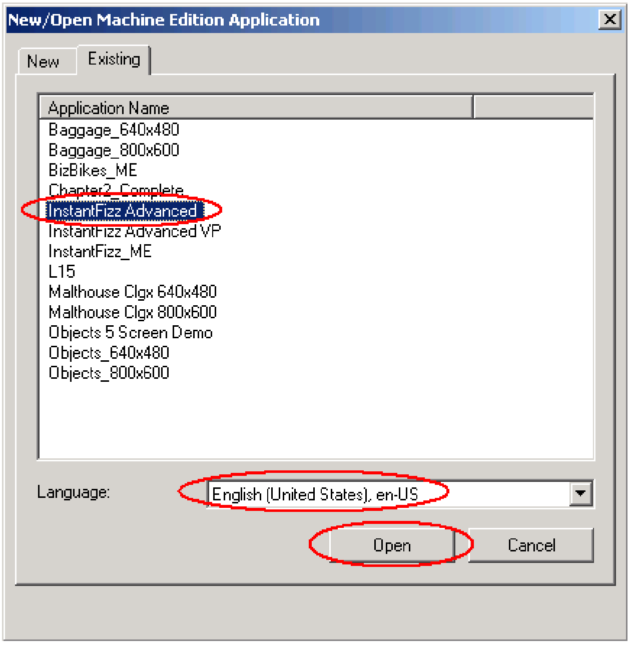
- Import and modify recipe models and understand the principles of Recipes.
- Review a recipe screen using the standard Recipe Plus components.

Open the InstantFizz Advanced application

If you already have the InstantFizz Advanced application open from a previous section, you can move on to the next section, Error! Reference source not found..

1. To open FactoryTalk View Studio, click ***Start > All Programs > Rockwell Software > FactoryTalk View > FactoryTalk View Studio***. If FactoryTalk View Studio is already open, then select ***File > Open Application…*** to switch applications.

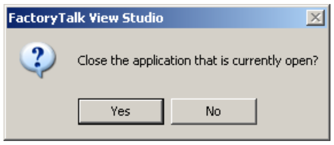
2. Select the existing ***InstantFizz Advanced*** application, make sure ***English*** is selected for the **Language**, and click ***Open***:



Baggage_640x480
Baggage_800x600
BizBikes_ME
Chapter2_Complete
InstantFizz Advanced
InstantFizz Advanced VP
InstantFizz_ME
L15
Malthouse Clgx 640x480
Malthouse Clgx 800x600
Objects 5 Screen Demo
Objects_640x480
Objects_800x600

Language: English (United States), en-US

3. If you are switching applications you will be prompted to close the currently open application, click the ***Yes*** button to proceed.



Close the application that is currently open?

Importing RecipePlus tags

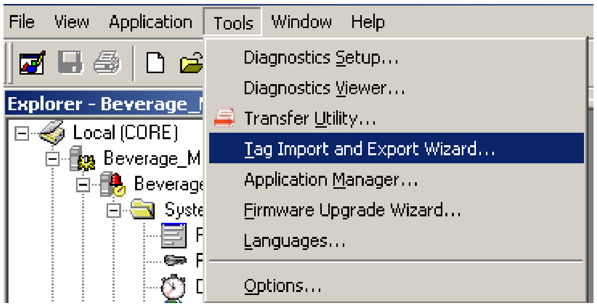
Recipes have two tag settings that are used to determine the results of various recipe operations during run time.

The first tag is called the **Status Tag** and it shows the results of download, upload, upload and create, delete, rename, restore and save operations. The result status of these operations can be 'start', 'successful' or 'with errors'.

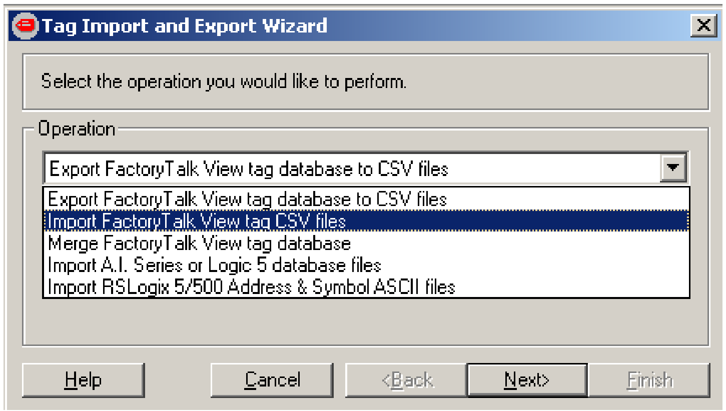
The second tag is called the **Percent Complete Tag.** The recipe system writes to this tag during any recipe operation to show what percent of ingredients currently being processed have been completed.

Before we can have a look at these tags we are going to import them.

1. From the ***Tools*** menu select the ***Tag Import and Export Wizard…*** option.



2. Select ***Import FactoryTalk View tag CSV files*** from the drop down list and click ***Next*** Next>.


Tag Import and Export Wizard
Operation
Export FactoryTalk View tag database to CSV files
Export FactoryTalk View tag database to CSV files
Import FactoryTalk View tag CSV files
Merge FactoryTalk View tag database
Import A.I. Series or Logic 5 database files
Import RSLogix 5/500 Address & Symbol ASCII files
Help
Cancel
<Back
Next>
Finish

Select the operation you would like to perform.

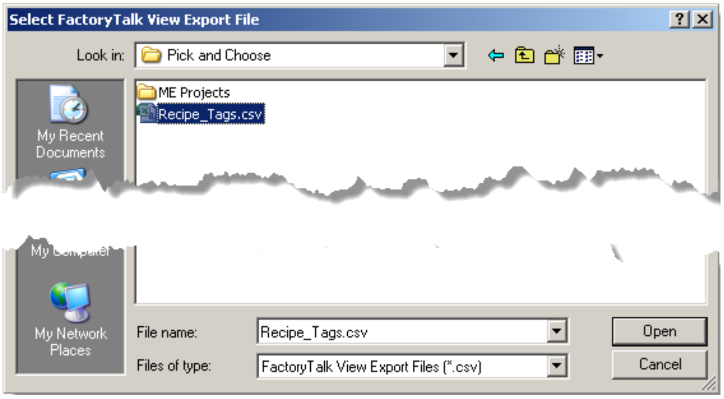
3. To the right of the ***Project*** field, select the browse button ... .

4. Double click the folder ***InstantFizz Advanced*** and select ***InstantFizz Advanced.MED***.

5. Click ***Next*** Next>, you just selected which ME application you want to import the tags to.

6. Click on browse button ..., now you are going to select the file that contains the tags that you are going to import. The file is located at: ***C:\Lab Files\ViewME – ViewPoint\ViewME\Pick and Choose.***

7. Select the ***Recipe_Tags.csv*** file and click Open.


Select FactoryTalk View Export File

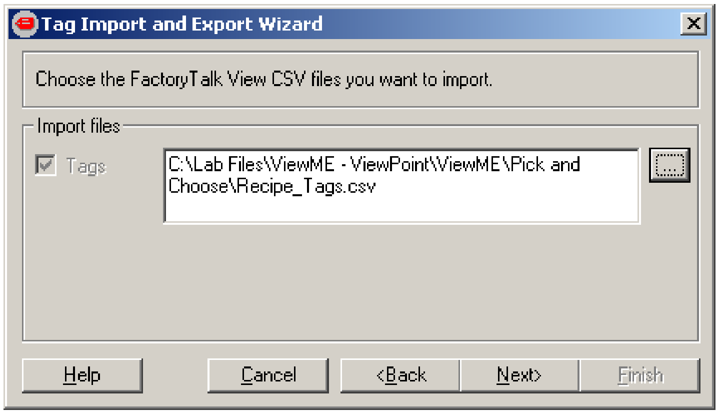
Look in: Pick and Choose

ME Projects
Recipe_Tags.csv

File name: Recipe_Tags.csv

Files of type: FactoryTalk View Export Files (*.csv)

8. Once the CSV file has been selected click ***Next***.


Tag Import and Export Wizard

Choose the FactoryTalk View CSV files you want to import.

Import files

☑ Tags: C:\Lab Files\ViewME - ViewPoint\ViewME\Pick and Choose\Recipe_Tags.csv

9. You will be presented with an import options dialog. In this case you can just leave it as default and click ***Next***.

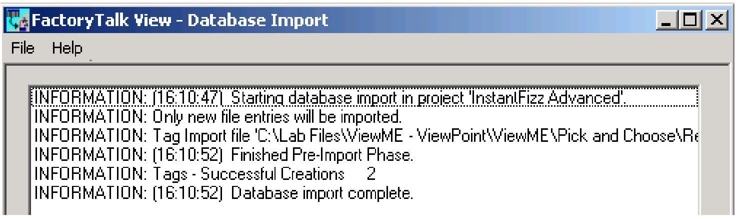
Skip existing - Means that tags in the import file that are also in the database will not be imported

Update existing - Means that the duplicate tags in the database will be updated with the info from the import file.

<u>Important</u> : The import wizard will not delete any tags. If you want the remove tags you need to do that in the tag database builder itself.

10. You will be presented with an overview of the source and destination files. Click ***Finish*** to import the tags into the application.

11. You will see a dialog box showing the status of the import; click the ***X*** in the upper right corner of this dialog to close it.


FactoryTalk View - Database Import

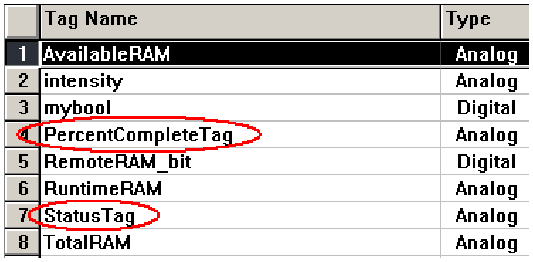
```
INFORMATION: (16:10:47)  Starting database import in project 'InstantFizz Advanced'.
INFORMATION: Only new file entries will be imported.
INFORMATION: Tag Import file 'C:\Lab Files\ViewME - ViewPoint\ViewME\Pick and Choose\Re
INFORMATION: (16:10:52)  Finished Pre-Import Phase.
INFORMATION: Tags - Successful Creations     2
INFORMATION: (16:10:52)  Database import complete.
```

Checking the imported recipe tags

Now you can go and verify the tags that you imported.

1. Go to the HMI Tags folder, expand it and double click on Tags .

2. As you can see the 2 tags have been created for you.



	Tag Name	Type
1	AvailableRAM	Analog
2	intensity	Analog
3	mybool	Digital
4	PercentCompleteTag	Analog
5	RemoteRAM_bit	Digital
6	RuntimeRAM	Analog
7	StatusTag	Analog
8	TotalRAM	Analog

Status tag

The status tag shows the results of recipe download and upload operations. The following table indicates the value of the status tag (in hexadecimal) when certain operations are performed:

Operation	Start	Successful	With Errors
Download	0x01	0x02	0x04
Upload	0x011	0x012	0x014
Upload and Create	0x021	0x022	0x024
Delete	0x041	0x042	0x044
Rename	0x081	0x082	0x084
Restore	0x101	0x102	0x104
Save	0x201	0x202	0x204

Percent complete tag

The recipe system writes to this tag during any recipe operation to show what percentage of ingredients currently being processed have been completed.

Configuring the RecipePlus components

The RecipePlus feature allows users to read or write a set of values to a set of tags in a single operation. RecipePlus can also be used to compare two recipes to determine their differences.

The RecipePlus feature consists of several components:

RecipePlus Setup – used to specify whether recipe files will be a part of the HMI project, and where the files will be stored for retrieval at run time.

RecipePlus Editor – used to create and edit the recipe files by specifying the ingredients of the recipe, the data sets, the tag sets and the recipe units. The editor can also be used to compare data sets and tag sets within a single recipe.

RecipePlus table object – used to display, modify and save the contents of a recipe at run time. The table also shows the differences between the recipe data values and the tags associated with the recipe (i.e. data set and tag set).

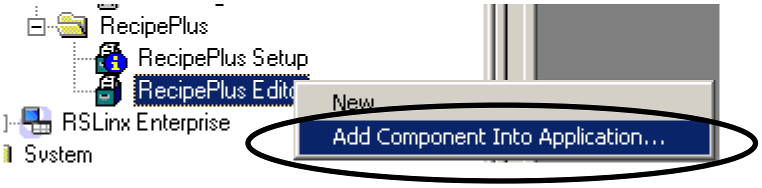
RecipePlus button object – used to initiate recipe operations at run time (i.e. download, upload, upload and create, save, restore, delete and rename).

RecipePlus selector object – used to select from a list of created recipes.

Importing the Recipe into your application

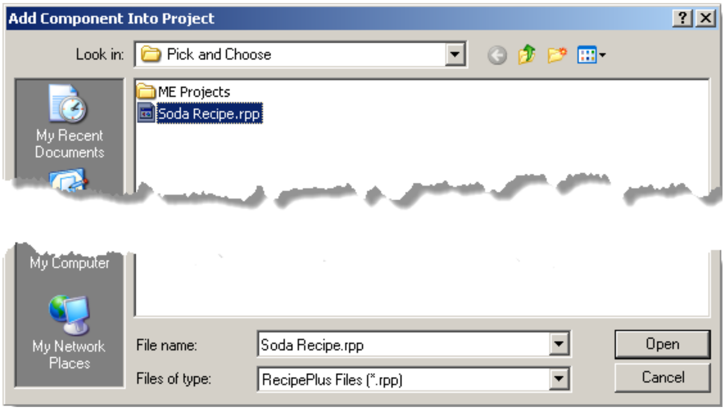
Since we are starting from an existing Blending Line we are going to import the recipe file.

1. Right **mouse click on** RecipePlus Editor **and select** Add Component Into application….



2. Navigate to the ***C:\Lab Files\FTViewME – ViewPoint – PVP Pro\ViewME\Pick and Choose*** folder.

3. Select the ***Soda recipe.rpp*** file and click ***Open***.



Look in: Pick and Choose

File name: Soda Recipe.rpp

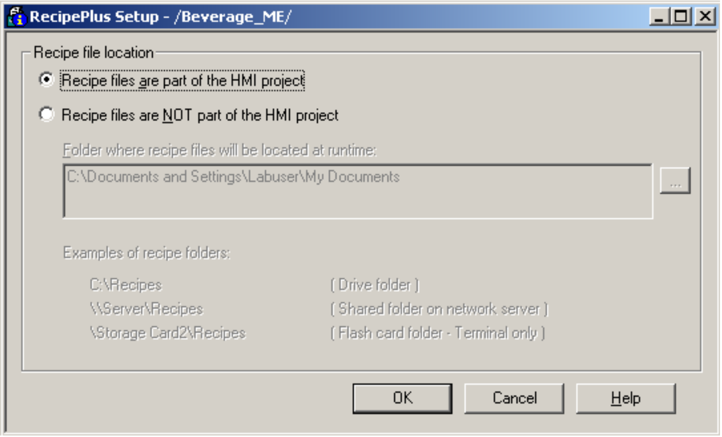
Files of type: RecipePlus Files (*.rpp)

The recipe has now been imported into the application.

Setting up RecipePlus

1. Under RecipePlus select RecipePlus Setup.

2. Make sure that the ***Recipe files are part of the HMI project*** radio button is selected.



RecipePlus Setup - /Beverage_ME/

Recipe file location

● Recipe files are part of the HMI project

○ Recipe files are NOT part of the HMI project

Folder where recipe files will be located at runtime:

C:\Documents and Settings\Labuser\My Documents

Examples of recipe folders:

C:\Recipes	(Drive folder)
\\Server\Recipes	(Shared folder on network server)
\Storage Card2\Recipes	(Flash card folder - Terminal only)

At run time, recipe files can either be a part of the HMI project, or can be stored in some other location. Use the RecipePlus Setup dialog to specify where the recipe files will be located at run time.

At design time, only recipe files that are within the HMI project can be edited.

Important: If you choose to store the recipe files outside of the HMI project at run time, you must move the files manually from within the HMI project to the desired location before running the application.

Recipe file location

Recipe files are part of the HMI project

Select this radio button if recipe files will be part of the HMI project at run time. Recipe files appear under the RecipePlus editor node in the Application Explorer. The recipe folder in the HMI project will be named RecipePlus.

When this option is selected, all of the recipe files in the HMI project will be included in the ME runtime application (*.mer). This is the default behavior.

Recipe files are NOT part of the HMI project

Select this radio button to specify an alternative location for recipe files at run time.

Click the browse button to browse to the desired location. At run time, the recipe system will look for recipe files in this folder rather than in the HMI project recipe folder.

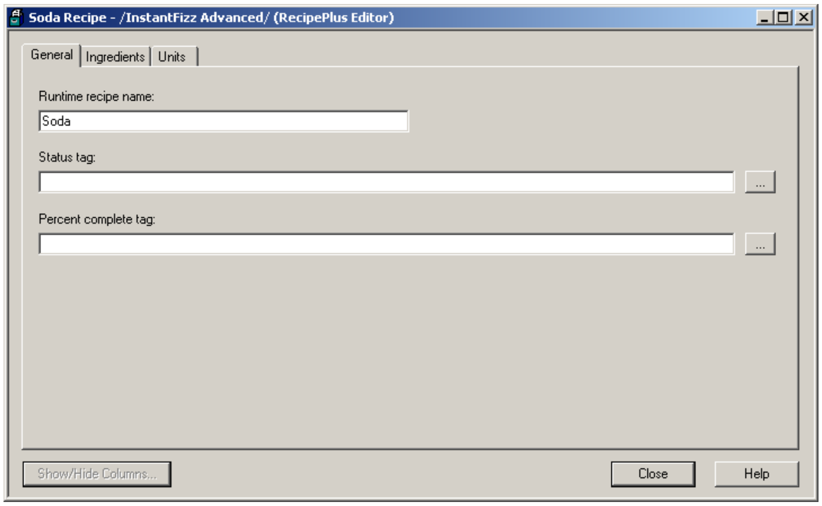
When this option is selected, none of the recipe files in the HMI project or in the specified folder will be included in the ME runtime application.

3. Click OK to close this screen.

Adding a TagSet to a Recipe

1. Under RecipePlus Editor double click Soda Recipe. This is the recipe file you just imported.

2. You will see the ***General*** tab as shown below.



Runtime recipe name: Soda

Status tag:

Percent complete tag:

General Tab:

Runtime recipe name

Type a unique, user-friendly name for the recipe file. This is the name the recipe selector will use at run time.

Status tag

Click the browse button to open the Tag Browser and specify a tag to be used as the status tag.

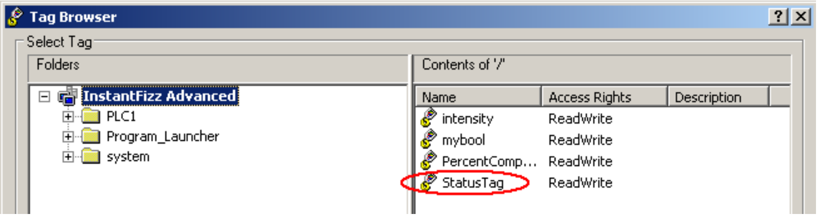
Percent complete tag

Click the browse button to open the Tag Browser and specify a tag to be used as the percent complete tag.

The Status tag and Percent complete tag are not filled in.

3. Click the ***browse*** button ... to the right of the Status Tag field.

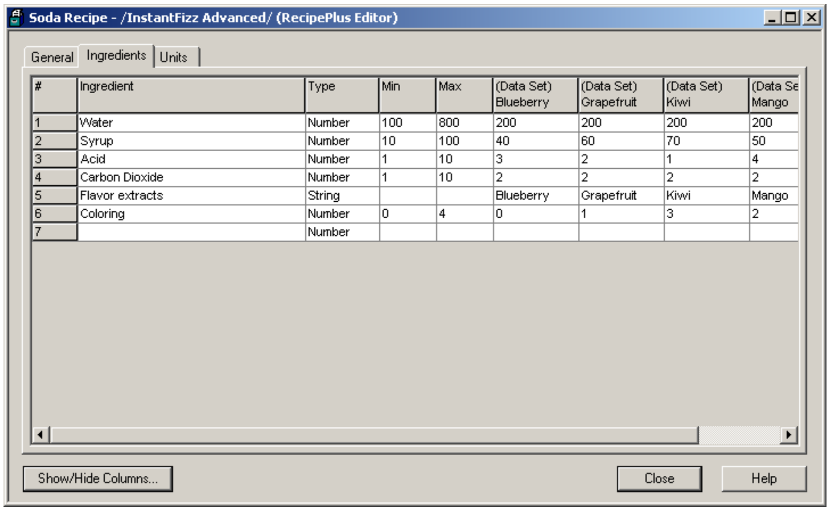
   This will open the tag browser, highlight the ***InstantFizz Advanced*** folder and select the ***StatusTag,*** click ***OK.***



Name	Access Rights	Description
intensity	ReadWrite	
mybool	ReadWrite	
PercentComp...	ReadWrite	
StatusTag	ReadWrite	

4. Repeat **step 3** above for the **Percentage Complete Tag** field and this time select the ***PercentCompleteTag*** tag.

5. Click on the ***Ingredients*** tab.



#	Ingredient	Type	Min	Max	(Data Set) Blueberry	(Data Set) Grapefruit	(Data Set) Kiwi	(Data Se Mango
1	Water	Number	100	800	200	200	200	200
2	Syrup	Number	10	100	40	60	70	50
3	Acid	Number	1	10	3	2	1	4
4	Carbon Dioxide	Number	1	10	2	2	2	2
5	Flavor extracts	String			Blueberry	Grapefruit	Kiwi	Mango
6	Coloring	Number	0	4	0	1	3	2
7		Number						

General Tab:

Ingredient

Type the name of the ingredient. Examples might be Sugar, Nitric acid, Secret sauce, 55mm carriage bolts, 2x4 oak, etc.

Type

Specify whether the data value should be interpreted as a number or a string.

If the type is Number, the value, if present, must be a valid integer or floating point number.

If the type is String, the value, if present, can be any string. The Min and Max properties do not apply.

Min

If the ingredient type is Number, type the smallest value that can be written to the tag when the recipe is downloaded or the ingredient is edited in the table at run time.

The possible range is -1.797693E+308 to 1.797693E+308.

Max

If the ingredient type is Number, type the largest value that can be written to the tag when the recipe is downloaded or the ingredient is edited in the table at run time.

The possible range is -1.797693E+308 to 1.797693E+308.

Data Set

When a new recipe file is created, one data set is created, and named Data Set 1. To rename or delete this data set, or to insert a new data set, click the Recipe menu at the top of the FactoryTalk View Studio frame. Data set names can have a maximum of 31 characters.

In the row for each ingredient, type the data value in the cell of the data set column.

Tag Set

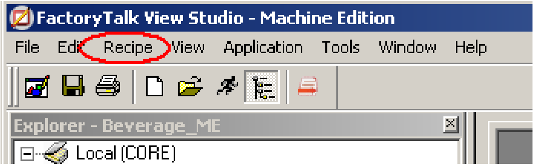
When a new recipe file is created, one tag set is created, and named Tag Set 1. To rename or delete this tag set, or to insert a new tag set, click the Recipe menu at the top of the FactoryTalk View Studio frame. Tag set names can have a maximum of 31 characters.

In the row for each ingredient, insert the tag name associated with the data value in the cell of the tag set column. You can type the tag names or select tags from the Tag Browser.

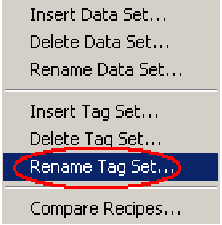
This is a list of all the ingredients that are needed to create Blueberry, grapefruit, kiwi or mango. As you can see we only have 1 tag set which is called ***Tag Set 1***.

6. If you click on the ***Units*** you will see that the units are all linked to the ***Tag Set 1***. Now go back to the ***Ingredients*** tab.

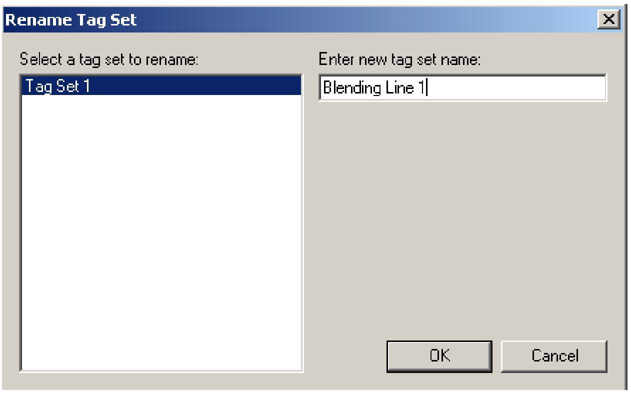
7. Select the ***Recipe*** menu option located between ***Edit*** and ***View***.



8. In the pull down menu select ***Rename Tag Set…***



9. Enter '**<u>Blending Line 1</u>**' in the **Enter new tag set name:** field for Tag Set 1.



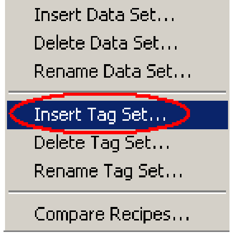
Select a tag set to rename: Tag Set 1

Enter new tag set name: Blending Line 1

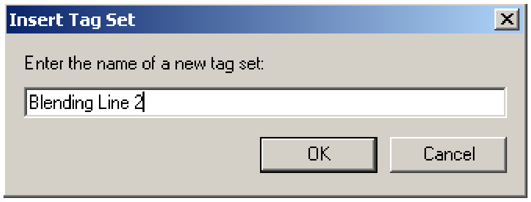
10. Click ***OK*** to close the Rename Tag Set dialog.

11. If you now click on ***Units*** tab you will see that the tag set of the units is also modified. Select the ***Ingredients*** tab again.

12. In the ***Recipe*** pull down menu select ***Insert Tag Set…***.



13. Enter '**<u>Blending Line 2</u>**' in the **Enter the name of the new tag set:** field.



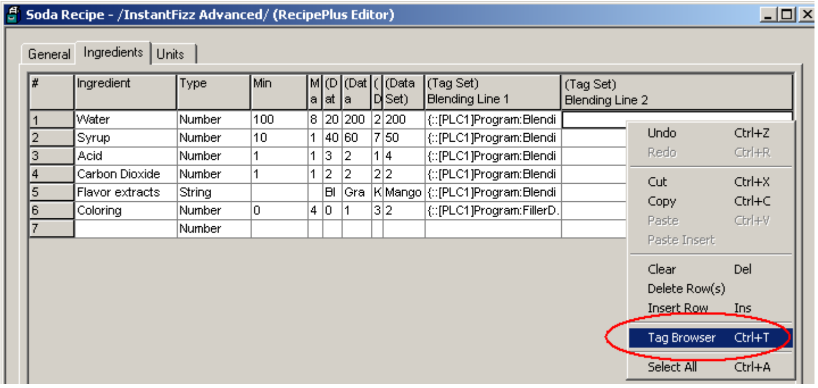
Enter the name of a new tag set:

Blending Line 2

14. Click ***OK.***

15. For this new ***Blending Line 2*** we need to fill in the associated tags using the tag browser

16. To open the Tag Browser, ***select*** the top cell under the ***(Tag Set) Blending Line 2*** column heading, ***right-click*** in the cell and select ***Tag Browser***, or select ***Tag Browser*** from the ***Edit*** menu.



#	Ingredient	Type	Min	Ma	(Dat	(Data	(D	(Data Set)	(Tag Set) Blending Line 1	(Tag Set) Blending Line 2
1	Water	Number	100	8	20	200	2	200	{::[PLC1]Program:Blendi	
2	Syrup	Number	10	1	40	60	7	50	{::[PLC1]Program:Blendi	
3	Acid	Number	1	1	3	2	1	4	{::[PLC1]Program:Blendi	
4	Carbon Dioxide	Number	1	1	2	2	2	2	{::[PLC1]Program:Blendi	
5	Flavor extracts	String			Bl	Gra	K	Mango	{::[PLC1]Program:Blendi	
6	Coloring	Number	0	4	0	1	3	2	{::[PLC1]Program:FillerD.	
7		Number								

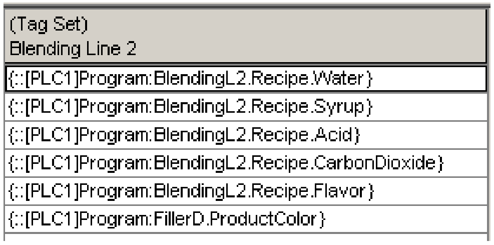
You will need to **change the column widths** using the mouse in order to see the last column.

17. **Fill** in the tags for the Blending Line 2 as shown below:

Water	{::[PLC1]Program:BlendingL2.Recipe.Water}
Syrup	{::[PLC1]Program:BlendingL2.Recipe.Syrup}
Acid	{::[PLC1]Program:BlendingL2.Recipe.Acid}
Carbon Dioxide	{::[PLC1]Program:BlendingL2.Recipe.CarbonDioxide}
Coloring	{::[PLC1]Program:FillerD.ProductColor}

18. Expand ***Recipe*** and select the ***Flavor*** folder in the left hand pane of the tag browser for the **Flavor** ingredient tag.

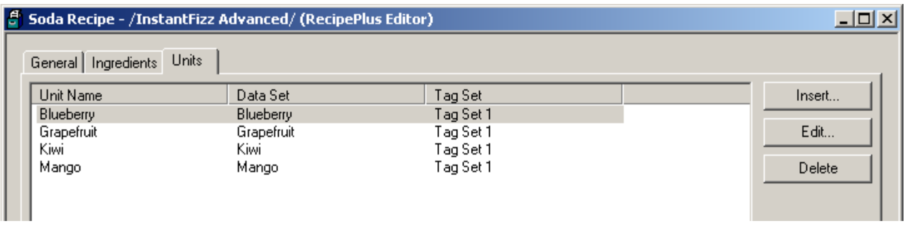
19. Select ***Flavor*** and click ***OK.*** Your Tag Set 2 column should look like this:



(Tag Set) Blending Line 2
{::[PLC1]Program:BlendingL2.Recipe.Water}
{::[PLC1]Program:BlendingL2.Recipe.Syrup}
{::[PLC1]Program:BlendingL2.Recipe.Acid}
{::[PLC1]Program:BlendingL2.Recipe.CarbonDioxide}
{::[PLC1]Program:BlendingL2.Recipe.Flavor}
{::[PLC1]Program:FillerD.ProductColor}

In this case we are using the same controller but a different routine in the controller for the second blending line. The tag set could also come from a different controller.

18. Now select the ***Units*** tab.



Soda Recipe - /InstantFizz Advanced/ (RecipePlus Editor)

Unit Name	Data Set	Tag Set
Blueberry	Blueberry	Tag Set 1
Grapefruit	Grapefruit	Tag Set 1
Kiwi	Kiwi	Tag Set 1
Mango	Mango	Tag Set 1

Units Tab:

Use the Units tab to pair tag sets with data sets to create recipe units.

When a new recipe is created, a new recipe unit with the default name of Unit 1 is created, pairing the default data set Data Set 1 and the default tag set Tag Set 1.

Click on a unit name to select it. You can then edit the selected unit, delete the selected unit, or insert a new unit at the bottom of the list.

Unit name

Click on a unit name to select the unit. The Data Set and Tag Set are automatically selected as part of the unit.

Insert

Click this button to open the Insert Unit dialog.

Edit

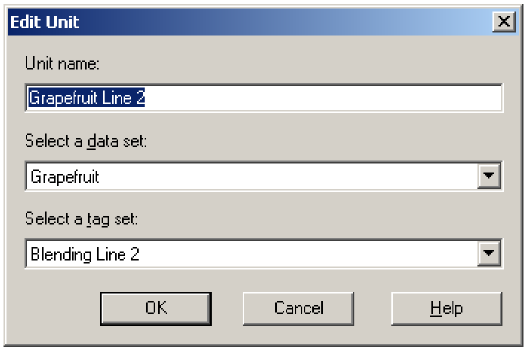
Click this button to open the Edit Unit dialog.

Delete

Click this button to delete the selected unit.

In this lab, Blending Line 1 is making four different soda drinks Blueberry, Grapefruit, Kiwi and Mango. Now you will create another unit for Line 2 using the Grapefruit dataset.

19. Select Insert Insert... and enter '**Grapefruit Line 2**' in the ***Unit name*** field, use the drop down list buttons and select ***Grapefruit*** and ***Blending Line 2*** as shown below.



Edit Unit

Unit name: Grapefruit Line 2

Select a data set: Grapefruit

Select a tag set: Blending Line 2

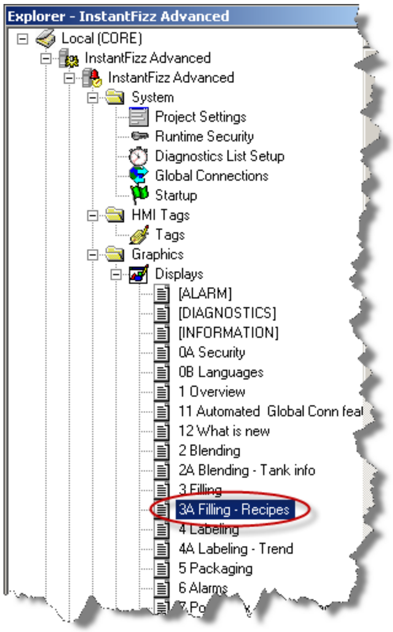
20. Select ***OK*** OK to close the ***Unit*** dialog.

21. Select ***Close*** Close in the ***RecipePlus Editor,*** and select ***Yes*** Yes to save the recipe.

Now the unit is created so that it can re-use all the values used in the original line recipe for Grapefruit on the new Blending Line 2.

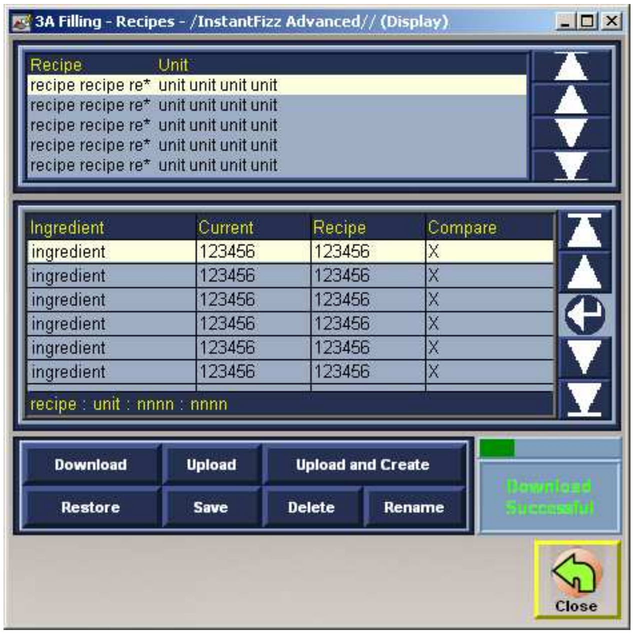
View the existing recipe display

1. In the application Explorer, expand **Graphics** and **Displays**, then double-click on the ***3A Filling - Recipes*** display to open it:



```
Explorer - InstantFizz Advanced
⊟ Local (CORE)
  ⊟ InstantFizz Advanced
    ⊟ InstantFizz Advanced
      ⊟ System
          Project Settings
          Runtime Security
          Diagnostics List Setup
          Global Connections
          Startup
      ⊟ HMI Tags
          Tags
      ⊟ Graphics
        ⊟ Displays
            [ALARM]
            [DIAGNOSTICS]
            [INFORMATION]
            0A Security
            0B Languages
            1 Overview
            11 Automated Global Conn feat
            12 What is new
            2 Blending
            2A Blending - Tank info
            3 Filling
            3A Filling - Recipes
            4 Labeling
            4A Labeling - Trend
            5 Packaging
            6 Alarms
            7 Po
```

All of these objects have been configured for you and your display should look like:



3A Filling - Recipes - /InstantFizz Advanced// (Display)

Recipe	Unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit

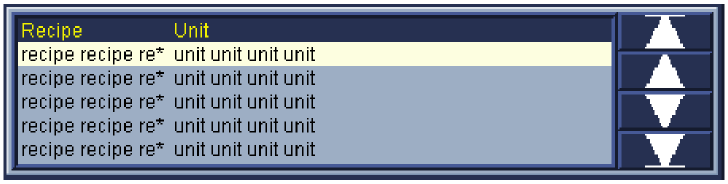
Ingredient	Current	Recipe	Compare
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X

recipe : unit : nnnn : nnnn

Download Successful

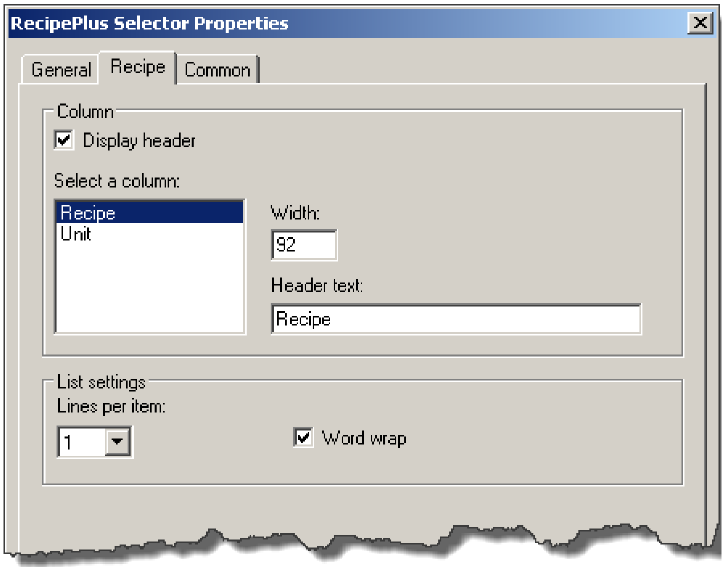
The **3A Filling – Recipes** display has been configured for you and is where at run time you can upload and download recipes, or lists of ingredients, view recipe contents, and select recipes to use.

2. Double-click on the **RecipePlus Selector** object near the top of the display to view its configuration.



Recipe	Unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit

This object allows you to select a recipe file and unit to be acted upon using the RecipePlus buttons described later on.



RecipePlus Selector Properties

Column

☑ Display header

Select a column:

Recipe
Unit

Width: 92

Header text: Recipe

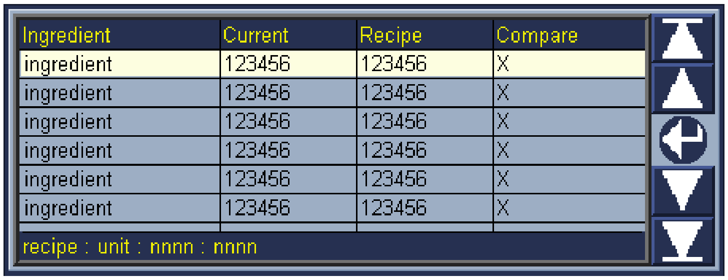
List settings

Lines per item: 1

☑ Word wrap

3. Click **Cancel** when finished.

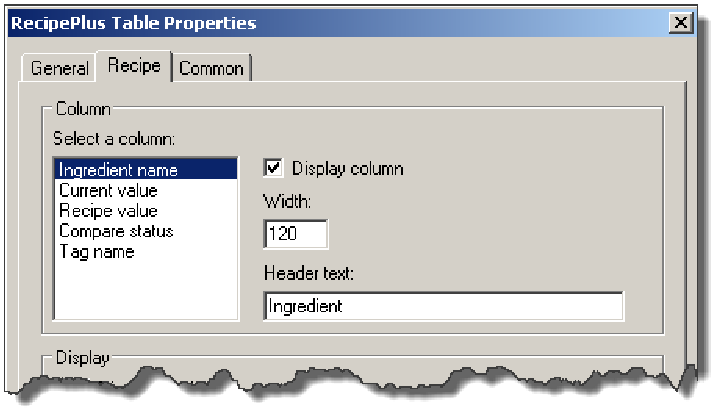
4. Double-click on the **RecipePlus Table** object in the middle of the display to view its configuration.



