

# HP OpenView Select Audit

For the Windows®, HP-UX®, and Linux® Operating Systems

Software Version: 1.01

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## Report Designer's Guide

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# 1 Overview

Welcome to the Report Designer!

## What is the Report Designer?

The Report Designer is a Java-based graphical user interface that lets you create interactive or printed reports. The reports can contain any number of tables, crosstabs, and charts. The tables can be simple or grouped by rows, and you can easily modify the layout to make more complex free-form tables. Your reports can use data from one or several data sources. You can position text elements and images anywhere you want, inside or outside the tables. You can preview your report, using live data, without leaving the Report Designer.



The desktop system used to run the Report Designer Java application makes SOAP calls back to the Report Center. Consequently the JVM installed on the desktop used to run the Report Designer should NOT be setup to use a proxy server for network connections. If using this setting, the SOAP calls will be sent to the proxy server instead of the Audit Server, resulting in an inability to connect to the Report Server.

## What's in This Guide?

The chapters in this guide are shown in [Table 1](#).

**Table 1 Chapter Summary**

Chapter	Description
<a href="#">Chapter 1, Overview</a>	Gives an overview of the <i>HP OpenView Select Audit 1.01 Report Designer's Guide</i> .
<a href="#">Chapter 2, User Interface Overview</a>	Defines the terms and concepts used in Select Audit reports.
<a href="#">Chapter 3, Creating a Query</a>	Shows how to make the SQL query that you will use to create the reports in this guide.
<a href="#">Chapter 4, Creating a Simple Table</a>	Shows how to create a basic rows-and-columns table. Also introduces basic styling concepts.
<a href="#">Chapter 5, Creating a Group Table</a>	Shows how to create a table with row grouping.
<a href="#">Chapter 6, Creating a Free-form Group Table</a>	Shows how to move data and text elements of a table around the layout to create a custom table design.

**Table 1 Chapter Summary (cont'd)**

<b>Chapter</b>	<b>Description</b>
Chapter 7, Creating a Crosstab	Shows how to create a crosstab.
Chapter 8, Creating a Chart	Shows how to create a chart.
Chapter 9, Creating a Multi-component Report	Shows how to create a report with multiple components. This example contains a table, a crosstab, text elements and image fields.
Chapter 10, Controls and Parameters	Shows how to add end-user controls to your report, and how to create the parameters that apply the user's choices to the report output.
Chapter 11, Using Report Links and Drilldowns	Shows how to link one report to another to give the end user additional information about a specific data value.
Chapter 12, Other Topics	This section shows how to add headers and footers if you've deleted or omitted them. You'll start with a table that has had the footer removed. After adding a footer, you'll add summaries to it.

## What This Guide Is...and Is Not

This guide shows how to build several representative reports. The reports illustrate the various functions available to you in the Report Designer. These reports are not designed to be realistic and are not templates for real reports.

This guide does not provide an exhaustive description of the user interface, nor does it tell you every way to accomplish a given task. Like most graphical user interfaces, Report Designer provides many different ways to perform certain tasks. This document only shows one way to perform a task. Typically, there are many others as well.

Finally, this book does not show how to use RDL. RDL is Select Audit's XML-based report definition language. You can edit RDL within the Report Designer at any time by editing the text in the **RDL** tab. This document does not show how to hand-edit RDL.

## How to Use this Guide

Make sure to read [Chapter 3, Creating a Query](#). The other reports that you will create will use the query in that chapter. Also, if possible, follow the rest of the guide sequentially, since in some cases chapters rely on information in previous chapters.

This guide's examples assume the default preferences. If you make any changes to the defaults, for example, by checking a box preventing a dialog from reappearing, these examples may not work exactly as stated.

## The Select Audit Documentation Set

This manual refers to the following Select Audit documents. These documents are installed with Select Audit and are available in the `<install_path>/docs` folder where `<install_path>` represents the path where Select Audit is installed.

- *HP OpenView Select Audit 1.01 Installation Guide*, © Copyright 2006 Hewlett-Packard Development Company, L.P. (`installation_guide.pdf`)
- *HP OpenView Select Audit 1.01 Administration Guide*, © Copyright 2006 Hewlett-Packard Development Company, L.P. (`administration_guide.pdf`).
- *HP OpenView Select Audit 1.01 Concepts Guide*, © Copyright 2006 Hewlett-Packard Development Company, L.P. (`concepts_guide.pdf`)
- *HP OpenView Select Audit 1.01 Sarbanes-Oxley Model Guide*, © Copyright 2006 Hewlett-Packard Development Company, L.P. (`sb_model_guide.pdf`).
- *HP OpenView Select Audit 1.01 Report Designer's Guide*, © Copyright 2006 Hewlett-Packard Development Company, L.P. (`rpt_center_guide.pdf`)
- *HP OpenView Select Audit 1.01 Report Center User's Guide*, © Copyright 2006 Hewlett-Packard Development Company, L.P. (`rpt_center_guide.pdf`)
- *HP OpenView Select Audit 1.01 Report Developer's Guide*, © Copyright 2006 Hewlett-Packard Development Company, L.P. (`rpt_dev_guide.pdf`)

Online help is available with the Report generation components.



## 2 User Interface Overview

This chapter gives a very high-level description of the Report Designer user interface.

The Report Designer contains the following areas:

- Menu bar
- Toolbar
- Tabs
- Tree View
- Properties Area
- Design Pane
- Status Bar
- Error Pane

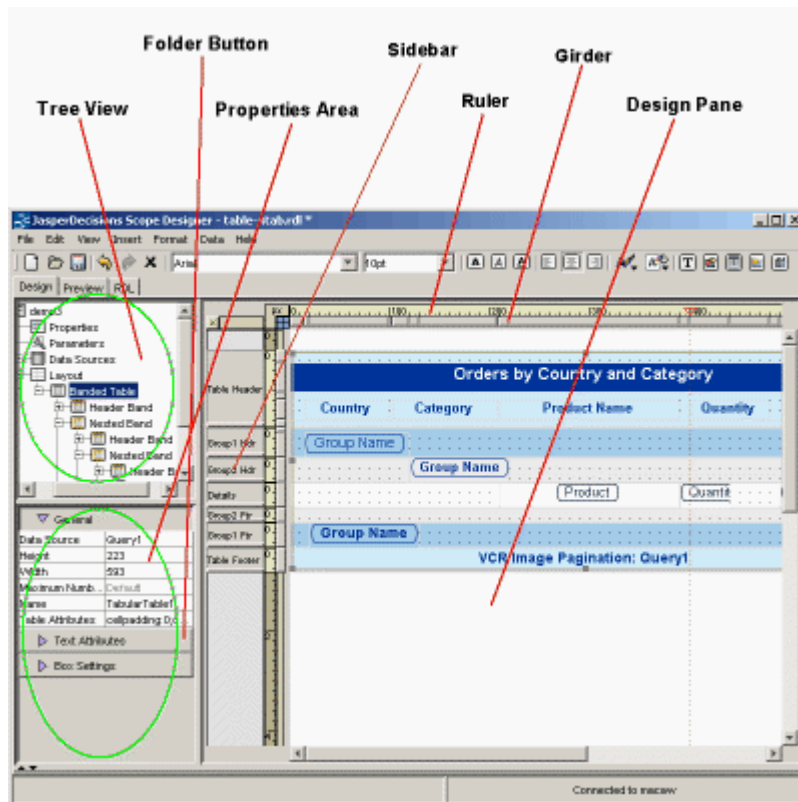


Figure 1 User Interface

## User Interface Sections

You'll do most of your layout design in the **Design Pane**, which provides a graphical representation of how your report will display.

When a table is in edit mode in the Design Pane, a **Sidebar** displays to the left of the table. This sidebar indicates the headers, footers, and bands. By selecting the appropriate sidebar, you can style or resize the entire header, footer, or details section.

The **Properties Area** enables you to fine-tune the layout. Though you can usually create your report using only the Design Pane, for some advanced settings you must use the Properties area. Every setting in the Design Pane except positioning is also available in the Properties area.

The **Tree View** shows the report in a hierarchical fashion. It is based on RDL, Select Audit's XML-based report definition language. The two most important high-level nodes are Data Sources and Layout. Each element of the report is represented by a node on the tree. When you select an item in the Tree view, the element is highlighted in the Design Pane and you can edit it in the Properties area. You can also drag a data field from the Tree view into a text element in edit mode in the Design Pane.

## Tabs

The three tabs are:

- Design Tab
- Preview Tab
- RDL Tab

### Design Tab

Most of the time, you'll use the **Design** tab to develop your reports. In the **Design** tab, the **Tree View**, **Properties Area**, and **Design Pane** are visible.

### Preview Tab

Use the **Preview** tab to see how your report looks using real data. If you aren't currently connected to a data source, you will be prompted to do so.

In the **Preview** tab, you can choose whether to display a PDF or HTML view. If you choose HTML, the data is displayed roughly as in a browser, though some elements (for example, certain controls) don't appear exactly as they would in a browser.

You can also choose how many rows of returned data to use to generate the report. Use the **number-of-rows** to control the time it takes for the report preview to display.



The number of returned rows is meaningful only for simple tables. If your returned data set is large and you set the number of rows to "all", you may get an out-of-memory error. As a general rule, set this control to "all" only for crosstabs, and even then, only when necessary to view your output correctly.

Typically, you will alternate between the **Design** tab and the **Preview** tab. After making some changes, check the **Preview** tab for a better idea of how the report actually looks.

## RDL Tab

The **RDL** tab displays the RDL code that defines the report. RDL is Select Audit's XML-based report definition language. This tab is for fine-tuning by advanced report developers.



This document does not discuss RDL or the **RDL** tab.

## Tree View

The **Tree** view shows a hierarchical view of your report. Its top-level nodes include parameters, data, and layout. The data node shows the data available to populate the report.

If you have created a spot for it in the layout, you can drag a data field into the spot in the Design Pane.

The highest-level subnodes of the layout mode are *components*. In Select Audit, a component is a table (called **Banded Table** in the Tree view), crosstab, or chart. You can create combinations of these components to create a complete report. The subnodes of each component are different for each component type.

## Properties Area

The **Properties** area allows you to view and edit details of each item that you have selected in the Design Pane or in the Tree view. The Properties area contains *folder buttons*, which expand to reveal editable properties. The number of folder buttons and properties depends on the element selected.

## Design Pane

The **Design Pane** graphically shows the report in its current state. It's not a WYSIWYG view (that is available in the [Preview Tab](#)) but it does show the layout in an abstract form.

### Design Pane Objects

The objects that the Design Pane can contain are:

- components (tables, crosstabs, and charts)
- text elements
- image elements
- controls (see [Chapter 10, Controls and Parameters](#))

- the layout

## Selecting an Object

To select an object, click it in the Design Pane. To select the layout, click anywhere in the Design Pane outside all other objects.

