Oracle® Reports Developer

Building Reports

Release 6*i*

January, 2000

Part No. A73172-01

ORACLE®

Contents

5   Building a Report with Sections

6   Building a Report with Ref Cursor Queries

7   Building a Report Using Express Data

Index

Send Us Your Comments

Oracle Reports Developer: Building Reports Release 6*i*

Part No. A73172-01

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

You can send comments to us in the following ways:

- E-mail – `oddoc@us.oracle.com`
- Postal service
  Oracle Corporation
  Reports Developer Documentation
  500 Oracle Parkway, 2op8
  Redwood Shores, CA 94065
  USA

Please provide the following information:

Name:

Title:

Company:

Department:

E-Mail Address:

Postal Address:

Phone Number:

Book Title:

Part Number:

If you like, you can use the following questionnaire to give us feedback:

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this manual?

If you find any errors or have any other suggestions for improvement, please indicate the chapter, section, and page number (if available).

If you have problems with the software, please contact your local Oracle Support Services.

Preface

The examples in this book are intended to help you learn about Oracle Reports Developer and its features.

Intended audience

This book is intended for anyone who uses Report Builder to build reports.   The needs of both novice and advanced users are addressed. Each chapter contains step-by-step instructions to build a report from start to finish. Each report that you build will demonstrate how to use many of the powerful features in Report Builder.

Structure

This book contains the following chapters:

Table 0–1   Summary of manual contents

Chapter	Description
Chapter 1, "Basic Report Builder Concepts"	Contains basic information to get you started.
Chapter 2, "Building a Report with Conditional Formatting"	Describes how to build a report that uses conditional formatting so that the appearance of your report automatically changes when certain specified criteria are met.

Table 0–1 Summary of manual contents

Chapter	Description
Chapter 3, "Building and Applying Report Templates"	Describes how to create a template and apply it to a report. Templates define common characteristics and objects in a report. When you apply a template to a report, the report takes on the characteristics defined in the template.
Chapter 4, "Building a Report for the Web"	Describes how to create an HTML report that can be viewed on the web, including how to configure Web Settings properties.
Chapter 5, "Building a Report with Sections"	Describes how to define report sections, and how to specify different distribution criteria for these sections.
Chapter 6, "Building a Report with Ref Cursor Queries"	Describes how to define a ref cursor query, which uses PL/SQL to fetch data.
Chapter 7, "Building a Report Using Express Data"	Describes how to build and edit a report using Express data, and how to add custom measures.

Notational conventions

The following conventions are used in this book:

Table 0–2 Notational conventions used in manual

Convention	Meaning
boldface text	Used for emphasis. Also used for menu items, button names, labels, and other user interface elements.
italicized text	Used to introduce new terms.
`courier font`	Used for path and file names, and for code and text that you type.

Table 0–2   Notational conventions used in manual

Convention	Meaning
COURIER CAPS	Used for:
	■ File extensions (`.PLL` or `.FMX`)
	■ Environment variables
	■ SQL commands
	■ Built-ins/package names
	■ Executable names

Additional information in online help

Some of the tasks in this manual tell you how to access online help for additional information. If you see a table like the one that follows, use the steps to get more information about the task you are performing:

1.   For online help on this topic, choose

2.   On the Index page, type...
report wizard, about

3.   Then click Display to view the help topic...
Report Wizard: Welcome page

1

Basic Report Builder Concepts

This chapter introduces some basic information about Report Builder, such as:

- Section 1.1, "What is Report Builder?"
- Section 1.2, "Tools for working with reports in Report Builder"
- Section 1.3, "Obtaining database access before you start"
- Section 1.4, "Other software needed before you start"
- Section 1.5, "Operating system considerations"

1.1 What is Report Builder?

Oracle Reports Developer is a suite of programs that allows your organization to centralize report processing and to better manage reporting. Report Builder is one of the program components included with Reports Developer.

Report Builder includes:

- A query builder with a visual representation of the specification of SQL statements to obtain report data
- Wizards that guide you through the report design process
- Default report templates and layouts that can be customized to meet your organization's reporting needs
- The ability to generate code to customize how reports will run
- A Live Previewer that allows you to edit report layouts in WYSIWYG mode
- An integrated chart builder that helps you to graphically represent report data

- Web publishing tools that dynamically generate web pages based on your corporate data

- Other standard report output formats like HTML, PDF, PCL, Postscript, and ASCII

Reports Developer can access data from any database you may have in your organization, including: Oracle, Microsoft SQL Server, Sybase, Informix, DB2, and any ODBC-compliant data source.