Ingredient	Current	Recipe	Compare
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X

recipe : unit : nnnn : nnnn

This object is used to display and edit recipes during runtime.



RecipePlus Table Properties

General | Recipe | Common

Column

Select a column:

- Ingredient name
- Current value
- Recipe value
- Compare status
- Tag name

☑ Display column

Width: 120

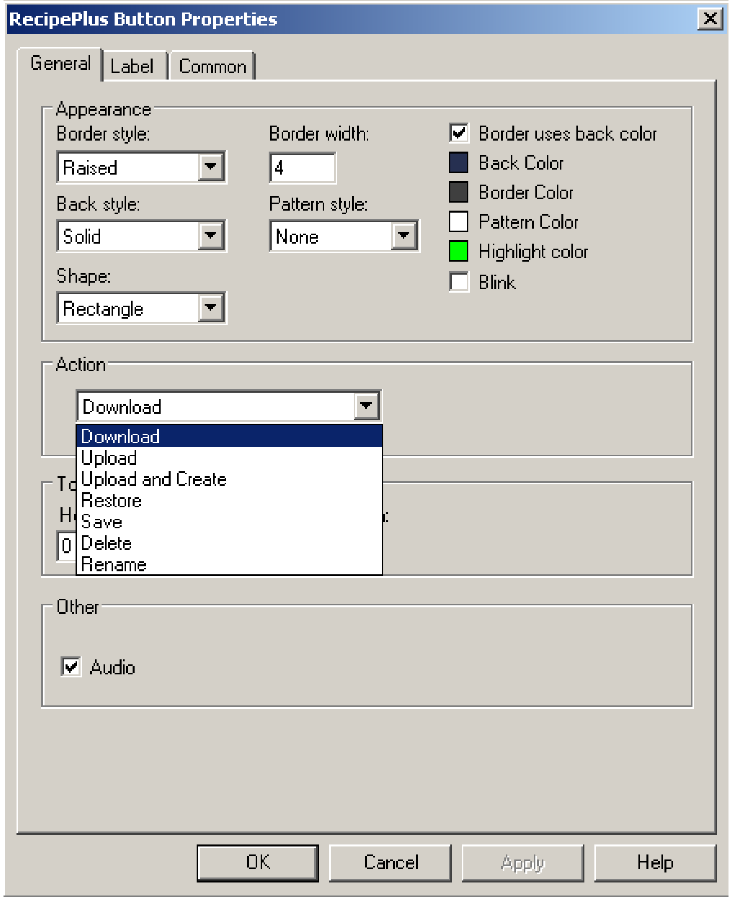
Header text: Ingredient

Display

5. Click **Cancel** when finished.

6. Double-click on the **Download** button in the bottom left hand corner of the display to view its configuration.

The **RecipePlus buttons** can be defined for any of the RecipePlus actions: Download, Upload, Upload and Create, Restore, Save, Delete and Rename.



RecipePlus Button Properties

General | Label | Common

Appearance

Border style: Raised

Border width: 4

☑ Border uses back color

Back Color

Border Color

□ Pattern Color

🟩 Highlight color

□ Blink

Back style: Solid

Pattern style: None

Shape: Rectangle

Action

Download

- Download
- Upload
- Upload and Create
- Restore
- Save
- Delete
- Rename

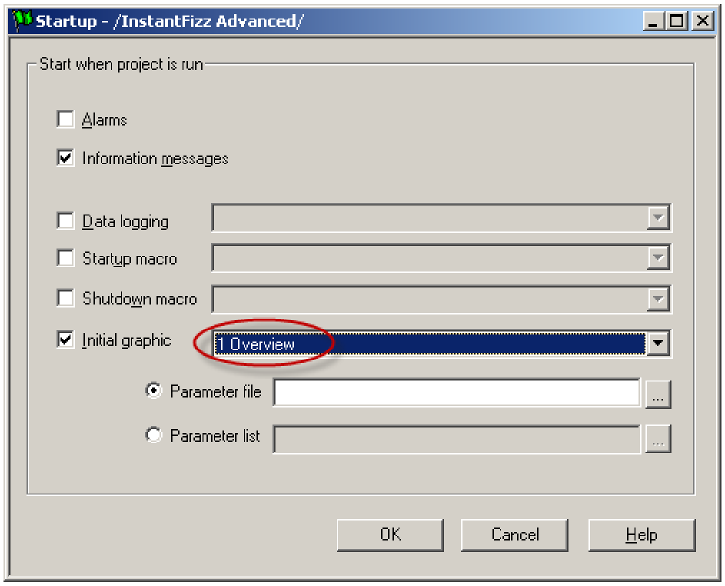
Other

☑ Audio

OK | Cancel | Apply | Help

7. Click **Cancel** when finished.

8. Double-click ***Startup*** in the application Explorer to configure startup options, check the ***Initial graphic*** checkbox if it isn't selected already and verify that ***1 Overview*** is selected as the **Initial graphic**:



Startup - /InstantFizz Advanced/

Start when project is run

☐ Alarms

☑ Information messages

☐ Data logging

☐ Startup macro

☐ Shutdown macro

☑ Initial graphic: 1 Overview

● Parameter file

○ Parameter list

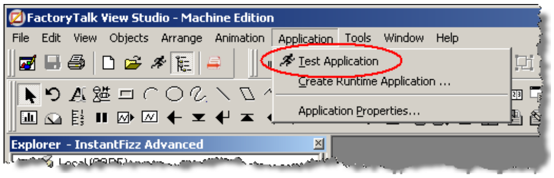
9. Click ***OK*** to accept your changes.

10. Make sure that you don't have the project running from a previous section. If you do, click ***Shutdown*** or ***Exit*** to close it.

Testing the application

To test the application you will use FactoryTalk Studio for Machine Edition's **Test Application** function. You can use the PanelView Plus, however, these instructions use **Test Application**.

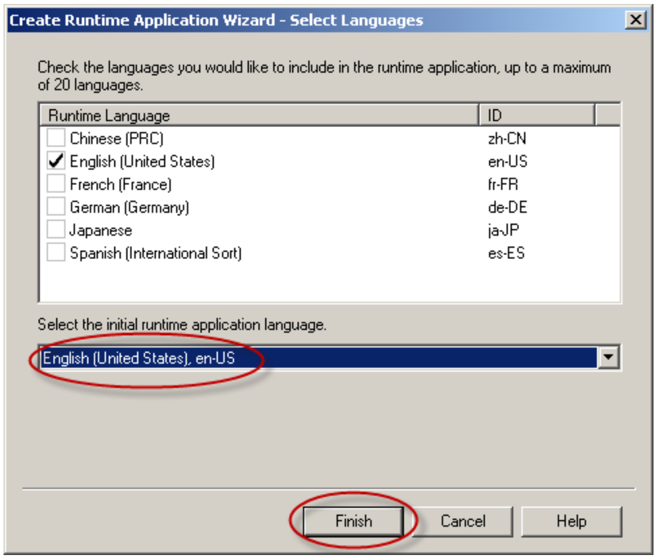
1. From the **Application** menu, select the ***Test Application*** item.



FactoryTalk View Studio - Machine Edition
File
Edit
View
Objects
Arrange
Animation
Application
Tools
Window
Help
Test Application
Create Runtime Application ...
Application Properties...
Explorer - InstantFizz Advanced

2. On the **Select Languages** dialog, make sure that ***English*** is selected as the initial runtime application language and click ***Finish***.

3. Click the ***Finish*** button Finish to build the runtime application file.



Create Runtime Application Wizard - Select Languages

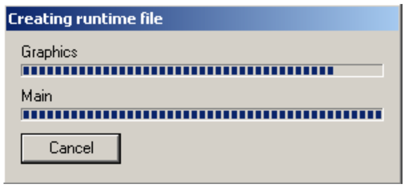
Check the languages you would like to include in the runtime application, up to a maximum of 20 languages.

Runtime Language	ID
☐ Chinese (PRC)	zh-CN
☑ English (United States)	en-US
☐ French (France)	fr-FR
☐ German (Germany)	de-DE
☐ Japanese	ja-JP
☐ Spanish (International Sort)	es-ES

Select the initial runtime application language.

English (United States), en-US

While the system builds the runtime MER, a progress dialog is displayed.



When the runtime MER file is built, the system loads the runtime MER in to an emulation mode. The application will appear in the upper left-hand corner of the computer display.

4. If you did not complete the **Working With Security** section, skip to **Step 5**. If you have, you will need to log in with proper credentials.

   Click on ***Security*** Security, then ***Log In*** Log In and use the credentials of user name '**Operator**'***,*** password '**Operator**'.

5. Click the ***Recipes*** button Recipes to open the display.

6. Use the different RecipePlus objects to upload and download recipes, view lists of ingredients or recipe contents, and select recipes to use.

7. ***Exit*** Exit the application when you are finished.

Congratulations!! You have successfully configured RecipePlus and used RecipePlus objects on a display.

Working with security (15 minutes)

Completing this section requires approximately 15 minutes.

FactoryTalk View ME user accounts work with security codes to determine whether a user gets access to the system at run time. Each display in a project is assigned a security code. Users are also assigned security codes. At runtime, if a user is assigned access to the security code for a particular display they are allowed to access the display.

When you set up security in FactoryTalk View ME, user accounts are stored in the FactoryTalk Directory. This means that those same user accounts can be used not only with the FactoryTalk View ME application, but with any other FactoryTalk-enabled software running on the same computer. You can add a FactoryTalk user account that is separate from a user's Windows account, or a Windows-linked user account that inherits all the operating system user settings.

FactoryTalk View ME security allows you to assign any one of 16 security codes (A-P), or an asterisk (*) to your displays. Users are also assigned security codes, and if a user's assigned security codes match the code assigned to a display, they are allowed access to the display. All users are allowed access to displays with the asterisk for the security code. By default, new users have all 16 security codes assigned to them. The **Default** user also has all 16 security codes assigned. The Default user account is used when no user is logged on.

In this section you will:

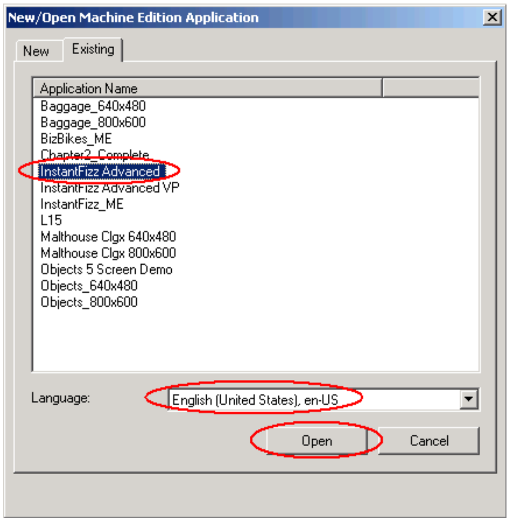
- Add a User and grant permissions to the **3A Filling – Recipes** display
- Create and apply security to a User Group.

Open the InstantFizz Advanced application

If you already have the **InstantFizz Advanced** application open from a previous section, you can move on to the next section, **View the security code for a display.**

1. To open FactoryTalk View Studio, click ***Start > All Programs > Rockwell Software > FactoryTalk View > FactoryTalk View Studio***. If FactoryTalk View Studio is already open, then select ***File > Open Application…*** to switch applications.

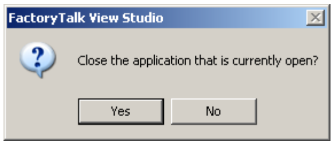
2. Select the existing ***InstantFizz Advanced*** application, make sure ***English*** is selected for the **Language**, and click ***Open***:



Application Name
Baggage_640x480
Baggage_800x600
BizBikes_ME
Chapter2_Complete
InstantFizz Advanced
InstantFizz Advanced VP
InstantFizz_ME
L15
Malthouse Clgx 640x480
Malthouse Clgx 800x600
Objects 5 Screen Demo
Objects_640x480
Objects_800x600

Language: English (United States), en-US

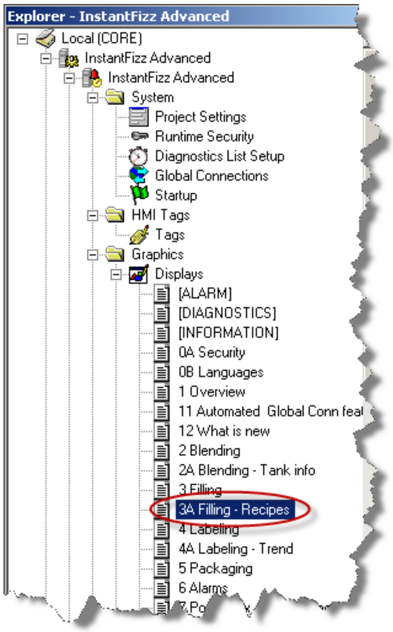
3. If you are switching applications you will be prompted to close the currently open application, click the ***Yes*** button to proceed.



Close the application that is currently open?

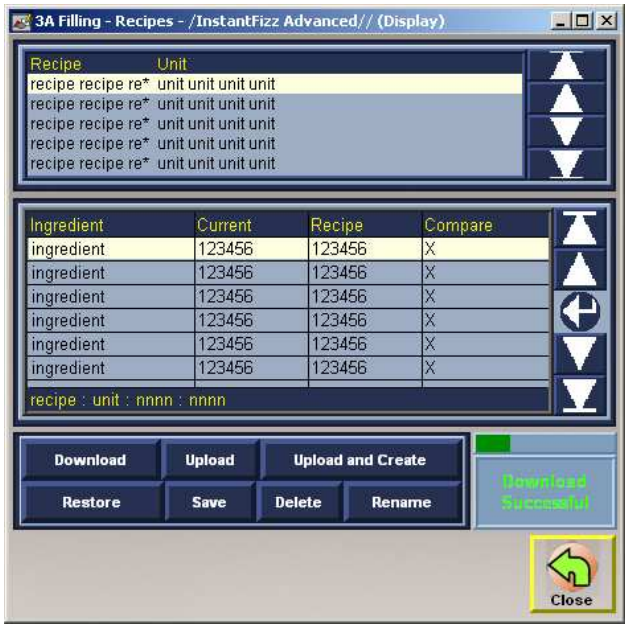
View the security code for a display

1. In the application Explorer, expand **Graphics** and **Displays**, then double-click on the ***3A Filling - Recipes*** display to open it:



Local (CORE)
InstantFizz Advanced
InstantFizz Advanced
System
Project Settings
Runtime Security
Diagnostics List Setup
Global Connections
Startup
HMI Tags
Tags
Graphics
Displays
[ALARM]
[DIAGNOSTICS]
[INFORMATION]
0A Security
0B Languages
1 Overview
11 Automated Global Conn feat
12 What is new
2 Blending
2A Blending - Tank info
3 Filling
3A Filling - Recipes
4 Labeling
4A Labeling - Trend
5 Packaging
6 Alarms
7 Po

The display is opened:



3A Filling - Recipes - /InstantFizz Advanced// (Display)

Recipe	Unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit
recipe recipe re*	unit unit unit unit

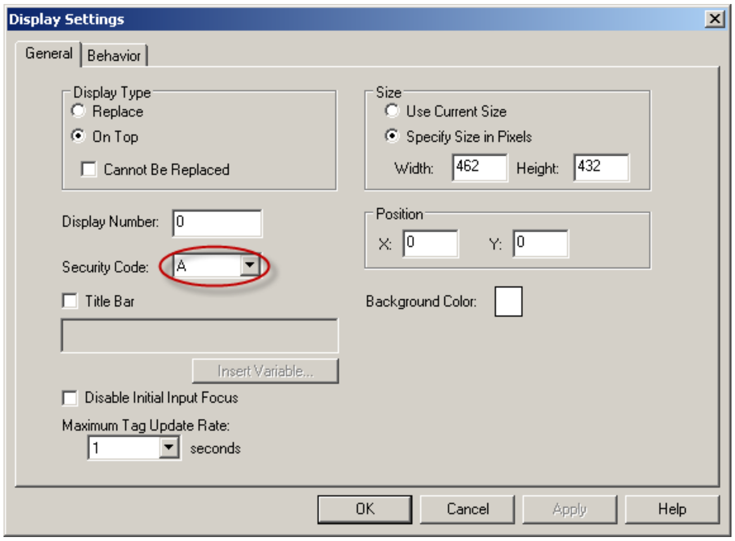
Ingredient	Current	Recipe	Compare
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X
ingredient	123456	123456	X

recipe : unit : nnnn : nnnn

Download Successful

The **3A Filling – Recipes** display is where at run time you can upload and download recipes, or lists of ingredients, view recipe contents, and select recipes to use.

2. Select ***Display Settings*** on the **Edit** menu. The Display Settings editor for the **3A Filling – Recipes** display is opened:



Display Settings

General | Behavior

Display Type
○ Replace
● On Top
□ Cannot Be Replaced

Size
○ Use Current Size
● Specify Size in Pixels
Width: 462 Height: 432

Display Number: 0

Position
X: 0 Y: 0

Security Code: A

Background Color: □

□ Title Bar

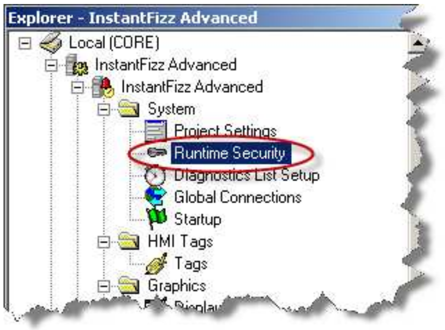
□ Disable Initial Input Focus

Maximum Tag Update Rate: 1 seconds

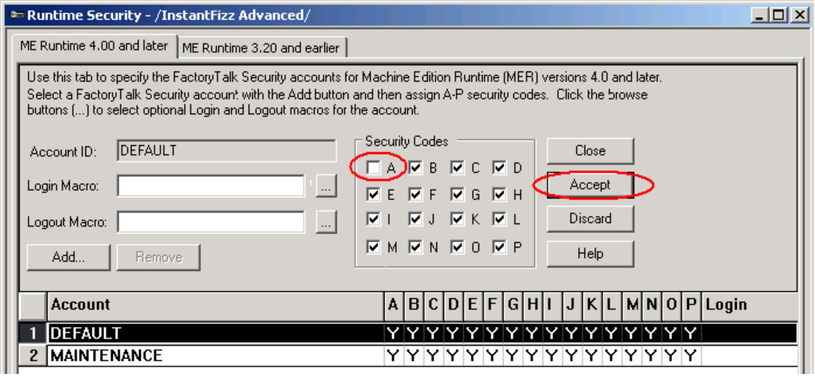
The Display Settings editor is where you can specify a security code for a display. Note that the **3A Filling - Recipes** display is assigned Security Code **A**. Click ***Cancel*** to close the dialog.

Create a new user account and assign security codes

1. Since the display has a security code of **A**, you will now create a new user account called “**Operator**” that is assigned the same security code. Double-click ***Runtime Security*** in the application Explorer to launch the Runtime Security editor:



2. As mentioned earlier, the **Default** user has all 16 codes assigned by default. First remove security code A from the Default user so that only users assigned security code A can access the 3A Filling – Recipes display. Select the **Default** user and click to uncheck the checkbox for security code ***A*** as shown below. You then need to click **Accept** to apply the change.


Runtime Security - /InstantFizz Advanced/
ME Runtime 4.00 and later
ME Runtime 3.20 and earlier
Close
Accept
Discard
Help
Add...
Remove

Use this tab to specify the FactoryTalk Security accounts for Machine Edition Runtime (MER) versions 4.0 and later. Select a FactoryTalk Security account with the Add button and then assign A-P security codes. Click the browse buttons (...) to select optional Login and Logout macros for the account.

Account ID: DEFAULT

Login Macro:

Logout Macro:

Security Codes

☐ A ☑ B ☑ C ☑ D

☑ E ☑ F ☑ G ☑ H

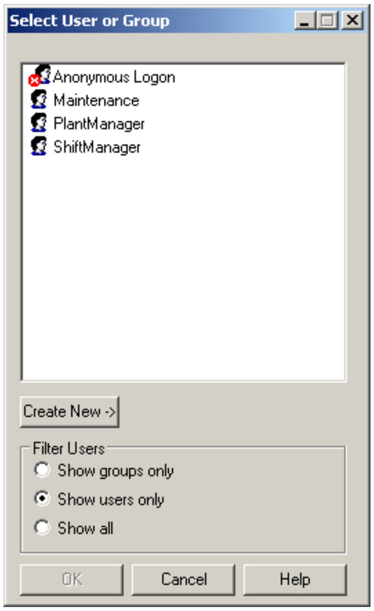
☑ I ☑ J ☑ K ☑ L

☑ M ☑ N ☑ O ☑ P

	Account	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Login
1	DEFAULT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
2	MAINTENANCE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	

Note that on this screen and in the steps below, you may see different users or user groups from what is shown.

3. Click the ***Add*** button Add... to add a new user account. The **Select User or Group** dialog is shown; select ***Show users only***:



Anonymous Logon
Maintenance
PlantManager
ShiftManager

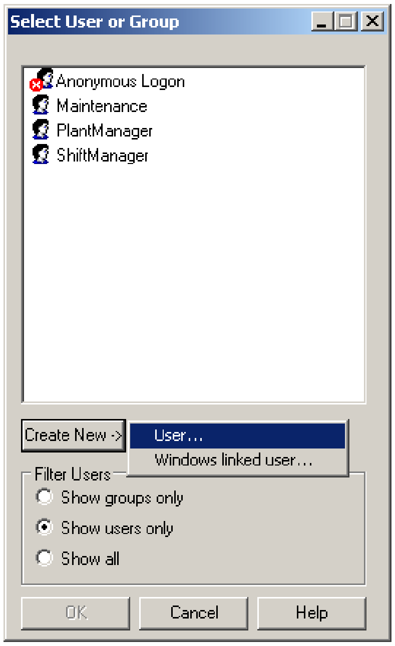
Filter Users

○ Show groups only

● Show users only

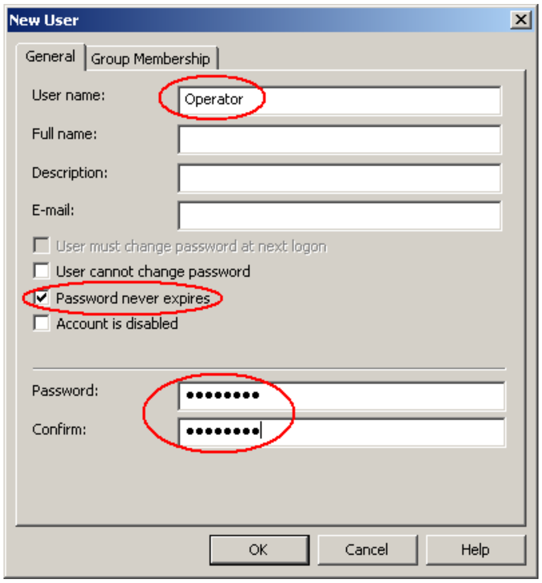
○ Show all

4. Click ***Create New*** and select ***User***:



Filter Users: ○ Show groups only ● Show users only ○ Show all

5. On the **General** tab, enter '**<u>Operator</u>**' as the **User name**. Check ***Password never expires***. Enter '**<u>Operator</u>**' as the **Password** and confirm it in the **Confirm** box.



User name: Operator

Full name:

Description:

E-mail:

□ User must change password at next logon

□ User cannot change password

☑ Password never expires

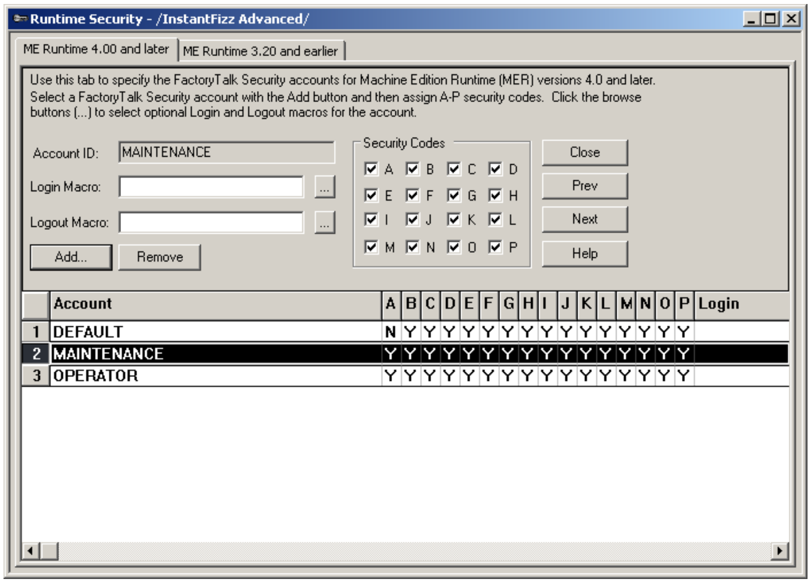
□ Account is disabled

Password: ••••••••

Confirm: ••••••••

6. Click ***OK*** to add your new user. The **Operator** user should now show up in the list on the **Select User or Group** dialog.

7. Select the **Operator** user account and click ***OK***. The user is added to the Runtime Security user account list. Because new users by default are granted access to all 16 security codes, the **Operator** user is already assigned the security code **A**. This is what you want, so leave the security settings as they are.



Runtime Security - /InstantFizz Advanced/

Use this tab to specify the FactoryTalk Security accounts for Machine Edition Runtime (MER) versions 4.0 and later. Select a FactoryTalk Security account with the Add button and then assign A-P security codes. Click the browse buttons (...) to select optional Login and Logout macros for the account.

Account ID: MAINTENANCE

Login Macro:

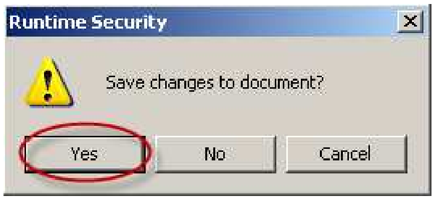
Logout Macro:

Security Codes

☑ A ☑ B ☑ C ☑ D
☑ E ☑ F ☑ G ☑ H
☑ I ☑ J ☑ K ☑ L
☑ M ☑ N ☑ O ☑ P

	Account	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Login
1	DEFAULT	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
2	MAINTENANCE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
3	OPERATOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	

8. Click ***Close*** to close the **Runtime Security** editor. Click ***Yes*** when you are asked if you want to save the changes:



Runtime Security

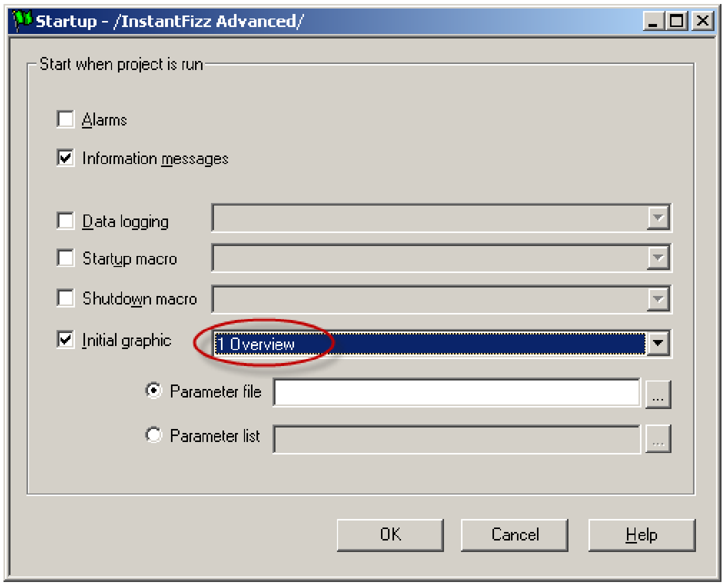
Save changes to document?

You have now created a new user and configured security for it. Remember that you will need to login to the application as user **Operator** from now on when running the application if you want to access the **3A Filling – Recipes** display.

Exercise security

The following steps show you how to log in as user **Operator** when the application is running. Try accessing the **3A Filling – Recipes** display before and after you log in as **Operator** to observe what happens when you do not have rights to a display. Remember that the password for the Operator user is 'Operator'.

1. Double-click ***Startup*** on the application Explorer to configure startup options, check the ***Initial graphic*** checkbox if it isn't selected already and verify that ***1 Overview*** is selected as the **Initial graphic**:



Startup - /InstantFizz Advanced/

Start when project is run

□ Alarms

☑ Information messages

□ Data logging

□ Startup macro

□ Shutdown macro

☑ Initial graphic: 1 Overview

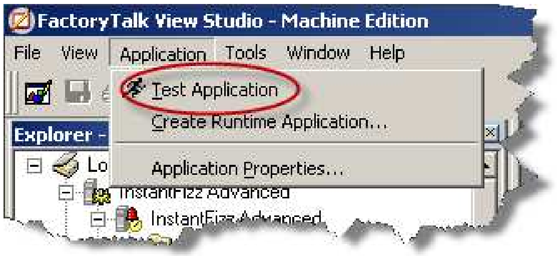
● Parameter file

○ Parameter list

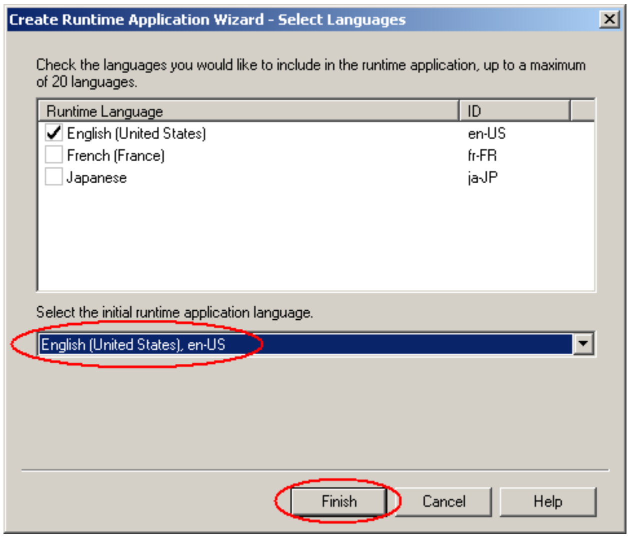
2. Click ***OK*** to accept your changes.

3. Make sure that you don’t have the project running from the previous section. If you do, click ***Exit*** to close it.

4. On the **Application** menu, click ***Test Application***.



5. Select ***English*** as the initial runtime language and click ***Finish***.



Create Runtime Application Wizard - Select Languages

Check the languages you would like to include in the runtime application, up to a maximum of 20 languages.

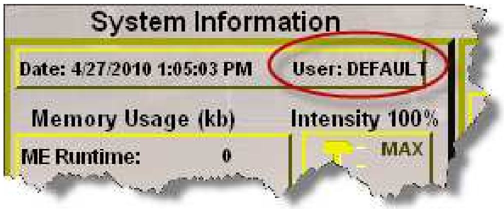
Runtime Language	ID
☑ English (United States)	en-US
□ French (France)	fr-FR
□ Japanese	ja-JP

Select the initial runtime application language.

English (United States), en-US

The runtime file is created. You will see progress bars while it is compiled, and when it is complete the application will run. It will take a couple minutes.

6. When the application starts, the Overview screen is shown, and you can see that the logged in user is '**DEFAULT**':



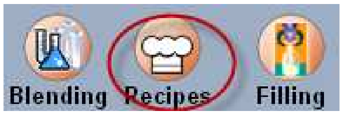
System Information

Date: 4/27/2010 1:05:03 PM User: DEFAULT

Memory Usage (kb) Intensity 100%

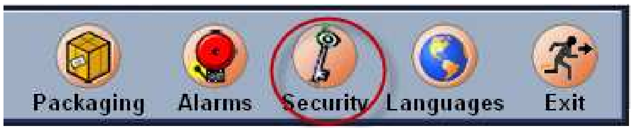
ME Runtime: 0

7. Because you are logged in as Default, you should not have security rights to the **3A - Filling Recipes** display that you configured security for. (Remember that the display is assigned security code "A", and the Default user does not have access rights to "A".) Click the ***Recipes*** button to see what happens:

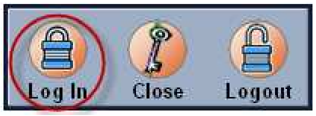


You should see an error saying access is denied because the currently logged in user does not have security access to the display. You can click ***Close*** to close the error display.

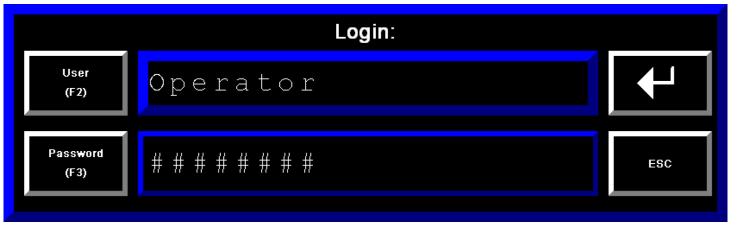
8. Now you will log in as the **Operator** user you created, and who *does* have security access to the **3A – Filling Recipes** display. Click the ***Security*** button on the bottom toolbar.



9. A second toolbar is displayed. Click ***Log In***:



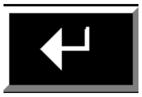
The **Login** display is opened. Click the ***User (F2)*** button and use the keyboard to enter '**Operator**'. Click the ***Password (F3)*** button and enter '**Operator**' for the password. It should look like this:



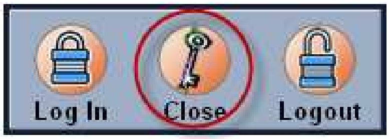
Login:

User (F2) Operator

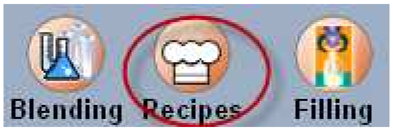
Password (F3) # # # # # # # #

Click the enter button  to log in.

10. Click ***Close*** to close the Security menu.

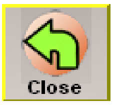


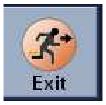
11. Now click the ***Recipes*** button to see what happens.



The recipes screen is opened, because as the **Operator** user you have security access rights!

NOTE: You may see errors that an item is no longer available if the **Recipe Management** section has not yet been completed. You will notice that the **Operator** user successfully opened this display however, the recipe objects are blank.

12. Click the ***Close*** button  to close the recipes display.

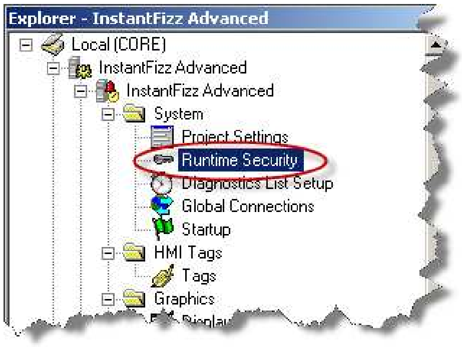
13. Click ***Exit***  to close the running application.

Using security groups

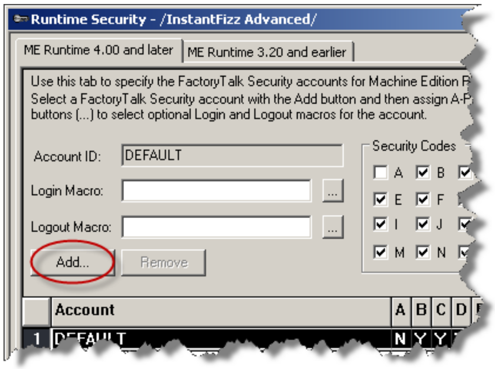
Just as you assign security rights to a user account, you can also create user groups, include users in those groups, and assign security rights to the group as a whole. Any security rights that are applied to the group will apply to each user account in the group.

In this section you will add user accounts to a group and configure security for the group.

1. Double-click ***Runtime Security*** in the application Explorer to launch the Runtime Security editor:



2. Click the ***Add*** button to create a new user group:


Runtime Security - /InstantFizz Advanced/
ME Runtime 4.00 and later
ME Runtime 3.20 and earlier

Use this tab to specify the FactoryTalk Security accounts for Machine Edition R
Select a FactoryTalk Security account with the Add button and then assign A-P
buttons (...) to select optional Login and Logout macros for the account.

Account ID: DEFAULT

Login Macro:

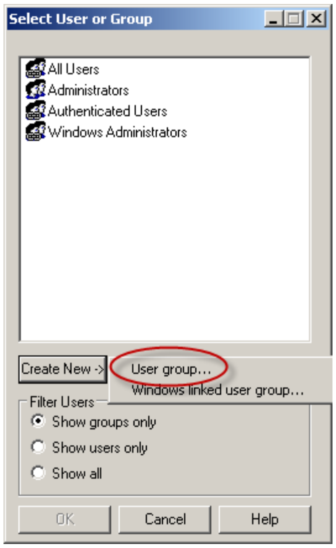
Logout Macro:

Security Codes

□ A ☑ B ☑
☑ E ☑ F
☑ I ☑ J ☑
☑ M ☑ N ☑

	Account	A	B	C	D
1	DEFAULT	N	Y	Y	

3. Click ***Create New***, then ***User group*** to create a new group.

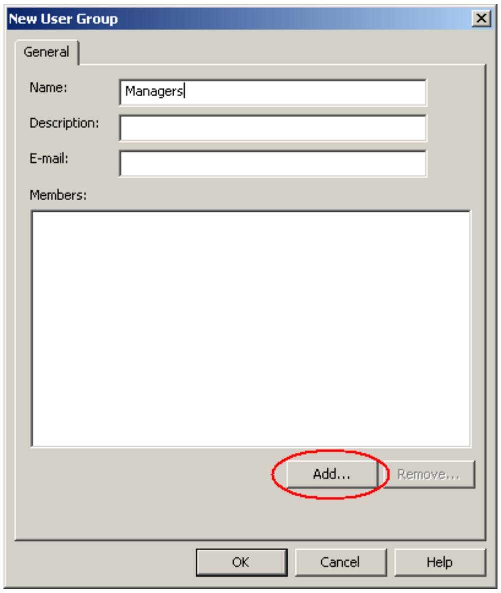


Filter Users

● Show groups only
○ Show users only
○ Show all

4. On the **New User Group** dialog, enter '**Managers**' for the group **Name**.

Click ***Add*** to add users to the new group:



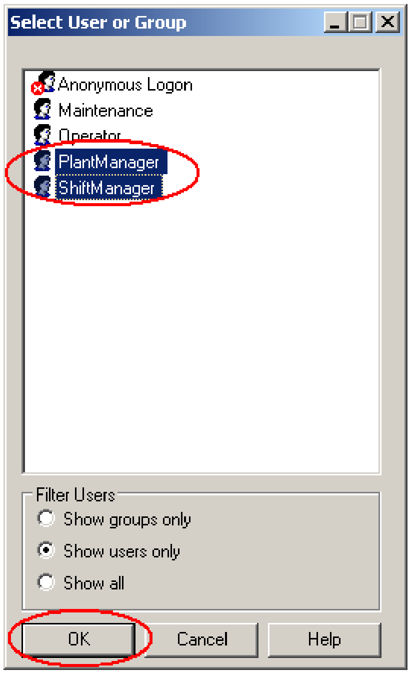
Name: Managers

Description:

E-mail:

Members:

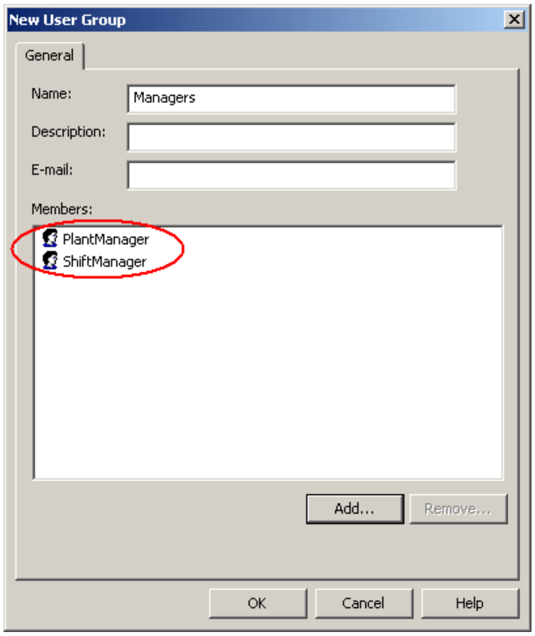
5. Click ***Show users only*** to see the list of configured users. Hold down the ***Ctrl*** key and click the ***PlantManager*** and ***ShiftManager*** users to select them.



