

Integrating RF IDEas Readers with PVP Terminals



For Classroom Use Only!

HOTT2015

Hands on Technical Training

LISTEN.
THINK.
SOLVE.

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Automation**

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WARNING

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

IMPORTANT

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

ATTENTION

Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you:

- identify a hazard
 - avoid a hazard
 - recognize the consequence
-

SHOCK HAZARD

Labels may be located on or inside the drive to alert people that dangerous voltage may be present.

BURN HAZARD

Labels may be located on or inside the drive to alert people that surfaces may be dangerous temperatures.

Integrating RF IDEas Readers with PVP and ME Station

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Before you begin

This hands-on lab is intended for those who:

- Have some experience with HMI software and Operator Interface

About this lab

The RF IDEas pcProx® Plus is a cutting-edge card reader that is part of the Rockwell Encompass program.

The pcProx Plus combines proximity and contactless technologies into one reader. It is a desktop reader that is capable of reading both 125 kHz proximity cards and 13.56 MHz contactless cards.

This reader eliminates the need for manual entry and provides error-free identification and security throughout the workplace. The pcProx Plus allows users to use their building access card or any 125 kHz or 13.56 MHz tags/labels for other forms of identification.

As a card and badge enroller or reader, it emulates a keyboard to keystroke the card's data to the cursor's location in an application.

The pcProx Plus reader can be used as a stand-alone unit, or can be seamlessly integrated with other software applications. As an integrated reader, it has the ability to work with a multitude of applications



Features at a glance

- Easily integrated with Rockwell products, primarily the PanelView terminals.
- USB device
- Compatible with Windows CE / 2000 / XP / Vista / 7, Macintosh, Solaris ThinManager thin clients, and Linux.
- Versatile mounting options; standard and surface mount.
- IP67 Surface Mount reader is also available.



New this year, out of box, the Rockwell version of the pcProx Plus is configured to work with the Login prompt in a PanelView Plus terminal as well as an enrollment unit. More on this in the lab.



RF IDEas has created a new website to help support Rockwell Automation customers. Please check www.rfideas.com/industry/rockwell

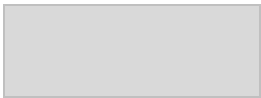
Tools & prerequisites

- FactoryTalk View Studio version 8 or higher
- RF Ideas reader

INTERFACE TYPE	FORM FACTOR		
pcProx Plus	Panel Mount	Panel Mount IP67	Desktop
USB Gray	RDR-805W1AGU-RA	KT-805W1AGU-RA-IP67	N/A
USB Black	RDR-805W1AKU-RA	KT-805W1AKU-RA-IP67	RDR-80581AKU-RA
Ethernet Industrial Protocol (EIP) Black – for PLC	RDR-805W1AKB-P	KT-805W1AKB-P-IP67	RDR-80581AKB-P

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., <i>RSLogix 5000</i> or <i>OK</i>)	Any item or button that you must 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 in bold italics, enclosed in single quotes (e.g., <i>'Controller1'</i>)	An item 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).
	The text that appears inside of a gray box is supplemental information regarding the lab materials, but not information that is required reading in order for you to complete the lab exercises. The text that follows this symbol may provide you with helpful hints that can make it easier for you to use this product. Most often, authors use this “Tip Text” style for important information they want their students to see.

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

Integrating PVP with RF IDEas Readers

Create a New ME Application

1. Start the *FactoryTalk View Studio* software.

From the Windows **Start** menu, go to **All Programs** → **FactoryTalk View Studio**.

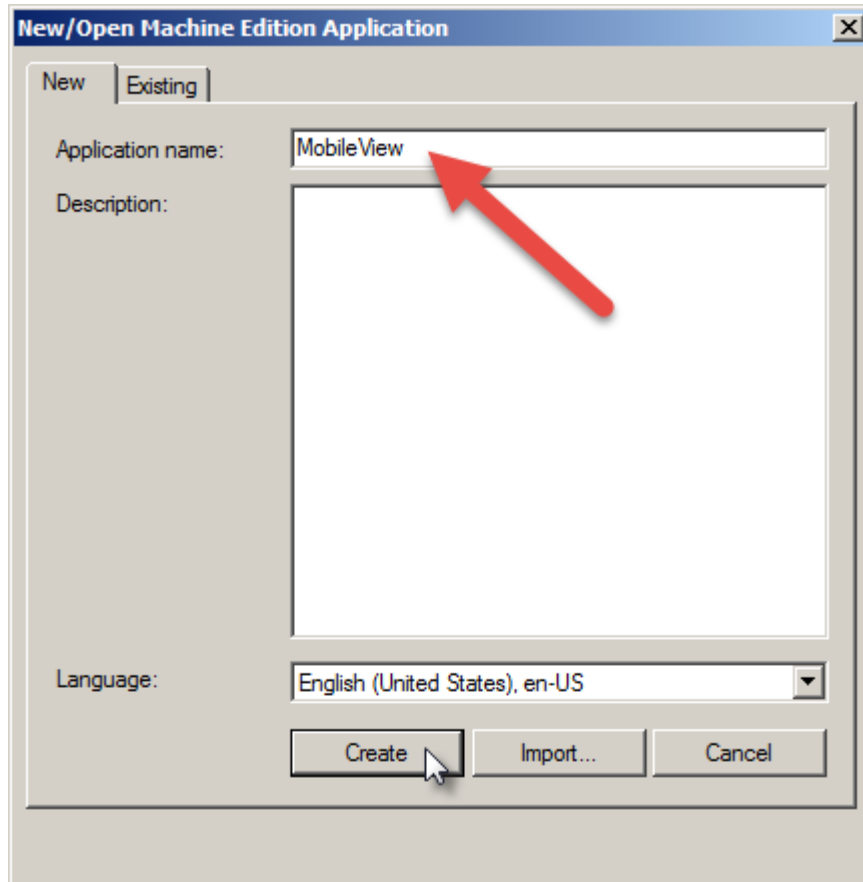
2. We are creating a **View Machine Edition** application.

In the *Application Type Selection* window select **View Machine Edition** and click **Continue**.



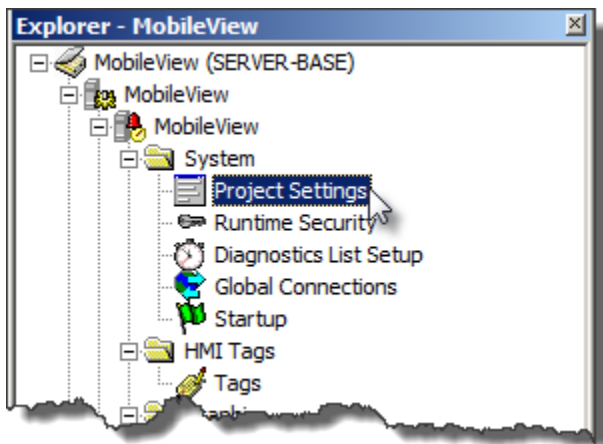
3. In the *New/Open Machine Edition Application* window, do the following;

- Select the **New** tab.
- Enter an application name, for example MobileView.
- Click **Create**.



Configure Project Settings

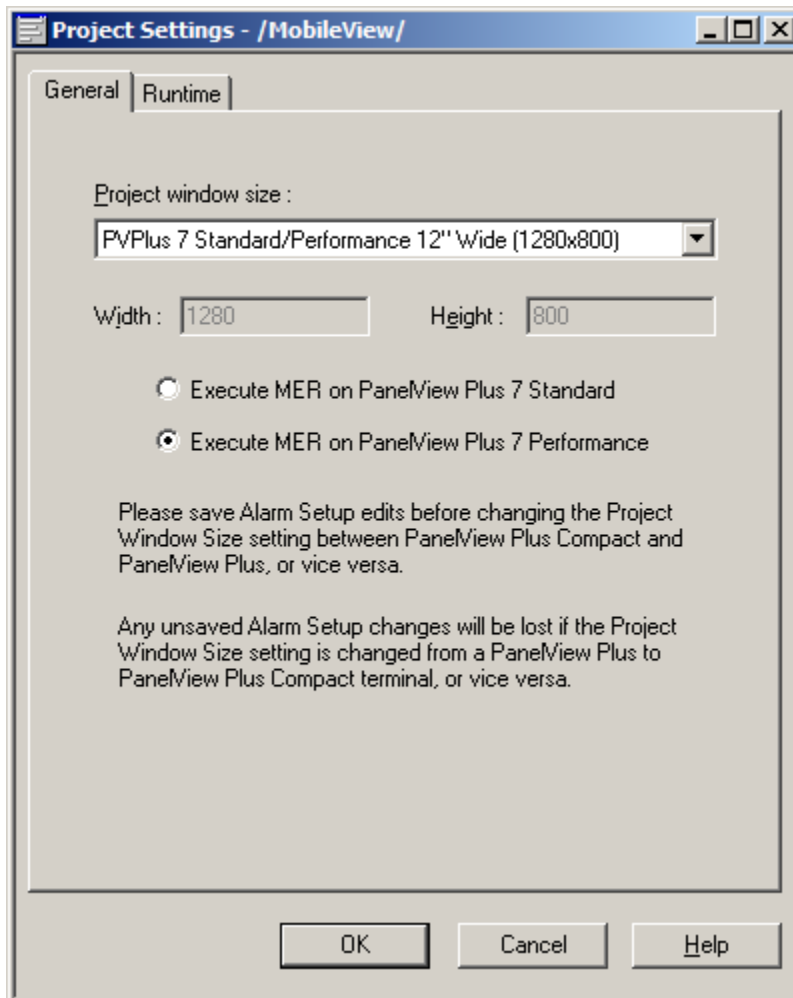
4. From the Explorer pane, double-click **Project Settings**.



5. Select the appropriate terminal size that you will use.

To use the new MobileView terminals, select PVPlus 7 Standard/Performance 12" Wide (1280x800)

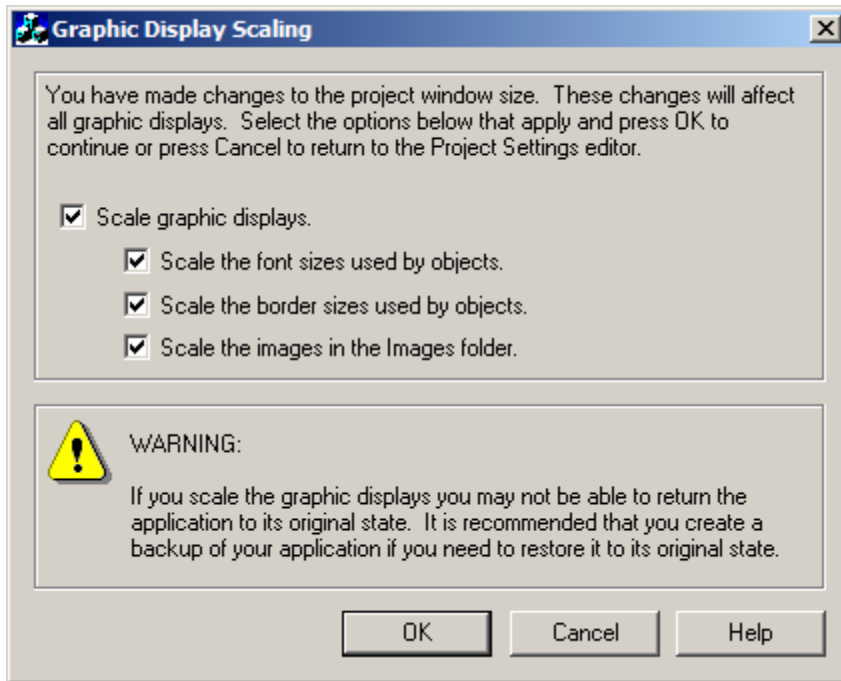
To use the PVP7 15" terminals select PVPlus 7 Standard/Performance 15" (1024x768)



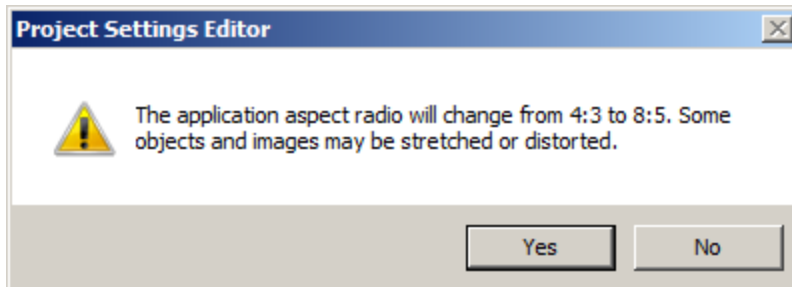
Here is the list of terminals and their respective screen resolutions.

PVPlus 400/600 (320x240)
PVPlus 700/1000 (640x480)
PVPlus 1250 (800x600)
PVPlus 1500 (1024x768)
PVPlus Compact 400/600 (320x240)
PVPlus Compact 1000 (640x480)
PVPlus 7 Standard 4" Wide (480x272)
PVPlus 7 Standard/Performance 6"/7" (640x480)
PVPlus 7 Standard/Performance 9" Wide (800x480)
PVPlus 7 Standard/Performance 10" (800x600)
PVPlus 7 Standard/Performance 12" Wide (1280x800)
PVPlus 7 Standard/Performance 15" (1024x768)
PVPlus 7 Performance 19" (1280x1024)
640x240
1152x854
1280x1024
Custom size

6. Click **OK**.
7. In the *Graphic Display Scaling*, leave all boxes checked and click **OK**.

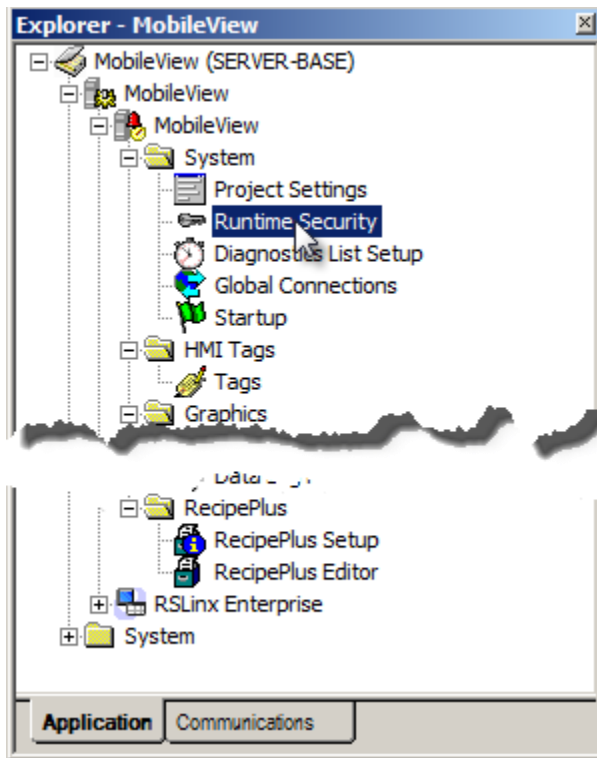


8. If the selected popup is displayed, click **OK**.



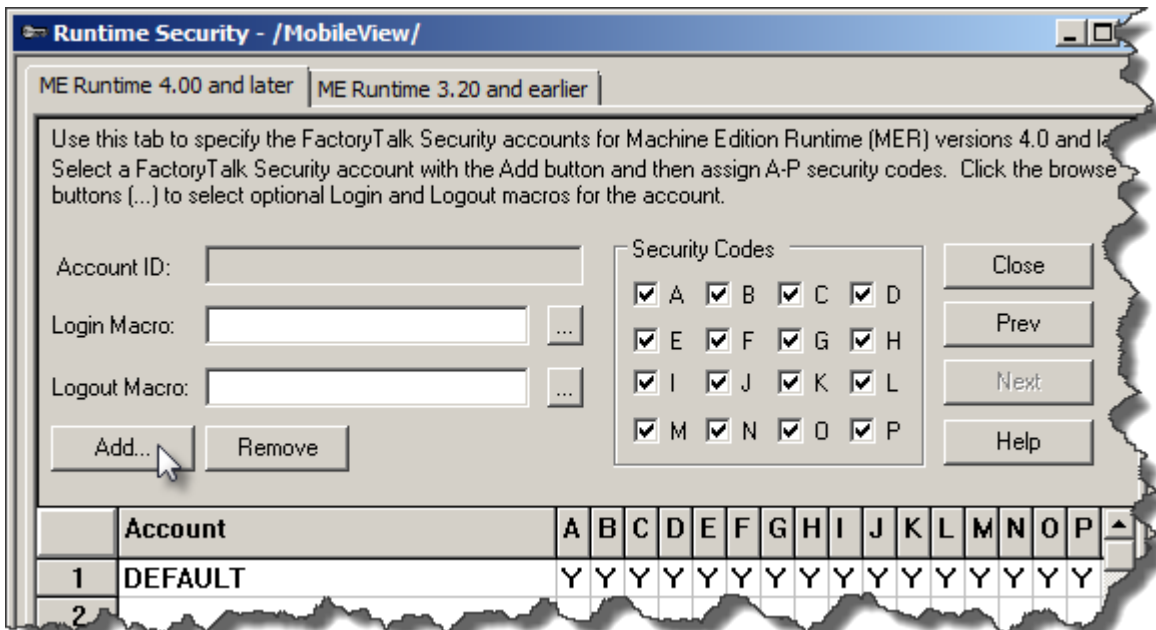
Configure Runtime Security

- From the Explorer pane, double-click **Runtime Security**.



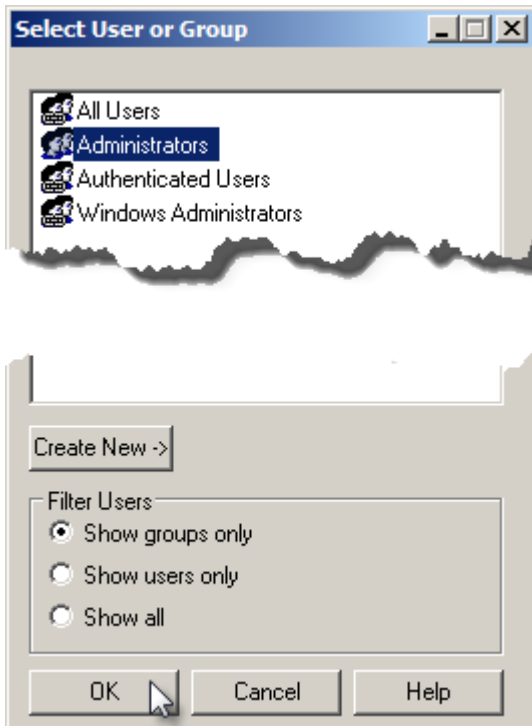
- Click **Add** to add a new user group.

By Default, the application runtime security includes the DEFAULT user with full access rights.