When an object is selected, you can:

- edit it by right-clicking or by using the menus
- style it from the toolbar
- move it
- resize it

## Opening an Object

Some objects can be opened so that you can edit them directly within the Design Pane, without using the menus, toolbar, or dialog. These objects are:

- tables
- crosstabs
- text elements and crosstab labels

To open an object, double-click it.

When you open a table, the [Sidebar](#) appears, which enables you to resize the headers, footers, and details section. You can also directly select elements in the table by clicking them.

When you open a crosstab, you can directly select elements in the crosstab by clicking them.

When you open a text element, you can modify the text directly without using a dialog, and you can drag a data element from the [Tree View](#) into the text element.

## Other Elements of the Design Pane

Surrounding the Design Pane, are:

- Girders
- Rulers
- Sidebar

### Girders

Immediate surrounding the Design Pane is a narrow horizontal area containing vertical lines, and a narrow vertical area containing horizontal lines. These lines are called *girders*. They represent the edges of all the elements in the layout. (When a table is in edit mode, they represent the edges of elements within the table.) You can drag these girders to change the size of elements inside the layout.



## Rulers

Surrounding the girders are *rulers*. By default, they measure pixels, but by clicking the L-shaped area surrounding connecting the rulers, you can change the measurement to inches or centimeters.

## Sidebar

If a table is in edit mode, a *sidebar* appear to the left of it. The sidebar delineates areas that represent the headers, footers, and bands of the table. By dragging the lines within the sidebar, you can resize the table's bands, headers, and footers.

## Status Bar

The **Status** bar optionally appears on the bottom of the Report Designer. The status bar indicates whether you are connected to a server and, if so, to which server. It also indicates whether there are errors.

## Error Pane

The **Error** pane shows errors found in the report. If there are error messages, they may contain hyperlinks to the part of the report that caused the error.

To show or hide the error pane, use the up and down arrows underneath the **Properties** area. You can also open the error pane by double-clicking the arrow icon in the status bar.



## 3 Creating a Query

This chapter shows how to create a query and save it to the Catalog for reuse. The query that you create in this chapter will be used to create a simple table, a crosstab, and a banded table.

To create a query from scratch, use the **Query Wizard**. To edit an existing query, use the **Query Editor**. (See [Modifying the Query](#) on page 21.)

The Query Wizard helps you write SQL queries. Once you have created a query, you can use it to provide data to a table, crosstab, or chart, or query-driven parameter.

### Launching the Query Wizard

To launch the Query Wizard, select **Data** → **Query Wizard**. The **Query Wizard** appears.

### Selecting the Data Source

To select the data source:

- 1 Select **demo** in the **Choose data source** field.
- 2 In the **Enter a name for the query field**, enter **MainQuery**.
- 3 Click **Next**.

### Selecting Tables

- 1 While holding the **CTRL** key, select the following tables:
  - CATEGORIES
  - ORDERS
  - ORDER\_DETAILS
  - PRODUCTS
- 2 Click **Add**.
- 3 Click **Next**.

## Linking Tables

You'll need to link tables. Links correspond to joins in the database.

- 1 Choose the tables **CATEGORIES** and **PRODUCTS**, and link on the **CATEGORY\_ID** field. To do this, select **CATEGORY\_ID** on each side, then click **Link**.
- 2 Choose the tables **ORDER\_DETAILS** and **PRODUCTS**, and link on the **PRODUCT\_ID** field.
- 3 Choose the tables **ORDER\_DETAILS** and **ORDERS** and link on the **ORDER\_ID** field.
- 4 Click **Next**.

## Selecting the Columns

You now need to select the columns that you will use to build your report.

- 1 In the **Available Columns** area, select the **CATEGORIES** table, then select the **CATEGORY\_ID** and **CATEGORY\_NAME** columns. Click **Add**.
- 2 From the **ORDERS** table, add the **ORDER\_ID**, **CUSTOMER\_ID**, **ORDER\_DATE**, **SHIPPED\_DATE**, **SHIP\_CITY**, **SHIP\_NAME**, and **SHIP\_COUNTRY** columns.
- 3 From the **ORDER\_DETAILS** table, add the **PRODUCT\_ID**, **UNIT\_PRICE**, and **QUANTITY** columns.
- 4 From the **PRODUCTS** table, add the **PRODUCT\_NAME** column.
- 5 Click **Next**.

## Changing the Labels

The column names in the database are cumbersome. Now create more readable name for the columns that you will use. Change the **Label** column in the **Column Details** screen as follows:

- 1 Change **CATEGORIES\_CATEGORY\_ID** to **Cat\_ID**.
- 2 Change **CATEGORIES\_CATEGORY\_NAME** to **Category**.
- 3 Change **ORDERS\_ORDER\_ID** to **Order\_ID**.
- 4 Change **ORDERS\_CUSTOMER\_ID** to **Customer\_ID**.
- 5 Change **ORDERS\_ORDER\_DATE** to **Order\_Date**.
- 6 Change **ORDERS\_SHIPPED\_DATE** to **Ship\_Date**.
- 7 Change **ORDERS\_SHIP\_CITY** to **Ship\_City**.
- 8 Change **ORDERS\_SHIP\_NAME** to **Shipped\_To**.
- 9 Change **ORDERS\_SHIP\_COUNTRY** to **Ship\_Country**.
- 10 Change **ORDER\_DETAILS\_PRODUCT\_ID** to **Product\_ID**.
- 11 Change **ORDER\_DETAILS\_UNIT\_PRICE** to **Unit\_Price**.
- 12 Change **ORDER\_DETAILS\_QUANTITY** to **Quantity**.
- 13 Change **PRODUCT\_NAME** to **Product**.
- 14 Click **Finish**.

- 15 If you are prompted to start the **Layout Wizard**, click **No**.
- 16 Save the query as `MainQuery.rdl`.

## Saving the Query to the Catalog

As well as saving the query to the file system, you can also easily upload the query to the Report Server to reuse later. Once on the server, you can either copy the query into a report or reference it without copying it.

To upload the query to the Report Server:

- 1 In the Tree view, expand **Data Source**. **MainQuery** should now be visible.
- 2 Right-click **MainQuery**, and select **Upload Datasource**.
- 3 Click **OK**.

The query is now saved in the Catalog on the server. You can see the contents of the Catalog using the Report Center. See the *HP OpenView Select Audit 1.01 Report Center User's Guide* for details.

In later chapters, you will fetch the query that you have just saved to the Catalog.

## Modifying the Query

You can invoke a SQL editor to modify the query. To do this:

- 1 In the Tree view, expand **Data Sources**. **MainQuery** should now be visible.
- 2 Right-click **MainQuery**, and select **Edit SQL Query**. The **SQL Editor** appears.

For now, do not modify the query. Later, in [Chapter 10, Controls and Parameters](#) you will use this dialog to add parameters to the query.



## 4 Creating a Simple Table

In this section, you will create a simple table that consists only of headers, footers, and data rows. Then you will use the Layout Wizard to make common adjustments to your table.

### Creating the Table

- 1 Open the `MainQuery.rdl` file that you created in [Chapter 3, Creating a Query](#). The **Layout Wizard** prompt appears.
- 2 Click **OK** to launch the Layout Wizard. (If the prompt doesn't appear, choose **Insert** → **Table** from the top menu.)
- 3 In the **Layout Wizard, General** screen, select query **MainQuery** and layout type **Tabular**.
- 4 In **Fields to Display**, select the following fields:
  - Category
  - Order\_ID
  - Ship\_Date
  - Unit\_Price
  - Quantity
  - Product
- 5 Using the up arrow, move **Order\_ID** to the top.
- 6 Using the up arrow, move **Product** right under **Order\_ID**.
- 7 Click **Next**.
- 8 In the **Select Table Options** screen, **Select Type of Tabular Layout** area, select **Simple Table**.
- 9 In the **Include** area, make sure **Table Header** and **Table Footer** are checked.
- 10 Click **Next**.
- 11 In the **Set Label Options** screen, double-click **Order\_ID** in the **Column Labels** column and change it to **Order ID**.
- 12 Likewise, change **Ship\_Date** to **Ship Date** and **Unit\_Price** to **Unit Price**.
- 13 Click outside the **Column Label** column to preserve the changes you have just made.
- 14 Now, you'll add a sorting link to the **Product** column. Sorting links allow the end user to change the sorting in the table by clicking on a column header. Click in the **Sorting Link** column on the **Product** row and choose **Ascending** from the drop-down list.
- 15 Click **Next**.
- 16 In the **Select Theme** screen, choose **forest**.

- 17 Click **Finish**.
- 18 Click the **Preview** tab. Preview as **HTML**. For **Number of Data Rows**, select **10**.
- 19 Click **Refresh**.
- 20 Save the table as `MySimpleTable.rdl`.

You now have a simple report! Now all you need to do is refine the layout.

## Modifying the Table Content

### Changing the Title

- 1 In the Design Pane, double-click the table to open it. Then double-click the title to make it editable.
- 2 Change the table title to **Orders Report**.
- 3 Preview the report.

### Changing the Date Mask

The date is not in a usable format. To change it:

- 1 In the Design Pane, double-click on the table to open it, if necessary. Then right-click on the text element containing `Data.MainQuery.Ship_Date` and select **Edit Text Element**. The **Text Properties** dialog appears.
- 2 In the **Format** tab, select date format **MM/dd/yyyy**.
- 3 Click **OK**.

### Changing the Money Mask

The formatting for unit price has only one decimal place. To change it to standard money formatting:

- 1 In the Design Pane, double-click on the table to open it, if necessary. Right-click on the text element containing `data.MainQuery.Unit_Price` and select **Edit Text Element**. The **Text Properties** dialog appears.
- 2 In the **Format** tab, select the following number format: `$#, ##0.00; (#, ##0.00)`.
- 3 Click **OK**.
- 4 Repeat these steps for the **Unit Price summary** element found in the footer.
- 5 Preview the report. Set the **Number of Data Rows** to **10** to see the footer more easily.



## Deleting the Extra Summary

The Layout Wizard creates summaries for all numeric data, but the **Order ID** field doesn't really need one. You can delete the summary element from the table footer.

- 1 In the Design Pane, double-click on the table to open it, if necessary. Right-click on the **Order ID** summary element in the **Table Footer** section and select **Delete**.
- 2 Preview and save the report.

## Improving the Layout

In this section, you'll make a few additional improvements to the layout.

### Alternate Row Styling

The table is a little hard to read because the detail rows all have the same styling. To change that, you'll style odd- and even-numbered rows differently.

- 1 Click outside the table to exit edit mode. Right-click in the table and select **Edit Table**.
- 2 In the **Tabular Editor, General** tab, locate the **Alternate Data Row Styling** area. Check the **Use separate styles for odd and even records** check box. Click **OK**.
- 3 To use the alternate row style found in the **forest** theme, you must re-apply the theme to the table. Make sure the table is selected. From the **Format** menu, choose **Apply Theme** → **forest**.
- 4 Preview the report.