1.2 Tools for working with reports in Report Builder

Report Builder provides the tools to help you create and manage reports. These tools are described in the following sections:

- Section 1.2.1, "Using wizards to automate report design"

- Section 1.2.2, "Using the Report Editor to view and edit reports"

- Section 1.2.3, "Using the Object Navigator to locate report elements"

1.2.1 Using wizards to automate report design

Report Builder has a Report Wizard, Data Wizard, and Web Wizard to automate the creation of reports. Most often, you can create a report by starting with one of the wizards, and then refining the report that the wizard creates.

For example, you can start with the Report Wizard to create an initial report, which the Report Wizard automatically displays in the Live Previewer. From there, you can make modifications to the report in the Live Previewer, Layout Model view, Data Model view, and Parameter Form view. See Section 1.2.2, "Using the Report Editor to view and edit reports" for information about report views.

1.2.1.1 Report Wizard

The easiest way to create a report is to use the Report Wizard. The Report Wizard takes you through the steps required to create a report, and is a great way to start building a report. The Report Wizard alone may give you a report that satisfies your requirements. If it doesn't, you can use the Data Model view, the Live Previewer, and the Layout Model view to further refine your report.

Many of the sample reports in this manual will instruct you on how to build a report using the Report Wizard. A brief overview of how to use the Report Wizard follows:

1. Start Report Builder.

2. If the Welcome dialog box appears, click **Use the Report Wizard** and click **OK**.

   If the Welcome dialog box does not appear, choose **File**->**New**->**Report**. Click **Use the Report Wizard** and click **OK**.

3. Fill out each page of the Report Wizard, getting help when needed by clicking the Help button.

4. On the last page of the Report Wizard, click **Finish**. A report is created and appears in the Live Previewer.

5. From the Live Previewer, you can edit the report as desired. Note that the Live Previewer is one of several report views that are available in the Report Editor. Using the View menu or the toolbar, you can switch to other report views to further edit your report. Section 1.2.2, "Using the Report Editor to view and edit reports" talks more about different ways to view a report.

For more information about the Report Wizard, see the online help:

?	**1. For online help on this topic, choose Help->Report Builder Help Topics**
	2. On the Index page, type... report wizard, about
	3. Then click Display to view help topic... Report Wizard: Welcome page

1.2.1.2 Data Wizard

If you need to create multiple queries for your report, use the Data Wizard to create them. From the Data Model view, choose **Tools**->**Data Wizard.** Section 5.1.1, "Building queries using the Data Wizard" contains an example that uses the Data Wizard. For more information, see the online help:

?	**1. For online help on this topic, choose Help->Report Builder Help Topics**
	2. On the Index page, type... data wizard, about
	3. Then click Display to view help topic... Data Wizard: Welcome page

1.2.1.3 Web Wizard

If you want to quickly deploy your reports on the Web, use the Web Wizard. Choose **Tools**->**Web Wizard**. Section 4.4, "Adding bookmarks to parts of your report" contains an example that uses the Web Wizard. For more information, see the online help:

1.	**For online help on this topic, choose Help**->**Report Builder Help Topics**
2.	**On the Index page, type...**
	web wizard, about
3.	**Then click Display to view help topic**...
	Web Wizard: Welcome page

1.2.2 Using the Report Editor to view and edit reports

The Report Editor and the Object Navigator appear when you first start up Report Builder. (For information about the Object Navigator, see Section 1.2.3, "Using the Object Navigator to locate report elements".) In the Report Editor, you can view information about a report in four different ways. You can switch between these views using the View menu or the toolbar icons.

You will work in each of the following Report Editor views as you create the sample reports in this manual:

- Live Previewer

- Data Model view

- Layout Model view

- Parameter Form view

For more information, see the online help:

1.	**For online help on these topics, choose Help**->**Report Builder Help Topics**
2.	**On the Index page, type...**
	Live Previewer, about; or Data Model view, about; or Layout Model view, about; or Parameter Form view, about
3.	**Then click Display to view help topic**.

1.2.2.1 Live Previewer

This view displays your report as an end user would see it. If you are using live data, the Live Previewer will update the report as data changes. Any modifications that you make to the report in the Live Previewer display immediately. To display your report in the Live Previewer, click   .

1.2.2.2 Data Model view

This view displays your report data as data model objects so that you can see the relationships between queries, groups, columns, parameters, and links. To display your report in the Data Model view, click ▦ .