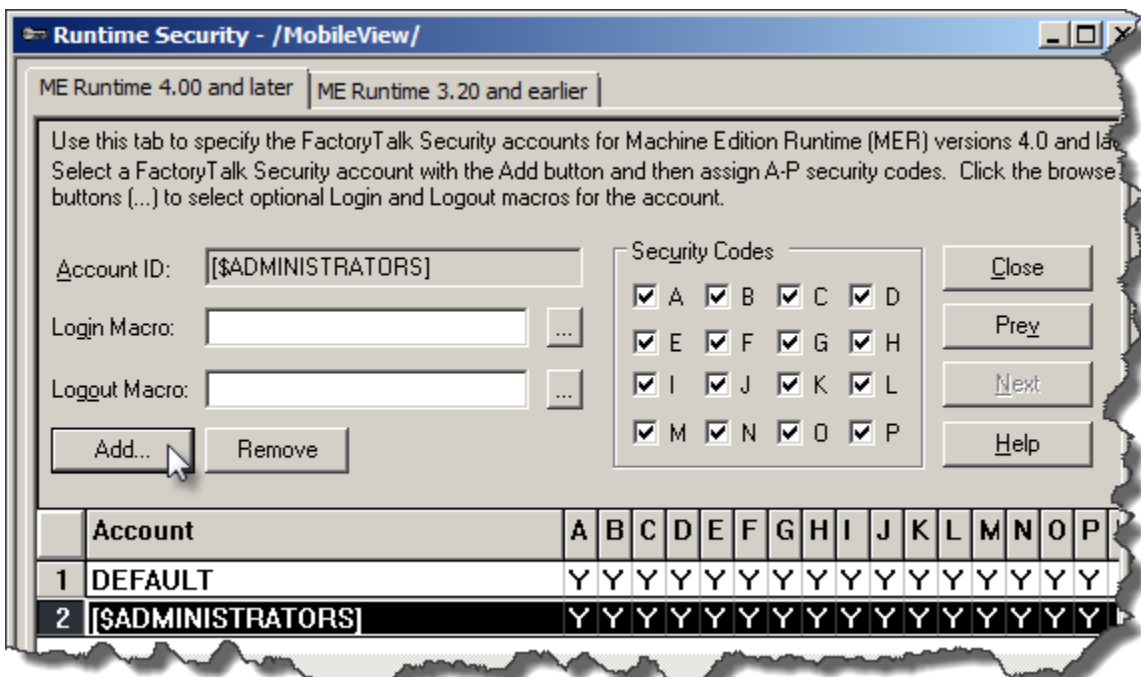


11. Select the **Administrators** user group and click **OK**.

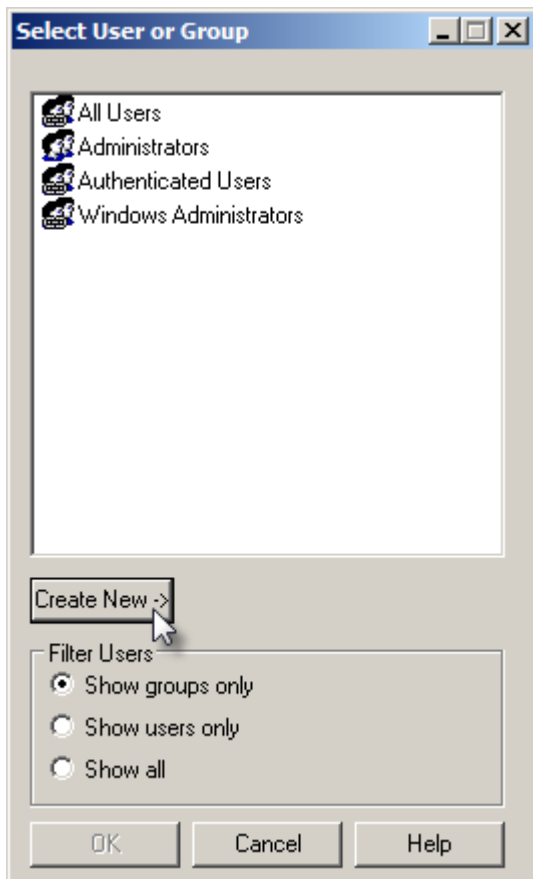
The default in the *Select User or Group* window defaults to show groups only. This is because it is highly recommended to configure security around User Groups and not Users for easy management and modifications.



12. From the Runtime Security window, click **Add** again to add another user group.



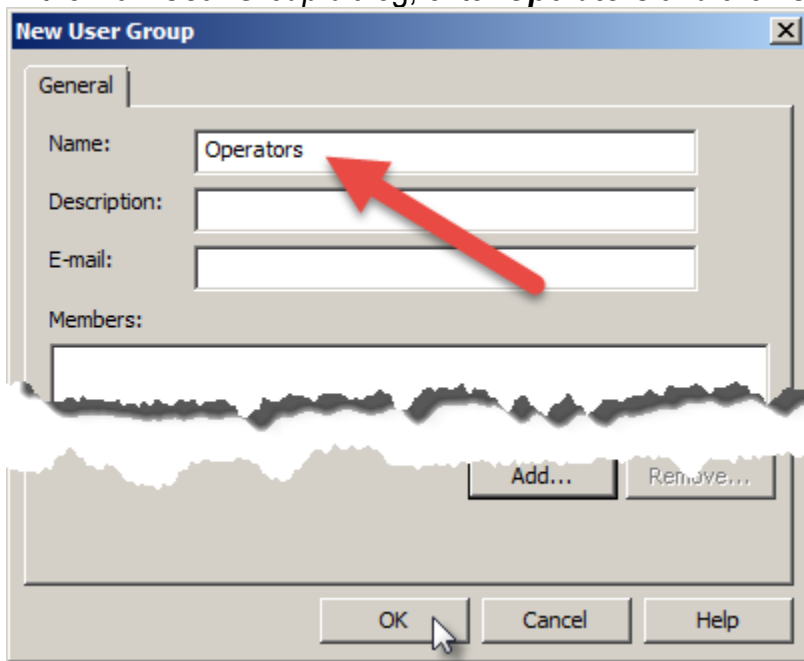
13. From the Select User Group window, click **Create New ->**.



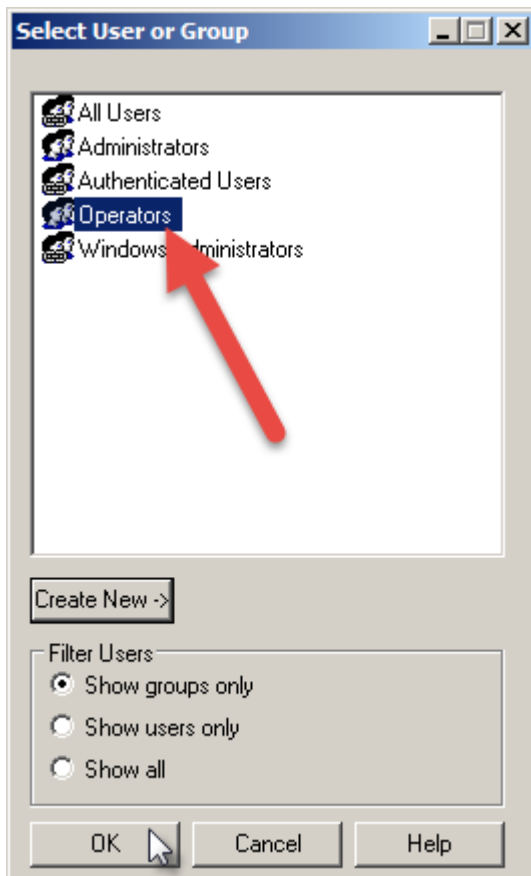
14. And then click on **User group...**



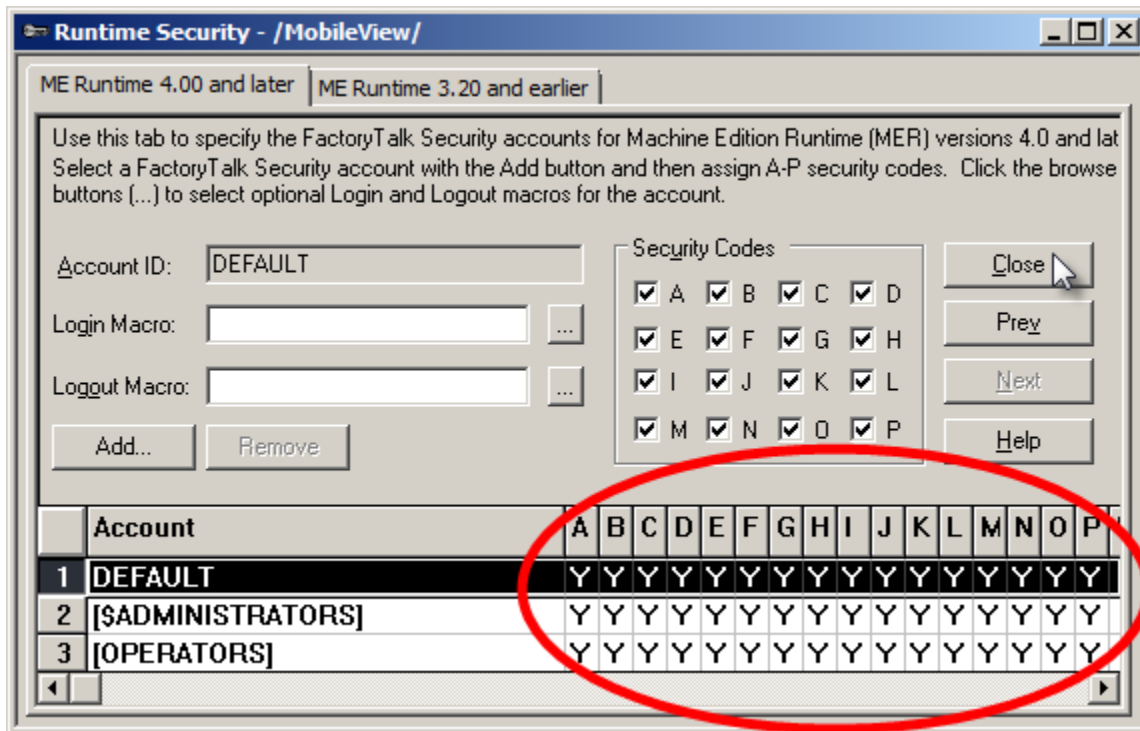
15. In the *New User Group* dialog, enter **Operators** and click **OK**.



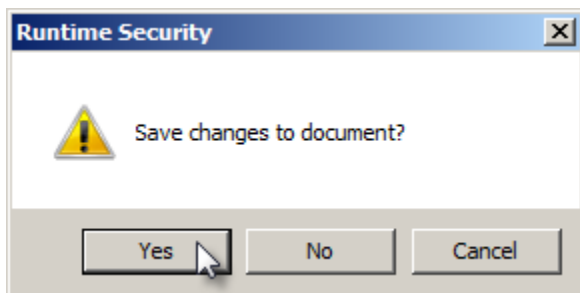
16. In the *Select User Group* dialog, make sure **Operators** is selected and click **OK**.



17. Two groups have been added to the Runtime Application. In this lab, we will leave all security codes checked. We will use visibility animation based on the group the user belongs to as way to secure or hide objects and elements from specific users. Click **Close**.

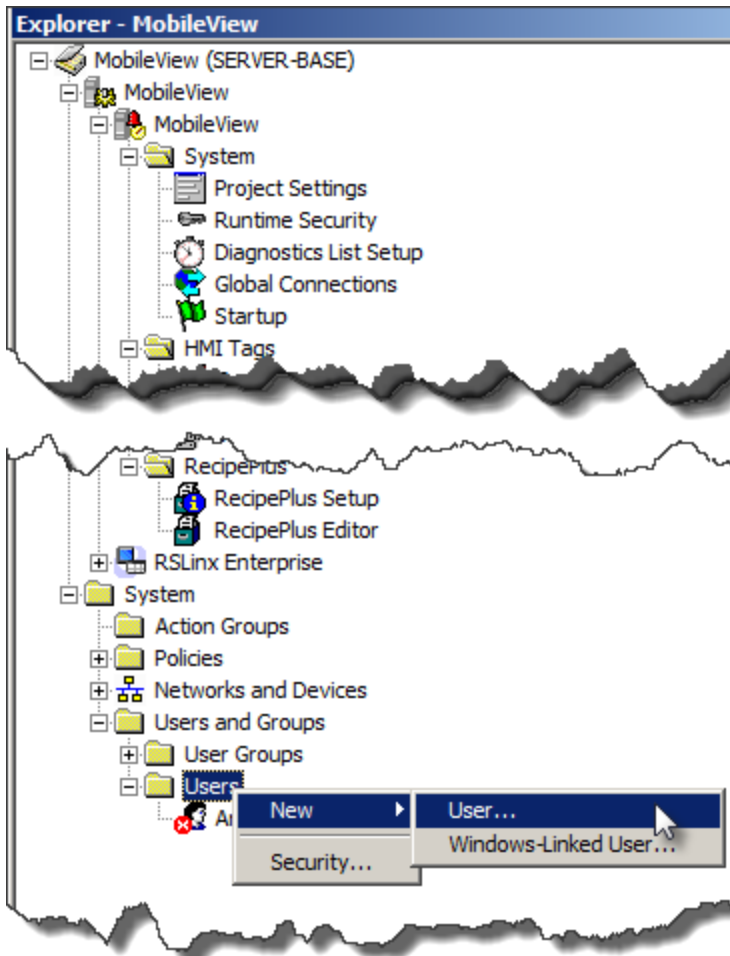


18. When prompted to save, click **Yes**.



Create FactoryTalk Users

19. Locate the **System** folder in the bottom half of the *Explorer* pane, expand **Users and Groups**, right-click **Users** and select **New → Users...** as shown below.



20. In the *New User* dialog, do the following;

- For the User name, enter **op1**
- Check the **Password never expires** checkbox.
- Click the **Group Membership** tab.

New User

General | **Group Membership**

User name: op1

Full name:

Description:

E-mail:

☐ User must change password at next logon

☐ User cannot change password

☒ Password never expires

☐ Account is disabled

Password:

Confirm:

OK Cancel Help

21. Under the *Group Membership* tab, click **Add**.

New User

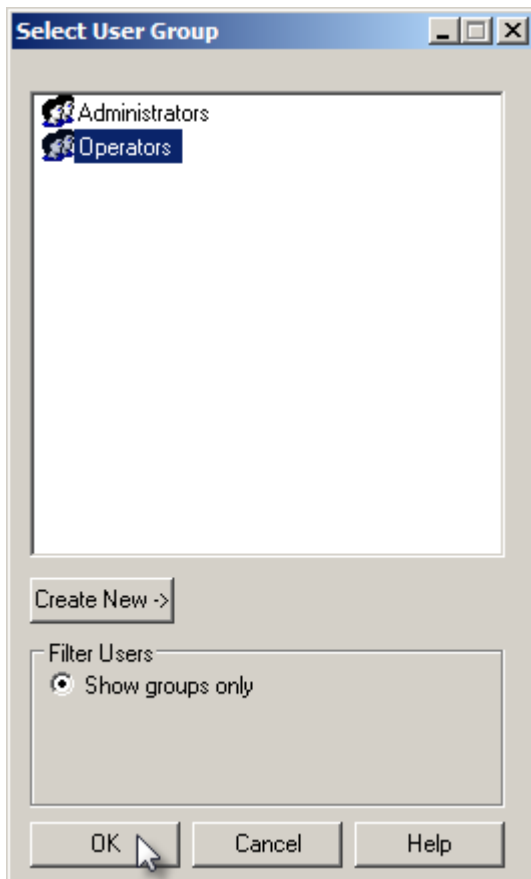
General | **Group Membership**

Member of:

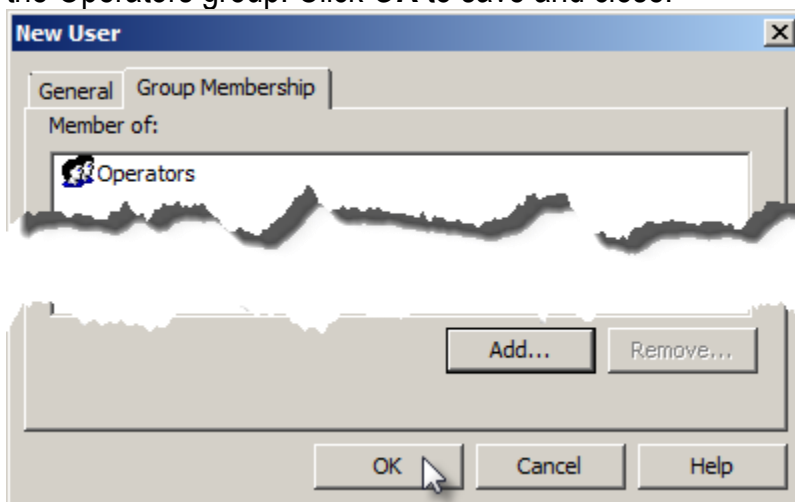
Add... Remove...

OK Cancel Help

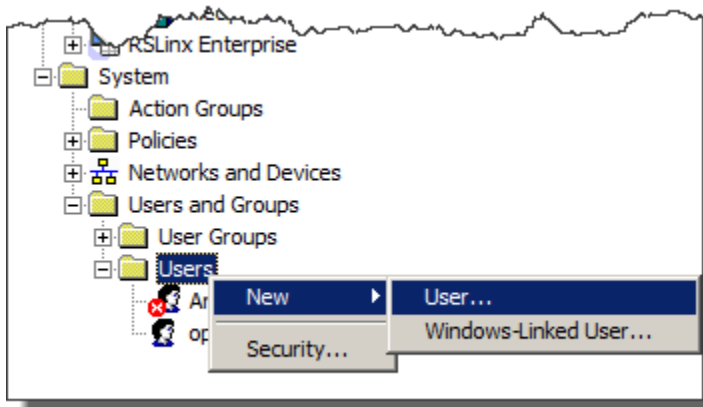
22. From the *Select User Group* dialog, select the group we created earlier called **Operators** and click **OK**.



23. The operators group should now be listed indicating that the new op1 user user is a member of the Operators group. Click **OK** to save and close.

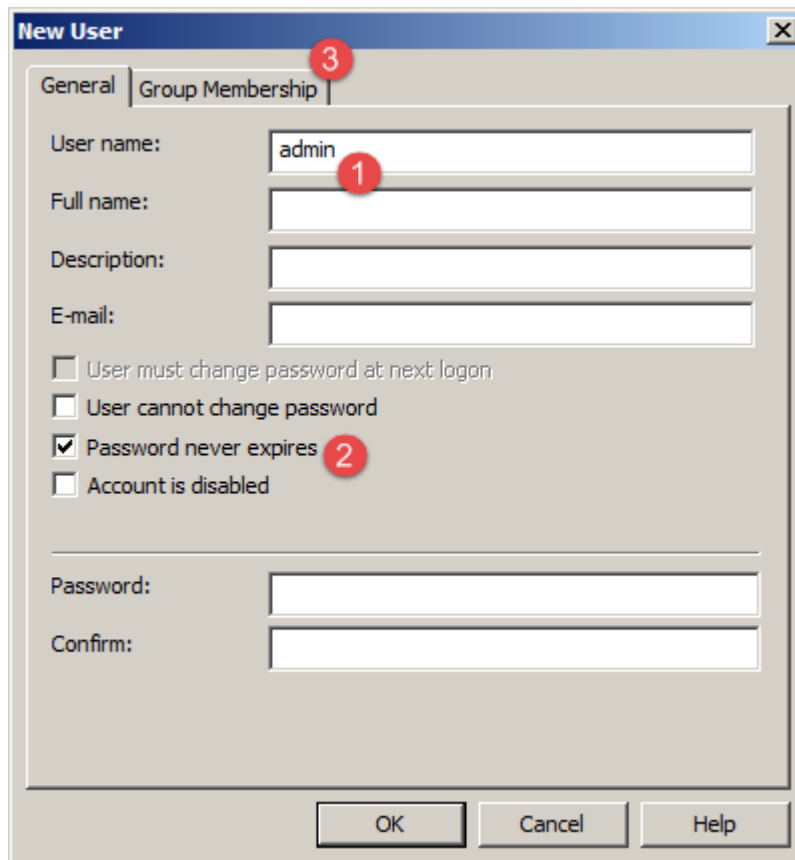


24. Let's add one more user. Right-click **Users** and select **New → Users...** as shown below.

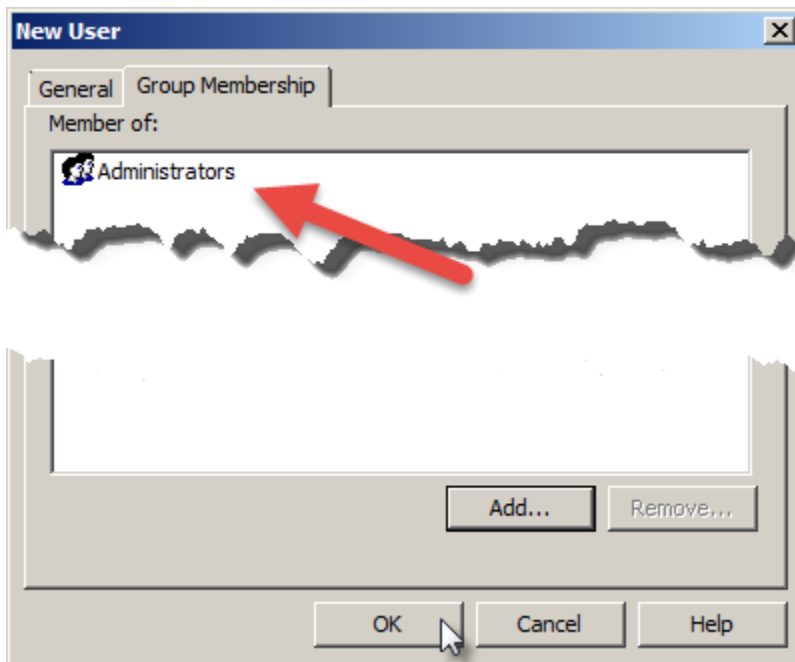


25. In the *New User* dialog, do the following;

- For the User name, enter **admin**
- Check the **Password never expires** checkbox.
- Click the **Group Membership** tab.