### Changing Alignments

The **Order ID** header and data are too close to the left border of the table. A simple solution is to center their horizontal alignment.

- 1 In the Design Pane, double-click on the table to open it. Select the **Order ID** element in the **Table Header** section.
- 2 Click **Center alignment** in the toolbar.
- 3 Select the **Order ID** element in the **Details** section and click **Center alignment** again.
- 4 Preview the report.

### Resizing Columns

Several of the columns are wider than they need to be, and the **Product** column data is wrapping because the column is too narrow. To fix this, you'll move the girders just beneath the horizontal ruler. Currently, the first girder appears at the 150 px mark on the ruler, the second at 300, the third at 450, and so on.

- 1 In the Design Pane, double-click the table to put it in edit mode, if necessary.

- 2 To narrow the **Order ID** column, move your mouse over the first line until the cursor changes to a double-headed arrow. Click and drag the girder until it is under the 125 px marker.
- 3 To widen the **Product** column, click and drag the second girder to under the 350 px marker.
- 4 The last line in the gray bar corresponds to the right edge of the **Unit Price** column. To narrow this column, drag this line to under the 750 px marker.
- 5 The very last girder is hard to see, because it falls on the right edge of the gray bar. To narrow the **Quantity** column, drag this last girder to the 850 px marker.
- 6 Preview the report.

## Increase the Height of the Title

The title looks a little cramped. You can change the height of a row of text elements the same way that you changed the width of a column, by using the girders. In this case, of course, the title takes up the entire row.

- 1 In the Design Pane, double-click the table to put it in edit mode, if necessary. To the right of the vertical ruler, immediately to the left of the table, you should see a gray bar containing horizontal lines, or girders.
- 2 Click the first line and drag it down until you have roughly doubled the height of the title element.
- 3 Preview and save the report.

## Optional Next Steps

### Uploading the Report to the Library

You can upload the report to the Library on the Report Server. This makes the report accessible to anyone with the appropriate permissions. It also allows you to schedule report output.

- 1 Select **File** → **Publish**.
- 2 In the **Publish Report** dialog, select the **User Reports** folder.
- 3 Click **New Folder**. In the **Input** dialog, enter **DocSamples**.
- 4 Click **OK**. The **DocSamples** folder appears in the tree under **User Reports**.
- 5 Select the **DocSamples** folder.
- 6 In the **Upload With Name** field, enter the name **MySimpleTable**.
- 7 Click **OK**. The report is now stored in the Library.

For more information on managing reports in the Library, see the *HP OpenView Select Audit 1.01 Report Center User's Guide*.

## Adding a Group to a Table

Using the Tabular Editor, you can convert a simple table to a group table or add a group to an existing group table. This example will demonstrate how to do it.

- 1 In the Design Pane, if the table is still open, click outside the table to close it. Then right-click on the table and select **Edit Table**.
- 2 In the Tabular Editor, click the **Data** tab. Select **Order ID** from the **Available Fields** drop-down list and click **Add**.
- 3 Click **OK**.
- 4 Preview the report. The table is now grouped by **Order ID**, with an empty header and footer around each group.
- 5 Save the report as **GroupedSimpleTable** if you wish to work with it later.

There are several ways you could proceed with this table. You might want to remove Order ID from the **Details** section and have it show up in the group header instead. You might want to add summaries to the group footer, or delete the footer altogether. Many of these topics are covered in [Chapter 5, Creating a Group Table](#).



# 5 Creating a Group Table

This chapter shows how to create a basic group table. The table will group orders by country and subgroup them by city. After you have created the table, you will make some adjustments to it and explore some options that are specific to group tables.

## Inserting the Group Table

- 1 Open the query that you created in [Chapter 3, Creating a Query](#).
- 2 In the **Layout Wizard, General** screen, select query **MainQuery** and layout type **Tabular**.
- 3 Select the following fields to display:
  - Order\_ID
  - Ship\_City
  - Ship\_Country
  - Product
- 4 Using the up arrow, move **Ship\_Country** to above **Order\_ID**.
- 5 Using the up arrow, move **Ship\_City** to just above **Order\_ID**.
- 6 Click **Next**.
- 7 In the **Tabular Layout** pane, select **Table with Row Grouping**.
- 8 For **Row Grouping 1**, select **Ship\_Country**. (This should be pre-selected.)
- 9 For **Row Grouping 2**, select **Ship\_City**.
- 10 Leave **Row Grouping 3** set to **None**.
- 11 In the **Include** area, leave all headers and footers checked.
- 12 Click **Next**.
- 13 In the **Set Label Options** screen, **Column Labels** column, change the column names as follows:
  - Double-click **Ship\_Country** in the **Column Labels** column and change it to **Country**.
  - Change **Ship\_City** to **City** and **Order\_ID** to **Order ID**.
  - Do not change the **Product** column name or any of the sorting selections.
- 14 Click **Next**.
- 15 Select the **corporate** theme and click **Finish**.
- 16 Look at the report in the **Preview** pane. Set **Number of Data Rows** to **25**.
- 17 Save the report as **MyGroupTable**, type report.

# Modifying the Table Content

## Changing the Footer Summaries

The only summaries in the table are for the **Order ID** column, and these display totals rather than counts. Next you'll modify the report to show the total number of orders for each subgroup and for the whole report.

- 1 In the **Tree** view, open **Layout** and the **Banded Table** beneath it.
- 2 Right-click **sum(Order\_ID)** and select **Edit Summary**.
- 3 In the **Edit Summary Function** dialog, change the summary function to **count**.
- 4 Click **OK**.
- 5 Still in the Tree view, open the **Nested Band** under **Banded Table**. Repeat the process that you followed above to change this **sum** aggregate function to **count**.
- 6 Finally, open the **Nested Band** inside the other Nested Band and follow the same process to change the innermost **sum aggregate** to **count**.
- 7 Preview the report. You'll see the summary values have changed. Save the report.

## Adding Text to the Footer

Now, you'll add descriptive text to show the meaning of the numbers in the table footer.

- 1 Double-click the table if necessary to open it, then select the **Table Footer** area.
- 2 Click the **Insert Text Element** icon in the toolbar.
- 3 In the **Text Properties** dialog, enter **Total Orders:** followed by a space.
- 4 Click **OK**. The text field appears at the left side of the bottom footer.
- 5 Preview and save the report.

# Improving the Layout

## Narrowing Columns

The first three data fields in the table are wider than they need to be. You will now narrow them.

- 1 Double-click the table if it is not already in edit mode.
- 2 Follow the same procedure you used in [Resizing Columns](#) on page 25. in the previous chapter. However, note that the first girder now corresponds to the **Total Orders:** element you just added above. You must therefore start with the second girder. Drag it left to the 100 px mark. The first girder is already at that location, so the two will merge into a single column.
- 3 Drag the next girder back to the 200 px mark, and the next to 300 px.
- 4 Preview the report.

## A Note about Columns

There are not necessarily any real “columns” in a table created in the Report Designer, since you can move header, footer, and details elements around at will. However, in a newly created simple or group table, the columns still exist, and you can resize them with the girders as described in [Narrowing Columns](#) on page 30.

For information about resizing elements when they are not arranged in proper columns, see [Chapter 6, Creating a Free-form Group Table](#).

## Widening the Table

The **Product** column is too close to the right edge of the table. You can add a margin by widening the table.

- 1 In the Design Pane, click on the small white box at the center of the right edge of the table. Drag it to the right about three ticks.
- 2 Preview the report. The margin is visible, but now the title doesn’t span the whole width of the table.
- 3 Return to the Design Pane and select the table title. Click on the right edge and drag it to the right until it reaches the edge of the table.
- 4 Preview the report.

## Custom Alternate Row Styling

Once again, the table is a little hard to read because the detail rows all have the same style. You can change that by setting a custom alternate row style.

- 1 Click outside the table to exit edit mode. Right-click in the table and select **Edit Table**.
- 2 In the **Tabular Editor**, **General** tab, check the **Use separate styles for odd and even records** check box.
- 3 Click the **Style** tab.
- 4 Select **Repeating Details – even** from the **Styles for:** drop-down list. For **Background**, choose **silver**. Click **OK**.
- 5 Preview and save the report.

## Optional Next Steps

### Changing the Grouping

After creating a group table, you may decide to group the data in a different way. If you haven’t made many adjustments to the table, the simplest solution is to delete it and start over with the **Layout Wizard**. However, if you have made substantial changes, you can use the **Tabular Editor** to change your grouping.

In this example, you will change the second grouping from **Ship\_City** to **Shipped\_To**.

- 1 Right-click in the table and select **Edit Table**. In the **Tabular Editor**, choose the **Data** tab.

- 2 In the **Row Groupings (nested)** area, select **Ship\_City** and click **Delete**.
- 3 In the **Available Fields** drop-down list, select **Shipped\_To** and click **Add**.
- 4 Click **OK**. The **Group 2 Hdr** and **Group 2 Ftr** sections have been deleted and then added back again. As a result, they are empty and unstyled.
- 5 Double-click the table to open it. Select **Group 2 Hdr** in the sidebar and choose **Apply Theme** → **corporate** from the **Format** menu. The header style is restored.
- 6 Now you will add the grouping field to the header. With **Group 2 Hdr** still selected, click the **Insert Text Element** icon.
- 7 In the **Text Properties** dialog, click **Data**.
- 8 In the **Edit Data Field** dialog, select **Group Name** and click **OK**.
- 9 Click **OK** to close the **Text Properties** dialog. The new text element appears.
- 10 Click on the **Group Name** text element and drag it to the right until it lines up under the **Ship City** header element.
- 11 Double-click the **Ship City** element in the **Table Header**. Change the text to **Company**.
- 12 Preview the report. The company name now appears in place of the city, but the new data field appears too narrow. On the Design Pane, drag the girder from the 200 px mark to 250. Preview again.
- 13 Return to the Design Pane. The **Group 2 Footer** is still empty and unstyled. You could style it and add a **Group Name** text element here, as you did with the header. You could also add a group summary (see [Chapter 12, Other Topics](#)). But for now, you will simply delete the footer.
- 14 Right-click **Group 2 Ftr** in the table sidebar and choose **Delete**.
- 15 Preview and save the report.

## Making a Group Collapsible

Now, you'll make the **Shipped\_To** group collapsible. This will give the end user a control that will allow her to see only the country data if she wants.