1.2.2.3 Layout Model view

This view displays the attributes of your report as objects so that you can see the attribute types and relationships. You can edit layout objects, such as frames, repeating frames, fields, boilerplates, anchors, and graphics in this view in order to change the appearance of the report. To display your report in the Layout Model view, click ▤ .

1.2.2.4 Parameter Form view

This view lets you create a Runtime Parameter Form for your report. When a user runs your report, the user enters values for parameters in this form to determine how the report will execute, or the user accepts the defaults. If you do not define a Runtime Parameter Form in the Parameter Form view, Report Builder displays a default Parameter Form at runtime. You can select which system and user parameters to use for your form using the Parameter Form Builder, or you can create your own from scratch. To display the Parameter Form view, click ▦ .

1.2.3 Using the Object Navigator to locate report elements

The Object Navigator and Report Editor appear when you first start up Report Builder. The Object Navigator provides a hierarchical display of all major objects in a report or template, including attached libraries and external queries. Using the Object Navigator, you can:

- Select an object

- Open the Property Palette to change an object's attributes

- Edit an object's PL/SQL

- Drag and drop PL/SQL program units

- Search for an object by name

When you select an object in the Object Navigator, the corresponding object is simultaneously selected in the Live Previewer, Data Model view, or Layout Model view (whichever view is open at the time).

1.3 Obtaining database access before you start

In order to build the reports as described in this manual, you must be able to access the Oracle Reports Developer demo tables. Use the demo CD that came with your product package to install the SQL scripts. These scripts are used to install the demo tables in your database. These SQL scripts can be run from the **Start**->**Programs** menu.

Before starting a report, be sure to log into the database that contains the Oracle Reports Developer demo tables. You log in by selecting **File**->**Connect**.

1.4 Other software needed before you start

The following programs may be required to view some of the sample reports. Before you start, check that your system has the following:

- Web browser, such as Netscape 3.x or higher, or Internet Explorer 3.x or higher, that supports HTML style sheets and Javascript

- Adobe Acrobat Reader plug-in, or the ability to view Acrobat Reader PDFs

1.5 Operating system considerations

The steps in this book were written based on the Windows 95/NT operating environment. If you are using another operating system, for example a UNIX-based system, there may be slight variations in some of the steps you need to perform.

2

Building a Report with Conditional Formatting

The report described in this chapter will help you learn more about Report Builder features for conditional formatting. You will build a single-query report that records company stock prices, and then displays values using conditional formatting when the price of a stock hits minimum and maximum values.

To build this report, you will use the Report Wizard to create the initial data model and report layout. You will make refinements to the report layout in the Live Previewer. You will also write PL/SQL, which is provided for you.

About conditional formatting   It is often useful to highlight certain parts of your report when particular conditions are met. For example, you can change the color of a value to red when it is greater than 5000. Report Builder provides two ways of adding conditional formatting to your report:

- The Conditional Formatting and Format Exception dialog boxes lets you specify multiple conditions and formatting attributes (font, text color, border, and fill color) for a selected layout object. You don't write any code with this method.

- The Format Trigger property allows you to code your own PL/SQL functions to perform conditional formatting. Because you write the code yourself, you have more flexibility and complete control when compared to using the Conditional Formatting and Format Exception dialog boxes alone.

For many conditions, you often can do what you need using the Conditional Formatting and Format Exception dialog boxes. For other conditions, you may want to use the dialog boxes to get started, and then modify the generated code by editing the Format Triggers.

The following figure illustrates the condition formatting features that you will apply to your report. Table 2–1, "Features demonstrated in this Conditional Formatting sample report", describes the steps you will take to create this report.