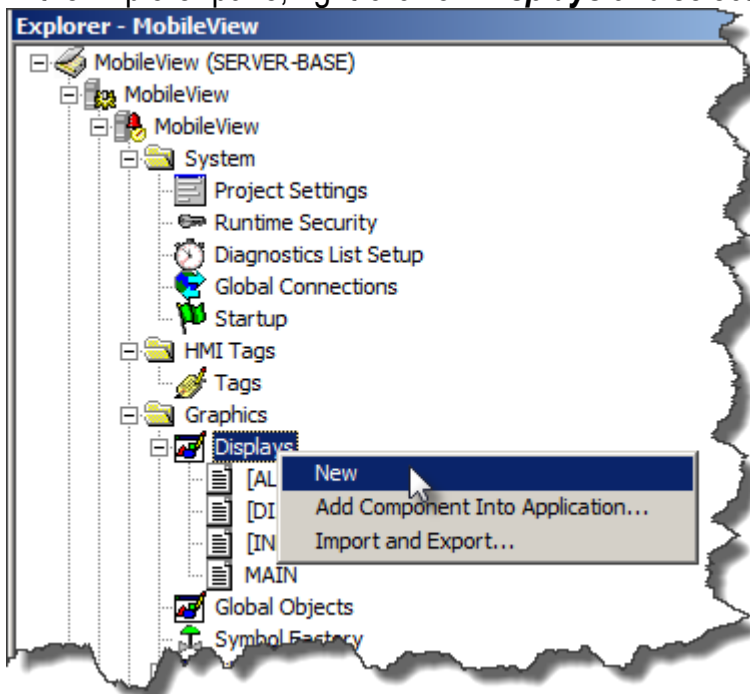
26. Under the *Group Membership* tab, **Add** the **Administrators** group as shown below so the user we are creating is a member of the Administrators group.



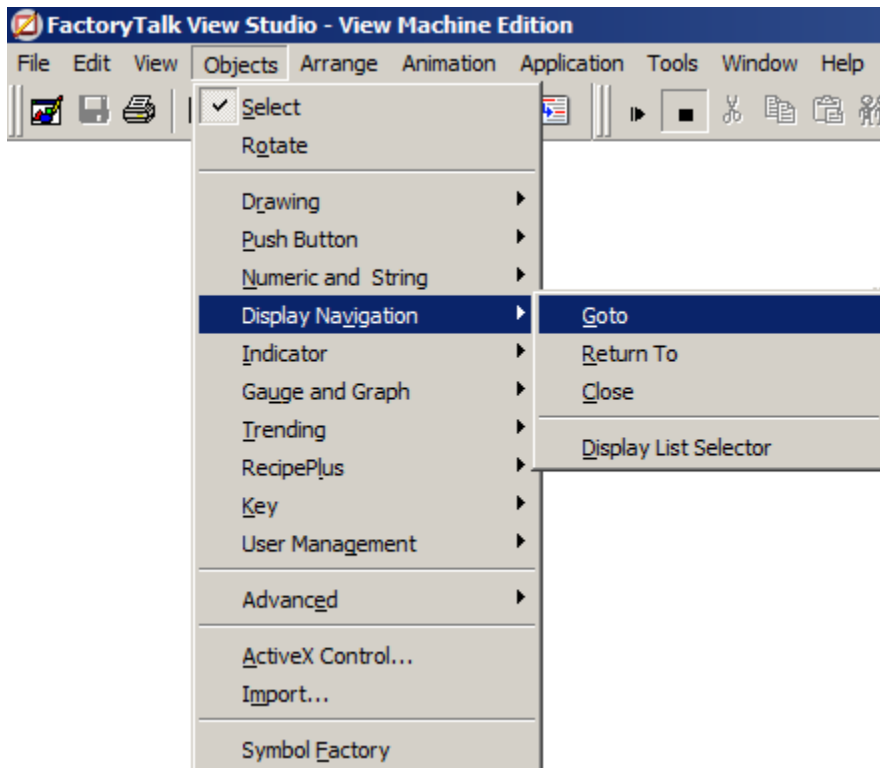
27. Click **OK** to save and close.

Add a new Display

28. Let's add a new display to the application. We will secure and control who has access to it. Still in the Explorer pane, right-click on **Displays** and select **New**.



29. A blank display is shown. First, we need to add a way to navigate back to Main display. From the View Studio main menu, go to **Objects → Display Navigation → Goto**.



30. Add the Goto button somewhere on the display (size and location does not matter for this lab).

31. Once the Goto button is added, the properties windows is displayed automatically. Use the Browse button to browse to the **Main** display that this button will navigate to when pressed at runtime.

Goto Display Button Properties

General | Label | Common | Connections

Appearance

Border style: Raised Border width: 4 ☒ Border uses back color

Back style: Solid Pattern style: None ☒ Back color

Shape: Rectangle ☒ Border color

☐ Pattern color

☒ Highlight color

☐ Blink

Display settings

Display: MAIN ... ☐ Use variable Display

☒ Parameter file: ...

☐ Parameter list: ...

☐ Display position Top position: 0 Left position: 0

☐ Use Variable Display Position

Touch margins

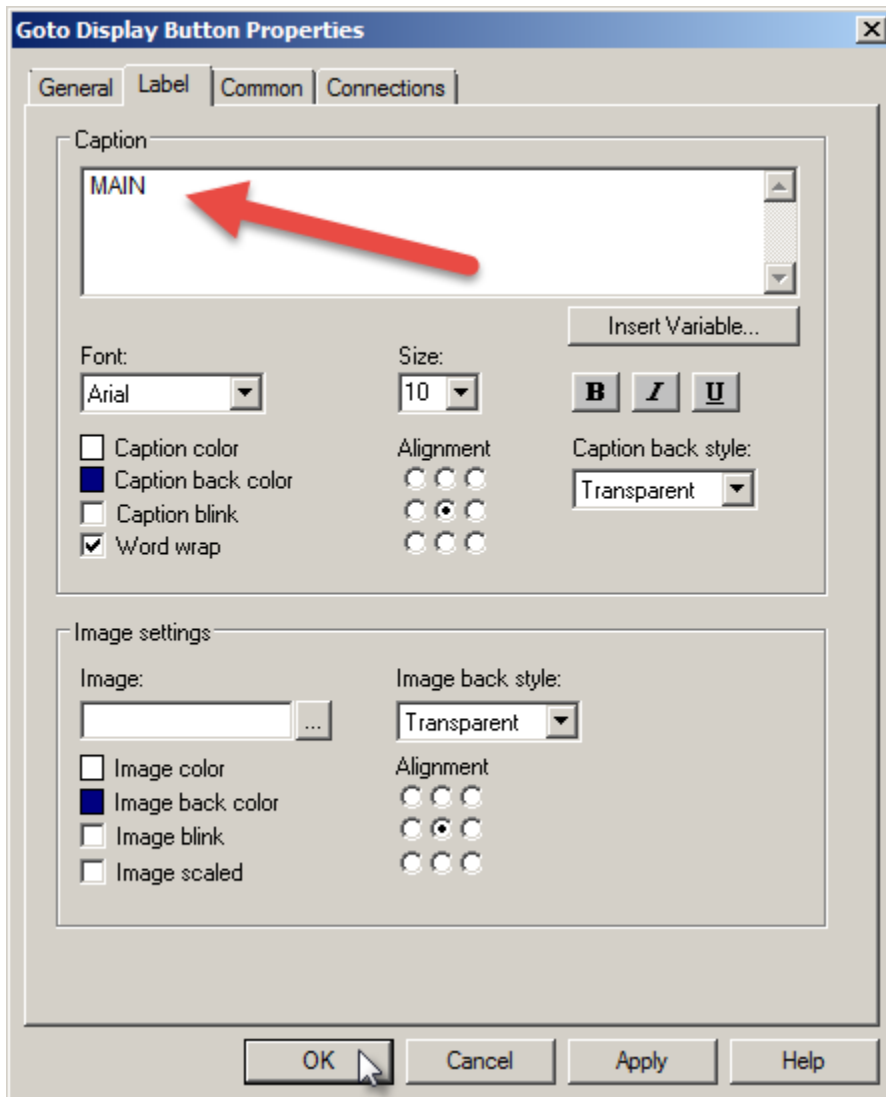
Horizontal margin: 0 Vertical margin: 0

Other

☒ Audio

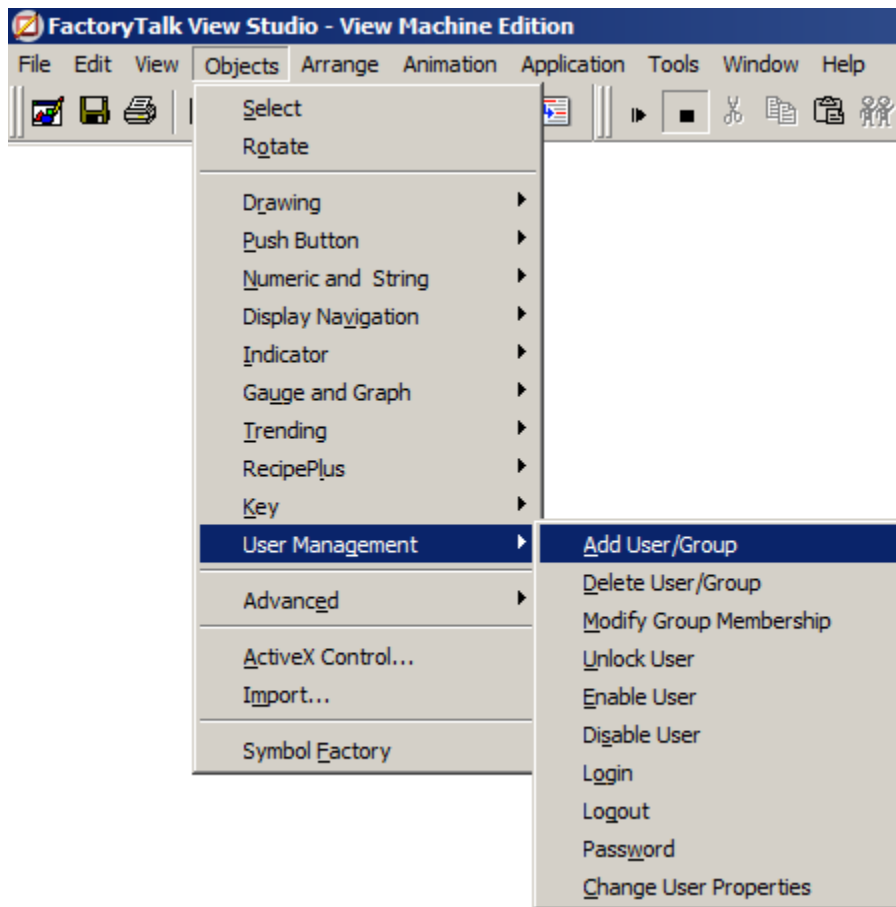
OK Cancel Apply Help

32. Under the Label tab, enter **MAIN** as the *Caption* and click **OK**.



We'll add 2 more buttons to that display.

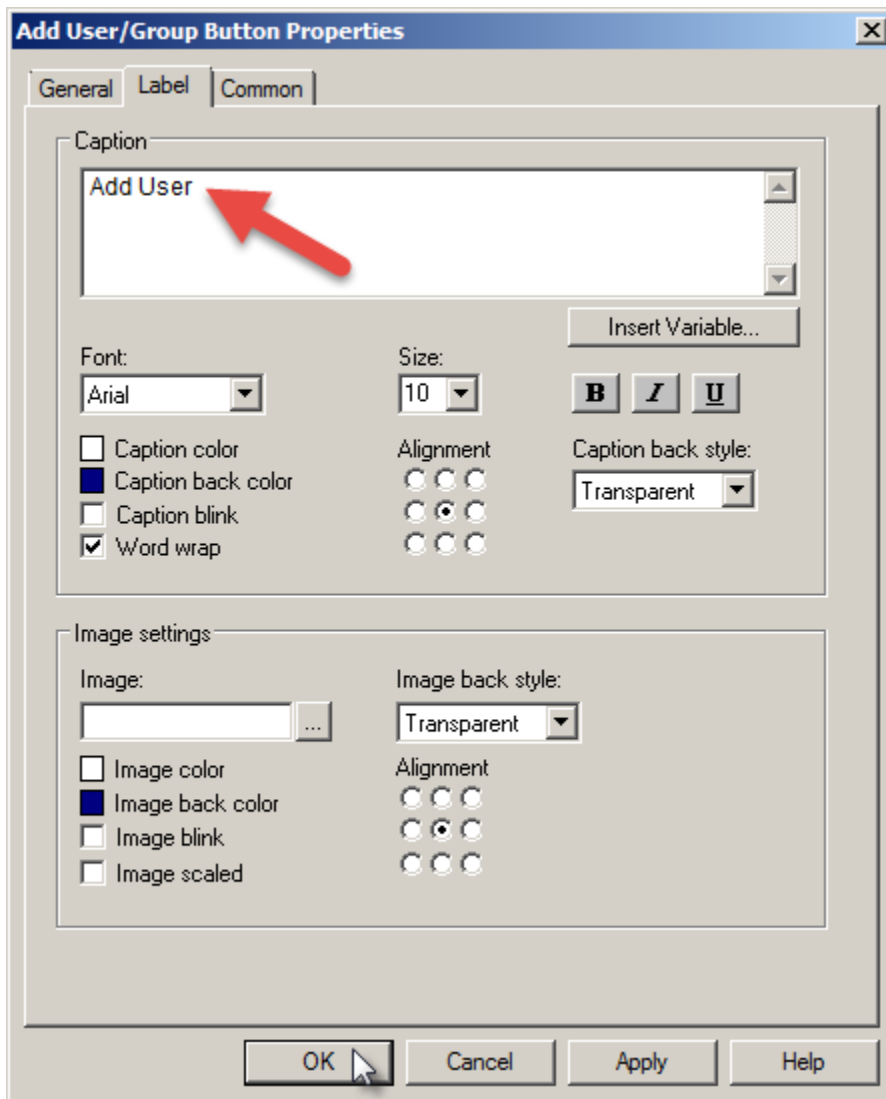
33. From the View Studio main menu, go to **Objects → User Management → Add User/Group**.



This button is only available starting with version 8 of FactoryTalk View Studio and is only supported with PVP terminals running firmware version 8 or newer.

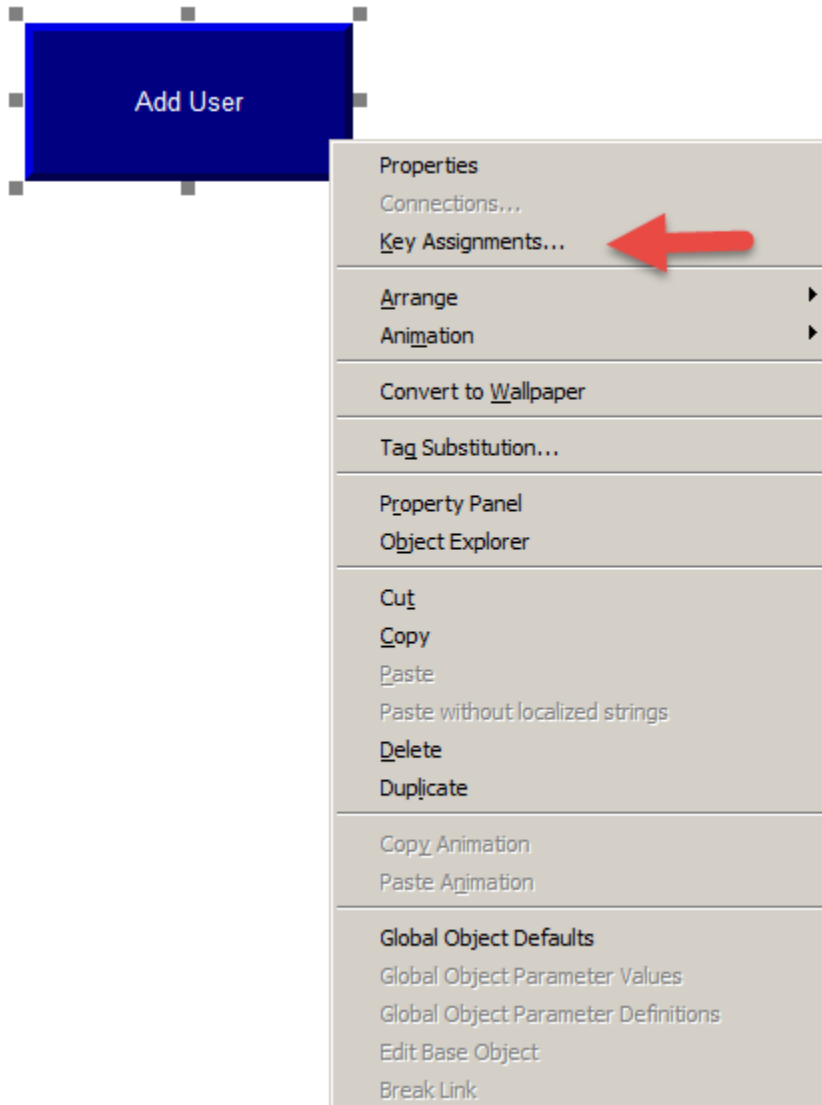
34. Add the new button somewhere on the display (size and location does not matter for this lab).

35. Once the button is added, the properties windows is displayed automatically. Under the **Label** tab, enter **Add User** and click **OK**.