- 1 Click outside the table to exit edit mode. Then right-click the table and select **Edit Table**.
- 2 Click the **Data** tab.
- 3 In the **Row Groupings (nested)** area, select **Shipped\_To**.
- 4 Check the **Group can be collapsed by viewer** check box on the right side of the tab. Leave the **Header** radio button selected.
- 5 Click **OK**.
- 6 Preview the report. An icon appears at the left edge of each of the **Shipped\_To** headers. Click the icon to see that group collapse and expand.
- 7 The icon should be positioned closer to the group name. Return to the Design Pane and double-click the table to open it. Click on the tiny plus sign at the far left of the **Group 2 Hdr** section and drag it to the right, closer to the group name text element. Drag it down until it is vertically centered with the element.
- 8 Preview and save the report.



Pressing **Ctrl** on the keyboard while clicking and dragging allows you to override the grid and move smoothly in the Design Pane. You can also use your keyboard's arrow keys.



## Adding a Sorting Link

You did not choose to include any sorting links when you were creating your table. You will add one now for the **Order ID** column.

- 1 In the Design Pane, double-click the table if it is not already in edit mode. Right-click on the **Order ID** element in the table header and select **Edit Text Element**.
- 2 In the **Text Properties** dialog, **General** tab, select the **Sorting Link** radio button.
- 3 In the **Data Field** drop-down list, select **Order\_ID**. Leave the **Initial Direction** as **Ascending**.
- 4 Click **OK**.
- 5 Preview the report. You'll see the **Order ID** column header is now a hyperlink, which the end user can use to reorder the table data.

## Changing the Theme

If you change your mind about your report's theme, you can always change it. In this section, you'll change the report's theme.



In general, themes override most custom styling, with the exception of styles applied to individual elements in a table. The title element is the only element directly styled by a theme.

- 1 Click outside the table to select the layout.
- 2 From the **Format** menu, select **Apply Theme** → **Select**.
- 3 In the **Select Theme** dialog, browse through the themes by clicking on different theme names and viewing the thumbnail preview at the right.
- 4 Select **fall** and click **OK**. The table and the empty space around it change to reflect the new theme.
- 5 Preview and save the report.



By applying a theme, you override any existing styles on that object and its children. In this case, the custom alternate row styling you did earlier is replaced by the fall theme's alternate row style.



# 6 Creating a Free-form Group Table

In this chapter, you'll use the query that you created in [Chapter 3, Creating a Query](#) as the basis for a free-form group table. Some data will appear in the outermost group header, not the details, so you will add these data fields after you have done the initial layout. Also, because this table is free-form, themes are not useful for styling. Instead, you will learn some custom styling techniques.

## Getting Started

### Downloading the Query from the Catalog

For this report, you'll reference the query in the Catalog rather than opening it from the file system.

- 1 Select **Data** → **Get Datasource**.
- 2 In the **Get Query from Catalog dialog**, locate **MainQuery**.
- 3 Click **OK**.



If you do not have access to a server containing the MainQuery that you created earlier, Select **File** → **Open** and open the `MainQuery.rdl` file that you created in [Chapter 3, Creating a Query](#). The **Layout Wizard** appears automatically.

### Inserting the Table

The dialog to launch the Layout Wizard opens automatically if you open a report that contains a query but no layout. You can also launch the **Layout Wizard** at any time by selecting **Table**, **Chart**, or **Crosstab** from the **Insert** menu.

- 1 Select **Insert** → **Crosstab**. The **Layout Wizard** appears.
- 2 In the **General** screen, select query **MainQuery** and layout type **Tabular**.
- 3 In the **Fields to Display** area, leave only the following fields checked:
  - Category
  - Order\_ID
  - Unit\_Price
  - Quantity
  - Product
- 4 Now, change the order of the columns. Using the up arrow, move **Order\_ID** to the top, **Category** second from the top, and **Product** just below that. The order of the checked fields is now:

- Order\_ID
  - Category
  - Product
  - Unit\_Price
  - Quantity
- 5 Click **Next**.
  - 6 In the **Tabular Layout** screen, under **Select Type of Tabular Layout**, select **Table with Row Grouping**.
  - 7 Under **Select Special Fields, Row Grouping 1**, select **Order\_ID**. (This should be selected already since you have moved **Order\_ID** to the top field.)
  - 8 For **Row Grouping 2**, select **Category**.
  - 9 Leave **Row Grouping 3** as **None**.
  - 10 In the **Include** area, uncheck **Table Footer** and **Group Footer**.
  - 11 Click **Finish**. A preliminary view of the layout appears in the Design Pane.
  - 12 Preview to get an idea what the table looks like. Save the report as `FancyGroup.rdl`.

## Improving the Content and Layout

### Editing and Styling the Title

- 1 Double-click on the table to open it. Then right-click the **MainQuery Report** text element and select **Edit Text Element**. The **Text Properties** window appears.
- 2 In the **General** tab, edit the text to read **Orders and Product**.
- 3 In the **Style** tab, change the font type to **Arial**, font size to **20 pt**, and check **Bold** under **Effects**.
- 4 Click **OK**.

### Deleting the Column Headers

You'll be deleting all the header text elements except the title. Since this table does not really contain columns, you won't need column headers.

- 1 In the Design Pane, in the **Table Header** section, right-click the text element containing the header **Order\_ID** and select **Delete**.
- 2 Delete the headers for **Category**, **Product**, **Unit\_Price**, and **Quantity** the same way.
- 3 Now in the left sidebar, select and drag the bottom bar of the **Table Header** section to reduce the space between the title and the group header.

## Adding Text to a Data Field

You will label the **Order\_ID** data field in the group header by adding text directly to the element.

- 1 Double-click on the text element located in the **Group 1 Hdr** section. A gray oval will appear with the words **Group Name** inside it. Your cursor will be positioned to the left of the oval.
- 2 Type in **Order ID:** followed by a space. Then click the **Group 1 Hdr** sidebar to end the edit.
- 3 Preview the report.

## Adding Data to the Group Header

You will also add the customer ID, ship date, and ship city to the group header. Since these fields were not selected in the Layout Wizard, you'll have to add them manually. This section shows you how.

- 1 Select the **Group 1 Hdr** section in the table or the sidebar.
- 2 Click the **Insert Text Element** icon on the toolbar. The **Text Properties** dialog appears.
- 3 Click **Data**. The **Edit Data Field** dialog appears.
- 4 Select **MainQuery.Customer\_ID**. Click **OK**. The **Text Properties** dialog now contains an oval representing the **CustomerId** field.
- 5 In the **Text** area of the **Text Properties** dialog, click to the left of the **CustomerId** oval, and type **Customer:** followed by a space.
- 6 Click **OK** to close the **Text Properties** window.
- 7 Without changing the selected element, click the **Text Element** element icon on the toolbar.
- 8 In the **General** tab, enter **Shipped:** followed by a space.
- 9 Click **OK**.
- 10 Click the **Text Element** icon on the toolbar.
- 11 In the **Text Properties** dialog, click **Data**. The **Edit Data Field** dialog appears.
- 12 Select **MainQuery.Ship\_Date**.
- 13 Click **OK**.
- 14 In the **Format** tab of the **Text Properties** dialog, choose **dd-MMM-yy**.
- 15 Click **OK**.
- 16 Without changing the selected element, click the **Text Element** icon on the toolbar. Click **Data**. The **Edit Data Field** dialog appears.
- 17 Select **MainQuery.Ship\_City** and click **OK**.
- 18 In the **General** tab, click to the left of the **Ship\_City** oval, type **City:** followed by a space.
- 19 Click **OK** to close the **Text Properties** dialog.
- 20 Preview and save the report.



If you add a data formatting mask to a numerical or date field in a text element, you cannot include any other text in the element. Instead, create a new text field for the other text.

## Resizing and Positioning Elements

Some of the new elements are too narrow, so the data wraps. You will need to move and resize these elements.

- 1 Select the right edge of the right-most (**City**) text element, and drag it to the right until it reaches the 600 px mark.
- 2 Now click in the middle of the element and move it about 100 px to the right.
- 3 Move the next two elements to the right also, so that the three are adjacent again.
- 4 Select the **Customer** element, click its right edge, and drag it to the right until it reaches the 300 px mark.
- 5 Preview the report. Continue to move and resize the elements in the header until they appear to your liking.

## Adding Space Between Groups

The top-level headers are too close to the previous group's data rows. To create more space:

- 1 In the Design Pane, locate **Group 1 Hdr** in the sidebar. Click on the bottom boundary of this section and drag it down a few grid points.
- 2 Move each text element in the **Group 1 Hdr** section down to the bottom of the section.
- 3 Preview the report. You will now see empty space above the top-level headers.

## Adding “Column” Headers at the Group Level

Now you'll put headers on the product, price, and quantity details. You'll put them in the **Group 2 Hdr** section, because these headers should appear just above the data rows for each second-level group.

- 1 In the Design Pane, locate the **Group 2 Hdr** section in the sidebar. Click on the bottom boundary and drag it down several ticks.
- 2 Click the **Text Element** icon on the toolbar. In the **General** tab of the **Text Properties** dialog, enter **Product**.
- 3 In the **Style** tab, select **8 pt** as the font size and **Underline** as the effect. Set **Horizontal Alignment** to center.
- 4 Click **OK**.
- 5 Drag the **Product** text element to immediately above the first data field in the **Details** section. Drag the sides of the **Product** text element so it is exactly as wide as the data field beneath it.
- 6 Create two more text elements the same way. Set the text of the first to **Price** and the second to **Quantity**. Style them in the same manner as you styled the **Product** text element.
- 7 Move and resize the **Price** and **Quantity** text elements as you did the **Product** element: drag them above their corresponding data fields in the **Details** section and adjust their widths.
- 8 Preview and save the report. The price and quantity data do not align with their headers. You will address this below, when you style the **Details** section.

# Applying Custom Styling to a Table

You have already styled individual text elements in the table. Now you will add styling to some table sections and to the table itself.

## Styling Table Sections with the Toolbar

Using the toolbar to style your table allows you to see your changes as you make them. It also lets you style the table without opening a dialog or leaving edit mode.

- 1 In the Design Pane, select the **Group 1 Hdr** section in the sidebar. On the toolbar, click the **Bold** icon. The text in the header will turn bold.
- 2 Without changing the selection, click the **Select Background Color** icon in the toolbar. Choose **lime** from the drop-down list. The header background will turn bright green.
- 3 Now select the **Details** section. In the toolbar, in the drop-down list containing **serif**, choose **Arial**.
- 4 In the drop-down list containing **medium**, choose **8pt**.
- 5 Click the **Center** alignment icon.
- 6 Preview the report.

## Adding Borders Around the Entire Table

- 1 In the **Design Pane**, click outside the table to exit edit mode. Right-click the table and choose **Style Component**. The **Tabular Editor** appears.
  - ▶ You can select the entire table without leaving edit mode. To do this, click the small **plus** button at the top left corner of the layout, where the two sets of girders meet. Right-click this button to access the **Table** menu.
- 2 In the **Style** tab, **Borders** area, select **solid**.
- 3 For **Thickness**, choose **3**.
- 4 In the **Color** field, select **blue**.
- 5 Click **OK**.
- 6 Preview and save the report.