Anonymous Logon
Maintenance
Operator
PlantManager
ShiftManager

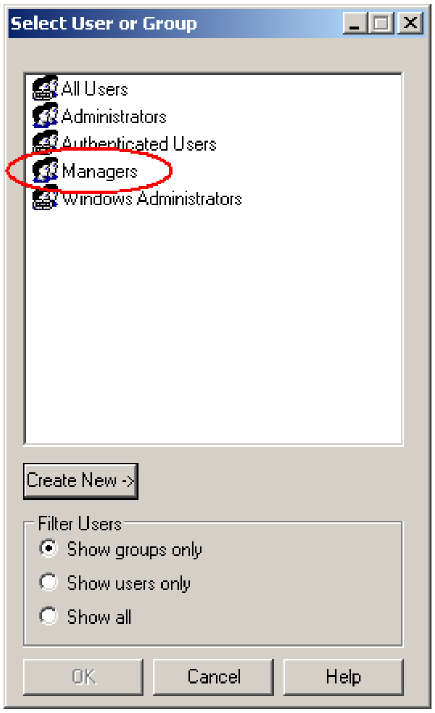
Filter Users
○ Show groups only
● Show users only
○ Show all

6. Click ***OK*** to add the users to your group. They should show up in the **New User Group** dialog in the **Members** list:



Name: Managers
Description:
E-mail:
Members:
PlantManager
ShiftManager

7. Click ***OK*** to create the new user group with group members **PlantManager** and **ShiftManager**. The **Select User or Group** dialog will list your new group:



Select User or Group

- All Users
- Administrators
- Authenticated Users
- Managers
- Windows Administrators

Create New ->

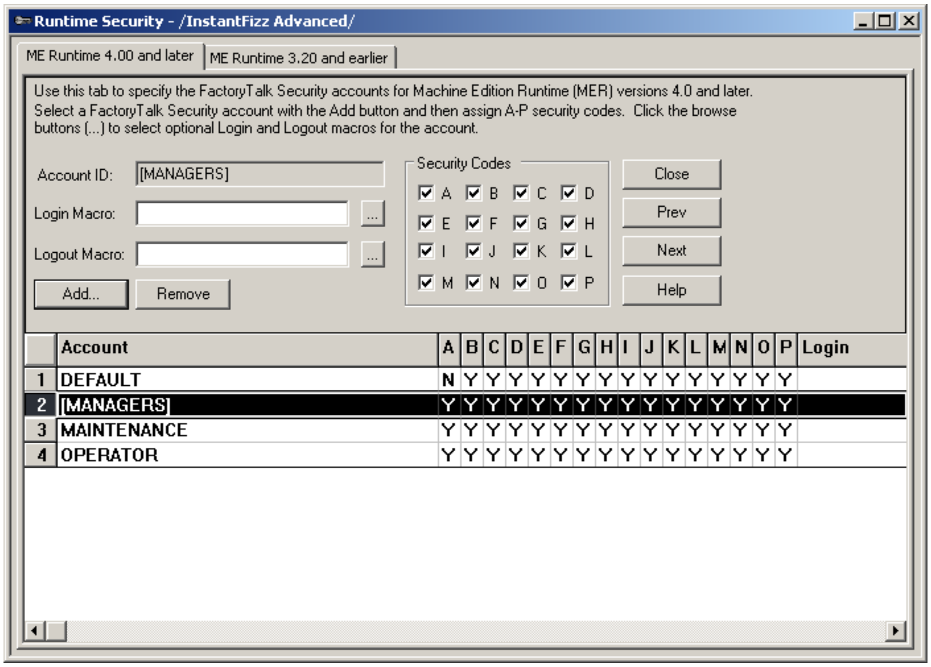
Filter Users

● Show groups only

○ Show users only

○ Show all

8. Select the ***Managers*** group and click ***OK***. The Managers group is now ready for you to configure FactoryTalk View ME security:



Runtime Security - /InstantFizz Advanced/

ME Runtime 4.00 and later | ME Runtime 3.20 and earlier

Use this tab to specify the FactoryTalk Security accounts for Machine Edition Runtime (MER) versions 4.0 and later. Select a FactoryTalk Security account with the Add button and then assign A-P security codes. Click the browse buttons (...) to select optional Login and Logout macros for the account.

Account ID: [MANAGERS]

Login Macro:

Logout Macro:

Security Codes

☑ A ☑ B ☑ C ☑ D
☑ E ☑ F ☑ G ☑ H
☑ I ☑ J ☑ K ☑ L
☑ M ☑ N ☑ O ☑ P

	Account	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Login
1	DEFAULT	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
2	[MANAGERS]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
3	MAINTENANCE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
4	OPERATOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	

You can tell a group from a user in the Runtime Security list by the square brackets around a group name.

You cannot manage users and groups, other than creating a new user or group, from the FactoryTalk View Studio Runtime Security editor. If you want to add users to an existing group or delete users you must use the **FactoryTalk Administration Console** or the Users and Groups editor found in the **SYSTEM** area of the FactoryTalk View Studio application Explorer.

9. Select the ***[Managers]*** group in the Account list. Because it is a new group, it has access rights to all of the A-Z security codes. Leave the account rights as they are.

   User groups are highly recommended because they allow you to simplify the configuration of security rights. With user groups you can create groups for the different types of users (for example, “maintenance” or “operators”), add a particular user to the appropriate user group, and configure security rights for all users in that group at once, rather than having to configure rights individually.

   Because you allowed the **Managers** group security rights to displays with security code **A**, both the **PlantManager** and the **ShiftManager** user will be able to access any displays assigned code **A**.

10. Click the ***Close*** button to close the runtime security editor. Click ***Yes*** to save your changes.

> When you backup a FactoryTalk View ME project to an .APA file, the users you have created in the FactoryTalk Directory and configured security for are backed up along with the displays and other project data. When you restore the application, you are asked whether you want to restore the FactoryTalk Local Directory. If you answer “Yes”, the backed up FactoryTalk Local Directory is restored to the new FactoryTalk Directory, and overwrites the Local FactoryTalk Directory on the machine. If you answer “No” and do not restore the backed up FactoryTalk Directory to the new PC, you will see that in the Runtime Security editor, the usernames are listed in CLSID format, which is an alphanumeric display. If you have done this, refer to **Answer ID 38817** in the Rockwell Automation technical support database for an explanation and workaround.

Testing the application on desktop

1. Click ***Test Application*** on the **Application** menu to compile and run it.

2. Click on **Recipes** Recipes to access this display. Because you are automatically logged in as Default, you should not have security rights to the **3A - Filling Recipes** display that you configured security for.

   You should see an error saying access is denied because the currently logged in user does not have security access to the display. You can click ***Close*** to close the error display.

3. Click on ***Security*** Security, then ***Log In*** Log In to enter the credentials of any of the Users that were added to the **Managers** User Group.

   Note that the user passwords are the same as the login; for example, the ShiftManager user has a password of ‘ShiftManager’.

4. Click on **Recipes** Recipes to access this display once again and you should now have access since the **ShiftManager** and **PlantManager** users were given security rights under the **Managers** group.

5. Click ***Exit*** to close the running application when you are done.

Congratulations!! You have successfully created a User and User Group, assigned security codes to them and tested the functionality of security in your application.

Additional Alarming Features (20 minutes)

Completing this section requires approximately 20 minutes.

By default, the Alarm Banner only shows the operator the most current alarm. This is not always a good fit for an application. The Alarm Banner has additional capability to queue incoming alarms while an unacknowledged alarm is being displayed. Once the operator acknowledges the first alarm, the subsequent alarms must be acknowledged in turn. While this provides more capability, it still may not meet an application's needs. The final alarm capability is an Alarm History object that displays multiple alarms in different states.

In this section, you will configure the Alarm Banner to queue incoming alarms and add an Alarm History display to the application you have built.

In this section you will:

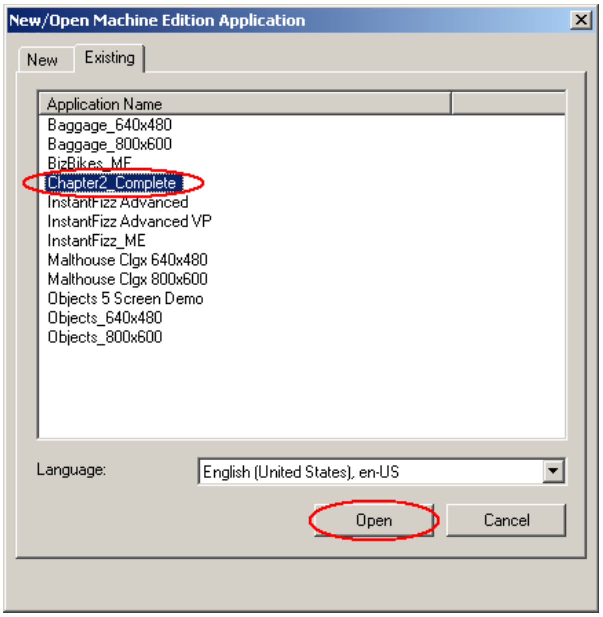
- Configure the Alarm Banner to queue incoming alarms.
- Add and configure an Alarm History object.
- Exercise the Alarm History on a PanelView Plus terminal.

Open the application

Chapter 2 had you create a simple alarm system using the default **Alarm** display and **Alarm Banner** object. An application called ***Chapter2_Complete*** is available for you. Follow the steps below to open the application.

1. To open FactoryTalk View Studio, click ***Start > All Programs > Rockwell Software > FactoryTalk View > FactoryTalk View Studio***. If FactoryTalk View Studio is already open, then select ***File > Open Application…*** to switch applications.

2. Select the existing ***Chapter2_Complete*** application, make sure ***English*** is selected for the **Language**, and click ***Open***:

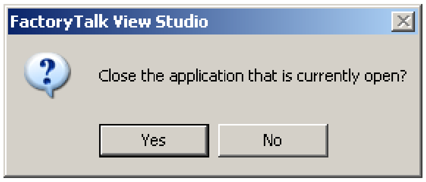


New/Open Machine Edition Application

Application Name
Baggage_640x480
Baggage_800x600
BizBikes_ME
Chapter2_Complete
InstantFizz Advanced
InstantFizz Advanced VP
InstantFizz_ME
Malthouse Clgx 640x480
Malthouse Clgx 800x600
Objects 5 Screen Demo
Objects_640x480
Objects_800x600

Language: English (United States), en-US

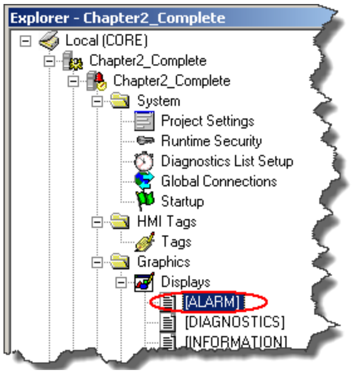
3. If you are switching applications you will be prompted to close the currently open application, click the ***Yes*** button to proceed.



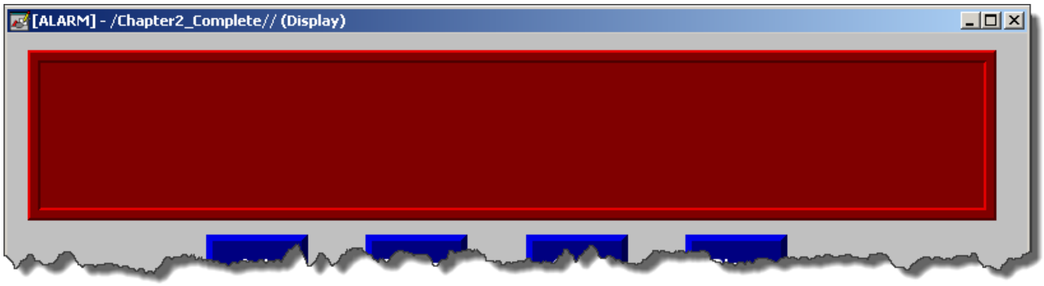
Close the application that is currently open?

Adding an Alarm Summary

1. Double-click on the ***[ALARM]*** display in the **Displays** container to open it.

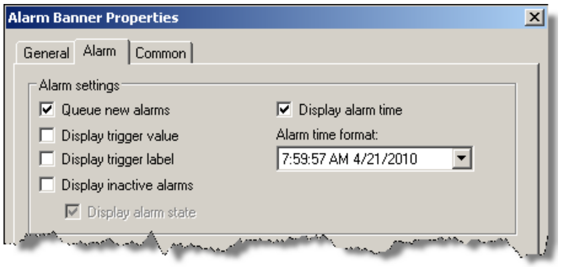


2. Double-click the ***Alarm Banner*** object to open its properties dialog



3. Click on the ***Alarm*** tab in the **Alarm Banner Properties** dialog to activate.

4. Enable the ***Queue new alarms*** option by clicking in its checkbox.



Alarm settings

☑ Queue new alarms

☐ Display trigger value

☐ Display trigger label

☐ Display inactive alarms

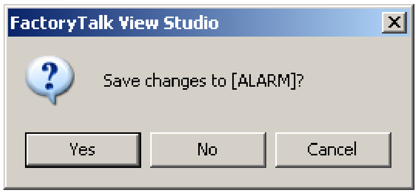
☑ Display alarm state

☑ Display alarm time

Alarm time format: 7:59:57 AM 4/21/2010

5. Click the ***OK*** button OK to complete the **Alarm Banner** configuration.

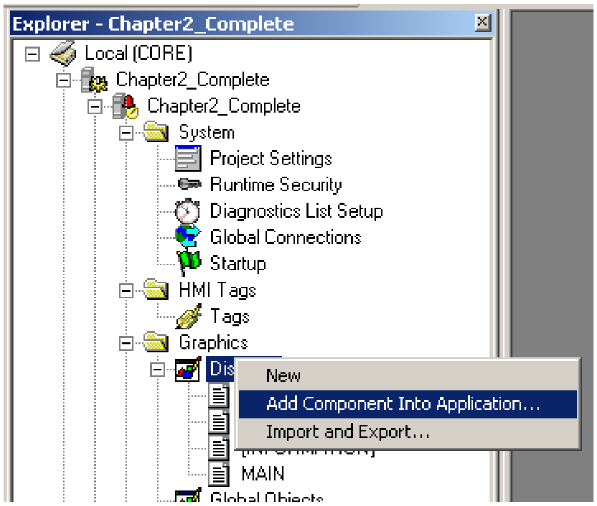
6. Close the **[Alarm]** display; click ***Yes*** button Yes when prompted.



Save changes to [ALARM]?

You will next use another FactoryTalk Studio for Machine Edition capability to add existing content in an application. In addition to XML file import/export, application graphics can be reused between applications. FactoryTalk Studio for Machine Edition includes several useful graphics for alarms, diagnostics and information display.

7. Right-click the **Displays** item in the Project Explorer and select the ***Add Component Into Application*** item.

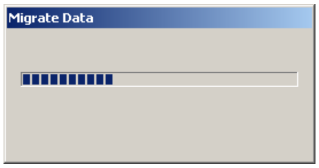


This opens the **Add Component Into Project** dialog.

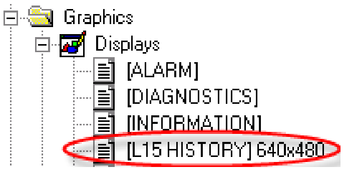
8. Navigate to the **C:\Lab Files\ViewME - ViewPoint\ViewME\Pick and Choose** folder

9. Double-click on the ***[L15 History] 640x480.gfx*** file to select it, and close the dialog.

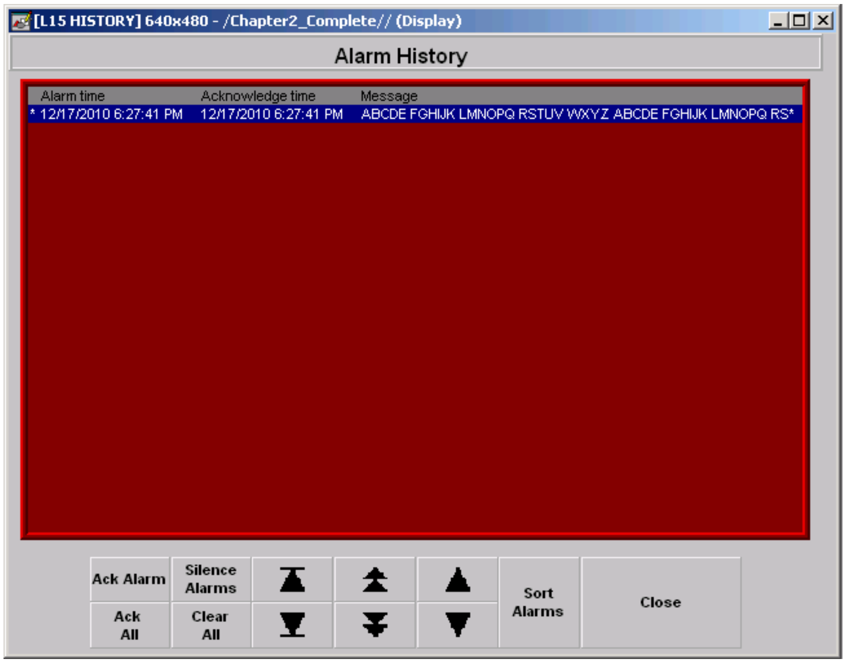
The system begins adding the selected display to the current application. The following **Migrating Data** dialog displays while this operation occurs.



When complete the dialog closes. The **Displays** container in the **Project Explorer** updates to display the newly added display.



10. Double-click the ***[L15 History] 640x480*** to view.



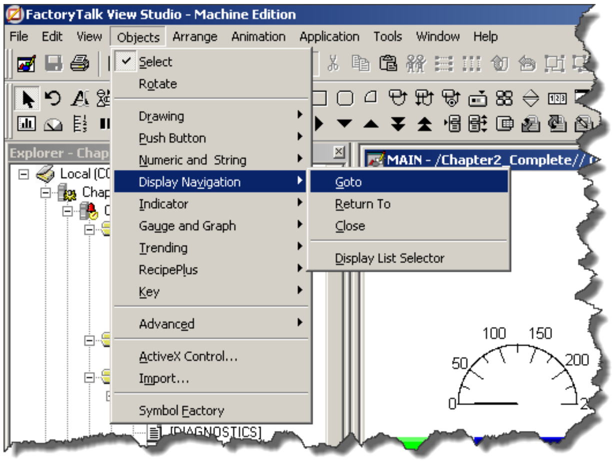
Alarm time	Acknowledge time	Message
* 12/17/2010 6:27:41 PM	12/17/2010 6:27:41 PM	ABCDE FGHIJK LMNOPQ RSTUV WXYZ ABCDE FGHIJK LMNOPQ RS*

There are no changes required on this display.

11. Close the **[L15 History] 640x480** display.

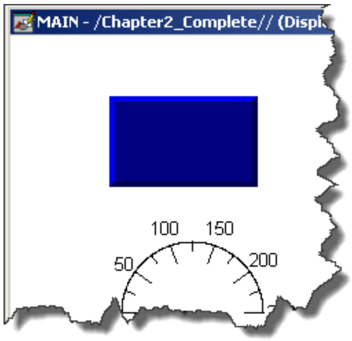
12. Double-click the ***Main*** display to open.

13. Select the ***Goto*** object from the **Objects > Display Navigation** menu.



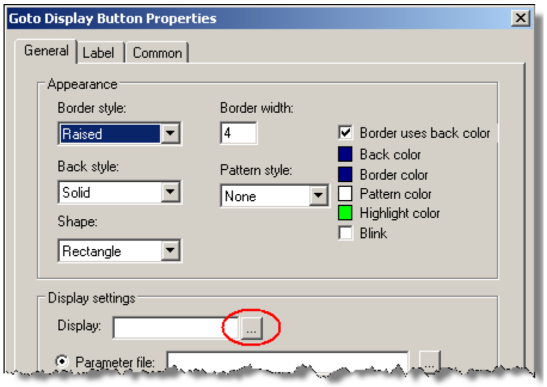
14. Find an empty area on the **Main** display; click and hold while dragging downward and to the right to create a **Goto Display** button.

15. Double-click the **Goto Display** button to open its properties dialog.



16. On the **General** tab find the **Display:** textbox and click the ***Browse*** button ... .

    This opens the **Component Browser** dialog.



Border style: Raised

Border width: 4

☑ Border uses back color

■ Back color

■ Border color

□ Pattern color

🟩 Highlight color

□ Blink

Back style: Solid

Pattern style: None

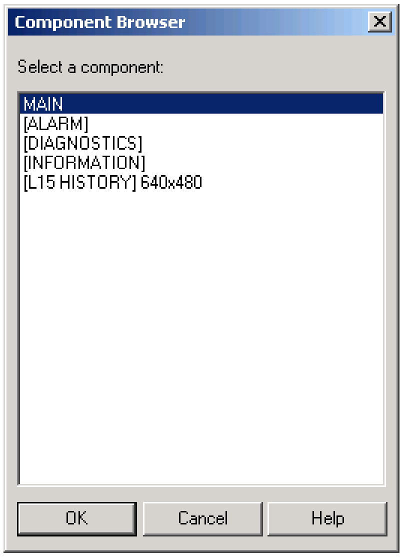
Shape: Rectangle

Display:

● Parameter file:

17. Select the ***[L15 HISTORY] 640x480*** item.

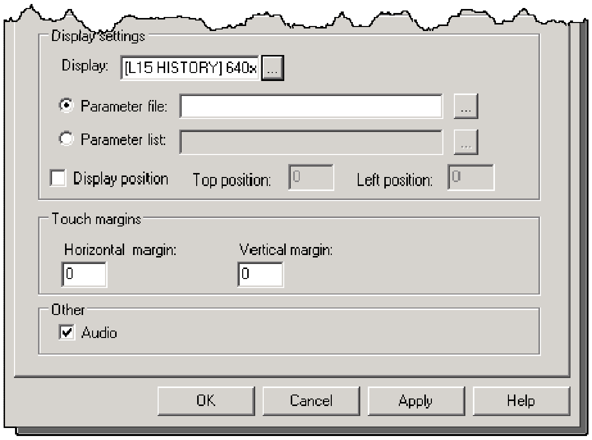
18. Click the ***OK*** button OK to complete the selection.



Select a component:

MAIN
[ALARM]
[DIAGNOSTICS]
[INFORMATION]
[L15 HISTORY] 640x480

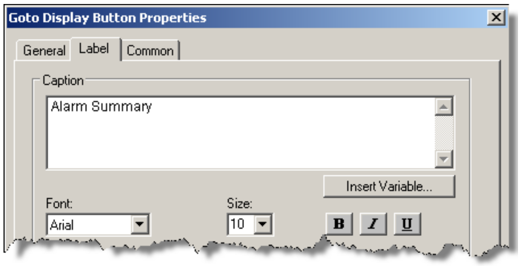
19. Click the ***Apply*** button Apply to commit the change.



Display settings
Display: [L15 HISTORY] 640x
● Parameter file:
○ Parameter list:
□ Display position Top position: 0 Left position: 0
Touch margins
Horizontal margin: 0 Vertical margin: 0
Other
☑ Audio

20. Click the ***Label*** tab to activate it.

21. Enter '**Alarm Summary**' in the ***Caption*** field.



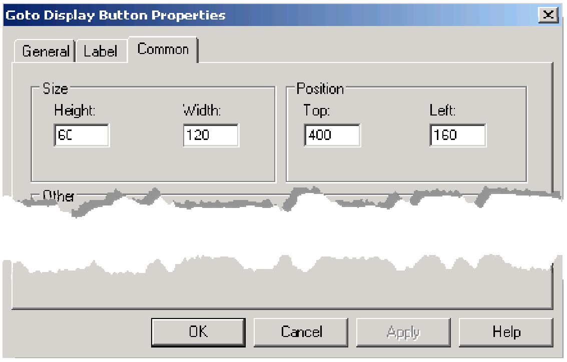
Goto Display Button Properties
Caption: Alarm Summary
Font: Arial
Size: 10

22. Click the ***Apply*** button Apply to commit the caption change.

23. Click on the ***Common*** tab to activate it.

24. Change the ***Height, Width, Top,*** and ***Left*** fields to size and position the **Goto Display Button Properties** exactly.

Height	68
Width	104
Top	400
Left	130

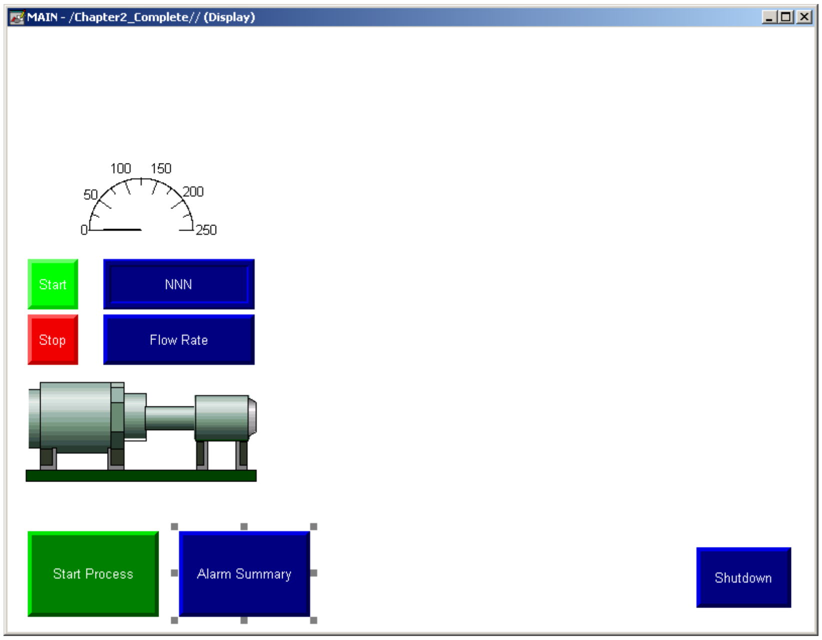


Goto Display Button Properties
Size
Height: 60 Width: 120
Position
Top: 400 Left: 160
Other

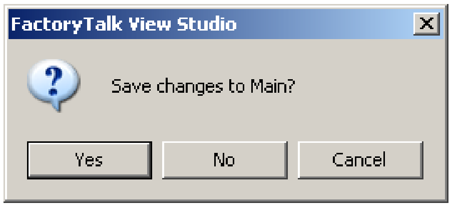
This change will position the button from the location you drew it on the display to match the position and size of the other navigation buttons at the bottom of the **Main** display.

25. Click the ***OK*** button OK to commit the change and close the dialog.

The **Main** display now should look something like this.



26. Close the **Main** display; click the ***Yes*** button Yes to save your changes when prompted.

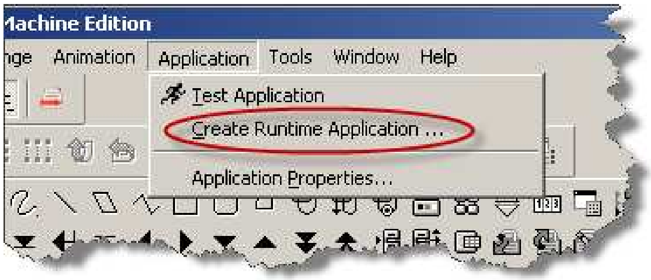

FactoryTalk View Studio

Save changes to Main?

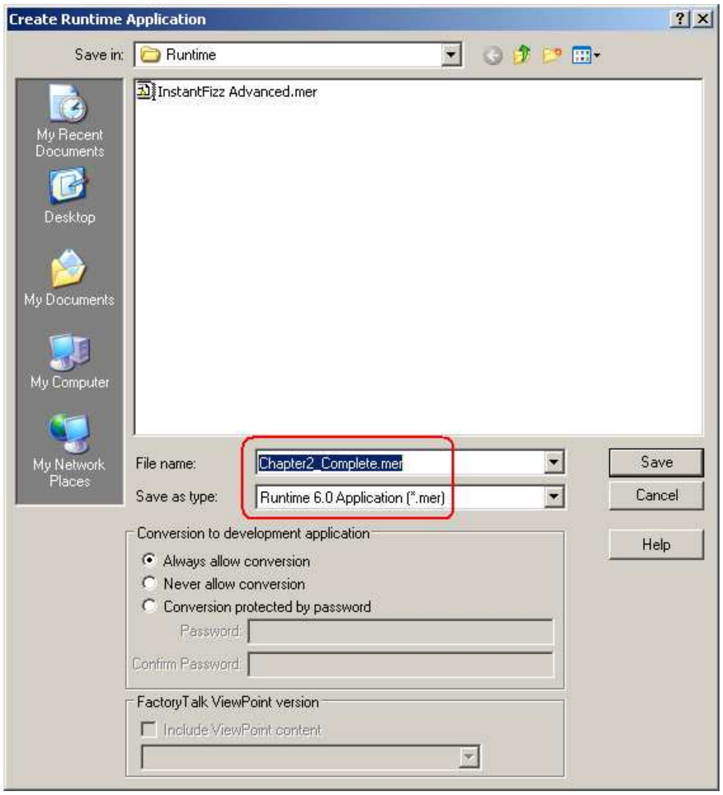
Testing the Alarm Summary

To test the new **AlarmSummary** navigation button and changes to the **Alarm Banner** you need to create a runtime MER and download to a PanelView Plus terminal.

1. Select ***Create Runtime Application*** from the **Application** menu.



2. Use the default file name of **Chapter2_Complete.mer** and verify that the **Save as type** field is set to **Runtime 6.0 Application (*.mer).**



Save in: Runtime

InstantFizz Advanced.mer

File name: Chapter2_Complete.mer

Save as type: Runtime 6.0 Application (*.mer)

Conversion to development application

● Always allow conversion
○ Never allow conversion
○ Conversion protected by password

Password:

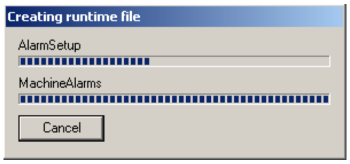
Confirm Password:

FactoryTalk ViewPoint version

□ Include ViewPoint content

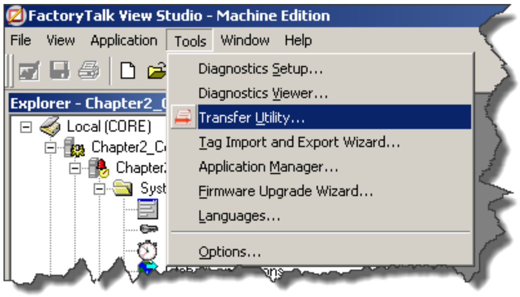
3. Click the ***Save*** button to begin runtime application creation.

4. After a few moments a progress dialog, **Creating runtime file**, will appear. This dialog lets you monitor the creation process.

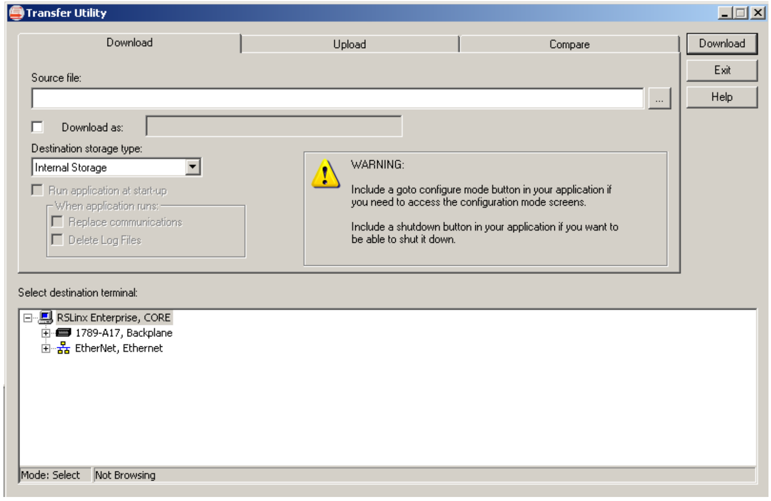


When the runtime application is completed, the dialog will close automatically.

5. To download the runtime MER to the PanelView Plus 1000 terminal at your workstation, first, select the ***Tools > Transfer Utility*** menu item



The Transfer Utility will open.



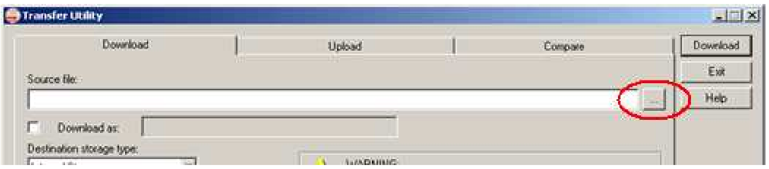
WARNING:

Include a goto configure mode button in your application if you need to access the configuration mode screens.

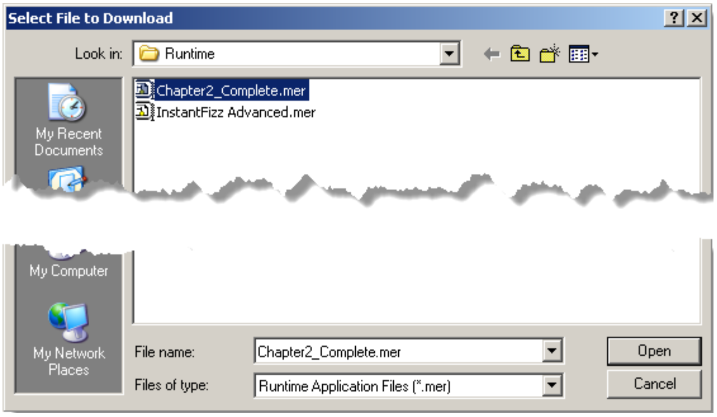
Include a shutdown button in your application if you want to be able to shut it down.

- RSLinx Enterprise, CORE
  - 1789-A17, Backplane
  - EtherNet, Ethernet

6. Click the ***Source File*** browse button ... to select the runtime MER file to download.



This opens the **Select File to Download** dialog.



Look in: Runtime

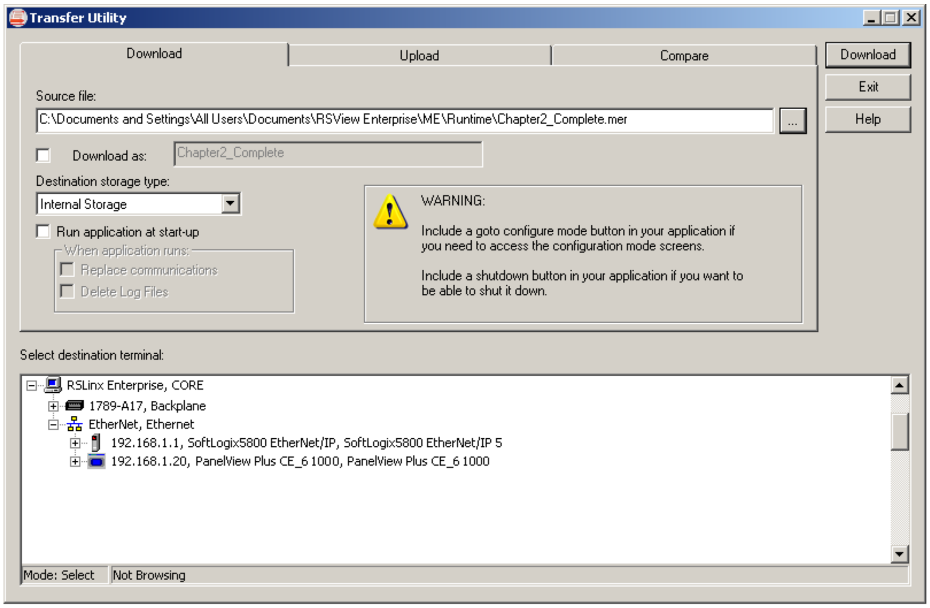
Chapter2_Complete.mer
InstantFizz Advanced.mer

File name: Chapter2_Complete.mer

Files of type: Runtime Application Files (*.mer)

7. Double-click the ***Chapter2_Complete.mer*** file to select the runtime application and close the dialog.

8. Double-click the ***EtherNet, Ethernet*** driver EtherNet, Ethernet to expand the item.



Source file:
C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\Chapter2_Complete.mer

□ Download as: Chapter2_Complete

Destination storage type:
Internal Storage

□ Run application at start-up

When application runs:
□ Replace communications
□ Delete Log Files

WARNING:
Include a goto configure mode button in your application if you need to access the configuration mode screens.

Include a shutdown button in your application if you want to be able to shut it down.

Select destination terminal:

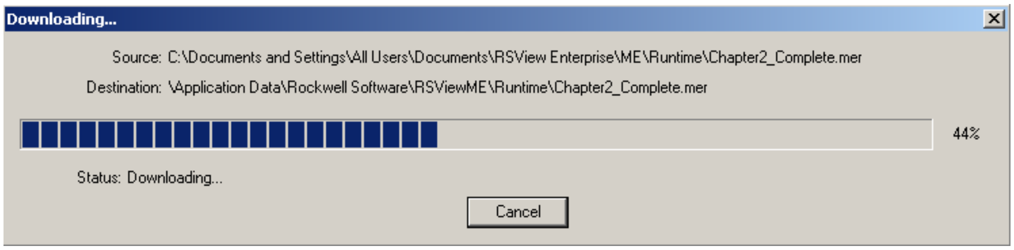
```
⊟ RSLinx Enterprise, CORE
  ⊞ 1789-A17, Backplane
  ⊟ EtherNet, Ethernet
    ⊞ 192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP 5
    ⊞ 192.168.1.20, PanelView Plus CE_6 1000, PanelView Plus CE_6 1000
```

Mode: Select | Not Browsing

9. Select the **192.168.1.20, PanelView Plus CE_6 1000, PanelView Plus CE_6 1000** item by clicking on it once.

10. To initiate the download process, click the ***Download*** button Download

During the download, a progress dialog will update.