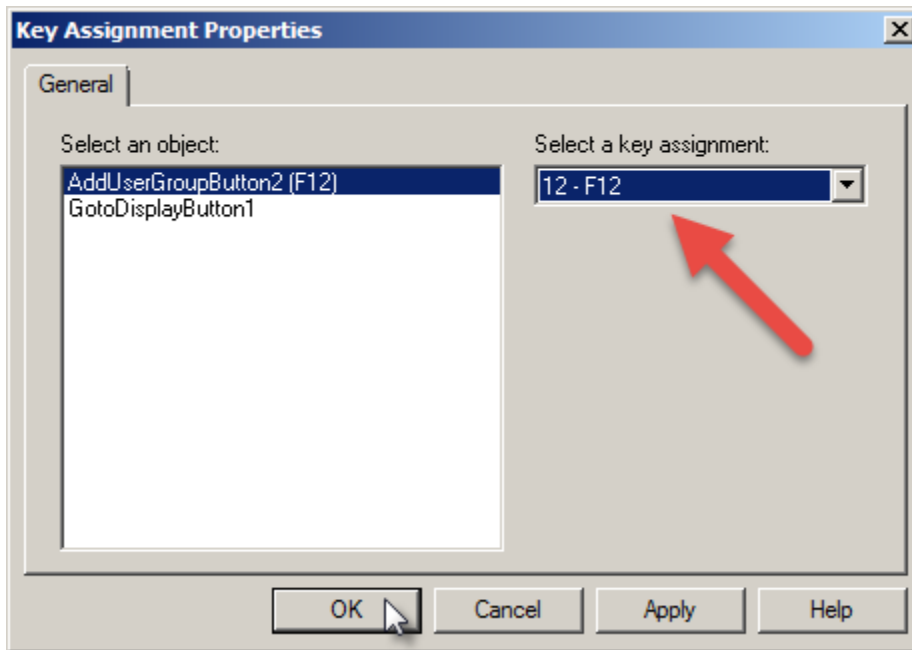


Key Assignments for RF Ideas

36. Right-Click the newly added Add User button and select **Key assignments**.

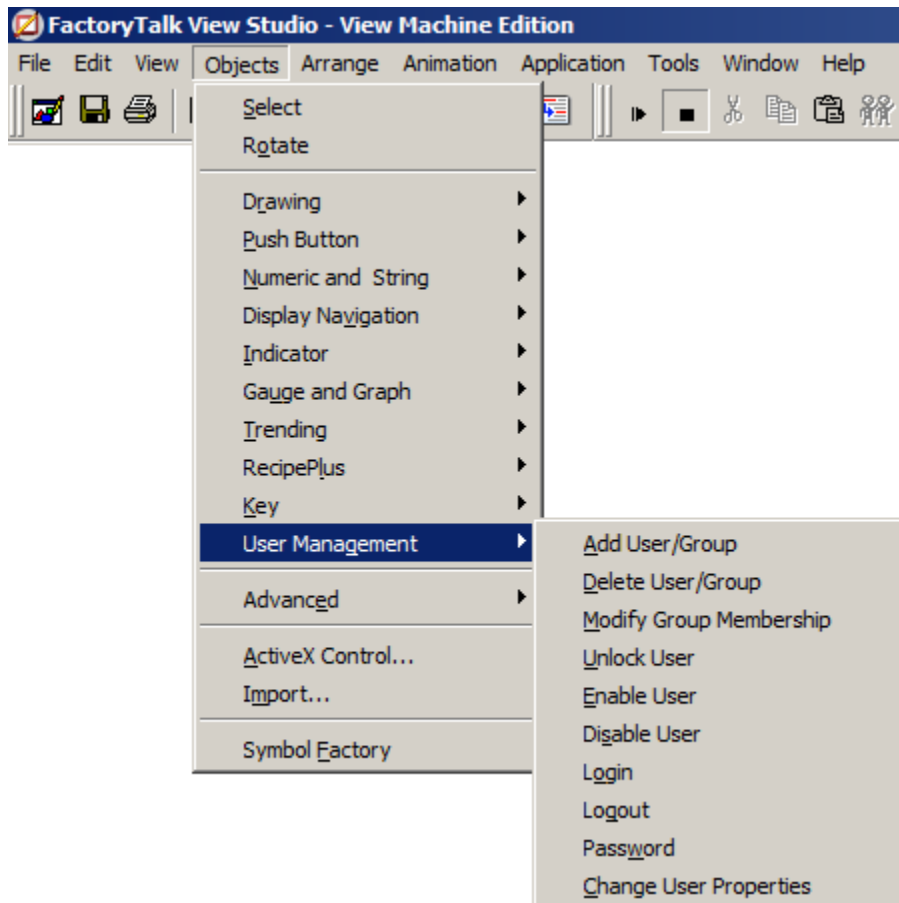


37. Change the *Select a key assignment* field to **12 – F12** and click **OK**.



F12 is used by default with the RF IDEas readers to enroll a user.

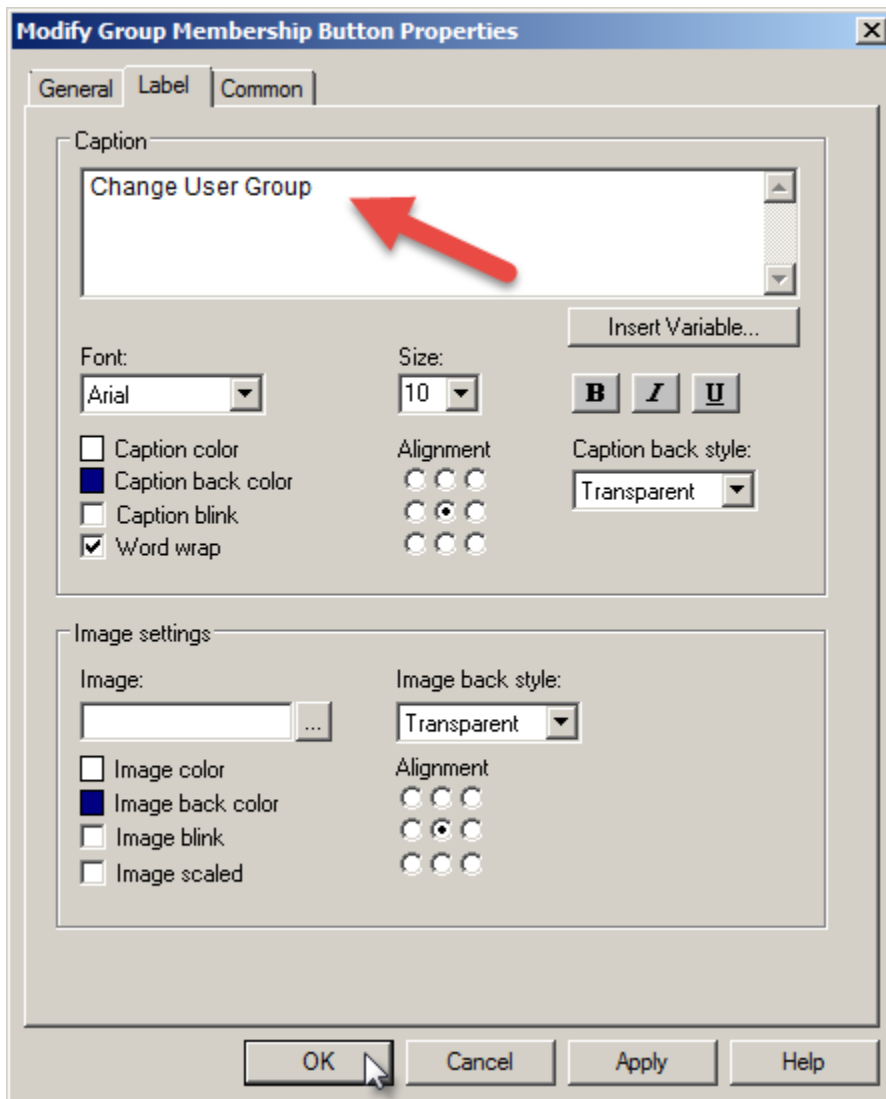
38. One more button to add to this display. From the View Studio main menu, go to **Objects** → **User Management** → **Modify Group Membership**.



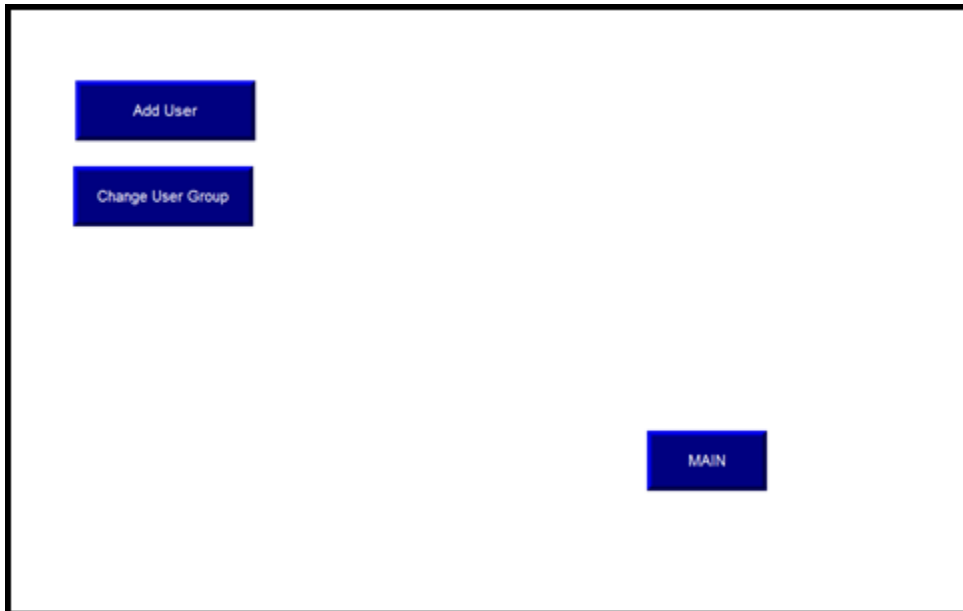
This button is only available starting with version 8 of FactoryTalk View Studio and is only supported with PVP terminals running firmware version 8 or newer.

39. Add the new button somewhere on the display (size and location does not matter for this lab).

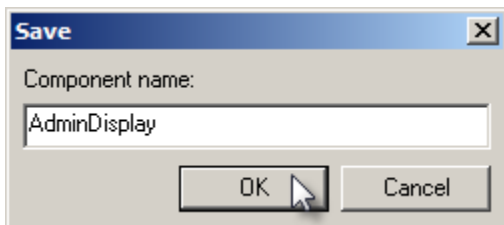
40. Once the button is added, the properties windows is displayed automatically. Under the **Label** tab, enter **Change User Group** and click **OK**.




The display should look similar to the following,



41. Save  the display and when prompted for a name, enter ***AdminDisplay***.

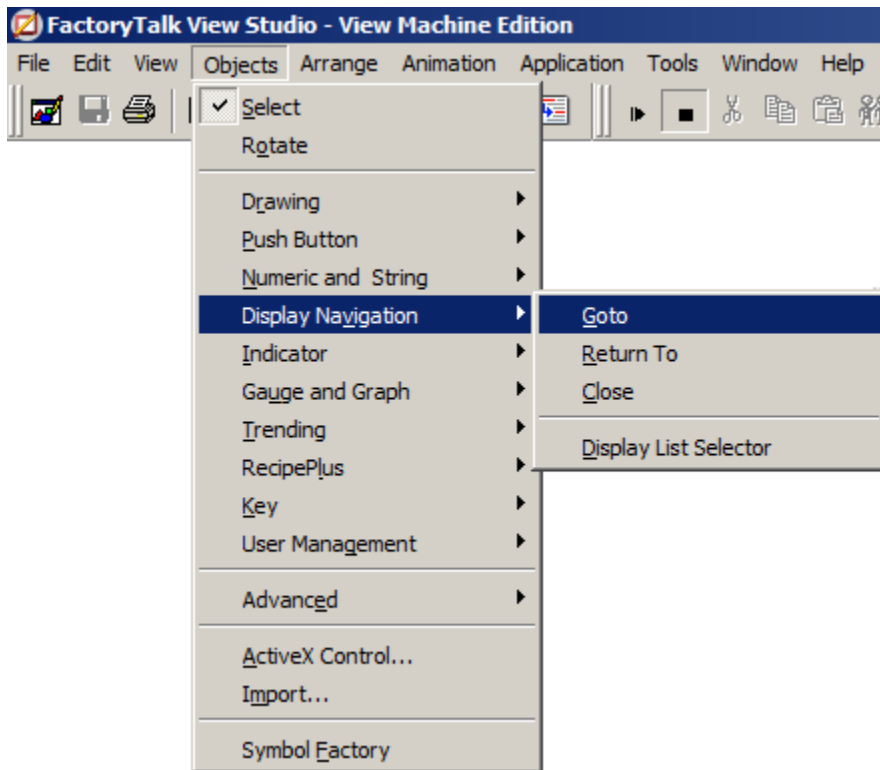


42. Close  the newly created AdminDisplay.

Visibility Animation

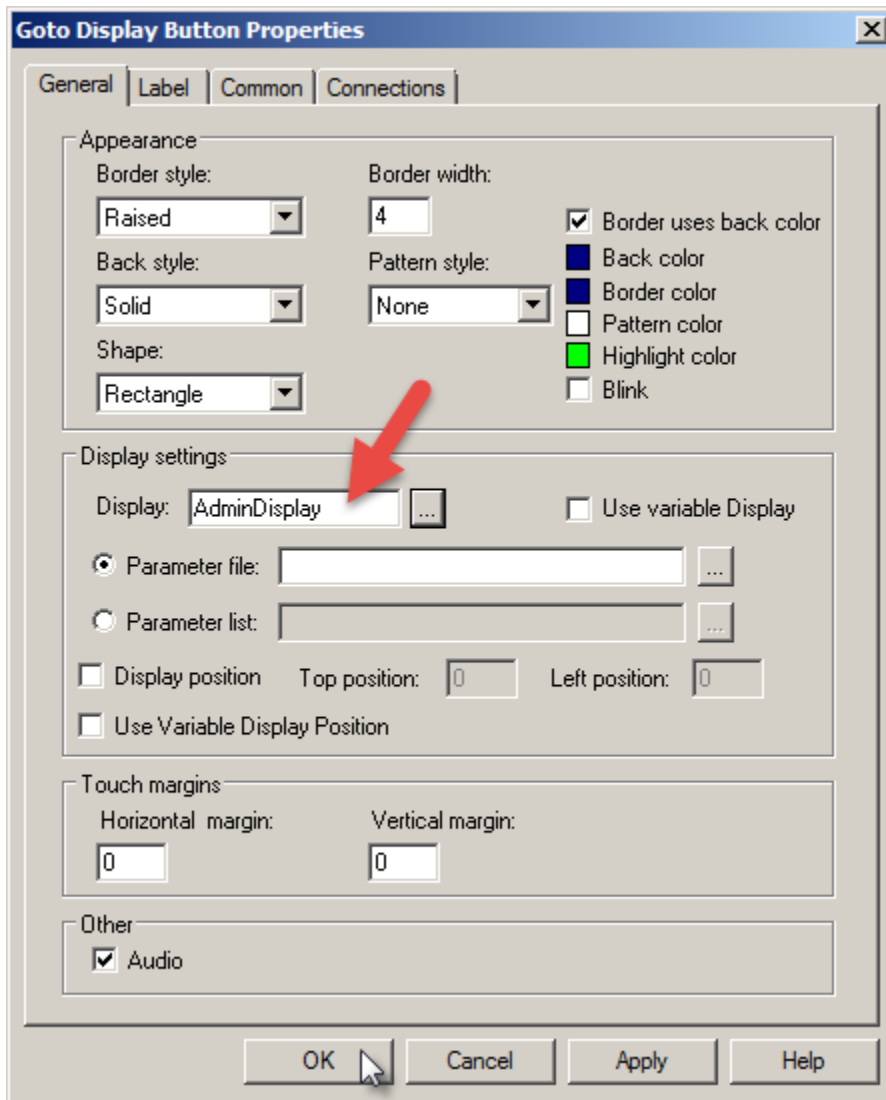
43. In the Explorer pane, under Displays, double-click the display called ***MAIN***.

44. Let's configure a way to navigate to the AdminDisplay created earlier. From the View Studio main menu, go to **Objects → Display Navigation → Goto**.



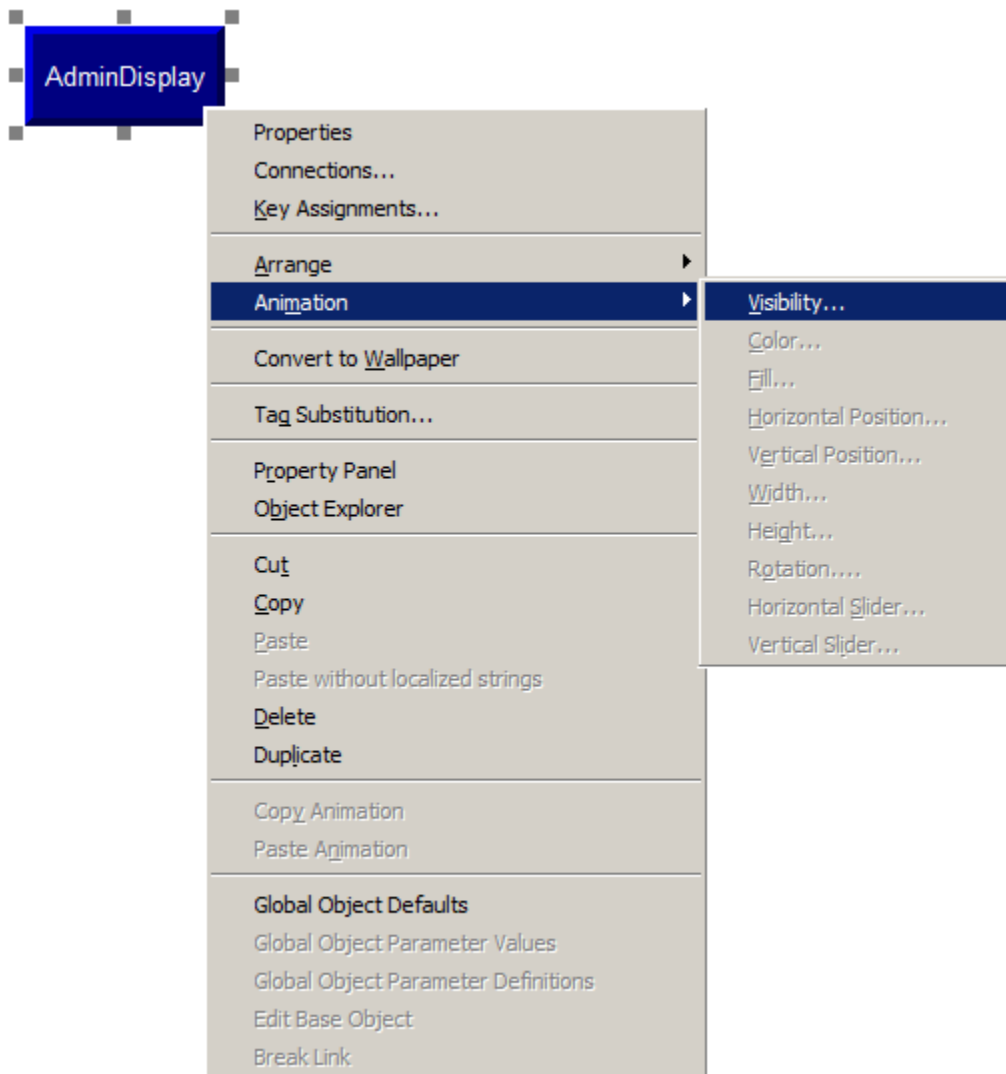
45. Add the Goto button somewhere on the display (size and location does not matter for this lab).

46. Once the Goto button is added, the properties windows is displayed automatically. Use the Browse button to browse to the **AdminDisplay** display that this button will navigate to when pressed at runtime.