## Adding a Single Border to a Text Element

Now you'll add a border beneath the title. You can add a set of four identical borders around an element by using the **Text Properties** editor, but to add a single border, you must use the **Properties** area.

- 1 In the Design Pane, double-click the table to open it.
- 2 Click on the element containing the title, **Orders and Product**.
- 3 In the **Properties** area, located below the Tree view in the Design Pane, click the **Box Settings** folder button. The folder will open.
- 4 For **Bottom Border Style**, select **solid**.

- 5 For **Bottom Border Width**, enter **3**.
- 6 For **Border Color**, select **blue**.
- 7 Preview and save the report.



# 7 Creating a Crosstab

This chapter shows how to create and modify a crosstab. The crosstab is based on the query that you created in [Chapter 3, Creating a Query](#).

This crosstab shows the number of units of each product sold in each quarter. It also displays aggregate totals for each product and category. Later, you'll add the additional information of total sales of each product sold each quarter, and change the quarterly grouping to yearly.

## Launching the Layout Wizard

The Layout Wizard launches automatically if you open a report that contains a query but no layout. You can also launch the Layout Wizard at any time by selecting **Table**, **Chart**, or **Crosstab** from the Insert menu.

Select **File** → **Open** and open the `MainQuery.rdl` file that you created in [Chapter 3, Creating a Query](#).

Unless you have configured it not to, the **Getting Started** dialog appears.

If the **Getting Started** dialog does not appear, select **Insert** → **Table**.

## Choosing the Columns for the Crosstab

First, choose the query, layout, and columns.

- 1 In the **Select query** area, select **MainQuery**.
- 2 Choose layout type **crosstab**.
- 3 Deselect all fields *except* the following:
  - Category
  - Ship\_Date
  - Product\_ID
  - Product
- 4 Click **Next**.

## Laying Out the Crosstab

- 1 In the **Row Grouping 1** field, select **Category**.
- 2 Set **Row Grouping 2** to **Product**.
- 3 For **Column Grouping**, select **Ship\_Date**.
- 4 Group by **Quarter**.
- 5 For **Summarized Fields**, select **Product\_ID**.
- 6 For **Function**, select **count**.
- 7 In the **Include** area, check **Header**, **Row Group Summary**, and **Column Group Summary**.
- 8 Click **Next**.
- 9 Select the **slate** theme.
- 10 Click **Finish**.  
You should see the initial layout of the crosstab in the Design Pane.
- 11 Save the file as **MyCrosstab**, type **Report**.

## Previewing the Crosstab

You have created the basic structure of the crosstab. To see how the crosstab looks in its current state:

- 1 Click the **Preview** tab.
- 2 Select **HTML**.
- 3 The default number of rows is too small, so you do not have enough data to really see the crosstab. Set **Number of Data Rows** to **100** and click **Refresh**.



In general, set **Number of Data Rows** to **All** only for crosstabs, and only when 100 returned rows does not provide enough data to get an idea how the crosstab will look. Returning all rows, especially for simple tables, may exceed the server's memory limits.

At this point you have a readable crosstab, but you'll want to improve the layout.

## Adjusting the Layout

### Changing the Title

- 1 In the Design Pane, double-click the crosstab to open it. Then double-click the title that says **MainQuery report**.
- 2 Replace the text with the text **Sales by Category and Product**.

## Eliminating the Subtitle

- 1 Right-click anywhere in the crosstab and select **Edit Crosstab**.
- 2 Under **Optional Crosstab Sections**, select **Subtitle** and click **Delete**.
- 3 Click **OK**.

## Setting the Row Header

To set the row header:

- 1 In the Tree view, expand **Crosstab**, expand **Crosstab Row Group**, then select **Crosstab Header**. The appropriate cell is automatically selected in the Design Pane.
- 2 Select the **General** folder button.
- 3 For **Text**, enter **Category**.
- 4 Select the **Preview** tab to see your changes.

## Setting the Column Header

To set the column header:

- 1 In the Tree view, **Design** tab, under **Crosstab Column Group**, select **Crosstab Header**. The **Crosstab** column header is automatically selected in the Design Pane.
- 2 Select the **General** folder button.
- 3 For **Text**, enter **Quarter**.

## Setting the Row Summary Header

The row summary header has an unfriendly name. To change it:

- 1 In the Design Pane, double-click the crosstab to open it. Then double click the cell containing **Ship\_Date Summary** to make it editable. Select all the text and replace it with **Totals**.
- 2 Preview and save the report.

## Adding Another Summarized Data Field

Now, in addition to the number of orders, you'll add the total number of units sold. To do this, you'll add another summarized data field:

- 1 In the Design Pane, right-click the crosstab and select **Edit Crosstab**.
- 2 Open the **Data** tab.
- 3 In the **Available Fields** area, select **Quantity**.
- 4 Click **Data**.
- 5 Leave the **Quantity** function as **sum**.

- 6 Click **OK**.
- 7 Preview the report.

You'll now see that each "row" contains two numbers. The top number represents number of orders and the bottom number total of units. To make this clear to the end user, alter one of the headers:

- 1 In the Design Pane, right-click on the crosstab and select **Edit Crosstab**. The **Crosstab Editor** dialog appears.
- 2 In the **Labels** tab, change **Column Group 1 Header** to **Orders and Units Sold by Quarter**.
- 3 Press **Enter** or click somewhere else in the dialog to make sure the label change is registered.
- 4 Click **OK**.
- 5 Preview the report.

## Changing the "Bucketing"

The crosstab is "bucketed" by quarter. Now you'll change it to by year:

- 1 In the Design Pane, right-click the crosstab and select **Edit Crosstab**.
- 2 In the **Data** tab, **Column** area, change Ship\_Date's **Group By** to **Year**.
- 3 In the **Labels** tab, **Text** column, change **Quarter** to **Year**.
- 4 Click the cursor elsewhere in the table and click **OK**.
- 5 Save and preview the report.

## 8 Creating a Chart

When creating a chart with the Report Designer, you'll notice some differences from tables and crosstabs:

- 1 In the Design Pane, you'll always see the same image for the chart. To see how your chart appears, use the **Preview** tab.
- 2 You handle grouping in the query instead of in the layout. You have to modify SQL code. This chapter assumes you are familiar with the SQL language.

In this chapter, you'll create a query for the chart, create the chart, and modify the chart type.

### Creating the Query

For more detailed instructions on making a query, see [Chapter 3, Creating a Query](#).

- 1 Click the **New toolbar** icon to start a new report.
- 2 From the **Data** menu, choose **Query Wizard**.
- 3 Select the **demo** data source and enter **ChartQuery** as the name. Click **Next**.
- 4 Select **CATEGORIES** and **PRODUCTS** and click **Add**. Click **Next**.
- 5 Choose **CATEGORY\_ID** from both lists and click **Link**. Click **Next**.
- 6 From the **CATEGORIES** table, choose the **CATEGORY\_NAME** column and click **Add**.
- 7 From the **PRODUCTS** table, choose **UNITS\_IN\_STOCK** and **UNITS\_ON\_ORDER** and click **Add**. Click **Next**.
- 8 Change **CATEGORIES\_CATEGORY\_NAME** to **Category**.
- 9 Change **PRODUCTS\_UNITS\_IN\_STOCK** to **InStock**.
- 10 Change **PRODUCTS\_UNITS\_ON\_ORDER** to **OnOrder**. Click **Next**.
- 11 Click **Finish**. Cancel the prompt for the Layout Wizard if it appears.
- 12 Save the file as `MyChart.rdl`.

## Editing the Query

Now you'll edit the query to handle grouping in the layout.

- 1 In the Tree view, under **Data Sources**, right-click **ChartQuery** and select **Edit SQL Query**.
- 2 On the **SQL** tab, in the text area, find the **SELECT** statement. Change **PRODUCTS.UNITS\_IN\_STOCK** to:

```
SUM(PRODUCTS.UNIT_PRICE* PRODUCTS.UNITS_IN_STOCK) as InStockValue
```

- 3 Change **PRODUCTS.UNITS\_ON\_ORDER** to:

```
SUM(PRODUCTS.UNIT_PRICE* PRODUCTS.UNITS_ON_ORDER) as OnOrderValue
```

- 4 At the end of the SQL statement, add the following clauses:

```
GROUP BY CATEGORIES.CATEGORY_NAME
```

```
ORDER BY InStockValue DESC
```

Your complete SQL statement is now:

```
SELECT CATEGORIES.CATEGORY_NAME,
```

```
    SUM(PRODUCTS.UNIT_PRICE* PRODUCTS.UNITS_IN_STOCK) as InStockValue,
```

```
    SUM(PRODUCTS.UNIT_PRICE* PRODUCTS.UNITS_ON_ORDER) as OnOrderValue
```

```
FROM CATEGORIES, PRODUCTS
```

```
WHERE CATEGORIES.CATEGORY_ID = PRODUCTS.CATEGORY_ID
```

```
GROUP BY CATEGORIES.CATEGORY_NAME
```

```
ORDER BY InStockValue DESC
```

- 5 On the **Fields** tab, click into the **Type** column for **InStock** and select **float**. Set **OnOrder** to **float** as well.
- 6 Click **OK** to save the query.

## Uploading the Query to the Catalog

Save this query in the Catalog to reuse later.

- 1 In the Tree view, under **Data Sources**, right-click **ChartQuery** and select **Upload Datasource**.
- 2 Click **OK**. The query is now saved on the server.

## Creating the Layout for a Pie Chart

Now you'll use the query to create a 3-D pie chart that displays percentage values.

- 1 Click the **Insert Chart** icon on the toolbar.
- 2 In the **Select Data** fields window, leave **Layout Type** as **Chart**, and click **Next**.
- 3 Select type **Pie**. Leave **Group By** as **Category** and **Data 1** as **InStock**.

- 4 Click **Next**.
- 5 Verify that the **Show Legend** check box is checked and choose **Top Right** from the drop-down list.
- 6 Click **Finish**.
- 7 Preview the report.
- 8 Back in the Design Pane, right-click the chart icon and click **Edit Chart**.
- 9 On the **General** tab, click **Percentage Values** and **3-Dimensional Display**.
- 10 Click **OK**.
- 11 In the Tree view, open the **PieChart** and select **ChartHeader**.
- 12 In the **Properties** area, click the **General** folder button.
- 13 For **Height**, enter **50**.
- 14 Preview and save the report.

## Converting the Layout to Another Chart Type

Now you'll convert the pie chart you just created to a 2-D bar chart with inverted axes and two data fields.