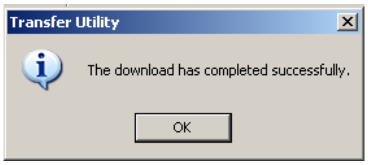
Source: C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\Chapter2_Complete.mer

Destination: \Application Data\Rockwell Software\RSViewME\Runtime\Chapter2_Complete.mer

44%

Status: Downloading...

When the download process completes a confirmation dialog is shown.



The download has completed successfully.

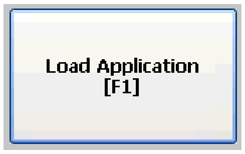
11. Click the ***OK*** button OK to acknowledge the dialog.

12. Click the ***Exit*** button Exit to close the Transfer Utility.

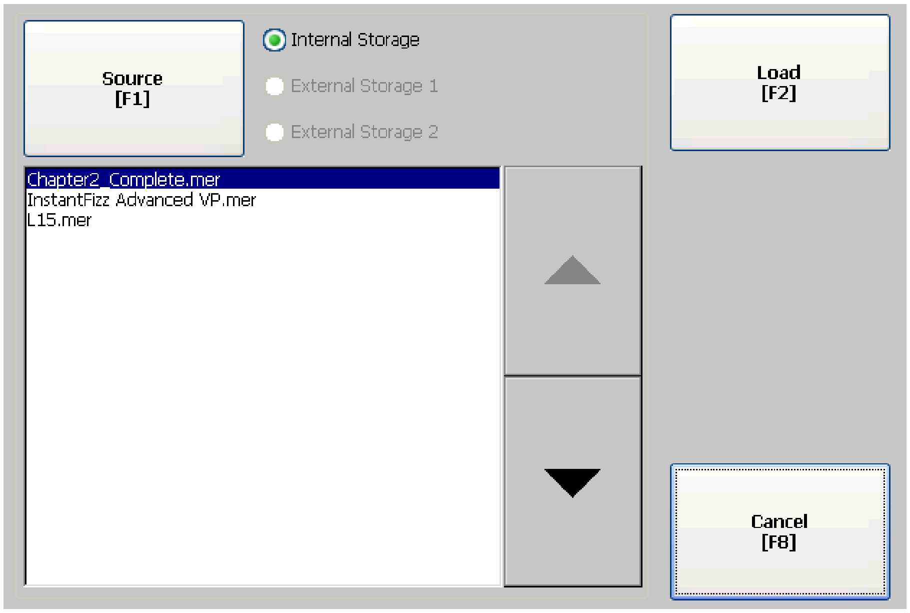
Execute the following steps to run the downloaded runtime application **Chapter2_Complete.mer**

13. Move over to your PanelView Plus terminal. If **FTView ME Station** is not already running, start it by double-tapping the icon on the desktop: FT View ME Station

14. Press the **Load Application [F1]** button.



15. Select the ***Chapter2_Complete.MER*** file from those available from the terminal's Internal Storage.



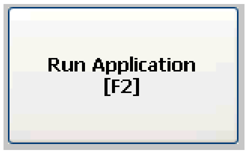
● Internal Storage
○ External Storage 1
○ External Storage 2

Chapter2_Complete.mer
InstantFizz Advanced VP.mer
L15.mer

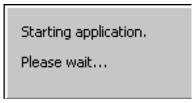
16. Press ***Load [F2]*** to load the runtime file in to memory.

17. When prompted, press ***Yes [F7]*** to overwrite the terminal's current communication configuration with the configuration contained within the L15.MER file.

18. Once successfully loaded, press the ***Run Application [F2]*** to start executing the runtime file.

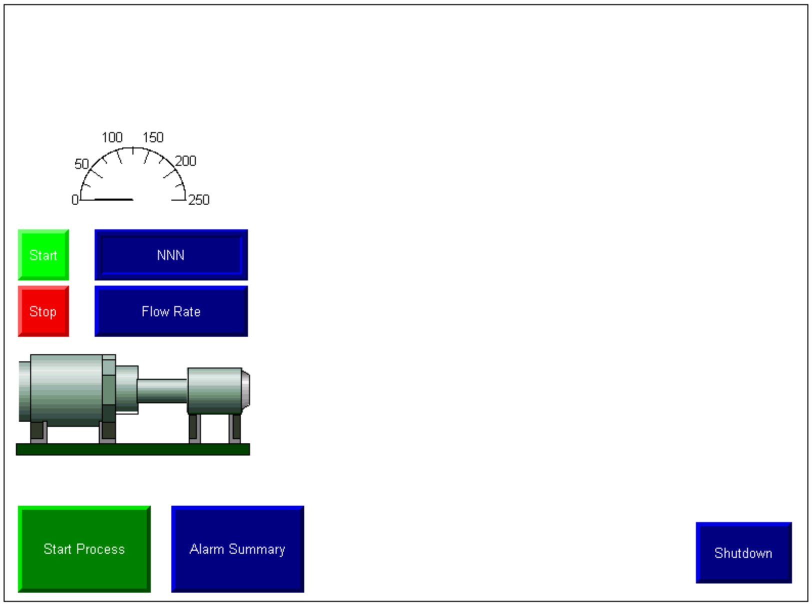


While the terminal is starting the application, an update dialog is displayed.



Starting application.
Please wait...

After the start-up processing completes you should see your applications initial display, similar to the one below:



To observe the differences in the **Alarm Banner** configuration and the new Alarm Summary, execute the following steps:

19. Tap the **Start Process** button Start Process, if the process is not already running. If the process is running the button caption reads ‘Stop Process’ and the button color is red.

20. Tap the **Flow Rate** button Flow Rate and enter a value of ‘**<u>15</u>**’ and press **Enter**.

21. Tap the **Start** button. Start

    The pump will fill with a green shaded fill to show that the pump is running. After about 10 seconds an alarm ‘Tank 1 Low Flow Rate’ will occur.

22. Tap the **Close [F4]** button to close the **Alarm Banner** without acknowledging the alarm.

23. **<u>Quickly</u>**, Tap the **Flow Rate** button, enter a value of ‘**<u>245</u>**’, and press **Enter**.

    After about ten seconds an alarm ‘Tank 1 Flow Obstructed’ will occur.

    After approximately another ten seconds a new alarm ‘Tank 1 High Flow Rate’ will occur but you will only be able to see this next alarm after you **Clear** the previous alarm since the Alarm Banner is now configured to queue alarms.

24. Tap the **Clear Alarm [F3]** button for the ‘Tank 1 Flow Obstructed’ alarm.

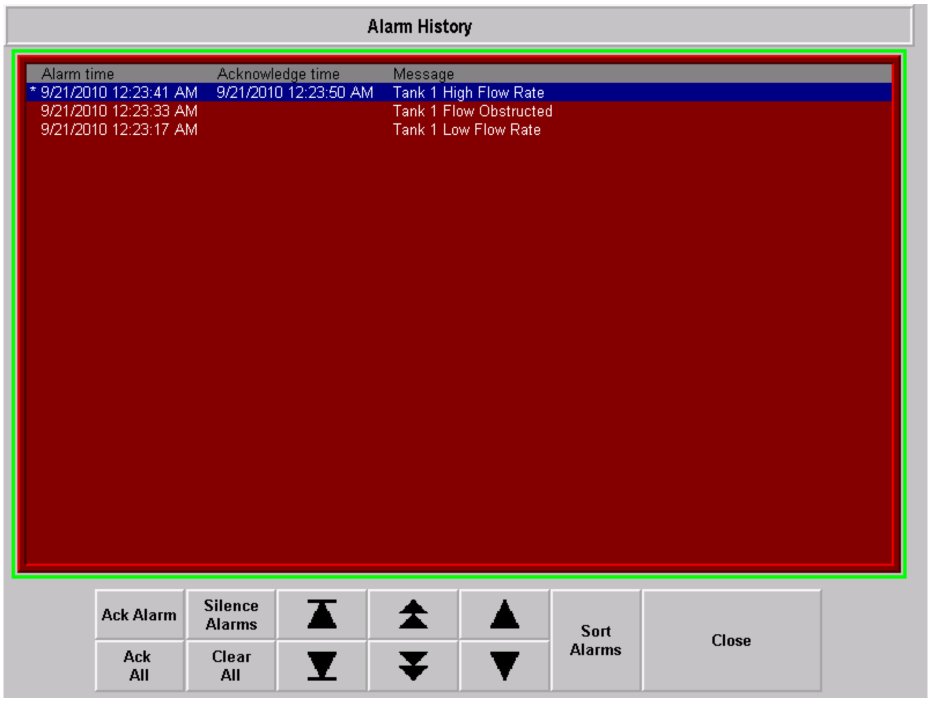
25. Now, the ‘Tank 1 High Flow Rate’ alarm is visible and can be acknowledged by tapping ***Acknowledge [F1]***.

26. Tap the ***Close [F4]*** button to dismiss the **Alarm Banner** without acknowledging the alarm.

27. Tap the **Flow Rate** button, enter a value of ‘**100**’, and select **Enter**.

    This returns the flow rate to a level that will not generate additional alarms.

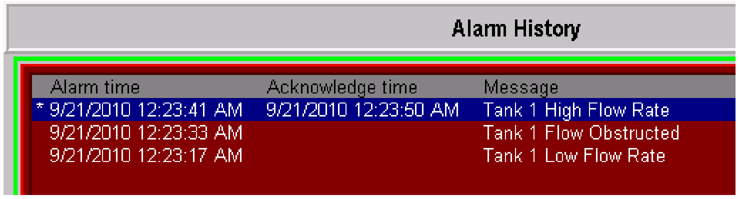
28. Tap the **Alarm Summary** button to open alarm summary display



Alarm History

Alarm time	Acknowledge time	Message
* 9/21/2010 12:23:41 AM	9/21/2010 12:23:50 AM	Tank 1 High Flow Rate
9/21/2010 12:23:33 AM		Tank 1 Flow Obstructed
9/21/2010 12:23:17 AM		Tank 1 Low Flow Rate

On the display, you can observe, at minimum, the last three alarm conditions that occurred.



Alarm History

Alarm time	Acknowledge time	Message
* 9/21/2010 12:23:41 AM	9/21/2010 12:23:50 AM	Tank 1 High Flow Rate
9/21/2010 12:23:33 AM		Tank 1 Flow Obstructed
9/21/2010 12:23:17 AM		Tank 1 Low Flow Rate

You can use the **Up** ▲ and **Down** ▼ buttons to move among the items in the Alarm History.

29. Highlight the remaining unacknowledged alarms and tap the ***Ack Alarm*** button Ack Alarm.

30. Tap the ***Close*** button to close the **Alarm History** display.

31. Tap the ***Stop Process*** button on the **Main** display.

32. Tap the ***Shutdown*** button to terminate the application on the PanelView Plus terminal.

Congratulations!! You have successfully reused an alarm history component in your existing FactoryTalk View Studio for Machine Edition application, added display navigation, created a runtime file; and, exercised the application on a PanelView Plus terminal.

Language Switching (20 minutes)

Completing this section requires approximately 20 minutes.

Language switching is a FactoryTalk View Machine Edition application feature that allows the HMI designer to create a single runtime application that can display operator information in several different languages. Consider an OEM that ships the same machine to North America, Germany, Italy, and China; is it more efficient to design and maintain a single HMI application for the global market, or an application per country. You will be working with the existing application, InstantFizz Advanced, to help illustrate how designers implement an HMI application that uses language switching, and how the language switching works at runtime.

In this section, you will:

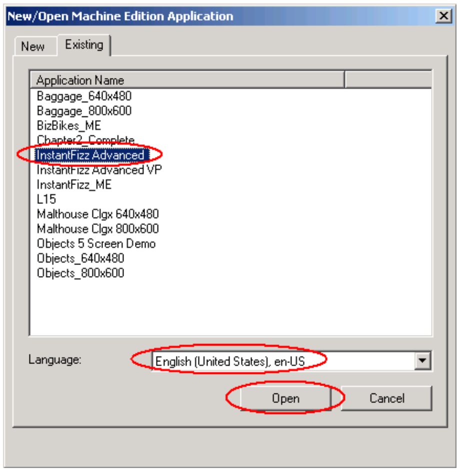
- Learn how to import and export the application's text strings for translation
- Add Language Switching buttons to the application
- Test language switching using the desktop emulator

Open the InstantFizz Advanced application

If you already have the InstantFizz Advanced application open from a previous section, you can move on to the next section, **Configuring the application for multiple languages.**

1. To open FactoryTalk View Studio, click ***Start > All Programs > Rockwell Software > FactoryTalk View > FactoryTalk View Studio***. If FactoryTalk View Studio is already open, then select ***File > Open Application…*** to switch applications.

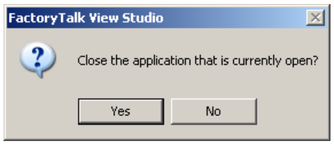
2. Select the existing ***InstantFizz Advanced*** application, make sure ***English*** is selected for the **Language**, and click ***Open***:



Baggage_640x480
Baggage_800x600
BizBikes_ME
Chapter2_Complete
InstantFizz Advanced
InstantFizz Advanced VP
InstantFizz_ME
L15
Malthouse Clgx 640x480
Malthouse Clgx 800x600
Objects 5 Screen Demo
Objects_640x480
Objects_800x600

Language: English (United States), en-US

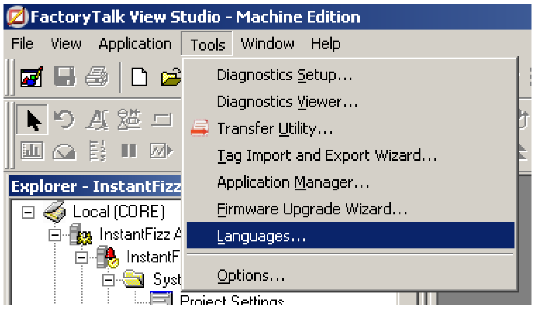
3. If you are switching applications you will be prompted to close the currently open application, click the ***Yes*** button to proceed.



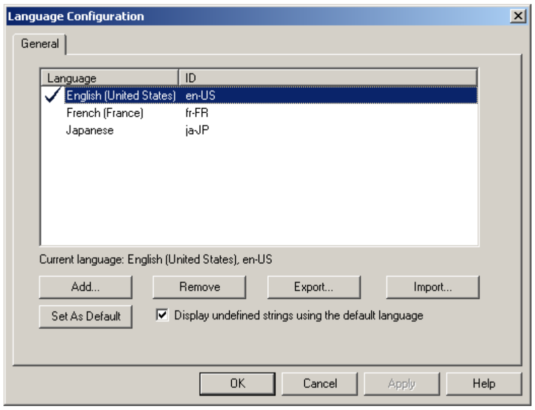
Close the application that is currently open?

Configuring the application for multiple languages

1. Using the **Tools** menu select the ***Languages…*** item



This opens the Language Configuration.

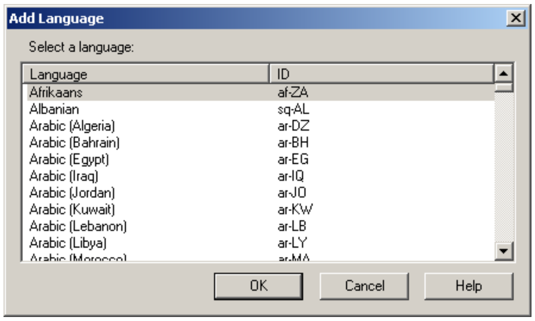


Language	ID
✓ English (United States)	en-US
French (France)	fr-FR
Japanese	ja-JP

Current language: English (United States), en-US

☑ Display undefined strings using the default language

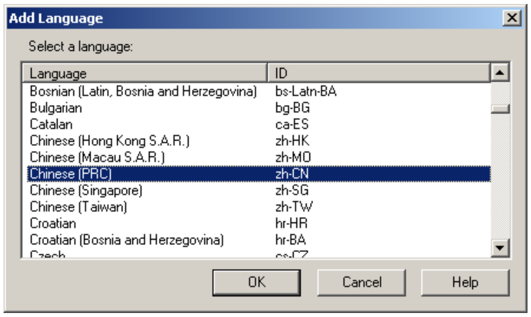
2. To add additional language entries in the list, click the ***Add*** button Add... . This opens the **Add Language** dialog.



Select a language:

Language	ID
Afrikaans	af-ZA
Albanian	sq-AL
Arabic (Algeria)	ar-DZ
Arabic (Bahrain)	ar-BH
Arabic (Egypt)	ar-EG
Arabic (Iraq)	ar-IQ
Arabic (Jordan)	ar-JO
Arabic (Kuwait)	ar-KW
Arabic (Lebanon)	ar-LB
Arabic (Libya)	ar-LY
Arabic (Morocco)	ar-MA

3. In the **Language** column locate the entry ***Chinese (PRC)***; double-click to add to the **Language Configuration** dialog.

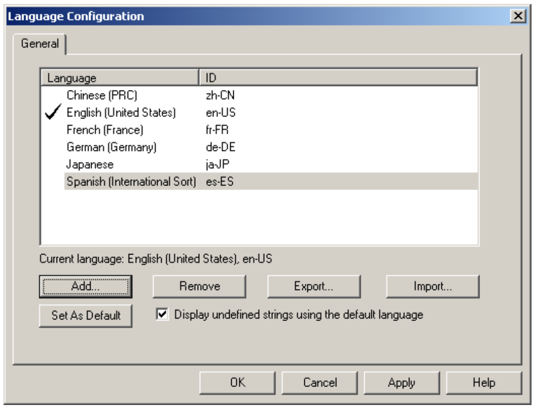


Add Language

Select a language:

Language	ID
Bosnian (Latin, Bosnia and Herzegovina)	bs-Latn-BA
Bulgarian	bg-BG
Catalan	ca-ES
Chinese (Hong Kong S.A.R.)	zh-HK
Chinese (Macau S.A.R.)	zh-MO
Chinese (PRC)	zh-CN
Chinese (Singapore)	zh-SG
Chinese (Taiwan)	zh-TW
Croatian	hr-HR
Croatian (Bosnia and Herzegovina)	hr-BA
Czech	cs-CZ

4. Repeat Steps 2 and 3 to add ***German (Germany)*** and ***Spanish (International Sort)*** to the **Language Configuration** dialog. When you have successfully completed this task the **Language Configuration** dialog will look like the example below.



Language Configuration

General

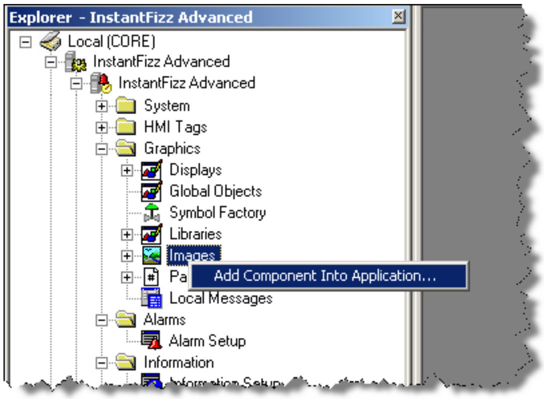
	Language	ID
	Chinese (PRC)	zh-CN
✓	English (United States)	en-US
	French (France)	fr-FR
	German (Germany)	de-DE
	Japanese	ja-JP
	Spanish (International Sort)	es-ES

Current language: English (United States), en-US

☑ Display undefined strings using the default language

5. Click the ***OK*** button OK to commit the changes.

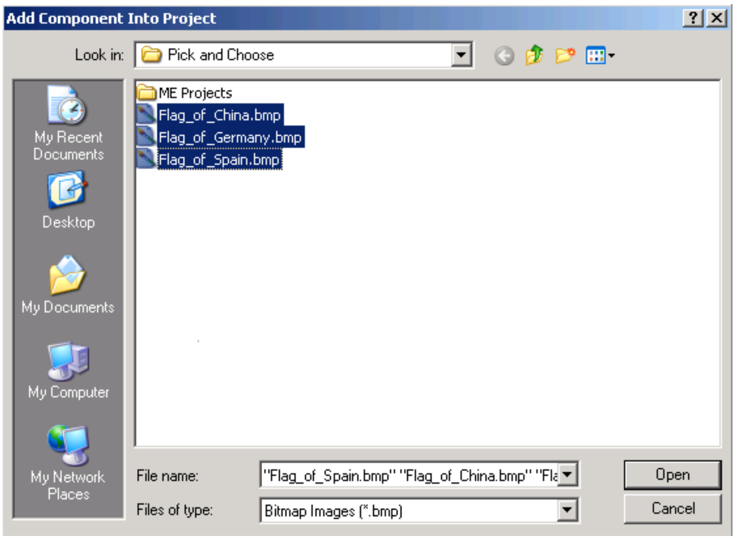
6. Next, you need to add several flag images to the application. To do this right-click the **Images** item in the **Project Explorer Graphics** folder, and select the ***Add component to application*** item.



7. Navigate to the **C:\Lab Files\ViewME - ViewPoint\ViewME\Pick and Choose** folder.

8. Multi-select the three bitmap (*.bmp) files located in the folder.

9. Click the ***Open*** button Open to add the bitmap files to the application.



Add Component Into Project

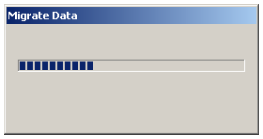
Look in: Pick and Choose

ME Projects
Flag_of_China.bmp
Flag_of_Germany.bmp
Flag_of_Spain.bmp

File name: "Flag_of_Spain.bmp" "Flag_of_China.bmp" "Fla

Files of type: Bitmap Images (*.bmp)

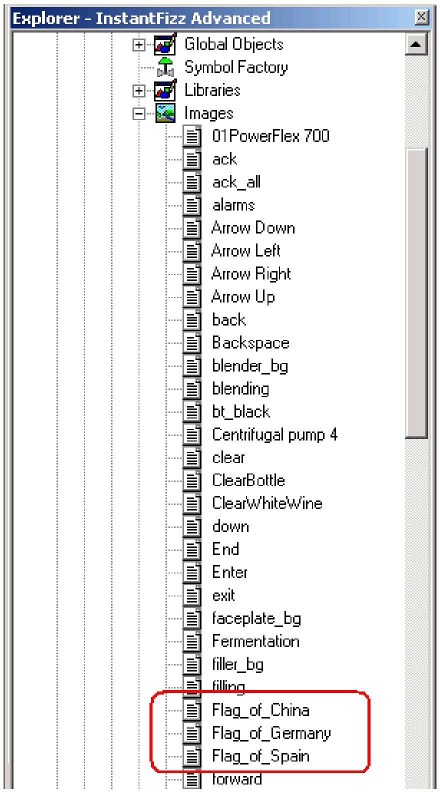
During the addition process, a progress dialog is shown. When completed, the **Migrate Data** dialog will close



Migrate Data

Please expand the **Images** item and verify the bitmap files have been added to the project.

You may collapse the **Images** item when you are done.



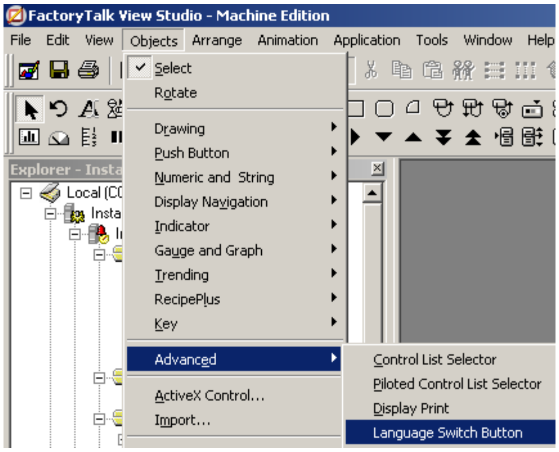
Explorer - InstantFizz Advanced

Global Objects
Symbol Factory
Libraries
Images
01PowerFlex 700
ack
ack_all
alarms
Arrow Down
Arrow Left
Arrow Right
Arrow Up
back
Backspace
blender_bg
blending
bt_black
Centrifugal pump 4
clear
ClearBottle
ClearWhiteWine
down
End
Enter
exit
faceplate_bg
Fermentation
filler_bg
filling
Flag_of_China
Flag_of_Germany
Flag_of_Spain
forward

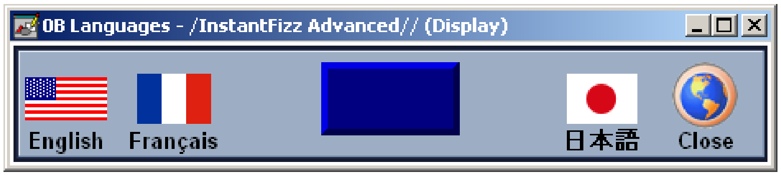
Adding Language Switch Buttons to the Application

1. Expand the **Displays** item, and open the display **0B Languages**.

2. Using the **Objects** menu, select the **Advanced > Language Switch Button** item.



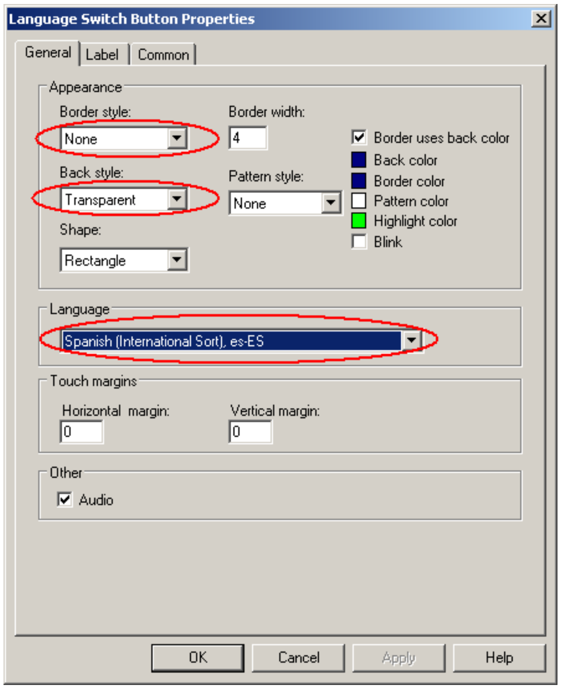
3. Draw a small **Language Switch Button** on the **0B Languages** display.



4. Double-click the **Language Switch Button** to open its properties dialog.

5. On the **General** tab, change the **Border Style** to ***None***, **Back Style** to ***Transparent*** and the **Language** property to ***Spanish (International Sort)*** using the dropdown.

6. Click the ***Apply*** button Apply to commit the change



Appearance

Border style: None

Border width: 4

☑ Border uses back color

Back style: Transparent

Pattern style: None

🟦 Back color

🟦 Border color

□ Pattern color

🟩 Highlight color

□ Blink

Shape: Rectangle

Language

Spanish (International Sort), es-ES

Touch margins

Horizontal margin: 0

Vertical margin: 0

Other

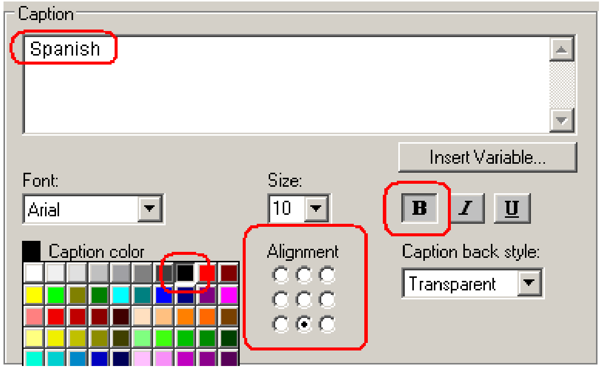
☑ Audio

7. Click the ***Label*** tab to activate it

8. Enter '**Spanish**' in the ***Caption*** field, change the **Caption color** to ***Black*** and select ***Bold.***

9. Also change the **Alignment** grid, to center-bottom alignment, by clicking the radio button located in the center-bottom.

   Be sure to modify the **Alignment** grid associated with the **Caption**, and not the **Image Settings**.



Caption

Spanish

Font: Arial

Size: 10

Caption color

Alignment

○ ○ ○
○ ○ ○
○ ● ○

Caption back style: Transparent

10. Click the **Browse** button located by the **Image** textbox.

    This opens the **Image Browser** dialog.

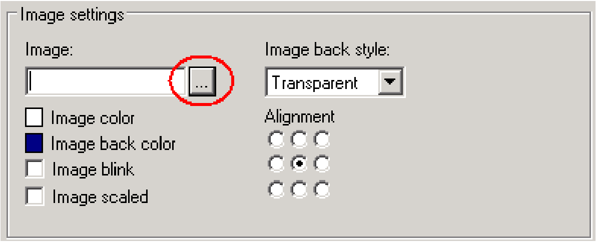


Image settings

Image:

Image back style: Transparent

□ Image color

■ Image back color

□ Image blink

□ Image scaled

Alignment

○ ○ ○
○ ● ○
○ ○ ○

11. Select the ***Flag_of_Spain.bmp*** file.

12. Click the ***OK*** button OK to use the selection.

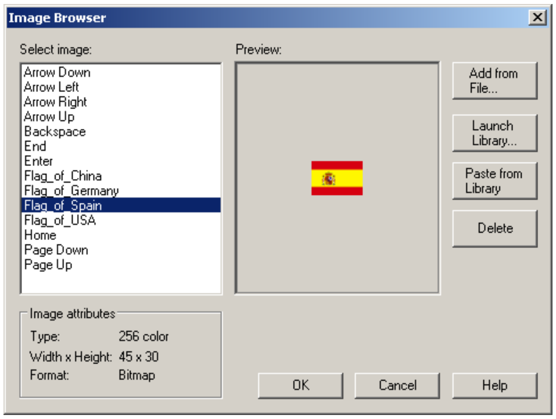


Image Browser

Select image:

Arrow Down
Arrow Left
Arrow Right
Arrow Up
Backspace
End
Enter
Flag_of_China
Flag_of_Germany
Flag_of_Spain
Flag_of_USA
Home
Page Down
Page Up

Preview:

Image attributes

Type: 256 color

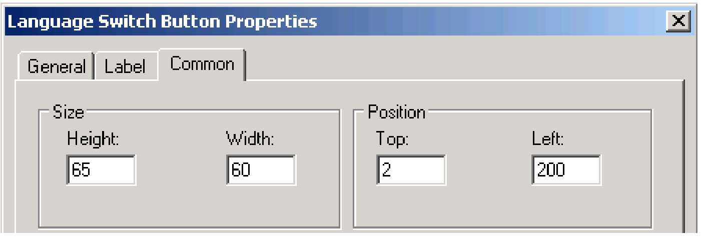
Width x Height: 45 x 30

Format: Bitmap

14. Click the ***Common*** tab to activate it.

15. Change the **Size** and **Position** as follows:

Height	65
Width	60
Top	2
Left	200



Language Switch Button Properties

General | Label | Common

Size

Height: 65

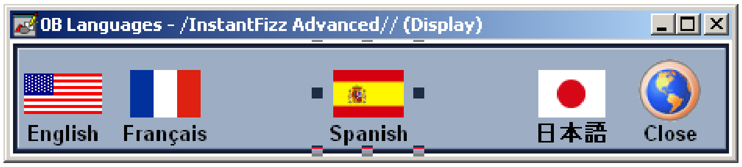
Width: 60

Position

Top: 2

Left: 200

16. Click the ***OK*** button OK to complete the **Language Switch Button** configuration. The **Language Switch Button** should now be located on the display as shown.

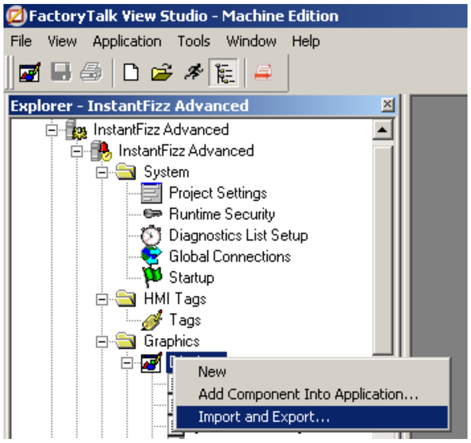


To save time in the lab, you will now import two additional **Language Switch Buttons** from an XML file.

17. Save the **0B Languages** display using the toolbar tool 💾, or the **File > Save** menu command.

18. Close the **0B Languages** display.

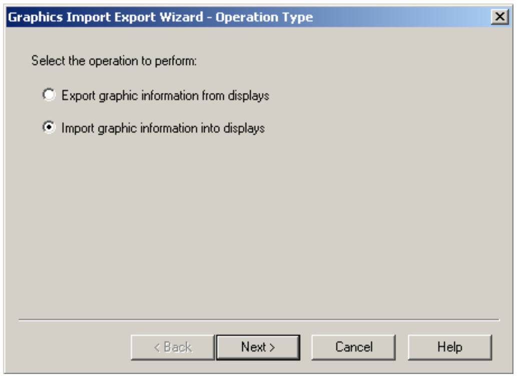
19. Right-click on the **Displays** item in the **Project Explorer**, and select ***Import and Export…***



This opens the Graphic Import Export Wizard dialog

20. Select ***Import graphic information into displays*** item

21. Click the ***Next*** button Next >.

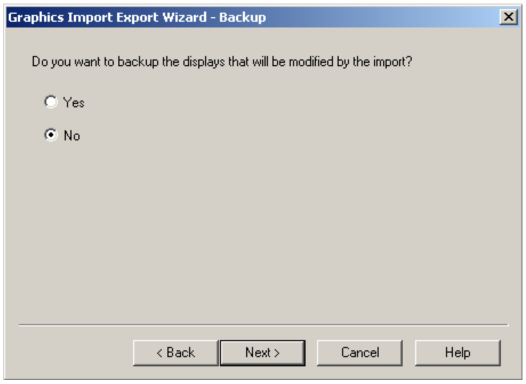

Graphics Import Export Wizard - Operation Type

Select the operation to perform:

○ Export graphic information from displays

● Import graphic information into displays

22. There is no need to backup the display that will be modified during the import. Select ***No*** item, and click the ***Next*** button Next >.

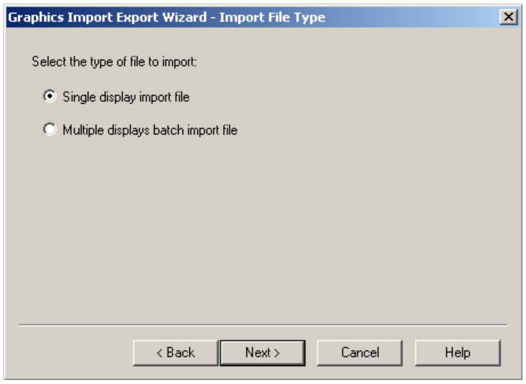

Graphics Import Export Wizard - Backup

Do you want to backup the displays that will be modified by the import?

○ Yes

● No

23. Select ***Single display import file*** item, and click the ***Next*** button Next >.


Graphics Import Export Wizard - Import File Type

Select the type of file to import:

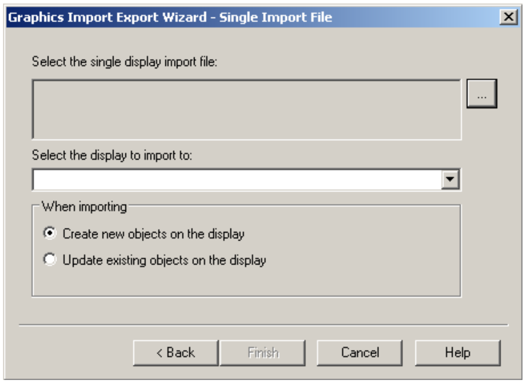
● Single display import file

○ Multiple displays batch import file

24. You must select the file to be imported. Click the ***Browse*** button ... .

This opens a standard Microsoft Windows File Open dialog.

25. Navigate to the ***C:/Lab Files/ViewME - ViewPoint/ViewME/Pick and Choose*** folder.


Graphics Import Export Wizard - Single Import File

Select the single display import file:

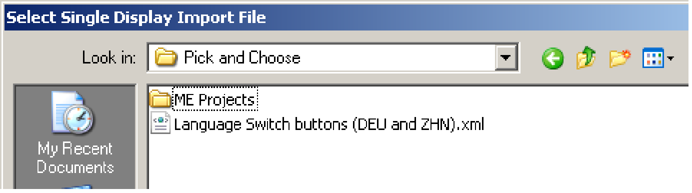
Select the display to import to:

When importing

● Create new objects on the display

○ Update existing objects on the display

26. Select the file ***Language Switch buttons (DEU and ZHN).xml***


Select Single Display Import File

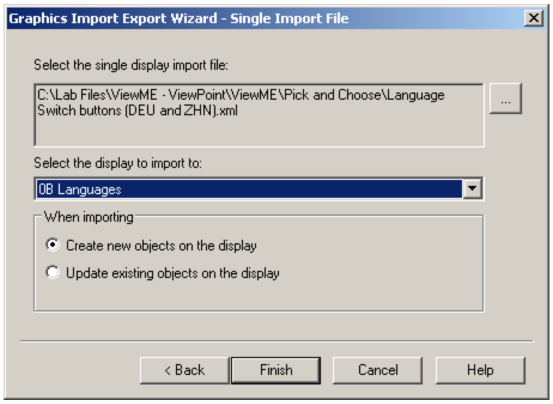
Look in: Pick and Choose

ME Projects

Language Switch buttons (DEU and ZHN).xml

27. Click the ***Open*** button Open.

28. Using the dropdown **Select the display to import to** list, select the display named **0B Languages**. This is the display, to which the content must be added.



Graphics Import Export Wizard - Single Import File

Select the single display import file:

C:\Lab Files\ViewME - ViewPoint\ViewME\Pick and Choose\Language Switch buttons (DEU and ZHN).xml

Select the display to import to: 0B Languages

When importing

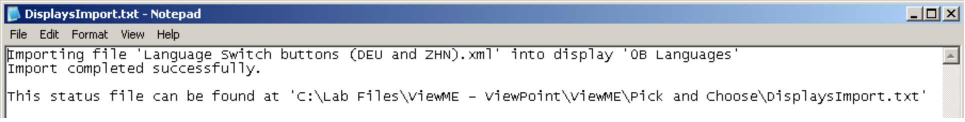
● Create new objects on the display

○ Update existing objects on the display

29. The **When importing** option should remain unchanged. The default setting **Create new objects on the display** adds unique objects to the display during the import operation; it does not overwrite or update existing objects.

30. Click the ***Finish*** button Finish to begin the process.

When the process completes a results file is displayed.



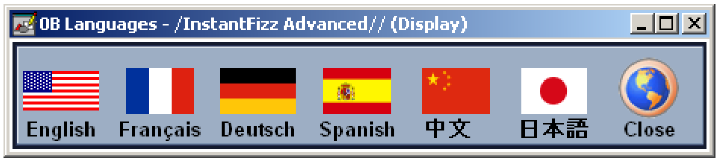
DisplaysImport.txt - Notepad

```
Importing file 'Language Switch buttons (DEU and ZHN).xml' into display '0B Languages'
Import completed successfully.

This status file can be found at 'C:\Lab Files\ViewME - ViewPoint\ViewME\Pick and Choose\DisplaysImport.txt'
```

31. Close the results file.

32. Open the **0B Languages** display from the **Project Explorer**.



Two new **Language Switch** buttons have been added to the display - one for German and one for Chinese.

