



# Reflection Desktop 16.2

Screen Designer User Guide

**Micro Focus**  
**The Lawn**  
**22-30 Old Bath Road**  
**Newbury, Berkshire RG14 1QN**  
**UK**  
**<http://www.microfocus.com>**

**© Copyright 1984-2022 Micro Focus or one of its affiliates.**

**MICRO FOCUS, the Micro Focus logo and Rumba, Reflection are trademarks or registered trademarks of Micro Focus or one of its affiliates.**

**All other marks are the property of their respective owners.**

**2022-08-02**

# Contents

<b>About This Guide .....</b>	<b>6</b>
Who should read this guide .....	6
Prerequisites .....	6
Accompanying files .....	6
Additional resources .....	6
Conventions used in this guide .....	6
<b>Introduction .....</b>	<b>8</b>
Terminology .....	8
How it works .....	8
Architecture .....	9
What's new in this version .....	9
<b>Using the Screen Designer .....</b>	<b>10</b>
Getting started .....	10
Extracting the package files .....	10
Connecting to the Demo Host .....	10
Creating a history file .....	12
Recording history .....	12
Saving the history to a file .....	14
Opening the Screen Designer .....	14
Starting a new project .....	15
Importing history .....	15
Selecting a theme .....	16
Adding controls .....	16
Adding a Button control .....	17
Adding a Chooser control .....	19
Adding a Tooltip control .....	22
Adding an AutoExecution control .....	22
Adding an Image control .....	24
Adding a MessageBox control .....	26
Adding a Label control .....	27
Adding a Calendar control .....	28
Adding a GridCollector control .....	30
Adding a Table control .....	33
Adding a Collector control .....	34
Adding a WebFrame control .....	35
Adding a Tab control .....	36
Adding an InputField control .....	38
Adding a RadioButton control .....	40
Adding a CheckBox control .....	41
Adding a MultiLine control .....	43
Taking the project live .....	43
Creating a Plus archive .....	44
Associating a customization file with a host session .....	44
Testing the screens .....	44
<b>Using the Rule Manager .....</b>	<b>50</b>
When to use the Rule Manager .....	50
The Rule Manager window .....	50
The Rule Wizard .....	51
Examples .....	52
Adding Button or Tooltip controls to entire applications .....	52

Adding controls to screens within subsystems .....	53
Adding rules to be used on a set of screens .....	53
Adding controls to each line on a screen .....	55
Using operands in rules .....	56
Using variables in rules .....	57
<b>Types of Control .....</b>	<b>59</b>
AutoExecution .....	59
Button .....	59
Calendar .....	59
Using the Date Format dialog box .....	60
CheckBox .....	62
Chooser .....	63
Using a .CSV file to supply data .....	63
Loading data dynamically in a Plus session .....	64
Collector .....	64
GridCollector .....	65
Refreshing data .....	66
EndOfDataConditions properties .....	66
Syntax .....	67
Image .....	67
InputField .....	68
Label .....	68
Translating Label text .....	69
MultiLine .....	70
MessageBox .....	70
RadioButton .....	71
Tab .....	71
Table .....	72
Tooltip .....	74
WebFrame .....	75
Shared properties .....	76
Actions .....	78
The control context menu .....	79
<b>How To .....</b>	<b>81</b>
Use themes .....	81
Selecting a theme .....	81
Creating a Windows theme .....	82
Creating a green screen theme .....	82
Search history screens .....	83
Create modern screens with a screen canvas .....	83
Defining default canvas settings .....	83
Defining settings for a selected screen .....	84
Copying and pasting a screen canvas .....	85
Removing a screen canvas .....	85
Example .....	85
Identify screens .....	86
About screen identification .....	87
Specifying selection based screen identification .....	87
Specifying custom screen identification .....	88
Manage controls .....	88
Auto-generating controls .....	88
Changing the opacity level .....	89
Selecting multiple controls .....	89
Working with rule controls .....	89
Modify table data in Plus mode .....	90
Configuring table controls in the Screen Designer .....	90

Using Table controls in Plus mode .....	92
Execute a Table action relative to a row position .....	92
Use controls to set a variable .....	95
Use Web components in Plus .....	96
Passing parameters to an application or Web page .....	96
Creating Web objects and URLs .....	96
Import additional projects .....	98
Use the Screen Designer command line .....	98
Generating customization files .....	99
Importing project files .....	99
<b>Contacting Micro Focus .....</b>	<b>101</b>
Further information and product support .....	101
Information we need .....	101
Contact information .....	101

# About This Guide

This guide provides a step-by-step introduction to the Micro Focus Screen Designer.

The guide shows you how to:

- Create a history file
- Use the Screen Designer to customize a set of screens
- Use the customized screens in Plus mode.

A comprehensive [How To](#) section provides further information about customizing screens.



**Note:** You can only customize screens for 3270 mainframe and 5250 AS/400 (iSeries) sessions.

## Who should read this guide

This guide is intended to be read by all those interested in customizing green screen applications to create applications with a modern look and feel.

It is expected that readers would mostly be system administrators or other IT personnel with a similar level of expertise.

## Prerequisites

- Micro Focus Reflection Desktop 16.2
- Micro Focus Reflection Desktop Plus Add-On

## Accompanying files

The package file containing this guide also contains the following files:

- MF\_logo.png
- pie\_chart.png
- WebFrame\_URL.txt
- welcome.png

If you do not have these files, you will not be able to complete some of the exercises in this guide.

## Additional resources

In addition to this guide, a series of training videos is available on the Micro Focus Support & Training YouTube channel:



[https://www.youtube.com/playlist?list=PLIUdEXl83\\_XpQiv45UJauz1F0E23JaULI](https://www.youtube.com/playlist?list=PLIUdEXl83_XpQiv45UJauz1F0E23JaULI)

## Conventions used in this guide

The following typographic conventions are used in this guide:

This typeface ...	Is used for ...
<b>Bold</b>	Windows user interface elements such as window titles, fields, and buttons. Also used for keyboard keys.
Monospace	Host user interface elements such as screen titles and labels. Also used for file names as well as for text that you are asked to type.

#### Entering commands:

This instruction ...	Means this...
Enter TSOA	Type the TSOA command, then press the <b>Enter</b> key.

# Introduction

You use the Screen Designer to provide a modern look and feel to green screen applications and make them easier to use. You do this without touching any application code.

When you have customized a set of screens in the Screen Designer, you create a file which you then link to a host session. When you run the host session in Plus mode, you see modernized screens instead of standard green screens.

This guide provides instructions for you to start using the Screen Designer to customize green screens.



**Note:** For the purposes of this guide, only 3270 mainframe screens are used. However, you can also use the same principles to customize 5250 AS/400 (iSeries) screens.

## Terminology

### Screen Designer

The customization engine for Plus. It consists of two parts:

#### Screen Design view

Used to add static controls on specific screens.

#### Rule Manager window

Used to add dynamic or conditional controls on multiple screens.

### Control

A modern visual element that interacts with a green screen. For example, a button.

### Rule

A mechanism that automatically creates one or more conditional controls on one or several screens, managed by rules.

### Plus

The middleware used to run green screen applications with a modern interface using projects created in the Screen Designer.

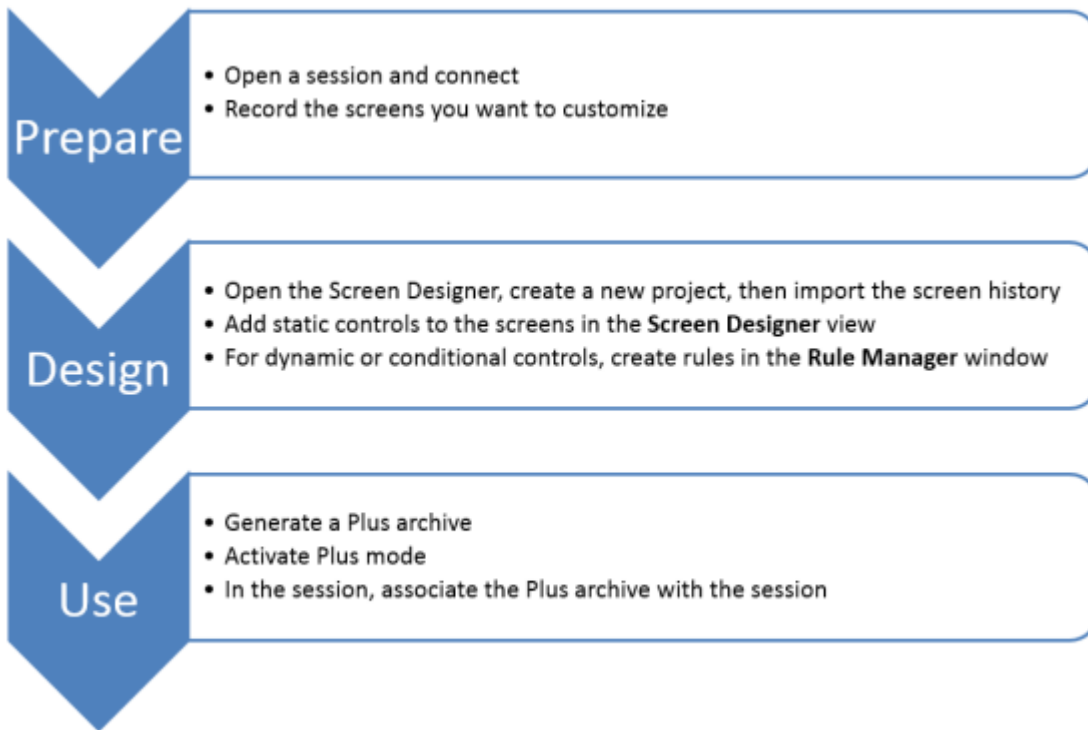
### Plus archive

A collection of files and settings that define screen customizations created in the Screen Designer and used in a Plus host session.

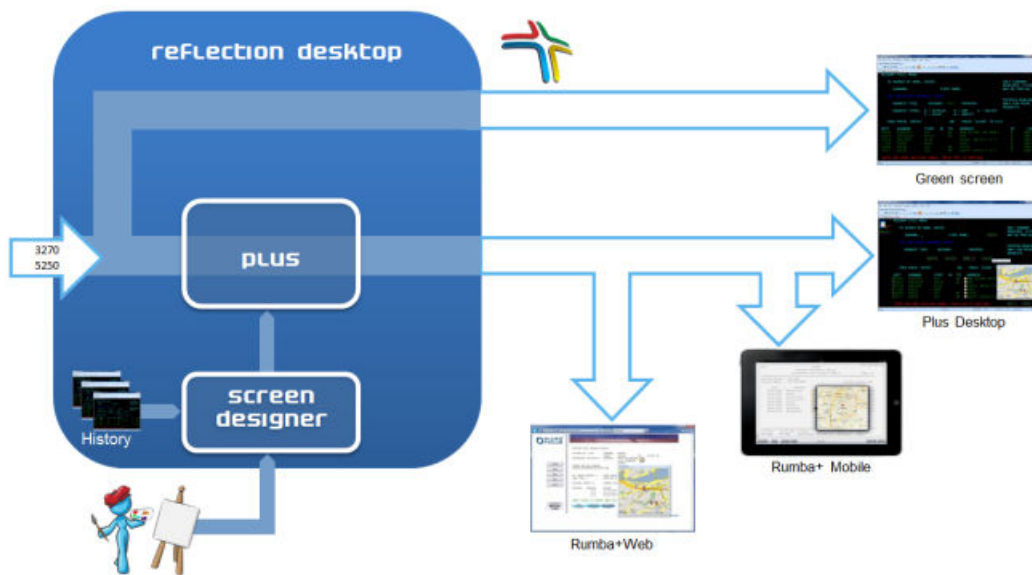
## How it works

The figure below provides an overview of what you do to create and use customized screens:





## Architecture



## What's new in this version

# Using the Screen Designer

This section provides a step-by-step guide to creating a customization project. You add a number of controls to various green screens to create a project, then see the results of the customization in Plus mode.

## Getting started

Before you start using the Screen Designer, you need to:

- Extract the files that came with this guide.
- Connect to the Demo Host.

## Extracting the package files

Extract the following files from the package .ZIP file to your local machine:

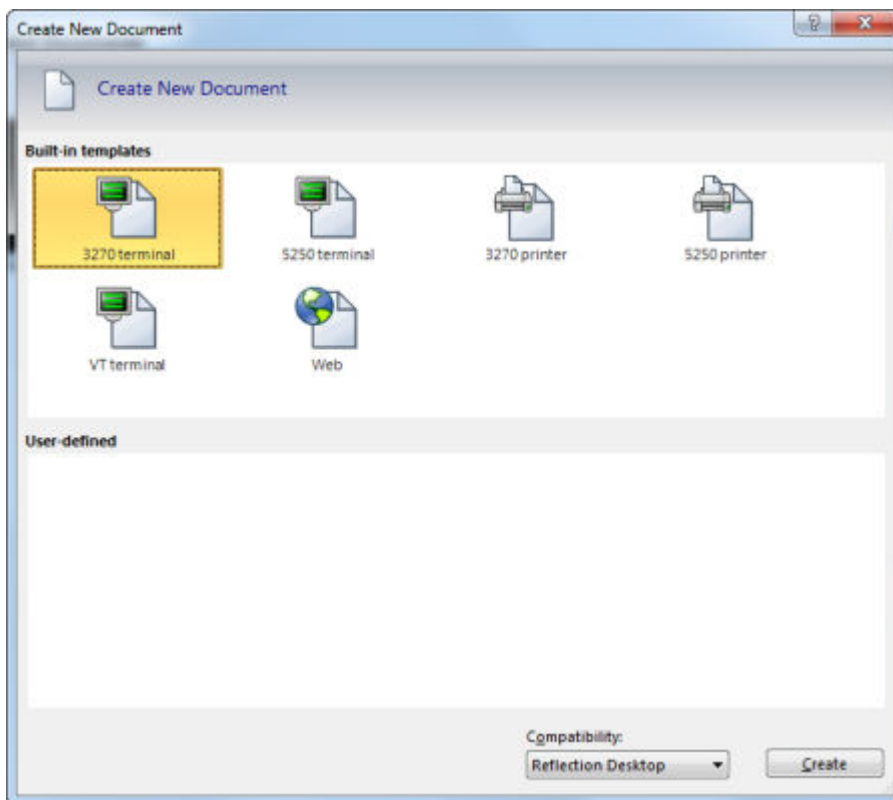
- MF\_Logo.png
- pie\_chart.png
- WebFrame\_URL.txt
- welcome.png

Make a note of where you save the files because you will need them later.

## Connecting to the Demo Host

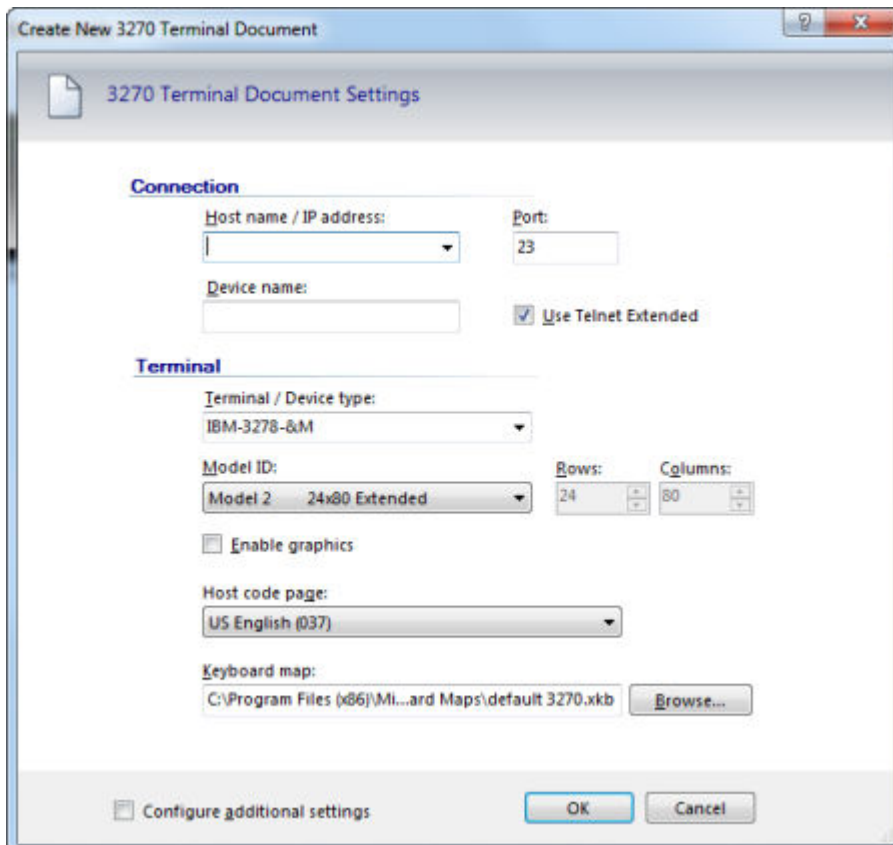
1. From the Windows **Start** menu, select: **Start > All Programs > Micro Focus Reflection > Reflection Workspace**

Reflection starts, showing the **Create New Document** window:



2. Select **3270 Terminal** and click **Create**.

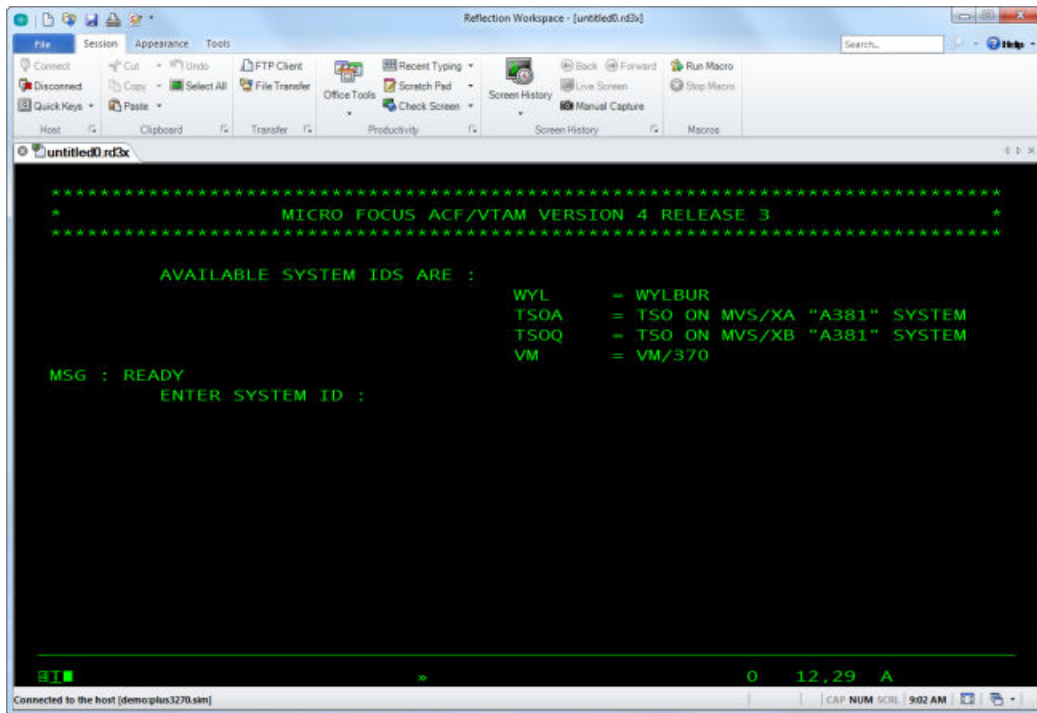
The **Create New 3270 Terminal Document** window appears:



3. In the **Host name / IP address** field, type: `demo:plus3270.sim`

4. Click **OK**.

The **Create New Document** window closes and the host session starts automatically:



5. Click **File > Save As**.

The **Save As** window appears.

6. In the **File name** field, type Demo Host, then click **Save**.

## Creating a history file

Before you start customizing screens, you need to capture a set of screens in a history file. This section describes how to record a sequence of screens to use in the Screen Designer.

### Recording history

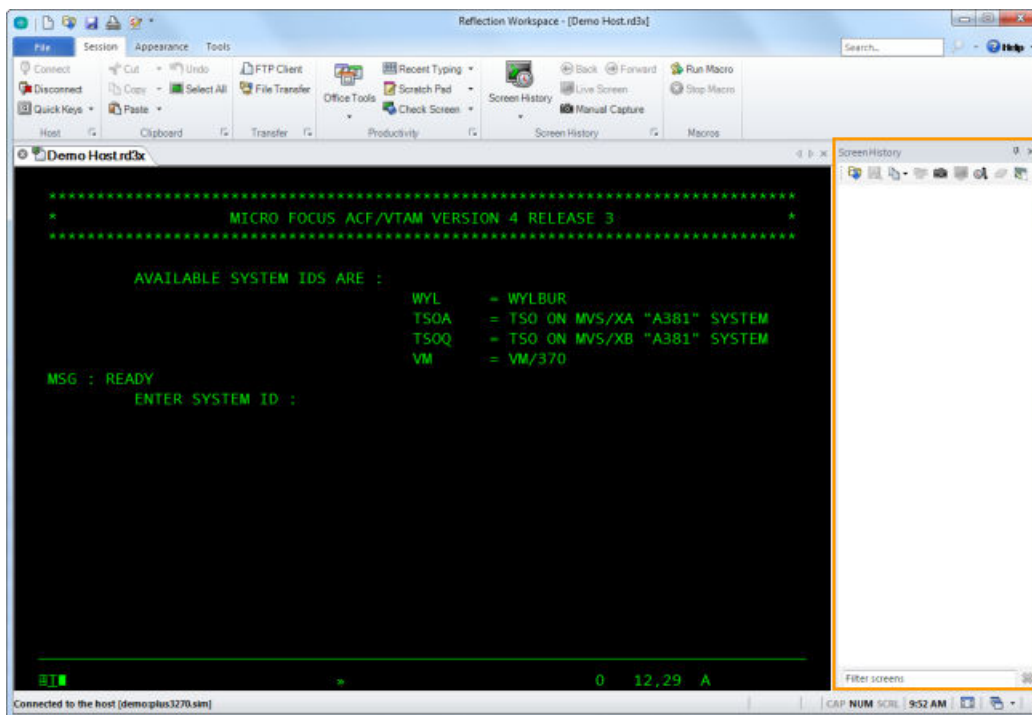
To create a history file:

1. Select **Session tab > Screen History**.

The **History** pane appears.

2. Select **Session tab > Screen History group > Screen History**.

The **Screen History** pane appears:



3. At the ENTER SYSTEM ID : prompt, enter:

TSOA

The screens start to be recorded.

4. At the ENTER LOGON ID: prompt, press **Enter**.
5. At the LAST SYSTEM ACCESS prompt, press **Enter**.

The READY prompt appears.

6. Click the **Manual Capture** icon  on the **History** pane toolbar.

This shows how you can capture individual screens. There are two reasons you might want to capture a screen manually:

- You switched off screen history but need to capture a screen.
- You modified one or more unprotected fields on a screen and want to capture the screen with the modifications.

7. Enter:

TOYS

8. At the TOPCO TOYS, INC screen, press **Enter**.

9. Enter O.

10. At the CUSTOMER SCREEN, press PF8.

11. At the DETAIL LINE ENTRY SCREEN, press **Enter**.

12. At the READY prompt, enter:

E

13. At the TOP OF DATA screen, press **Enter**.

14. At the READY prompt, enter:

R

15. At the TOPCO TOYS, INC screen, press PF3.

16. At the READY prompt, enter:

A

17. At the EXTENDED ATTRIBUTE TEST screen, press PF3.

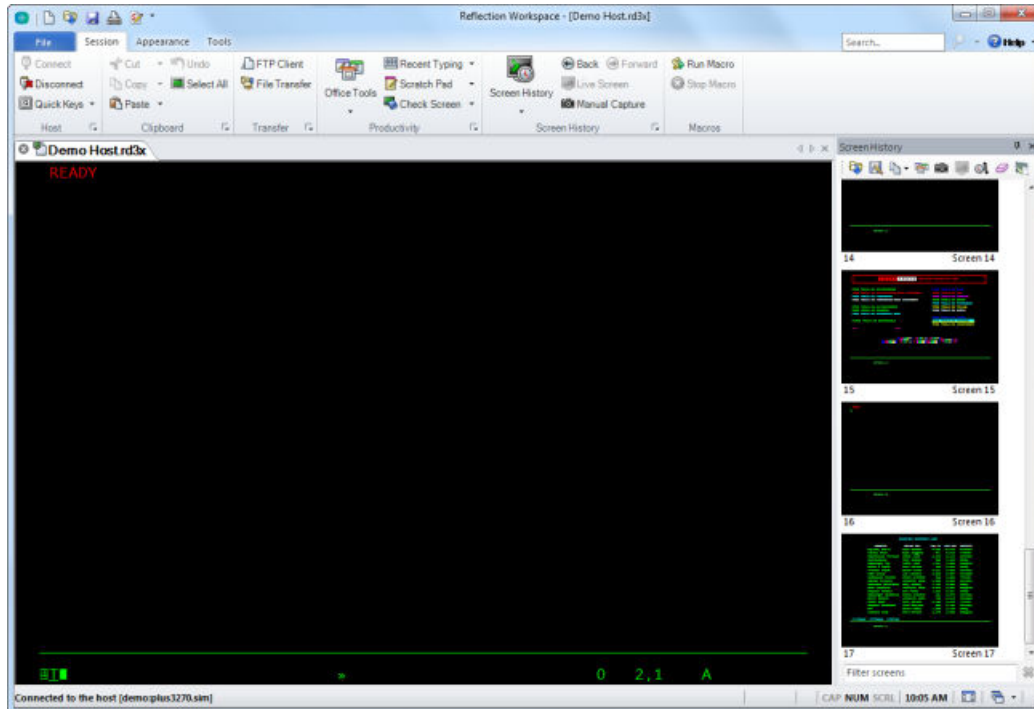
18. At the READY prompt, enter:

C

The EUROPEAN CUSTOMER LIST screen appears.

19. Press PF1.

Each screen has been added, in sequence, to the **History** pane:



## Saving the history to a file

To save the recorded history to a file:

1. Select **Appearance** group > **Plus** tab > **Plus** > **Export History for Screen Designer**.

The **Save As** dialog box appears.

2. In the **File name** field, type DemoHistory.

3. Click **Save**.

You now have a number of screens to use in your customization project.

4. Select **Session** tab > **Screen History**.

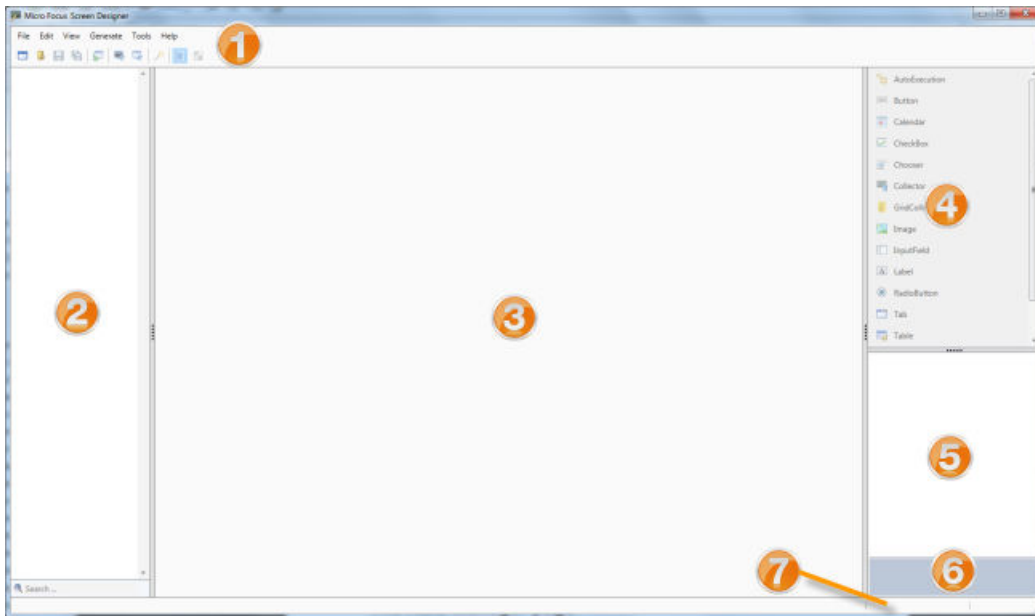
The **History** pane closes.

5. Select **Session** tab > **Host** group > **Disconnect**.

## Opening the Screen Designer

To open the Screen Designer, select **Appearance** tab > **Plus** group > **Plus** > **Screen Designer**.

The **Screen Designer** window appears:



1

Screen Designer menu bar and toolbar.

2

History pane. Contains thumbnails of all the screens recorded in the imported history file, together with a search box to search and filter screens.

3

Work area. Contains a full size version of the selected thumbnail. Shows the controls associated with the screen.

4

Control panel. Contains a list of available controls that can be applied to the screen in the work area.

5

Property grid. Contains a list of available properties for the selected control.

6

Property description. Provides a description of the selected property in the property grid.

7

Status bar. Displays the coordinates of the cursor. Useful when looking for coordinates of fields.

## Starting a new project

1. Select **File > New Project**

The **New Project** dialog appears.

2. In the **Name** field, type a name for your project, such as `DemoHost`, then click **OK**.

## Importing history

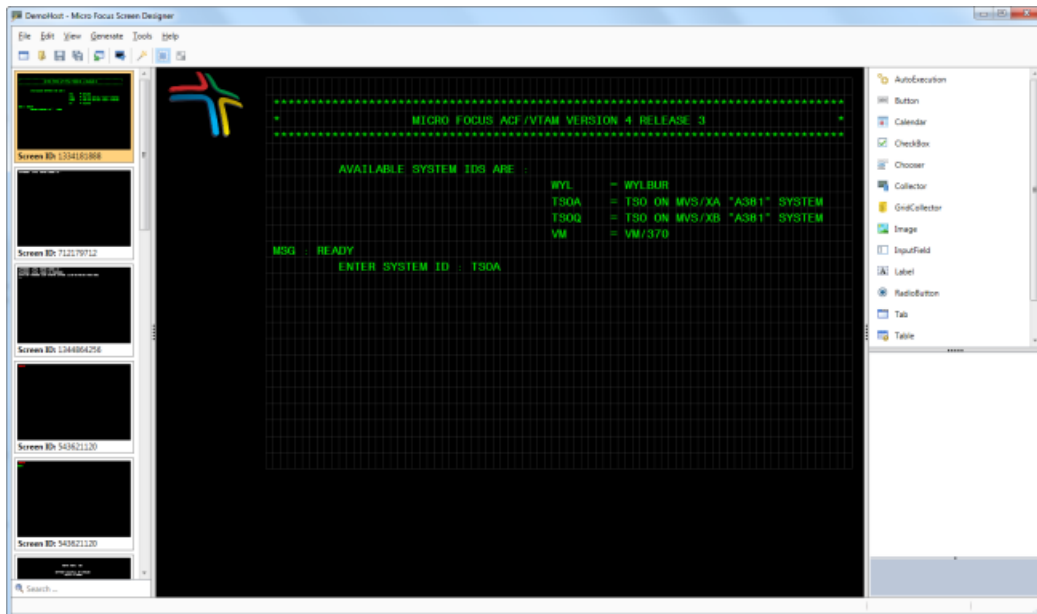
1. Select **File > Import History**.