- 1 In the Design Pane, right-click the chart icon and select **Edit PopChart**.
- 2 On the **General** tab, select **Bar** as **Chart Type**.
- 3 For **Display Options**, choose **Inverted Axes** and uncheck **3-Dimensional Display**.
- 4 On the **Data** tab, select **OnOrder** from the **Available Fields** list and click **Data**. **OnOrder** appears in the **Data Fields** list.
- 5 Beneath the **Data Fields** list, check **Show Ticks** and **Show Grid**.
- 6 On the **Labels** tab, change the **Chart Title** to **Inventory Value by Category**. Change the legend labels to **In Stock** and **On Order**.
- 7 Click **OK**.
- 8 Preview the chart.

## Turning Off Data Labels

You may want to turn off the data labels. To do this:

- 1 In the Tree view, open the **BarChart** and select **ChartDataLabel**.
- 2 In the **Properties** area, click the **General** folder button.
- 3 For **Visible**, select **false**.
- 4 Preview the chart.





## 9 Creating a Multi-component Report

In Select Audit report terms, a *component* is a single table, crosstab, or chart. All the reports that you have created in previous chapters consisted of a single component. In fact, you can easily create a report containing multiple components as well as text elements or images that belong to none of the components.

This chapter shows how to create a report that contains two components: the simple table that you created in a previous chapter and a crosstab that presents the same data in a different format. You will also include text elements and images associated with neither component.

There is no limit to the number of components and fields that you can add to your report.

### Adding a Simple Table

You will start by using the simple table (**MySimpleTable**) that you created in [Chapter 4, Creating a Simple Table](#) and stored in the Library.

- 1 Select **File** → **Open From Server**.
- 2 In the **Open a Report** dialog, navigate to the **MySimpleTable** report that you saved previously. Select it and click **OK**.
- 3 Save the file as `MyMulticomponent`, type **Report Files**.

### Creating a Crosstab

You'll now create a crosstab above the simple table.

- 1 Click on the simple table and drag it down about 300 pixels (that is, the top of the table is at the number 3 on the vertical ruler).
- 2 Click the area above the simple table. You'll notice that the entire layout is selected.
- 3 Click the **Insert Crosstab** icon on the toolbar. (If the icon isn't visible, either enlarge the Report Designer window or select **Insert** → **Crosstab**.) The **Layout Wizard** appears.
- 4 Leave the query as **MainQuery** and the layout type as **Crosstab**.
- 5 Uncheck all but the following fields:
  - Category
  - Ship Date
  - Product ID
- 6 Click **Next**.

- 7 For **Row Grouping 1**, select **Category**. Group by **Unique Value**.
- 8 For **Row Grouping 2**, select **None**.
- 9 For **Column Grouping**, select **Ship\_Date**. Group by **Quarter**.
- 10 For **Summarized Fields**, select **Product\_ID**. For **Function**, select **count**.
- 11 In the **Include** area, check **Header**, **Row Group Summary**, and **Column Group Summary**, but not **Footer**.
- 12 Click **Finish**. The crosstab appears in the Design Pane.

## Changing the Crosstab Labels

- 1 Right-click on the crosstab, and select **Edit Crosstab**.
- 2 In the **Labels** tab, change the **Title** text to **Products Sold By Quarter**.
- 3 Still in the **Labels** tab, change the **Row Group 1 Summary** section text to **Total per Quarter**.
- 4 Still in the **Labels** tab, change the **Column Group 1 Summary** section text to **Total per Category**.

## Putting Borders Around the Crosstab

- 1 Click on the **Style** tab.
- 2 In the **Styles for:** drop-down list, make sure **Crosstab** is selected.
- 3 In the **Borders** area, for **Style**, select **solid**.
- 4 For **Thickness**, select **5**.
- 5 For **Color**, select **black**.
- 6 Click **OK** to close the **Crosstab Editor**.

## Adding Fields to the Layout

### Adding a Label to the Crosstab

- 1 Click on the crosstab to select it, then drag the component until the upper-left-hand corner is 100 pixels to the right and 100 pixels down (that is, at the *1* mark on the vertical ruler).
- 2 Click the **Insert Text** icon.
- 3 In the **Text Properties** dialog, **General** tab, type in the text **Product Sales**.
- 4 In the **Style** tab, choose font **Arial**, size **12 pt**, effects **Bold**.
- 5 Click **OK**.
- 6 The new text element may appear to the right of the crosstab. If so, drag it to the left and place it above and to the left of the crosstab so that the lower-right-hand corner of the text element is at the same height as the upper-left-hand corner of the crosstab.

## Adding a Label to the Simple Table

Now you'll add a label to the left of the simple table.

If you try to select and drag the table to the right, you may not be able to. This is because the table has taken up the whole allotted width of the layout. To add the label:

- 1 Click somewhere in the layout other than on one of the tables.
- 2 Drag the right side of the layout to the right. You may have to scroll to the right to see the right side of the layout.
- 3 Now move the table by selecting it and dragging it to the right. Leave the same amount of room on the left side as you did for the crosstab.
- 4 Repeat the process in [Adding a Label to the Crosstab](#) on page 50 to create a new text element. Make the text of the field **List of Orders**. Drag it to the left of the simple table, and place it so the lower-right-hand corner of the text element is at the same height as the upper-left-hand corner of the simple table.

## Adding a Report Title

So far, the only report titles we have used are headers inside a component. For this report, you'll create a text header that is not part of any component.

- 1 Click outside the components to select the entire layout.
- 2 Click the **Text Element** icon. In the **Text Properties** box, **General** tab, enter **Products and Orders**.
- 3 In the **Style** tab, set **Arial** font, size **24 pt**, Effects **Bold**.
- 4 Click **OK**.
- 5 Drag the new text element to the top of the layout.
- 6 Drag the right side of the text element to increase its width to 300 pixels.


## Adding an Image

Now you'll add an image beneath the report title. Since the image must be on the server to appear in the report, this example uses an image that is provided with the Report Server. For a real report, upload the image to the server before creating your report.



You cannot overlap the image with a text element or component. If you do, the image will spring back to its original location. To avoid this, either use the Image Editor to reduce the image's size and width or move the other objects around to make more room for the image.

- 1 Click the image icon on the toolbar.
- 2 In the **Image Editor** dialog, for the image URL, enter:  
`/scopeserver/images/user/palmtree.jpg`
- 3 Set width to **30** and height to **30**.
- 4 Check the **Set image size in report** option.
- 5 Click **OK**.

- 6 Drag the icon to underneath the report title.
  - 7 Preview the report.
  - 8 The image is too small. In the Design Pane, click the image to select it, then drag the lower-right-hand corner of the image to make it slightly bigger.
  - 9 Preview and save the report.
-  If **Set image size in report** is not checked, the image always maintains its original size even if the containing object is enlarged.

# 10 Controls and Parameters

A control performs one of two functions in a report:

- It performs an action pre-defined by Select Audit (i.e. download, export, profile selection or creation). For an example of adding a pre-defined control, see [Adding the download control](#) on page 57.
- It allows the end user to restrict the values that appear in a component (table, crosstab, or chart). For example, the control can let the end user restrict the report to display only orders for a certain product or ship date. See [Using Fixed-list and Free-text Controls](#) on page 54 for instructions on adding some of these controls.

Controls that restrict displayed values are bound to parameters. You must create the parameter before you bind it to a control. You must also alter the query that provides data for the component whose value you want to restrict.



To create controls that restrict values, you should be familiar with the SQL language.

The three kinds of parameter values are:

<b>fixed-list</b>	You provide a pre-defined list of values for the end user to choose from. Fixed-list parameters are bound to check box, list menu, and radio button controls. (See <a href="#">Creating a fixed-list parameter</a> on page 55.)
<b>allow any value</b>	The end user can type any text into a box. These parameters are associated with text fields and calendar controls. (See <a href="#">Creating free text parameters</a> on page 55.)
<b>query-based</b>	These parameters are based on queries defined in the report. They are typically associated with a list menu control. You must create a new query to use this kind of parameter. (See <a href="#">Creating Controls Bound to Query-based Parameters</a> on page 58.)

In this chapter, you'll create these three kinds of parameters as well as the controls to bind them to. You'll also create a control that performs a pre-defined action (download).

It's better to plan for the controls the report will contain before you create the query that provides data to the components. This allows you to design the original query to include the parameters that will be bound to the controls. It is possible to add a parameter to the query after you have already designed the component, but to do this you must alter the query that provides data for the component.

## Using Controls

The Select Audit controls are:

<b>Download</b>	Loads the report into a browser in any of several output formats, including HTML or PDF format.
<b>Export</b>	Saves the report to the Report Server in any of a variety of formats.
<b>Push Button</b>	A button that is defined either to submit the report to the server or to reset the controls in the report. (Using JavaScript, you can also assign some other action to a push button.)
<b>Radio Buttons</b>	A set of buttons allowing a single choice among a closed set of choices.
<b>Check boxes</b>	A set of boxes allowing multiple choices among a closed set of choices.
<b>List</b>	A drop-down list or fixed-size list containing single or multiple choices.
<b>Image Button</b>	Like a submit push button, but displays an image of your choosing rather than a button. If the image source that you specify is not a full URL, it may not display correctly in the Preview pane.
<b>Print Button</b>	An icon that prints the report.
<b>Profile Manager</b>	A drop-down list that lets you choose from a list of profiles, or create a new profile. (In Select Audit terms, a profile is a saved set of parameter values.)
<b>Calendar</b>	A control that lets you choose the month, day, and year.
<b>Download</b>	Loads the report into a browser in any of several output formats, including HTML or PDF format.



You can fine-tune the action of a control by using the **Actions** tab in the **Controls Editor**. You can use JavaScript to define the action when end-user action triggers an event.



This chapter shows how to make a working report with various types of parameters. It does not show how to style the report. For examples of styling a report, see [Chapter 4, Creating a Simple Table](#).

## Using Fixed-list and Free-text Controls

In this example, you'll begin with the query that you created in [Chapter 3, Creating a Query](#), modify it to incorporate some parameters, create the parameters, and bind them to controls. The controls that you'll create are:

- A check box control consisting of some of the products in the table. (See [Creating a fixed-list parameter](#) on page 55.)

- Two free-text controls, one for the minimum order number and one for the maximum. (See [Creating free text parameters](#) on page 55.)
- A download control, which lets you view the report in a browser.
- A submit button, which sends the end user's control values to the Report Server.

## Opening the Query

- 1 Click the **Open File** icon and select `MainQuery.rdl`, which you created in [Chapter 3, Creating a Query](#).
- 2 If the **Getting Started** dialog appears, click **No** to using the Layout wizard.
- 3 Select **File** → **Save As** and save the file as `MyControls.rdl`.
- 4 Select **File** → **Server** → **Login** to connect to a server.

## Creating the Parameters

This section shows how to create the fixed-list and free-text parameters.

### Creating a fixed-list parameter

First, you'll create a fixed-list parameter, which you will later bind to a check box control. (You could also bind it to a radio button or list control in much the same way.)