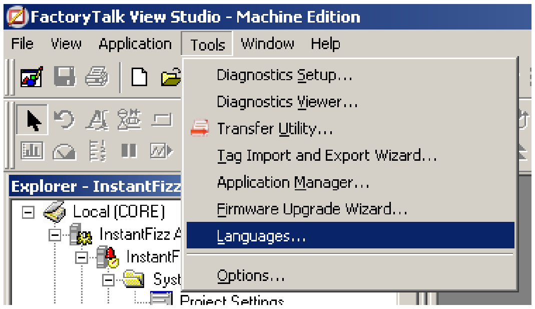
33. Close the **0B Languages** display.

Exporting HMI Application Strings

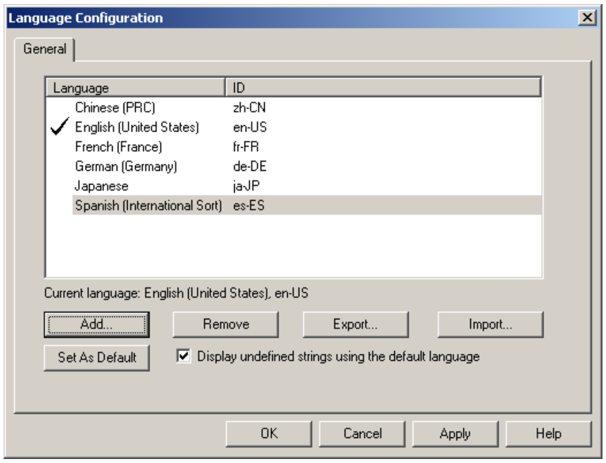
The last step in localizing an HMI application is translating the text strings the operator will see at runtime. The localization process occurs outside the FactoryTalk Studio for Machine Edition application. Few designers would have the resources to translate their HMI application strings in-house. Most will use an outside agency to perform the string translation. Thus, the first step in localizing an HMI application is to export the application strings.

> Please note that the localized strings displayed to the operator are only those contained within the HMI application. If the HMI application is displaying string data contained within a controller tag, those characters will be shown exactly as they are stored in the control system regardless of the current HMI application language setting.

1. Using the **Tools** menu select the ***Languages…*** item



This opens the Language Configuration.

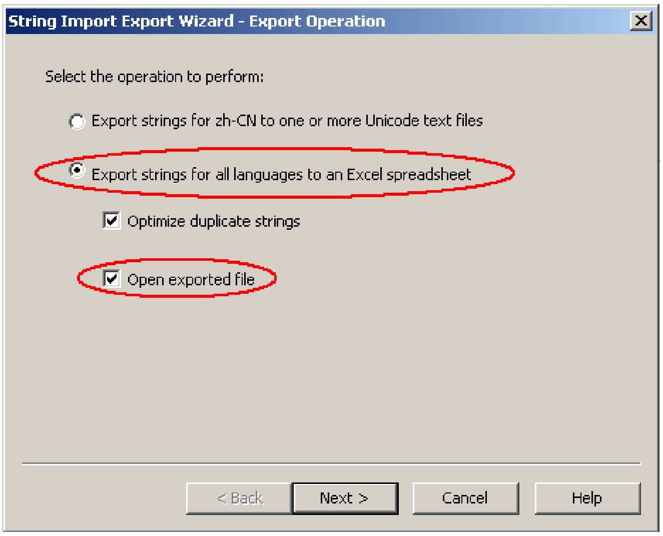


Language	ID
Chinese (PRC)	zh-CN
✓ English (United States)	en-US
French (France)	fr-FR
German (Germany)	de-DE
Japanese	ja-JP
Spanish (International Sort)	es-ES

Current language: English (United States), en-US

☑ Display undefined strings using the default language

2. Click the ***Export…*** button. This opens the next wizard dialog.



Select the operation to perform:

○ Export strings for zh-CN to one or more Unicode text files

● Export strings for all languages to an Excel spreadsheet

☑ Optimize duplicate strings

☑ Open exported file

3. Select the ***Export strings for all languages to an Excel spreadsheet*** and check the ***Open exported file*** checkbox to automatically open the exported file.

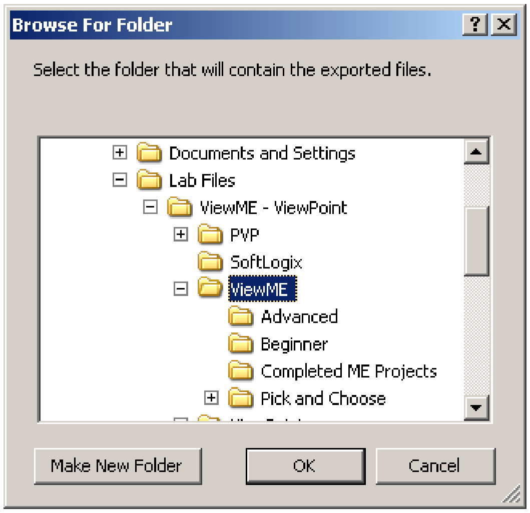
4. Click the ***Next*** button Next > to proceed.

5. Click the ***Browse*** button … to change the default location.

6. Navigate to ***C:\Lab Files\ViewME – ViewPoint.***

7. Select the ***ViewME*** folder.

8. Click the ***OK*** button OK to use the selection.

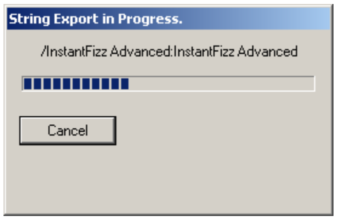


Browse For Folder

Select the folder that will contain the exported files.

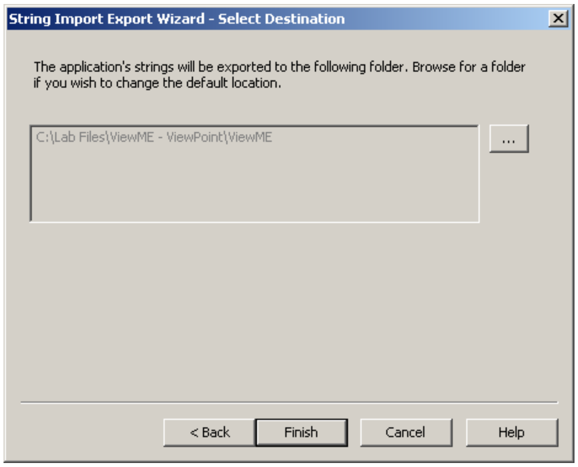
9. Click the ***Finish*** button Finish to export the strings.

   After a few moments the **String Export in Progress** dialog will appear. This dialog allows you to monitor the export.



String Export in Progress.

/InstantFizz Advanced:InstantFizz Advanced

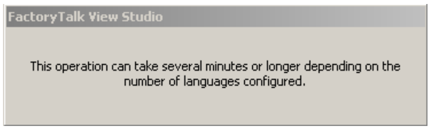


String Import Export Wizard - Select Destination

The application's strings will be exported to the following folder. Browse for a folder if you wish to change the default location.

C:\Lab Files\ViewME - ViewPoint\ViewME

Depending on how many languages the application is configured for, and the time required to perform the export, you may also see this dialog.

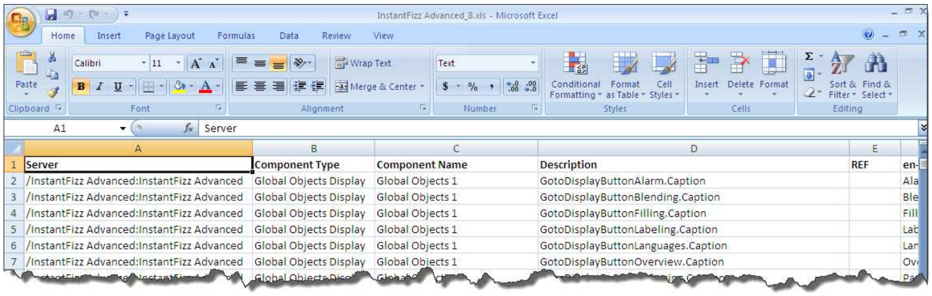


FactoryTalk View Studio

This operation can take several minutes or longer depending on the number of languages configured.

When the export process completes the progress and information dialog(s) will automatically close and your exported file will open in Microsoft Office Excel 2007 since we chose that option earlier.

10. For informational purposes, a snapshot of the opened file appears below. You do not need to any work in this file. A different file has been prepared that contains all the translated strings.



A1 Server

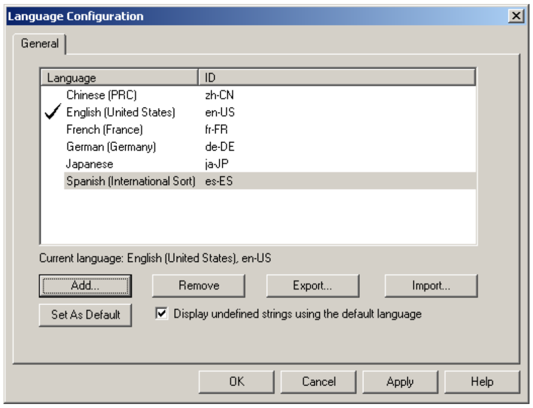
	A	B	C	D	E	
1	Server	Component Type	Component Name	Description	REF	en-
2	/InstantFizz Advanced:InstantFizz Advanced	Global Objects Display	Global Objects 1	GotoDisplayButtonAlarm.Caption		Ala
3	/InstantFizz Advanced:InstantFizz Advanced	Global Objects Display	Global Objects 1	GotoDisplayButtonBlending.Caption		Ble
4	/InstantFizz Advanced:InstantFizz Advanced	Global Objects Display	Global Objects 1	GotoDisplayButtonFilling.Caption		Fill
5	/InstantFizz Advanced:InstantFizz Advanced	Global Objects Display	Global Objects 1	GotoDisplayButtonLabeling.Caption		Lab
6	/InstantFizz Advanced:InstantFizz Advanced	Global Objects Display	Global Objects 1	GotoDisplayButtonLanguages.Caption		Lan
7	/InstantFizz Advanced:InstantFizz Advanced	Global Objects Display	Global Objects 1	GotoDisplayButtonOverview.Caption		Ov

11. When you are finished viewing the file, close **Microsoft Office Excel 2007**.

Importing Localized HMI Application Strings

To import the fully translated file execute the following steps.

1. On the **Language Configuration** dialog, click on the ***Import…*** button



Language Configuration

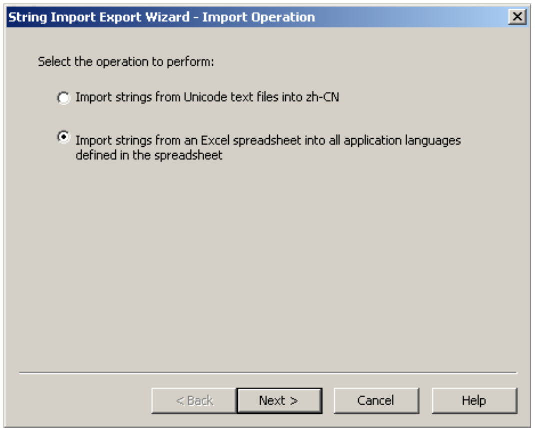
	Language	ID
	Chinese (PRC)	zh-CN
✓	English (United States)	en-US
	French (France)	fr-FR
	German (Germany)	de-DE
	Japanese	ja-JP
	Spanish (International Sort)	es-ES

Current language: English (United States), en-US

☑ Display undefined strings using the default language

3. Select the ***Import strings from an Excel spreadsheet into all application languages defined in the spreadsheet*** item.

4. Click the ***Next*** button Next > to proceed.



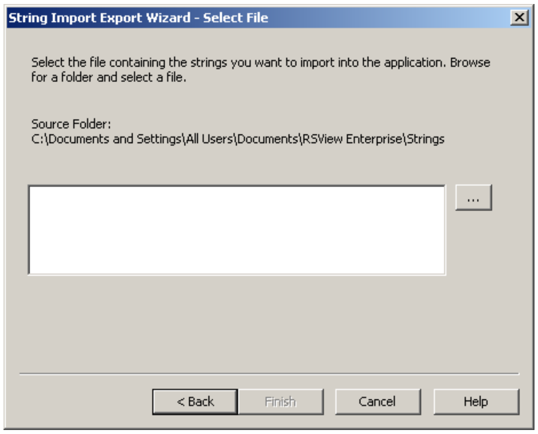
String Import Export Wizard - Import Operation

Select the operation to perform:

○ Import strings from Unicode text files into zh-CN

● Import strings from an Excel spreadsheet into all application languages defined in the spreadsheet

5. Click the ***Browse*** button ... to change the default location.

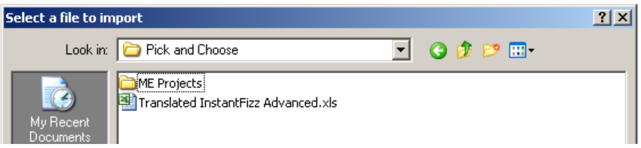


String Import Export Wizard - Select File

Select the file containing the strings you want to import into the application. Browse for a folder and select a file.

Source Folder:
C:\Documents and Settings\All Users\Documents\RSView Enterprise\Strings

6. Navigate to ***C:\Lab Files\ViewME - ViewPoint\ViewME\Pick and Choose*** folder.



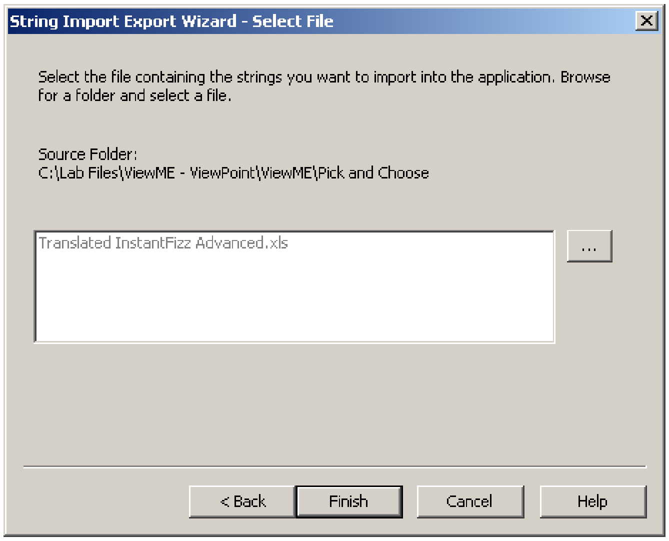
Select a file to import

Look in: Pick and Choose

ME Projects
Translated InstantFizz Advanced.xls

7. Double-click the ***TRANSLATED InstantFizz Advanced.xls*** file to select and close the dialog.

   Confirm that you selected the corrected file **TRANSLATED InstantFizz Advanced.xls**.



String Import Export Wizard - Select File

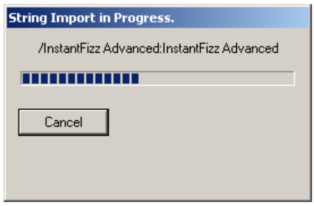
Select the file containing the strings you want to import into the application. Browse for a folder and select a file.

Source Folder:
C:\Lab Files\ViewME - ViewPoint\ViewME\Pick and Choose

Translated InstantFizz Advanced.xls

8. Click the ***Finish*** button Finish to import the strings.

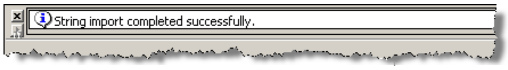
   After a few moments the **String Import in Progress** dialog will appear. This dialog allows you to monitor the export.

.

String Import in Progress.

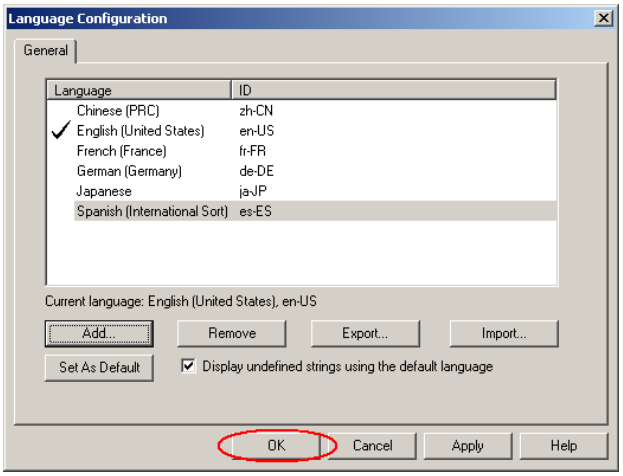
/InstantFizz Advanced:InstantFizz Advanced

When the import process completes, the progress dialog will close automatically close the progress window. The **Status Bar** reports “String import completed successfully”. If errors occur a results file will be automatically opened on your workstation.



String import completed successfully.

9. Click the ***OK*** button OK to proceed.



Language Configuration

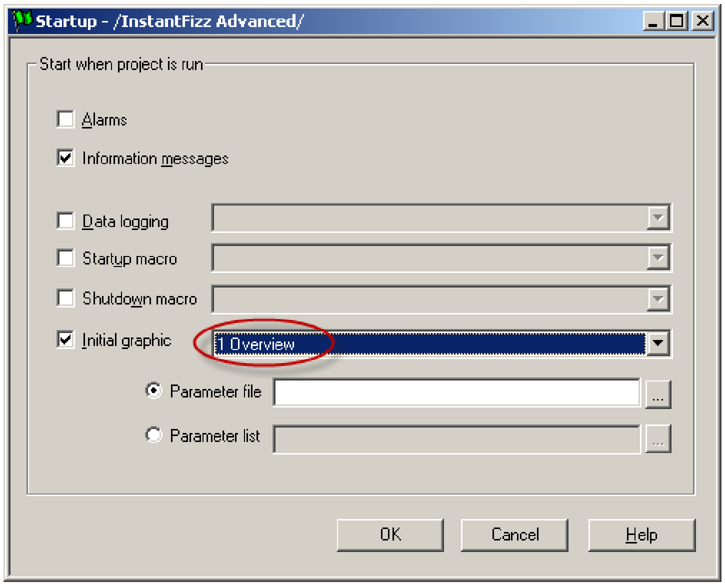
General

Language	ID
Chinese (PRC)	zh-CN
✓ English (United States)	en-US
French (France)	fr-FR
German (Germany)	de-DE
Japanese	ja-JP
Spanish (International Sort)	es-ES

Current language: English (United States), en-US

☑ Display undefined strings using the default language

10. Double-click ***Startup*** in the application Explorer to configure startup options, check the ***Initial graphic*** checkbox if it isn't selected already and verify that ***1 Overview*** is selected as the **Initial graphic**:



Startup - /InstantFizz Advanced/

Start when project is run

☐ Alarms

☑ Information messages

☐ Data logging

☐ Startup macro

☐ Shutdown macro

☑ Initial graphic: 1 Overview

● Parameter file

○ Parameter list

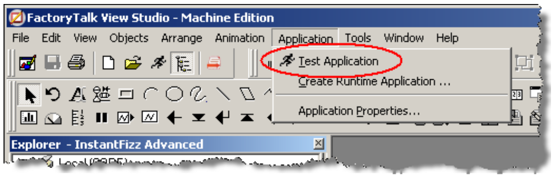
11. Click ***OK*** to accept your changes.

12. Make sure that you don't have the project running from the previous section. If you do, click ***Shutdown*** or ***Exit*** to close it.

Testing the localized application

To test the localized application you will use FactoryTalk Studio for Machine Edition's **Test Application** function. You can use the PanelView Plus, however, these instructions use **Test Application**.

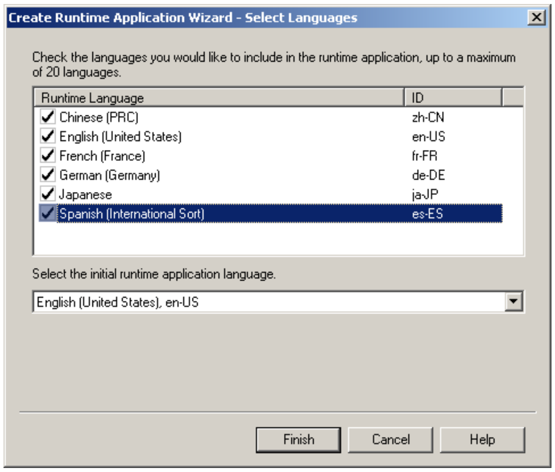
1. From the **Application** menu, select the ***Test Application*** item.


FactoryTalk View Studio - Machine Edition
File Edit View Objects Arrange Animation Application Tools Window Help
Test Application
Create Runtime Application ...
Application Properties...
Explorer - InstantFizz Advanced

Since the application has been configured to support multiple languages, your need to select which languages to include in the runtime application; a total of twenty can be selected.

2. Select all six languages.

3. Click the ***Finish*** button Finish to build the runtime application file.


Create Runtime Application Wizard - Select Languages

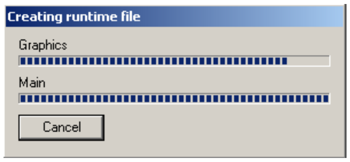
Check the languages you would like to include in the runtime application, up to a maximum of 20 languages.

Runtime Language	ID
☑ Chinese (PRC)	zh-CN
☑ English (United States)	en-US
☑ French (France)	fr-FR
☑ German (Germany)	de-DE
☑ Japanese	ja-JP
☑ Spanish (International Sort)	es-ES

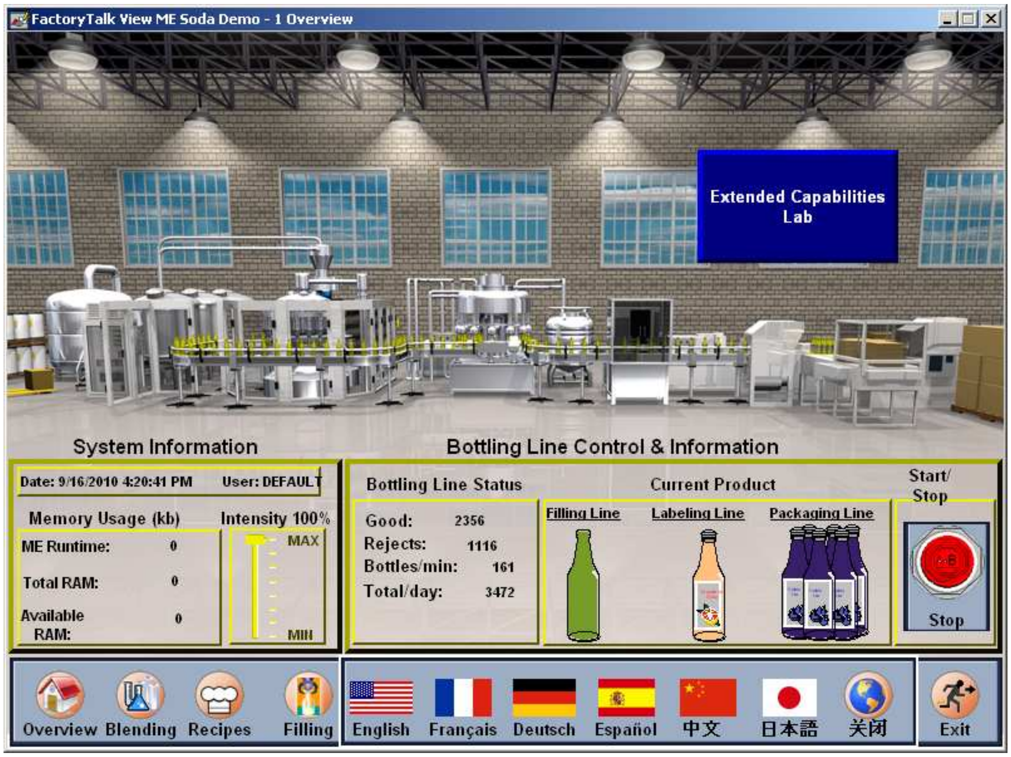
Select the initial runtime application language.

English (United States), en-US

While the system builds the runtime MER, a progress dialog is displayed.



When the runtime MER file is built, the system loads the runtime MER in to an emulation mode. The application will appear in the upper left-hand corner of the computer display.



Date: 9/16/2010 4:20:41 PM User: DEFAULT

Memory Usage (kb) Intensity 100%

ME Runtime: 0

Total RAM: 0

Available RAM: 0

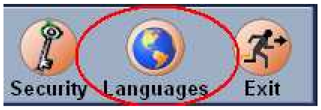
Good: 2356

Rejects: 1116

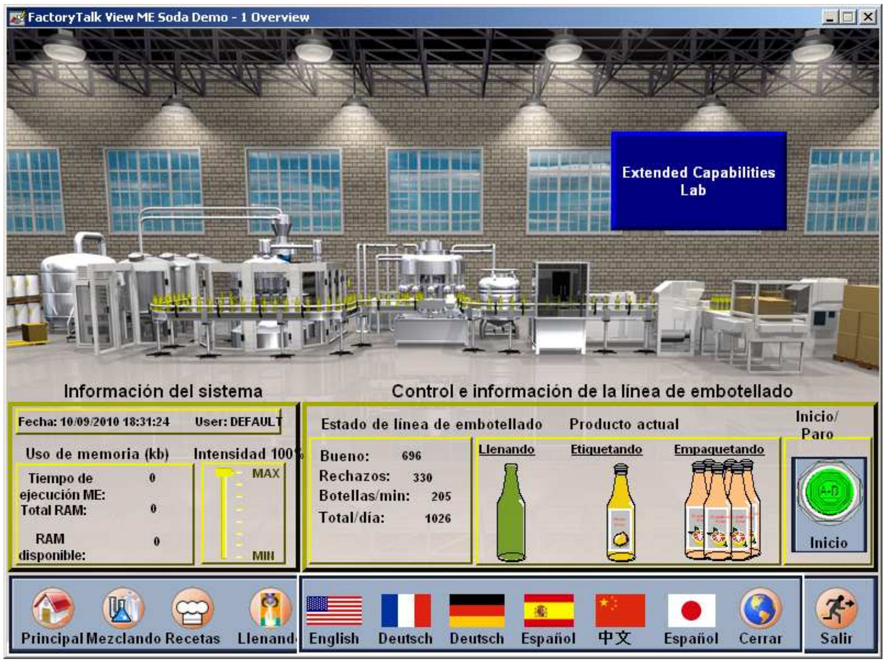
Bottles/min: 161

Total/day: 3472

4. Click the **Languages** button to open its display.



5. Click on **Español** to change the application language to Spanish. Note that the caption for our **Spanish** button was updated during the import with 'Español' to keep consistent with the other buttons where each caption is displayed in the native language.



Fecha: 10/09/2010 18:31:24 User: DEFAULT

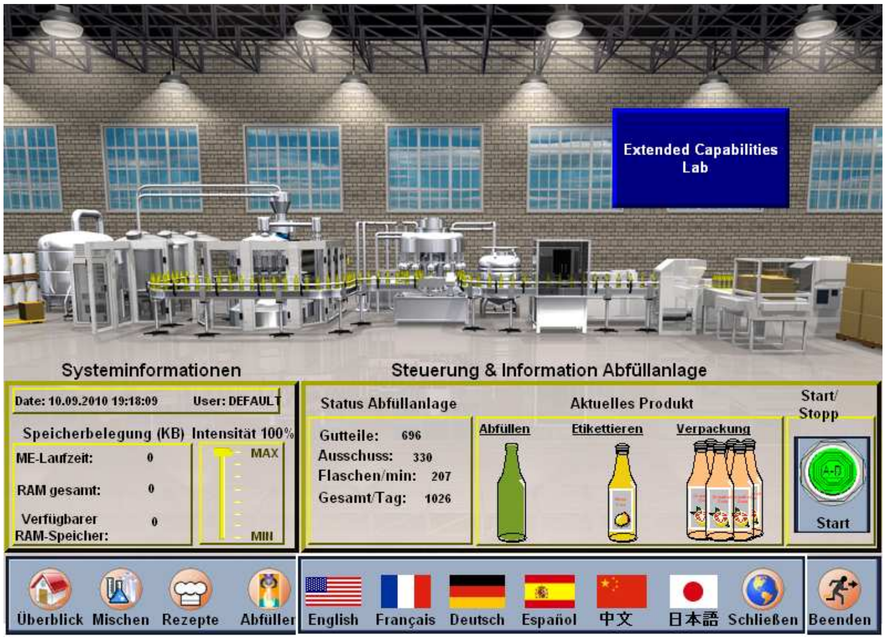
Uso de memoria (kb) Intensidad 100%

Tiempo de ejecución ME: 0
Total RAM: 0
RAM disponible: 0

MAX
MIN

Bueno: 696
Rechazos: 330
Botellas/min: 205
Total/día: 1026

6. Click the **Deutsch** button Deutsch to change the language to German.

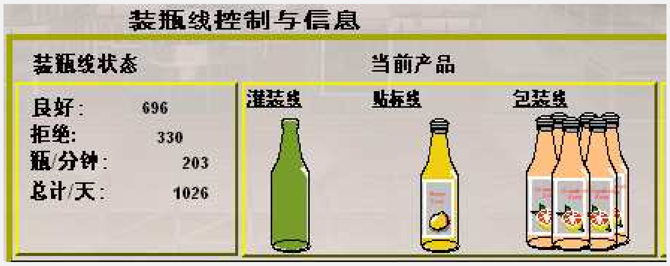


Date: 10.09.2010 19:18:09 User: DEFAULT

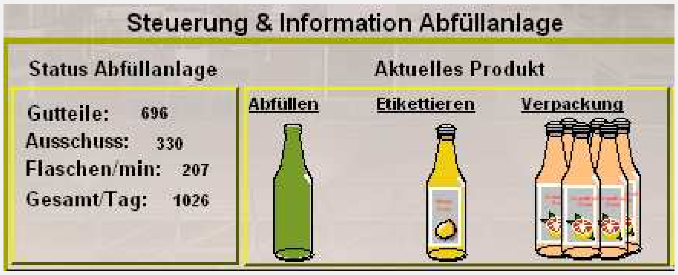
ME-Laufzeit: 0
RAM gesamt: 0
Verfügbarer RAM-Speicher: 0

Gutteile: 696
Ausschuss: 330
Flaschen/min: 207
Gesamt/Tag: 1026

This application provides a good example of a situation that engineers designing multi-language application must consider. If you look at the text displayed on and within different objects, you will notice that the space required varies depending upon the language selected.



良好: 696
拒绝: 330
瓶/分钟: 203
总计/天: 1026



Gutteile: 696
Ausschuss: 330
Flaschen/min: 207
Gesamt/Tag: 1026

Some objects may not be wide enough to contain the characters on a single line. Although the objects are properly sized for English during development, when translated many text strings require more space as they contain more characters than the English-version of the same string.

Congratulations!! You have successfully localized your FactoryTalk View Machine Edition application, added language switching buttons, exported the English language strings, imported the translated strings, created a runtime file; and tested the application at your workstation.

Improving productivity with parameter passing (30 minutes)

Completing this section requires approximately 30 minutes.

FactoryTalk View ME allows the use of tag placeholders so that you can create one display that can represent a number of similar operations, simply by passing in different tag values.

A tag placeholder is used to mark where you want to insert a tag name of some part of a tag name at run time. A tag placeholder is a crosshatch character (#) followed by a number from 1 to 500.

Tag placeholders are used in FactoryTalk View ME by **parameter files**. A parameter file is a user-created text file that lists a number of tag placeholders that can be referenced in the project. The parameter file is part of a FactoryTalk View ME project.

FactoryTalk View ME also supports the use of **parameter lists**. A parameter list is a list of tag placeholders specified for use on a particular display.

Parameter lists can be used in the same components where parameter files can be used:

- The graphic display that opens when an application is first run. Specify the graphic display to open, and the parameter file or parameter list to use with it, in the Startup editor.
- Graphic displays that are opened using Goto Display buttons or Display List Selectors. Specify the graphic display to open, and the parameter file or parameter list to use with it, when you set up the button or selector.
- Global Connections. Parameter files or parameter lists can be used with Remote displays.

Parameters can be carried forward, or passed, to secondary displays that are linked to and open from the initial display, using either a parameter file or a parameter list. When a graphic display opens at run time, FactoryTalk View ME substitutes the string specified in the parameter file or the tag(s) specified in the parameter list for the tag placeholders in the graphic display. The same set of tag placeholders can then be passed on to a secondary display that is opened from the initial display.

In this section you will:

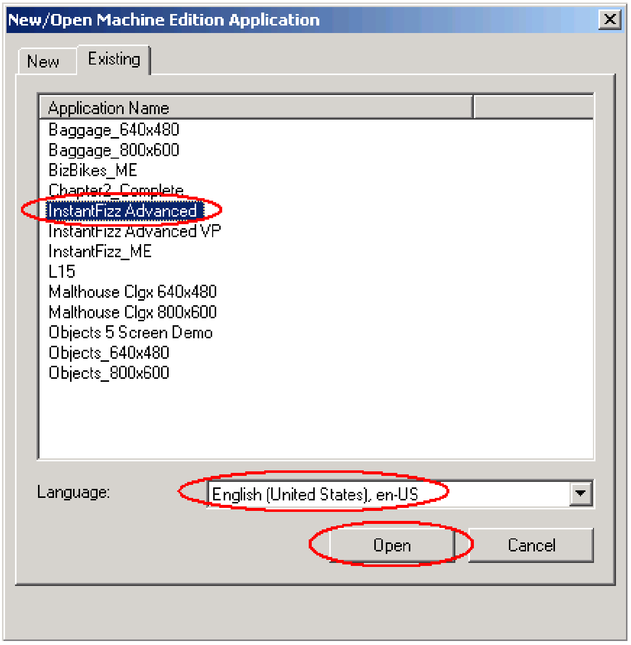
- Look at how Process Faceplates can take advantage of parameter lists to carry tags forward to subsequent displays.

Open the InstantFizz Advanced application

If you already have the InstantFizz Advanced application open from a previous section, you can move on to the next section, ***Add the PIDE faceplates***.

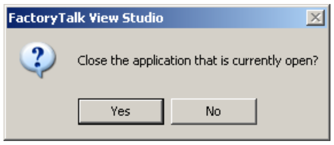
1. To open FactoryTalk View Studio, click ***Start > All Programs > Rockwell Software > FactoryTalk View > FactoryTalk View Studio***. If FactoryTalk View Studio is already open, then select ***File > Open Application…*** to switch applications.

2. Select the existing ***InstantFizz Advanced*** application, make sure ***English*** is selected for the **Language**, and click ***Open***:



Language: English (United States), en-US

3. If you are switching applications you will be prompted to close the currently open application, click the ***Yes*** button to proceed.

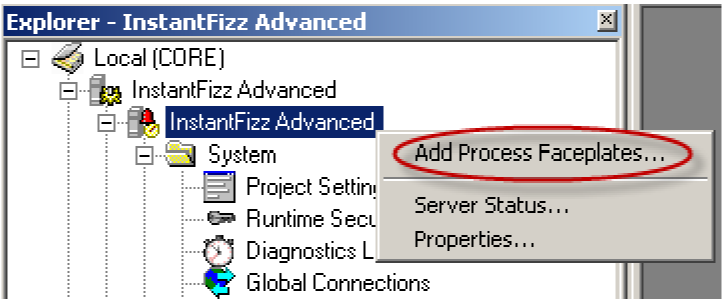


Close the application that is currently open?

Add the PIDE faceplates

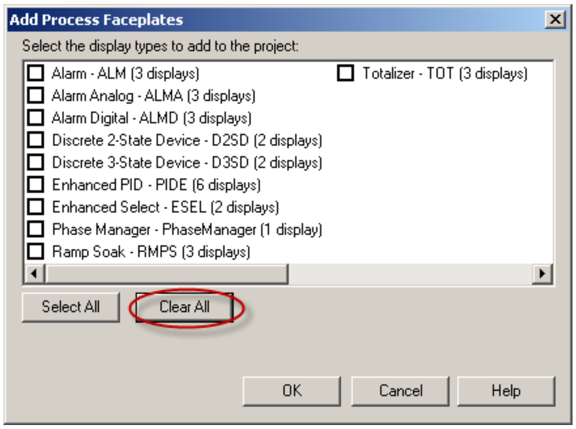
You will use the Enhanced PID Process Faceplates supplied by FactoryTalk View ME to work with carry forward parameters. These faceplates must be added to the project.

1. In the application Explorer, right-click the ***InstantFizz Advanced*** HMI Server and select ***Add Process Faceplates***:



The Add Process Faceplates dialog is opened.

2. Click ***Clear All*** on the Add Process Faceplates dialog:

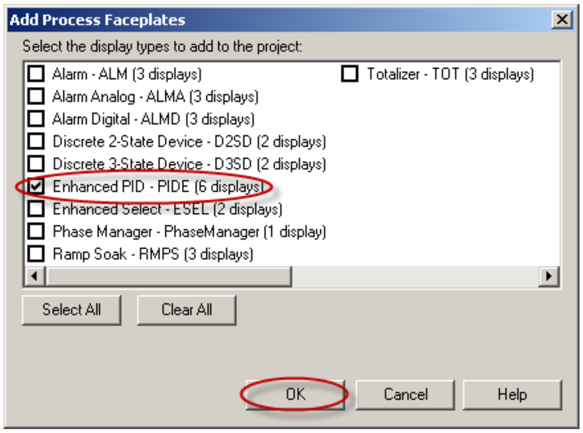


Add Process Faceplates

Select the display types to add to the project:

- □ Alarm - ALM (3 displays)
- □ Alarm Analog - ALMA (3 displays)
- □ Alarm Digital - ALMD (3 displays)
- □ Discrete 2-State Device - D2SD (2 displays)
- □ Discrete 3-State Device - D3SD (2 displays)
- □ Enhanced PID - PIDE (6 displays)
- □ Enhanced Select - ESEL (2 displays)
- □ Phase Manager - PhaseManager (1 display)
- □ Ramp Soak - RMPS (3 displays)
- □ Totalizer - TOT (3 displays)

3. Click the ***Enhanced PID – PIDE*** check box and click ***OK***.



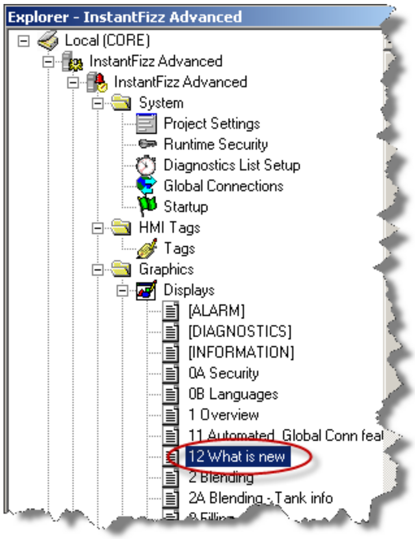
Add Process Faceplates

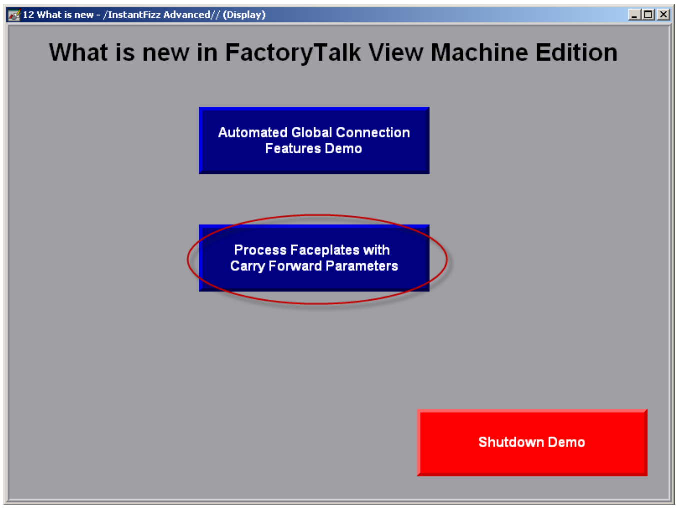
Select the display types to add to the project:

- □ Alarm - ALM (3 displays)
- □ Alarm Analog - ALMA (3 displays)
- □ Alarm Digital - ALMD (3 displays)
- □ Discrete 2-State Device - D2SD (2 displays)
- □ Discrete 3-State Device - D3SD (2 displays)
- ☑ Enhanced PID - PIDE (6 displays)
- □ Enhanced Select - ESEL (2 displays)
- □ Phase Manager - PhaseManager (1 display)
- □ Ramp Soak - RMPS (3 displays)
- □ Totalizer - TOT (3 displays)

When faceplates are added to a project, displays and global objects are imported that can be used in the project.