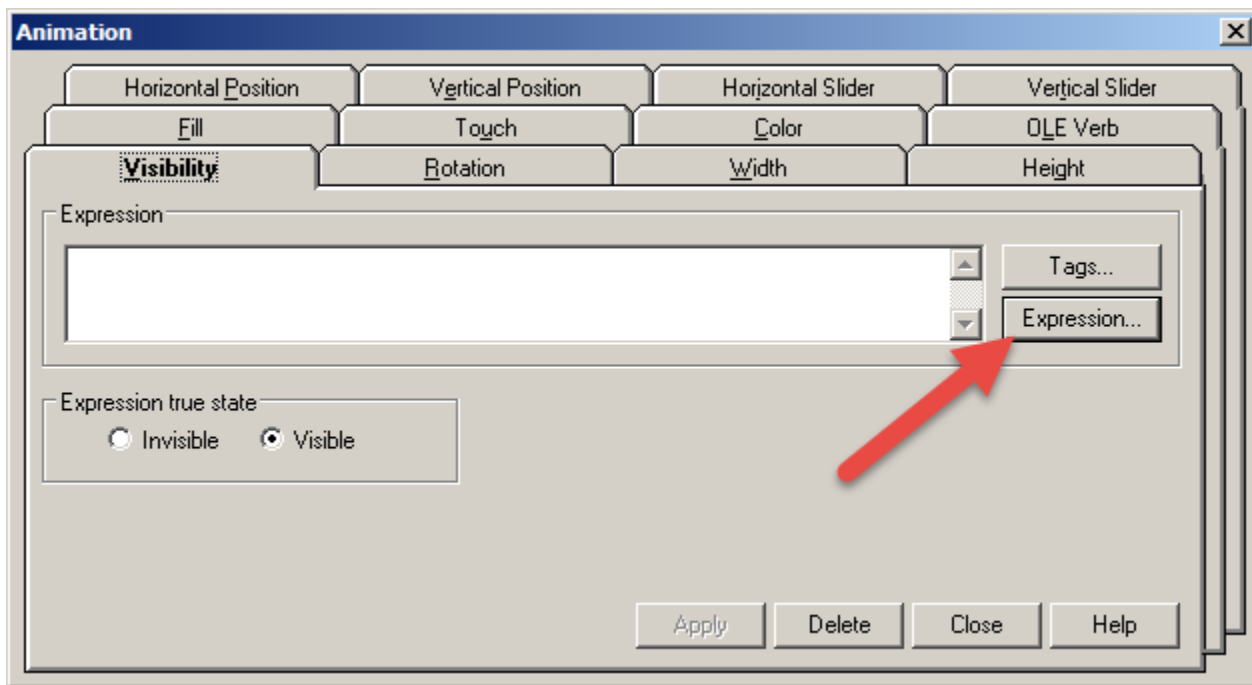


47. Click **OK**.

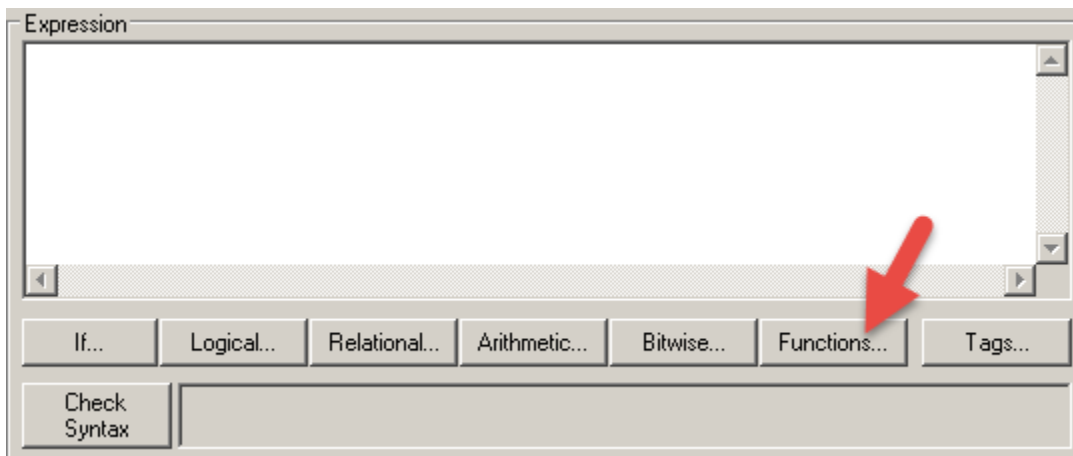
48. Right-click the newly added Goto button and select **Animation → Visibility**.



49. Under the Visibility tab, click the **Expression** button.

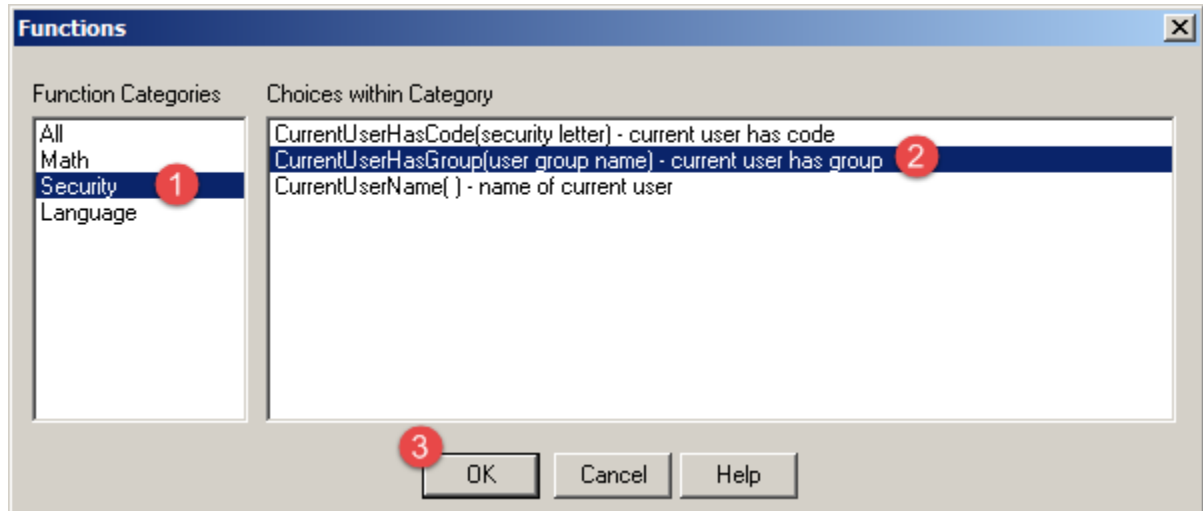


50. In the expression editor, click **Functions**.

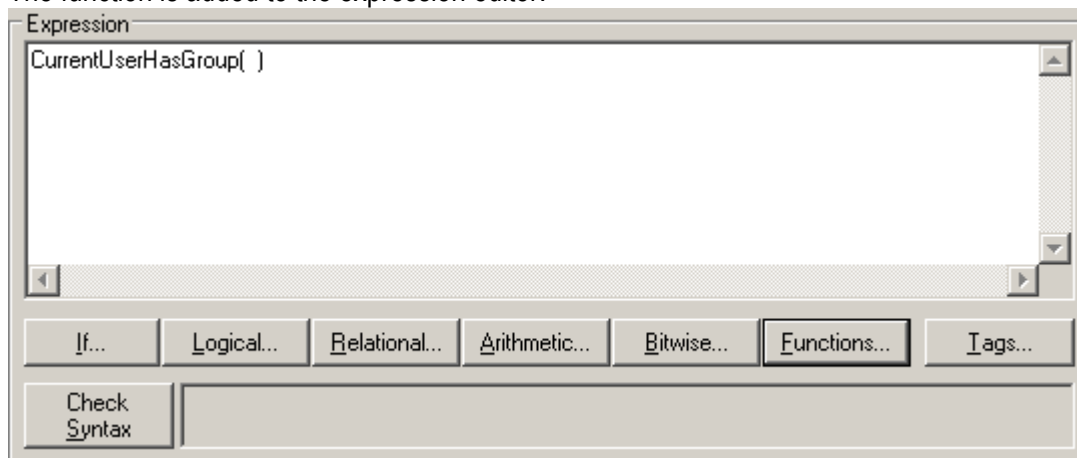


51. In the functions selection dialog,

- Select the **Security** category.
- Select **CurrentUserHasGroup**
- Click **OK**.

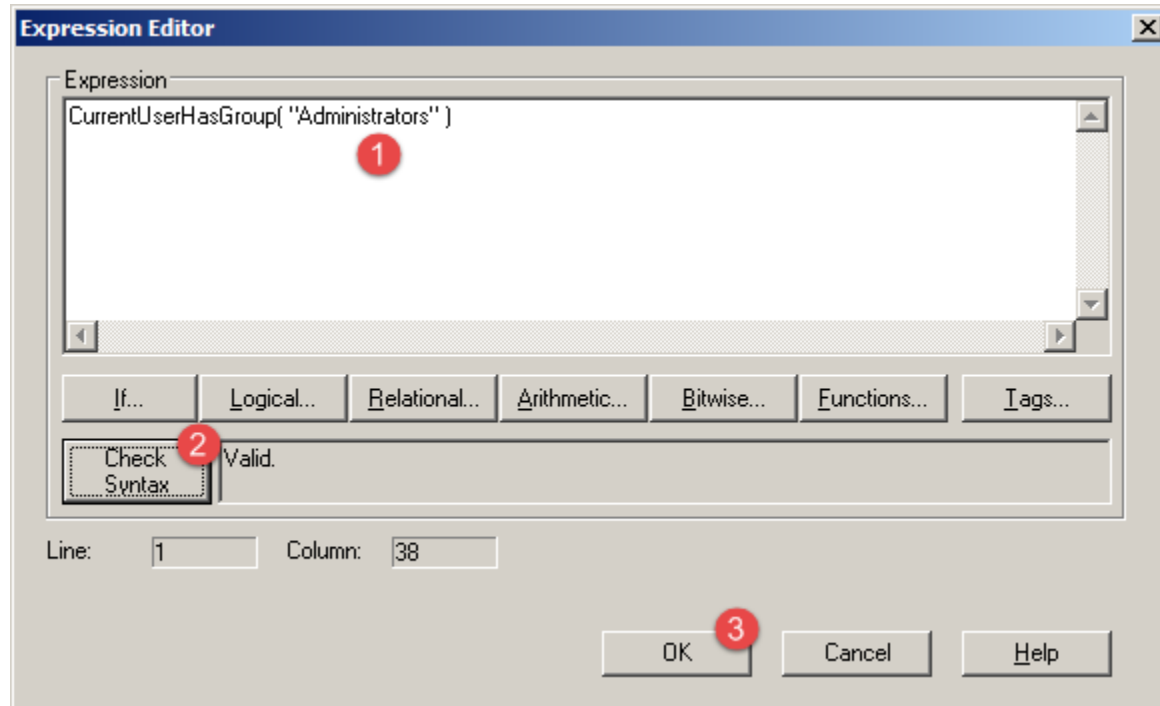


The function is added to the expression editor.

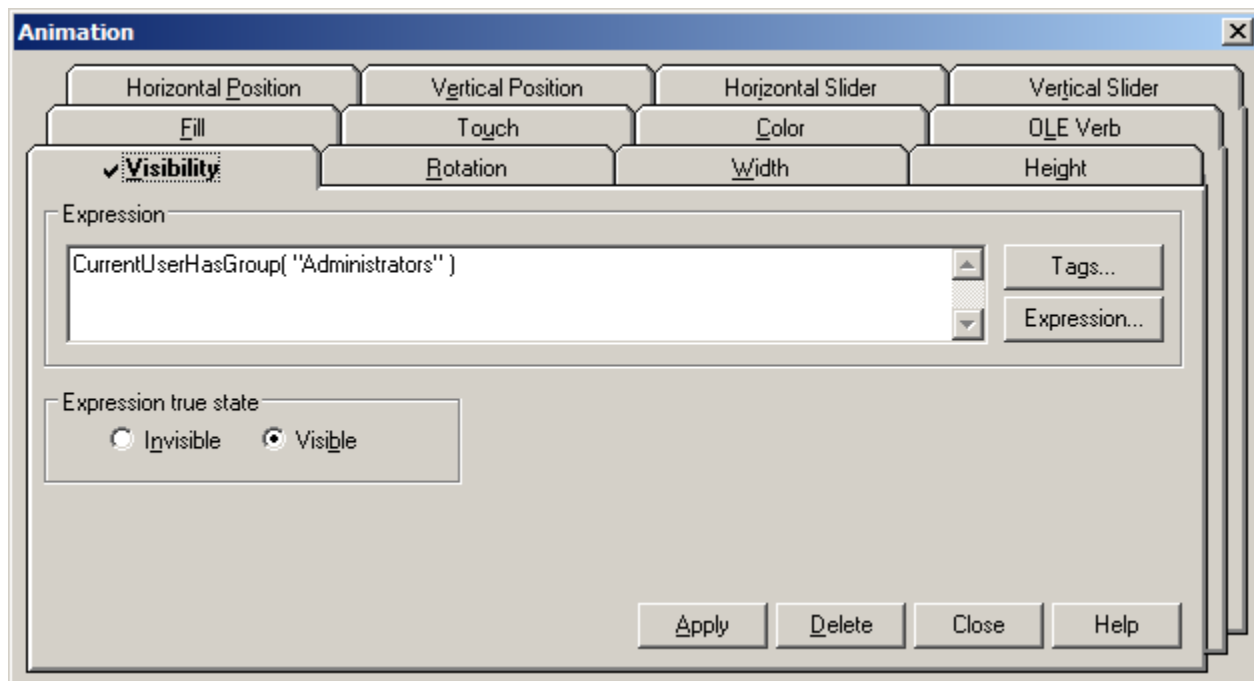


52. Modify the expression to include the appropriate group.

- Between the parenthesis of the function, enter **"Administrators"** including the quotes as shown below.
- Click the **Check Syntax** and make sure it is Valid.
- Click **OK**.



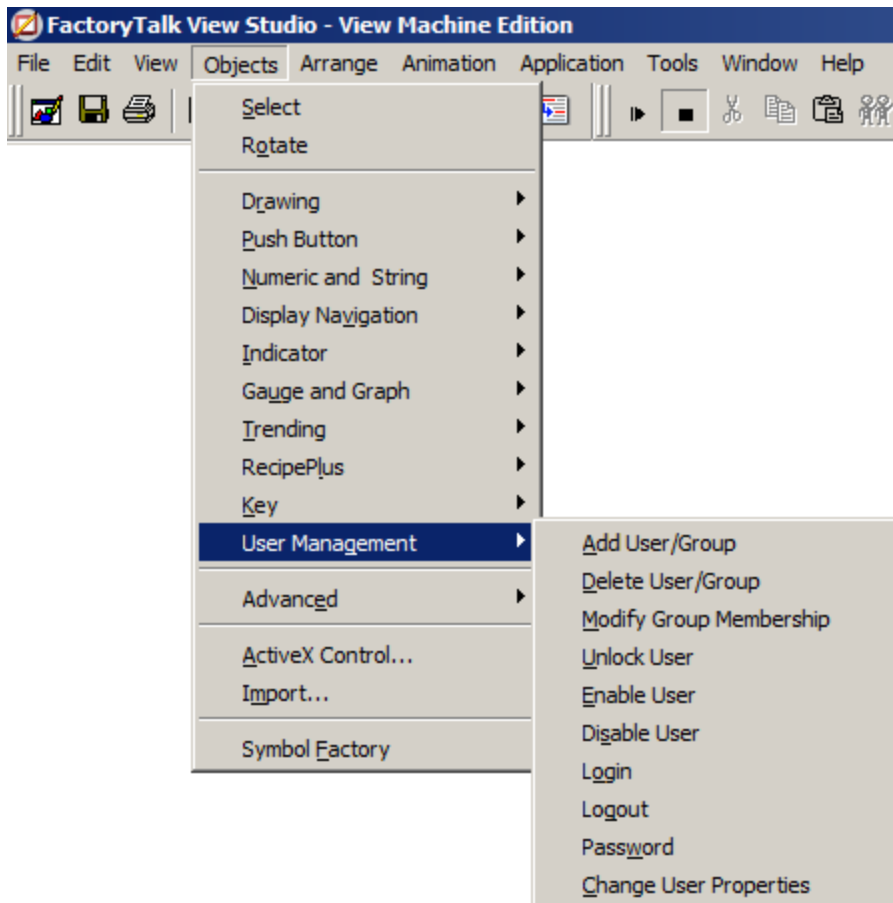
53. Click **Apply** and **Close** to save and close the animation configuration.



This button is now only visible to members of the administrators group at runtime.

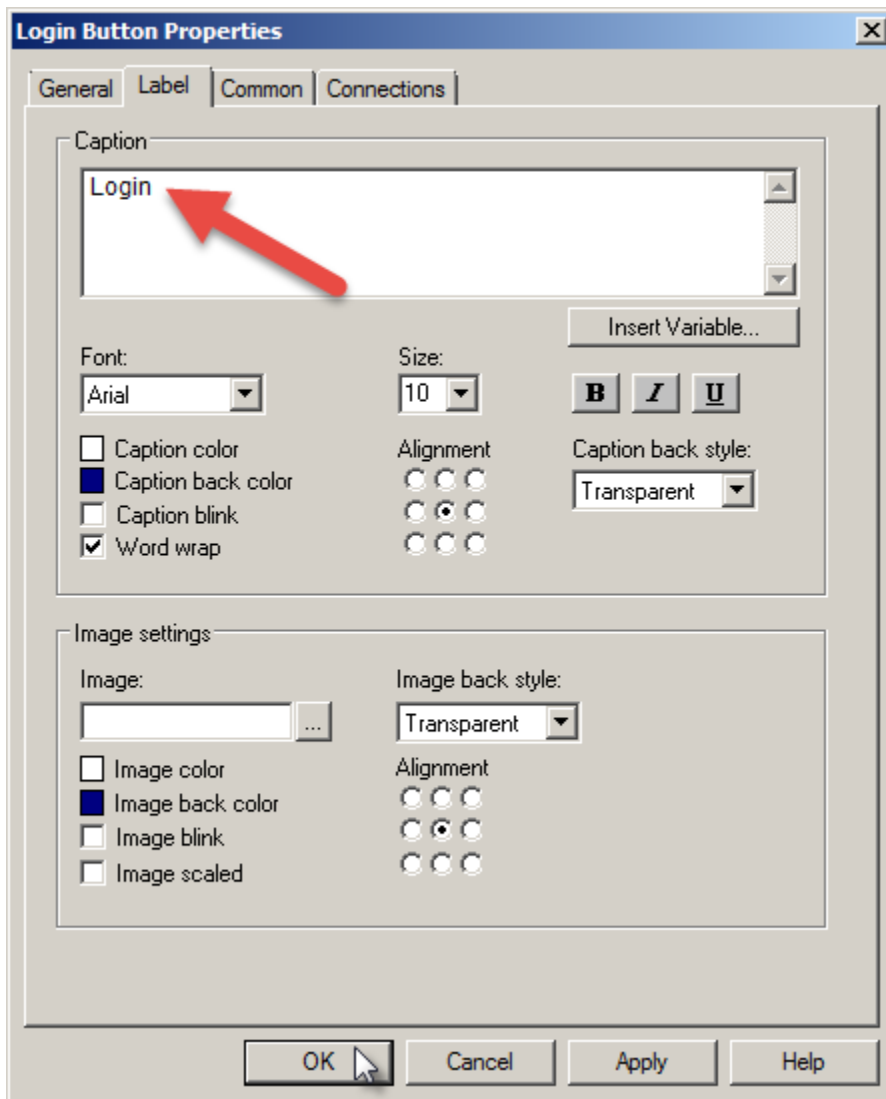
Add a Login button

54. From the View Studio main menu, go to **Objects** → **User Management** → **Login**.



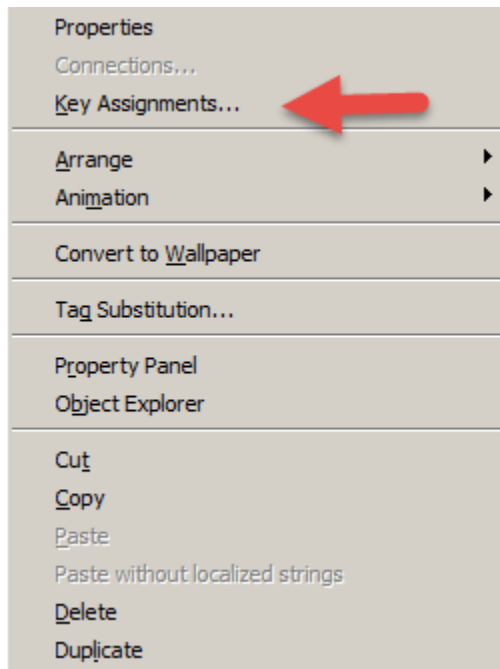
55. Add the new button somewhere on the display (size and location does not matter for this lab).

56. Once the button is added, the properties window is displayed automatically. Under the **Label** tab, enter **Login** and click **OK**.