Add bookmarks that link to minimum and maximum values. See Section 2.3

Set group headings in repeating frames to alternate between colors. See Section 2.5.
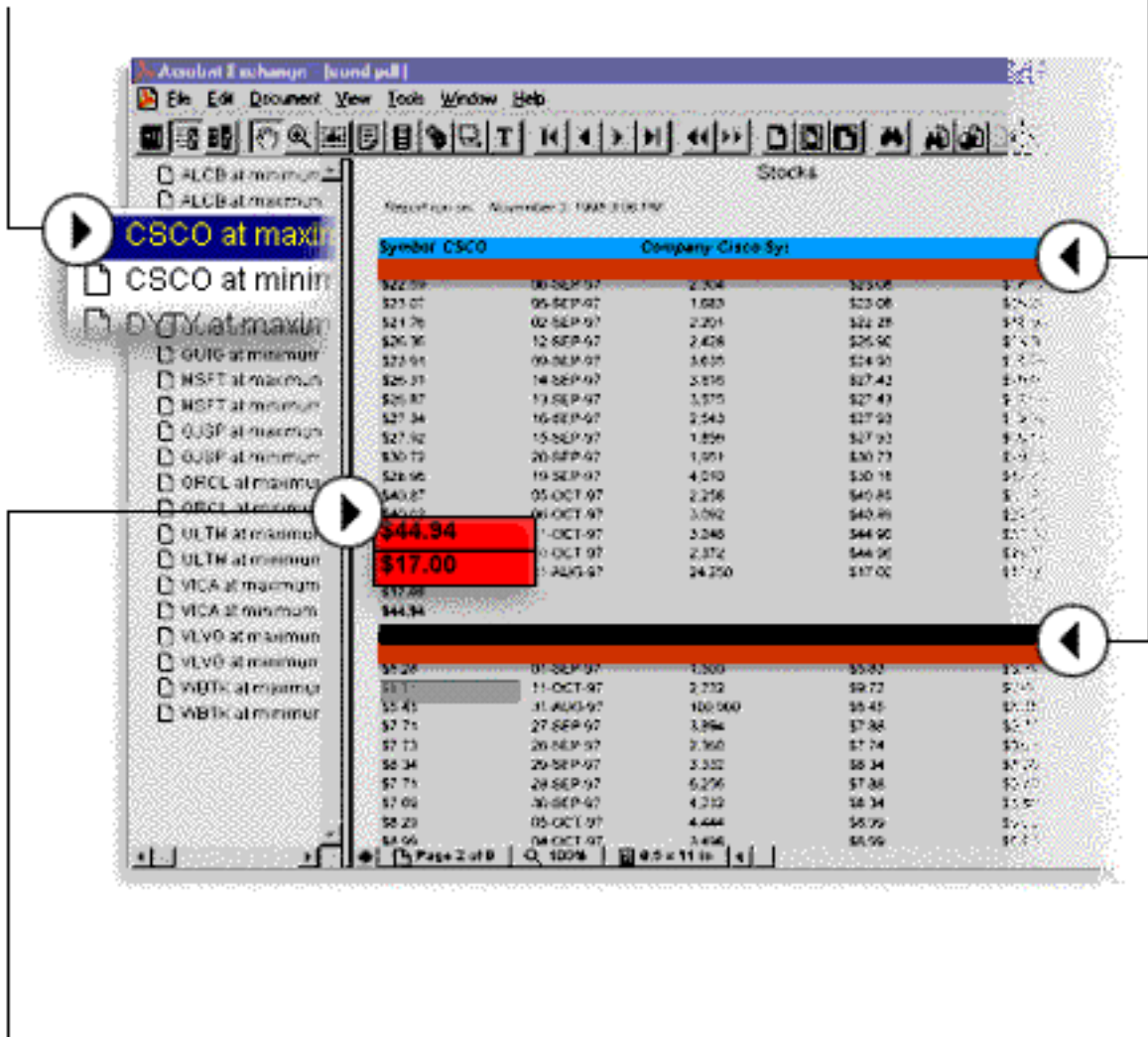
The `cond.rdf` file contains the report you will create after finishing the tasks in this chapter. You may want to refer to this file while you are working. This file is located in your `ORACLE_HOME\TOOLS\DOC60\US\RBBR60` directory.

Table 2–1   Features demonstrated in this Conditional Formatting sample report

Feature	Location
Use the Report Wizard to define the SQL and create a first draft of the report.	Section 2.1, "Creating the initial report with the Report Wizard"
Modify the report layout for readability using the Live Previewer.	Section 2.2, "Making simple formatting modifications to the report"
Add a format exception to a field using the Conditional Formatting dialog box so that the appearance of the field changes when a specified condition is met.	Section 2.3, "Adding a formatting exception to a field"
Modifying the code generated by the Format Exception dialog box in order to do additional processing when a specified condition is met.	Section 2.4, "Adding more functionality to the generated format trigger code"
Add a formatting exception to a repeating frame in order to make a change that affects a number of report objects at once.	Section 2.5, "Adding a formatting exception to a repeating frame"
Modify code generated by the Format Exception dialog boxes to further customize the report.	Section 2.6, "Modifying the generated code"

To get started, open Report Builder. If the Welcome dialog box appears, click **Use the Report Wizard** and click **OK**. If not, choose **File**->**New**->**Report**. Click **Use the Report Wizard** and click **OK**.

At some point before you generate the report, you will need to log into the database. Choose **File**->**Connect** to connect to the database. Enter the appropriate log on information. See Section 1.3, "Obtaining database access before you start" for details.