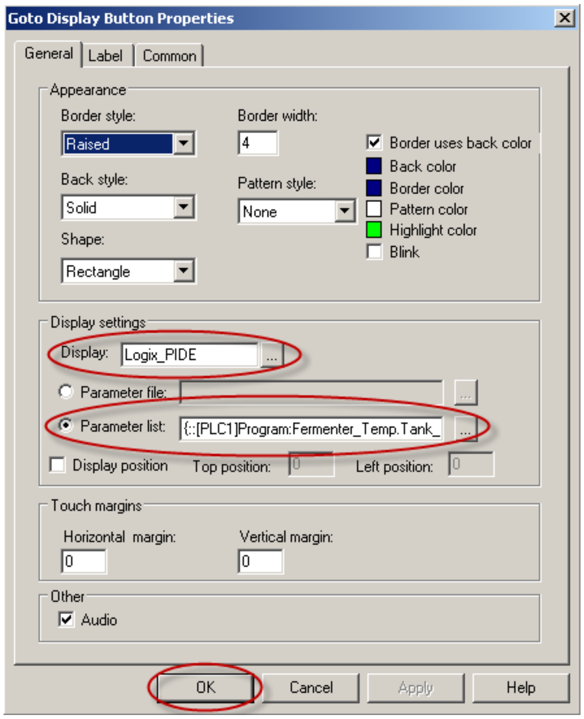
4. The **12 What is new** display in the InstantFizz Advanced project contains a Goto display button that is configured to open the Logix_PIDE display on the startup. Double-click the ***12 What is new*** display in the application Explorer under **Displays** to open it:





12 What is new - /InstantFizz Advanced// (Display)
What is new in FactoryTalk View Machine Edition
Automated Global Connection Features Demo
Process Faceplates with Carry Forward Parameters
Shutdown Demo

5. On the display, double-click the ***Process Faceplates with Carry Forward Parameters*** Goto display button (as shown above). The button's property dialog is opened. Note the **Display** and **Parameter list** properties:



Appearance

Border style: Raised

Border width: 4

☑ Border uses back color

Back color

Border color

□ Pattern color

Highlight color

□ Blink

Back style: Solid

Pattern style: None

Shape: Rectangle

Display settings

Display: Logix_PIDE

○ Parameter file:

● Parameter list: {::[PLC1]Program:Fermenter_Temp.Tank_

□ Display position Top position: 0 Left position: 0

Touch margins

Horizontal margin: 0

Vertical margin: 0

Other

☑ Audio

The display specified by the **Display** property is the display opened when the Goto display button is clicked at run time. In this case it is the **Logix_PIDE** display.

The value for the Parameter list property is:

{::[PLC1]Program:Fermenter_Temp.Tank_PIDE01}

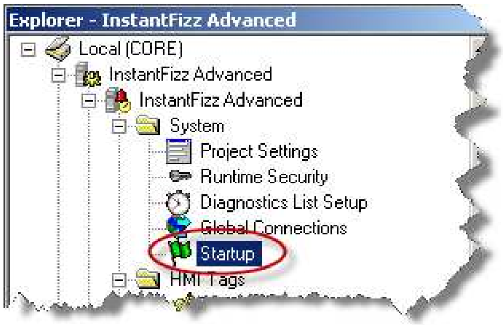
This value is a tag name that is "passed" to the Logix_PIDE display when it is opened. Passed tags can be referenced on the display.

Click ***OK*** to close the property dialog.

Testing the PIDE faceplates

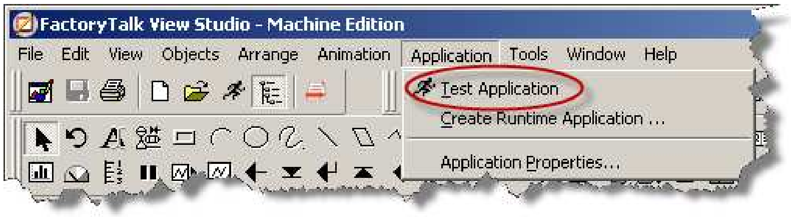
Now you will run the application in test mode and observe how parameter passing works with the PIDE faceplates. First you must set the initial display graphic.

1. Double-click ***Startup*** in the application Explorer to open the startup utility.

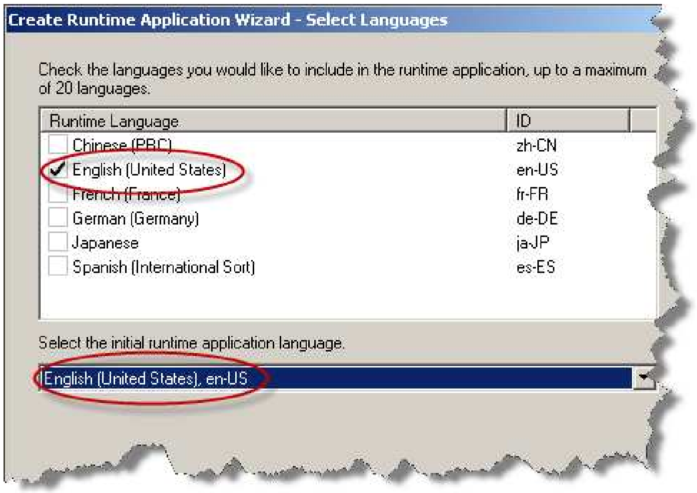


2. For the Initial graphic, select ***12 What is new*** and click ***OK***.

3. On the **Application** menu, click ***Test Application***.


FactoryTalk View Studio - Machine Edition
File
Edit
View
Objects
Arrange
Animation
Application
Tools
Window
Help
Test Application
Create Runtime Application ...
Application Properties...

Verify that only ***English*** is checked to include in the runtime application, and that ***English*** is selected as the initial run time language.



Create Runtime Application Wizard - Select Languages

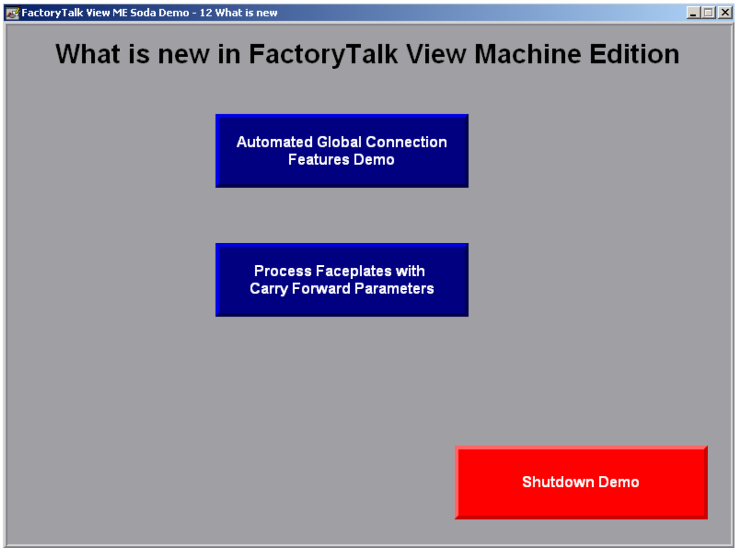
Check the languages you would like to include in the runtime application, up to a maximum of 20 languages.

Runtime Language	ID
□ Chinese (PRC)	zh-CN
☑ English (United States)	en-US
□ French (France)	fr-FR
□ German (Germany)	de-DE
□ Japanese	ja-JP
□ Spanish (International Sort)	es-ES

Select the initial runtime application language.

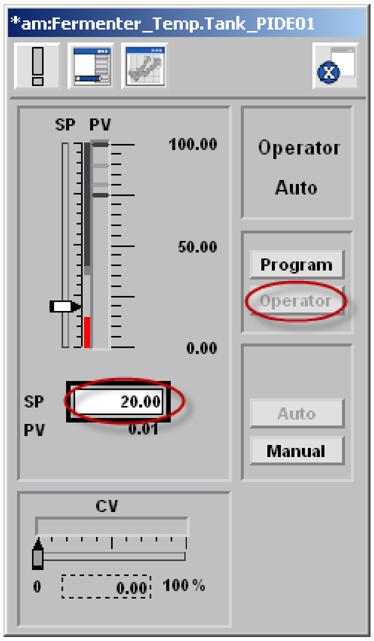
English (United States), en-US

4. Click ***Finish*** to create the runtime application. The runtime is created, then the application starts using the initial display you selected:

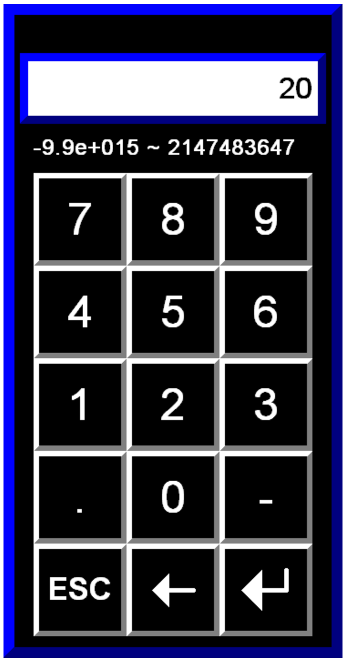

FactoryTalk View ME Soda Demo - 12 What is new
What is new in FactoryTalk View Machine Edition
Automated Global Connection Features Demo
Process Faceplates with Carry Forward Parameters
Shutdown Demo

5. Click the ***Process Faceplates with Carry Forward Parameters*** button to open the Logix_PIDE display.

6. Click the ***Operator*** button to put the PIDE into Operator mode. When it is in Operator mode, the button will appear disabled (grayed out).



7. Click the ***SP*** (Set Point) numeric input, as shown above. The numeric input keypad is displayed:



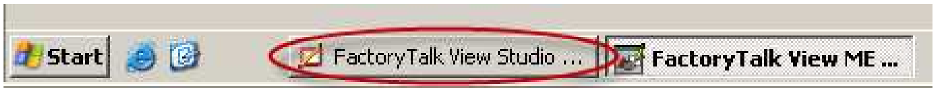
The keypad can be configured to include helpful information like the tag name and its minimum and maximum value. We will do this in the next section.

8. Click the ***ESC*** (Escape) key to close the keypad.

Investigate the numeric input configuration

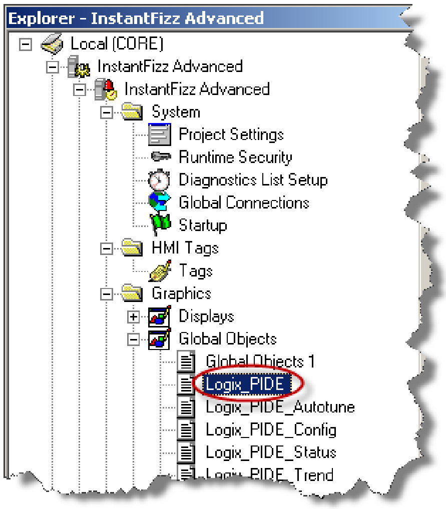
You will now look at how the Process Faceplates are configured to use the parameter passing, numeric input keypad and global objects.

1. Click the ***FactoryTalk View Studio*** item in the Windows taskbar to bring Studio to the front (you can leave the application running).

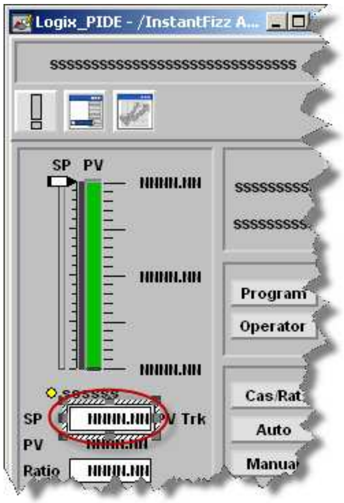


2. When you import Process Faceplates, both Global Objects and Displays are brought into the project. The numeric input object is configured on the Logix_PIDE Global Object.

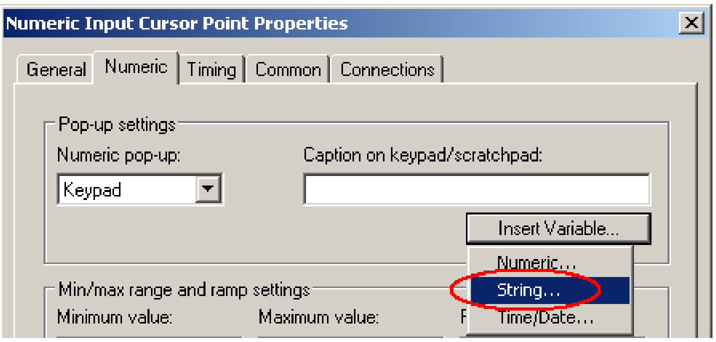
   In the application Explorer tree, double-click on ***Logix_PIDE*** under **Global Objects**.



3. Double-click on the ***SP*** numeric input object to open its properties. You may need to double-click a few times to get to the numeric input.



4. On the **Numeric** tab, click ***Insert Variable > String*** button under the **Caption on keypad/scratchpad** field:



Numeric Input Cursor Point Properties

General | Numeric | Timing | Common | Connections

Pop-up settings

Numeric pop-up: Keypad

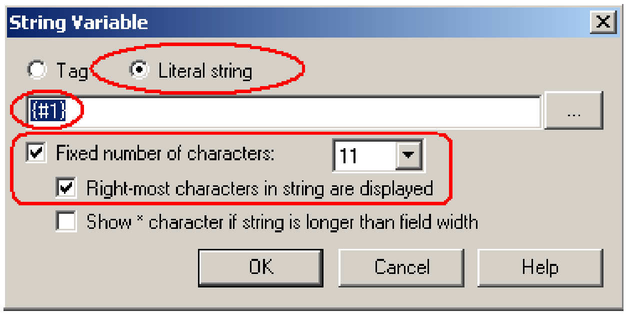
Caption on keypad/scratchpad:

Min/max range and ramp settings

Minimum value:

Maximum value:

5. To configure the numeric input keypad caption to include the tag name of the passed parameter, you use the **Literal string** option. In this example, we will fix the number of characters to **11**, and choose the option **Right-most characters in string are displayed**, since the full tag name is too long to fit on the numeric input keypad.



String Variable

○ Tag ● Literal string

{#1}

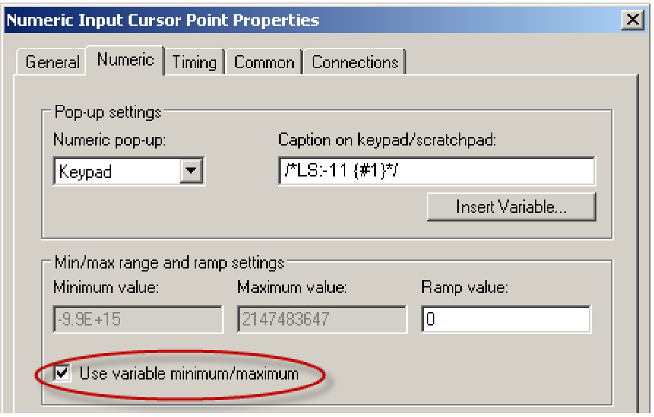
☑ Fixed number of characters: 11

☑ Right-most characters in string are displayed

□ Show * character if string is longer than field width

Click ***OK*** to close the dialog.

6. On the **Numeric** tab you can also configure how the numeric input keypad displays the minimum and maximum for the tag value you are entering. You can either enter a value for minimum and maximum, or use a variable minimum and maximum. In this case, we want to use the variable minimum and maximum. Select the ***Use variable minimum/maximum*** checkbox to do so.



Numeric Input Cursor Point Properties

General | Numeric | Timing | Common | Connections

Pop-up settings

Numeric pop-up: Keypad

Caption on keypad/scratchpad: /*LS:-11 {#1}*/

Min/max range and ramp settings

Minimum value: -9.9E+15

Maximum value: 2147483647

Ramp value: 0

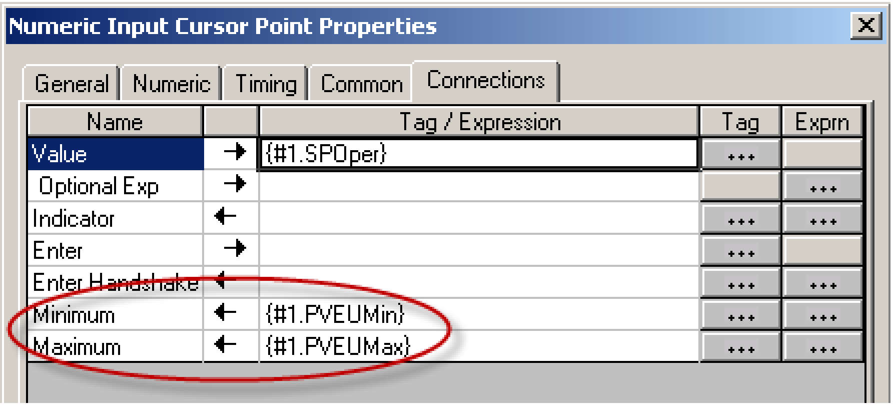
☑ Use variable minimum/maximum

7. When using a variable minimum and maximum, you need to specify the tags to be used. Open the ***Connections*** tab.

8. Double-click in the **Tag / Expression** field for the **Minimum** property and enter '**{#1.PVEUMin}**'.

9. Now double-click in the **Tag / Expression** field for the **Maximum** property and enter '**{#1.PVEUMax}**'.

   Your **Connections** tab should look like this:



Numeric Input Cursor Point Properties

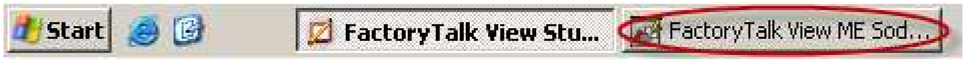
Name		Tag / Expression	Tag	Exprn
Value	→	{#1.SPOper}	...	
Optional Exp	→			...
Indicator	←		...	...
Enter	→		...	
Enter Handshake	←		...	...
Minimum	←	{#1.PVEUMin}	...	...
Maximum	←	{#1.PVEUMax}	...	...

9. Click ***OK*** to close the numeric input properties dialog.

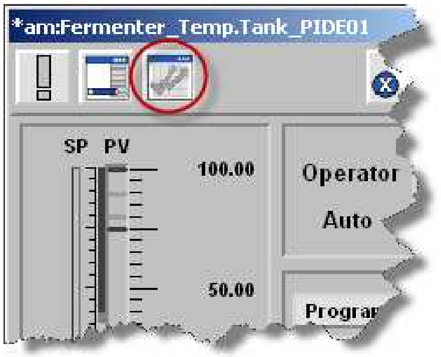
Investigate "carry forward" parameters

You will now look at how parameter lists and parameter files support "carry forward" parameters.

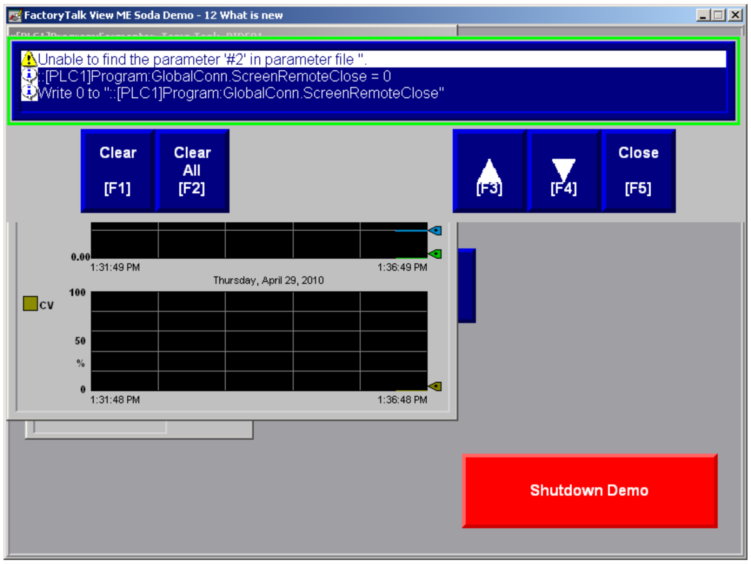
1. Click the ***FactoryTalk View ME Sod…*** item in the Windows taskbar to bring the running application to the front.



2. On the Logix PIDE faceplate, click the ***Trend*** icon as shown below to open another display, **Logix_PIDE_Trend**.

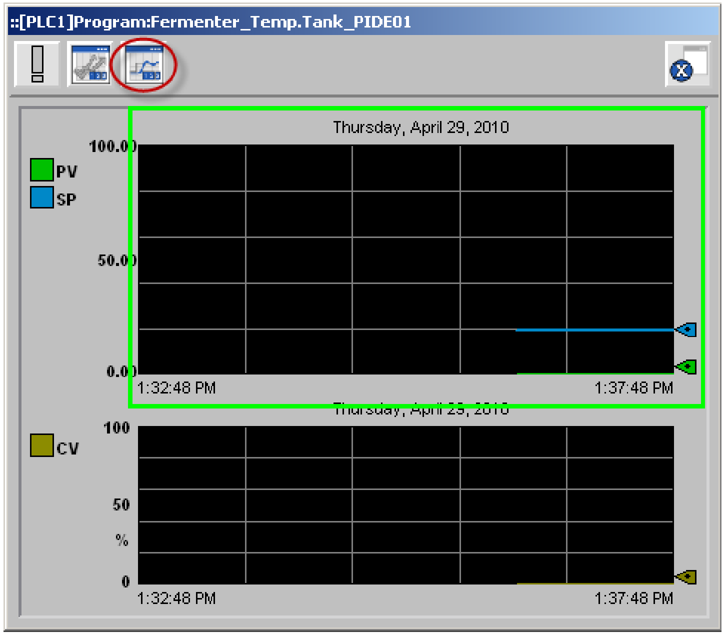


When the Trend faceplate is opened, you may see a diagnostic error message. If you do, click the ***Close [F5]*** button. The display should show valid data.



```
Unable to find the parameter '#2' in parameter file ''.
::[PLC1]Program:GlobalConn.ScreenRemoteClose = 0
Write 0 to "::[PLC1]Program:GlobalConn.ScreenRemoteClose"
```

3. Now open a secondary Ontop display from the Trend (Logix_PIDE_Trend) faceplate. Click the ***AutoTune*** button as shown below:



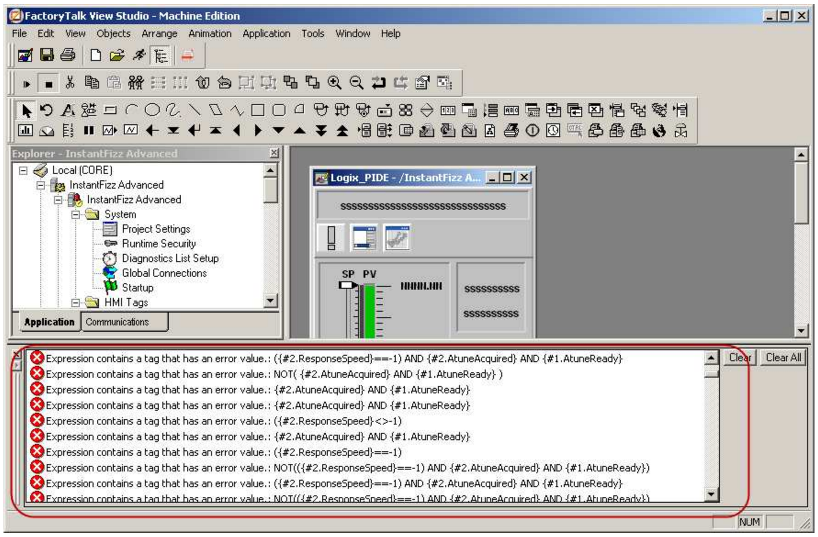
When the AutoTune faceplate is opened, note the errors shown in the diagnostic window, and that the AutoTune display does not have valid data.

4. Click the ***Shutdown Demo*** button to close the test application.

Fixing the PIDE faceplate errors

You will now explore the PIDE faceplates and determine why you are getting errors at run time. You will look at how parameters are passed from one display to secondary faceplates or displays and fix any problems you find.

1. Expand the Diagnostic list in FactoryTalk View Studio so you can see a number of entries, as shown below:

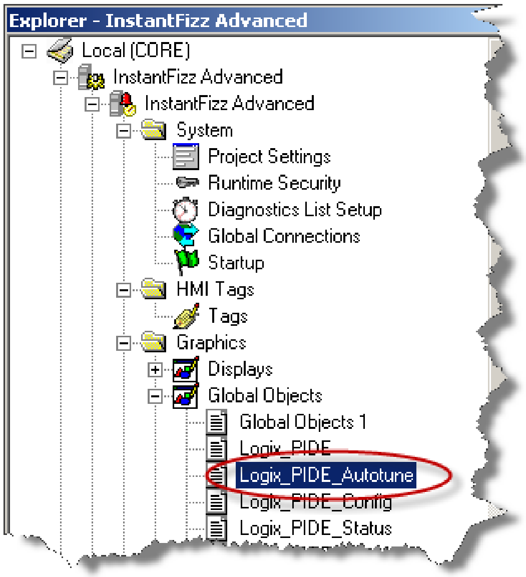


```
Expression contains a tag that has an error value.: ({#2.ResponseSpeed}==-1) AND {#2.AtuneAcquired} AND {#1.AtuneReady}
Expression contains a tag that has an error value.: NOT( {#2.AtuneAcquired} AND {#1.AtuneReady} )
Expression contains a tag that has an error value.: {#2.AtuneAcquired} AND {#1.AtuneReady}
Expression contains a tag that has an error value.: {#2.AtuneAcquired} AND {#1.AtuneReady}
Expression contains a tag that has an error value.: ({#2.ResponseSpeed}<>-1)
Expression contains a tag that has an error value.: {#2.AtuneAcquired} AND {#1.AtuneReady}
Expression contains a tag that has an error value.: ({#2.ResponseSpeed}==-1)
Expression contains a tag that has an error value.: NOT(({#2.ResponseSpeed}==-1) AND {#2.AtuneAcquired} AND {#1.AtuneReady})
Expression contains a tag that has an error value.: ({#2.ResponseSpeed}==-1) AND {#2.AtuneAcquired} AND {#1.AtuneReady}
Expression contains a tag that has an error value.: NOT(({#2.ResponseSpeed}==-1) AND {#2.AtuneAcquired} AND {#1.AtuneReady})
```

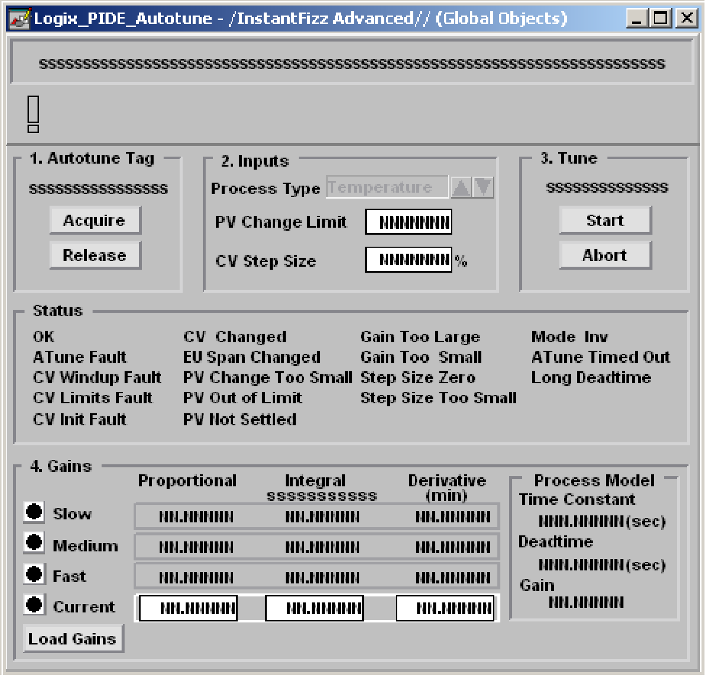
   Scroll down the list to see the errors that are there. Error messages display this icon: ⊗.

   Note that most of the errors say that an *"Expression contains a tag that has an error value."*, and display the expression with the error. You might notice that all of the expressions listed reference the #2 tag placeholder. This most likely indicates that there is a problem with the second tag reference being passed somewhere between the initial display and the AutoTune display. In the next steps you will look at the parameter passing configuration and try to find the problem.

2. The last diagnostic errors you saw were generated on the AutoTune, or Logix_PIDE_AutoTune display. This display is generated from a Global Object imported with the PID faceplates, so you will need to explore how the faceplate Global Object gets its data. Double-click ***Logix_PIDE_AutoTune*** under **Global Objects** in the application Explorer:

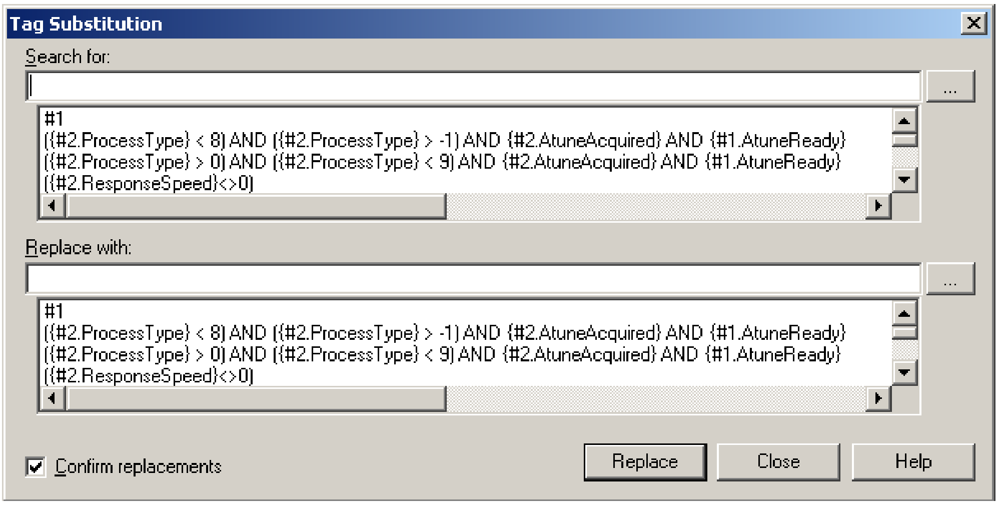


The Logix_PIDE_AutoTune Global Object is opened:



3. You can determine what tags are required on a display by using a few keyboard shortcuts.

   Press ***CTRL + A*** to select all components on the display. Press ***Ctrl + R*** to open the **Tag Substitution** dialog:



```
#1
({#2.ProcessType} < 8) AND ({#2.ProcessType} > -1) AND {#2.AtuneAcquired} AND {#1.AtuneReady}
({#2.ProcessType} > 0) AND ({#2.ProcessType} < 9) AND {#2.AtuneAcquired} AND {#1.AtuneReady}
({#2.ResponseSpeed}<>0)
```

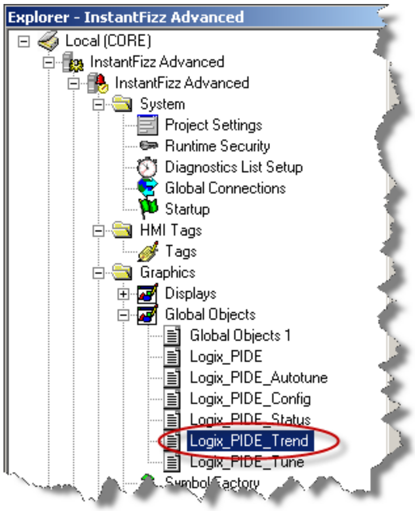
```
#1
({#2.ProcessType} < 8) AND ({#2.ProcessType} > -1) AND {#2.AtuneAcquired} AND {#1.AtuneReady}
({#2.ProcessType} > 0) AND ({#2.ProcessType} < 9) AND {#2.AtuneAcquired} AND {#1.AtuneReady}
({#2.ResponseSpeed}<>0)
```

☑ Confirm replacements

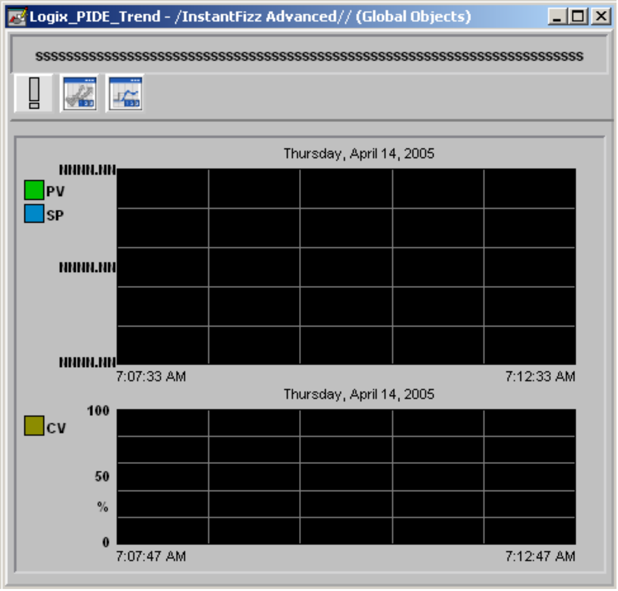
The Tag Substitution dialog is primarily used to make substitutions for tag references on a display. We are using it here because it shows all tags referenced in the display. Look at the tags listed in the **Search for** list, and note that two tag placeholders (#1 and #2) are referenced. This means that the display is expecting to get at least two tag placeholders passed to it when it is opened.

4. Click ***Close*** to close the tag Substitution dialog.

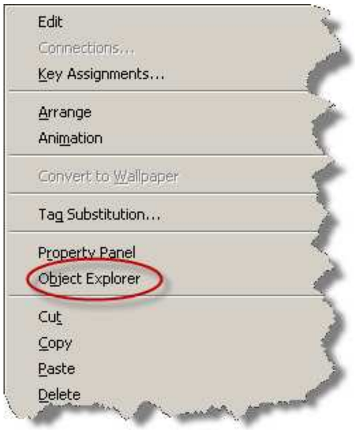
5. The Logix_PIDE_AutoTune display is opened from a Goto Display button on the **Logix_PIDE_Trend** display. This display is again generated from a Global Object, so double-click on ***Logix_PIDE_Trend*** under **Global Objects** in the application Explorer:



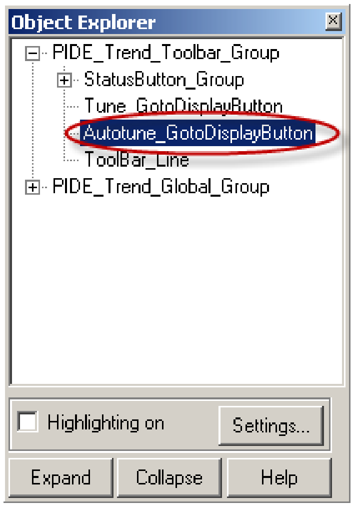
The Logix_PIDE_Trend global object display is opened:


Logix_PIDE_Trend - /InstantFizz Advanced// (Global Objects)
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
Thursday, April 14, 2005
PV
SP
7:07:33 AM
7:12:33 AM
Thursday, April 14, 2005
CV
100
50
%
0
7:07:47 AM
7:12:47 AM

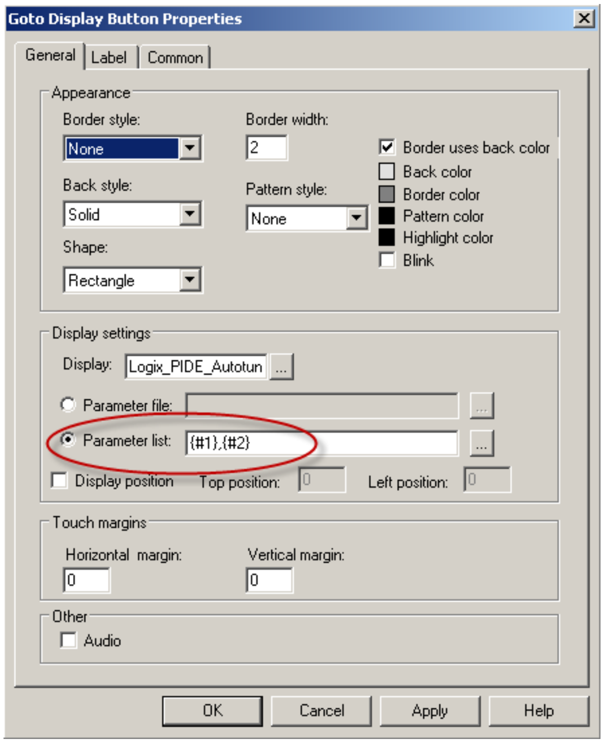
6. Right-click on the Global Object display and select ***Object Explorer***.



7. The View Studio Object Explorer is opened. Find and double-click ***AutoTune_GotoDisplayButton*** to open the Properties dialog for that object.



8. Note that the Parameter list includes tag placeholders **#1** and **#2**:



Goto Display Button Properties

General | Label | Common

Appearance

Border style: None

Border width: 2

☑ Border uses back color

□ Back color

Border color

Pattern color

Highlight color

□ Blink

Back style: Solid

Pattern style: None

Shape: Rectangle

Display settings

Display: Logix_PIDE_Autotun

○ Parameter file:

● Parameter list: {#1},{#2}

□ Display position Top position: 0 Left position: 0

Touch margins

Horizontal margin: 0

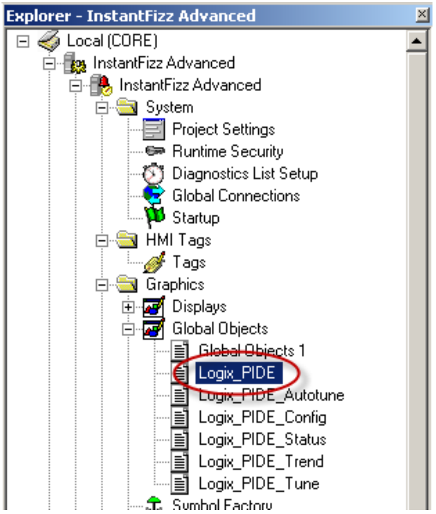
Vertical margin: 0

Other

□ Audio

These are the tag placeholders required by the AutoTune display, so this Goto Display button is configured properly. Click ***Cancel*** to close the Properties dialog.

9. The Logix_PIDE_Trend display is opened from a Goto Display button on the Logix_PIDE display. Again the Logix_PIDE is generated from a Global Object, so double-click on ***Logix_PIDE*** under **Global Objects** in the application Explorer.