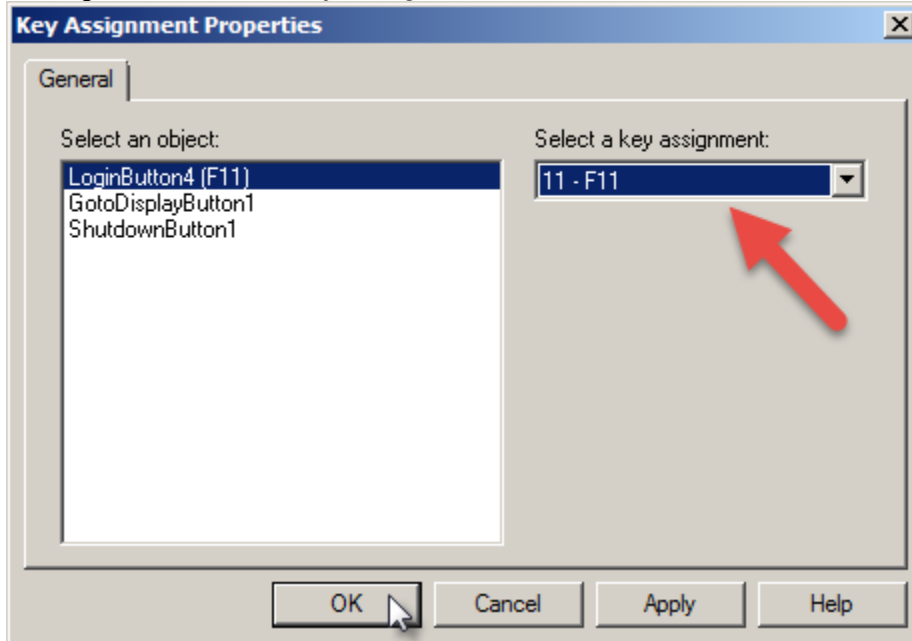


Key Assignments for RF IDEas

57. Right-Click the newly added Add User button and select **Key assignments**.



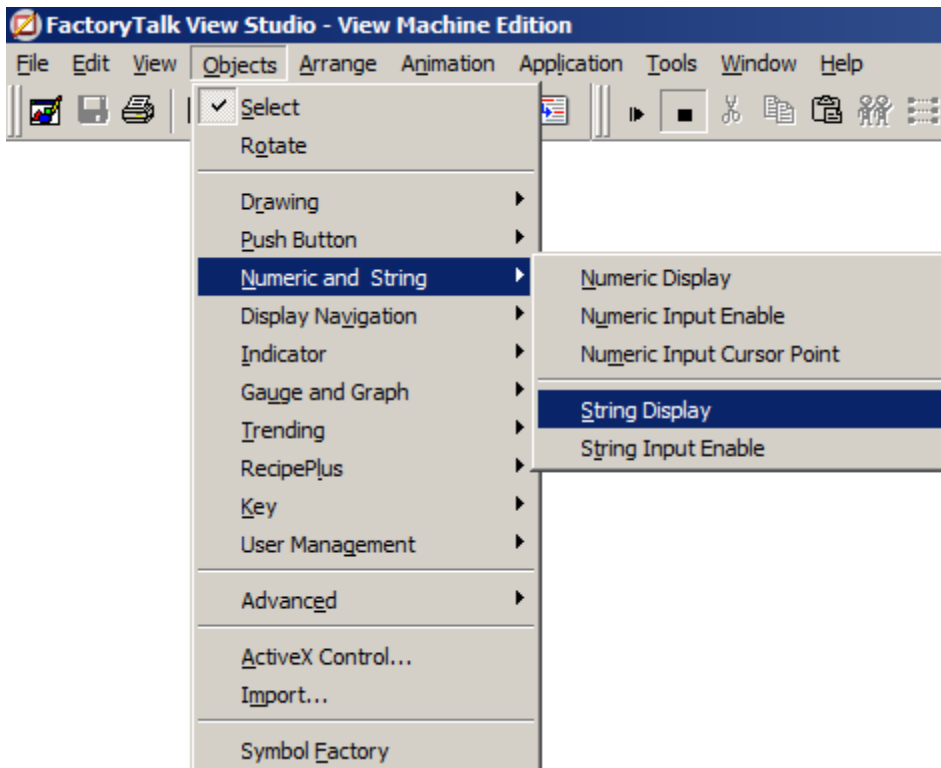
58. Change the *Select a key assignment* field to **11 – F11** and click **OK**.



F11 is used by default with the RF IDEas readers to login a user.

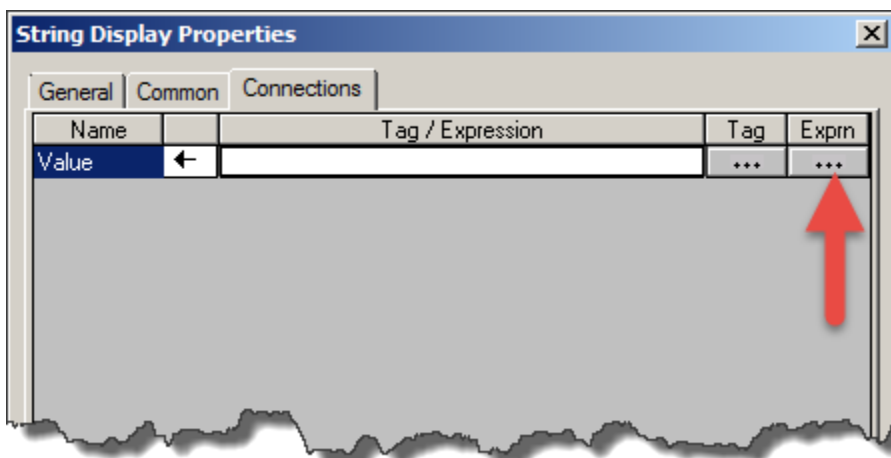
Display the logged in User

59. Add a String Display object. From the View Studio main menu, go to **Objects** → **Numeric and String** → **String Display**.

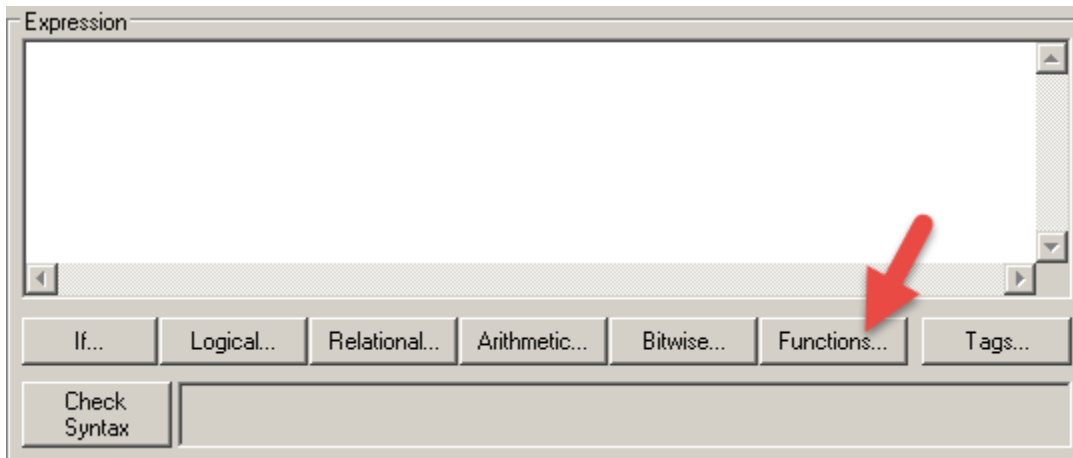


60. Add the new object somewhere on the display (size and location does not matter for this lab).

61. Once the object is added, the properties window is displayed automatically. Under the **Connections** tab, click the **Expression** button shown below.

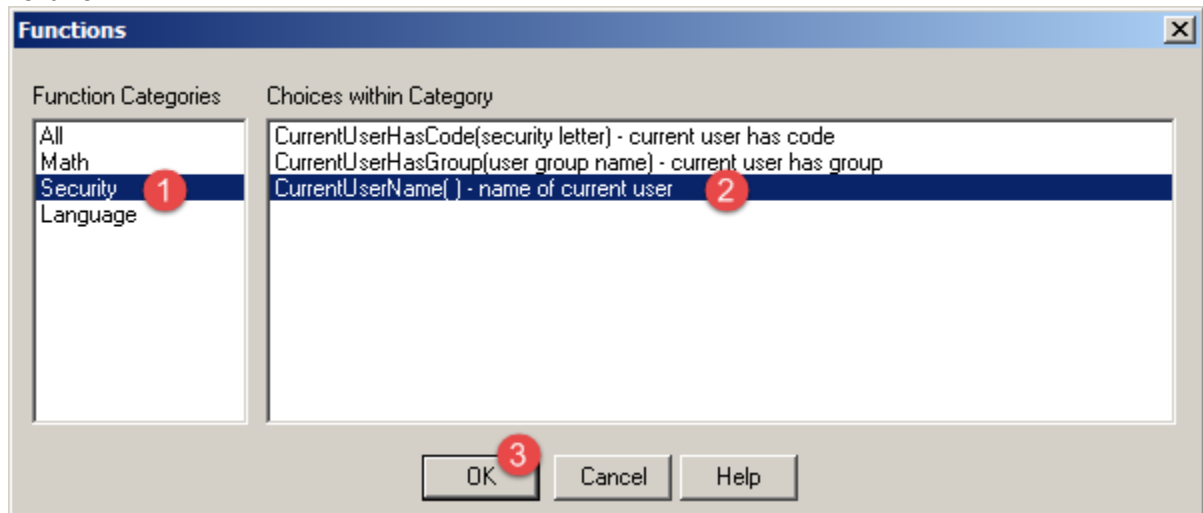


62. In the expression editor, click **Functions**.

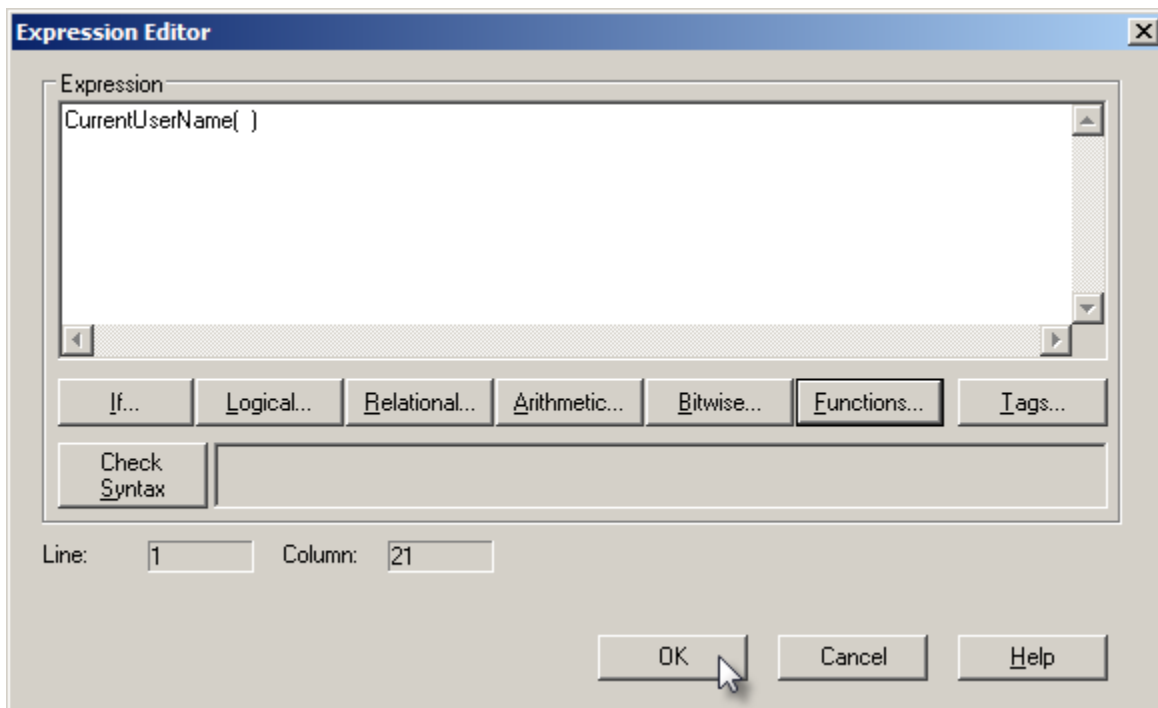


63. In the functions selection dialog,

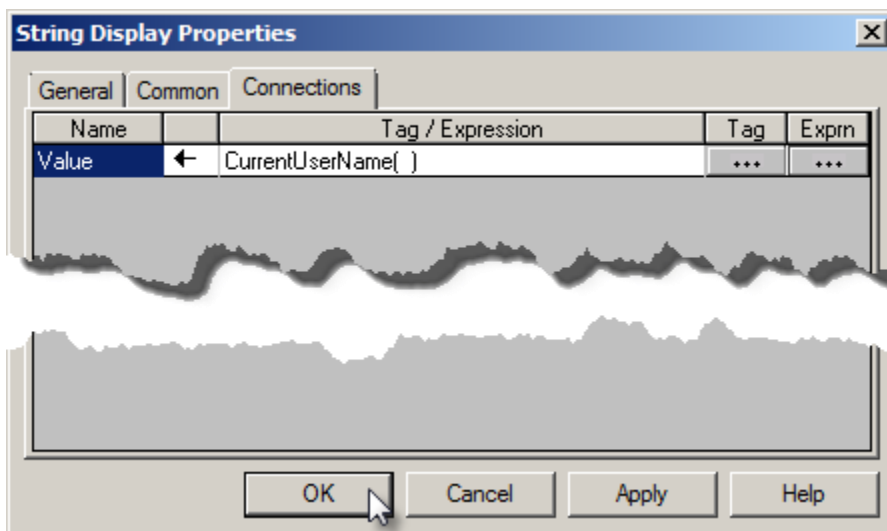
- Select the **Security** category.
- Select **CurrentUserName**
- Click **OK**.



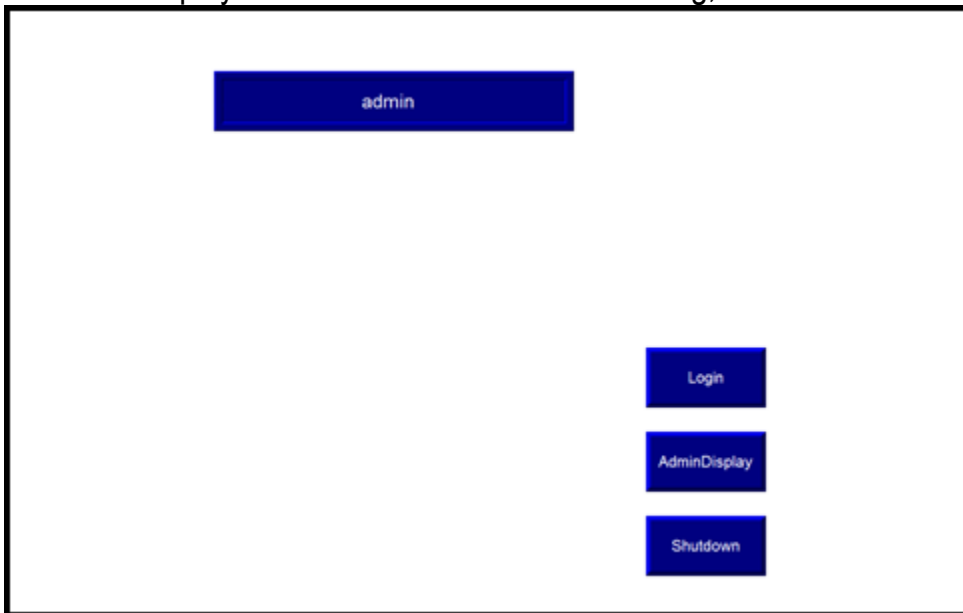
64. The function is added to the expression editor. Click **OK**.



65. Click **OK** to save and close the String Display Properties.



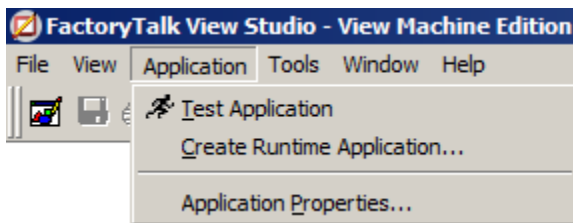
The Main display should look similar to the following,



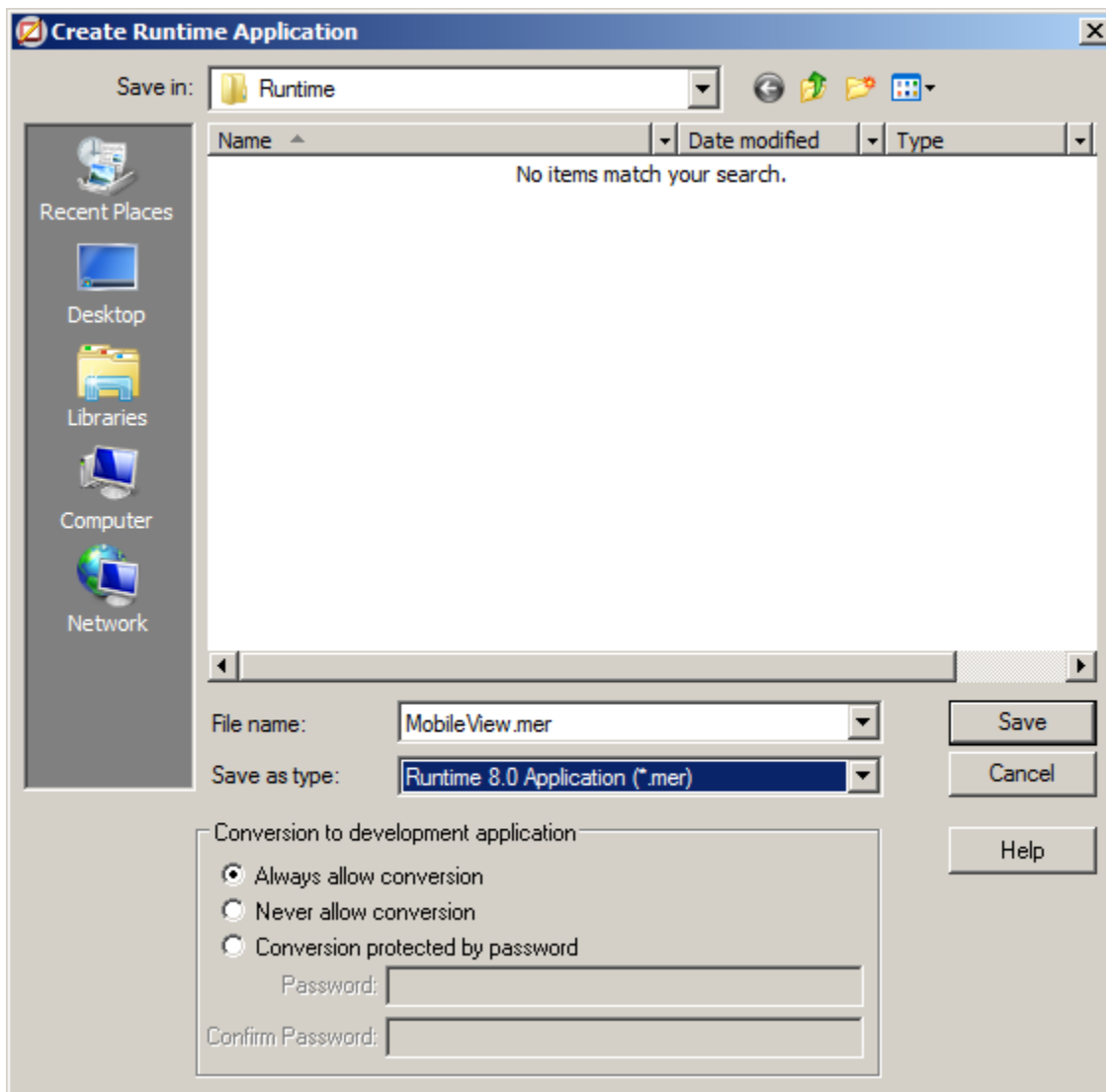
66. **Save**  the MAIN display.

Create Runtime Application

67. From the View Studio main menu, go to **Application** → **Create Runtime Application**.

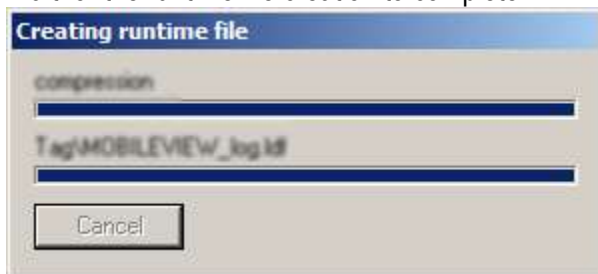


68. Save as type **Runtime 8.0 Application (*.mer)**



69. Click **Save**.

Wait for the runtime file creation to complete.