2.1 Creating the initial report with the Report Wizard

The Report Wizard is a great way to start building a report. The Report Wizard alone may give you a report that satisfies your requirements. If it doesn't, you can use the Data Model view, the Live Previewer, and the Layout Model view to further refine your report. For this report, you will start with the Report Wizard, and then use the Live Previewer and Layout Model to modify the layout and add conditional formatting to the report. The steps in this section will help you to create the initial report.

> 1. **For online help on this task, choose Help->Report Builder Help Topics**
> 2. **On the Index page, type...**
>   report wizard, about
>
> 3. **Then click Display to view help topic**...
>   Report Wizard: Welcome page

1. If the Welcome page of the Report Wizard appears, click **Next**.

2. On the Style page, enter Stocks as the Title, and click **Group Above** as the report style.

    Tip: If you are unsure about what to do on any page of the wizard, click **Help**.

3. Click **Next**.

4. If the Type page appears, click **SQL statement**, and click **Next**. The Type page will appear only if you have configured Report Builder to run with Oracle Express.

5. On the Data page, ignore the buttons on the page and type in the following SELECT statement:

```
SELECT symbol,
    company,
    current_price,
    trade_date,
    number_traded_today,
    todays_high,
    todays_low
FROM stocks
```

6. Click **Next**.

7. On the Groups page in the Available Fields list, click the item symbol.

8. Click [>] .

9. Repeat steps 7 and 8 for the company field.

10. For this report, you want one break level, but you currently have two – Level 1 and Level 2. To make one break level, click company in the Group Fields list, and drag it into Level 1.

    Tip: Groups are created to organize the columns in your report. When you create a query, Report Builder automatically creates a group that contains the columns selected by the query. You create additional groups to produce break levels in the report in order to create a group above or group left report.

11. Click **Next**.

12. On the Fields page, click [>>] . Doing this makes all fields display in the report.

13. Click **Next**.

14. On the Totals page, click current_price, and click **Maximum**.

15. Click **Minimum**. The minimum and maximum current_price fields display in the Totals list.

16. Click number_traded_today, and click **Maximum**.

17. Click **Minimum**. The minimum and maximum number_traded_today fields display in the Totals list.

18. Click **Next**.

19. On the Labels page, change the labels and widths as shown in the following table:

Table 2–2   Labels and widths

Column	Label	Width
Todays High	Today's High	9
Todays Low	Today's Low	9

20. Click **Next**.

21. On the Template page, click **Predefined template** if it is not already selected, and click **Corporate 2** in the list box.

22. Click **Finish**. The report output automatically displays in the Live Previewer and should look similar to the following figure:

23. Choose **File**->**Save As**. Save the report in the directory of your choice, and name the report cond_21.rdf.

    Tip: It is good practice when you are designing your report to save it frequently under a different file name. If you generate an error or if you don't like some of the changes you made, you easily can go back to the previously saved file and make revisions from that point.

2.2 Making simple formatting modifications to the report

At this point, you could return to the Report Wizard and update any of its settings (for example, labels or widths) and regenerate the report. However, in this section, you will make a few edits in the Live Previewer to improve the appearance of the report.

1. **For online help on this task, choose Help->Report Builder Help Topics**

2. **On the Index page, type...**
   format mask, applying to numeric object

3. **Then click Display to view help topic**...
   Applying a format mask to a numeric object

1. In the Live Previewer, click the column of data below the Current Price heading. Report Builder selects every instance of the field. This means that any change you make at this point will be applied to all instances of the field.

2. Press and hold SHIFT. Then click the data under the Today's High and Today's Low headings. (You can select multiple columns by holding the SHIFT key while you click.)

3. Find the bold values at the end of each column. (You will need to scroll to the bottom of the first page). Shift-click on them. Find any other bold monetary values at the end of the report, and shift-click on them. Now all of the monetary values in the report are simultaneously selected, and you can easily format them all at once.

   Tip: If you accidentally select something and want to deselect it, shift-click on it again to deselect.