The **History Import** dialog box appears.

2. Choose your history file, then click **Open**.

Thumbnails of the recorded screens appear in the history pane. Each screen has a unique screen ID. You can also create screen identifications instead of, or in addition to this default ID (see [Identify screens](#)).

The first screen is selected by default and a larger version of it appears in the work area:



3. Select **File > Save Project**.



**Note:** It is always good practice to save your project after you have made any changes to it.

## Selecting a theme

A theme defines the layout of the screen and the look of each control across all screens in a customization project.

It is best to choose a theme early in the customization project.

To select a theme:

1. Select **Tools > Project Settings**

The **Project Settings** dialog box appears.

2. Click **Themes** in the left pane.

3. Click **Change** in the right pane. The **Choose Theme** dialog box appears.

4. In the left pane, select the **Plus Windows Theme** thumbnail.

5. Click **OK**.

6. Click **OK** in the **Project Settings** dialog box.

The theme is applied to all the screens in your project.

For more information about themes, see [Using themes](#).


## Adding controls

You will now use the **Screen Design** view to add controls to your screens.




You use the **Screen Design** view to add static controls to specific screens. To add dynamic controls, controls that repeat on multiple screens or many times on a single screen, you use the Rule Manager. For information about the Rule Manager, see [Using the Rule Manager](#).

As you go through this section, you add controls to your captured screens progressively. We recommend that you add the controls in the order they are described to build a completed project.

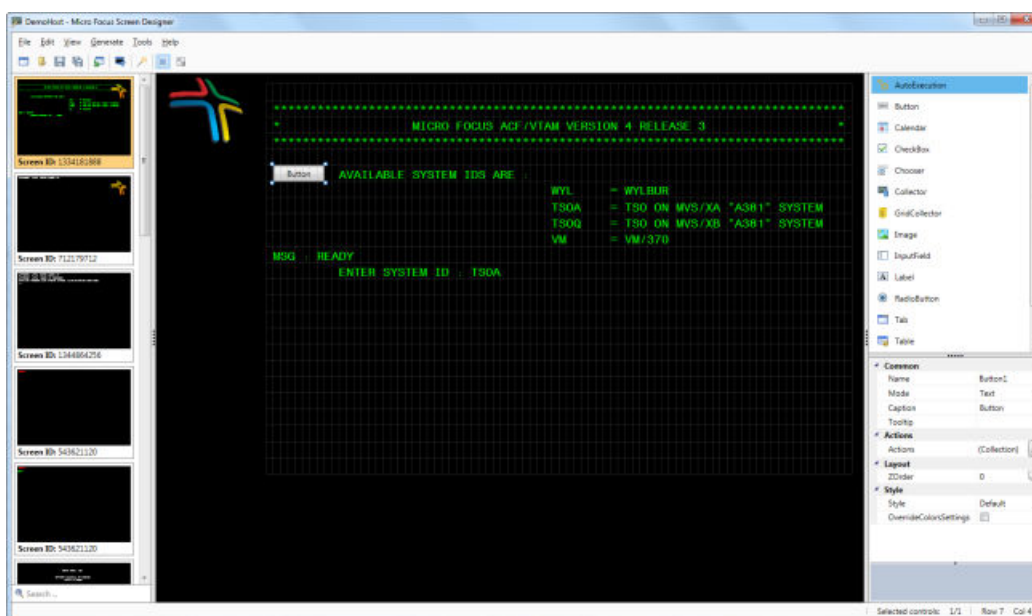
 **Note:** It is important to remember that, while the Screen Designer is a very powerful tool, it is not WYSIWYG. You should always adopt an approach of design and test to ensure that what you do in the Screen Designer has the desired appearance in Plus mode.


## Adding a Button control

Button triggers an action or a sequence of actions when clicked.

 **Note:** In this section you use the MF\_Logo.png file supplied with the package file.

1. Ensure the first thumbnail is selected.
2. Drag the Button control icon from the control panel on to the work area and drop it to the left of the AVAILABLE SYSTEM IDS ARE row.

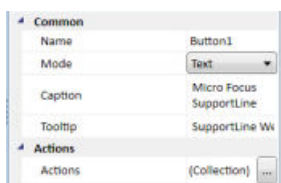


 **Note:** When you drop the control on the screen, the property grid is populated.

3. In the property grid, click in the **Caption** field and delete the text Button.
4. Type Micro Focus SupportLine.

When you click elsewhere on the screen, the text changes on the control.

5. To make the text appear on two lines, click in the **Caption** field and place your cursor after **Micro Focus**, then press **Alt+Enter**. This splits the line.
6. Use the control's handles to size the control to fit the text.
7. Click in the **Tooltip** field and type SupportLine Web Site.



8. Click the accelerator button  next to the **Actions** field.

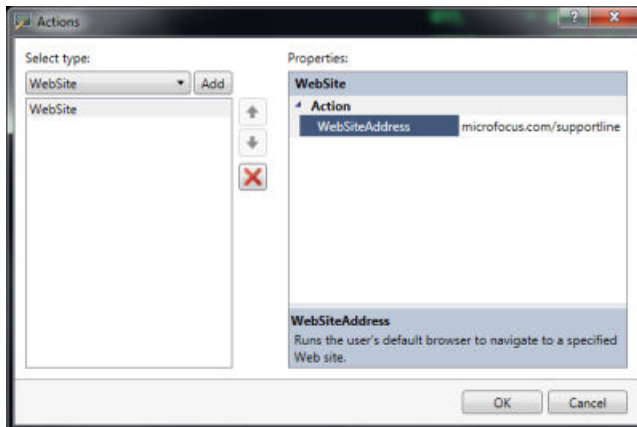
The **Actions** dialog box appears.

9. Under **Select type**, select **WebSite** from the drop-down list.

10. Click **Add**.

A new action appears in the **Actions** frame and its properties appear in the **Properties** frame.

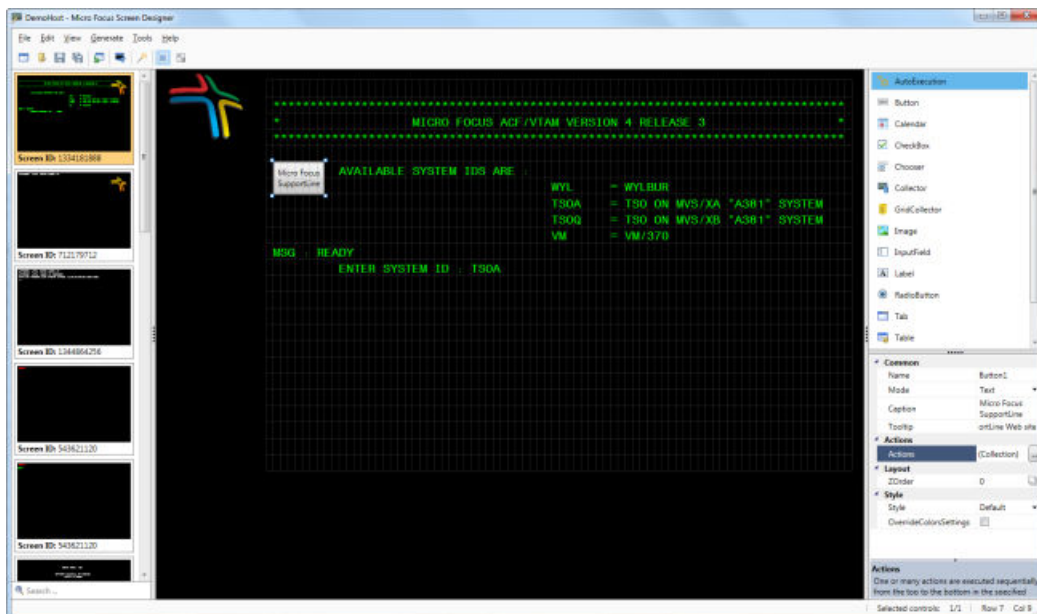
11. In the **Properties** frame, type `http://www.microfocus.com/supportline` in the **WebSiteAddress** field:



12. Click **OK**.

13. Use the handles on the control to size it for the text.


Your screen should look like this:



14. You can also use an image for the button instead of text. To do this, select **Image** from the **Mode** list.

15. Click the accelerator button next to **ImagePath**.

The **Choose Image** dialog box appears.

16. Click  next to **Add to pool**.

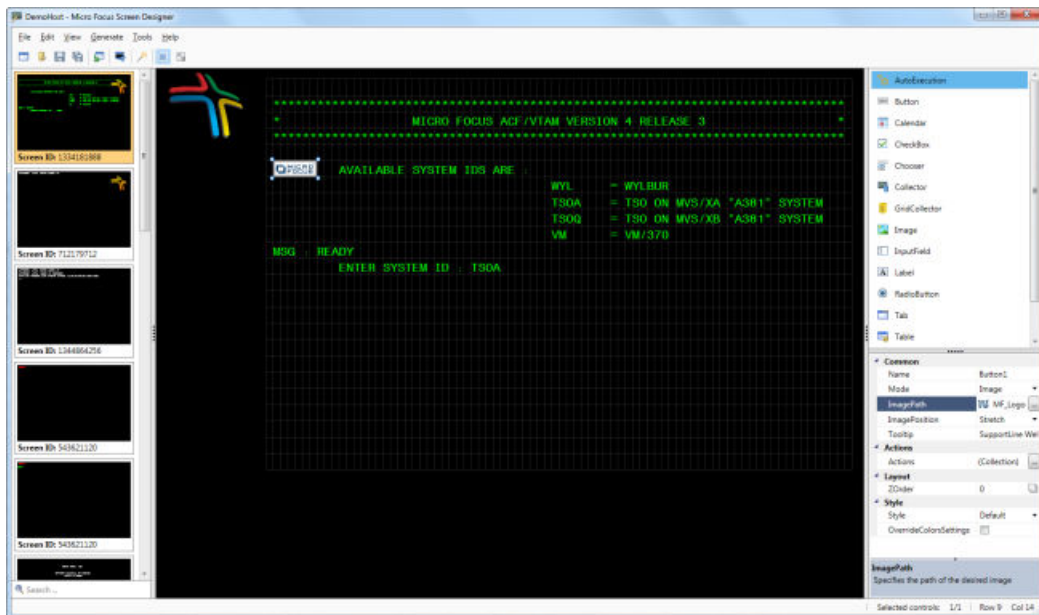
17. Navigate to where you saved the `MF_Logo.png` file, select the file, then click **Open**

18. Ensure the image is selected in the **Choose Image** dialog box and click **OK**.

The image appears on the button.

19. Use the handles on the button to resize the button to 6x1.

Your screen should look like this:



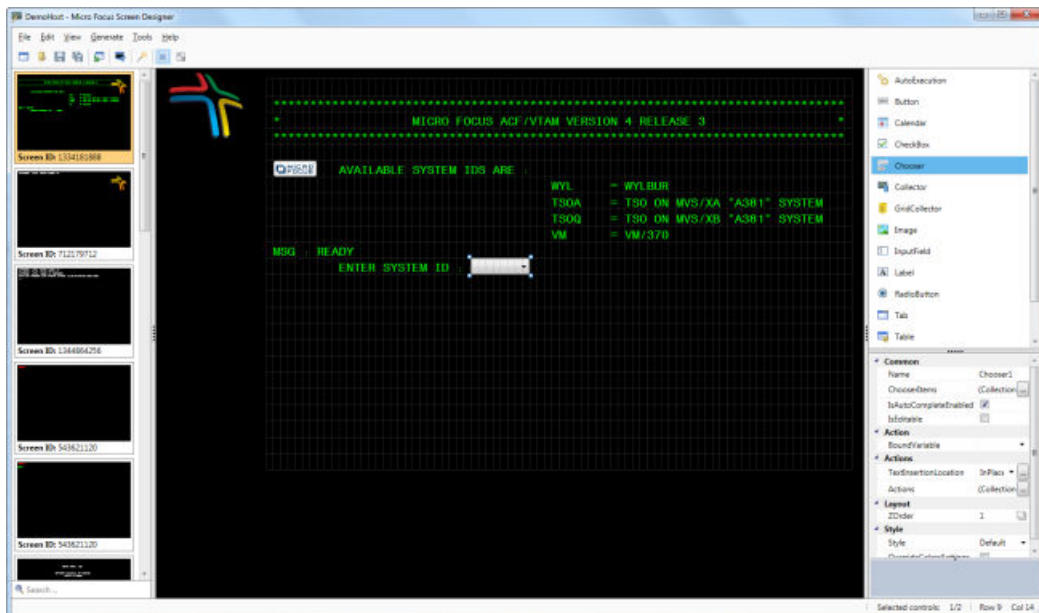
**Note:** You can also provide a link to an image that is not on your machine. To do this, type the Web address of the image in the **ImagePath** field.

20. Select **File > Save Project**.

## Adding a Chooser control

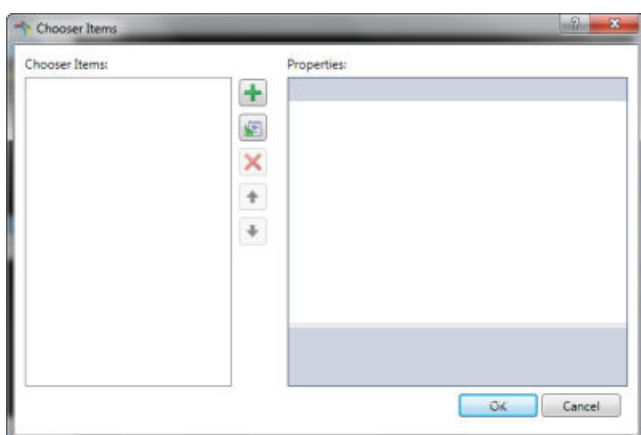
Chooser appears on the screen like a drop-down list. Chooser is used to insert data into a field on the screen by selecting an item from the list.


1. Drag the Chooser control icon from the control panel on to the work area and drop it on top of TSOA on the ENTER SYSTEM ID: row:




2. In the property grid, click the accelerator button  next to **ChooserItems**.

The **ChooserItems** dialog box appears:



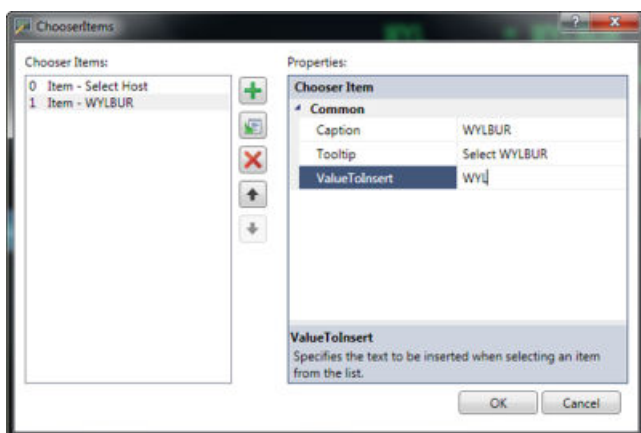
3. Click the **Add** button .
4. In the **Properties** frame, type `Select Host` in the **Caption** field.
5. In the **Tooltip** field, type `Select host system`.

This text will appear as you hover over the selection. Tooltip text can be used for tips and helpful information on the selection.

6. Leave the **ValueToInsert** field empty.
7. Click the **Add** button .
8. In the **Properties** frame, type `WYLBUR` in the **Caption** field.
9. In the **Tooltip** field, type `Select WYLBUR`.
10. In the **ValueToInsert** field, type `WYL`.

This is the text that will be placed in the entry field and must match the commands you would normally manually type in the field.

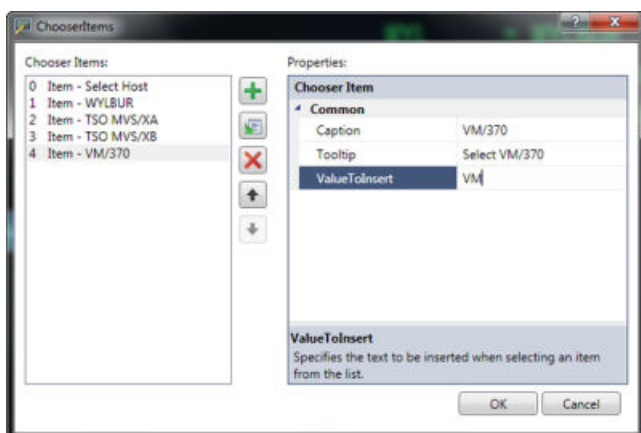
The **ChooserItems** dialog box looks like this:



11. Repeat the above steps to add the following Chooser items:

Caption	Tooltip	Value To Insert
TSO MVS/XA	Select TSO MVS/XA	TSOA
TSO MVS/XB	Select TSO MVS/XB	TSOQ
VM/370	Select VM/370	VM

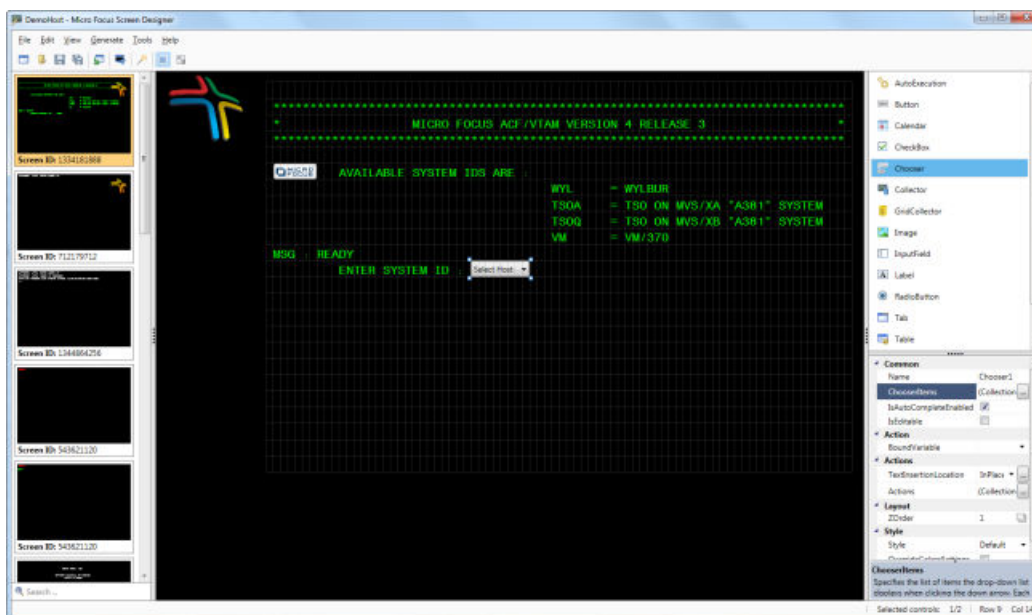
When complete, the **Chooser** dialog box looks like this:



12. When you have finished, click **OK**.

13. Use the handles on the control to size it so that the text shows correctly.

Your screen should look like this:




14. In the property grid, click the accelerator button  next to **TextInsertionLocation**.

The **Select Screen Location** window appears.

15. Select **Location** from the **Select By** list at the bottom of the window.

16. Click on the T of TSOA to the right of ENTER SYSTEM ID: at the location 12, 29.

17. Click **OK**.

18. In the property grid, click the accelerator button  next to **Actions**.

The **Actions** dialog box appears.

19. From the **Select type** list, select **EmulationCommand**.

20. Click **Add**.

21. From the **Action** list, select **Enter**.

This action sends an **Enter** command to the host after the Chooser sends the selected text to the screen location specified by **TextInsertionLocation**.

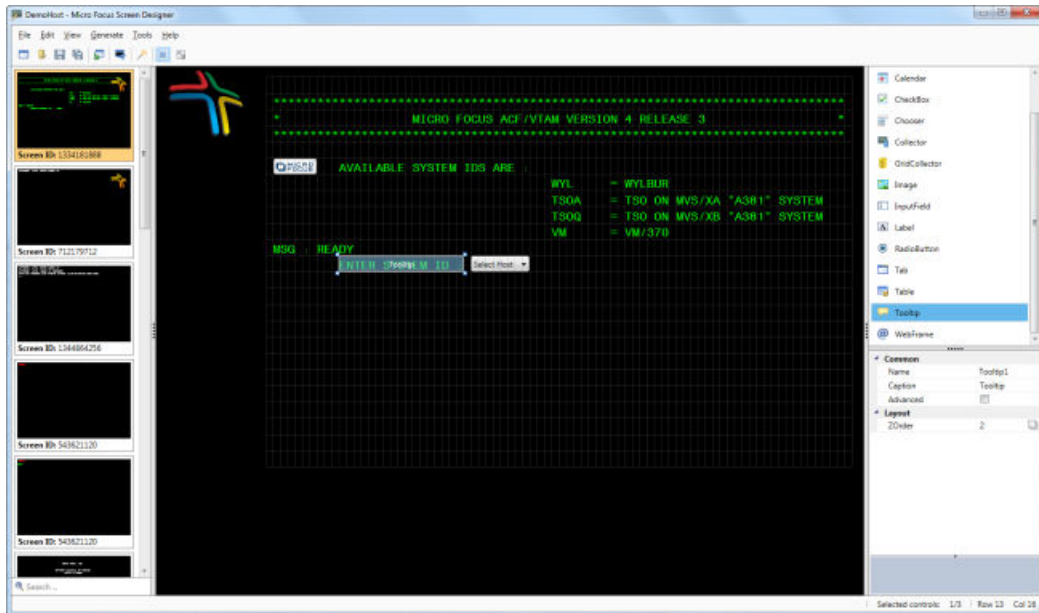
22. Click **OK**.

23. Select **File > Save Project**.

## Adding a Tooltip control

Tooltip displays text when the mouse hovers over the screen area that Tooltip occupies.

1. Drag the Tooltip control icon from the control panel on to the work area and drop it on top of ENTER SYSTEM ID:
2. Drag the handles on the control so the control covers the screen text:

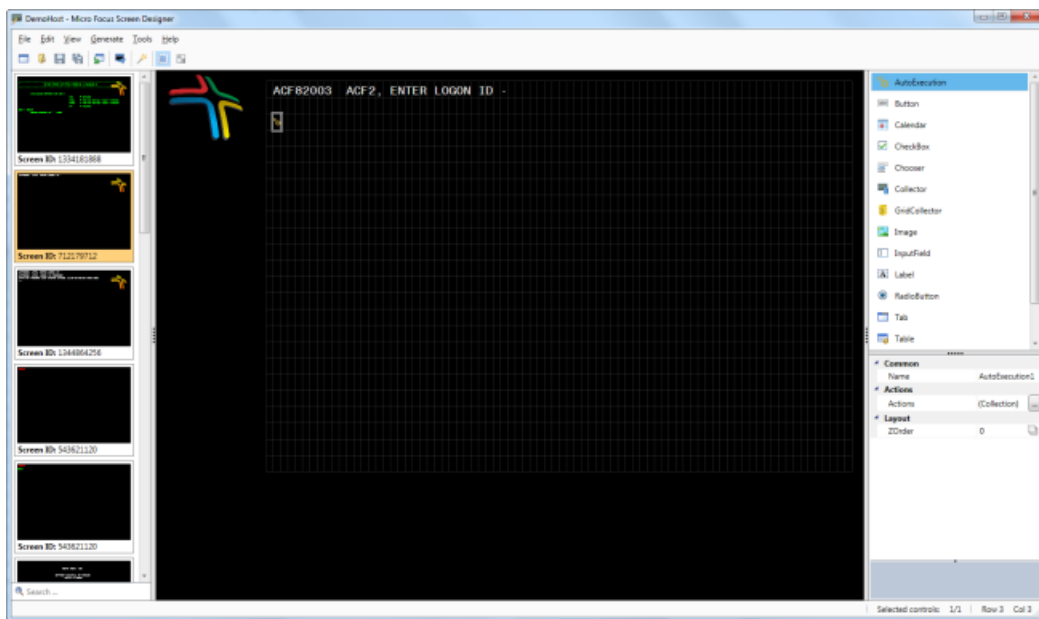



3. In the property grid, type the following in the **Caption** field:  
Click drop-down list to select system
4. Click in the **Caption** field and position your cursor just before to.
5. Press **Alt+Enter**.  
The line splits into two.
6. Select **File > Save Project**.

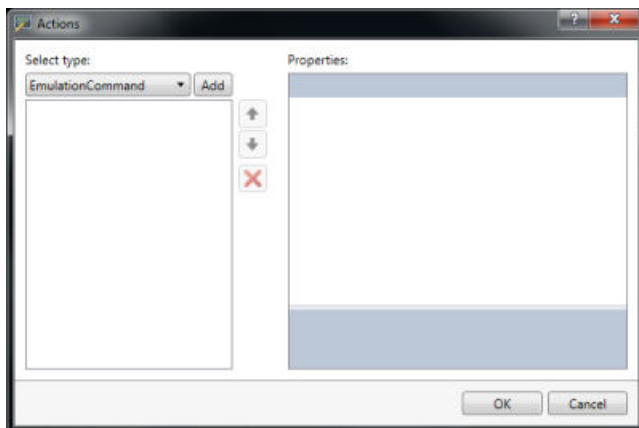
## Adding an AutoExecution control

After you log into theDemo Host, you need to press **Enter** twice before the **READY** prompt appears. You can use an AutoExecution control to automate this sequence. To do this:

1. In the left pane, select the second screen.  
A larger version of the screen appears in the work area.
2. Drag the AutoExecution control from the control panel and drop it to the right of the Plus icon:

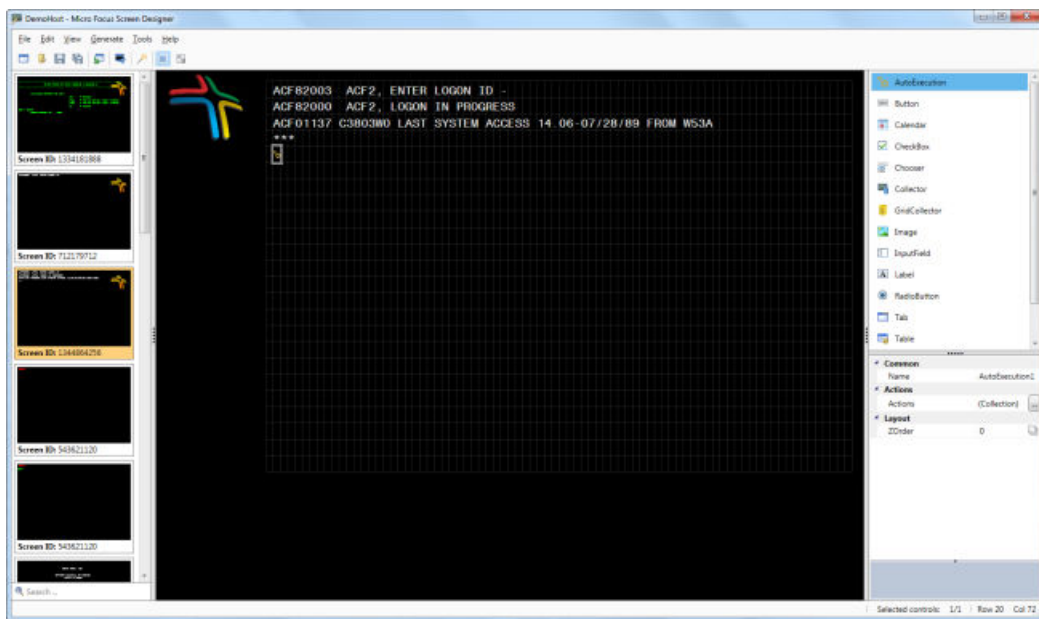


3. In the property grid, click the accelerator button  next to the **Actions** field.
4. From the **Select type** list, select **Emulation Command**.



5. Click **Add**.
6. From the **Action** list, select **Enter**:
7. Click **OK**.
8. Select the third screen in the left pane:
9. Add another AutoExecution control and give it the same properties:





10. Select **File > Save Project**.

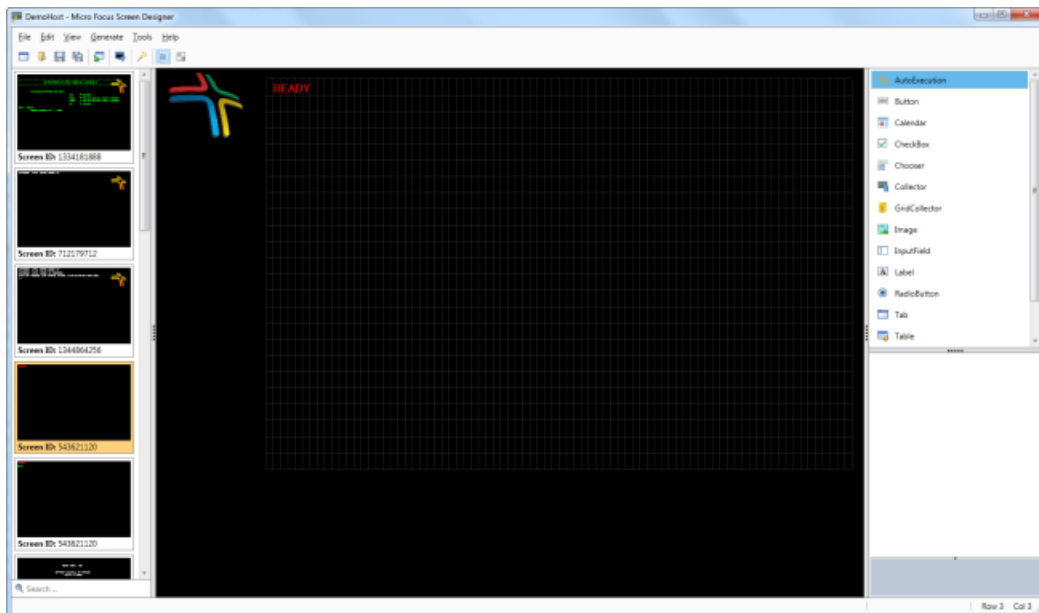
## Adding an Image control

Image masks an area of a screen with either a color or an image.



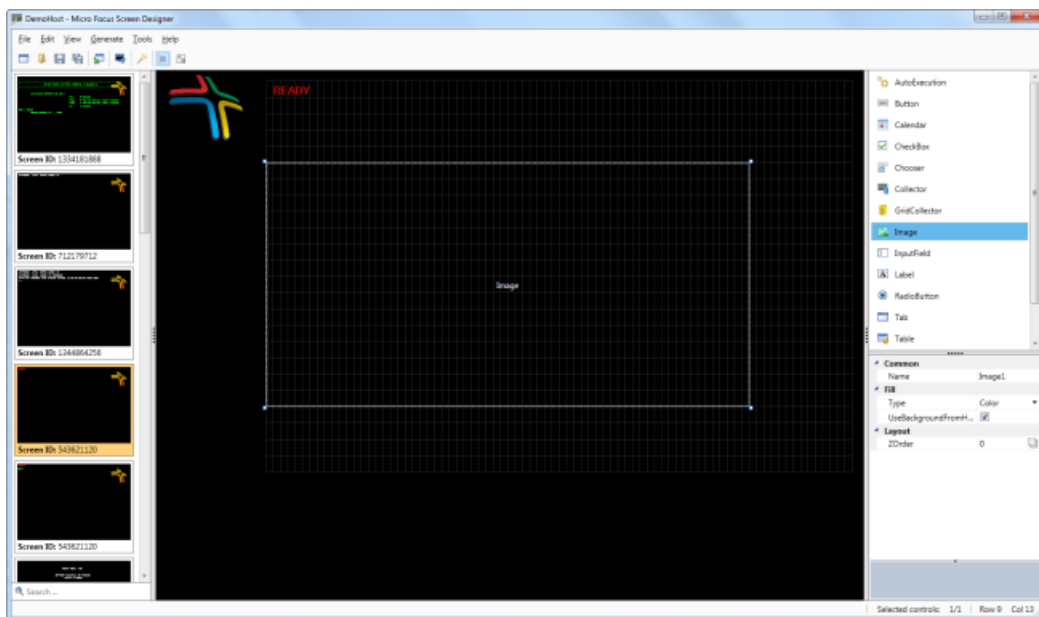
**Note:** In this section you use the `welcome.png` file supplied with the package file.