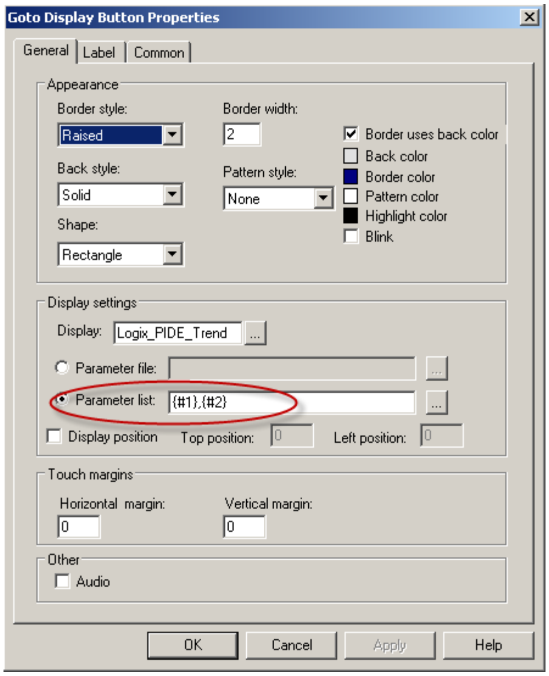


Explorer - InstantFizz Advanced

- Local (CORE)
  - InstantFizz Advanced
    - InstantFizz Advanced
      - System
        - Project Settings
        - Runtime Security
        - Diagnostics List Setup
        - Global Connections
        - Startup
      - HMI Tags
        - Tags
      - Graphics
        - Displays
        - Global Objects
          - Global Objects 1
          - Logix_PIDE
          - Logix_PIDE_Autotune
          - Logix_PIDE_Config
          - Logix_PIDE_Status
          - Logix_PIDE_Trend
          - Logix_PIDE_Tune
        - Symbol Factory

10. When the global object display opens, right-click on it and select **Object Explorer** (if it is not already open). Double-click on the ***Trend_GotoDisplayButton*** object in the Object Explorer to open the Properties dialog for the button.

11. Note that the Parameter list again has two tag placeholders, **#1** and **#2**. Again, this is what is required for the secondary displays, so click ***Cancel*** to close the Properties dialog.



Goto Display Button Properties

General | Label | Common

Appearance

Border style: Raised

Border width: 2

☑ Border uses back color

□ Back color

■ Border color

□ Pattern color

■ Highlight color

□ Blink

Back style: Solid

Pattern style: None

Shape: Rectangle

Display settings

Display: Logix_PIDE_Trend

○ Parameter file:

● Parameter list: {#1},{#2}

□ Display position Top position: 0 Left position: 0

Touch margins

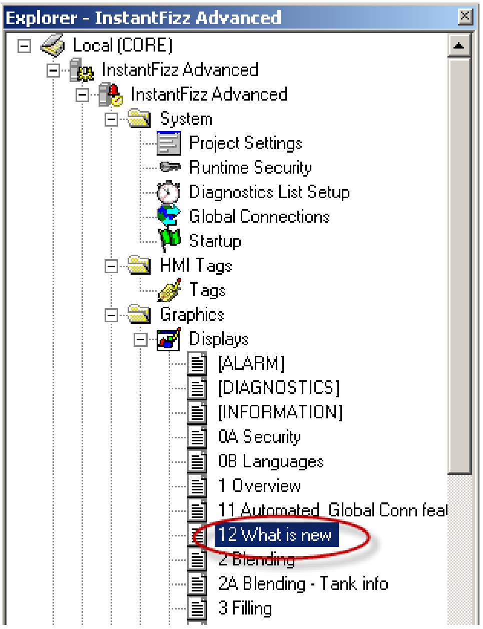
Horizontal margin: 0

Vertical margin: 0

Other

□ Audio

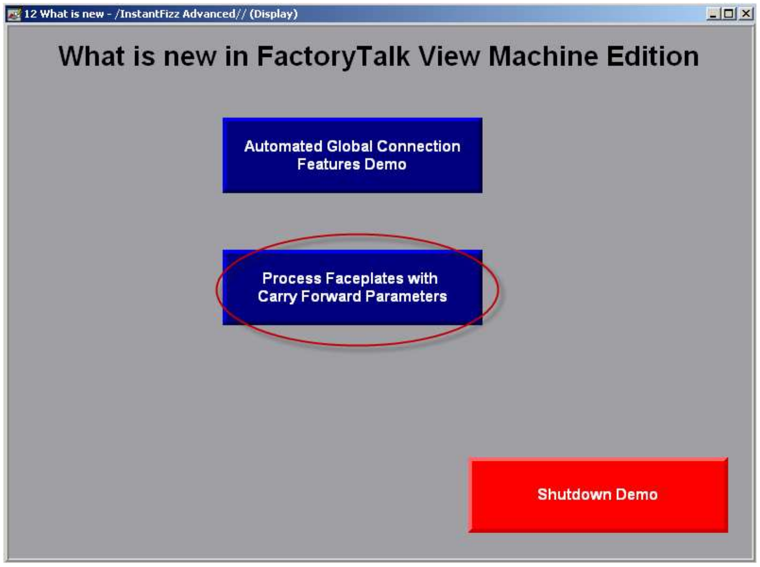
12. Finally, the **Logix_PIDE** display is opened from a Goto Display button on the **12 What is new** display. Double-click ***12 What is new*** under Displays in the application Explorer to open it.



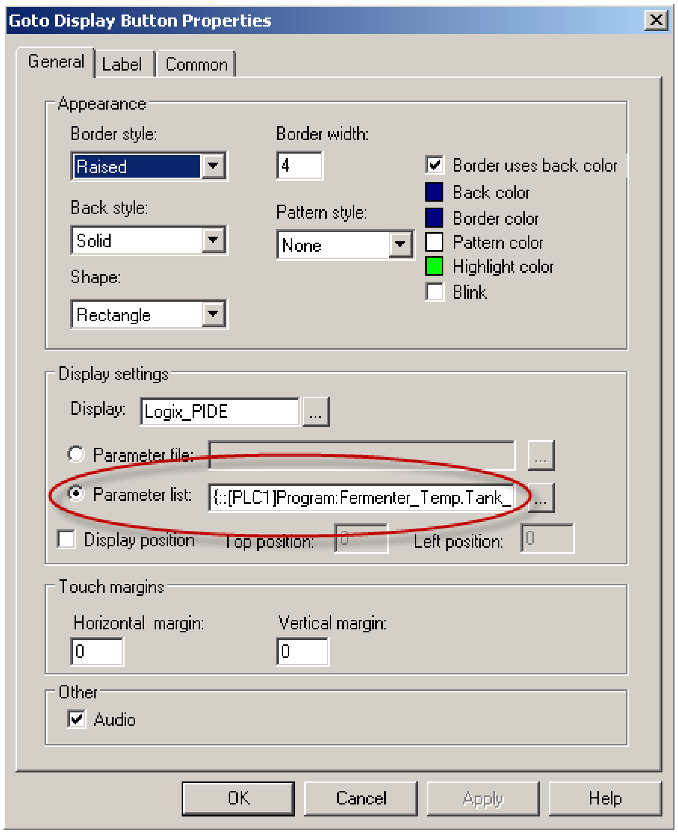
Explorer - InstantFizz Advanced

- Local (CORE)
  - InstantFizz Advanced
    - InstantFizz Advanced
      - System
        - Project Settings
        - Runtime Security
        - Diagnostics List Setup
        - Global Connections
        - Startup
      - HMI Tags
        - Tags
      - Graphics
        - Displays
          - [ALARM]
          - [DIAGNOSTICS]
          - [INFORMATION]
          - 0A Security
          - 0B Languages
          - 1 Overview
          - 11 Automated Global Conn feat
          - 12 What is new
          - 2 Blending
          - 2A Blending - Tank info
          - 3 Filling

13. On the **12 What is new** display, double-click the ***Process faceplates with Carry Forward Parameters*** Goto Display button to open its Properties dialog.


12 What is new - /InstantFizz Advanced// (Display)
What is new in FactoryTalk View Machine Edition
Automated Global Connection Features Demo
Process Faceplates with Carry Forward Parameters
Shutdown Demo

14. The property we are interested in is the Parameter list. The property value is too long to see in the space provided, so click in the box to place the cursor there and use the right arrow key to scroll. Note that there is only one tag in the list!



Appearance

Border style: Raised

Border width: 4

☑ Border uses back color

Back color

Border color

Pattern color

Highlight color

□ Blink

Back style: Solid

Pattern style: None

Shape: Rectangle

Display settings

Display: Logix_PIDE

○ Parameter file:

● Parameter list: {::[PLC1]Program:Fermenter_Temp.Tank_

□ Display position Top position: 0 Left position: 0

Touch margins

Horizontal margin: 0

Vertical margin: 0

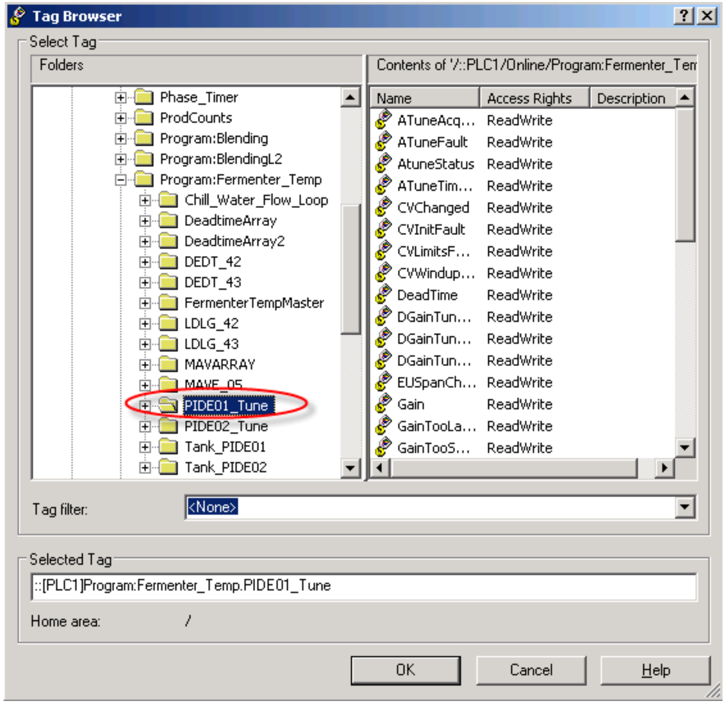
Other

☑ Audio

The first tag in a parameter list will populate the #1 tag placeholder in a secondary display, the second the #2 tag, and so on. Although the Logix_PIDE and Logix_PIDE_Trend displays do not require a second placeholder tag, Logix_PIDE_AutoTune references placeholder #2. Therefore this placeholder must be defined in the "base" display, the display that initializes the passing of parameters. To fix the errors you were seeing from the AutoTune display, you must add a tag reference that will be passed through as the #2 tag placeholder.

15. Place the cursor at the end of the **Parameter list** property, then click the browse ... button to select a tag to pass through to the #2 tag placeholder. Browse to and select the online tag ***PIDE01_Tune*** in ***Program:Fermenter_Temp***. (The tag is here: InstantFizz Advanced -> PLC1 -> Online -> Program: Fermenter_Temp -> PIDE01_Tune.)

    Click ***OK*** to add the structure tag to the Parameter list.



Tag Browser

Select Tag

Folders

- Phase_Timer
- ProdCounts
- Program:Blending
- Program:BlendingL2
- Program:Fermenter_Temp
  - Chill_Water_Flow_Loop
  - DeadtimeArray
  - DeadtimeArray2
  - DEDT_42
  - DEDT_43
  - FermenterTempMaster
  - LDLG_42
  - LDLG_43
  - MAVARRAY
  - MAVE_05
  - PIDE01_Tune
  - PIDE02_Tune
  - Tank_PIDE01
  - Tank_PIDE02

Contents of '/::PLC1/Online/Program:Fermenter_Ten

Name	Access Rights	Description
ATuneAcq...	ReadWrite	
ATuneFault	ReadWrite	
AtuneStatus	ReadWrite	
ATuneTim...	ReadWrite	
CVChanged	ReadWrite	
CVInitFault	ReadWrite	
CVLimitsF...	ReadWrite	
CVWindup...	ReadWrite	
DeadTime	ReadWrite	
DGainTun...	ReadWrite	
DGainTun...	ReadWrite	
DGainTun...	ReadWrite	
EUSpanCh...	ReadWrite	
Gain	ReadWrite	
GainToolLa...	ReadWrite	
GainTooS...	ReadWrite	

Tag filter: <None>

Selected Tag

::[PLC1]Program:Fermenter_Temp.PIDE01_Tune

Home area: /

    Click ***OK*** to close the Goto button properties dialog.

16. Close all open displays and global object displays. Save your changes if you are prompted to do so.

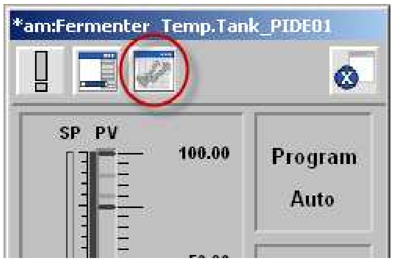
Testing the Application

1. Click ***Test Application*** on the **Application** menu.

    Make sure ***English*** is selected as the only language in the run time application, and ***English*** is selected as the initial run time language. Click ***Finish*** to compile and start the project.

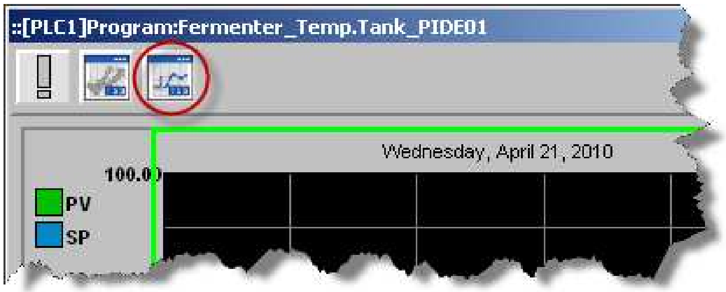
    When the project starts, click the ***Process Faceplates with Carry Forward Parameters*** button on the initial display.

2. Now navigate through the nested displays to the ***Logix_PIDE_AutoTune*** display. On the Tank_PIDE01 display, click the ***Trend*** button to open the Trend display:



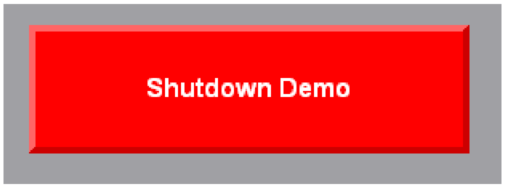
Note that there are no errors when opening the Trend display.

3. On the Trend display, click the ***AutoTune*** button to open the AutoTune display:


::[PLC1]Program:Fermenter_Temp.Tank_PIDE01
Wednesday, April 21, 2010
100.00
PV
SP

The display should open with no errors! Your troubleshooting was successful. Feel free to navigate through other displays.

Click the ***Shutdown Demo*** button to stop the test application:



Congratulations!! You have successfully explored the use of parameter files and learned how to carry tags forward using this functionality.

Logging data (20 minutes)

Completing this section requires approximately 20 minutes.

A commonly required feature in FactoryTalk View ME is the storage of application data. FactoryTalk View ME provides two choices for storing data, the Data Model and the DataStorePlus ActiveX control. The following table highlights the differences between the two:

Data Model	**DataStorePlus ActiveX control**
Native/built-in control	Add-on feature
Timed, data change, data % change triggers	Timed or tag trigger logging
Always active/running	Can control logging (on/off)
Only 1 data log model supported at run time	Multiple data log support
1 file only, first in-first out after maximum data points	Multiple file support
300,000 data point maximum	Only storage limit to data points
Binary proprietary file	Plain text .CSV file
Works with Trend display to show historical data	Does not work with trends
Supported in all PVP terminals	Requires PVP CE (700-1500), with exception of PVP v6.0
Good for Trending historical data and native functionality. Easy setup.	Excellent for plain text or high speed data archiving.

In this section, you will:

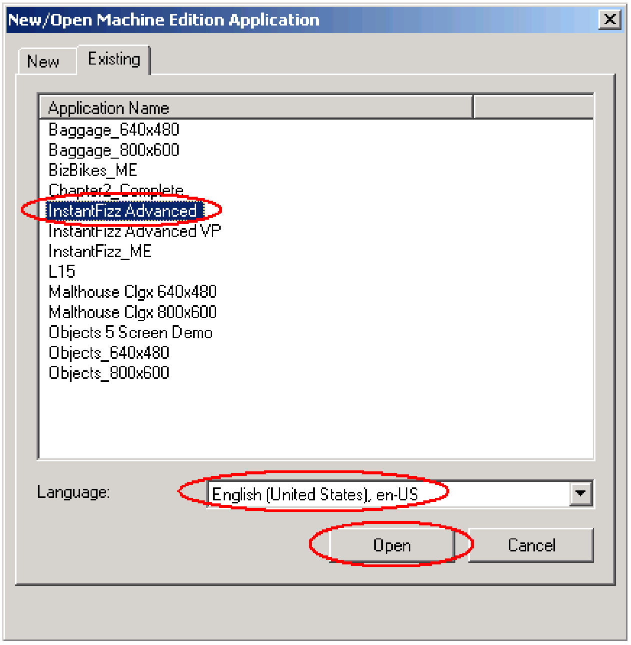
- Use the Data Model storage method to log product counts for the InstantFizz Advanced application
- Configure the logging of data for every one second, add the required tags to the data log model and add it to the project startup properties.

Open the InstantFizz Advanced application

If you already have the InstantFizz Advanced application open from a previous section, you can move on to the next section, **Creating the Data Log Model**.

1. To open FactoryTalk View Studio, click ***Start > All Programs > Rockwell Software > FactoryTalk View > FactoryTalk View Studio***. If FactoryTalk View Studio is already open, then select ***File > Open Application…*** to switch applications.

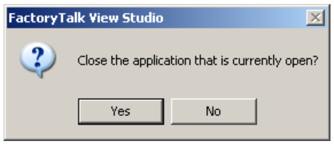
2. Select the existing ***InstantFizz Advanced*** application, make sure ***English*** is selected for the **Language**, and click ***Open***:



Application Name
Baggage_640x480
Baggage_800x600
BizBikes_ME
Chapter2_Complete
InstantFizz Advanced
InstantFizz Advanced VP
InstantFizz_ME
L15
Malthouse Clgx 640x480
Malthouse Clgx 800x600
Objects 5 Screen Demo
Objects_640x480
Objects_800x600

Language: English (United States), en-US

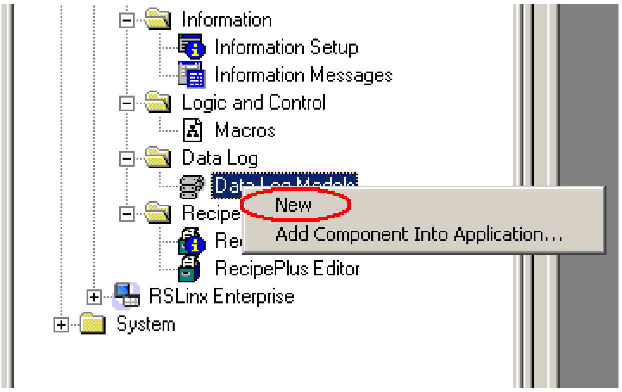
3. If you are switching applications you will be prompted to close the currently open application, click the ***Yes*** button to proceed.



Close the application that is currently open?

Creating the Data Log Model

1. Right-click the ***Data Log Models*** option located in the ***Data Log*** System container to open the dialog and select ***New.***



Data Log Models allow for historical trending.

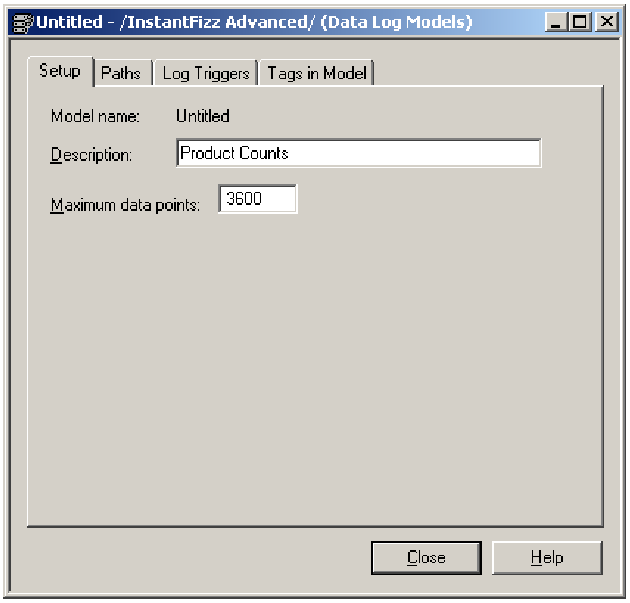
Multiple Data Log Models can be defined at design time.

Only 1 Data Log Model can be enabled at runtime.

The model will not log data for string tags, array tags, parameters or expressions, and you cannot use tag placeholders in your data log model.

The Data Log file is saved in a format designed for runtime performance and file size reduction. The file cannot be saved/exported to CSV or other file format at runtime.

2. On the ***Setup*** tab, type '**<u>Product Counts</u>**' in the ***Description*** field and enter '**<u>3600</u>**' in the ***Maximum data points*** field.



Model name: Untitled

Description: Product Counts

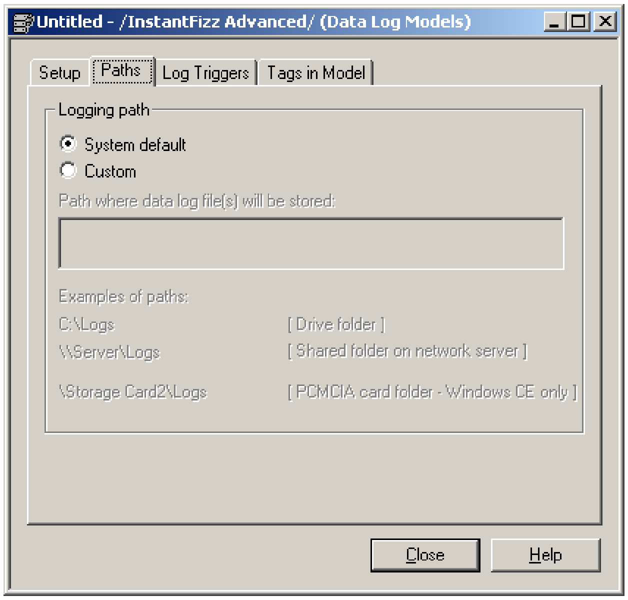
Maximum data points: 3600

In this lab you will be logging 3 tags at a rate of 1 second, as a result a **Maximum data points** setting of 3600 will allow us to log approximately 20 minutes of historical data. 3600 data points / 3 data points every second = 1200 seconds = 20 minutes

Note that the Description field is for your reference only and is not used by Machine Edition

The Maximum data points are the total number of tag values to store. When this number is reached, the oldest tag values are deleted to make room for new values. The minimum is 100; the maximum is 300,000. The default is 1000. The higher you set the limit, the more space the data log file requires on the runtime computer, or, if you are logging to a custom path on a remote computer, on the remote computer. The data log file is created at startup of the application. 300,000 points will use approximately 4.7MB of space

3. Select the ***Paths*** tab, here you can define where the Data Log is stored. Leave the path set to the default location.



Untitled - /InstantFizz Advanced/ (Data Log Models)

Setup | Paths | Log Triggers | Tags in Model

Logging path

● System default

○ Custom

Path where data log file(s) will be stored:

Examples of paths:

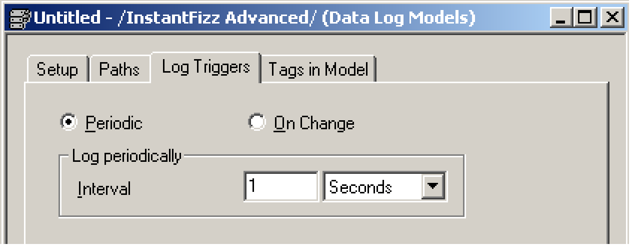
C:\Logs [Drive folder]

\\Server\Logs [Shared folder on network server]

\Storage Card2\Logs [PCMCIA card folder - Windows CE only]

> If logging to \Storage Card2\Logs and the CF card is removed Data Logging will stop.
>
> Once the data log starts it cannot be stopped during runtime by the operator
>
> Machine Edition does not support dynamic log file creation during runtime
>
> Best practices for a Panel View Plus 400-600 terminals is to data log to a external CF card or remotely
>
> If using a network location the network must have domain name resolution, such as a DNS server, to resolve the UNC computer name defined in your path, you cannot use the IP address of a network location.

4. Select the ***Log*** Triggers tab; here you can define the method used to trigger the logging of data. Enter '**1**' in the **Interval** field as shown below, leave the default at **Seconds**.



Untitled - /InstantFizz Advanced/ (Data Log Models)

Setup | Paths | Log Triggers | Tags in Model

● Periodic ○ On Change

Log periodically

Interval 1 Seconds

Periodic:

Fastest log rate possibly is 100 ms however logging too fast can cause performance related issues, in most cases this rate is not feasible with a typical application due to other loads on communications.

Best practice is logging at the slowest possible rate desired by the process being monitored.

On Change:

Use the On Change trigger to log tag values for any tag who's value has changed by a certain percentage. A Change Percentage of 0 will log all changes for a tag.

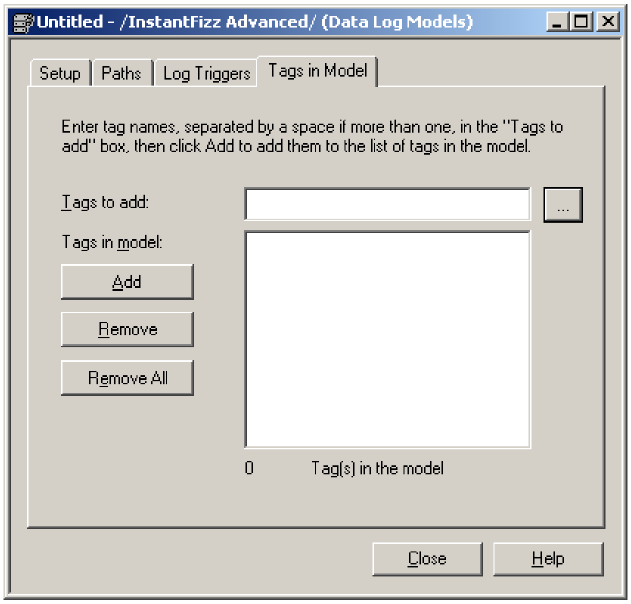
The Maximum update rate is used to specify the maximum rate at which data servers will send data to the tags in the data log model.

The Change percentage is the percentage a tag value has to change in order to trigger logging. To log all changes, enter 0.

Heartbeat

Type a time and select a time unit to specify how often tag values are logged even if no change has occurred. The heartbeat is unique to each tag in the Data Log Model according to when the tag last changed value.

5. Select the ***Tags in Model*** tab, here you will define which tags will be included in the Data Log Model.



Enter tag names, separated by a space if more than one, in the "Tags to add" box, then click Add to add them to the list of tags in the model.

Tags to add:

Tags in model:

0 Tag(s) in the model

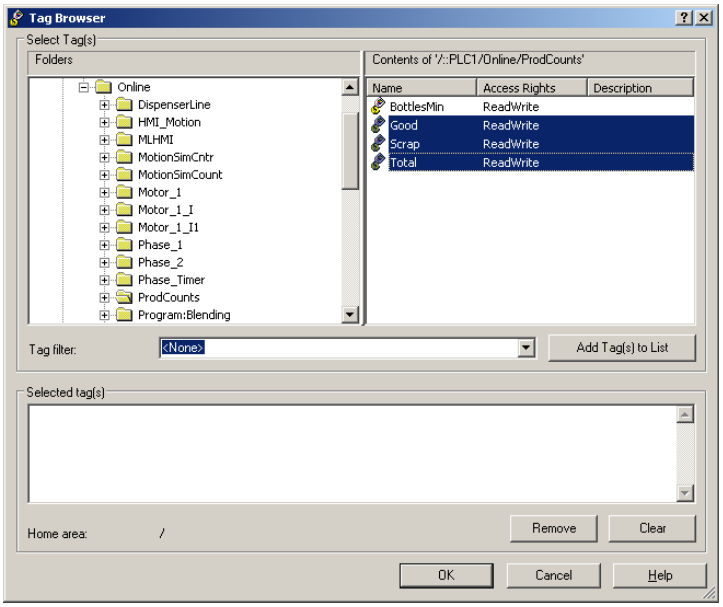
Maximum number of tags allowed in a model is 100

The model will not log data for string tags, array tags, parameters or expressions, and you cannot use tag placeholders in your data log model.

Tags can be HMI or Direct Reference

6. Click the **Tag** browse button [...] to open the tag browser.

7. Expand the ***PLC1*** shortcut, expand the ***Online***, then ***ProdCounts*** folder. Use the mouse + Ctrl key to select the ***Good, Scrap*** and ***Total*** tags.



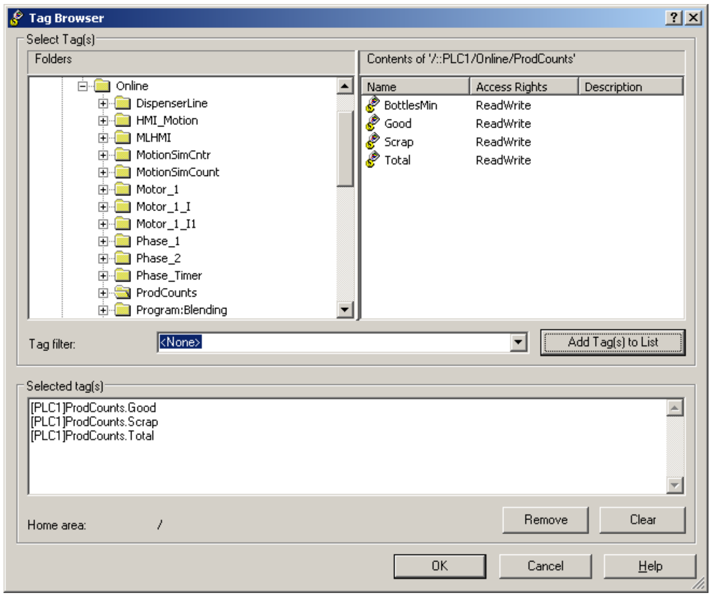
Contents of '/::PLC1/Online/ProdCounts'

Name	Access Rights	Description
BottlesMin	ReadWrite	
Good	ReadWrite	
Scrap	ReadWrite	
Total	ReadWrite	

Tag filter: <None>

Home area: /

8. Click Add ***Tags(s) to List*** , the 3 tags will now appear in the ***Selected tag(s)*** window as shown below.



Contents of '/::PLC1/Online/ProdCounts'

Name	Access Rights	Description
BottlesMin	ReadWrite	
Good	ReadWrite	
Scrap	ReadWrite	
Total	ReadWrite	

Tag filter: <None>

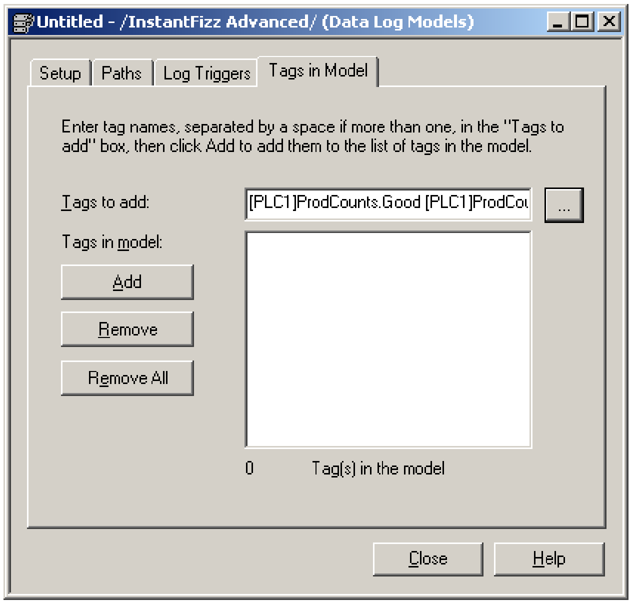
Selected tag(s)

[PLC1]ProdCounts.Good
[PLC1]ProdCounts.Scrap
[PLC1]ProdCounts.Total

Home area: /

9. Click ***OK*** to close the tag browser dialog.

At this point all 3 tags have been selected but have not yet been added to the Data Log Model.



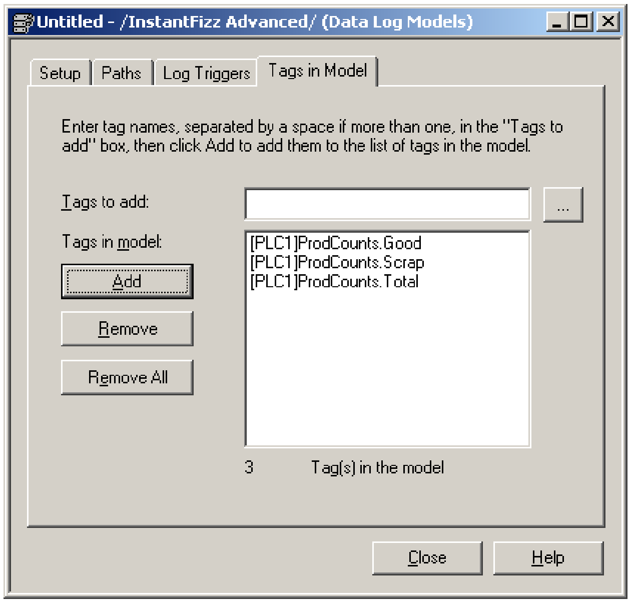
Enter tag names, separated by a space if more than one, in the "Tags to add" box, then click Add to add them to the list of tags in the model.

Tags to add: [PLC1]ProdCounts.Good [PLC1]ProdCou

Tags in model:

0 Tag(s) in the model

10. Click ***Add*** to add the 3 tags to the Data Log Model. You should have 3 tags in the Data Log Model as shown below.



Enter tag names, separated by a space if more than one, in the "Tags to add" box, then click Add to add them to the list of tags in the model.

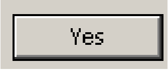
Tags to add:

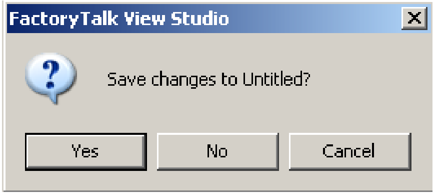
Tags in model:

[PLC1]ProdCounts.Good
[PLC1]ProdCounts.Scrap
[PLC1]ProdCounts.Total

3 Tag(s) in the model

11. Click ***Close*** to save the Data Log Model changes.

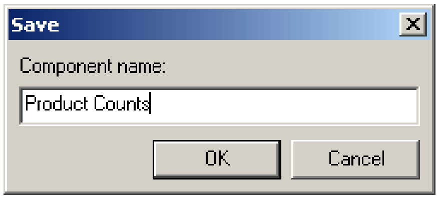
12. Click ***Yes***  when prompted to save changes.



FactoryTalk View Studio

Save changes to Untitled?

13. Enter '**Product Counts**' in the ***Component name*** field when prompted.



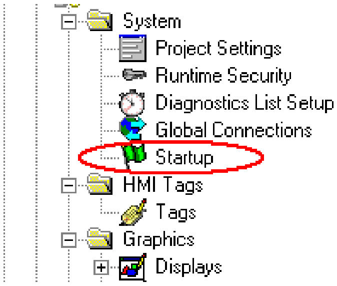
Save

Component name: Product Counts

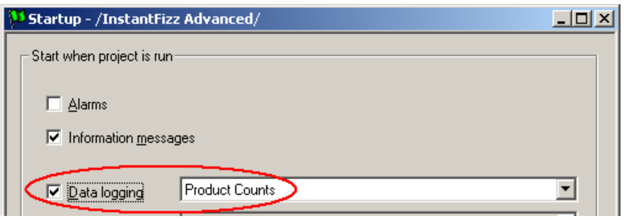
14. Click ***OK*** to save the Data Log Model.

Configure application to start the Data Log Model on startup

1. Double-click the ***Startup*** option located in the System container to open the dialog.



2. Check the ***Data Logging*** checkbox. Since **Product Counts** is the only data log configured, it is automatically selected.



Startup - /InstantFizz Advanced/

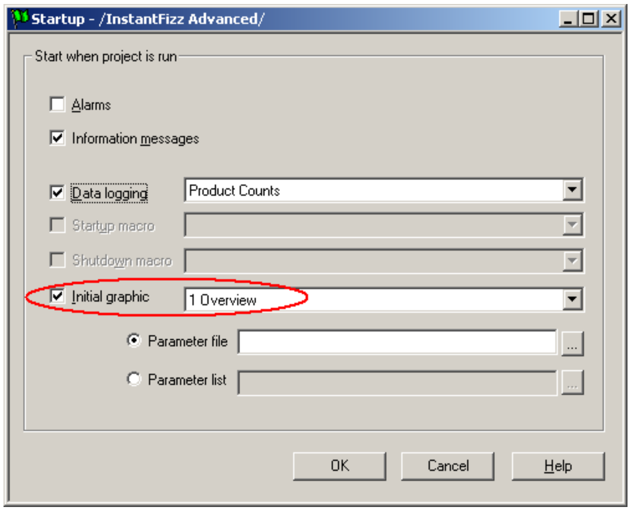
Start when project is run

□ Alarms

☑ Information messages

☑ Data logging Product Counts

3. Check the ***Initial graphic*** checkbox if it isn't selected already and ensure that ***1 Overview*** is selected as the **Initial Graphic.**



Startup - /InstantFizz Advanced/

Start when project is run

☐ Alarms

☑ Information messages

☑ Data logging: Product Counts

☐ Startup macro

☐ Shutdown macro

☑ Initial graphic: 1 Overview

● Parameter file

○ Parameter list

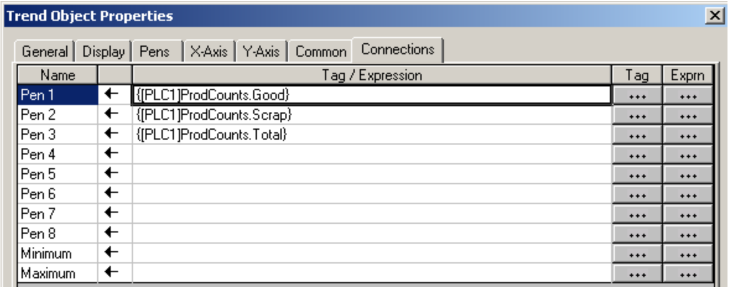
4. Click ***OK*** OK to save the Startup changes.

Examine the Trend object properties

1. Expand the **Displays** folder in the **Project Explorer** window and double-click on **4A Labeling – Trend** to open the graphic.

2. Double-click on the Trend object to open the ***Trend Object Properties*** dialog and select the ***Connections*** tab.