4. Click ![dollar icon] to add a dollar sign ($) to the selected values.

5. Click ![add decimal icon] twice to add two decimal places.

6. Click in an empty area of the Live Previewer to deselect everything.

7. Click the data under the Number Traded Today heading to select it.

8. Click ![comma icon] to add a comma to values that have more than three digits to the left of the decimal.

9. Click in an empty area of the Live Previewer to deselect everything. The report output should look similar to the following figure:

Stocks

Report run on: July 29, 1998 10.18 AM

| Symbol ALCB | | Company Alaska Corned Beef | | |
Current Price	Trade Date	Number Traded Today	Today's High	Today's Low
$18.13	01-SEP-97	666	$18.89	$18.28
$18.25	31-AUG-97	4,277	$18.25	$18.25
$21.19	11-OCT-97	624	$21.19	$18.74
$20.77	06-OCT-97	596	$20.78	$18.66
$20.77	07-OCT-97	1,156	$20.98	$18.70
$20.36	04-OCT-97	2,172	$20.78	$18.66
$20.78	03-OCT-97	1,488	$20.78	$18.66
$19.98	29-SEP-97	2,069	$20.36	$18.58
$19.98	27-SEP-97	1,049	$20.18	$18.54
$19.98	26-SEP-97	539	$19.98	$18.50

10. Save the report as `cond_22.rdf`.

Optional Exercise:

Explore the Live Previewer to see what other changes you can make.

2.3 Adding a formatting exception to a field

The Conditional Formatting dialog box is a great way to start applying formatting exceptions to your layout objects. (For example, you can make a field's value bold when it exceeds a specified maximum value). The Conditional Formatting dialog box alone may satisfy your requirements for creating a formatting exception.

Tip: When you use the Conditional Formatting dialog box, it generates a Format Trigger for the selected object. Consequently, once you directly edit a Format Trigger for an object, you should not go back and use the Conditional Formatting dialog box to make more modifications. If you do, you may lose some of the customized modifications that you made directly to the Format Trigger.

In this section, you will set conditional formatting for two summary fields, `:Maxcurrent_pricePerSymbol` and `:Mincurrent_pricePerSymbol`. Doing this will flag values if they are outside of the specified maximum and minimum points.

1. **For online help on this task, choose Help**->**Report Builder Help Topics**

2. **On the Index page, type...**
   conditional formatting, applying to an object

3. **Then click Display to view help topic**...
   Applying conditional formatting to an object

1. In the Live Previewer, click the data under the Current Price heading to select it.

   Tip: When you select data in the Live Previewer, the corresponding object is highlighted in the Object Navigator, and vice versa.

2. Choose **Tools**->**Property Palette**.

3. Under the **General Layout** node, find the Conditional Formatting property, and double-click the button next to it.

4. In the Conditional Formatting dialog box, click **New** to create a new format exception for the Current Price field object.

5. In the Format Exception dialog box, check the first check box if it is not already checked. Choose current_price from the first drop-down list of values if it is not already chosen.

6. Choose Equal from the second drop-down list of values that is next to current_price.

7. Type `:Maxcurrent_pricePerSymbol` in the third field next to Equal.

8. Check the check box in the second row. Note that the last drop-down list in the first row is activated and can be edited.

9. In the last drop-down list in the first row, choose **OR**.

10. Repeat steps 5 through 7 adding current_price, Equal, and `:Mincurrent_ pricePerSymbol` to the second row.

11. Click **Font**, and choose Bold in the Font dialog box. Click **OK** to close the Font dialog box.

12. Click ![icon] and choose red. The palette closes automatically.

13. Click ![icon] and choose black. The palette closes automatically.

14. Click **OK** to close the Format Exception dialog box.

15. Click **Apply**. You will see the effect of your format exception in the Live Previewer. You should now see some values in bold with a red fill color and a black border. Looking at these values allows you to see when the price of a particular stock was at its minimum and maximum value.

16. In the Conditional Formatting dialog box, click **OK**. Or, click **Edit** to further modify your format exception.

17. Close the Property Palette. The report output should look similar to the following figure:

18. Save the report as `cond_23.rdf`.

Optional Exercises:

■ Choose **File**->**Generate to File**->**PDF**. After you have created the PDF file, locate the file in Explorer and open it in the Acrobat Reader to see the report output.

■ To see the format exception code that Report Builder has generated for you, go to the Object Navigator and expand the **Program Units** node for the report. Double-click the icon next to the Format Trigger to open it in the PL/SQL Editor, and view the code.

■ If you want more practice, try implementing a format exception for the values under Number Traded Today that is similar to the one you just implemented for the current price. The report already contains all of the values you need to do this.

2.4 Adding more functionality to the generated format trigger code

In many cases, simply changing formatting attributes as done in Section 2.3, "Adding a formatting exception to a field" may suffice. However, you can also include more sophisticated processing.

The steps in this section will help you to design the report for PDF output and add bookmarks that indicate when stock prices reach a maximum point.

Because you have already generated some code with the Conditional Formatting dialog box, some of the logic you need is already in place.