1. In the history pane, scroll down and select the fourth thumbnail. This shows the **READY** prompt.  
A larger version of the screen appears in the work area:



2. Drag the Image control icon from the control panel onto the work area, then use the handles of the control to size it to 15x66:






3. In the property grid, select **Image** from the **Type** drop-down list.

The **ImagePath** field appears.

4. Click the accelerator button  next to the **ImagePath** field.

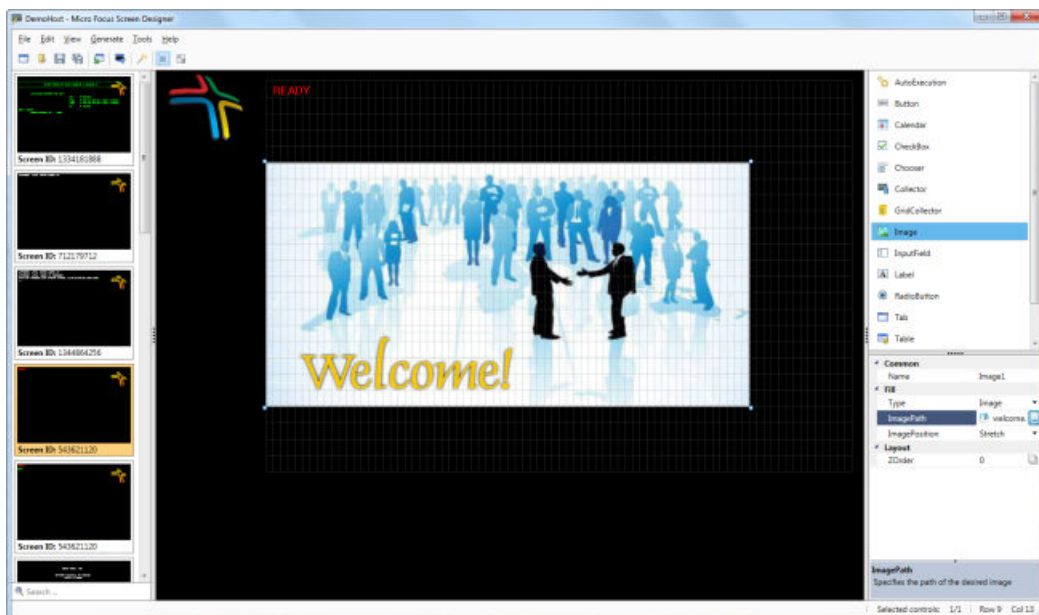
The **Choose Image** dialog box appears.

5. Click  next to **Add to pool**.

6. Navigate to where you saved the `welcome.jpg` file, select the file, then click **Open**.

7. Ensure the image is selected in the **Choose Image** dialog box and click **OK**.

The selected image now fills the control on the screen:



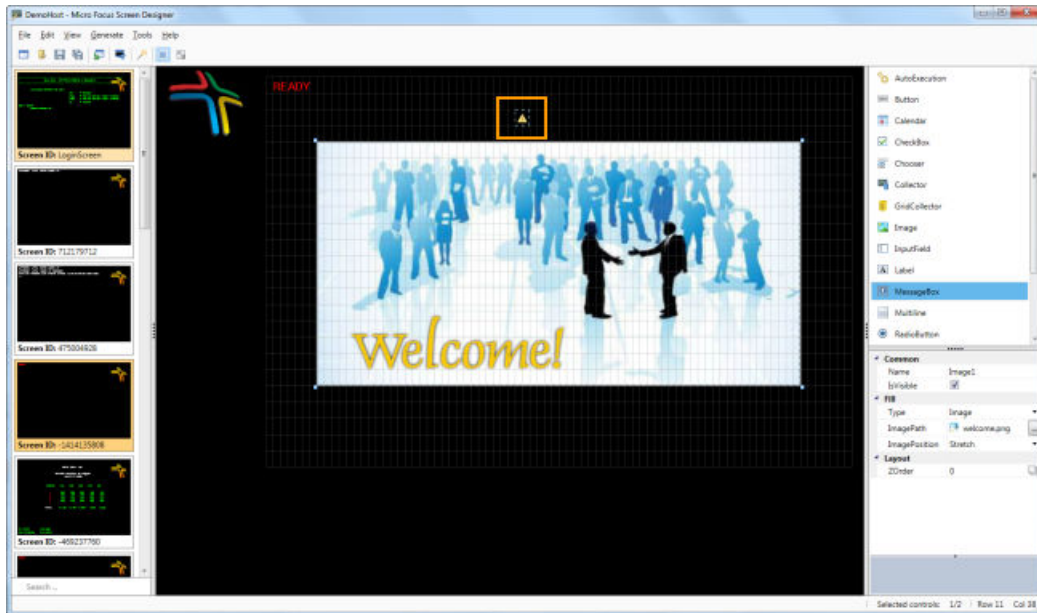
**Note:** You can also provide a link to an image that is not on your machine. To do this, type the Web address of the image in the **ImagePath** field.

8. Select **File > Save Project**.

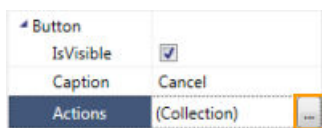
# Adding a MessageBox control

The MessageBox control is an alert message box that can be configured with a title, icon, one to three buttons, and a message.

1. On the **READY** screen, drag a MessageBox icon from the property grid on to the work area and drop it on top of the image you have just created:



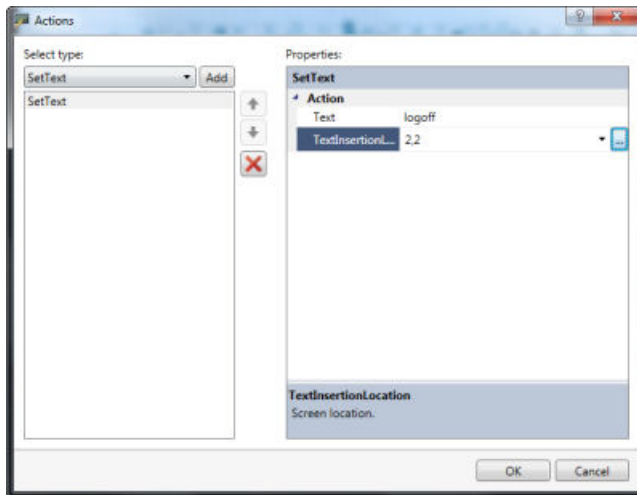
2. In the property grid, type **Warning** in the **Title**.
3. In the **Text** field, type **This system is restricted. Click OK to continue or Cancel to log off.**
4. In the **Button** section with **Caption** of **Cancel**, click the accelerator button next to **Actions**:



The **Actions** dialog box appears:

5. From the **Select Type** list, select **SetText**, then click **Add**.
6. In the **Properties** frame, type **logoff** in the **Text** field.
7. Click the accelerator button next to the **TextInsertionLocation** field. The **Select Screen Location** window appears.
8. Select **Location** from the **Select By** list.
9. Click once under the **R** of **READY**. This should be row 2, column 2.
10. Click **OK**.

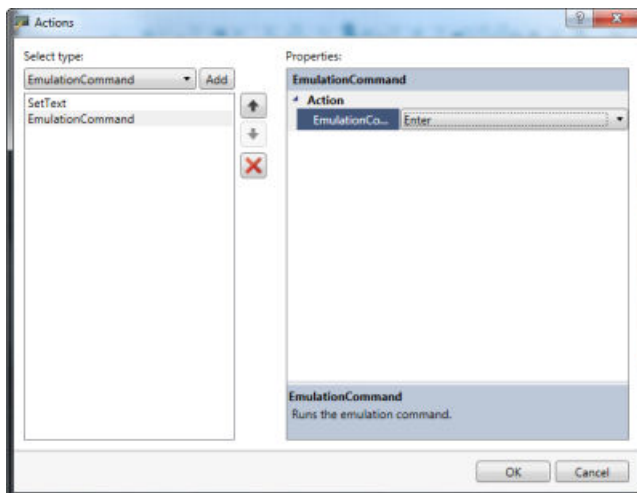
The **Actions** dialog box should look like this:



11. From the **Select Type** list, select **EmulationCommand**, then click **Add**.

12. In the **Properties** frame, select **Enter** from the **EmulationCommand** list.

The **Actions** dialog box should look like this:



13. Click **OK**.

14. Select **File > Save Project**.

## Adding a Label control

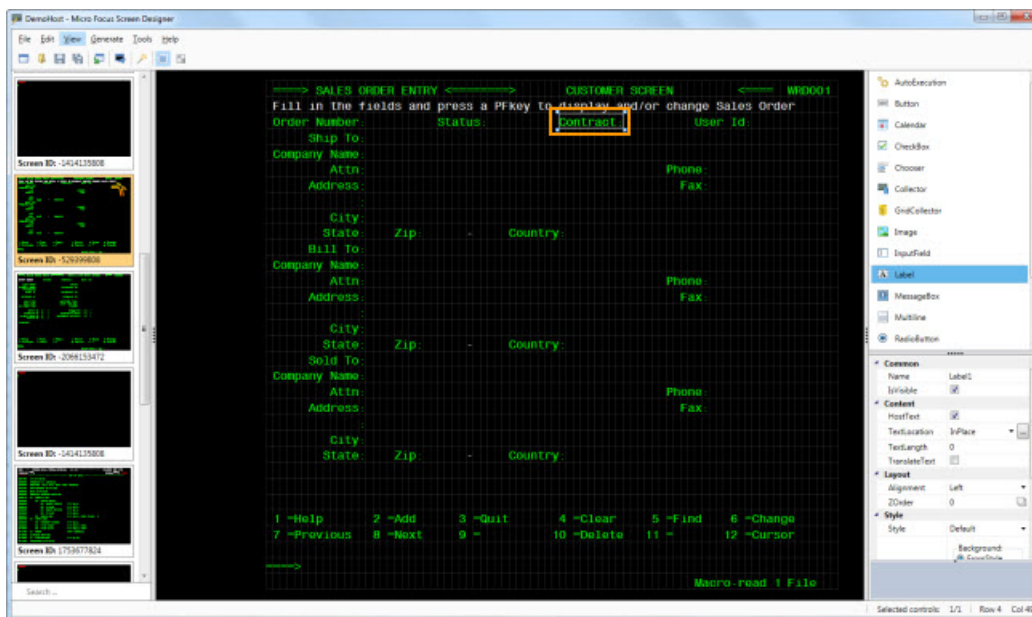
Label adds a text label to a green screen. You can use Label to either replace an existing screen label or create a new label.

1. In the history pane, select the **SALES ORDER ENTRY - CUSTOMER SCREEN**.

A larger version of the screen appears in the work area.

2. Drag the Label control icon from the control panel on to the work area and drop it on top of the **Contract** field.

3. Size the control so it covers the field completely:



4. In the property grid, uncheck **HostText**.

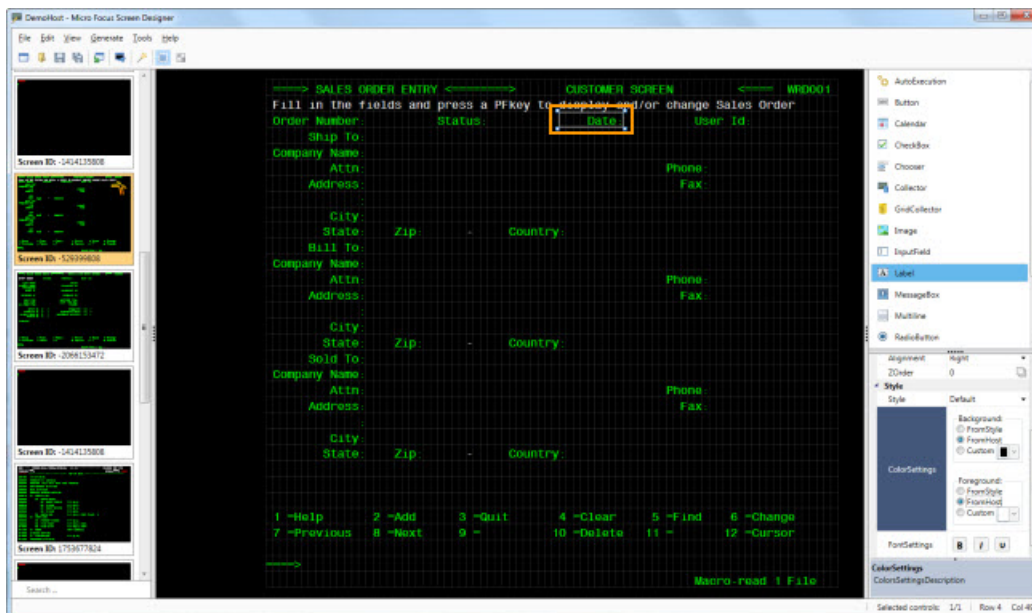
The **LabelText** field appears.

5. In the **LabelText** field, delete the default text `Label1` and type `Date` :

6. Select **Right** from the **Alignment** list.

7. In the **ColorSettings** frame, select **FromHost** under **Background**, and **FromHost** under **Foreground**.

The control now uses the screen background and foreground colors for the label background and the text. The label text is now visible in the control:



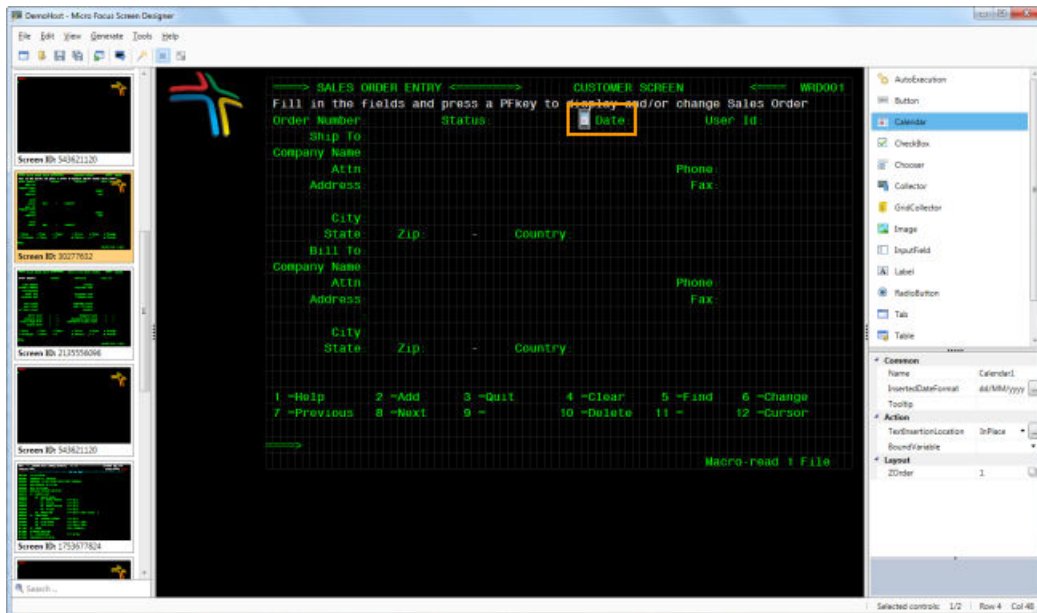
8. Select **File > Save Project**.


## Adding a Calendar control

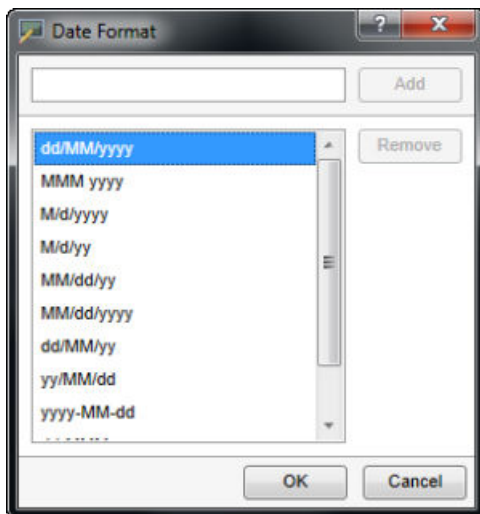
Calendar inserts a selected date at a specified point on the screen.

1. Ensure the `SALES ORDER ENTRY - CUSTOMER SCREEN` screen is still displayed in the work area.

2. Drag the Calendar control icon from the control panel on to the work area and drop it to the left of the (new) Date field:




3. In the property grid, click the accelerator button  next to the **InsertedDateFormat** field. The **Date Format** dialog box appears:



You can select from a variety of supplied date formats. Alternatively, you can specify a custom date format.

4. Select **MM-dd-yy** from the list of dates, then click **OK**.

The dialog box closes and the date format appears in the **InsertedDateFormat** field.

5. In the **Tooltip** field, type Select date
6. Click the accelerator button  next to the **TextInsertionLocation** field.

The **Select Screen Location** window appears.

7. Select **Location** from the **Select By** list.
8. Click one space to the right of the **Contract** field at screen location ( 3 , 52 ).
9. Click **OK**.

The window closes and the coordinates appear in the **TextInsertionLocation** field. In this case, 3 , 52 . The coordinates also appear in the status bar, below the property grid.

When complete, the property grid looks like this:

<b>Common</b>	
Name	Calendar1
InsertedDateFormat	MM/dd/yyyy
Tooltip	Select date
<b>Action</b>	
TextInsertionLocation	3,52
BoundVariable	
<b>Layout</b>	
ZOrder	1

10. Select **File > Save Project**.

## Adding a GridCollector control

GridCollector gathers information from a specific screen location and displays the information in a table.

1. In the left pane, scroll down and select the **EUROPEAN CUSTOMER LIST** screen.
2. Drag the GridCollector control from the control panel and drop it at the start of the first row:



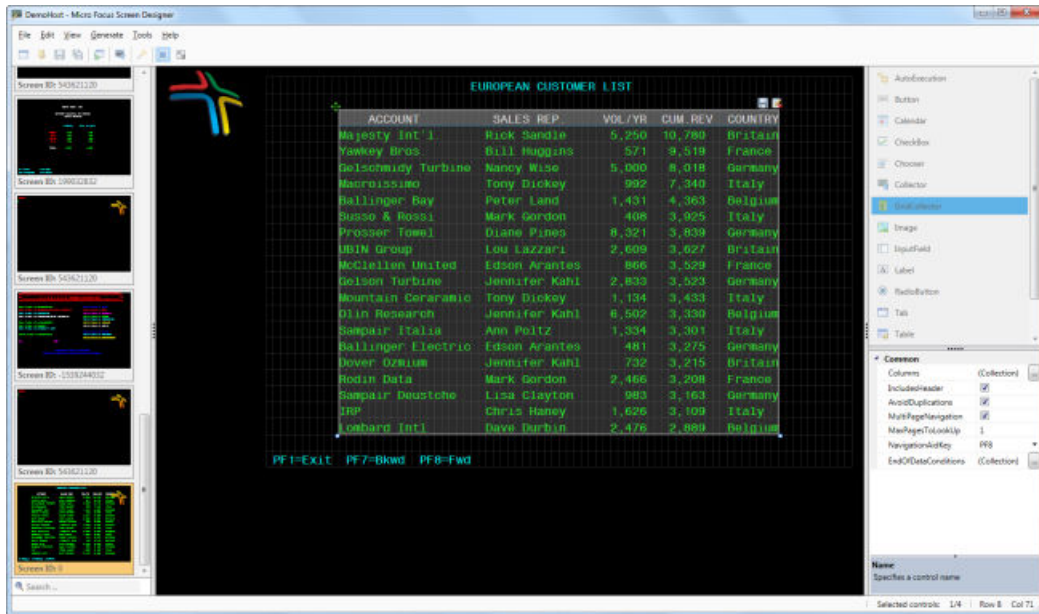
3. In the property grid, in the **Name** field, delete GridCollector1 and type CustomerList.
4. Click the **Edit** icon on the control.

The GridCollector frame appears:



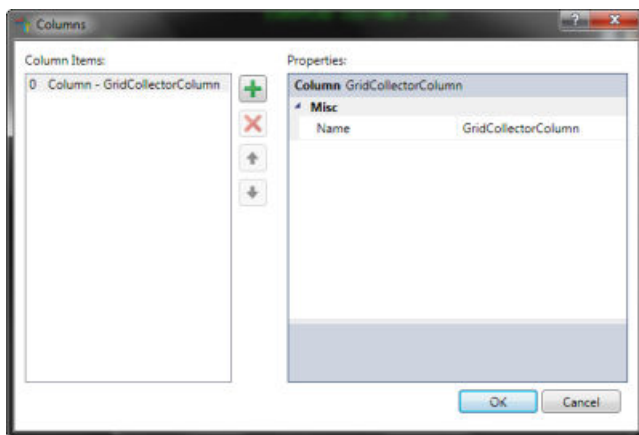


5. Move and size the GridCollector frame so that it overlays the screen data:



6. Click the accelerator button  next to the **Columns** field.

The **Columns** dialog box appears:



7. In the **Name** field, delete `GridCollectorColumn`, and type `Account`.

8. Click the **Add** button .

Another item appears in the **Column** frame.

9. In the **Name** field, type `Sales Rep`.

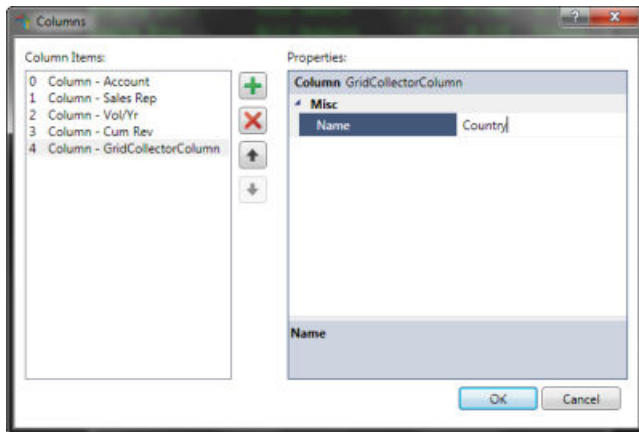
10. Click the **Add** button .

Another item appears in the **Column** frame.

11. Continue to add columns for:

- `Vol/Yr`
- `Cum Rev`
- `Country`

The dialog box should look like this:



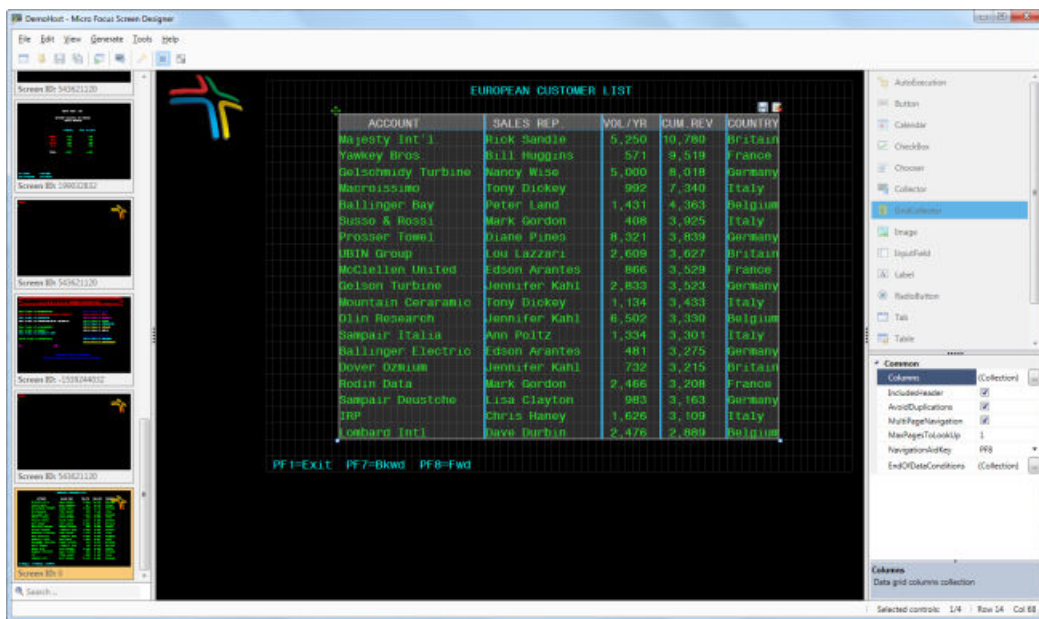
12. Click **OK**.

The `GridCollector` frame now contains a number of blue vertical lines. These represent column dividers.

13. Drag each column divider to the left of each column.

The `GridCollector` should look like this:





**Tip:** In some cases, such as Web applications, system parameters do not look for leading spaces. It is therefore best to start a column on the first character of data.

14. At the top right of the GridCollector, click the **Save** icon .

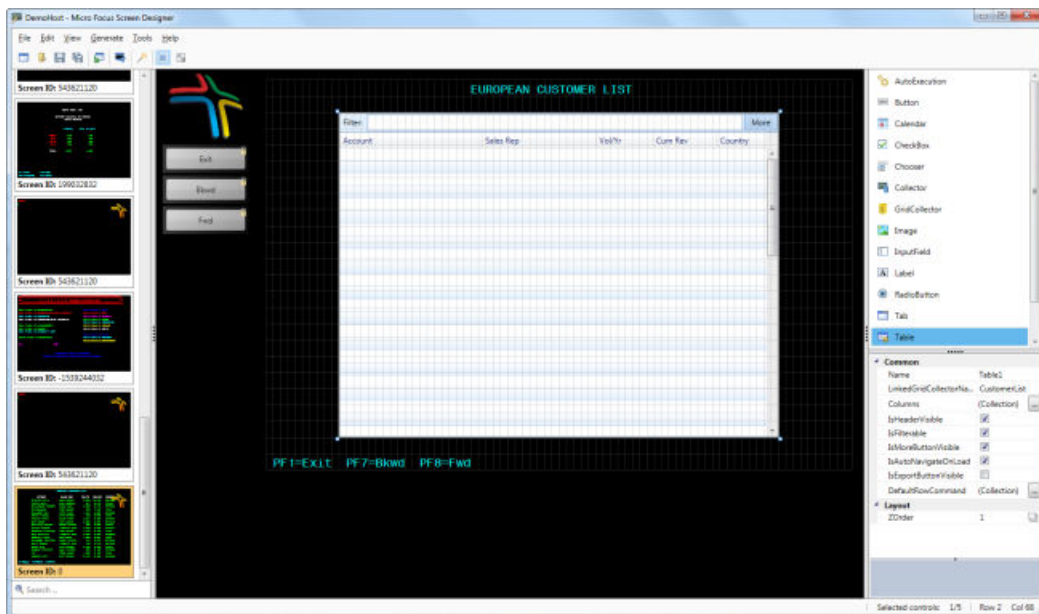
15. Select **File > Save Project**

## Adding a Table control

This section describes how to add a Table control to display the data collected by the GridCollector control.

1. Drag the Table control from the property grid and drop it on the GridCollector control.

The table automatically links to the GridCollector control and maps on to the area defined by the GridCollector:



**Note:** The **LinkedGridCollectorName** field in the property is completed automatically, and the table header and columns properties are taken from the linked GridCollector properties.

2. Uncheck **IsMoreButtonVisible**.
3. Uncheck **IsAutoNavigateOnLoad**.
4. Check **IsExportButtonVisible**.



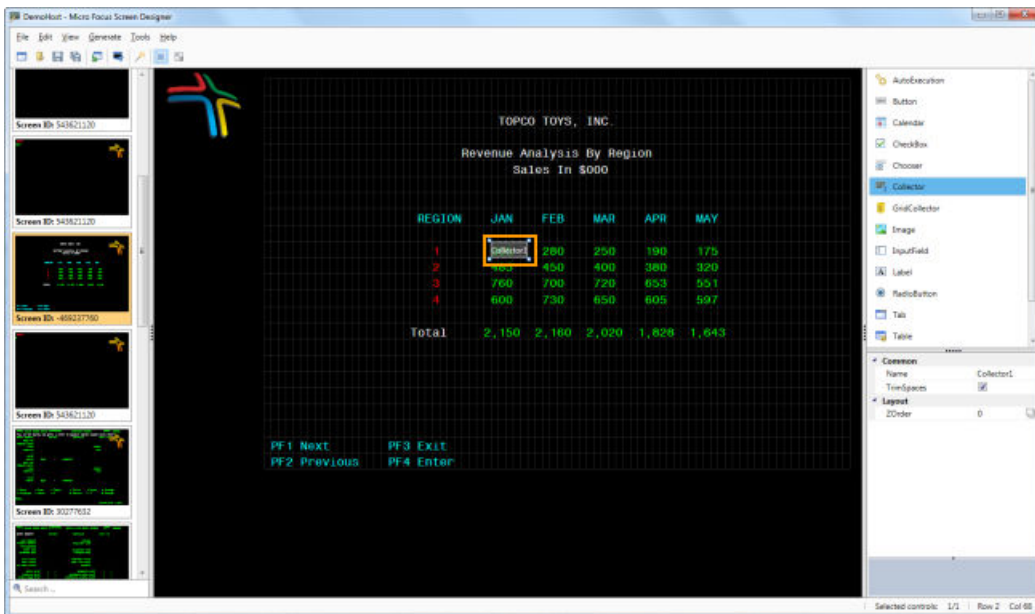
**Note:** The **More** button no longer appears in the table and is replaced by the **Export** button.

5. Select **File > Save Project**.

## Adding a Collector control

Collector controls gather screen data for use in other functions. In this case you will add a Collector control to collect data to generate a pie chart for January.

1. In the history pane, select the **TOPCO TOYS, INC Revenue Analysis By Region** screen.
2. Drag the Collector control icon from the control panel on to the work area and drop it on top of 305 in the **JAN** column for region 1:



3. In the property grid, type **R1Jtoy** in the **Name** field.

This is the name of the variable where the value will be stored.

4. Leave **TrimSpaces** checked.
5. Add Collector controls for the three other regions. Use **R2Jtoy**, **R3Jtoy**, and **R4Jtoy** as global parameter names.