- 1 From the **Data** menu, select **Add Parameter**.
- 2 In the **Parameter Editor**, name the parameter **FixedListParameter**.
- 3 For **Parameter Values**, select **Fixed List**, then click **Set Values**.
- 4 In the **Values** and **Labels** dialog, click **New**.
- 5 In the line that appears, enter value **Chai** for the value.
- 6 Similarly, enter new values **Chang**, **Aniseed Syrup**, **Perth Pasties**, and **Ravioli Angelo**.
- 7 Click the **Default** check box next to **Chai**.
- 8 Click **OK** to close the **Values and Labels** dialog.
- 9 Click **OK** to close the **Parameter Editor**. **FixedListParameter** appears in the tree.

### Creating free text parameters

- 1 From the **Data** menu, select **Add Parameter**.
- 2 In the **Parameter Editor**, name the parameter **MinimumOrderNo**.
- 3 Select **Allow any value**. For **Default**, enter **10000**.
- 4 Click **OK**. **MinimumOrderNo** appears in the tree.
- 5 From the **Data** menu, select **Add Parameter**.
- 6 Name the new parameter **MaximumOrderNo**.
- 7 Select **Allow any value**, For **Default**, enter **11000**.
- 8 Click **OK**. **MaximumOrderNo** appears in the tree.

## Modifying the Query

Now, we'll add the parameters to the query from which we'll create the component (in this case, a simple table).

### Add the `FixedListParameter` parameter

- 1 In the Tree view, expand **Data Sources**.
  - 2 Right-click **MainQuery** and select **Edit SQL Query**. The SQL editor appears.
  - 3 From the SQL query, copy **PRODUCTS.PRODUCT\_NAME** from the **SELECT** list and paste it into the **Column Name** text field below. (If you prefer, you can just type it directly into the text field without copying and pasting.)
  - 4 Leave **Type** as **String** and **Comparison** as “=”.
  - 5 In the **Parameter** field, select **FixedListParameter**.
  - 6 Place the cursor at the very end of the `WHERE` clause, hit the carriage return and then type the word **And** with a space after it.
  - 7 Click **Insert**. The parameter should appear in the SQL query.
- If there is an `ORDER BY` clause, make sure to add the parameter in the `WHERE` clause, above the `ORDER BY` clause.

### Add the `MinimumOrderNo` parameter

- 1 From the SQL Query, copy **ORDERS.ORDER\_ID** from the select list and paste it into the **Column Name** text field below.
- 2 Set **Type** to **number**.
- 3 Set **Comparison** to `>` (greater than).
- 4 For **Parameter**, pick **MinimumOrderNo**.
- 5 Place the cursor at the very end of the SQL query, hit the carriage return and then type the word **And** with a space after it.
- 6 Click **Insert**. The parameter should appear in the SQL query.

### Add the `MaximumOrderNo` parameter

- 1 Set **Comparison** to `<` (less than).
  - 2 For **Parameter**, pick **MaximumOrderNo**.
  - 3 Place the cursor at the very end of the SQL query, hit the carriage return and then type the word **And** with a space after it.
  - 4 Click **Insert**. The parameter should appear in the SQL query.
  - 5 Click **OK**.
- This example uses a query that already contains a `WHERE` clause. If the query has no `WHERE` clause (this typically happens when the query was built on a single database table and you have not yet added any other parameters), instead of typing **And** or **Or** in the SQL editor, type the word **WHERE** instead.



## Creating the Component

Now you'll create a component based on the query that you've just added parameters to. In this example, the component is an extremely simple table. You won't format the table much; this section is to show how the table works with the controls.

- 1 In the icon bar, click the **Insert Table** icon.
- 2 In the **Layout Wizard**, leave the query as **MainQuery**.
- 3 Leave the **Layout Type** as **Tabular**.
- 4 Uncheck all fields except **Order\_ID**, **Ship\_Country**, and **Product**.
- 5 Click **Next**.
- 6 Leave the **Layout Type** as **Simple Table**.
- 7 In the **Include** area, uncheck **Table Footer**.
- 8 Click **Finish**. The table appears in the Design Pane.

## Adding the Controls

Now you'll add the controls to the layout.



In **Preview** mode, some controls are disabled.

### Adding the download control

A download control enables the end user to view her report in a browser. Adding a download control is very straightforward. (Export and profile controls are equally simple.) To add a download control:

- 1 In the Design Pane, click on the table to select it, then drag it down 100 pixels, (that is, to where the top of the table is next to "1" on the vertical ruler).
- 2 In the Design Pane, click somewhere outside the component to select the entire layout, then select **Insert** → **User Control** → **Download** from the top menu.

### Adding the check box control

- 1 In the Design Pane, click somewhere outside the component and download control, then select **Insert** → **User Control** → **Checkboxes** from the top menu.
- 2 In the **Controls Editor**, **General** tab, leave **Control Type** as **Checkboxes**.
- 3 For **Associated Parameter**, select **FixedListParameter**.
- 4 Click **OK**.
- 5 For **Orientation**, select **Horizontal**.
- 6 For **Label Position**, select **Right**.
- 7 Select **OK**.
- 8 Preview the report. You should see the download control and the check boxes.
- 9 Save the report.

## Adding the free-text controls

Now, you'll add the free-text controls that specify minimum and maximum order numbers that you'll want to display.

- 1 In the Design Pane, click somewhere outside the component and download control, then select **Insert** → **User Control** → **Text Field** from the top menu.
- 2 For **Associated Parameter**, select **MinimumOrderNo**.
- 3 For **Width**, enter 7.
- 4 Again in the Design Pane, click somewhere outside the component and download control, then select **Insert** → **User Control** → **Text Field** from the top menu.
- 5 For **Associated Parameter**, select **MaximumOrderNo**.
- 6 For **Width**, enter 7.
- 7 Click **OK**.

## Adding the Submit control

The report needs a submit button so that the end user can send her choices, made through controls, to the server:

- 1 Right-click the layout outside the component and controls, then select **Insert** → **User Control** → **Button** from the top menu.
- 2 Leave the default function and label: **Submit**.
- 3 Click **OK**.
- 4 Preview and save the report.

# Creating Controls Bound to Query-based Parameters

The values in a list control can be populated in one of two ways:

- by pre-defining the values in the list. See [Using Fixed-list and Free-text Controls](#) on page 54 for instructions on how to define a fixed-value parameter.
- by defining a query to populate the control.

In this section, you'll create a drop-down list control that enables the end user to restrict the report results to certain countries. A database query populates the list.

## Creating a Query for the Parameter

In this section, you'll create the query that returns the countries to which orders have been shipped.

- 1 Open `MyControls.rdl`. Stay on the **Design** tab.
- 2 In the Tree view, right-click on **Data Sources** and select **Query Wizard**. The **Query Definition Wizard** appears.
- 3 Choose **demo** for the data source.
- 4 Enter **CountriesQuery** for the query name.

- 5 Click **Next**.
- 6 In the **Select Table** screen, select **Orders** and click **Add**.
- 7 Click **Next**.
- 8 From the available columns, select **SHIP\_COUNTRY** and click **Add**. **ORDERS/SHIP\_COUNTRY** appears in the **Selected Columns** area.
- 9 Click **Next**.
- 10 In the **Column Details** window, make no changes and click **Next**.
- 11 In the **Filter Results** window, make no changes and click **Next**.
- 12 In the **Choose Sorting** window, click **Add**.
- 13 In the **Name** field, select **ORDERS/SHIP\_COUNTRY**.
- 14 Leave **ORDER** as **Ascending**.
- 15 Click **Finish**.

You need to make one more change to the query: Make sure that the query returns only one instance of each country. To do this:

- 1 In the Tree view, right-click **CountriesQuery** and select **Edit SQL Query**. The **SQL Editor** appears.
- 2 In the **SQL** tab, type the word **DISTINCT** in the query after **SELECT**.
- 3 Click **OK** to close the **SQL Editor**.

## Creating the Parameter

- 1 In the Tree view, right-click **MainQuery** and select **Edit SQL Query**. The **SQL Editor** appears.
- 2 Click **Add Parameter**. The **Parameter Editor** opens.
- 3 For in the **Name** field, enter **CountriesParam**.
- 4 Click **From query** and select **CountriesQuery**.
- 5 Click **OK** to close the **Parameter Editor**.
- 6 Click **OK** to close the **SQL Editor**.

## Adding the Parameter to the Main Query

- 1 In the Tree view, right-click **MainQuery** and select **Edit SQL Query**.
- 2 Place the cursor at the very end of the SQL query, hit the carriage return and then type the word **And** with a space after it.
- 3 Copy **ORDERS.SHIP\_COUNTRY** from the query and paste it into the **Column Name** field.
- 4 Leave **Type** as **string** and **Comparison** as “=” (equals).
- 5 From the **Parameter** drop-down list, select **CountriesParam**.
- 6 Click at the end of the query.
- 7 Click **Insert**.
- 8 Click **OK** to close the SQL editor.

## Adding the Control

Now you'll create a list control populated by the results of **CountriesQuery**. The list will be five lines high and will require the end user to select a single country.

- 1 In the Design Pane, right-click outside the controls and select **Insert** → **User Control** → **List** from the top menu. The **Controls Editor** appears.
- 2 For **Associated Parameter**, select **CountriesParam**.
- 3 For **Size in lines**, enter 5.
- 4 Do not check **Allow multiple selection**.
- 5 Do not check **Allow no selection, labeled as**.
- 6 Click **OK** to close the **Controls Editor**.



If you check **Allow multiple selection**, all items in the list can be deselected at once. Therefore, if you allow multiple selection, you do not need to (and cannot) enter a default label for **Allow no selection**.



Checking **Allow no selection, labeled as** would give the end user the option to bypass all items in the list. Typically, you'd use a label like **All Countries**.

## Rearranging the Controls

- 1 In the Design Pane, drag the download control to the right of the list control.
- 2 Drag the list control to underneath the check boxes control.
- 3 Drag the text fields under the download control, the one associated with the control associated with the minimum parameter on top.

## Add Labels to the Controls


- 1 In the Design Pane, to the left of the check boxes control, right-click and select **Insert Text Element**.
- 2 In the **Text Properties** dialog box, enter **Choose Products:**.
- 3 Drag the new element to left of the check boxes control.
- 4 Similarly, next to the list control add a text element saying **Country:**, and next to the free-text controls put **From Order:** and **To Order:**.

## Add the Selected Country to the Header

This report forces the end user to restrict table results to a single country. You'll add the name of that country to the table header.

- 1 Click the table to select it, then double-click to make it editable.
- 2 Right-click on the top row of the table header, which contains the text **MainQuery Report**, and select **Edit Text Element**.
- 3 Delete the text (MainQuery Report) in the text box.