1. **For online help on this task, choose Help->Report Builder Help Topics**

2. **On the Index page, type...**
format trigger, creating

3. **Then click Display to view help topic**...
Creating or editing a format trigger

1. In the Live Previewer, click the data under the Current Price heading.

2. Choose **Tools**->**Property Palette**.

3. Under the **Advanced Layout node**, find the Format Trigger property, and double-click the button next to it.

4. Modify the code so that it looks as follows. The new code that you need to add is in bold:

```
function F_current_priceFormatTrigger return boolean is
begin
  -- Automatically Generated from Report Builder.
  if ((:current_price = :Maxcurrent_pricePerSymbol) or
      (:current_price = :Mincurrent_pricePerSymbol))
  then
    srw.set_foreground_border_color('black');
    srw.set_border_pattern('solid');
    srw.set_foreground_fill_color('red');
    srw.set_fill_pattern('solid');
    srw.set_font_face('Arial');
    srw.set_font_size(10);
    srw.set_font_weight(srw.bold_weight);
    srw.set_font_style(srw.plain_style);
      if (:current_price = :Maxcurrent_pricePerSymbol)
      then
        srw.set_bookmark(:symbol || ' at maximum ');
      end if;
  end if;
  return (TRUE);
end;
```

5. Click **Compile**.

6. If any compilation errors occur, check the code for syntax errors, and recompile as needed.

7. Click **Close**.

8. Close the Property Palette.

   Tip: The next four steps require that the Live Previewer be the active window.

9. Choose **View**->**Web Preview**->**Use PDF**.

10. Choose **View**->**Web Preview**->**Show All Pages**.

11. Choose **View**->**Web Preview**->**Generate to Web Browser**. The PDF output for your report is now displayed in your Web browser. Test the bookmarks.

    Tip: You may be requested to locate the executable that launches your browser. Use the **Browse** button. Your browser must be configured to use the Acrobat Reader plug-in to view the PDF that Report Builder generated.

If you do not have the Acrobat Reader plug-in configured for your browser, you can choose **File**->**Generate to File**->**PDF**, and open the PDF in the stand alone Acrobat Reader.

12. Go back into Report Builder and choose **View**->**Web Preview**->**Generate to Web Browser**. This turns off the Web Previewer.

    Tip: When you're making a lot of little changes to your report, it's best to turn off the Web preview feature. Otherwise, the Web preview is constantly updating each small change that you make.

13. Repeat steps 1 through 8. But this time, update the Format Trigger to look as follows. The new code that you need to add is in bold:

```
function F_current_priceFormatTrigger return boolean is
begin
  -- Automatically Generated from Report Builder.
  if ((:current_price = :Maxcurrent_pricePerSymbol) or
      (:current_price = :Mincurrent_pricePerSymbol))
  then
    srw.set_foreground_border_color('black');
    srw.set_border_pattern('solid');
    srw.set_foreground_fill_color('red');
    srw.set_fill_pattern('solid');
    srw.set_font_face('Arial');
    srw.set_font_size(10);
    srw.set_font_weight(srw.bold_weight);
    srw.set_font_style(srw.plain_style);
      if (:current_price = :Maxcurrent_pricePerSymbol)
      then
        srw.set_bookmark(:symbol || ' at maximum ');
      elsif (:current_price = :Mincurrent_pricePerSymbol)
        then
          srw.set_bookmark(:symbol || ' at minimum ');
      end if;
  end if;
  return (TRUE);
end;
```

14. Save the report as `cond_24.rdf`.

15. Click to view the results in the Live Previewer.

16. Repeat steps 9 through 12 to regenerate the PDF.

2.5 Adding a formatting exception to a repeating frame

Creating a formatting exception for a single field can be useful, but you can also create a formatting exception that affects a number of objects at once. Report Builder typically groups objects inside of frames or repeating frames. If the objects inside of a frame are transparent, changing the fill color of a repeating frame will effectively change the fill color of the objects inside of it.

In this section, you will change the fill color of an object in a repeating frame.

1. Go to the Data Model view.

2. Click .

3. Click the title bar of the group named G_symbol.

4. Double-click the newly created column named CS_1 to display the Property Palette. You may have to scroll down. Update the properties as follows:

Table 2–3

Name	Function	Source	Reset at
CS_COUNT	Count	symbol	Report

5. Press ENTER or RETURN, or click any other field in the Property Palette to accept the changes.

6. Close the Property Palette.

7. In the Object Navigator, place your cursor in the Find field and type R_G_SYMBOL. Note that the search occurs as you type, so you will most likely be taken to the object before you finish typing the entire name.