The screen looks like this:



6. Select **File > Save Project**.

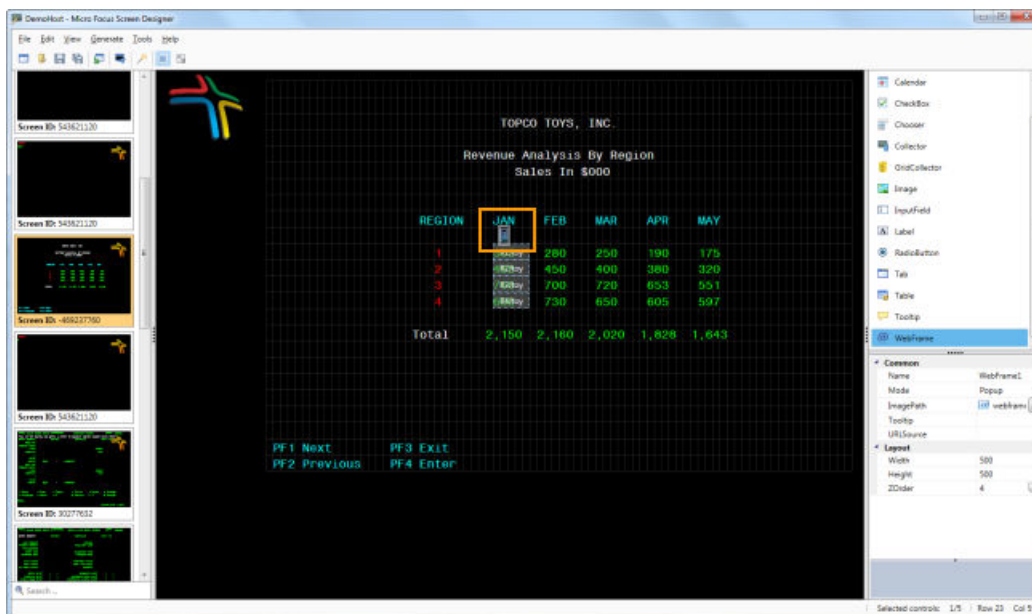
## Adding a WebFrame control

In the previous section, you added four Collector controls to collect data for a pie chart. You will now add a WebFrame control to use the variables of the Collector controls to generate the pie chart.



**Note:** In this section you use the `WebFrame_URL.txt` file and `pie chart.png` files supplied with the package file.

1. Drag the WebFrame control icon from the control panel on to the work area and drop it just underneath JAN:




2. Select **Pop-up** from the **Mode** list.



**Note:** If you were to select **Embedded**, the resulting pie chart would appear as an embedded window on the green screen.

3. Click the accelerator button  next to **ImagePath**.

The **Choose Image** dialog box appears.

- Click  next to **Add to pool**.
- Navigate to where you saved the `pie chart.png` file, select the file, then click **Open**.
- Ensure the image is selected in the **Choose Image** dialog box and click **OK**.
- In the **Tooltip** field, type `Pie chart`.
- Open the `WebFrame_URL.txt` file.

The file contains the following URL:

```
http://chart.googleapis.com/chart?chs=300x150&cht=p3&chco=0000FF|00FF00|FF0000|FFFF00&chds=0,1000&chd=t:%%R1Jtoy%%,%%R2Jtoy%%,%%R3Jtoy%%,%%R4Jtoy%%&chdl=Region1|Region2|Region3|Region4&chtt=TOYS
```

- Copy the content of the file and paste it in the **URLSource** field.
- Select **File > Save Project**.

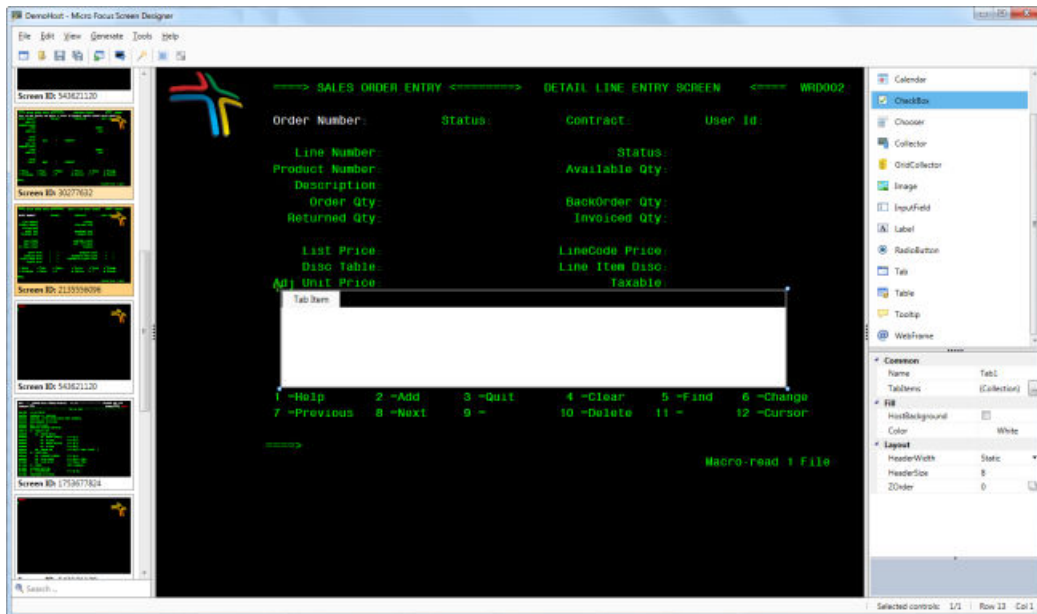
## Adding a Tab control

Tab provides an area of the screen to which you can assign other controls. You can have multiple Tab controls on a screen, with multiple Tab items within a Tab control.

- In the history pane, select the **SALES ORDER ENTRY - DETAIL LINE ENTRY SCREEN**.

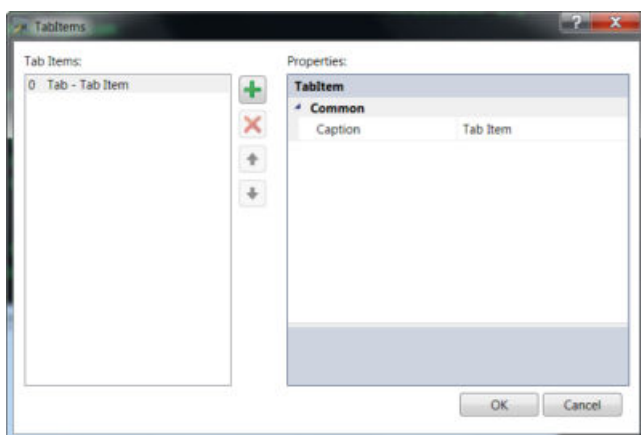
A larger version of the screen appears in the work area.

- Drag the Tab control icon from the control panel to work area and drop it on the lower set of input fields, then size the control to fit:



- In the property grid, click the accelerator button  next to the **TabItems** field.

The **TabItems** dialog box appears:



4. In the **Caption** field, delete Tab Item and type Order.

5. Click the **Add** button .

Another item appears in the **Properties** frame.

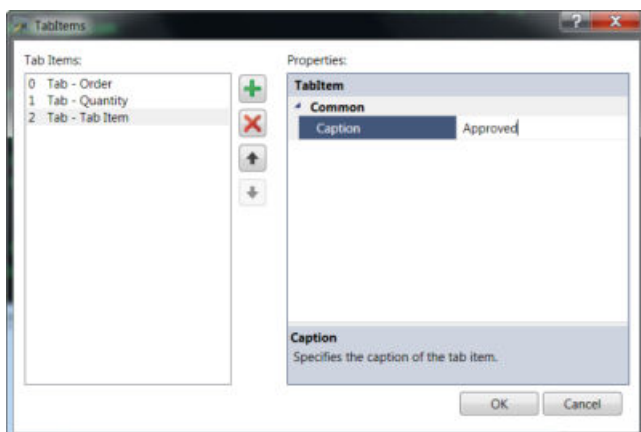
6. In the **Caption** field, delete Tab Item and type Quantity.

7. Click the **Add** button .

Another item appears in the **Properties** frame.

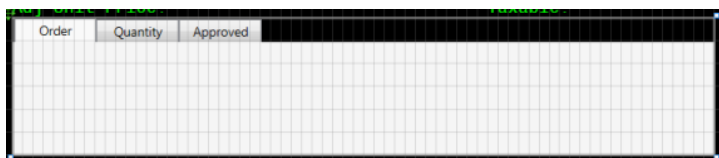
8. In the **Caption** field, delete Tab Item and type Approved.

The dialog box looks like this:



9. Click **OK**.

The Tab control now has three Tab items:




You can change the width of the tab item headers to fit the text you choose. For example, the default width is eight characters. You can specify a different width by changing the value in the **HeaderSize** field in the property grid.

10. Change the value in the **HeaderSize** field to 12.

You can see the change in the width of the tab item headers.



**Note:** If you select **Dynamic** from the **HeaderWidth** list, the headers automatically size to fit the length of text in each header.

11. In the **ColorSettings** frame, select **Custom** under **Background**, then click the down button  to open the **Available Colors** palette.
12. Select **RoyalBlue**:



The color fills the Tab control and its Tab items:

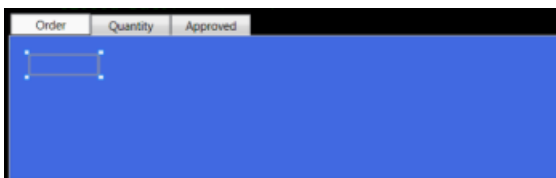


13. Select **File > Save Project**.

## Adding an InputField control

InputField provides a text input field in which you type text at a specific screen location.

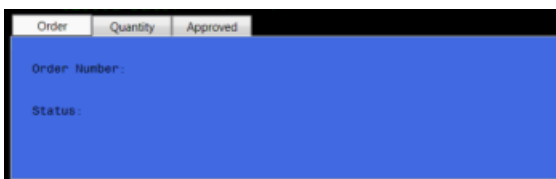
1. Each input field requires a label. Drag the Label control icon from the control panel and drop it onto the Tab control you have created:



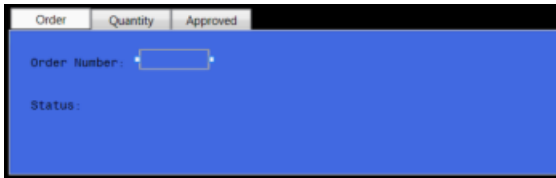
2. In the property grid, uncheck **HostText**.

The **LabelText** field appears.

3. In the **LabelText** field, delete the default text `Label` and type `Order Number:`.
4. Add another Label control below the first and call it `Status:`.
5. Size both labels:



6. Drag the InputField control icon from the control panel and drop it on the **Order Number** row:



7. Click the accelerator button  next to the **TextInsertionLocation** field.

The **Select Screen Location** window appears.

8. Select **Location** from the **Select By** drop-down list.

9. Click in the `Order Number` field, then click **OK**.

The coordinates `3,16` appear in the **TextInsertionLocation** field.

10. In the **ColorSettings** frame, select **FromHost** under **Background**, and **FromHost** under **Foreground**.

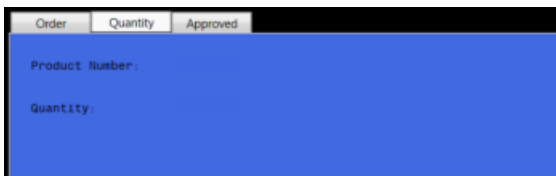
The control now uses the screen background and foreground colors.


The Tab item currently looks like this:



11. Click the **Quantity** tab.
12. Drag the Label control icon onto the tab item.
13. Uncheck **HostText** and call the label `Product Number:`.
14. Size the label.
15. Add another label below the first, call it `Quantity:`, then size it.

The Tab item should look like this:



16. Add an InputField control on the **Product Number** row.
17. Click the accelerator button  next to the **TextInsertionLocation** field to open the **Screen Location** window.
18. Select **Location** from the **Select By** drop-down list.
19. Click in the `Product Number` field, then click **OK**.

The coordinates `6,18` appear in the **TextInsertionLocation** field.

20. In the **ColorSettings** frame, select **FromHost** under **Background**, and **FromHost** under **Foreground**.

The control now uses the screen background and foreground colors.

21. Add an InputField control on the **Quantity** row.
22. Open the **Screen Location** window and click in the `Order Qty` field.
23. Click **OK**.

The coordinates `8,18` appear in the **TextInsertionLocation** field.

24. In the **ColorSettings** frame, select **FromHost** under **Background**, and **FromHost** under **Foreground**.



The Tab item should look like this:



25. Click the **Approved** tab.

26. Drag the Label control icon onto the tab item.

27. Uncheck **HostText**, call the label `Approval :`, then size the label:



28. Select **File > Save Project**.

## Adding a RadioButton control

RadioButton sends text to a specified screen location.

This section uses the Tab control you created previously.

1. Click the **Order** tab:



2. Drag the RadioButton control from the control panel and drop it on the `Status` row:



3. In the property grid, delete `RadioButton` from the **Caption** field and type `Open`.

4. In the **GroupName** field, type `OrderStatus`.

5. Open the **Screen Location** window from the **TextInsertionLocation** accelerator button.

6. Select **Location** from the **Select By** drop-down list.

7. Click in the `Status` field on the top row of the green screen.

8. Click **OK**.

The coordinates `3 , 33` appear in the **TextInsertionLocation** field.

9. In the **SelectedState > TextToSend** field, type `Open`.

The property grid should look like this:



<b>Common</b>	
Name	RadioButton1
Caption	Open
Tooltip	
GroupName	OrderStatus
IsVisible	<input checked="" type="checkbox"/>
<b>Action</b>	
BoundVariable	
<b>Actions</b>	
TextInsertionL...	3,33
<b>SelectedState</b>	
TextToSend	Open
Actions	(Collection)

10. Drag the RadioButton control from the property grid and drop it below the **Open** radio button:

The screenshot shows a tab control with three tabs: Order, Quantity, and Approved. The Order tab is selected. Below the tabs, there is a label 'Order Number:' followed by a text box. Below that, there is a label 'Status:' followed by two radio buttons. The first radio button is labeled 'Open' and is selected. The second radio button is labeled 'RadioButton1' and is not selected.

11. In the property grid, delete RadioButton from the **Caption** field and type Shipped.

12. In the **GroupName** field, type OrderStatus.

13. Open the **Screen Location** window from the **TextInsertionLocation** accelerator button.

14. Select **Location** from the **Select By** drop-down list.

15. Click in the **Status** field on the top row of the green screen.

16. Click **OK**.

The coordinates 3 , 33 appear in the **TextInsertionLocation** field.

17. In the **SelectedState** > **TextToSend** field, type Shipped.

18. Click the accelerator button  next to the **Actions** field.

The **Actions** window appears.

19. Select **Email** from the **Select type** list, then click **Add**.

20. In the **ActionTarget** field, type: `customer@address.com`

21. Click **OK**.

The tab item should look like this:

The screenshot shows the same tab control as before. The Order tab is selected. Below the tabs, there is a label 'Order Number:' followed by a text box. Below that, there is a label 'Status:' followed by two radio buttons. The first radio button is labeled 'Open' and is selected. The second radio button is labeled 'Shipped' and is not selected.

22. Select **File** > **Save Project**.

## Adding a CheckBox control

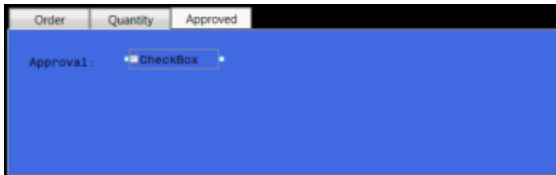
CheckBox acts like an on/off toggle in the same way as a typical check box.

This section uses the Tab control you created previously.

1. Click the **Approved** tab:

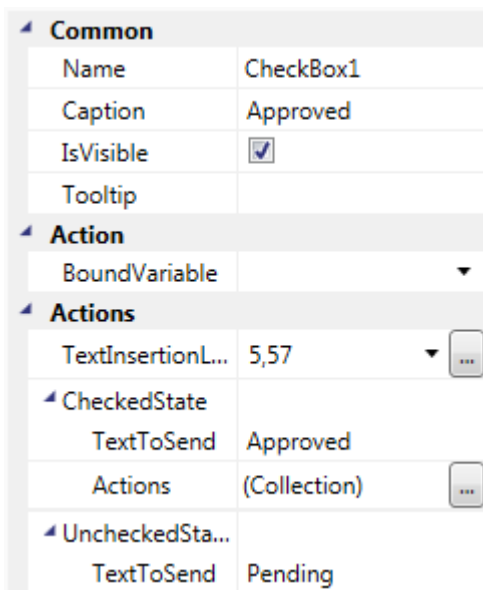


2. Drag the CheckBox control from the control panel and drop it on the `Approval` row:

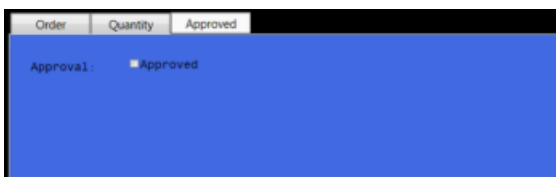


3. In the property grid, delete `CheckBox` in the **Caption** field and type `Approved`.
4. Open the **Screen Location** window from the **TextInsertionLocation** accelerator button.
5. Select **Location** from the **Select By** drop-down list.
6. Click in the `Status` field on the `Line Number` row, then click **OK**. The coordinates `5, 57` appear in the **TextInsertionLocation** field.
7. In the **CheckedState** > **TextToSend** field, type `Approved`.
8. In the **UncheckedState** > **TextToSend** field, type `Pending` in the **TextToSend** field.

The property grid should look like this:



The tab item should look like this:

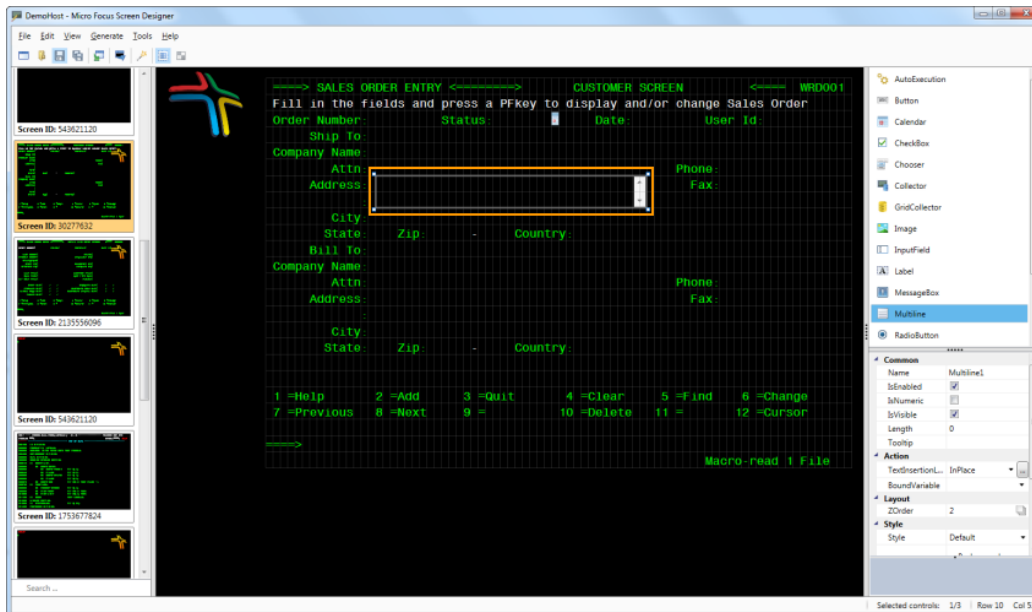



9. Select **File** > **Save Project**.

## Adding a MultiLine control

The MultiLine control is a text input field with multiple lines into which you type text which is inserted at a specified screen location. For example, MultiLine can be used to modernize or rationalize the layout of a screen with input fields that contain more than one line.

1. Drag the MultiLine control from the property grid and drop it on the work area next to the Address label.
2. Use the control's handles to widen the control and make it two rows deep:



3. Open the **Screen Location** window from the **TextInsertionLocation** accelerator button.
4. Select **Location** from the **Select By** drop-down list.
5. Click in the **Address** field at row 7, column 16, then click **OK**.
6. In the **ColorSettings** frame, select **Custom** under **Background**, then click the down button  to open the **Available Colors** palette.
7. Select **RoyalBlue**.  
The color fills the MultiLine control.
8. Select **Custom** under **Background**, then select **White** in the **Available Colors** palette.  
This will be the text color in Plus mode.
9. Select **File > Save Project**.

## Taking the project live

Now the customization project is complete, you need to:

- Create a Plus archive.
- Associate the archive with a mainframe session.
- Test the screens.

## Creating a Plus archive

You must now save all the controls and rules you have created to a Plus archive. You will then link the archive to a mainframe session.

To generate the Plus archive:

1. Select **Create > Plus Archive**.

The **Save Plus Archive** dialog appears.

2. In the **File name** field, type a name for the file, such as `DemoHost`.
3. Click **Save**.
4. Select **File > Exit**.

## Associating a customization file with a host session

The final step is to associate the customization file with a host session. To do this:

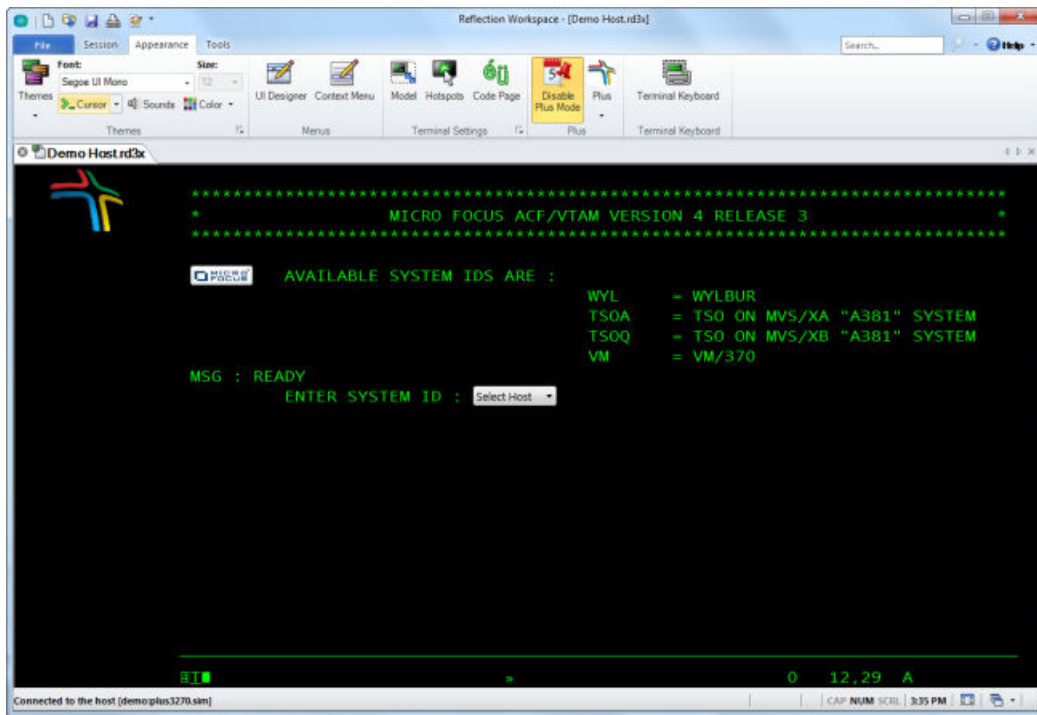
1. On the Reflection desktop, select **Appearance tab > Plus group > Plus > Select Plus Plus Archive**. The **Open** dialog box appears.
2. Choose the Plus archive you created, then click **Open**.

Plus mode is enabled automatically.

## Testing the screens

1. Select **Session tab > Connect**.

The mainframe screen appears in Plus mode, showing the controls you added to it:



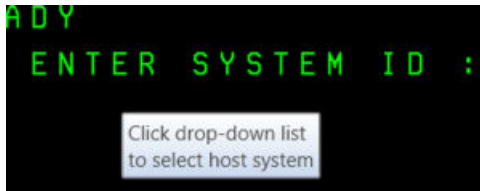
2. Hover your mouse over the **Micro Focus** button.

The tooltip text you created appears:

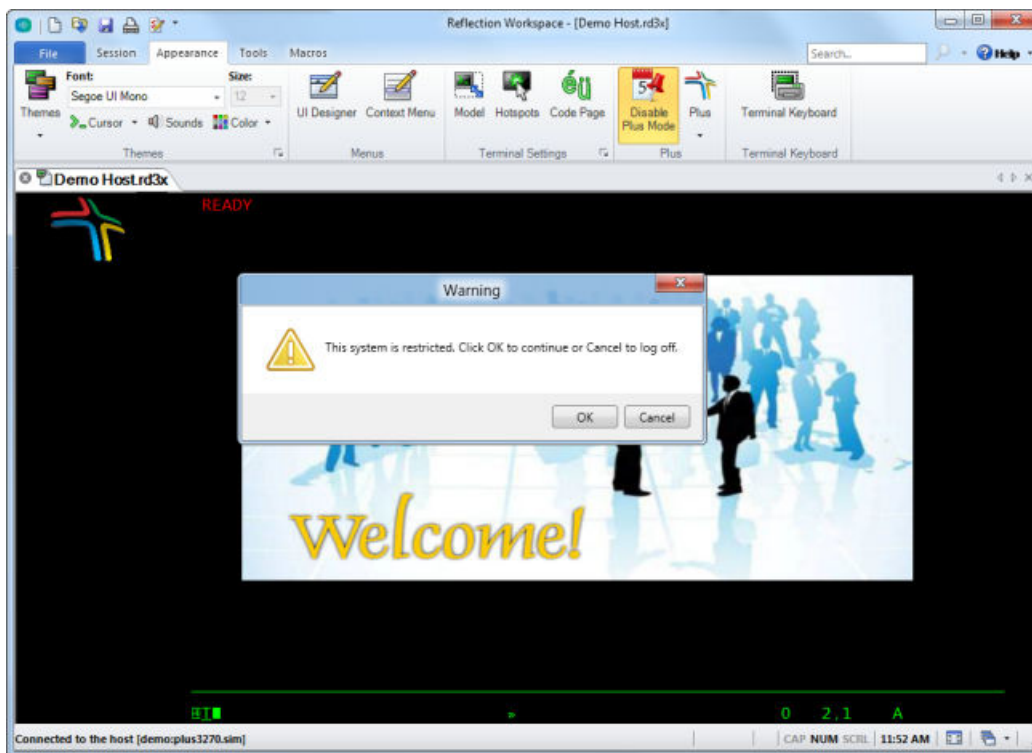


3. Hover your mouse over ENTER SYSTEM ID :

The tooltip text you created appears:



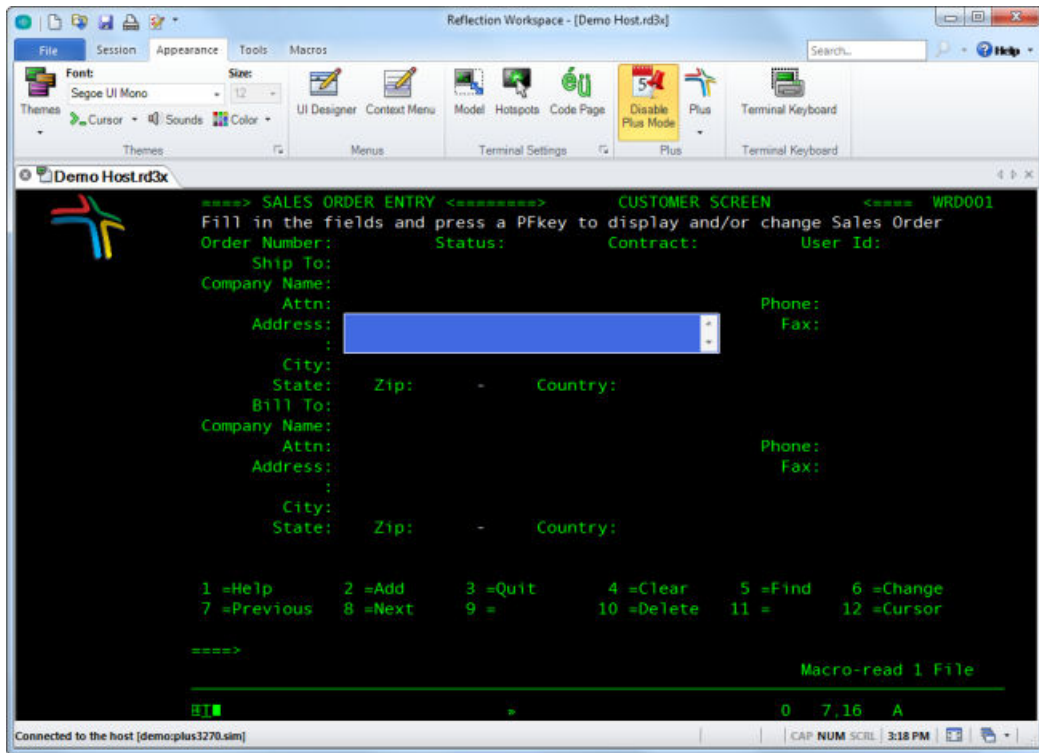
4. Select **TSO MVS/XA** from the Chooser control. The AutoExecution action you specified in the Chooser automatically sends an **Enter** command to execute the system selection. The additional AutoExecution controls you created send **Enter** commands automatically at the ENTER LOGON ID: and LAST SYSTEM ACCESS prompts, presenting you with the READY prompt screen, the image you added with the Image control, and the message box you created:



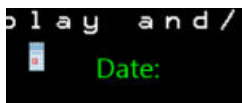
5. Do one of the following:
  - Click **Cancel**. This logs you off and you will need to start the session again.
  - Click **OK** to continue.
6. At the READY prompt, enter:

O

The SALES ORDER ENTRY CUSTOMER SCREEN appears:

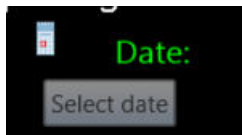


This screen contains the **Date** label, Calendar, and MultiLine controls you created:



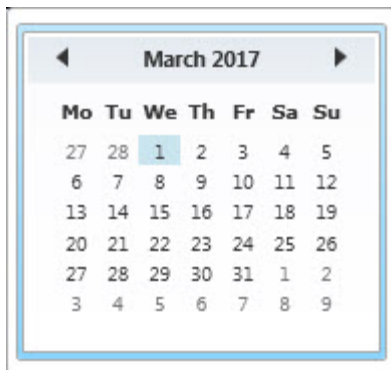
7. Hover your mouse over the Calendar control.

The tooltip text you entered appears:



8. Click the Calendar control.

A calendar appears:



9. Select today's date.

The date appears:

```

y and/or char
Date: 03/01/17

```

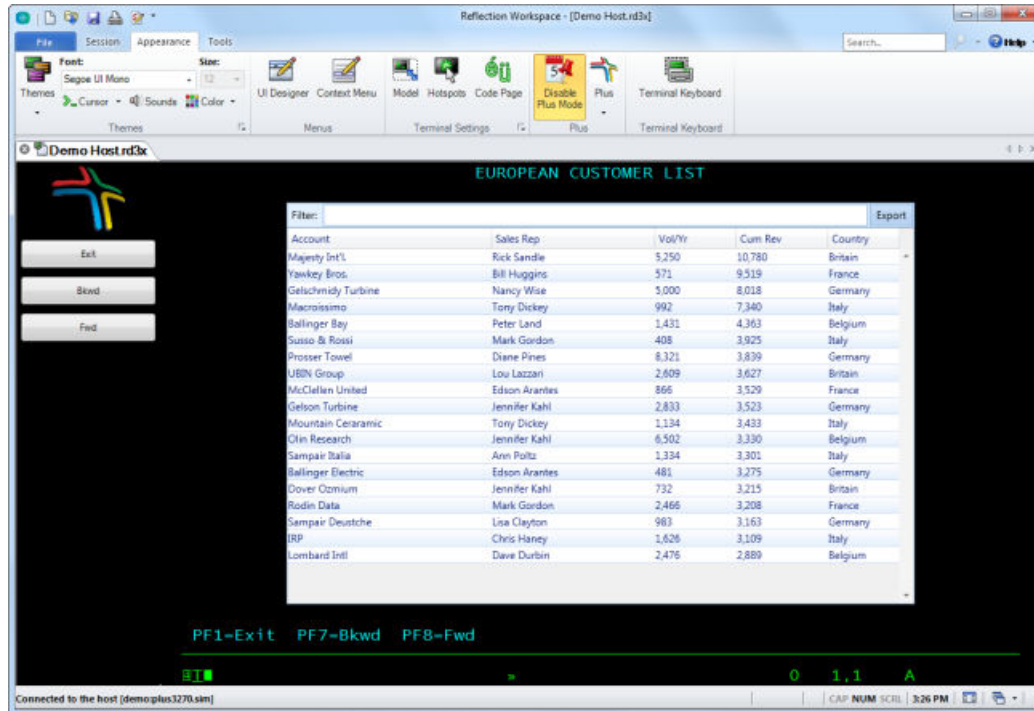
10. Click inside the MultiLine control. Type an address of your choice. Press **Alt+Enter** to split the line into two.