- 4 In the **General** tab, click **Data**. The **Edit Data Field** dialog appears.
- 5 In the **Select Data Field** drop-down list, select **Parameters.CountriesParam**.
- 6 Click **OK** to close the **Edit Data Field** dialog. An oval representing the parameter value (in this case, the name of the country that you selected in the list control) appears.
- 7 In the **Text Properties** dialog, click the cursor to the left of the symbol for the parameter.
- 8 Type **Orders Shipped To:** followed by a space.
- 9 Click **OK** to close the **Text Properties** dialog.
- 10 Double-click on the field **Order\_ID** and change the name to **Order ID**. Similarly, change **Ship\_Country** to **Country**.
- 11 Save and preview the report.

 Since there is no default value for the parameter, all countries will show up on preview, and no parameter value will appear in the table header. To see the behavior of the report, publish the report and run it in the server.



# 11 Using Report Links and Drilldowns

You can link one report to another to give the end user additional information about a specific data value. This type of special hyperlink is called a **report link**.

The report that contains the link is the source report. Clicking the link brings you to the target report. The target report typically includes one or more parameters. The relevant values for these parameters are passed from the source report through the report link to the target report.

In this chapter, you will create a parameterized target report with a pie chart and a label. Then you will add report links to some of your existing reports.

## Creating a Parameterized Target Report

The target report uses a query-driven parameter (see [Chapter 10, Controls and Parameters](#)). You will define the query, add the parameter, and modify the chart query. Finally, you will create a new pie chart and add a parameterized title.

### Creating a Query for the Parameter

First, you'll create a query to drive the parameter.

- 1 Click the **New** toolbar icon to start a new report.
- 2 In the Tree view, right-click **Data Sources** and select **Query Wizard**.
- 3 Choose **demo** for the data source, and enter **CategoriesQuery** for the name.
- 4 Click **Next**.
- 5 Select the **CATEGORIES** table and click **Add**.
- 6 Click **Next**.
- 7 Select **CATEGORY\_NAME** and click **Add**.
- 8 Click **Finish**. Cancel the prompt for the **Layout Wizard** if it appears.
- 9 Save the file as `TargetReport.rdl`.

## Creating the Parameter

Now, you'll create the parameter driven by the query that you just created.

- 1 In the Tree view, right-click **Parameters** and select **Add Parameter**.
- 2 In the **Name** field, enter **CategoriesParam**.
- 3 Choose the **From query** option and select **CategoriesQuery**.
- 4 Click **OK**.
- 5 Save the file.

## Modifying the Chart Query

Now, you'll modify the chart query to include the parameter.

- 1 In the Tree view, right-click **Data Sources** and select **Get Datasource**.
- 2 Choose **ChartQuery** and select the **Copy from catalog** option.
- 3 Click **OK**. The query appears in the Tree view.
- 4 In the Tree view, right-click **ChartQuery** and select **Edit SQL Query**.
- 5 Change the name of the query to **TargetQuery**.
- 6 Copy **CATEGORIES.CATEGORY\_NAME** from the `SELECT` statement and paste it into the **Column Name** field near the bottom of the SQL Editor.
- 7 From the **Parameter** drop-down list, select **CategoriesParam**. Leave the other settings as they are.
- 8 In the **SQL** box, change **CATEGORIES.CATEGORY\_NAME** to **PRODUCTS.PRODUCT\_NAME** in the `SELECT` statement.
- 9 Make the same change in the `GROUP BY` clause.
- 10 Start a new line between the `WHERE` clause and the `GROUP BY` clause. Type **And** with a space after it.
- 11 Click **Insert** near the bottom of the editor.
- 12 On the **Fields** tab, click **Category** and change the text to **Product**.
- 13 Click **OK** to close the SQL Editor.
- 14 Save the file.

## Creating the Pie Chart

Now, you'll create the pie chart.

- 1 Click the **Insert Chart** icon on the toolbar.
- 2 Select **TargetQuery** in the drop-down list. Click **Next**.
- 3 Select type **Pie**. Leave **Group By** as **Product** and **Data 1** as **InStock**.
- 4 Select the **3-D Pie** icon.
- 5 Click **Next**.



- 6 Select the text **InStock by Product** from the **Chart Title** field and remove it. (You will add a title later in [Adding a Parameterized Title](#) on page 65.)
- 7 Verify that **Show Legend** is checked, and leave the location at **Bottom Right**.
- 8 Click **Finish**.
- 9 Preview the report. The labels appear clipped at the left edge.
- 10 In the Design Pane, click on the right edge of the chart image and drag it out to line up with the number 700 on the horizontal ruler.
- 11 Preview the report and save the file.

## Adding a Parameterized Title

Now you'll add a chart title that changes with the value of the parameter.

- 1 Click in the center of the chart image and drag it down so that the top lines up with the number 1 on the vertical ruler.
- 2 Click outside the chart to select the layout.
- 3 Click the **Text Element** icon on the toolbar. In the **Text Properties** box, type **Inventory Value by Product:** with a space after it.
- 4 Click **Data** and select **Parameters.CategoriesParam** from the drop-down list. Click **OK**. The **CategoriesParam** oval appears to the right of the text in the **Text Properties** box.
- 5 In the **Style** tab, set **Arial** font, size **16 pt**, Horizontal Alignment **Center**, Effects **Bold**.
- 6 Click **OK**.
- 7 Drag the new text element to a position above the chart. Line up the left edges using the girders as a guide.
- 8 Drag the right edge of the text element to increase its width to 700. Drag the top or bottom edge until all the text is visible.
- 9 In the **Preview** tab, preview the report with 25 rows of data.
- 10 Save the file.

## Publishing the Target Report

Finally, you'll publish the report to the Library.

- 1 From the **File** menu, choose **Publish**.
- 2 Click on the **User Reports** folder to select and open it.
- 3 Click **OK** to upload **TargetReport** to the **User Reports** folder.

## Adding a Report Link to a Table

The target report you have just created displays inventory value by product, with a parameter that can limit the results to a specific product category. You will create a report link that passes a single category as a value for this parameter. The report link will be associated with a text element that displays the category value.

The free-form group table you created in [Chapter 6, Creating a Free-form Group Table](#) includes the category value in its **Group 2 Header**. You will modify this element to include a link to your target report.

- 1 Open `FancyGroup.rdl`.
- 2 Double-click on the table.
- 3 In the section labeled **Group2 Hdr**, select the text element containing the group name. This should be the first element in the header.
- 4 Right-click the element and select **Edit Text Element**. In the **Text Properties** dialog, the words **Group Name** are visible in the gray oval.
- 5 Choose the **Hyperlink** option in the **Link** (optional) section below the text box.
- 6 Select **\_blank** from the **Target** drop-down list, then click **Report Link**.
- 7 Click **Browse** at the top and double-click the **User Report** folder.
- 8 Select **TargetReport** and click **OK**.
- 9 Click in the **Value** field for **CategoriesParam** and select **Category** from the drop-down list.
- 10 Click **OK** to close the **Report Link Editor**.
- 11 Click **OK** to close the **Text Properties** dialog.
- 12 Preview the report. The category names appear as hyperlinks.
- 13 You cannot test the hyperlinks in the **Preview** pane. You will have to publish the report and then run it from Report Server.
- 14 Select **File** → **Publish**, click the **User Reports** folder, and upload your report.
- 15 (Optional) Go to Report Center and run the report (see the *HP OpenView Select Audit 1.01 Report Center User's Guide* for more information). Click a hyperlink that says **Produce**. A new browser window opens showing the target report titled *Inventory Value by Product: Produce* that includes only products from the **Produce** category.
- 16 Save the file.

# 12 Other Topics

## Adding Headers and Footers

In [Chapter 5, Creating a Group Table](#), you deleted the footer. In [Chapter 6, Creating a Free-form Group Table](#), you unchecked the group footer option in the Layout Wizard. This section shows how to add headers and footers if you've deleted or omitted them. You'll start with a table that has had the footer removed. After adding a footer, you'll add summaries to it.

### Adding a Footer

When you created your free-form group table, you did not include any footers or summaries. Now you'll add them.

- 1 Open `FancyGroup.rdl`, which you created in [Chapter 6, Creating a Free-form Group Table](#).
- 2 Right-click in the table and select **Edit Table**.
- 3 On the **General** tab, you will see a list of all the sections currently in your table. Underneath this list is a drop-down list of additional sections. Select **Group 2 Footer** in the drop-down list and click **Add**.
- 4 Click **OK**. The table now includes the group footer.

### Adding Summaries

Now you'll add summaries to the footer you have just created. In this example, you will add only the average unit price.

- 1 Double-click the table to open it.
- 2 Select the section labeled **Group2 Ftr**, then click the text icon in the toolbar.
- 3 On the **Text Properties** dialog, click **Data**.
- 4 On the **Edit Data Field** dialog, click **Add Summary**.
- 5 For **Data Field**, select **Unit Price**. For **Summary Function**, choose **avg**.
- 6 Click **OK** to close the **Summary Field Editor**. You will see **avg(Unit\_Price)** selected in the **Select Data Field** drop-down list.
- 7 Click **OK** to close the **Edit Data Field** screen. You will see a gray oval with **Unit\_Price\_Group2\_Summary** in the **Text Properties** box.
- 8 Click the **Style** tab and set the style to **Arial, 8pt, Bold**, with **center** alignment.
- 9 Click the **Format** tab and select the **0.00** mask.
- 10 Click **OK** to close the **Text Properties** dialog.

- 11 Select the new text element and move it to the right until it aligns with the **Unit\_Price** element in the **Details** section. Drag its right edge until the two elements are the same size.
- 12 Preview the report.



When you add a summary field, you are actually adding a new object to the report. This object appears in the Tree inside the appropriate **Nested Band** or at the bottom of the **Banded Table**. Deleting a text element that contains a summary field does not remove the object. The object continues to appear as an option in the **Edit Data Field** drop-down list in the appropriate context.

## Conditional Formatting

You can change the format for cells in a table based on a condition. For example, you can specify that numbers below a certain value appear with a certain color or background.

In this example, you'll use a simple table that you have already created and mark all *quantity* values beneath 50 in red.

- 1 Open `MySimpleTable.rdl`, which you created in [Chapter 4, Creating a Simple Table](#).
- 2 Save the report as `ConditionalQuantity.rdl`.
- 3 In the **Design** view, double-click the table to open it.
- 4 In the **Details** area, right-click the **quantity** cell and select **Style Element**. The **Text Properties** window appears.
- 5 In the **Style** tab, click **Conditional**.
- 6 In the **IF** area, select the field **Quantity**.
- 7 Change the operator to "<" (less than).
- 8 In the field to the right of the operator, enter **50**.
- 9 In the **THEN** area, **Foreground** field, select **red**.
- 10 Click **OK** to close the **Define Conditional Style** dialog.
- 11 Click **OK** to close the **Text Properties** dialog.
- 12 Preview the report and observe the values in the **Quantity** column.
- 13 Save the report.

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