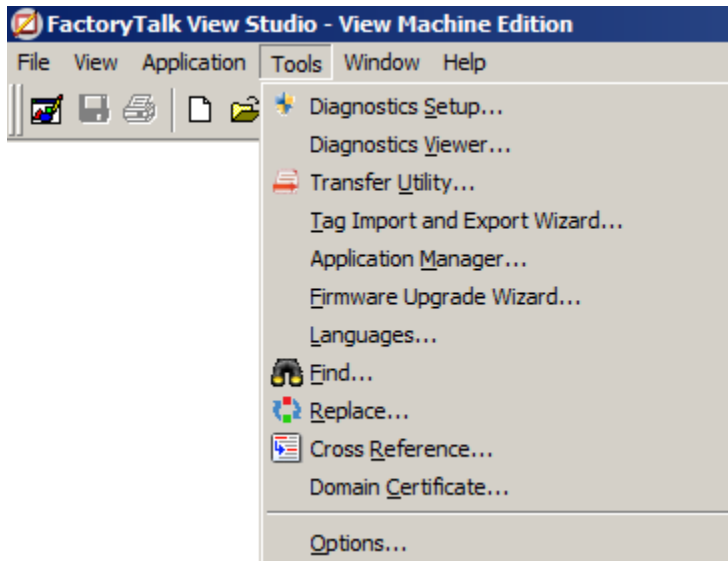
Transfer Application

There is no need to transfer the application to run it locally on your computer.

Use the network share to transfer the application to the MobileView.

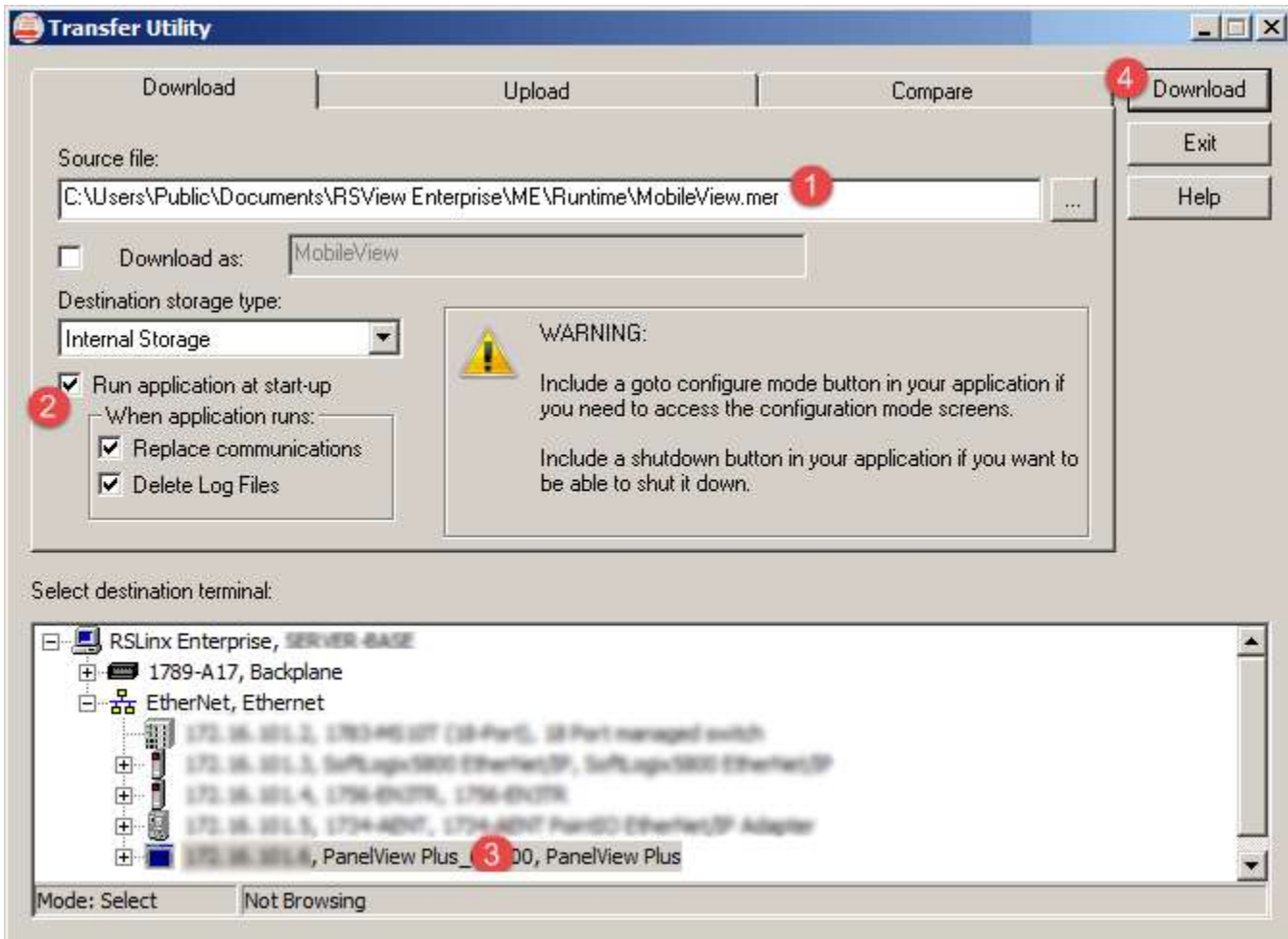
To transfer the application to the PVP7 Performance 15", please follow the steps below. Otherwise jump to page 48.

70. From the View Studio main menu, go to **Tools → Transfer Utility**.

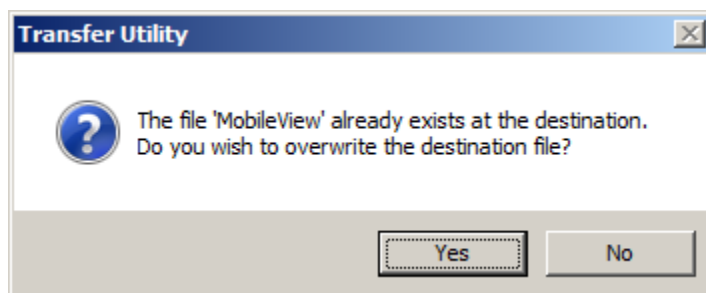


71. In the Transfer Utility window, please do the following,

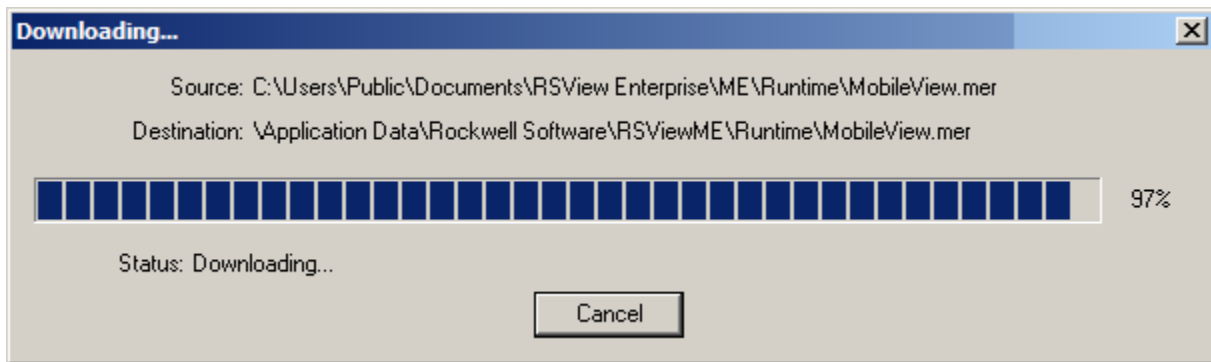
- Browse for the MER file that we saved under the default location.
- Check the box to **Run application at start-up**
- Select the PanelView Plus at your station.
- Click **Download**.



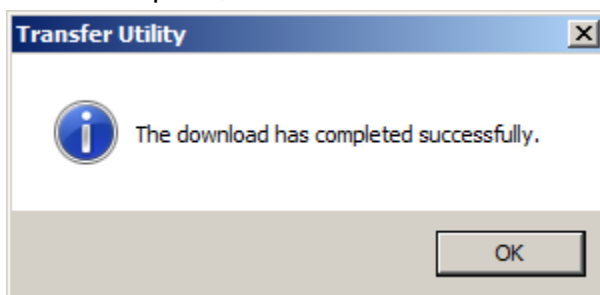
72. If the file already exists, click **Yes** to replace.



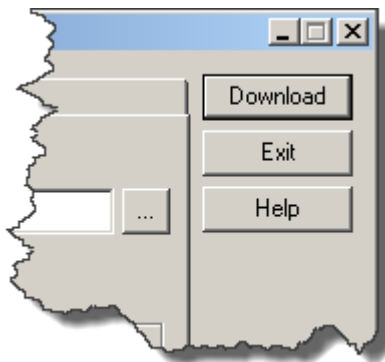
Wait for the transfer to complete



73. When complete, click **OK**.

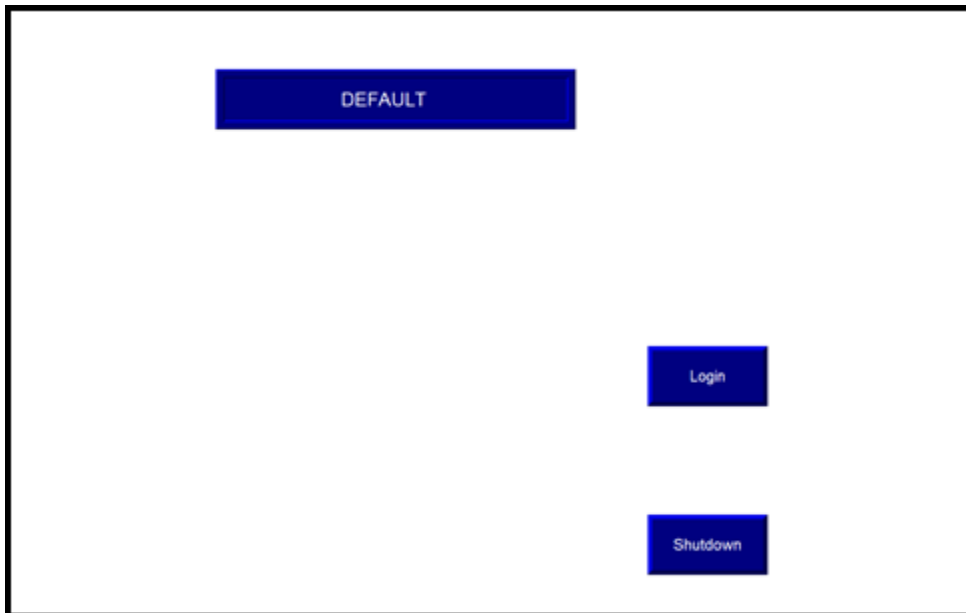


74. Click **Exit** to close the Transfer Utility.

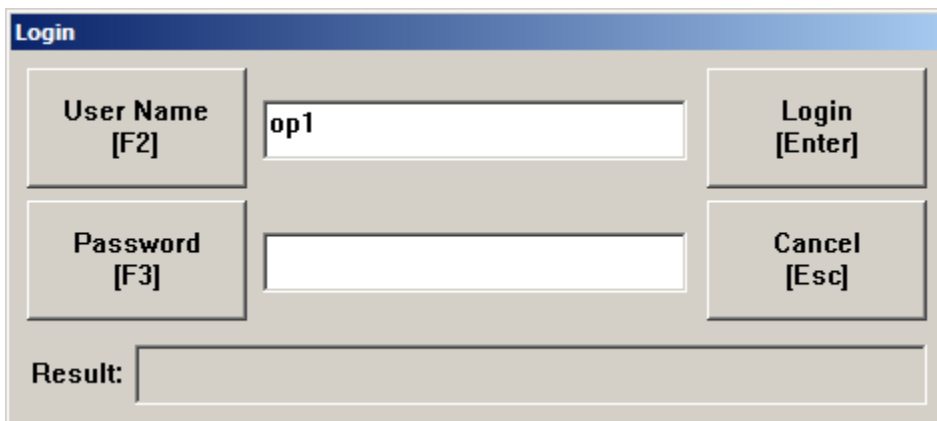


Test your Application

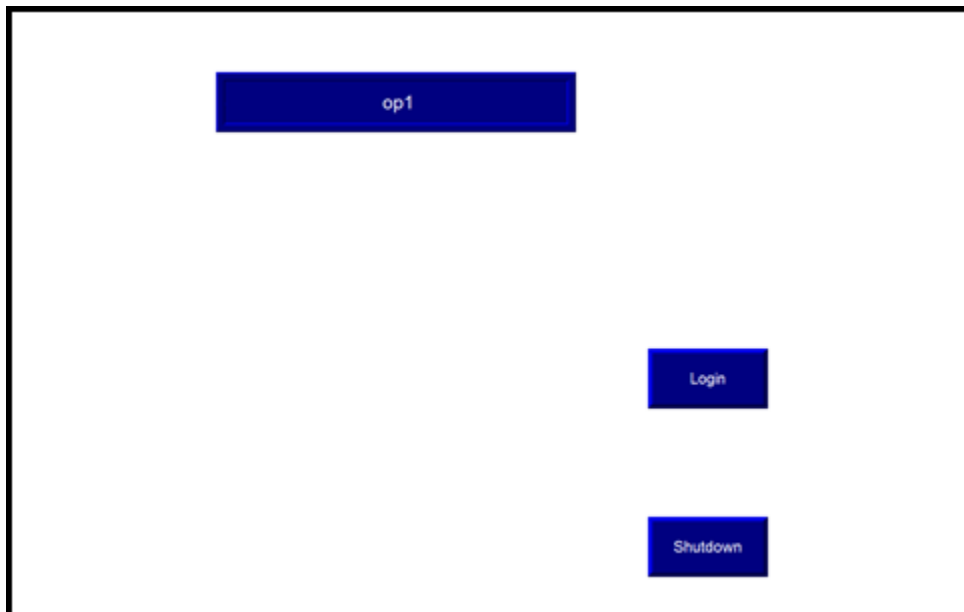
75. With the application running, the MAIN display is shown first and the current DEFAULT user is shown as logged in. NOTE that the navigation button to the AdminDisplay is not visible. Tap the **Login** button.



76. At the login prompt, enter **op1** as the User name and Tap **Login [Enter]**.

A screenshot of a "Login" dialog box. The title bar is blue with the word "Login" in white. The dialog has a light gray background. It contains two input fields: the first is labeled "User Name [F2]" and contains the text "op1"; the second is labeled "Password [F3]" and is empty. To the right of the first input field is a button labeled "Login [Enter]". To the right of the second input field is a button labeled "Cancel [Esc]". At the bottom left, there is a label "Result:" followed by an empty rectangular box.

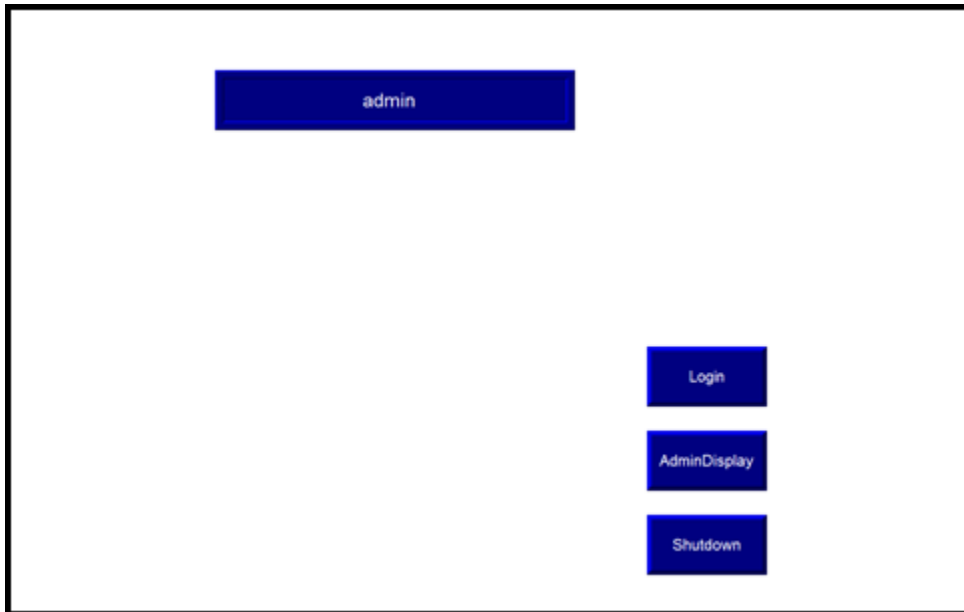
77. The MAIN display will reflect the new user that is logged in now (op1) and the navigation button to the AdminDisplay is still not visible. The username op1 is not part of the administrators group. Tap **Login** again.



78. At the login prompt, enter **admin** as the User name and Tap **Login [Enter]**.

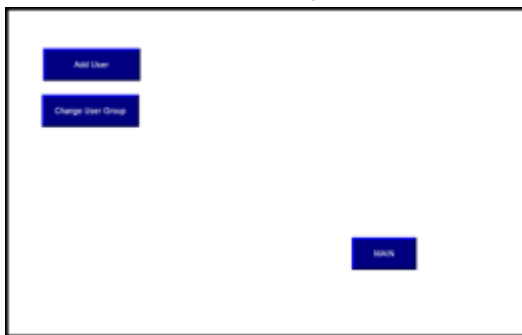
A screenshot of a 'Login' dialog box. The title bar is blue and says 'Login'. The main area has a light gray background. On the left, there are two labels: 'User Name [F2]' and 'Password [F3]'. To the right of 'User Name' is a text input field containing the word 'admin'. To the right of 'Password' is an empty text input field. Further to the right are two buttons: 'Login [Enter]' and 'Cancel [Esc]'. At the bottom left, there is a label 'Result:' followed by a wide, empty text input field.

79. The MAIN display will reflect the new user that is logged in (admin) and the navigation button to the AdminDisplay is now visible. The username admin is part of the administrators group. Tap **AdminDisplay**.



RF IDEas reader in action at runtime

You should now be looking at the AdminDisplay.