The text is inserted on the green screen, starting at the row,column location you specified in the Screen Designer.

11. Press **PF3**.

12. At the READY prompt, enter C.

The EUROPEAN CUSTOMER LIST screen appears, showing the table you created with the GridCollector and Table controls:



13. Click **Export** at the top right of the table.

The **Save As** dialog appears.

14. Specify a name for the table and click **Save**. The contents of the table are saved in .csv format.

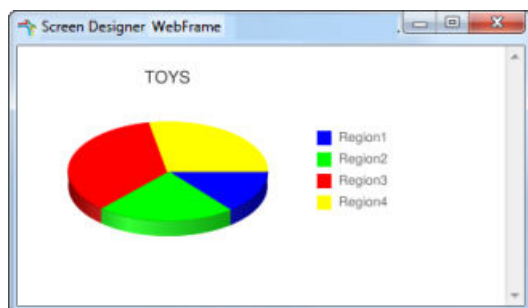
15. Press **PF1**.

16. At the READY prompt, enter:

TOYS

17. At the TOPCO TOYS, INC screen, click the WebFrame control under **JAN**.

The pie chart you created appears in a separate window:



18. Close the pie chart window.

19. In the TOPCO TOYS, INC screen, press **Enter**.

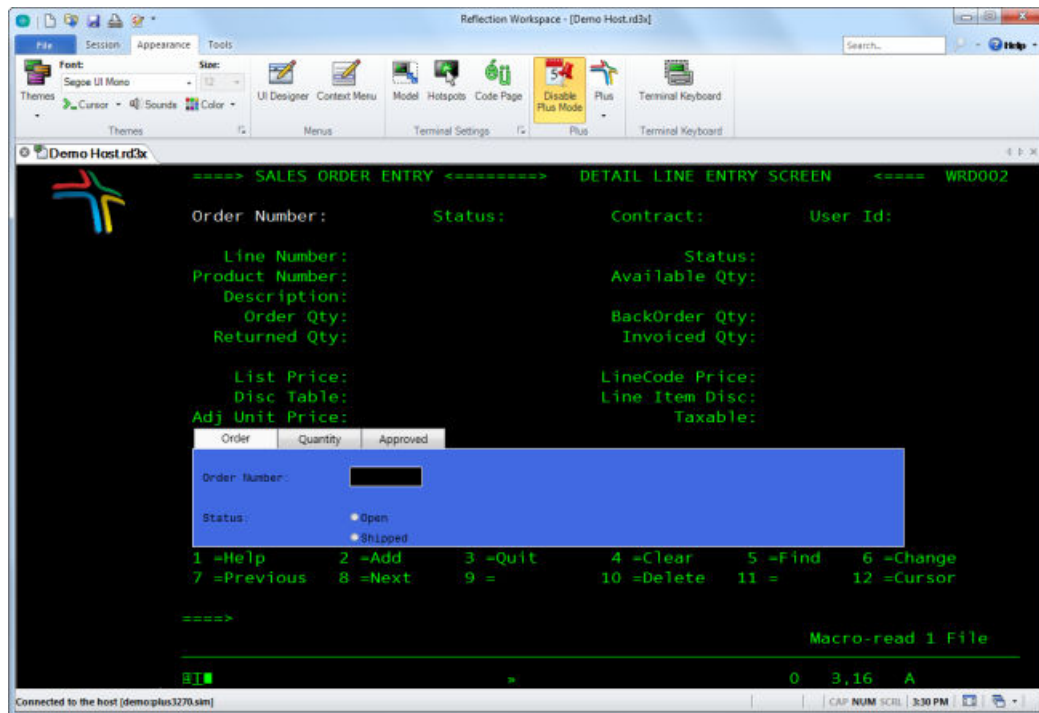
20. At the READY prompt, enter:

O

The SALES ORDER ENTRY CUSTOMER SCREEN appears.

21. Press **PF8**.

The SALES ORDER ENTRY DETAIL LINE ENTRY SCREEN appears, showing the Tab control you created:



22. On the **Order** tab item, in the **Order Number** field, type 12345.

The number appears in the Order Number field on the green screen.

23. Select the **Open** radio button.

The text Open appears in the Status field next to the order number:

**Order Number: 12345      Status: Open**

24. Select the **Shipped** radio button.

The text Shipped replaces Open in the Status field:

**Order Number: 12345      Status: Shipped**

Your default email client opens a new message window so you can advise the customer that the order has shipped.

25. Click the **Quantity** tab.

26. In the **Product Number** field, type ABC77701.

The text appears in the Product Number field.

27. In the **Quantity** field, type 25.

The text appears in the Order Qty field:



```
Line Number:
Product Number: ABC77701
Description:
Order Qty: 25
```

28. Click the **Approved** tab.

29. Check **Approved**.

The check box is unchecked and the text `Pending` appears in the second `Status` field.

30. Check **Approved** again.

The check box is checked and the text `Approved` appears in the second `Status` field.

The screen looks like this:

```
Status: Approved
Available Qty:
```

31. Select **Session** tab > **Host** group > **Disconnect**.

# Using the Rule Manager

Use the Rule Manager to add dynamic controls that repeat on multiple screens or many times on a single screen.

## When to use the Rule Manager

The following basic scenarios describe when to use the Rule Manager instead of the **Screen Design** view.

- Adding Tooltip or Button controls to entire applications.

Fields with specialized Tooltip controls or assistance which remain consistent within the application.

Especially useful to explain account, customer, and status information that is abbreviated or appears in abbreviated form on the screen.

Buttons such as **Exit**, **Clear** (screen), and **Reset** (keyboard).

- Adding controls to screens within subsystems.

Controls which are consistent with major subsystems such as accounts payable, help ticket systems, or customer lookup. A subsystem might consist of five to ten screens, but operator functions are consistent throughout.

Screen content can change, but header information needs to offer similar modernization control.

- Data scroll areas with modernizations that repeat on each line.

One Plus rule can create multiple modernizations.

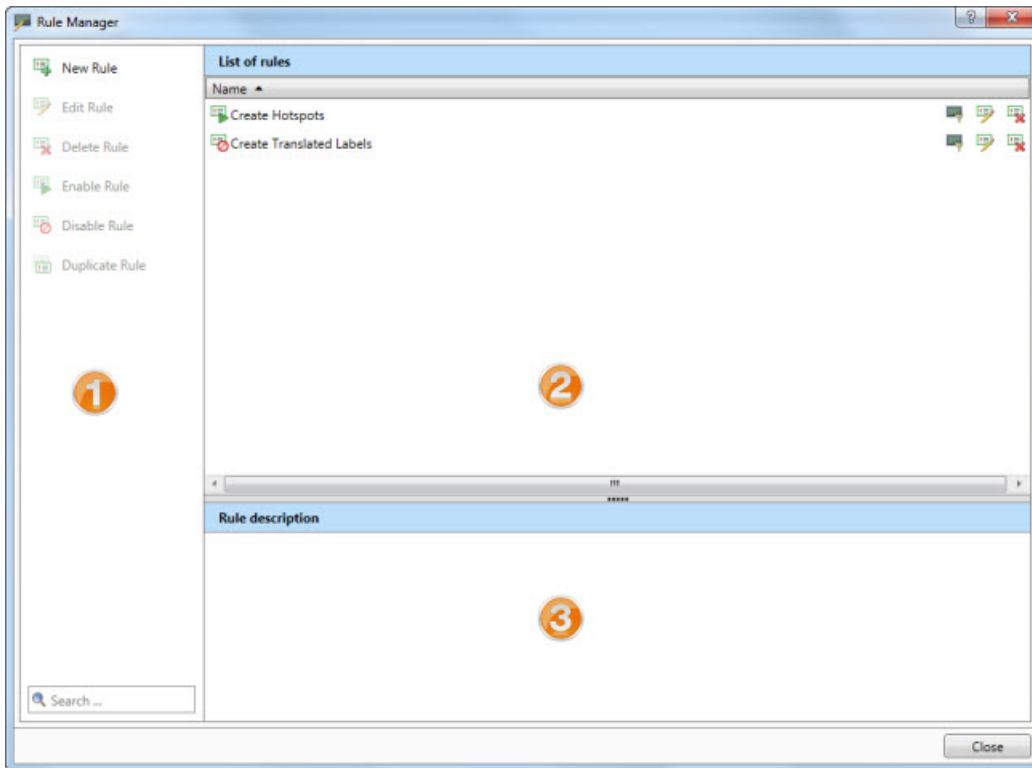


**Tip:** If you find that a control in the **Screen Design** view might be used better as a rule, right-click the control and select **Convert To Rule** from the pop-up menu. The Screen Designer moves the control to the Rule Manager.

## The Rule Manager window

To open the **Rule Manager** window, select **Tools > Rule Manager** from the Screen Designer toolbar.

The **Rule Manager** window appears:



1






Control panel. Contains a list of the following actions:

<b>New Rule</b>	Opens the Rule Wizard to create a new rule.
<b>Edit Rule</b>	Opens the selected rule in the Rule Wizard for editing.
<b>Delete Rule</b>	Deletes the selected rule.
<b>Enable Rule</b>	Enables the selected rule, if disabled.
<b>Disable Rule</b>	Disables the selected rule.
<b>Duplicate Rule</b>	Creates a copy of the selected rule.

The control panel also contains a search box to search rules.

2

**List of rules** pane. Contains a list of configured rules. Each rule consists of:

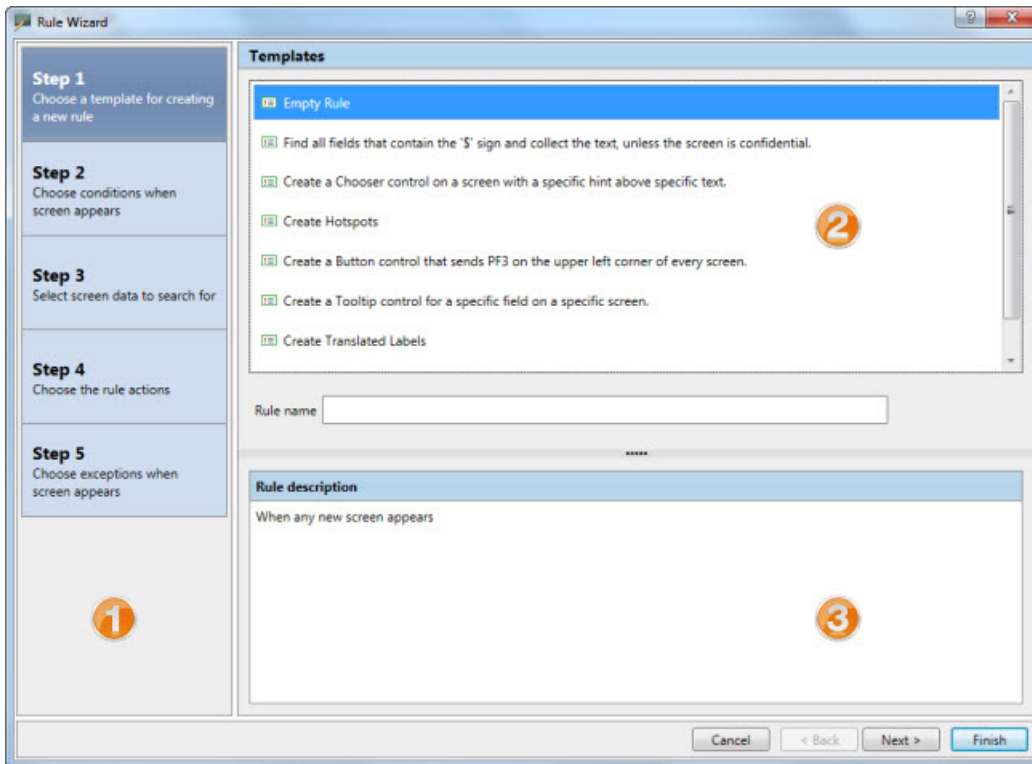
- A description.
- An icon to use the rule to filter screens .
- An icon to show whether the rule is enabled .
- An icon to show whether the rule is disabled .
- An icon to edit the rule .
- An icon to delete the rule .

3

**Rule description** pane. Displays a natural language version of the rule.

## The Rule Wizard

The Rule Wizard helps you to define rules and conditions that govern what actions occur on a screen and when.



1

Steps pane. Contains the steps you need to go through to create a rule. The current step is highlighted.

2

Options pane. Contains the options available for the selected step:

When this step is highlighted ...	The options pane contains ...
Step 1	A list of templates that you can use to build a rule.
Step 2	Conditions that identify the screen the rule will apply to.
Step 3	The field, location, or text to look for on the screen.
Step 4	The controls to create according to the rules.
Step 5	Exceptions to the rules that select screens.

3

**Rule description** pane. Contains a natural language version of the rule.

## Examples

The following examples show different ways in which you can use the Rule Manager to design modernized screens.

### Adding Button or Tooltip controls to entire applications

A simple system **Clear** button is designed with a rule that places it on every screen of the application in the top right corner.

Button controls like this help users who are not used to the rules that apply to 3270 / 5250 applications.

Rule description

When any new screen appears

then find screen rectangle from row:1 column:76 with size:1,5

create a Button for each item found



## Adding controls to screens within subsystems

In this example, the administrator wants to help users identify an account status. Anywhere in the application where the string `ACCOUNT STATUS : AB` appears, a tooltip appears so that the operator knows that the account status is active with credit approved.

The rule first finds the character string, then places a tooltip over the entire string. Moving the mouse over the abbreviated field provides a more detailed description.

Rule name

Active Billing

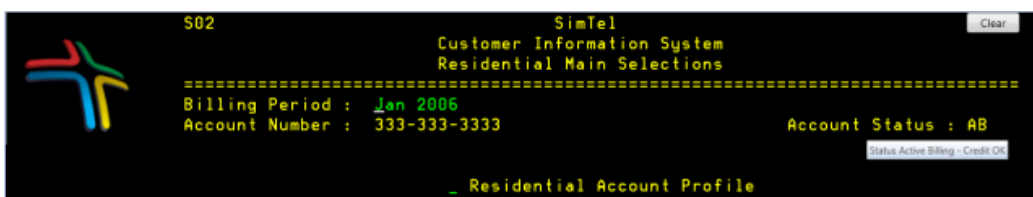
Rule description

When a new screen appears

and the screen contains 'Account Status : AB' somewhere on the screen

then find 'Account Status : AB' on screen

create a Tooltip for each item found



## Adding rules to be used on a set of screens

This example shows three screens in an application called **Master Inquiry**. The screens are similar, but have different input prompts and different data headings. Each screen would be identified automatically as a different screen.

```

16:12.18          MASTER    INQUIRY                      4/29/13
BBARTLETT                               Rel.Rec.#: 0015
Enter a key number _____          ScrnCount: 003
2=change      4=delete      5=display
Opt. key #   Last Name   First Name   St ZipCode   Balance
-----
- 00014 Davis      Skeeter     TN 45765    30,800,123.00
- 00015 Queen     Ellery      00000      61,244,086.15
- 00016 Benatar   Pat         45667      40,698,228.40

```

```

16:13.46          MASTER    INQUIRY                      4/29/13
BBARTLETT                               Rel.Rec.#: 0015
Enter a Last Name: _____          ScrnCount: 005
2=change      4=delete      5=display
Opt. key #   Last Name   Address      City      scod ct
-----
- 01974 Amir      Llexander Yanay 24 Haifa      111 3
- 10120 Appleseed 1 Infinite Loop Cupertino 023 4
- 75664 Benatar   1241 TOWER ROAD SIDNEY     234 2

```

```

16:15.04          MASTER    INQUIRY                      4/29/13
BBARTLETT                               Rel.Rec.#: 0015
Enter a Last Name: _____          ScrnCount: 006
2=change      4=delete      5=display
Opt. key #   Last Name   First Name   St ZipCode   Balance
-----
- 01974 Amir      Amir        IL 34981     1,234,567.00
- 10120 Appleseed Johnny       CA 95014     24,343.00
- 75664 Benatar   Pat         45667      40,698,228.40

```

The example creates a rule that puts a **Create New Customer** button near the first entry field.

The rule for this button is based on the **Master Inquiry** screen designation. If the screen identifies itself as Master Inquiry and the string 5=display is found, the rule automatically puts a button by the 5=display field. On screens that do not match the criteria, no button is created. The button is programmed with the keystrokes to create a customer record within the application.

Rule name:

---

**Rule description**

When a new screen appears

and the screen contains 'MASTER INQUIRY' in row:1 column:26

then find '5=display' on screen

create a Button for each item found

Cancel < Back Next > Finish



```

16:15.04          MASTER    INQUIRY                      4/29/13
BBARTLETT                               Rel.Rec.#: 0015
Enter a Last Name: _____          ScrnCount: 006
2=change      4=delete      5=display      New Customer
Opt. key #   Last Name   First Name   St ZipCode   Balance
-----
- 01974 Amir      Amir        IL 34981     1,234,567.00
- 10120 Appleseed Johnny       CA 95014     24,343.00
- 75664 Benatar   Pat         45667      40,698,228.40

```

Create a New Customer Record



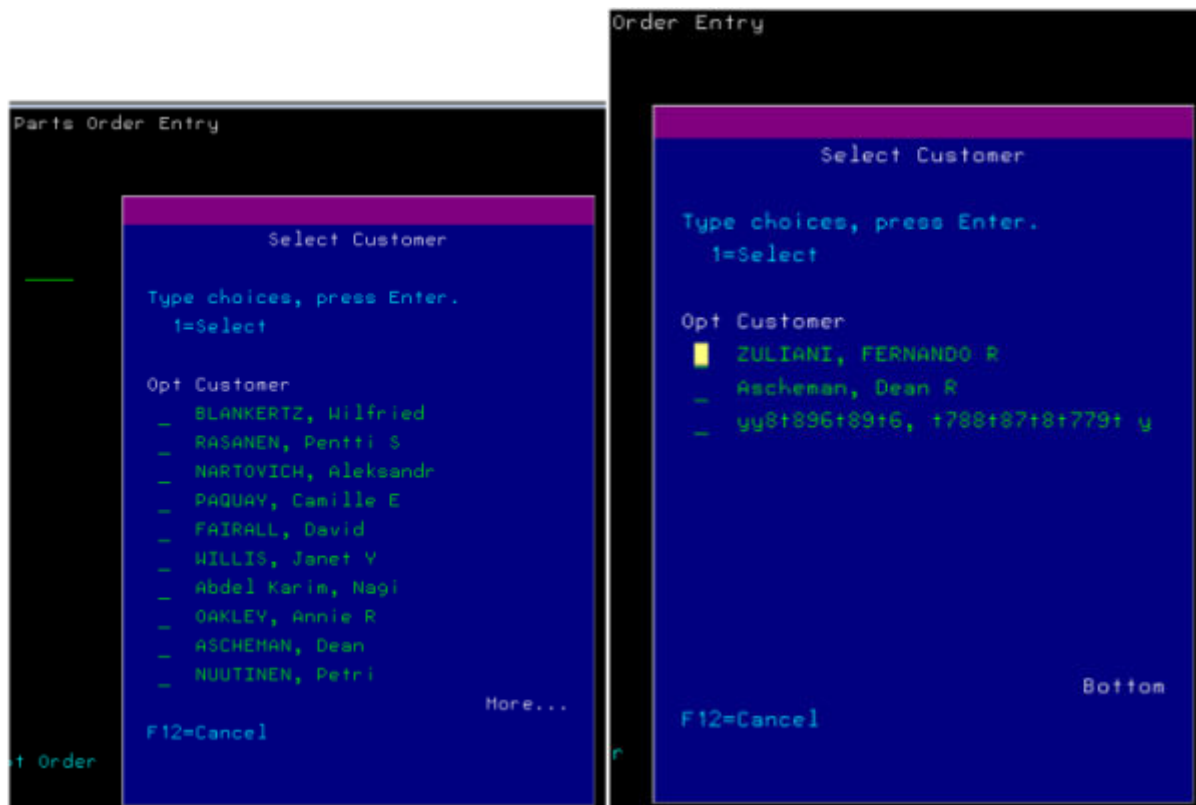
## Adding controls to each line on a screen

This example uses screens containing tables of data and adds the same controls to each line on the display. If you were to use the **Screen Design** view, you would need to add a separate control for each line of each table. Instead, you can use rules to replicate controls on each line.

To select a customer, the user types 1, then presses **Enter**. The example sets up a rule that replaces these actions.



**Note:** The number of data entries per page varies. The rule creates 10 static selections per page. As a result, the last page will only have three buttons because only three selections are valid.



The rule looks for the character strings `Select Customer` and `1 Select`. It then replaces the single character input field with a button labeled **SEL**. This button replaces the two actions of typing 1 in the data field and pressing **Enter** with a simple point and click.

Rule name:

---

**Rule description**

When a new screen appears

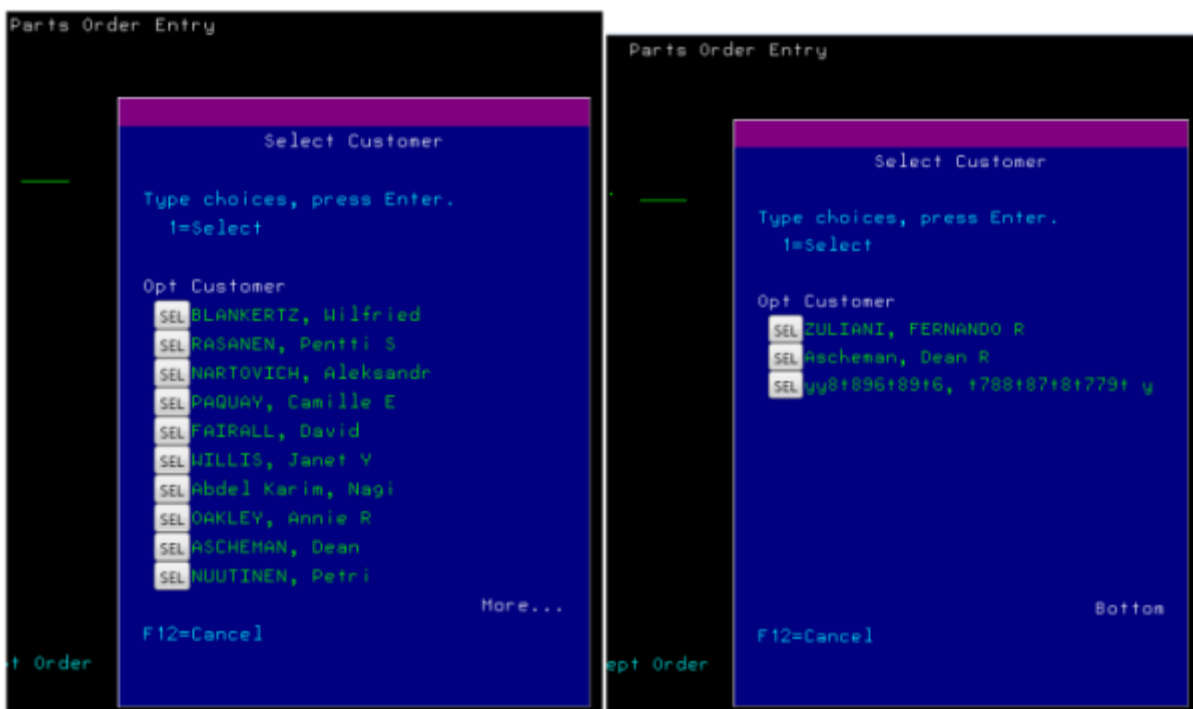
- and the screen contains '1=Select' in row:8 column:45
- and the screen contains 'Select Customer' in row:5 column:53

then find Unprotected and visible field with text: ''

create a Button for each item found

Cancel < Back Next > Finish

Because the rule looks for the input field, if that input field is not found, the control is not added to the screen.



## Using operands in rules

In this example, the administrator wants to identify all employees who joined the company from March, 2010 and earn less than 40,000 a year, then mark each screen with a label.

This rule looks at either of two screens for salaries under 40,000 and dates after March 1, 2010. If both types of data are found, a label is placed on the screen:



Rule name: Operand Rule

Rule description

When a new screen appears

- and Screen ID is ResCurrentProfile
- or Screen ID is ResBasicSummary
- and the screen contains Number that is LessThan '40,000' in row:4 column:15
- and the screen contains Date that is GreaterThan '03/01/2010' in row:14 column:5

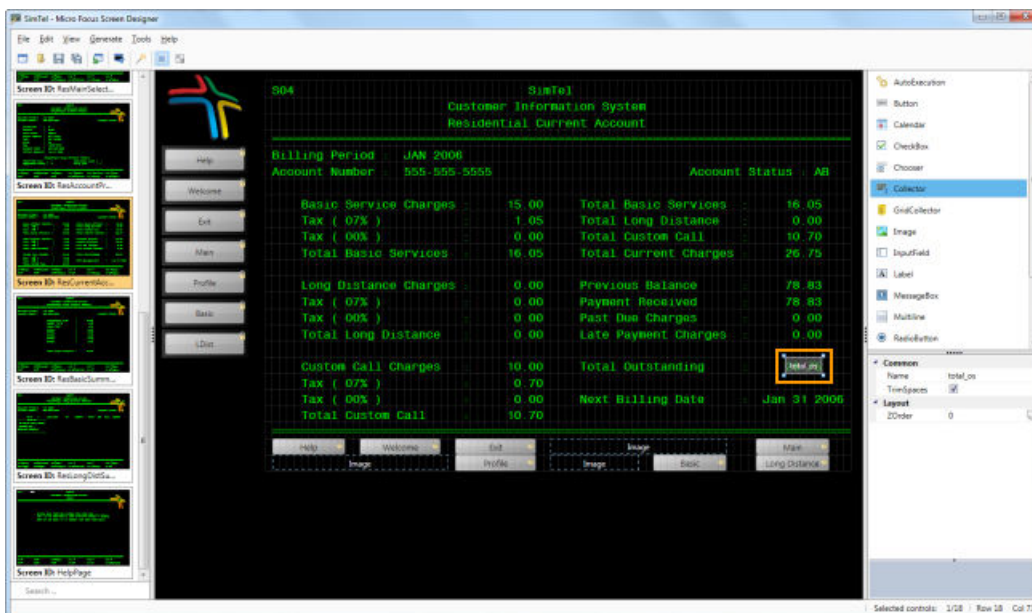
then find screen rectangle from row:3 column:65 with size:3,10

create a Label for each item found

## Using variables in rules


This example uses a variable to display a message box if a value exceeds a specified amount. If the outstanding balance on a customer account screen exceeds 25, a message box appears to alert the user.

A Collector control is used to read the value of the appropriate field:



The rule first looks for the correct screen ID, then reads the value of the selected variable provided by the Collector control.

If the value exceeds 25, a message box is displayed:



S04

SimTel

Customer Information System

Residential Current Account

Help

Welcome

Exit

Main

Profile

Basic

LDist

=====

Billing Period : JAN 2006

Account Number : 555-555-5555

Account Status : AB

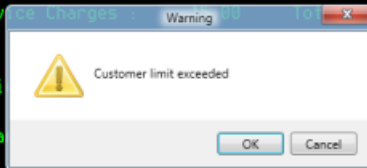
=====

Basic Service Charges :	16.05	Basic Services :	16.05
Tax ( 07% ) :	0.00	Long Distance :	0.00
Tax ( 00% ) :	0.00	Custom Call :	10.70
Total Basic :	16.05	Current Charges :	26.75
Long Distance :	0.00	Balance :	78.83
Tax ( 07% ) :	0.00	Received :	78.83
Tax ( 00% ) :	0.00	Past Due Charges :	0.00
Total Long Distance :	0.00	Late Payment Charges :	0.00
Custom Call Charges :	10.00	Total Outstanding :	26.75
Tax ( 07% ) :	0.70	Next Billing Date :	Jan 31 2006
Tax ( 00% ) :	0.00		
Total Custom Call :	10.70		

=====

PF1=Help PF2=Welcom PF3=Exit PF4 = PF5 = PF6 =Main

PF7= PF8= PF9=Profile PF10= PF11=Basic PF12=LDist



# Types of Control


## AutoExecution

AutoExecution is used to trigger a sequence of actions when a green screen appears. The control is not visible in a Plus session.

## Button

Button is used to trigger a sequence of actions when clicked. The control can include text or an image.

Properties:

Name	Default value	Description
Mode	Text	Specifies the type of content for the control. Can be <b>Text</b> or <b>Image</b> .  <b>Note:</b> If you select <b>Text</b> , you can create a new line or split an existing line by pressing <b>Alt+Enter</b> .
ImagePath	Empty string	Click the accelerator button to open the project image pool folder where you can select an image file with a format of JPG, GIF, or PNG. To select a different image, click <b>Add to pool</b> and browse to the image you want to use. The image file is then copied to the image pool and saved with the project.  Alternatively, you can type the location of an image in the form of its full path or full Web address in the <b>ImagePath</b> field.  Only available if <b>Mode</b> is <b>Image</b> .
ImagePosition	Stretch	Specifies the position of the image inside the button:  <b>Stretch</b> (default) <b>Fill</b> <b>Fit</b> <b>Center</b>

## Calendar

Calendar is used to pick a date and is initially displayed on the screen as an icon. Calendar opens when you click the icon. It closes on losing focus, or when you select a date.

When you select a date in the date picker, the date is inserted on the screen at the coordinates defined by **TextInsertionLocation**. The format used is defined by **InsertedDateFormat**.

If the field occupied by Calendar contains `date`, the field is used by Calendar when it opens. Otherwise, Calendar uses the current date.



**Note:** When the control is used in a Plus session and, if the screen location is a protected field, the calendar can be displayed but no date can be picked.

#### Properties:

Name	Default value	Description
<b>InsertedDateFormat</b>	Empty string	Specifies the format of the text representing the date format.  If empty, the default date format is used: <code>dd/MM/yyyy</code>  For example, 03/01/2015.

## Using the Date Format dialog box

Use the **Date Format** dialog box either to select a predefined date format or to create a customized date format.

### Selecting date formats

To select a date format other than the default:

1. Click the accelerator button  next to the **InsertedDateFormat** field in the property grid.

The **Date Format** dialog box appears.

2. Select a date format from the list shown, then click **OK**.

The dialog box closes and the chosen date format appears in the **InsertedDateFormat** field.