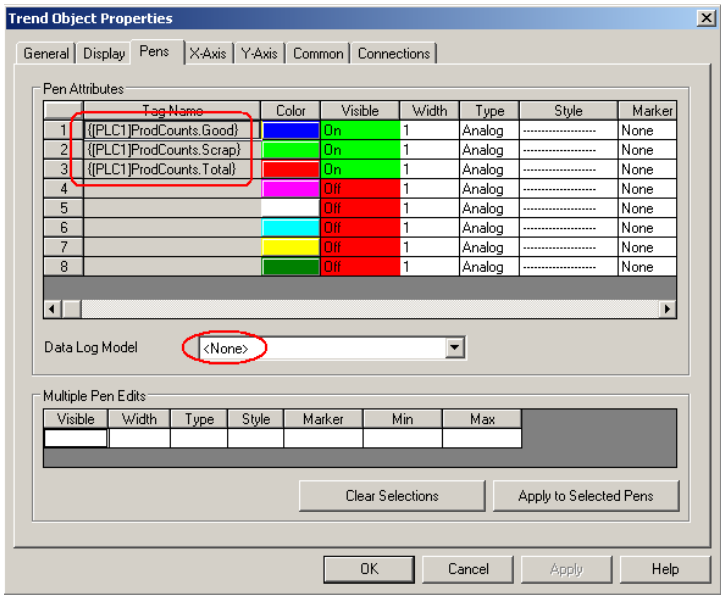
   Here you will see that the same 3 tags that you selected for the Data Log Model in the previous section have been configured in the Trend.



Trend Object Properties

Name		Tag / Expression	Tag	Exprn
Pen 1	←	{[PLC1]ProdCounts.Good}	...	...
Pen 2	←	{[PLC1]ProdCounts.Scrap}	...	...
Pen 3	←	{[PLC1]ProdCounts.Total}	...	...
Pen 4	←		...	...
Pen 5	←		...	...
Pen 6	←		...	...
Pen 7	←		...	...
Pen 8	←		...	...
Minimum	←		...	...
Maximum	←		...	...

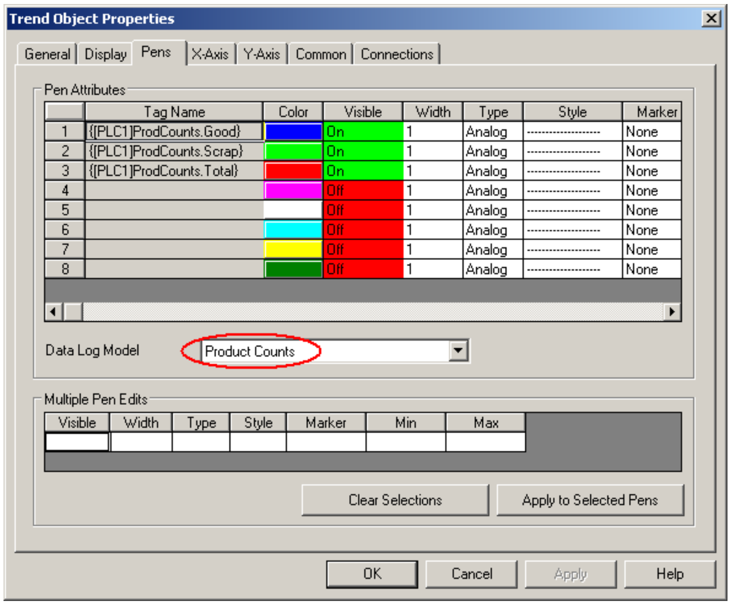
3. Select the ***Pens*** tab. The pens from the **Connections** tab have been linked in this list and there currently is no **Data Log Model** defined so you will only see real time data in the Trend object. The data will start trending when you open the graphic display and will restart every time you open the graphic display containing the Trend object.



	Tag Name	Color	Visible	Width	Type	Style	Marker
1	{[PLC1]ProdCounts.Good}	🟦	On	1	Analog	-------------------	None
2	{[PLC1]ProdCounts.Scrap}	🟩	On	1	Analog	-------------------	None
3	{[PLC1]ProdCounts.Total}	🟥	On	1	Analog	-------------------	None
4		🟪	Off	1	Analog	-------------------	None
5		⬜	Off	1	Analog	-------------------	None
6		🟦	Off	1	Analog	-------------------	None
7		🟨	Off	1	Analog	-------------------	None
8		🟩	Off	1	Analog	-------------------	None

Data Log Model: <None>

4. Use the drop down menu to select the **Product Counts** data log model so that the Trend object will now display historical data.



	Tag Name	Color	Visible	Width	Type	Style	Marker
1	{[PLC1]ProdCounts.Good}	🟦	On	1	Analog	-------------------	None
2	{[PLC1]ProdCounts.Scrap}	🟩	On	1	Analog	-------------------	None
3	{[PLC1]ProdCounts.Total}	🟥	On	1	Analog	-------------------	None
4		🟪	Off	1	Analog	-------------------	None
5		⬜	Off	1	Analog	-------------------	None
6		🟦	Off	1	Analog	-------------------	None
7		🟨	Off	1	Analog	-------------------	None
8		🟩	Off	1	Analog	-------------------	None

Data Log Model: Product Counts

Trend object doesn't support dynamically making pens visible or invisible

Note that each pen has a default color, these can be changed

The default width of 1 should not be changed as performance issues can result

Only one Data Log Model can be loaded and available at runtime

The data log will read the data log model only once when opening a display with a trend object

300,000 point data logs can take several seconds to load data and allow the operator to interact with the Trend object. This will occur each time a display is opened that is accessing the Data Log.

4. Select the ***X-Axis*** tab.

   Notice the default value of 2 in the Time Span field. Remember that the Data Log Model has been configured to log approximately 20 minutes of data so you will leave the default at 2 minutes to show some of the Data Logging capabilities within the timeframe of the lab.

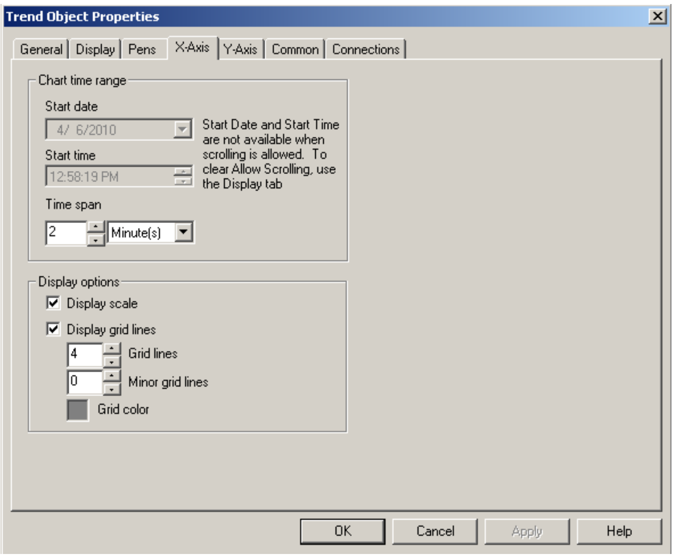


Chart time range

Start date: 4/ 6/2010

Start time: 12:58:19 PM

Start Date and Start Time are not available when scrolling is allowed. To clear Allow Scrolling, use the Display tab

Time span: 2 Minute(s)

Display options

☑ Display scale

☑ Display grid lines

4 Grid lines

0 Minor grid lines

Grid color

Setting the X-Axis time span too high (hours, days) will also leave a severe memory foot print . The trend display should never be left open if the X-Axis is configured for hours or days because the HMI will run out of available memory.

5. Select the ***General*** tab. You will use the default Refresh Rate of ***1 second.***

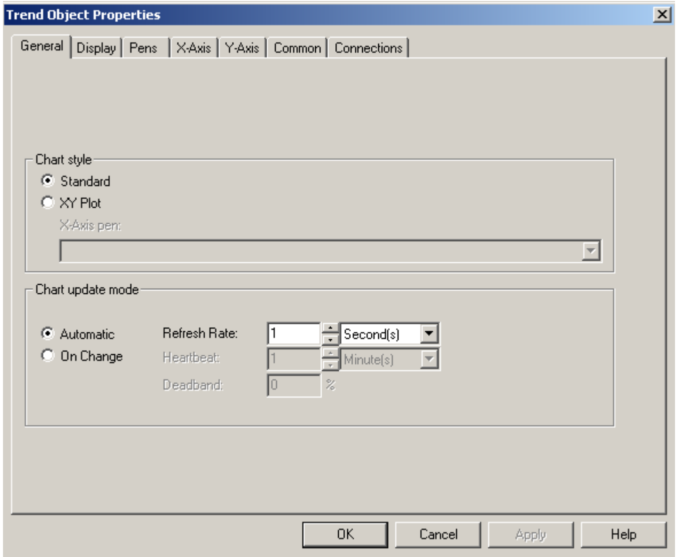


Chart style

- ● Standard
- ○ XY Plot

X-Axis pen:

Chart update mode

- ● Automatic — Refresh Rate: 1 Second(s)
- ○ On Change — Heartbeat: 1 Minute(s)

Deadband: 0 %

Best practice is to set the Trend Refresh Rate no faster than the amount of time it takes to put a data point on a trend

Formula: Fastest Possible Refresh Rate = (X-Axis Time (seconds)) / (Width of Trend Object in pixels)

6. Select the ***Display*** tab. Highlight the value of ***200*** in the ***Buffer for extra data*** field and enter the value ‘**0**’.

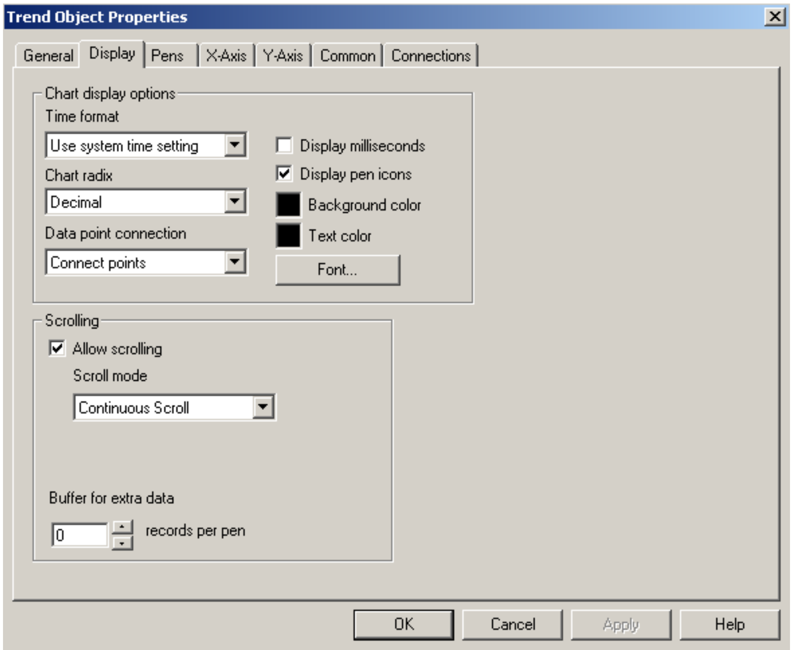


Chart display options

Time format: Use system time setting

Chart radix: Decimal

Data point connection: Connect points

- ☐ Display milliseconds
- ☑ Display pen icons
- ■ Background color
- ■ Text color

Scrolling

- ☑ Allow scrolling

Scroll mode: Continuous Scroll

Buffer for extra data: 0 records per pen

Note that in this lab we are using a Data Log Model to buffer historical data so we do not need a buffer. If this was a real time trend with no Data Log model and we did not define any buffer you would not be able to scroll back in time and see historical data. Once you attempted to scroll back in time or ahead in time all data on the screen would be lost.

Using a Data Log Model also allows for data to be seen immediately when the Trend display is opened, depending on how long the application has been running. Without a Data Log Model you will have to wait for real time data to fill the Trend display. If the X-Axis time span is a long time span you will have to wait that long to see how the data is trending.

Trending memory is consumed over time and not allocated on startup of the application.

Buffer extra data for Real Time Trending only.

Max buffer size 32767 records.

Buffering to much extra data will leave a severe memory foot print.

If the application uses a data log you don't need to buffer extra data (Data log becomes the buffer).

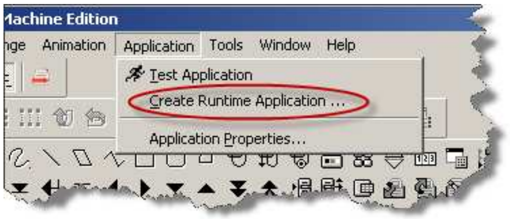
The Trend object must be linked to the data log file for Historical Trending.

7. Click ***OK*** OK to the **Trend Object Properties** dialog.

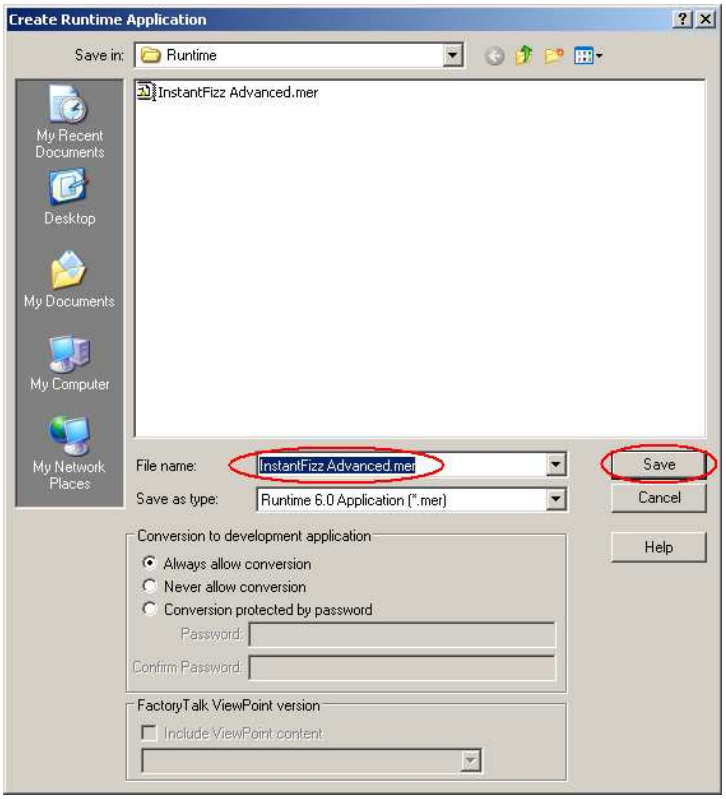
8. Close the display and choose ***Yes*** when prompted to save changes.

Testing the application

1. Click ***Create Runtime Application*** on the **Application** menu to create the run time .MER file.



2. Make sure the file is named **InstantFizz Advanced.mer** and the **Runtime 6.0** application type is selected, then click ***Save***.



Save in: Runtime

File name: InstantFizz Advanced.mer

Save as type: Runtime 6.0 Application (*.mer)

Conversion to development application
- ● Always allow conversion
- ○ Never allow conversion
- ○ Conversion protected by password

Password:

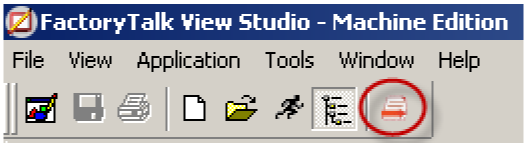
Confirm Password:

FactoryTalk ViewPoint version
- ☐ Include ViewPoint content

Click ***Yes*** if asked if you want to overwrite the existing file. Select ***English*** as the initial runtime language and click ***Finish***.

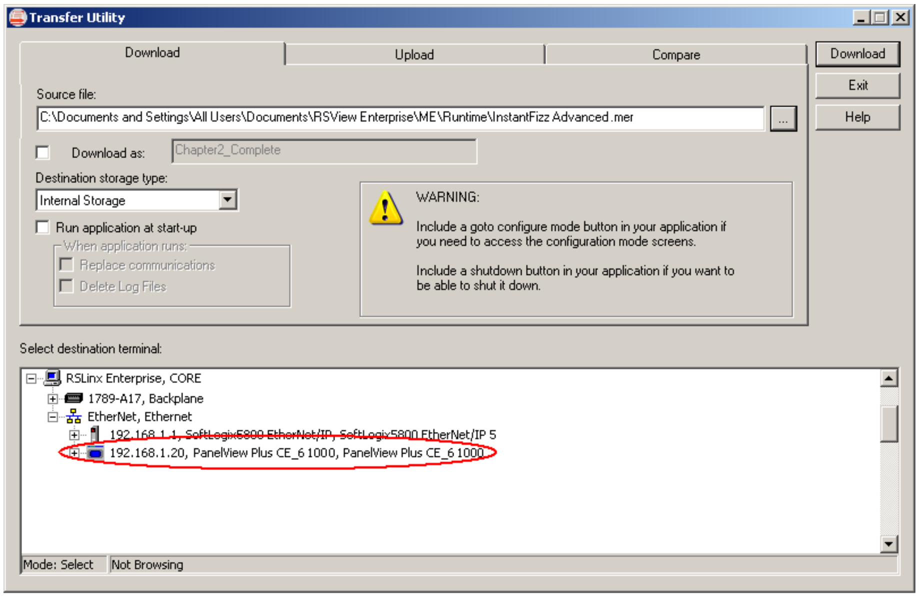
The run time file is created. It will take a minute or two to compile the application and generate the .MER file.

3. When it is finished, click the **Transfer Utility** button on the FactoryTalk View Studio toolbar:



4. Click the browse button for the Source file and select: ***C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\InstantFizz Advanced.mer***.

5. In the bottom pane, select your PanelView Plus terminal as the destination. The Transfer Utility should look something like this:



Source file: C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Runtime\InstantFizz Advanced.mer

□ Download as: Chapter2_Complete

Destination storage type: Internal Storage

□ Run application at start-up

When application runs:

□ Replace communications

□ Delete Log Files

WARNING:

Include a goto configure mode button in your application if you need to access the configuration mode screens.

Include a shutdown button in your application if you want to be able to shut it down.

Select destination terminal:

```
RSLinx Enterprise, CORE
  1789-A17, Backplane
  EtherNet, Ethernet
    192.168.1.1, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP 5
    192.168.1.20, PanelView Plus CE_6 1000, PanelView Plus CE_6 1000
```

Mode: Select | Not Browsing

Your terminal may look slightly different – look for the PanelView Plus terminal with the IP address of **192.168.1.20**.

6. Click ***Download*** to download the project to the terminal. If you are asked if you want to overwrite the destination file, click ***Yes***. You will see a progress bar, and when the download is complete a message box will tell you the download completed successfully. Click ***OK***.

7. Click ***Exit*** to close the Transfer Utility.

8. Move over to your PanelView Plus terminal. If **FTView ME Station** is not already running, start it by double-tapping the icon on the desktop: FT View ME Station

9. Tap ***Load Application [F1]***. Select **InstantFizz Advanced.mer** in the file list, then tap ***Load [F2].***

10. Tap ***Yes*** to replace the communications setup. When the application is loaded successfully, you will see the file name in the ***Current application*** box. Tap ***Run Application [F2]*** to run your project.

11. Take about 1 minute and **navigate** throughout the application **without** viewing the Trend display. This will allow some time for data to be stored in the data logs.

12. Now, switch to the Trend display using the **Trend** button Trend on the navigation bar across the bottom of your display.

    The data log model started running once the project had started. Since we are using historical data from the data logs, this data is populated in the trend object every time you view this display.

Congratulations!!! You have successfully created a data log model and used a trend object to view historical data.

Appendix A: Configuration/Setup Guide

Lab 15 – NEW PanelView Plus 6 with NEW FactoryTalk View ME V6.0 and ViewPoint

Lab Setup and Configuration Information

Lab Information

Lab Name	IA-11-L01 - NEW PanelView Plus 6 with NEW FactoryTalk View ME V6.0 and ViewPoint
Lab Description	This hands-on lab focuses on the NEW FactoryTalk View Machine Edition Version 6.0 concepts for new users running on the NEW PanelView Plus 6 with embedded Microsoft CE. This lab includes creating an application, working with displays, global objects, and tags, using parameters and faceplates, as well as testing and running the application with language switching. FactoryTalk ViewPoint is also used to host a remote web-based connection to an application. Beginners or experienced users can explore new enhancements available in this lab.
Lab Creator	Lianne Chu
Date Created	12/16/2010
Updates:	
12/16/2010	Lianne Chu

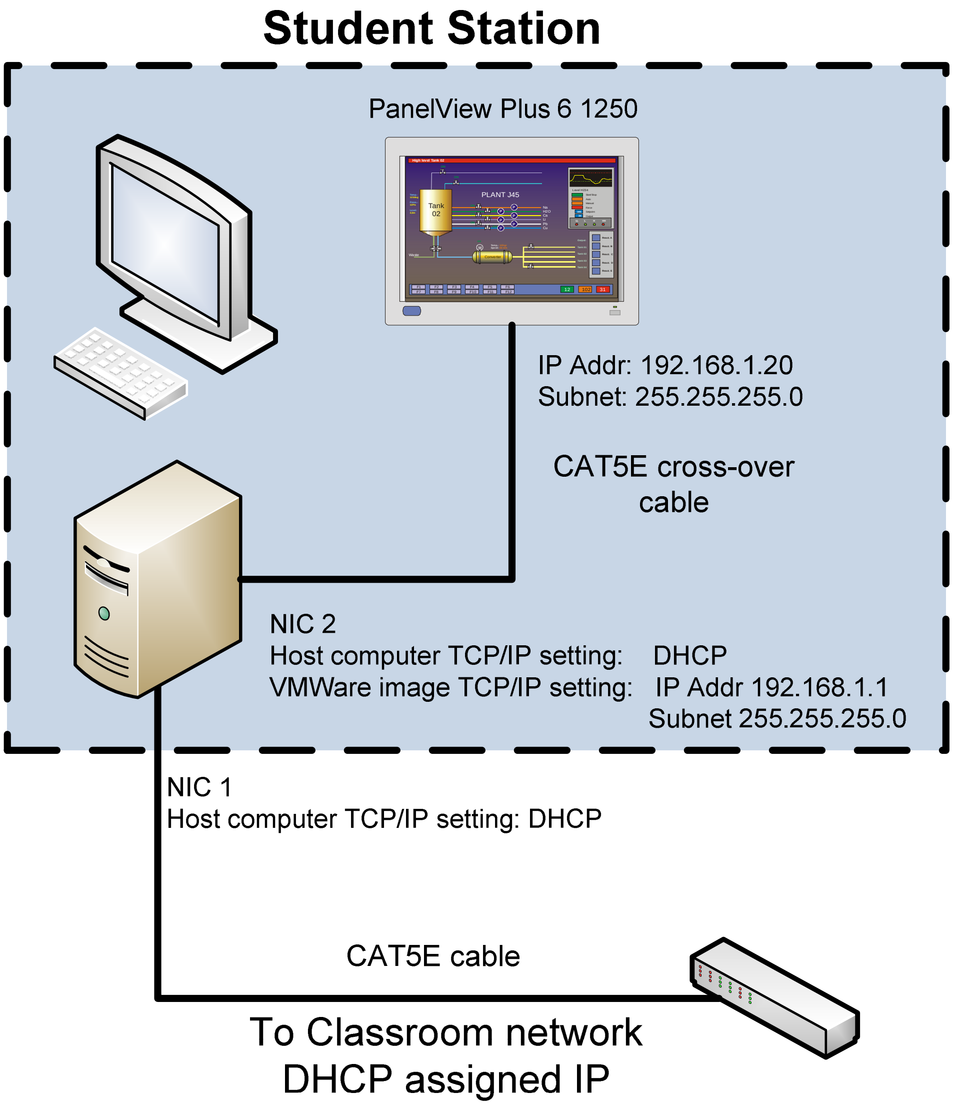
Hardware Configuration per Student

Qty	Demo Cat.# / Description	Communication	Location	Firmware
1	**Computer workstation consisting of**			
1	*2 GHz CPU*			
1	*4 GB RAM*			
1	*Hard drive. Minimum 40GB capacity*			
1	*USB Keyboard*			
1	*USB Mouse*			
1	*Ethernet adapter.*	*Configured for DHCP*		
1	*Ethernet adapter.*	IP Address: 192.168.1.1, Subnet: 255.255.255.0		
1	*Video adapter. Minimum resolution: 1260 x 1024 pixels*			
1	*LCD Display. Minimum resolution: 1260 x 1024 pixels*			
1	Ethernet CAT5E cross-over cable 5ft (used with PanelView Plus terminal)			
1	Ethernet CAT5E cable 5ft (used with Event classroom network)			
1	PanelView Plus 6 1000	IP Address: 192.168.1.20, Subnet 255.255.255.0		Firmware revision must support ViewPoint 1.2

Computer/Host Settings

Location	Files
Computer Name	Varies by machine
IP Address (NIC 1)	DHCP – connected to Event classroom network
IP Address (NIC 2)	Host computer TCP/IP setting: DHCP VMware image TCP/IP setting: IP Addr: 192.168.1.1 Subnet: 255.255.255.0
Operating System	Windows XP SP3

Basic Setup Diagram



Application/Programming

Location	Files
C:\Lab Files\ViewME – ViewPoint\PVP	Copy all files to the root of a USB storage or SD memory card. Then insert into the PanelView Plus 6 terminal to run the batch that will configure and copy all necessary lab files.
C:\Lab Files\ViewME – ViewPoint\SoftLogix	InstantFizz.acd (slot 2) ME_Intro.acd (slot 3) PVP6_Demo.acd (slot 5)
C:\Lab Files\ViewME – ViewPoint\ViewME	InstantFizz Advanced VP.APA PVP6_Demo.APA PVP6_Demo.MER
C:\Lab Files\ViewME – ViewPoint\ViewME\Beginner	Alarm Content for Tank2 and Tank3.xml Pump Content for Main Display.xml
C:\Lab Files\ViewME – ViewPoint\ViewME\Complete ME Projects	Complete_InstantFizz Advanced.APA (Chapter 3 and 6) Complete_InstantFizz Advanced VP.APA (Chapter 4 and 5) Complete_Chapter2_Complete.APA (Chapter 2 and 6)
C:\Lab Files\ViewME – ViewPoint\ViewME\Faceplates	Copy all files to C:\Documents and Settings\All Users\Documents\RSView Enterprise\ME\Faceplates and overwrite the existing.
C:\Lab Files\ViewME – ViewPoint\ViewME\Pick and Choose	[L15 HISTORY] 640x480.gfx Flag_of_China.bmp Flag_of_Germany.bmp Flag_of_Spain.bmp Language Switch buttons (DEU and ZHN).xml Program Launcher.gfx Recipe_Tags.csv Soda Recipe.rpp TRANSLATED InstantFizz Advanced.xls
C:\Lab Files\ViewME – ViewPoint\ViewME\Pick and Choose\ME Projects	InstantFizz Advanced.APA Chapter2_Complete.APA

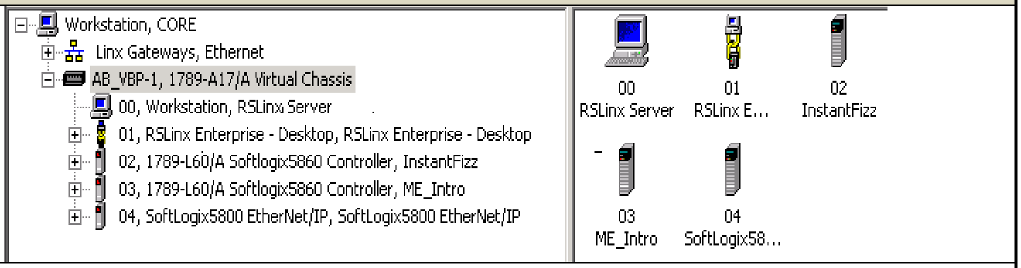
Additional Equipment Required per Workstation

Qty	Items
1	Ethernet CAT5E cross-over cable 5ft (used with PanelView Plus terminal)
1	Ethernet CAT5E cable 5ft (used with Event classroom network)
1	PanelView Plus 6 1000

RSLinx - DDE/OPC Topic Configuration

Topic Name	Path to Hardware
N/A	

RSLinx - Driver Configuration

Topic Name	Path to Hardware
AB_VBP-1 (no topic required)	 Workstation, CORE Linx Gateways, Ethernet AB_VBP-1, 1789-A17/A Virtual Chassis 00, Workstation, RSLinx Server 01, RSLinx Enterprise - Desktop, RSLinx Enterprise - Desktop 02, 1789-L60/A Softlogix5860 Controller, InstantFizz 03, 1789-L60/A Softlogix5860 Controller, ME_Intro 04, SoftLogix5800 EtherNet/IP, SoftLogix5800 EtherNet/IP 00 RSLinx Server 01 RSLinx E... 02 InstantFizz 03 ME_Intro 04 SoftLogix58...
	Slot 5, PVP6_Demo

RSLinx Enterprise - Shortcut Configuration

Shortcut Name	Path to Hardware
L15	Ethernet, Ethernet > 192.168.1.1 > Backplane > 3, 1789-L60 v18 Student configures this during Chapter 2.
PLC1	Ethernet, Ethernet > 192.168.1.1 > Backplane > 2, 1789-L60 v18
CLX	Ethernet, Ethernet > 192.168.1.1 > Backplane > 5, 1789-L60 v18

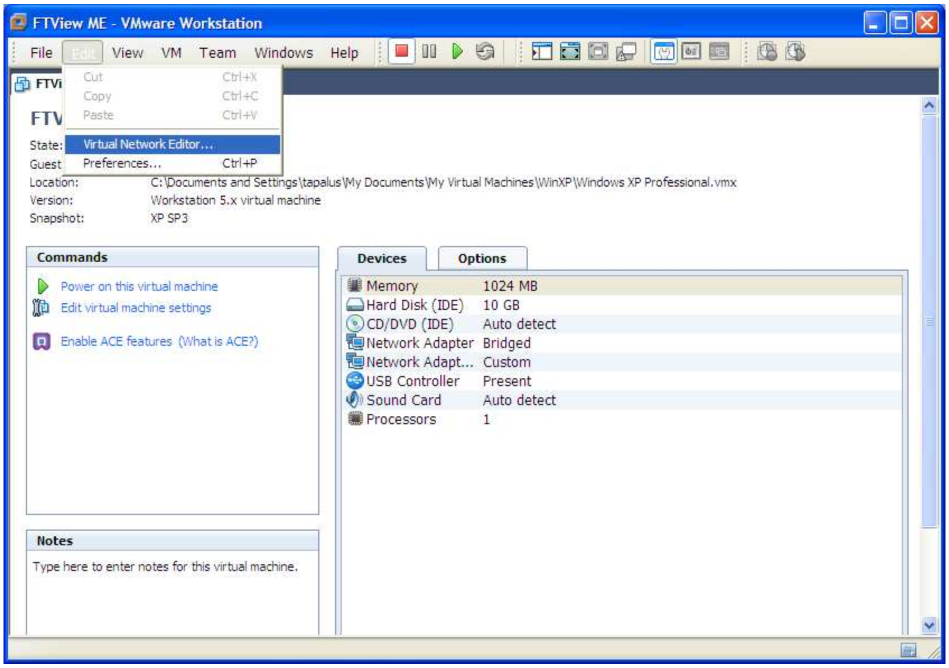
Application Versions

Vendor	Software	Version	Service Pack
Rockwell	FactoryTalk Activation Manager	3.30	CPR9 SR3
Rockwell	FactoryTalk Diagnostics	2.30.01	CPR9 SR3
Rockwell	FactoryTalk Service Platform	2.30.01	CPR9 SR3
Rockwell	FactoryTalk View Machine Edition	6.00.00	CPR9 SR3
Rockwell	FactoryTalk ViewPoint ME	1.20.25.0	CPR9 SR3
Rockwell	RSLinx Enterprise	5.30.00000	CPR9 SR3
Rockwell	RSLinx Classic	2.57.00.09	CPR9 SR3
Rockwell	RSLogix 5000	18.00.00	CPR9 SR2
Rockwell	SoftLogix 5800	18.00.00	
Rockwell	Silverlight	3.0.50106.0	
Rockwell	.NET Framework	1.1, 2.0 SP2, 3.0 SP2, 3.5 SP1	
Microsoft	Internet Explorer	8	
Rockwell	PanelView Plus 6	6.00.00	

Required Pre-Lab Configuration

Configure the Virtual Network

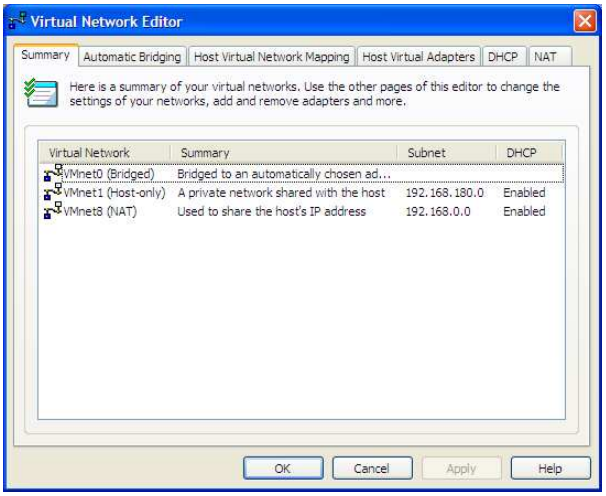
Select **Virtual Network Editor** from the **Edit** menu to open the *Virtual Network Editor* dialog.


FTView ME - VMware Workstation
File
Edit
View
VM
Team
Windows
Help
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Virtual Network Editor...
Preferences... Ctrl+P
Commands
Power on this virtual machine
Edit virtual machine settings
Enable ACE features (What is ACE?)
Notes
Type here to enter notes for this virtual machine.
Devices
Options

State:
Guest
Location: C:\Documents and Settings\tapalus\My Documents\My Virtual Machines\WinXP\Windows XP Professional.vmx
Version: Workstation 5.x virtual machine
Snapshot: XP SP3

Memory	1024 MB
Hard Disk (IDE)	10 GB
CD/DVD (IDE)	Auto detect
Network Adapter	Bridged
Network Adapt...	Custom
USB Controller	Present
Sound Card	Auto detect
Processors	1

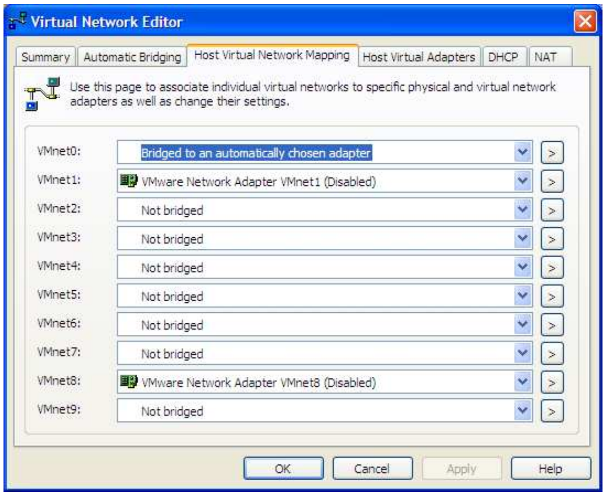
The dialog below will appear.



Here is a summary of your virtual networks. Use the other pages of this editor to change the settings of your networks, add and remove adapters and more.

Virtual Network	Summary	Subnet	DHCP
VMnet0 (Bridged)	Bridged to an automatically chosen ad...		
VMnet1 (Host-only)	A private network shared with the host	192.168.180.0	Enabled
VMnet8 (NAT)	Used to share the host's IP address	192.168.0.0	Enabled

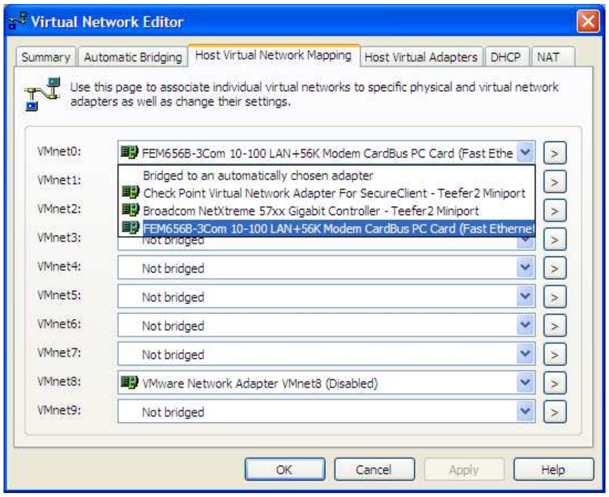
Select the **Host Virtual Network Mapping** tab



Use this page to associate individual virtual networks to specific physical and virtual network adapters as well as change their settings.

VMnet0: Bridged to an automatically chosen adapter
VMnet1: VMware Network Adapter VMnet1 (Disabled)
VMnet2: Not bridged
VMnet3: Not bridged
VMnet4: Not bridged
VMnet5: Not bridged
VMnet6: Not bridged
VMnet7: Not bridged
VMnet8: VMware Network Adapter VMnet8 (Disabled)
VMnet9: Not bridged

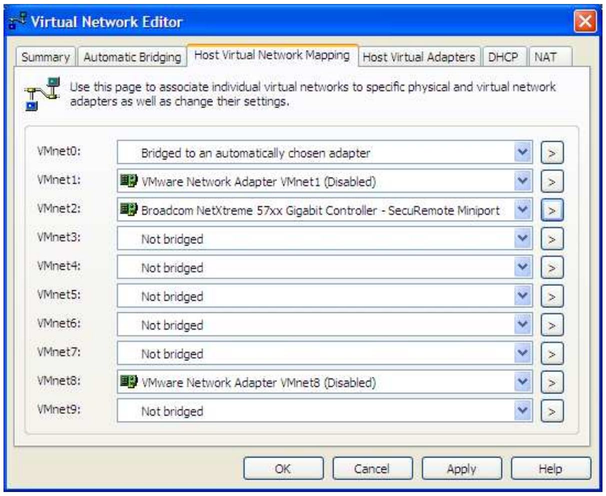
For **VMnet0** select the physical ethernet adapter that will be connected to the PanelView Plus terminal.


Virtual Network Editor
Summary
Automatic Bridging
Host Virtual Network Mapping
Host Virtual Adapters
DHCP
NAT
Bridged to an automatically chosen adapter
Check Point Virtual Network Adapter For SecureClient - Teefer2 Miniport
Broadcom NetXtreme 57xx Gigabit Controller - Teefer2 Miniport
FEM656B-3Com 10-100 LAN+56K Modem CardBus PC Card (Fast Ethernet
OK
Cancel
Apply
Help

Use this page to associate individual virtual networks to specific physical and virtual network adapters as well as change their settings.

VMnet0: FEM656B-3Com 10-100 LAN+56K Modem CardBus PC Card (Fast Ethe
VMnet1:
VMnet2:
VMnet3: Not bridged
VMnet4: Not bridged
VMnet5: Not bridged
VMnet6: Not bridged
VMnet7: Not bridged
VMnet8: VMware Network Adapter VMnet8 (Disabled)
VMnet9: Not bridged

Click the **OK** button to commit the changes that have been made.



Use this page to associate individual virtual networks to specific physical and virtual network adapters as well as change their settings.

VMnet0: Bridged to an automatically chosen adapter
VMnet1: VMware Network Adapter VMnet1 (Disabled)
VMnet2: Broadcom NetXtreme 57xx Gigabit Controller - SecuRemote Miniport
VMnet3: Not bridged
VMnet4: Not bridged
VMnet5: Not bridged
VMnet6: Not bridged
VMnet7: Not bridged
VMnet8: VMware Network Adapter VMnet8 (Disabled)
VMnet9: Not bridged

Additional Information