80. With the AdminDisplay open, simply swipe your HID card across the RFID reader.



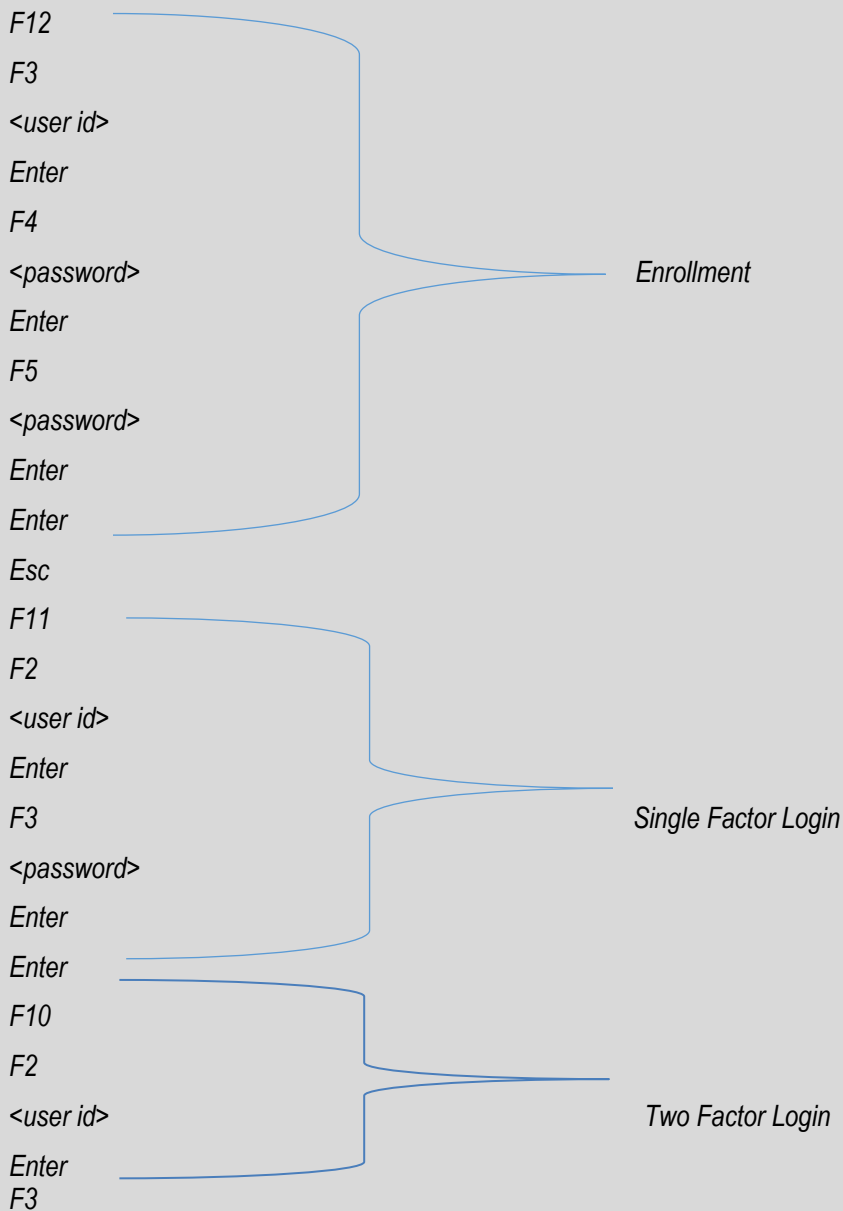
You have just added the card that was swiped as a new user to the application. It is that simple!!!!

How the RFID Card Reader Works

The F11 key is assigned to the Login button in the Machine Edition application. The F12 key is assigned to the Add User button – this button performs the FactoryTalk Security enrollment function.

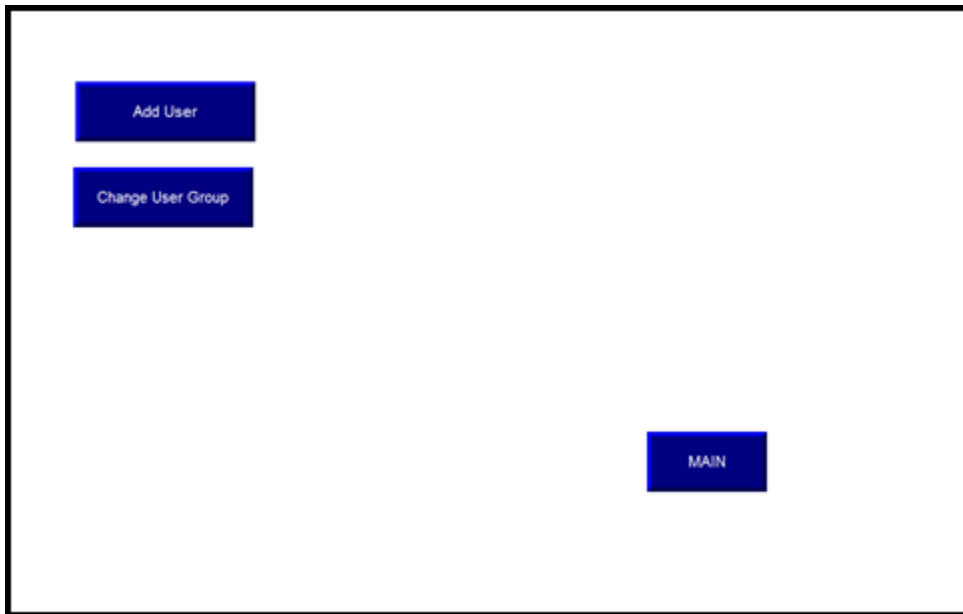
Single Factor Logon, Two-Factor Logon, and Enrollment are all possible with the same reader. All you have to do is assign the appropriate function keys in your application – F10, F11, or F12.

Every time the RFID card is swiped, the reader sends the following:

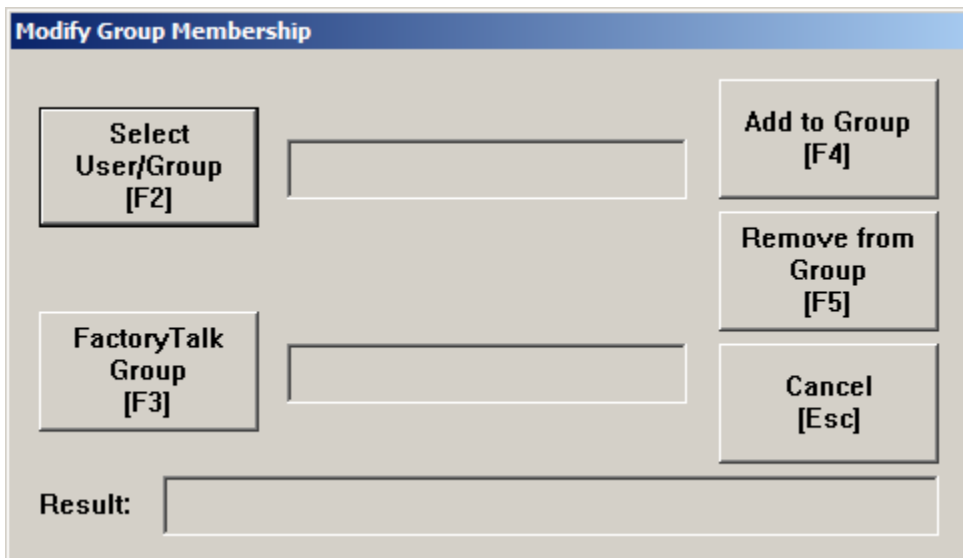


So, depending on which display has focus and which function key is assigned (F10, F11, or F12) the appropriate text entry popup is launched.

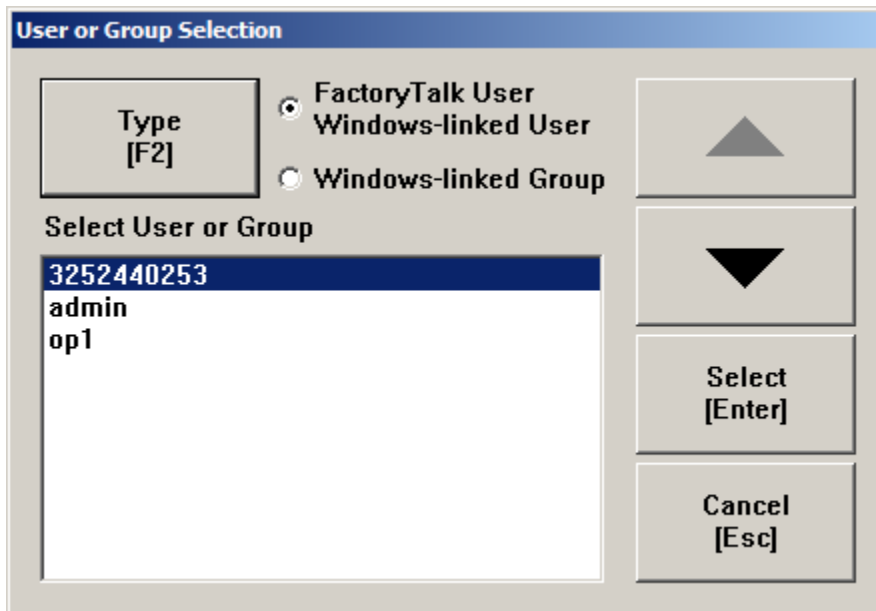
81. Before we can test logging in with the card we swiped, we have to add it to a user group. Tap the ***Change User Group*** button.



82. Tap ***Select User/Group [F2]***



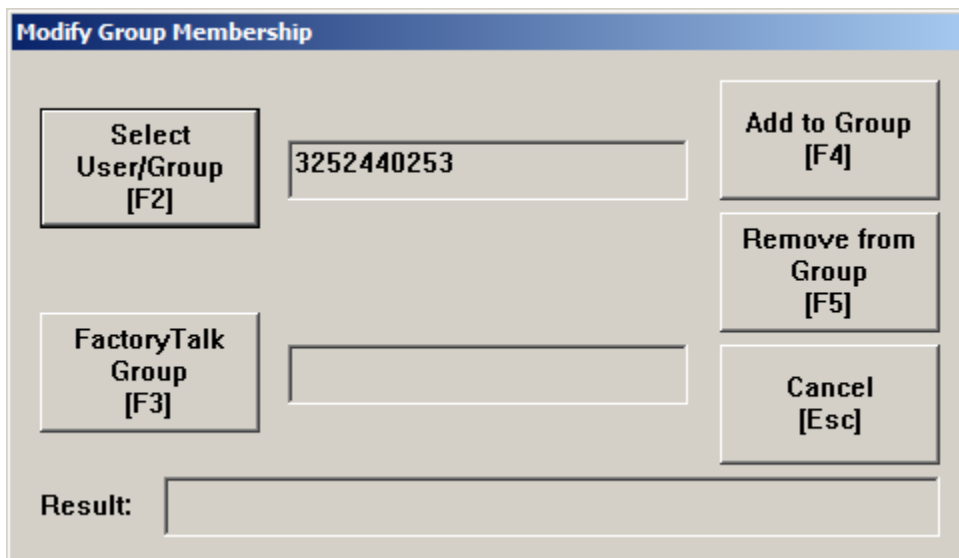
83. Select the newly added card ID. *Note that your card ID will not match the card ID shown below.*



The 'User or Group Selection' dialog box features a title bar with the same name. On the left, a 'Type [F2]' button is positioned above a list box titled 'Select User or Group'. The list box contains three entries: '3252440253' (highlighted in blue), 'admin', and 'op1'. To the right of the list box are three vertically stacked buttons: an upward-pointing arrow, a downward-pointing arrow, and a 'Select [Enter]' button. Below these is a 'Cancel [Esc]' button. At the top right, there are two radio buttons: 'FactoryTalk User' (which is selected) and 'Windows-linked User', followed by a 'Windows-linked Group' radio button.

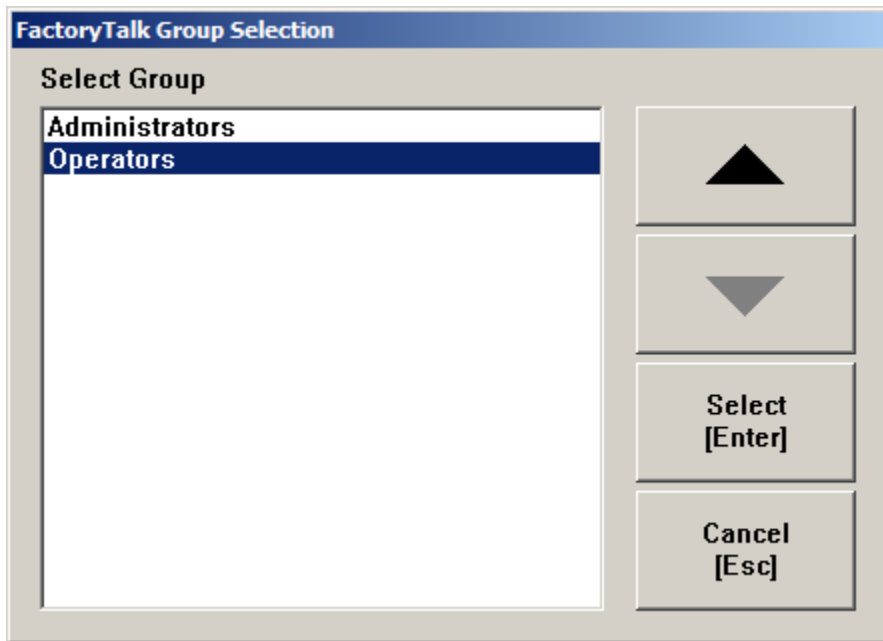
84. Tap **Select [Enter]** shown above.

85. Tap **FactoryTalk Group [F3]**



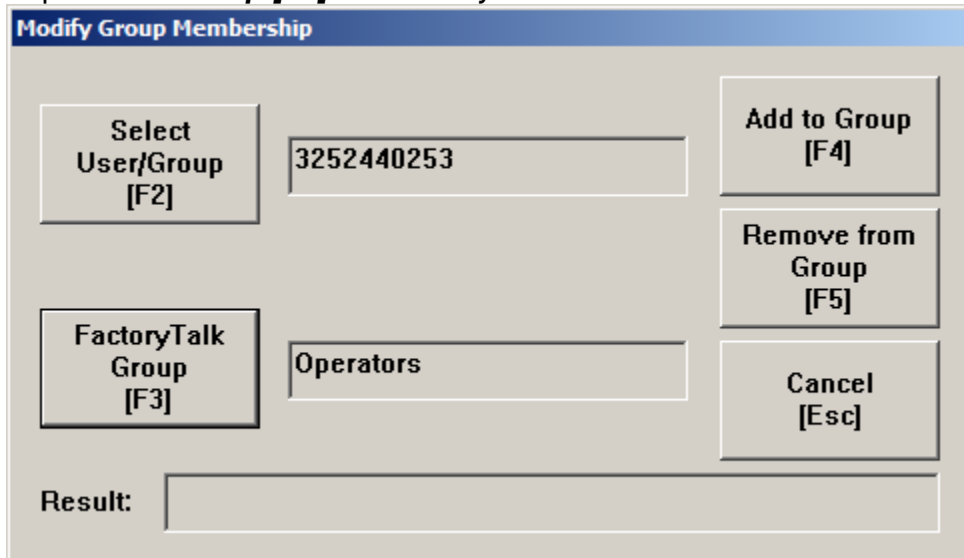
The 'Modify Group Membership' dialog box has a title bar with the same name. It contains two main sections. The top section has a 'Select User/Group [F2]' button on the left, a text box in the center containing '3252440253', and two buttons on the right: 'Add to Group [F4]' and 'Remove from Group [F5]'. The bottom section has a 'FactoryTalk Group [F3]' button on the left, an empty text box in the center, and a 'Cancel [Esc]' button on the right. At the bottom left, there is a 'Result:' label followed by an empty text box.

86. Select the **Operators** group and tap **Select [Enter]**



The dialog box is titled "FactoryTalk Group Selection". It features a list box on the left with the heading "Select Group". The list contains two items: "Administrators" and "Operators", with "Operators" selected and highlighted in blue. To the right of the list box are four buttons: an up arrow, a down arrow, a "Select [Enter]" button, and a "Cancel [Esc]" button.

87. Tap **Add to Group [F4]**. Note that your card ID will not match the card ID shown below.



The dialog box is titled "Modify Group Membership". It contains several input fields and buttons. On the left, there are two buttons: "Select User/Group [F2]" and "FactoryTalk Group [F3]". To the right of the "Select User/Group" button is a text field containing the card ID "3252440253". To the right of the "FactoryTalk Group" button is a text field containing the group name "Operators". On the far right, there are three buttons: "Add to Group [F4]", "Remove from Group [F5]", and "Cancel [Esc]". At the bottom left, there is a label "Result:" followed by an empty text field.

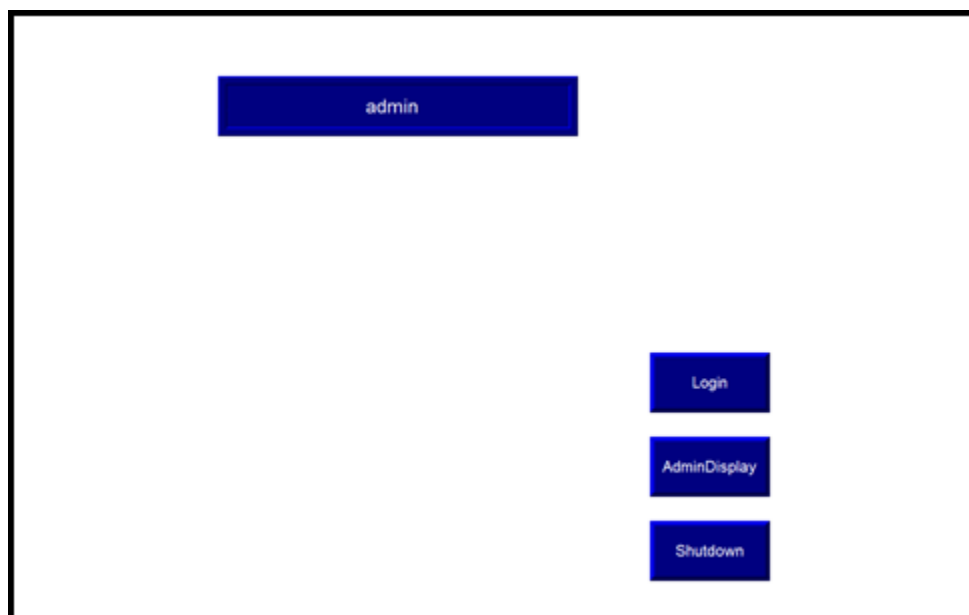
The result field displays whether we were successful or not. In this case, the user was added successfully to the user group 'Operators'. *Note that your card ID will not match the card ID shown below.*

The screenshot shows a window titled "Modify Group Membership". It contains two input fields on the left. The top field is labeled "Select User/Group [F2]" and the bottom field is labeled "FactoryTalk Group [F3]". To the right of these fields are three buttons: "Add to Group [F4]", "Remove from Group [F5]", and "Cancel [Esc]". At the bottom, a "Result:" label is followed by a text box containing the message: "Added user '3252440253' to user group 'Operators'."

88. Navigate back to the MAIN display by tapping on the **MAIN** button.

The screenshot shows a screen with three blue buttons. Two buttons are stacked vertically on the left: "Add User" (top) and "Change User Group" (bottom). A single button labeled "MAIN" is positioned at the bottom center of the screen.

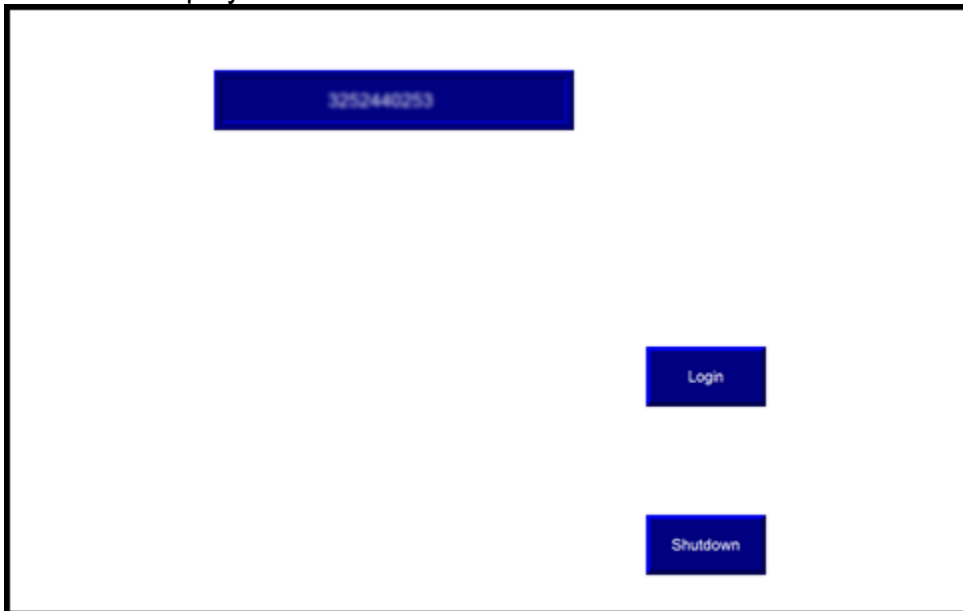
You should now be looking at the MAIN display.



89. Swipe your HID card across the RFID reader.



You are now logged in as the HID card ID. Recall that we added the card as a member to the Operators group. Since it is not a member of the Administrators group, the navigation button to the AdminDisplay is not visible.



You have successfully completed this lab!

Notes

Notes