### Using customized date formats

To use a customized date format:

1. Type the format you want in the field at the top of the **Date Format** dialog box.



**Note:** Day and year must always be specified in lower case. Month must always be specified in upper case.

2. Click **Add**.

The custom format appears in the main list.

3. Click **OK**.

The dialog box closes and the chosen date format appears in the **InsertedDateFormat** field.

4. To remove a custom format from the list, select the format, then click **Remove**.



**Note:** You can only remove custom formats, not a supplied format.

### Custom date format specification

The table below describes the date formats you can use with the Calendar control.

Format specifier	Description	Example	Interpretation
<b>j</b>	Represents the sequence number of a day in the calendar year.  <b>j</b> displays values between 1, which represents January	<b>j-yy</b>  <b>j-yyyy</b>	The date 1/1/2015, <b>j</b> is displayed as <b>1-15</b> .  The date 12/31/2015, <b>j</b> is displayed as <b>365-2015</b> .

Format specifier	Description	Example	Interpretation
<b>jjj</b>	<p>1, and 366, which represents December 31 in a leap year.</p> <p>Represents the sequence number of a day in the calendar year.</p> <p><b>jjj</b> displays values between 1, which represents January 1, and 366, which represents December 31 in a leap year.</p> <p>For <b>jjj</b>, values less than 100 are padded with a leading zero or zeros.</p>	<p><b>jjj-yy</b></p> <p><b>jjj-yyyy</b></p>	<p>The date 1/1/2015, <b>jjj</b> is displayed as <b>001-15</b>.</p> <p>The date 12/31/2015, <b>jjj</b> is displayed as <b>365-2015</b>.</p>
<b>d</b>	The day of the month, from 1 through 31.	<p><b>M/d/yyyy</b></p> <p><b>M/d/yy</b></p>	<p>For the date 6/1/15, <b>d</b> is interpreted as <b>1</b>.</p> <p>For the date 6/15/15, <b>d</b> is interpreted as <b>15</b>.</p>
<b>dd</b>	The day of the month, from 1 through 31.	<p><b>M/dd/yyyy</b></p> <p><b>M/dd/yy</b></p>	<p>For the date 6/1/2015</p> <p><b>dd</b> is interpreted as <b>01</b>.</p> <p>For the date: 6/15/15</p> <p><b>dd</b> interpreted as <b>15</b>.</p>
<b>ddd</b>	The abbreviated name of the day of the week.	<p><b>M-ddd-yyyy</b></p> <p><b>M-ddd-yy</b></p>	<p>For the date 6-Mon-2015, <b>ddd</b> is interpreted as <b>Mon</b> (for EN-US).</p> <p>For the date 6-lun.-15, <b>ddd</b> is interpreted as <b>lun.</b> (for FR).</p>
<b>dddd</b>	The full name of the day of the week.	<p><b>M-dddd-yyyy</b></p> <p><b>M-dddd-yy</b></p>	<p>For the date 6- Monday -2015</p> <p><b>dddd</b> is interpreted as <b>Monday</b> (for EN-US).</p> <p>For the date 6- lundi -15, <b>dddd</b> is interpreted as <b>lundi</b> (for FR).</p>
<b>M</b>	The month, from 1 through 12.	<b>M-dd-yyyy</b>	<p>For the date 6/15/2015, <b>M</b> is interpreted as <b>6</b>.</p> <p>For the date 12/15/2015, <b>M</b> is interpreted as <b>12</b>.</p>
<b>MM</b>	The month, from 01 through 12.	<b>MM-dd-yyyy</b>	<p>For the date 06/15/2015, <b>MM</b> is interpreted as <b>06</b>.</p> <p>For the date 12/15/2015, <b>MM</b> is interpreted as <b>12</b>.</p>

Format specifier	Description	Example	Interpretation
<b>MMM</b>	The abbreviated name of the month.	<b>MMM-dd-yyyy</b>	For the date Jun-15-2015, <b>MMM</b> is interpreted as <b>Jun</b> (for EN-US).  For the date juin-15-2015, <b>MMM</b> is interpreted as <b>juin</b> (for FR).
<b>MMMM</b>	The full name of the month.	<b>MMMM-dd-yyyy</b>	For the date January-15-2015, <b>MMMM</b> is interpreted as <b>January</b> (for EN-US).
<b>y</b>	Represents only the last digit of the year.	<b>M-dd-y</b>	For the date 2-03-15, <b>y</b> is interpreted as <b>5</b> .  When the Calendar control is opened by the user, the digit of the current decade is added to the left. That is, the year would be set to 15 (2015)
<b>yy</b>	The year, from 00 to 99.	<b>M-dd-yy</b>	For the date 6-15-15, <b>yy</b> is interpreted as <b>15</b> .
<b>yyyy</b>	The year, as a four-digit number.	<b>M-dd-yyyy</b>	For the date 6-15-2015, <b>yyyy</b> is interpreted as <b>2015</b> .
Any string	Data separators.	Examples: <b>M dd yyyy</b> <b>M-dd-yyyy</b> <b>M/dd/yyyy</b> <b>M#dd#yyyy</b>	

## CheckBox

The CheckBox control acts as an on/off toggle control in the same way as a typical check box.

CheckBox provides the user with the choice of one of two options, such as Yes and No.



**Note:** When the control is used in a Plus session and, if the screen location is a protected field, the control is disabled.

### Properties:

Name	Default value	Description
<b>CheckedState</b>	Empty string	The text to be used at the specified screen location and any specified actions to be performed if the check box is checked.
<b>UncheckedState</b>	Empty string	The text to be used at the specified screen location and any specified actions to be performed if the check box is unchecked.

# Chooser

Chooser is displayed on the screen as a drop-down control. Chooser is used to insert data into a field on the screen by selecting an item from the list.

Auto-complete is supported.



**Note:** When the control is used in a Plus session and, if the screen location is a protected field, the control is disabled.

## Properties:

Name	Default value	Description
<b>IsAutoCompleteEnabled</b>	Checked	When checked, Chooser automatically offers a case-insensitive matching item to be selected from the list. If the user is not typing in the screen field occupied by Chooser, no suggestions are made.
<b>IsEditable</b>	Checked	When checked, data can be typed into the field that Chooser is using. If unchecked, data can only be selected from the drop-down list.
<b>UseDynamicData</b>	Unchecked	When checked, the items list is taken dynamically from a .CSV file. The .CSV file can be a local file, a network file, or a URI.
<b>ChooserItems</b>	Empty list	The list of items displayed by the drop-down list when clicking the down arrow. The list of items can be imported from a .CSV file (see below). Each item is specified by <b>Caption</b> , <b>Tooltip</b> , and <b>ValueToInsert</b> . If <b>UseDynamicData</b> is checked, the <b>ChooserItems</b> field contains the full path of the .CSV file or opens a dialog box to select it.
<b>ValueToInsert</b>		Specifies the text to be inserted when selecting an item from the list.

## Using a .CSV file to supply data

When **UseDynamicData** is checked, the list of **ChooserItems** is taken from a .CSV file. The file can be a local file, a network file, or a URI. The **ChooserItems** field contains the full path of the .CSV file, which you select by clicking the accelerator button.

To use this feature successfully, the contents of the .CSV file must be in the following format:

<CAP><DEL><TIP><DEL><VAL>

where:

This ...	Denotes this ...
<CAP>	Caption.
<DEL>	Tab, comma, semi-colon.
<TIP>	Tool tip.
<VAL>	Value to insert.

## Examples:

Tab	Comma	Semi-colon	Single column
A A A	AAA, BBB, CCC	A;A;A	AAA
B B B	DDD, EEE, FFF	B;B;B	BBB
C C C	GGG, HHH, III	C;C;C	CCC
D D D	JJJ, KKK, LLL	D;D;D	DDD
	MMM, NNN, OOO		EEE

#### Loading data from a .CSV file:

1. Check **UseDynamicData** in the property grid.
2. Click the accelerator button next to **ChooserItems**.
3. In the **Open** dialog box, find and select the .CSV **ChooserItems** file.
4. Click **Open**.

#### Importing a .CSV file:

1. Leave **UseDynamicData** unchecked.
2. Click the accelerator button next to **ChooserItems** in the property grid.
3. In the **ChooserItems** dialog box, click the **Import** icon.
4. Select the .CSV file.
5. Click **OK**.

## Loading data dynamically in a Plus session

You can use a URI to supply data from a remote source to a Chooser control during a Plus session. The source can be a .CSV file or a web service that returns .CSV formatted output.

The content of the Chooser is loaded dynamically and cached into the project folder each time the screen containing the Chooser appears.

1. Check **UseDynamicData** in the property grid.
2. In the **ChooserItems** field, type the URI of the data source. For example:

```
http://www.<domain>.com/<service_name>?<parameter>=<value>
```



**Note:** If the URI is not accessible for any reason, the cached data is used.

## Collector

Collector is not visible in a Plus session. It is used to copy text from the screen location of the Collector to the session database. The screen location of the Collector is defined by the two pairs (Row Offset, Column Offset), (Row Span, Column Span).

The database lifetime is the whole session. Data is collected when host screen appears as a list of (key, value) pairs of strings. The data can be used by other controls only from the current session. When the screen location of the Collector spans screen rows, appropriate line breaks are inserted into the collected data.

For example, a Button control looking like a small handset icon can be set up with an action **Run\_Application** to run Skype. **Additional\_Arguments** of this action can use a phone number stored by the Collector located in a phone number field on another screen of the session.

#### Properties:



Name	Default value	Description
TrimSpaces	Checked	When checked, all leading and trailing whitespace characters are not copied to the database. When unchecked, whitespace characters are included in the data.



**Note:** The **Name** property also specifies a key to be used by a Collector when copying data from the Collector screen location to the database.

Data stored with the same key more than once is overwritten.

Data can be accessed later in the session by using the syntax:

%%PhoneNumber%%

where `PhoneNumber` is the global variable name.

## GridCollector

The GridCollector control is an extended version of the Collector control. Collector collects data as text from a specific screen location. GridCollector collects data as a table (grid).

The control stores the collected information in a database for the lifetime of the current session. The information can be used by any other control.

To configure GridCollector properties, click the **Edit Mode** button at the top right corner of the control. When you have finished, click either the **Save and Exit** button or the **Cancel Edit Mode** button.

### Properties:

Name	Default value	Description
<b>Columns</b>	<b>GridCollector Column</b>	Columns collection. Each column has one property: <b>Name:</b> Non-empty string.
<b>IncludesHeader</b>	Checked	When checked, the selection includes the table header.
<b>AvoidDuplications</b>	Checked	When checked, duplicate rows are not collected.
<b>MultiPageNavigation</b>	Checked	When checked, the following properties are enabled:  <b>MaxPagesToLookUp</b> <b>ForwardNavigation</b> <b>BackwardNavigation</b>
<b>MaxPagesToLookUp</b>	1	Integer. The number of additional pages that are fetched ahead each time the fetch operation is triggered by one of the controls that uses the GridCollector data. The GridCollector implements the fetching mechanism (not the control that uses the GridCollector) .
<b>ForwardNavigation</b>		
<b>AidKey</b>	PF8	The AID key for fetching the next page.
<b>EndOfDataConditions</b>		Clicking the accelerator key opens the <b>EndOfDataConditions</b> dialog box.
<b>BackwardNavigation</b>		
<b>AidKey</b>	PF7	The AID key for fetching the previous page.
<b>EndOfDataConditions</b>		Clicking the accelerator key opens the <b>EndOfDataConditions</b> dialog box.

Name	Default value	Description
<b>SaveCommand</b>		Executes an action or a collection of actions when the <b>Save</b> button is clicked on the linked table. Clicking the accelerator button opens the <b>SaveCommand</b> dialog box where you specify the actions to be executed.

## Refreshing data

If you have specified an action to be performed in a table and that action is relative to a row, a refresh might be required to synchronize the table data with the data collected from the green screen. To specify a refresh, you can tell the associated GridCollector control to go back to the first table screen and collect any data again. To do this:

1. Click the **Edit** icon on the GridCollector control.
2. In the property grid, under **BackwardNavigation**, select a PF key from the **AidKey** list to use as an AID key. The default is **PF7**.
3. Under **BackwardNavigation**, click the accelerator button next to **EndOfDataConditions**.  
The **EndOfDataConditions** dialog box appears.
4. From the **Select type** list, select the stop condition to determine the first page of the table, then click **Add**. The default condition is **Timeout**.
5. Click **OK**.

## EndOfDataConditions properties

Name	Default value	Description
<b>Timeout</b>		When selected, data collection stops if no response is received within the value specified by <b>WaitForResponseTimeout</b> .
<b>WaitForResponseTimeout</b>	2000	Timeout, in milliseconds. Minimum value is 500 ms. Maximum value is 10000 ms.
<b>EmptyLine</b>		When selected, data collection stops if an empty line is found.
<b>Text</b>		When selected, data collection stops if either:  The specified non-empty string is found at the specified screen location.  or:  The specified string is empty and nothing is found at the specified screen location.
<b>EndOfDataText</b>		The text to search. Available if <b>Text</b> is selected.
<b>EndOfDataTextLocation</b>	Anywhere	Location of the text. This is one of the following: <ul style="list-style-type: none"> <li>• The whole screen, as specified by the string <b>Anywhere</b>.</li> <li>• A specific location on the screen, specified in the <b>Screen Location</b> dialog box. To open this dialog box, click the accelerator button next to the <b>EndOfDataTextLocation</b> field.</li> </ul>
<b>EndOfDataTextRow</b>		The row of the text.

Name	Default value	Description
EndOfDataTextColumn		The column of the text.



**Note:** GridCollector checks stop conditions from the top to the bottom of the list until any condition is met, then stops collecting data. In this way, you can re-order conditions to collect different amounts of data from the same screens.

## Syntax

Any control that wants to use the data from the GridCollector can get the data by using the following syntax:

```
%%GridCollector_Name[Row_Number,Column_Name]%%
```

### Examples:

%%Customers[5,Address]%%	Defines getting the address of the entry 5.
%%Customers[* ,Address]%%	Defines getting the address of all customers. This can be useful for setting a list control's items source.
%%Customers[3,*]%%	Defines getting all data for the customer at the third row.
%%Customers[* ,*]%%	Defines getting GridCollector data for all customers.

On a Plus screen, each time new data appears on the screen, the data is added to the GridCollector table.

## Image

Image control is used to mask an area on the screen. The control appears in a Plus session without a frame, and can be filled with one of the following:

**Image** If you do not select a valid image, or provide a valid URL, the Image control is invisible on the screen.

**Color** You can either use the host background color as the fill color (default) or select a custom color from the palette. The default color is black. If you select a transparent fill, the Image control is invisible on the screen.

You can change the opacity of the Image control to show the contents of the screen behind the control. To do this, select the control, then click the icon on the top right corner of the control's frame.

### Properties:

Name	Default value	Description
Type	Image	Fill type. Can be one of <b>Image</b> or <b>Color</b> .
ImagePath	Empty string	Click the accelerator button to open the project image pool folder where you can select an image file with a format of JPG, GIF, or PNG. To select a different image, click <b>Add to pool</b> and browse to the image you want to use. The image file is then copied to the image pool and saved with the project.  Alternatively, you can type the location of an image in the form of its full path or full Web address in the <b>ImagePath</b> field.  Only available if <b>Type</b> is <b>Image</b> .

Name	Default value	Description
<b>ImagePosition</b>	<b>Stretch</b>	Position and size of the selected image. Can be one of the following:  <b>Stretch</b> (default) <b>Fill</b> <b>Fit</b> <b>Tile</b> <b>Center</b>  Only available if <b>Type</b> is <b>Image</b> .
<b>ColorSettings</b>		Only available if <b>Type</b> is <b>Color</b> .  Specifies the fill color of the control. This can be one of: <ul style="list-style-type: none"> <li>• <b>FromHost</b>: The host background color is used.</li> <li>• <b>Custom</b>: You select a color from the color palette.</li> </ul>
	<b>Background</b> Black	

## InputField

The InputField control provides a text input field in which the user types text which is added at a specified screen location.

For example, InputField can be used to modernize or rationalize the layout of a screen with a number of input fields. InputField controls can be placed where they are most useful. The information the user types into them is then added at the screen locations of the traditional editable areas.



**Note:** When the control is used in a Plus screen, the input field displays the value from the screen location, at the specified length. However, if the screen location is a protected field, no typing is allowed in the InputField control.

In addition, if the length is 0 (the default value), data is read until the end of the green screen field the control refers to, and the number of characters is limited by the length of the green screen.


### Properties:

Name	Default value	Description
<b>IsEnabled</b>	Checked	Specifies whether the control allows user input.
<b>IsNumeric</b>	Unchecked	Specifies whether the input is numeric as opposed to all characters.
<b>IsPassword</b>	Unchecked	When checked, a mask character (*) is displayed instead of the typed characters.
<b>Length</b>	0	The maximum number of characters that the input field can contain. A value of 0 means the number of characters is limited by the length of the green screen field.
<b>AutoTab</b>	Unchecked	When checked, and the length of inserted text reaches the length of the input field, the cursor moves automatically to the next field control, as defined by the <b>TabOrder</b> property.

## Label

The Label control is a single line control which is used to place any static text at a specified location on a screen.

### Properties:

Name	Default value	Description
HostText	Checked	When checked, the host text located at ( <b>StartRow,StartColumn</b> ) is used as the label text. When unchecked, <b>LabelText</b> is made available.
LabelText	Label	If <b>HostText</b> is unchecked, this specifies the custom text to be displayed on the label.  <b>Note:</b> You can create a new line or split an existing line by pressing <b>Alt+Enter</b> .
TranslateText	Unchecked	When checked, the label text is translated using the language file specified in the <b>Project Settings</b> window.
TextLocation	InPlace	The (row,column) where the label text on the screen should be taken. <b>InPlace</b> means the label text should be taken from the location of the control as specified on the <b>Screen Design</b> page, or from the location of the logical marker defined by the <b>SearchFor</b> condition.  The screen location can also be defined by using the <b>Select Screen Location</b> window, opened by clicking the accelerator button next to the <b>TextLocation</b> field.
TextLength	0	Specifies the number of characters in the label text.
Alignment	Left	Specifies the alignment of the label text:  <b>Left</b> <b>Center</b> <b>Right</b>

## Translating Label text

You can specify that the text of particular Label controls are translated to another language. To do this, you need to create a translation resource file, which is a .csv file containing semi-colon delimited strings. You then configure the Label controls.

### Configuring Label translation

1. Create a translation resource file in the following form:

```
<source_language_phrase>; <target_language_phrase>
<source_language_phrase>; <target_language_phrase>
<source_language_phrase>; <target_language_phrase>
<source_language_phrase>; <target_language_phrase>
<source_language_phrase>; <target_language_phrase>
```

2. Save the file as a .csv file.
3. Select **Tools > Project Settings**.  
The **Project Settings** window appears.
4. Select **Translation** in the left pane.
5. Click **Browse** next to the **Translation File** field.  
The **Select Translation File** window appear.
6. Select the appropriate file and click **Open**.



**Note:** You can also type a URI in the **Translation File** field. The URI can contain parameters, such as login credentials. For example:

```
https://<user_id>:<password>@www.<domain>.com
```

This is at the user's discretion. Transaction security is not guaranteed.

7. Optional: Check **Translate Created Labels**,

8. Click **OK**.

### Enabling Label translation

1. Select each Label control in the Screen Designer.
2. Check **TranslateText** in the property grid.

## MultiLine

The MultiLine control is a text input field with multiple lines into which you type text which is inserted at a specified screen location.

For example, MultiLine can be used to modernize or rationalize the layout of a screen with input fields that contain more than one line. MultiLine controls can be placed where they are most useful. The information you type into them is then inserted in the screen locations of the traditional editable areas.

When you type text in a MultiLine control, text wraps automatically. To insert a new line, press **Alt+Enter**.

When the control is used in a Plus session, the control displays the value from the screen location, at the specified length. However, if the screen location is a protected field, no typing is allowed in the InputField control.

### Properties:

Name	Default value	Description
<b>IsEnabled</b>	Checked	Specifies whether the control allows user input.
<b>IsNumeric</b>	Unchecked	Specifies whether the input is numeric as opposed to all characters.
<b>Length</b>	0	The maximum number of characters that the input field can contain. A value of 0 means the number of characters is limited by the length of the green screen field.



**Note:** The **IsPassword** property is not available for the MultiLine control. If password control is required, you must use the InputField control.


## MessageBox

The MessageBox control is an alert message box that can be configured with a title, icon, one to three buttons, and a message.

MessageBox controls are particularly useful when a green screen produces a message, but the screen is covered with a screen canvas. In this situation, the message cannot be seen. Using a MessageBox control solves this problem.

### Properties:

Name	Default value	Description
<b>Title</b>	Title	The title of the message box. Collector compliant.

Name	Default value	Description
<b>Text</b>	Message	The message to be displayed in the message box. Collector compliant.   <b>Note:</b> You can create a new line or split an existing line by pressing <b>Alt+Enter</b> .
<b>IconPath</b>	Warning.png	Click the accelerator button to open the project image pool folder where you can select an image file with a format of JPG, GIF, or PNG. To select a different image, click <b>Add to pool</b> and browse to the image you want to use. The image file is then copied to the image pool and saved with the project.  Four image files are supplied:  Error.png Question.png Warning.png Information.png
<b>Button</b>		
<b>IsVisible</b>	Checked Unchecked Checked	If checked, the button is displayed in the message box.
<b>Caption</b>	OK Empty string Cancel	The text to be displayed in the message box. Collector compliant.
<b>Actions</b>	Empty list	One or many actions to be executed sequentially from the top to the bottom in the specified list in the <b>Actions</b> dialog box.

## RadioButton

The RadioButton control is used to add text at a specified screen location.



**Note:** When the control is used in a Plus session and, if the screen location is a protected field, the control is disabled.

### Properties:

Name	Default value	Description
<b>GroupName</b>	Empty string	The radio button group this radio button belongs to.
<b>SelectedState</b>	Empty string	The text to be used at the specified screen location and any specified actions to be performed if the check box is checked.
<b>UnselectedState</b>	Empty string	The text to be used at the specified screen location and any specified actions to be performed if the control is not selected.

## Tab

Tab provides an area of the screen to which you can assign other controls. You can have multiple Tab controls on a screen, with multiple tab items within a Tab control.

To assign a control to a tab item, drag the control on to the appropriate tab item.

When you select another tab item, that tab item is shown, together with its controls.



#### Notes:

- Deleting a tab item deletes all its assigned controls.
- Deleting a Tab control deletes all its tab items and their assigned controls.

#### Properties:

Name	Default value	Description
<b>TabItems</b>	Empty collection	Lists all tab items and their controls. Each tab item has a caption.
<b>HeaderWidth</b>	Static	Specifies the width of the tab item headers. <b>Static</b> sets a fixed width specified by <b>HeaderSize</b> . <b>Dynamic</b> sets a variable width according to the length of the header text.
<b>HeaderSize</b>	8	Specifies the fixed width of the tab item headers.
<b>ColorSettings</b>		
<b>Background</b>		Specifies the color used for the background of the control. This can be one of: <ul style="list-style-type: none"> <li>• <b>FromHost</b>: The host background color is used.</li> <li>• <b>Custom</b>: You select a color from the color palette.</li> </ul>

## Table


The Table control formats data from multiple screens as a scrollable table with filtering and sorting capabilities.

The Table control uses a pre-defined GridCollector control as its data source. If there is already one, single GridCollector on the screen, the Table control links to it automatically. If there is no GridCollector on the screen, you must link to a GridCollector manually using the **LinkedGridCollectorName** property.

#### Properties:

Name	Default value	Description
<b>LinkedGridCollectorName</b>	<b>GridCollector1</b>	Name of the GridCollector control to which the Table control is linked.
<b>Columns</b>		Collection of columns.
<b>Title</b>	Name of the linked GridCollector column.	The visible column title.
<b>IsVisible</b>	Checked	When checked, the column is visible on a Plus screen.
<b>ColumnAlignment</b>	<b>Left</b>	Aligns the cell text. Can be one of: <ul style="list-style-type: none"> <li><b>Left</b></li> <li><b>Center</b></li> <li><b>Right</b></li> </ul>
<b>ColumnAliasInGridCollector</b>		Name of the GridCollector column from where the data will be taken.



Name	Default value	Description
<b>ContentSettings</b>		
<b>Data Type</b>	String	Can be one of:  <b>String</b> <b>Number</b> <b>Date</b>
<b>Control Type</b>	None	The following controls are used to specify new values in table cells. Can be one of:  <b>None</b> <b>TextBox</b> <b>CheckBox</b> <b>RadioButton</b> <b>Calendar</b> <b>Combo</b>  For additional settings, click the accelerator key next to the selected control.   <b>Notes:</b> <ul style="list-style-type: none"> <li>• <b>TextBox</b> specifies a standard text box. No other settings are available.</li> <li>• <b>Combo</b> works in a similar way to the <b>Chooser</b> control.</li> </ul>
<b>IsHeaderVisible</b>	Unchecked	When checked, the table shows the column headers.
<b>IsFilterable</b>	Checked	When checked, adds a <b>Filter</b> field to the table. The typed value filters out all rows except those with strings or a string prefix that match filter text in a column.
<b>IsMoreButtonVisible</b>	Checked	When checked, adds a <b>More</b> button to the table title bar. <b>More</b> pages down the screen until there is no more table data.
<b>IsAutoNavigateOnLoad</b>	Checked	When checked, the Table control triggers the GridCollector to fetch the next pages automatically when the Table control is activated.
<b>IsExportButtonVisible</b>	Unchecked	When checked, adds an <b>Export</b> button to the table title bar. This allows the user to export the table contents to a comma-delimited .csv file for use in Microsoft Excel.
<b>DefaultRowCommand</b>	InPlace and	Used to specify an action or actions to be performed when the user double-clicks a row. When creating actions, the following syntax can be used to take the text from any table cell in a row that is double-clicked:  ##ColumnAliasInGridCollector##  The following syntax can also be used to take text from any Collector control:  %%GlobalVariableName%%  If the value of <b>DefaultRowCommand</b> is set to one of <b>ClearField</b> , <b>SetCursor</b> , or <b>SetText</b> , then <b>TextInsertionLocation</b> can be set to either:

Name	Default value	Description
		<p><b>InPlace:</b> The location of the control as specified in the <b>Screen Design</b> view, or the location of the logical marker defined by the SearchFor condition.</p> <p>or:</p> <p><b>Relative:</b> The location of the action to be performed relative to the location of the row that was clicked in the linked GridCollector control, taking into account the specified (row,column) <b>Offset</b>. See notes below.</p>



#### Notes:

- If the value of **TextInsertionLocation** is **Relative**, forward or backward navigation might be triggered on the green screen. If this happens, and the target row is no longer in the expected location, the linked GridCollector control refreshes the data to resynchronize the table data with the data collected from the green screen.
- The **Offset** (row,column) values are added to the left-most (row,column) location of the selected record, as represented in the linked GridCollector control.

### Modifying table data in Plus mode

To be able to modify table data, you need to add controls to the table using the **Control Type** settings.

To modify the data in Plus mode:

1. Use the table controls to change the data.
2. Click **Save**.

The table navigates to the pages containing the changed rows and updates the values on the green screen. After the updates are complete, the GridCollector **SaveCommand** action runs. This saves the changes to the green screen application.

## Tooltip

The Tooltip control is activated when the mouse pointer hovers over the screen area that Tooltip occupies.

There are two modes for Tooltip:

**Static mode** Where the content of Tooltip is a free string. The string can include global parameters set by Collectors.

**Advanced mode** Where Tooltip can read text from a screen location and use it as the displayed text.

#### Properties:

Name	Default value	Description
<b>Caption</b>	Empty string	Specifies the text displayed by Tooltip. Data stored by Collector controls can be used.
<b>Advanced</b>	Unchecked	When checked, activates advanced mode.
<b>KeyTextLocation</b>	<b>InPlace</b>	<p>The (row,column) where the text should be taken from the screen. <b>InPlace</b> means the location of the control as specified in the <b>Screen Design</b> view, or the location of the logical marker defined by the <b>SearchFor</b> condition.</p> <p>The screen location can also be defined by using the <b>Select Screen Location</b> window, opened by clicking the</p>

Name	Default value	Description
<b>TooltipsItems</b>		<p>accelerator button next to the <b>KeyTextLocation</b> field. Advanced mode only.</p> <p>Specifies a list of items the Tooltip control displays. Advanced mode only.</p> <p><b>Key:</b> The string on the host screen under which the tooltip caption will be displayed.</p> <p><b>Caption:</b> The text that will be displayed on the Tooltip control. Data stored by Collector controls can also be used. Press <b>Alt+Enter</b> to add a new line.</p>

### Importing items from a .csv file

To use this feature successfully, the contents of the .csv file must be in the following format:

`<KEY><DEL><TIP>`

where:

This ...	Denotes this ...
<code>&lt;KEY&gt;</code>	Key representing on-screen emulation text.
<code>&lt;DEL&gt;</code>	Delimiter (;). This is the only supported delimiter.
<code>&lt;TIP&gt;</code>	Tooltip text.

For example:

```
#Tool Tip values
TSO;TSO log on
Password;Enter your password
Application required;Enter your CICS application name
Userid;Enter your user ID
```

To import a .csv file:

1. Click the accelerator button next to **TooltipsItems** in the property grid.
2. In the **TooltipsItems** dialog box, click the **Import** icon.
3. Select the .csv file.
4. Click **OK**.

## WebFrame

WebFrame is a control, which can be displayed either as an icon or as an embedded window on the screen. An icon looking like a small globe can be set to open a map based on the postal address displayed in the host screen field. An embedded window displays content at a specified Web address when the screen arrives.


### Properties:

Name	Default value	Description
<b>Mode</b>	<b>Popup</b>	Specifies whether WebFrame is displayed as an icon ( <b>Popup</b> ) or as an embedded window ( <b>Embedded</b> ).
<b>ImagePath</b>	Empty string	Click the accelerator button to open the project image pool folder where you can select an image file with a

Name	Default value	Description
		<p>format of JPG, GIF, or PNG. To select a different image, click <b>Add to pool</b> and browse to the image you want to use. The image file is then copied to the image pool and saved with the project.</p> <p>Alternatively, you can type the location of an image in the form of its full path or full Web address in the <b>ImagePath</b> field.</p> <p>Only available if <b>Mode</b> is <b>Popup</b>.</p>
<b>URLSource</b>	Empty string	Any valid Web address. The data stored by Collector controls can be used to specify the target.
<b>Width</b>	500	Window width in pixels.
<b>Height</b>	500	Window height in pixels.

## Shared properties

Each of the following properties may be used by more than one type of control:

Name	Default value	Description
<b>Name</b>		<p>Specifies a custom name for the control.</p> <p> <b>Note:</b> If a rule creates more than one control of the same type on the same screen, the following naming convention is used:</p> <p><code>&lt;name&gt;, &lt;name&gt;_1, ...</code>  <code>&lt;name&gt;_&lt;name&gt;</code></p>
<b>Caption</b>	Name of the control	The text to be displayed on the control. You can make the text bold, italic, or underlined in the <b>Style</b> section of the property grid.
<b>IsVisible</b>	Checked	When checked, the control is visible on a Plus screen.
<b>Tooltip</b>	Empty string	The tool tip text is displayed when the mouse pointer hovers over the button. If empty, no tool tip is displayed.
<b>TextInsertionLocation</b>	<b>InPlace</b>	<p>The (row,column) where the text is inserted on the screen.</p> <ul style="list-style-type: none"> <li><b>InPlace</b> means the location of the control as specified in the <b>Screen Design</b> view, or the location of the logical marker defined by the <b>SearchFor</b> condition.</li> <li><b>None</b> means that the control has no specified location on the green screen and that its function is independent of the green screen.</li> </ul> <p>The screen location can also be defined by using the <b>Select Screen Location</b> window, opened by clicking the accelerator button next to the <b>TextInsertionLocation</b> field.</p>
<b>BoundVariable</b>		A data source that controls can use to read from or to write to so that they can interact with each other.
<b>ControlTarget</b>	<b>MainArea</b>	The control target is the region specified in the currently selected theme, where the control is placed. <b>MainArea</b> is the region occupied by the green screen.

Name	Default value	Description
<b>Style</b>	Empty string	Style defines the look of a control. Its possible values are displayed in the list of items taken from the currently selected theme. If not specified, the default style is used.
<b>ColorSettings</b>		
<b>Background</b>		<p>Specifies the color used for the background of the control. This can be one of:</p> <ul style="list-style-type: none"> <li>• <b>FromStyle</b>: The color is taken from the color defined in the theme style.</li> <li>• <b>FromHost</b>: The host background color is used.</li> <li>• <b>Custom</b>: You select a color from the color palette.</li> </ul>
<b>Foreground</b>		<p>The color used for the foreground of the control. This can be one of:</p> <ul style="list-style-type: none"> <li>• <b>FromStyle</b>: The color is taken from the color defined in the theme style.</li> <li>• <b>FromHost</b>: The host foreground color is used.</li> <li>• <b>Custom</b>: You select a color from the color palette.</li> </ul>
<b>FontSettings</b>		<p>Specifies the font of the text used:</p> <ul style="list-style-type: none"> <li>• <b>Bold</b>, <b>Italic</b>, and <b>Underline</b> for <b>CheckBox</b>, <b>Label</b>, <b>RadioButton</b>, and <b>Tooltip</b>.</li> <li>• <b>Bold</b> and <b>Italic</b> for <b>Button</b>.</li> </ul>
<b>RowOffset</b>	0	<p>Vertical offset relative to the row where the logical marker is located. Logical markers are defined by the SearchFor condition. A positive or negative value defines the screen location as the number of rows down or up the logical marker.</p> <p>A wrong offset value can adversely displace the control.</p>
<b>ColumnOffset</b>	0	<p>Horizontal offset relative to the column where the logical marker is located. Logical markers are defined by the SearchFor condition. A positive or negative value defines the screen location as the number of columns from the right or left of the logical marker.</p> <p>A wrong offset value can adversely displace the control.</p>
<b>RowSpan</b>	0	If not zero, overrides the height of a logical marker defined by the SearchFor condition.
<b>ColumnSpan</b>	0	If not zero, overrides the width of a logical marker defined by the SearchFor condition.
<b>ZOrder</b>	The highest <b>ZOrder</b> value of all controls on the current screen on the Screen Design page except <b>Topmost</b> + 1	Specifies the stacking order of a two or more controls. Controls with higher <b>ZOrder</b> values appear further up the stack or closer to the foreground.
<b>TabOrder</b>	Default (order by location)	Specifies the navigation order of the cursor when using the <b>Tab</b> key. The tab order is displayed by selecting the <b>TabOrder</b> icon on the Screen Designer toolbar. Only a customized tab order is displayed, not the default order.

# Actions

Actions are executed in the order in which they are added in the **Actions** dialog box.

Action	Description	Values
<b>ClearField</b>	Clears the contents of a specified field at a specified screen location.	<p><b>FieldLocation</b> The (row,column) where the field is located on the screen. <b>InPlace</b> means the location of the control as specified on the <b>Screen Design</b> page, or the location of the logical marker defined by the <b>SearchFor</b> condition.</p> <p>The screen location can also be defined by using the <b>Select Screen Location</b> window, opened by clicking the accelerator button next to the <b>FieldLocation</b> field.</p>
<b>Email</b>	Sends an email to a specified address.	<p><b>ActionTarget</b> The recipient's email address.</p>
<b>EmulationCommand</b>	Runs a specified emulation command.	<p><b>EmulationCommand</b> Possible values are shown in a list.</p>
<b>RunApplication</b>	Run a specified application on the user's machine.	<p><b>ActionTarget</b></p> <p>Command line to run. For example:</p> <p><code>C:\Program Files (x86)\Skype\Phone\Skype.exe</code></p> <p><b>AdditionalArguments</b></p> <p>Application arguments. For example:</p> <p><code>/callto:+555555</code></p> <p>Data stored by Collector controls can be used to specify parameters for <b>ActionTarget</b> and <b>AdditionalArguments</b>.</p>
<b>RunMacro</b>	Runs a specified macro.	<p><b>ActionTarget</b> Full path to the macro file to run, or the path relative to the macros folder. Data stored by Collector controls can be used to specify arguments.</p>
<b>RunScript</b>	Runs a specified script.	<p><b>ActionTarget</b> Full path to the script file to run, or the path relative to the scripts folder. Data stored by Collector controls can be used to specify arguments.</p>
<b>SetCursor</b>	Places the cursor at the specified screen location.	<p><b>CursorLocation</b> The (row,column) where the cursor should be placed on the screen. <b>InPlace</b> means the location of the control as specified in the <b>Screen Design</b> view, or the location of the logical marker defined by the <b>SearchFor</b> condition.</p>

Action	Description	Values
<b>SetText</b>	<p>Inserts text into the specified screen location of an unprotected field.</p> <p>If the specified location is not in any unprotected field, no action is performed.</p>	<p>The screen location can also be defined by using the <b>Select Screen Location</b> window, opened by clicking the accelerator button next to the <b>CursorLocation</b> field.</p>
		<p><b>TextInsertionLocation</b> The (row,column) where the control is inserted on the screen. <b>InPlace</b> means the location of the control as specified in the <b>Screen Design</b> view, or the location of the logical marker defined by the <b>SearchFor</b> condition.</p> <p>The screen location can also be defined by using the <b>Select Screen Location</b> window, opened by clicking the accelerator button next to the <b>TextInsertionLocation</b> field.</p> <p><b>ActionTarget</b> The text to be inserted.</p>
<b>SetValueToAVariable</b>	<p>Creates a global variable and sets its value. If the global variable already exists, its value is reset.</p>	<p><b>GlobalVariableName</b> The name of the global variable.</p> <p><b>Content</b> The value of the global variable.</p> <p>Expressions containing values of other already existing global variables may be used in the form %  %&lt;other_variable_name&gt;  %.</p>
		<p><b>ActionTarget</b> Web site address. Data stored by Collector controls can be used to specify arguments.</p>
<b>WebSite</b>	<p>Runs the user's default browser to navigate to a specified Web site.</p>	<p><b>ActionTarget</b> Web site address. Data stored by Collector controls can be used to specify arguments.</p>

## The control context menu

When you right-click a control, a context menu appears with the following menu options:

Option	Description
<b>Convert to Rule</b>	Converts a static control in the Screen Design view to a dynamic control managed by the Rule Manager.
<b>Cut</b>	Cuts a control to the Screen Designer clipboard.
<b>Copy</b>	Copies a control to the Screen Designer clipboard.
<b>Paste</b>	Pastes a control from the Screen Designer clipboard to the screen that is currently displayed in the working area of the Screen Design view.
<b>Delete</b>	Deletes a control.
<b>Disable / Enable</b>	Disables a control so that it remains in your project, but is not used in the customized screen. An exclamation mark appears at the top right of the control to show that it is

Option	Description
	<p>disabled. To enable a control, right-click the control and select <b>Enable</b> from the pop-up menu.</p> <p>You can still edit disabled controls but they will not be used on a customized screen until you enable them.</p> <p>If you copy a disabled control or convert it to a rule, the control remains disabled.</p>
<b>Send to Back</b>	If two or more controls appear over each other, this option sends the selected control to the back of the stack of controls.
<b>Bring to Front</b>	If two or more controls appear over each other, this option brings the selected control to the top of the stack of controls.



# How To

This section contains additional information about the Screen Designer, controls, and rules.

## Use themes

A theme defines the layout of the screen and the look of each control across all screens in a customization project.

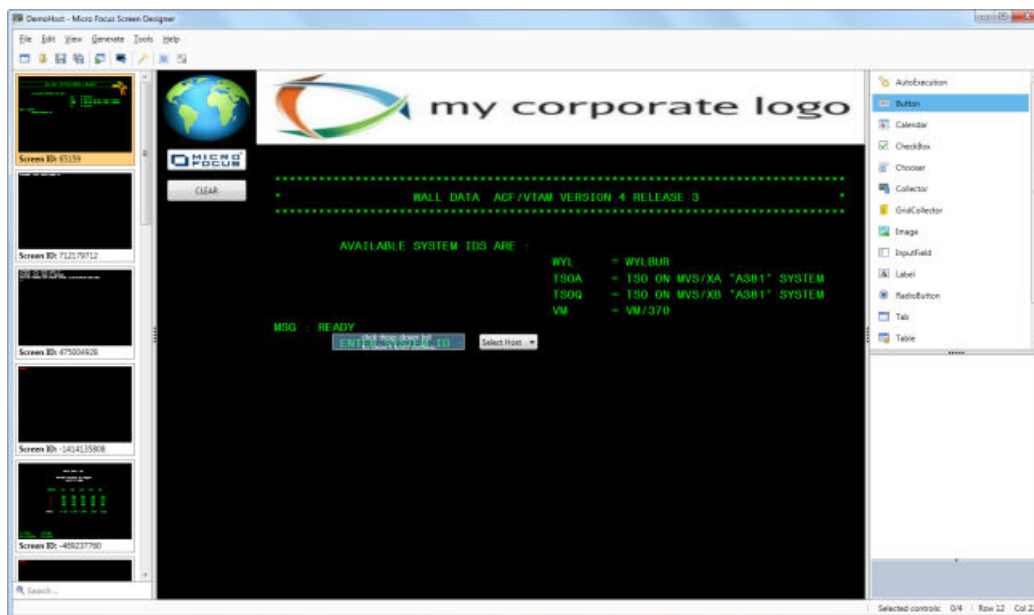
The screen layout is defined as having a rectangular main area in the center, which can be surrounded by rectangular areas (margins). Margins are defined by the theme you use.

The main area of a screen can contain any type of control. However, margins can contain only buttons or images.



**Note:** To add buttons to the margins of a theme, drag the control icon from the property grid in the **Screen Design** view. To add images to the margins of a theme, use the Theme Editor.

In the example below, two images have been added to the project theme using the Theme Editor. The two buttons in the left margin have been added from the property grid in the **Screen Design** view:



**Important:** If you change a theme, the margins of the previous theme disappear, together with their contents. It is therefore best to choose a theme early in the customization project.

Some themes are included with the Screen Designer. Additionally, you can use the Theme Editor to design your own theme.

## Selecting a theme

### 1. Select **Tools > Project Settings**

The **Project Settings** dialog box appears.

### 2. Click **Themes** in the left pane.

3. Click **Change** in the right pane. The **Choose Theme** dialog box appears.
4. Select the thumbnail of the theme you want to use from the left pane.
5. Click **OK**.
6. Click **OK** in the **Project Settings** dialog box.

The theme is applied to all the screens in your project.

## Creating a Windows theme

1. Select **Tools > Theme Editor**.

The **Theme Editor** window appears.

2. Select **File > New**.

The **Create Theme** dialog box appears.

3. Type an appropriate name for the theme in the **Theme Name** field.
4. Click **OK**.

The Theme Editor design screen appears.

5. Select a design from the **Layouts** pane.

The layout appears in the center pane.

6. In the **Skins** pane, select **BaseWindowsSkin** from the drop-down list.



**Note:** If you select a Windows theme, you cannot edit the skin of a control.

7. In the center pane, select a color from the **Theme Preview Background** list to display a background color for the theme.



**Note:** This only displays a preview of the color. To use a specific color, you must change the background color in your emulator display.

8. To add a background or image to a pane of the theme, select the pane, then select the color or image from the **Background** or **Image** list, as appropriate`.
9. When you have finished, select **File > Close**.

The design screen closes.

10. In the **Theme Editor** window, select **File > Exit**.

## Creating a green screen theme

1. Select **Tools > Theme Editor**.

The **Theme Editor** window appears.

2. Select **File > New**.

The **Create Theme** dialog box appears.

3. Type an appropriate name for the them in the **Theme Name** field.
4. Click **OK**.

The Theme Editor design screen appears.

5. Select a design from the **Layouts** pane.

The layout appears in the center pane.

6. In the **Skins** pane, select **BaseGreenScreenSkin** from the drop-down list.
7. Optional: Select a color from the **Base color** drop-down list.

This determines the base foreground color used in the theme.

8. In the center pane, select a color from the **Theme Preview Background** list to display a background color for the theme.



**Note:** This only displays a preview of the color. To use a specific color, you must change the background color in your emulator display.

9. To add a background or image to a pane of the theme, select the pane, then select the color or image from the **Background** or **Image** list, as appropriate.
10. When you have finished, select **File > Close**.

The design screen closes.

11. In the **Theme Editor** window, select **File > Exit**.

## Search history screens

You can search the thumbnail screens in the history pane for text strings that appear either on a screen or as part of a screen ID.

At the bottom of the history pane, type a search string in the search field. The thumbnails are filtered, leaving only those screens that contain the search string.

## Create modern screens with a screen canvas

Modern screens often require more space than the fixed green screen layout. You can free yourself from the fixed screen defined by the terminal. To do this, you define settings for a screen canvas, then add controls in the same way you would on a green screen.

As well as customized screen sizes, the screen canvas feature supports the following screen types:

- Model 2 (24x80)
- Model 3 (32x80)
- Model 5 (27x132)

Another advantage of using a screen canvas is being able to place a larger canvas over a smaller green screen to maximize the space on the screen.

## Defining default canvas settings

To define default settings for screen canvas, use the **Project Settings** dialog.



**Note:** You can specify different settings for selected screen by selecting **Tools > Screen Canvas**.


1. Select **Tools > Project Settings**.


The **Project Settings** dialog box appears.

2. Click **Screen Canvas** in the left pane.

The screen canvas settings appear in the right pane.

3. Specify the settings you want:


Setting	Description
<b>Canvas Size</b>	 <b>Note:</b> The canvas size cannot be smaller than the size of the selected green screen.
<b>Number of Rows</b>	Specifies the number of rows for the new screen. Default is the number of rows on the green screen.

Setting	Description
<b>Number of Columns</b>	Specifies the number of columns for the new screen. Default is the number of columns on the green screen.
<b>Canvas Font Size</b>	Defines the font size. Default is 26 pt.
<b>Fixed Font Size</b>	When checked, the font size does not change if the window is resized.
<b>Canvas Background</b>	
<b>Color</b>	Defines the background color. Default is white. Can be used with <b>Image</b> .
<b>Image</b>	Click the accelerator button to open the <b>Choose Image</b> dialog box to select an image for the background. Can be used with <b>Color</b> .
<b>Image Layout</b>	Select one of: <ul style="list-style-type: none"> <li><b>Stretch</b></li> <li><b>Fill</b></li> <li><b>Fit</b></li> <li><b>Tile</b></li> <li><b>Center</b></li> </ul>
<b>Apply settings automatically to each new history screen</b>	When checked, a screen canvas with the defined default settings is applied automatically to each newly-imported history screen.
	 <b>Note:</b> This setting hides all green screen fields. We therefore recommend using <b>Auto-Generate Controls</b> when you use this setting.


## Defining settings for a selected screen

1. Select a screen from the history pane.
2. Select **Tools > Screen Canvas**.

The **Screen Canvas** dialog box appears.

 **Note:** You can also right-click the screen in the work area and select **Screen Canvas > Settings** from the pop-up menu.

3. Specify the settings you want:

Setting	Description
<b>Canvas Size</b>	 <b>Note:</b> The canvas size cannot be smaller than the size of the selected green screen.
<b>Number of Rows</b>	Specifies the number of rows for the new screen. Default is the number of rows on the green screen.
<b>Number of Columns</b>	Specifies the number of columns for the new screen. Default is the number of columns on the green screen.
<b>Canvas Font Size</b>	Defines the font size. Default is 26 pt.
<b>Fixed Font Size</b>	When checked, the font size does not change if the window is resized.
<b>Canvas Background</b>	
<b>Color</b>	Defines the background color. Default is white. Can be used with <b>Image</b> .
<b>Image</b>	Click the accelerator button to open the <b>Choose Image</b> dialog box to select an image for the background. Can be used with <b>Color</b> .
<b>Image Layout</b>	Select one of: <ul style="list-style-type: none"> <li><b>Stretch</b></li> </ul>

Setting	Description
	<p>Fill</p> <p>Fit</p> <p>Tile</p> <p>Center</p>

4. Click **OK**.



**Note:** To override the default screen canvas settings with the settings you have just defined, click **Set As Default**.

## Copying and pasting a screen canvas

If a screen already has a screen canvas applied to it, you can copy the canvas and its settings, then apply it to another screen. To do this:

1. Select a screen from the history pane.
2. Right-click the screen in the work area and select **Copy Canvas** from the pop-up menu.
3. Select another screen from the history pane.
4. Right-click the screen in the work area and select **Paste Canvas** from the pop-up menu.

The copied screen canvas and its settings are applied to the screen.

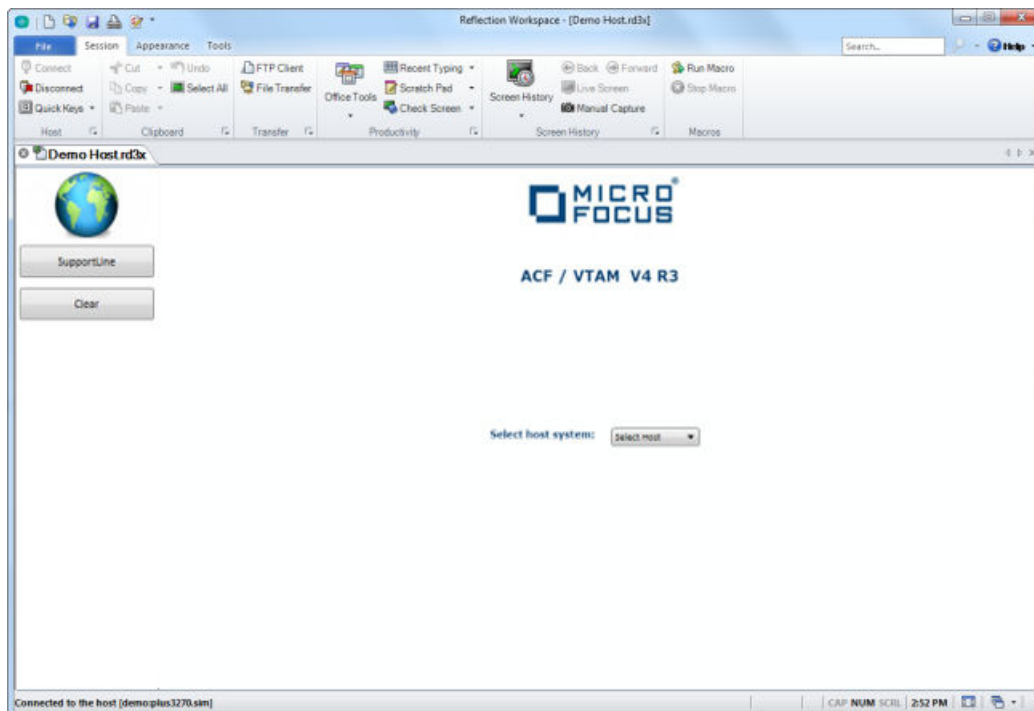
## Removing a screen canvas

To remove a screen canvas from a green screen, right-click the screen in the work area, then select **Remove Canvas** from the pop-up menu. Any controls that you added to your Plus project are not affected.

## Example

In the [Adding controls](#) section, we added controls to screens from the Demo Host to provide a modern look and feel. This example shows you can modernize screens even more.

Using a screen canvas, we can give the welcome screen a clean, crisp modern look:

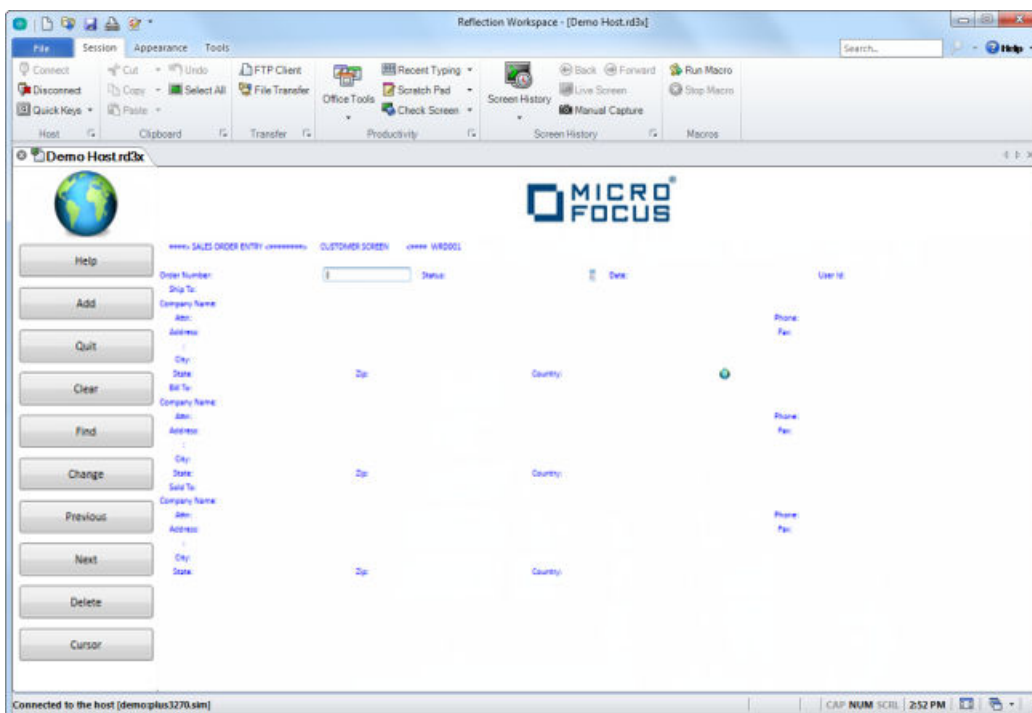


Note the use of the [Theme Editor](#) to add a top banner and logo.

Selecting the host system takes you to the same screen as before, but with a fresher look:



Clicking **Order Entry** takes you to the SALES ORDER ENTRY – CUSTOMER screen:



Note the use of [auto-generated controls](#) to completely replace the original green screen.

## Identify screens

# About screen identification

The Screen Designer supports the following ways of identifying screens:

- Default** An identification that is calculated from a screen's field data. Used by default.
- To customize screens, a screen ID must be assigned to each screen. Unfortunately, this default screen ID might not be sufficient. This occurs when several screens, which have to be distinguished, get the same screen ID. It can also occur when several screens, which have to be addressed as the same, get different screen IDs.
- Selection based** An identification based on the contents of one or more screen selections. When the default screen ID is not sufficient, you can select the contents of a screen location to act as the screen ID. If you make more than one selection, the contents of each selection are joined together to form the screen ID. Each selection is limited to the height of one row on the screen.



**Note:** Before you start to customize the screens in your project, you must choose either the default screen ID type or a selection based screen ID type. You cannot change the screen ID type once you have started to customize a screen.

- Custom screen identification** For each screen recorded during your session you can define a custom identification algorithm. For custom screen identification, you define a set of selected areas on a screen and specify a name for them. This defines screen data to distinguish a particular screen from other screens in your project. The custom identification name is assigned as a screen ID to each screen of your project that has exactly the same data in exactly the same selected areas as your custom identification.

You can choose either selection based selection screen identification, custom screen identification, or a combination of both. In this way, you can either distinguish between screens which otherwise would have had the same ID, or identify similar screens which otherwise would have had different IDs.

## Specifying selection based screen identification

1. Select **Tools > Project Settings**.

The **Project Settings** window appears.

2. On the **Screen ID** page, click **Select** next to **Selection Based**.

The **Selection** window appears.

3. Select a screen thumbnail in the left pane.

4. In the work area, select a portion of text on the screen by drawing a rectangular border within a single screen row with the mouse.

The selected text is added as an ID to any screen in your project that has the same text in the same location.

5. Optional: You can also add other screen selections to form the screen ID. The text in each selected screen location is joined together to form the screen ID.
6. Click **OK**.
7. Click **OK** in the **Project Settings** window.

### Removing a selection:

To remove a selection, right-click the selection and select **Remove This Selection** from the pop-up menu.



# Specifying custom screen identification

1. Select **Tools > Project Settings**.

The **Project Settings** window appears.

2. On the **Screen ID** page, click **Manage Screen Identification**.

The **Manage Screen Identification** window appears.

3. Select a thumbnail from the left pane.
4. Click **Add Custom Identification** in the right pane.
5. Select text areas on the screen by drawing rectangular borders within single screen rows with the mouse.

The history pane on the left is filtered to show only those screens that have the same text areas at the same locations that you selected.

6. Type a name in the **Name** field.
7. Optional: Check **Use With Base ID**. The base ID results from the screen ID type you chose before you started customizing screens. When this option is checked, the base ID is used as an additional form of screen identification.

The name you specified is used as a custom screen ID of any screen in your project that:

- Has the same text areas at the same locations that you selected.
- Has the same base ID (if **Use With Base ID** is checked).



**Note:** The base ID is displayed on the top of each thumbnail in the left pane, while the screen ID is displayed on the bottom of each thumbnail.

8. Click **OK**.



**Note:** Make only one custom identification a the screen before you click **OK**.

9. Click **OK** in the **Project Settings** window.

## Removing custom screen identification:

To remove a selection, right-click the selection and select **Remove This Selection** from the pop-up menu.



### Notes:

- You cannot define the same custom screen ID for two different screens if either one or both of them are customized.
- A screen cannot have more than one custom screen ID. You cannot specify a custom screen ID if the screen already has one.
- A *screen ID ambiguity* will be caused if you try to import an additional project where at least one screen fits a custom ID of the base project but that screen already has a custom screen ID. The affected screen will be marked as having a screen ID ambiguity in the **Screen Design** view.
- You cannot import an additional project that has a screen with screen ID ambiguity. The project must be reviewed first to fix the problem.

## Manage controls

### Auto-generating controls

In some cases, you might want to recreate the full screen. You can do this by generating Label and InputField controls automatically for all protected and unprotected fields on a green screen. To do this:



1. Select **Tools > Project Settings**.

The **Project Settings** dialog box appears.

2. Click **Auto-Generate Controls** in the left pane.
3. Specify the settings you want:

Check this ...	To do this ...
<b>Generate Labels</b>	When checked, Label controls are created for each protected field on the screen.
<b>Exclude Labels created from empty fields</b>	When checked, filters out Label controls that are created from protected fields that contain no text. Only available if <b>Generate Labels</b> is checked.
<b>Generate Input Fields</b>	When checked, Input controls are created for each unprotected field on the screen.
<b>Auto-generate controls on all new history screens</b>	When checked, Label and InputField controls are automatically generated on all newly-imported history screens. Unchecked by default.

4. Click **OK**.
5. To auto-generate the controls on the current screen, select **Tools > Auto-Generate Controls**.

## Changing the opacity level

You can use the slider on the toolbar to change the opacity of all controls on a screen from full opacity to 20% opacity.

Clicking the **Opacity level** icon displays the opacity slider and toggles the set opacity on and off.

## Selecting multiple controls

You can select more than one control at any time so you can perform the same action once on the selected controls, instead of once for each control.

You can select controls in one of the following ways:

- Use your mouse to draw an area of the screen containing the controls you want to select.
- Press **Ctrl+A** to select all controls on the screen.
- Right-click the screen background and select **Select All**.
- Use **Ctrl+Click** to toggle whether a screen is selected.

You can perform the following actions on the selected controls:

- Move (using the mouse or arrow keys)
- Delete
- Cut
- Copy
- Paste
- Duplicate



**Note:** You cannot select Rule Manager controls as part of a multiple selection.

## Working with rule controls

Rule controls are controls created using the Rule Manager.

## About rule controls

When you create rule controls, they also appear in the **Screen Design** view. By default, this feature is turned on. You can toggle between showing and hiding rule controls by selecting **View > Rule Controls**.

Rule controls are designed to be used on multiple screens. They are therefore shown in the **Screen Design** view in a different style to single-screen controls so you can easily differentiate between them.

You can edit rule controls in the **Screen Design** view in the same way as in the Rule Manager. However, you cannot resize, move, delete, copy, or duplicate these controls, as shown by a small padlock in the top right corner of the control.

## Editing rule controls

In the same way as a single-screen control, you can edit the control's properties using the property grid.

1. To edit a rule control in the **Screen Design** view, right-click the control and select **Edit Rule** from the pop-up menu.

The rule opens in the Rule Wizard.



**Note:** When you edit one rule control, it affects all the controls created by the source rule.

2. To view a rule control, right-click the control and select **Show Rule** from the pop-up menu.

The rule opens in the Rule Manager window.

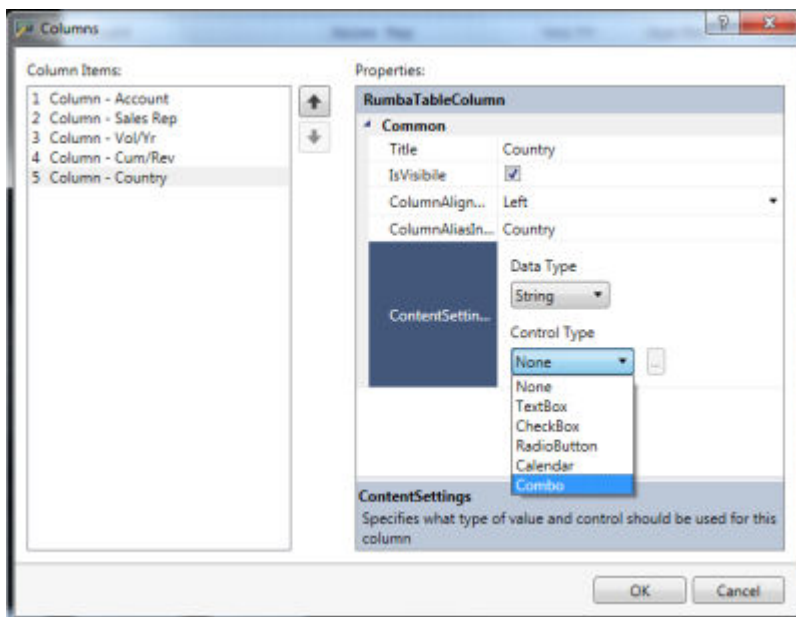
## Modify table data in Plus mode

You can modify table data in Plus mode by using controls you have previously configured in the Screen Designer.

This example shows you how to add a combo list box to each row of a table.

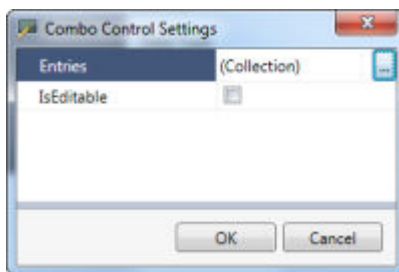
## Configuring table controls in the Screen Designer

1. Open the **DemoHost** project you created earlier.
2. Navigate to the `EUROPEAN CUSTOMER LIST` screen.
3. Select the table.
4. In the property grid, click the accelerator button next to **Columns**.  
The **Columns** dialog box appears.
5. In the **Column Items** frame, select **5 - Column - Country**.
6. In the **Properties** frame, select **Combo** from the **Control Type** list:



7. Click the accelerator button next to the list.

The **Combo Control Settings** dialog box appears:

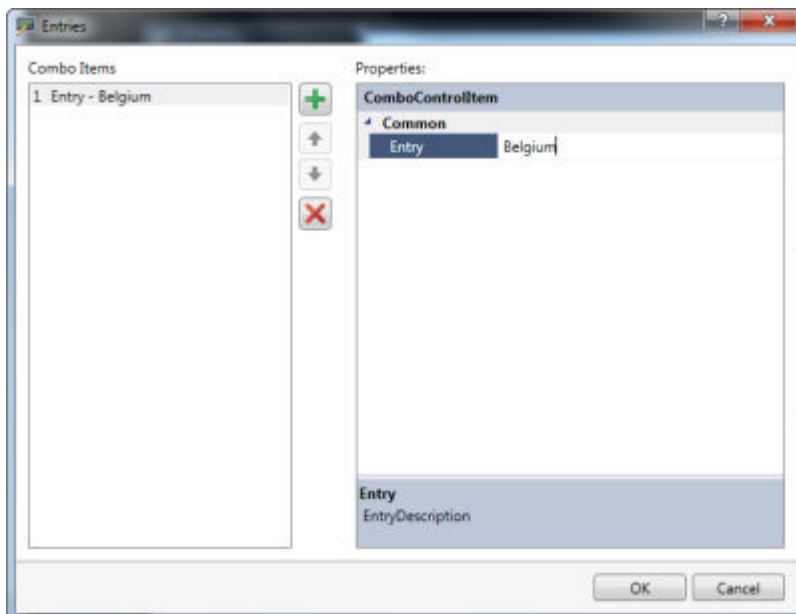


8. Click the accelerator button on the **Entries**.

The **Entries** dialog box appears.

9. Click the **Add** button to create a combo item.

10. In the **Properties** frame, type Belgium in the **Entry** field:



11. Create more combo items for:

Britain  
France  
Germany  
Italy

12. When you have finished, click **OK**.

13. Click **OK** in the **Combo Control Settings** dialog box.

14. Click **OK** in the **Columns** dialog box.

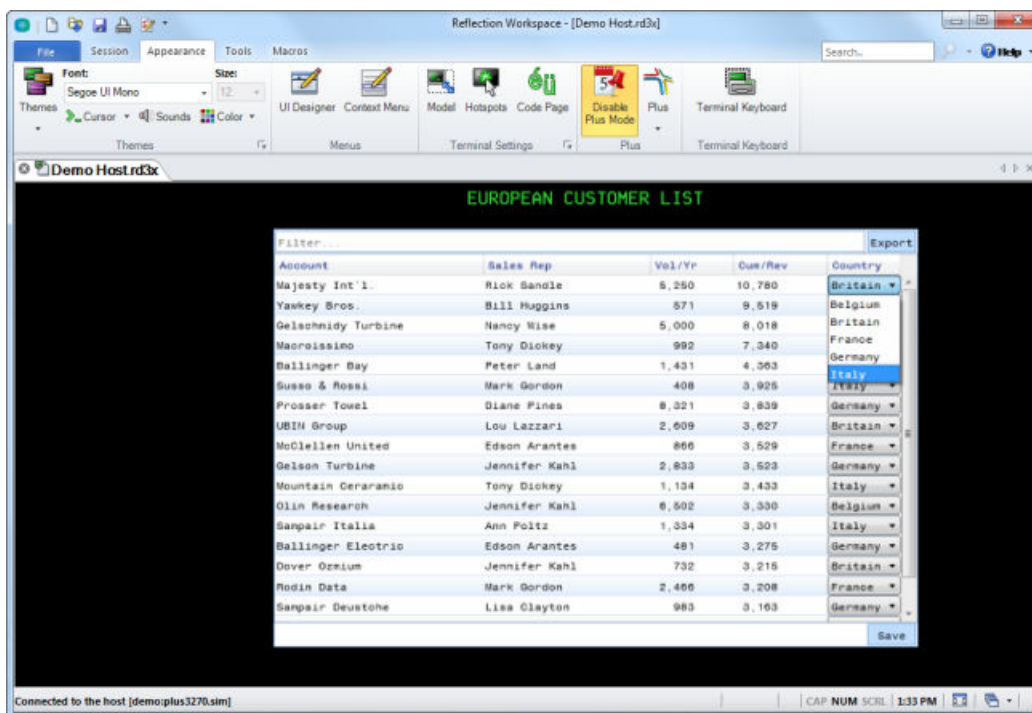
15. Save the project and create the Plus archive.

## Using Table controls in Plus mode

1. Connect to the Demo Host and start Plus mode.
2. Associate the Plus archive you have just created with the host session.
3. Navigate to the `EUROPEAN CUSTOMER LIST` screen.

The **Country** column now contains a combo list on each row.

4. On the first row, select **Italy** from the list:



5. Click **Save** at the bottom of the table.

## Execute a Table action relative to a row position

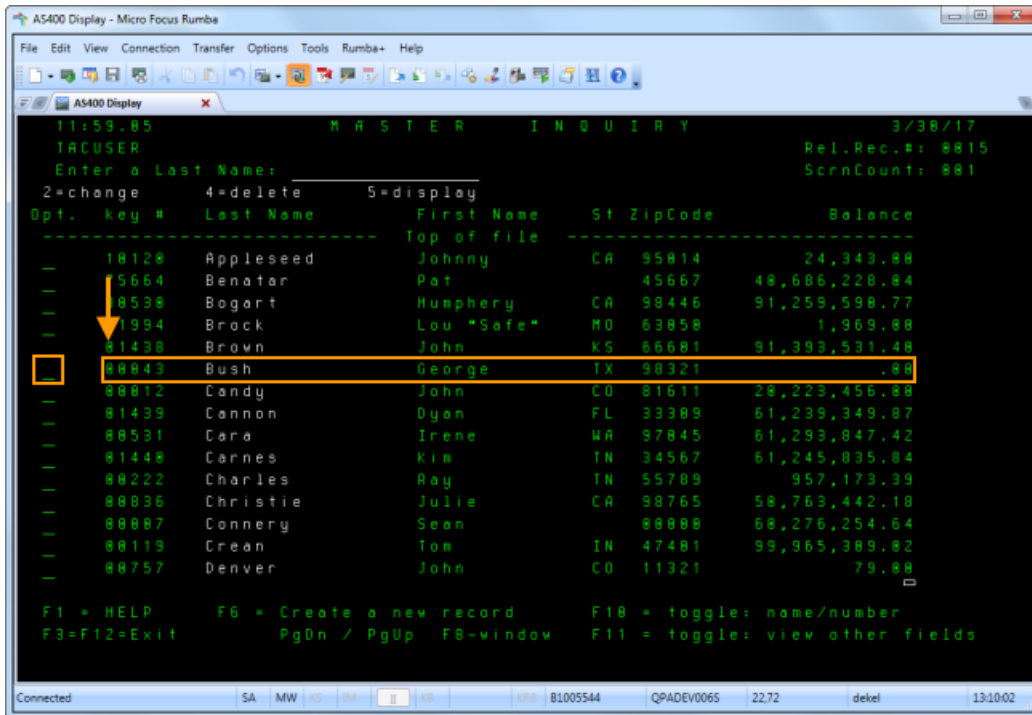
In some host tables, selecting a row can require action in a field that is in a relative position to that row. For example, there might be an input field next to every row in a table, and selecting a row might require a particular action to be executed in that relative field.

The following Table control actions can be performed, relative a to row position:

**SetText**

## SetCursor ClearField

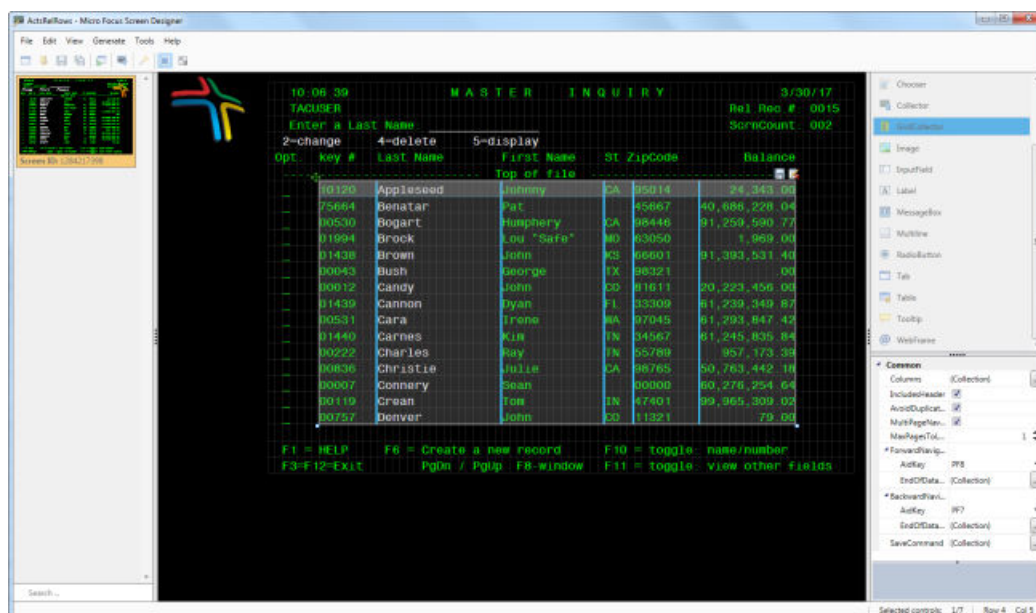
The figure below shows a GridCollector control in the Screen Designer. The arrow points to the location of the left-most column of the selected row. The relative location is calculated as an offset from that point, with the left-most column represented as (0,0):



In this example, the position to execute the action is in the **Option** column on the same row. This is five screen cells to the left of the start of the selected row. The row offset is therefore 0 and the column offset is -5.

To configure the table:

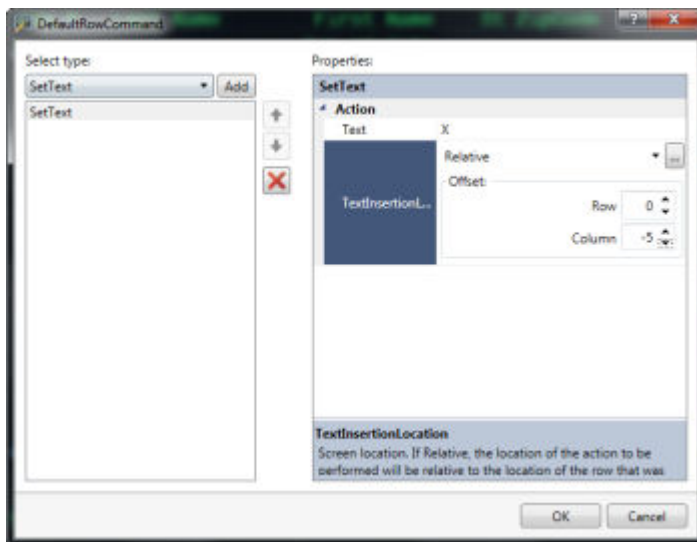
1. In the Screen Designer, add a GridCollector to a table:



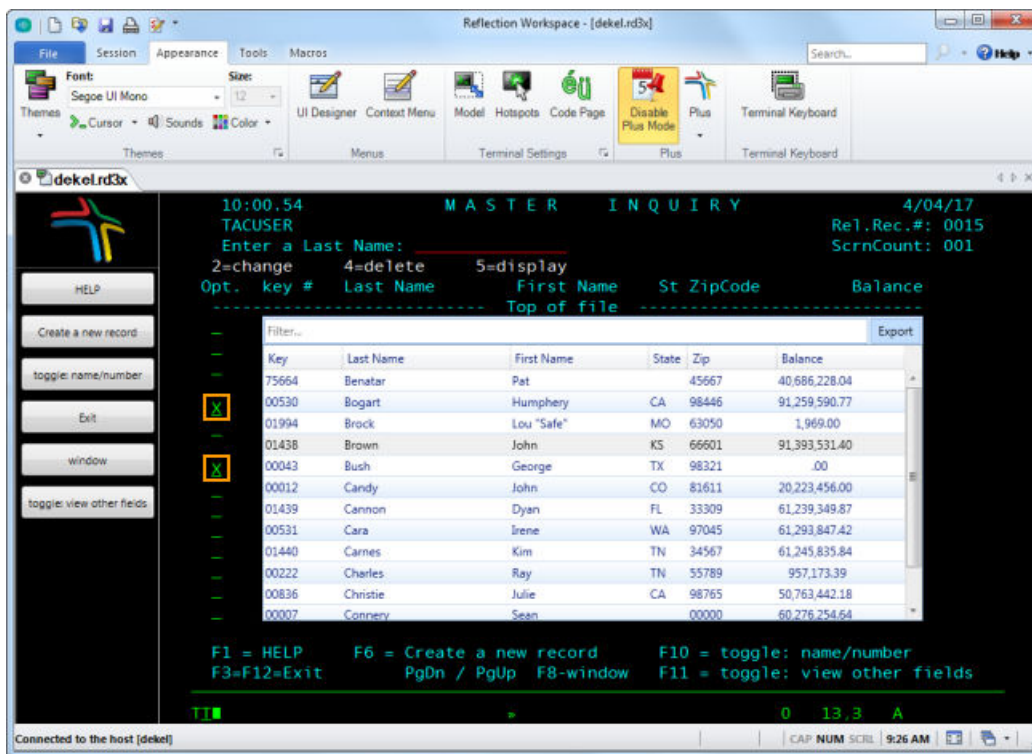
2. Place a Table control over the GridCollector control.
3. In the property grid, uncheck **IsMoreButtonVisible**.
4. Uncheck **IsAutoNavigateOnLoad**.
5. Check **IsExportButtonVisible**.
6. Click the accelerator button next to **DefaultRowCommand**.

The **DefaultRowCommand** dialog box appears.

7. Select **SetText** from the **Select type** list.
8. Click **Add**.
9. In the **Properties** frame, type x in the **Text** field.
10. Select **Relative** from the **TextInsertionLocation** list.
11. In the **Offset** frame, leave **Row** at 0 and set **Column** to -5:

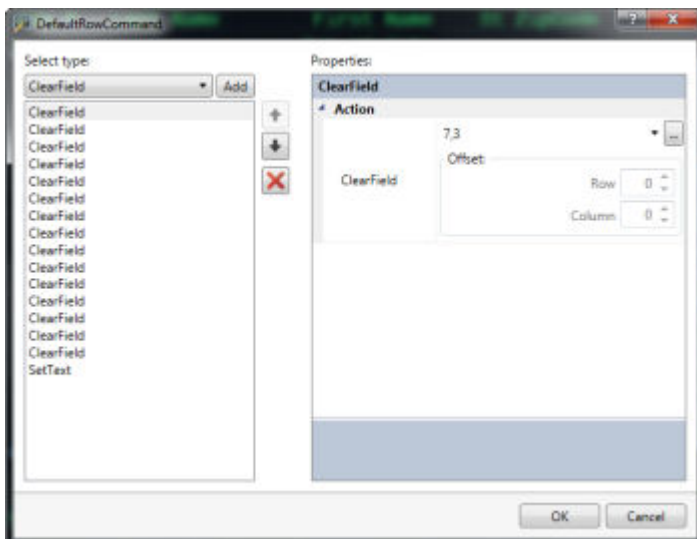


12. Click **OK**.
13. Save the project and create the Plus archive.
14. In Plus mode, when you double-click a table row, a x appears in the **Option** column:



### Adding ClearField actions:

If you only want to have a **X** on one selected row at a time, you can add a **ClearField** action for each row of the table:



When you double-click a row, a **X** appears on that row and is removed from any previously selected row.

## Use controls to set a variable

You can use the contents of an input control, such as an InputField control, to set a variable which can be used, at any time and in any place, by the action of another control. To do this, you use the BoundVariable action of the input control.

The following input controls use bound variables:



- Calendar
- CheckBox
- Chooser
- InputField
- RadioButton

## Use Web components in Plus

Plus can call both applications and Web components using one or more of the following controls:

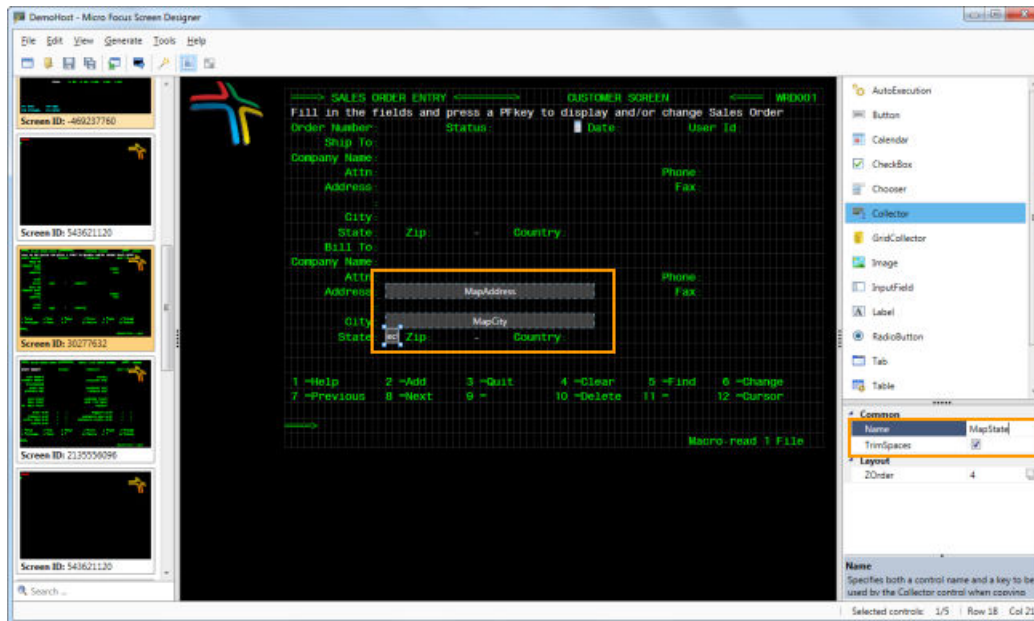
**Button** A labeled UI control. It can call an application, script, URL, or Web page.

**WebFrame** Creates an icon using an image. You can set the size of the frame. Only valid for Web browser URLs. No address bar is displayed.

## Passing parameters to an application or Web page

You pass parameters to an application or Web page using the Collector control. Place a Collector control over the data fields that Plus uses to capture data. When the application runs, there is nothing to show on the screen that indicates this is a data collection field.

You add Collector controls in the **Screen Design** view:



**Note:** Collector controls should cover the entire data field to accommodate long strings.

When you configure a Collector control, you give it a name in the property grid. This name must be unique in the Plus archive. You can refer to the data stored in the database as `%%Name%%`. In the figure above, the **Name** of the first collector is **MapCity** and its global variable name is `%%MapCity%%`.

The **TrimSpaces** property resizes the length of the data string by removing trailing spaces. In most applications, this option should be 1.

## Creating Web objects and URLs

The first thing to do is to create a working URL using a known set of parameters for a known address. For example, this Google Maps parameter is for an Office Park in Maryland:



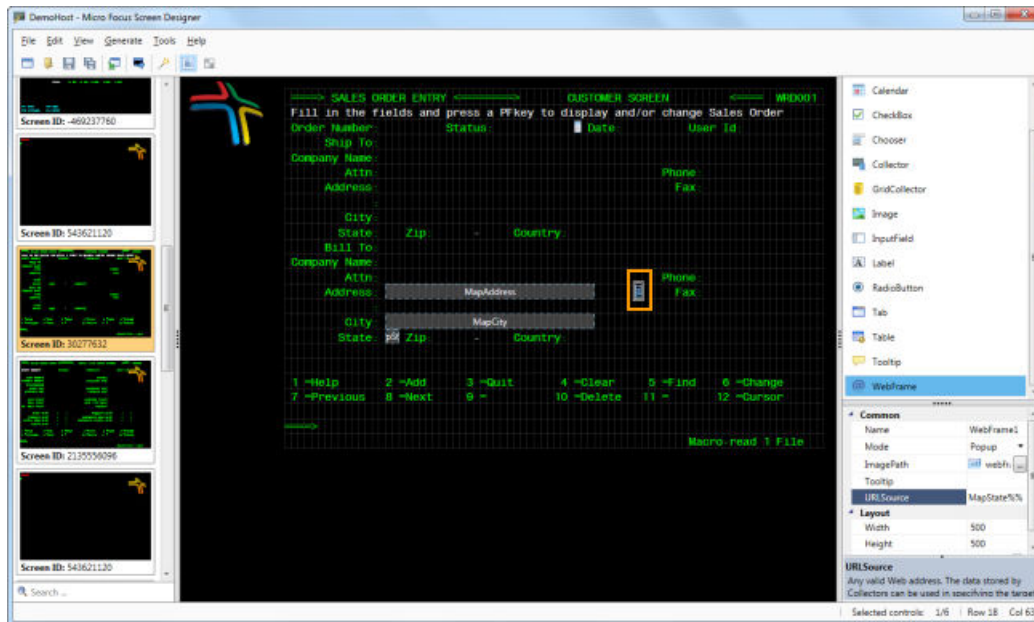
<http://maps.google.com/maps?q=700 King Farm,Rockville,MD>

Copy the working URL to an editor such as Notepad so you can edit it for use in the Screen Designer. For example, the following string re-creates the address string:

```
%%MapAddr%%,%%MapCity%%,%%MapState%%
```

Note that the commas (,) used as delimiters in the Google command, are still in place in the Plus string.

Add a WebFrame control to receive the data from the Chooser control:



The command to copy and paste into the WebFrame **URLSource** field is:

```
http://maps.google.com/maps?q=%%MapAddr%%,%%MapCity%%,%%MapState%%
```

In Plus mode, the Collector control captures the information you type. When clicked, the WebFrame control takes that data and shows the location of the address on a map in a remote window.

As the character strings get more complex, testing becomes more important. For example, the following string calls a Google charting facility for a pie chart. Notice that the original URL contains a section that deals with both chart labels (AREA-A, etc) and chart data (T=:100,300,200,50). Other editable data includes colors, format, and sizing:

```
http://chart.googleapis.com/chart?chs=300x150&cht=p3&chco=0000FF|00FF00|FF0000|FFFF00&chds=0,1000&chd=t:100,300,200,50&chdl=AREA-A|AREA-B|AREA-C|AREA-D&chtt=TOYS
```

As in the Google Maps example, we need to replace the data portion of this URL with variables collected from the Plus screen. In this case, the data portion (specified by `chd`), becomes:

```
chd=t:%%R1Jtoy%%,%%R2Jtoy%%,%%R3Jtoy%%,%%R4Jtoy%%
```

The new URL to use with the WebFrame control becomes:

```
http://chart.googleapis.com/chart?chs=300x150&cht=p3&chco=0000FF|00FF00|FF0000|FFFF00&chds=0,1000&chd=t:%%R1Jtoy%%,%%R2Jtoy%%,%%R3Jtoy%%,%%R4Jtoy%%&chdl=Region1|Region2|Region3|Region4&chtt=TOYS
```

In a real application, you might also want to modify the label data dynamically as well. A label section might therefore look like this:

```
chdl=%%Label1%%|%%Label2%%|%%Label3%%|%%Label4%%
```

You can experiment with the Google pie chart URL using the TOYS screen on the Demo Host.

## Import additional projects

You can import additional customization projects to merge with a project that is currently open in the Screen Designer.

To do this, select **File > Import Project**.



### Notes:

- You cannot import a project if the base project is not open.
- The project name and theme will be the same as the currently open project.

The table below provides information about some circumstances where not all data might be included in an import.

If this happens ...	Then this happens ...
The screen ID configuration of the other project is different from the one defined in the base project.	Following the import attempt, the operation halts with an error message.
You import a project in which custom screen IDs are defined.	If all the custom screen IDs are valid, they are added to the custom screen IDs list of the base project.
You import a project in which custom screen IDs are defined. However, one of the custom screen ID names already exists in the base project, although the custom screen IDs are not identical.	The custom screen ID is added to the project with a new name: <code>Origcustom screen ID - Copy</code> , <code>Origcustom screen ID - Copy (2)</code> . Any references to the renamed custom screen ID are changed accordingly.
You import a project with a rule which is identical to one of the rules in the base project.	Duplicated rules appear only once.
You import a project in which custom screen IDs are defined. One of the custom screen IDs is not valid because it is assigned to a screen that has another custom screen ID.	Not all of the new custom screen ID's related rules are merged into the project. Information is shown in the results dialog box.
You import a project that includes a local resource.	If the name of the resource already exists, you can select one of: <ul style="list-style-type: none"><li>• Copy and Replace</li><li>• Don't Copy</li><li>• Copy, but keep both files</li></ul>

You can also import additional customization projects using the Screen Designer command line. See [Use the Screen Designer command line](#).

## Use the Screen Designer command line

You can use the Screen Designer command line to:

- Create one or more Plus archive files from Screen Designer project files.
- Import multiple projects to a current Screen Designer project.

### Syntax

```
<Install_Dir>\Plus\ScreenDesigner\RumbaScreenDesignerCLI.exe [/P  
<project_file_path> | /L <project_file_list_path>] [/O <output_dir>][[/S] | /I  
<config_file> | /?
```

where:

<code>&lt;Install_Dir&gt;</code>	is the folder where the Screen Designer is installed.
<code>/P &lt;project_file_path&gt;</code>	is the fully qualified path to a single project file.
<code>/L &lt;project_file_list_path&gt;</code>	is the fully qualified path to a file that contains a list of project files.  Each path and file name must be on a separate line. You can use the pound sign (#) to comment out a line.
<code>/O &lt;output_dir&gt;</code>	is the fully qualified path of where to export the Plus archives. Optional. If not specified, the <code>&lt;Install_Dir&gt;\Plus\ScreenDesigner</code> folder is used.
<code>/S</code>	saves the project after the Plus archive is created.
<code>/I &lt;config_file&gt;</code>	is the fully qualified path of the configured list of projects to import.
<code>/?</code>	shows this information on the screen.

## Generating customization files

### Syntax

```
<Install_Dir>\Plus\ScreenDesigner\RumbaScreenDesignerCLI.exe [/P
<project_file_path> | /L <project_file_list_path>] [/O <output_dir>][/S]
```

### Example: Generating a single Plus archive

```
RumbaScreenDesignerCLI.exe /P C:\Users\<user_name>\My Documents\Micro Focus
\Reflection\Plus\Projects\TableTest\TableTest.rsdp /O C:\Users\<user_name>\My
Documents\Micro Focus\Reflection\Plus\Rules /S
```

### Example: Generating multiple Plus archives

```
RumbaScreenDesignerCLI.exe /L C:\Screen Designer\Projects\ProjectList.txt /O
C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Rules /S
```

Example project file list contents:

```
C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects
\ul\ul.rsdp
#C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects\unique
\unique.rsdp
C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects
\TableTest\TableTest.rsdp
C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects
\longtable3\longtable3.rsdp
C:\work\mobile\TestApplications\TestPlanAppCSIMVS\TestAppCSIMVS
\TestAppCSIMVS.rsdp
```



**Note:** You can use the pound sign (#) to comment out a line.

## Importing project files

### Syntax

```
<Install_Dir>\Plus\ScreenDesigner\RumbaScreenDesignerCLI.exe /I <config_file>
```

## Example

```
<Install_Dir>\Plus\ScreenDesigner\RumbaScreenDesignerCLI.exe /I C:\Screen  
Designer\Projects\ImportFileList.txt
```

Example project file list contents:

```
duplicateresource=ckb  
baseproject=C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus  
\Projects\MergeProjects1\MergeProjects1.rsd  
project=C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects  
\MergeProjects2\MergeProjects2.rsd  
project=C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects  
\MergeProjects3.rsd  
project=C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects  
\MergeProjects2\MergeProjects2.rsd  
project=C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects  
\al\al.rsd  
project=C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects  
\WYSIWYG\WYSIWYG\WYSIWYG.rsd  
saveto=C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus\Projects  
\MergeProjects20
```

where:

**duplicateresource** specifies copy options for duplicate resources:

<b>cr</b>	Copy and replace.
<b>dc</b>	Do not copy.
<b>ckb</b>	Copy, but keep both files.

**baseproject** is the base project that the projects will be imported to.

**project** is the absolute or relative path to the project file.

**saveto** is the path of the resulting merged project. If not specified, the base project is used. If the project does not exist, a new project is created at that location with a name matching the folder name. For example, if the path is:

```
C:\Users\<user_name>\My Documents\Micro Focus\Reflection\Plus  
\Projects\MergeProjects20
```

the created project is called MergeProjects20.

# Contacting Micro Focus

Our Web site gives up-to-date details of contact numbers and addresses.

## Further information and product support

Additional technical information or advice is available from several sources.

The product support pages contain a considerable amount of additional information, such as:

- The *Product Updates* section of the Micro Focus Customer Care Web site, where you can download fixes and documentation updates.
- The *Examples and Utilities* section of the Micro Focus Customer Care Web site, including demos and additional product documentation.
- The *Support Resources* section of the Micro Focus Customer Care Web site, that includes troubleshooting guides and information about how to raise an incident.

To connect, enter <https://www.microfocus.com/en-us/support> in your browser.



**Note:** Some information may be available only to customers who have maintenance agreements.

If you obtained this product directly from Micro Focus, contact us as described on the Micro Focus Web site, [www.microfocus.com](http://www.microfocus.com). If you obtained the product from another source, such as an authorized distributor, contact them for help first. If they are unable to help, contact us.

Also, visit:

- The Micro Focus Community Web site, where you can browse the Knowledge Base, read articles and blogs, find demonstration programs and examples, and discuss this product with other users and Micro Focus specialists.
- The Micro Focus YouTube channel for videos related to your product. .

## Information we need

However you contact us, please try to include the information below, if you have it. The more information you can give, the better Micro Focus Customer Support can help you. But if you don't know all the answers, or you think some are irrelevant to your problem, please give whatever information you have.

- The name and version number of all products that you think might be causing a problem.
- Your computer make and model.
- Your operating system version number and details of any networking software you are using.
- The amount of memory in your computer.
- The relevant page reference or section in the documentation.
- Your serial number. To find out this number, look in the subject line and body of your Electronic Product Delivery Notice email that you received from Micro Focus.

## Contact information

Our Web site gives up-to-date details of contact numbers and addresses.

Additional technical information or advice is available from several sources.

The product support pages contain considerable additional information, including the *Product Updates* section of the Micro Focus Customer Care Web site, where you can download fixes and documentation updates. Go to [Micro Focus Product Updates](#).

To connect, enter <https://www.microfocus.com/en-us/home/> in your browser to go to the Micro Focus home page, then click **Support & Services > Support**. Type or select the product you require from the product selection dropdown, and then click **Support Login**.

If you are a Micro Focus Customer Care customer, please see the *Welcome to Customer Care* document that includes information about downloading and licensing your product, contacting Customer Care, and about reporting an incident. You can download it from our Web site. Support from Micro Focus may be available only to customers who have maintenance agreements.