8. Choose **Tools**->**Property Palette**.

9. In the Property Palette, under the **General Layout** node, locate the Conditional Formatting property, and double-click the button next to it.

10. Click **New** to create a new format exception for the field object.

11. Choose CS_COUNT from the first list of values.

12. Choose **Equal** from the list of values next to CS_COUNT.

13. Type 1 in the field next to Equal.

14. Click and choose a darker grey.

15. Click **OK**.

16. Repeat steps 10 through 14 using CS_COUNT, Equal, 0, and a light blue for the Fill Color.

17. Click **OK** in the Format Exception dialog box.

18. Click **Apply** and **OK** in the Conditional Formatting dialog box.

19. Check your output in the Live Previewer. Because there are non-transparent objects on top of the repeating frame, you only see the dark grey color at the very top of the first instance of the repeating frame. The light blue color never appears, but you will change that in Section 2.6, "Modifying the generated code" .

20. Save the report as cond_25.rdf.

2.6 Modifying the generated code

By making a simple modification to the code that was generated by the Conditional Formatting and Format Exception dialog boxes, you can make the fill color alternate for even and odd instances of the repeating frame.

1. In the Object Navigator, click the **R_G_SYMBOL** object.

2. Choose **Tools**->**Property Palette**.

3. In the Property Palette, under the **Advanced Layout node**, locate the Format Trigger property, and double-click the button next to it.

4. Modify the code so that it looks as follows. The new code that you need to add is in bold.

   Tip: Note that the color specifications in the following code may differ slightly from the colors specified in your code:

```
function R_G_symbolFormatTrigger return boolean is
begin
  -- Automatically Generated from Report Builder.
  if (:CS_count mod 2 = '1')
  then
    srw.set_foreground_fill_color('gray32');
    srw.set_fill_pattern('solid');
  end if;

  -- Automatically Generated from Report Builder.
  if (:CS_count mod 2 = '0')
  then
    srw.set_foreground_fill_color('r50g50b100');
    srw.set_fill_pattern('solid');
  end if;

  return (TRUE);
end;
```

5. Click **Compile**.

6. If any compilation errors occur, check the code for syntax errors, and recompile as needed.

7. Click **Close**.

8. Click ▨ to view the results in the Live Previewer. Note as you scroll through the report that the headings alternate between dark grey on the odd pages and light blue on the even pages.

9. Save the report as `cond_26.rdf`.

Optional Exercise:

Make the opaque objects on top of R_G_SYMBOL transparent so that you can see its fill color through the other objects.

Tip: Use the Object Navigator to choose the frames contained in the **R_G_SYMBOL** object.

2.7 Summary

Congratulations! You have finished the Conditional Formatting sample report. You now know how to:

- Use the Report Wizard to define a data model and layout.

- Use the Live Previewer to modify a report layout.

- Use the Conditional Formatting dialog box to add a format exception to a field.

- Modify code generated by the Conditional Formatting dialog box.

- Add formatting exceptions to a repeating frame.

- Modify code generated by the Format Exception dialog box.

For more information about conditional formatting, see the online help:

1. **For online help on this topic, choose Help**->**Report Builder Help Topics**

2. **On the Index page, type...**
   conditional formatting, about

3. **Then click Display to view help topic**...
   About conditional formatting

3

Building and Applying Report Templates

The report described in this chapter is designed to help you learn more about the Report Builder features for building and applying templates.

About templates Templates define common characteristics and objects that you want to apply to multiple reports. For example, you can define a template that includes the company logo and sets fonts and colors for selected areas of a report.

In this report example, you will build a multi-query report that summarizes stock information by company symbol using the Tabular report style. You will create a new template and apply the template to the report. Then you will enhance the template by changing several default attributes in the template margin and body. You will enhance the template further by overriding some of the default attributes of the Group Above style. Finally, you will create an additional layout using the Group Above style, and re-apply the template to the report.

The following figure illustrates the concept of templates and the various features you will add to your template. A template defines the common look (the default attributes) of a report that can be applied globally across all report styles.

With the same template, you will change the look of a particular report style. In this example, you will override the default attributes of Group Above style.

When you create a report, you can use this template to apply a common look across many report styles (Tabular, Group Left, Matrix, and so on) or apply a unique look to a report with the Group Above report style.

Table 3–1, "Features demonstrated in this Templates sample report", describes the steps you will take to create a template and apply it to a report.

Create a template with
default attributes that apply
to all report styles. Section 3.3

Change the colors and borders of
frames, fields, and labels. Section 3.6.

Define override attributes
that apply only to the
Group Above report style.
Section 3.7
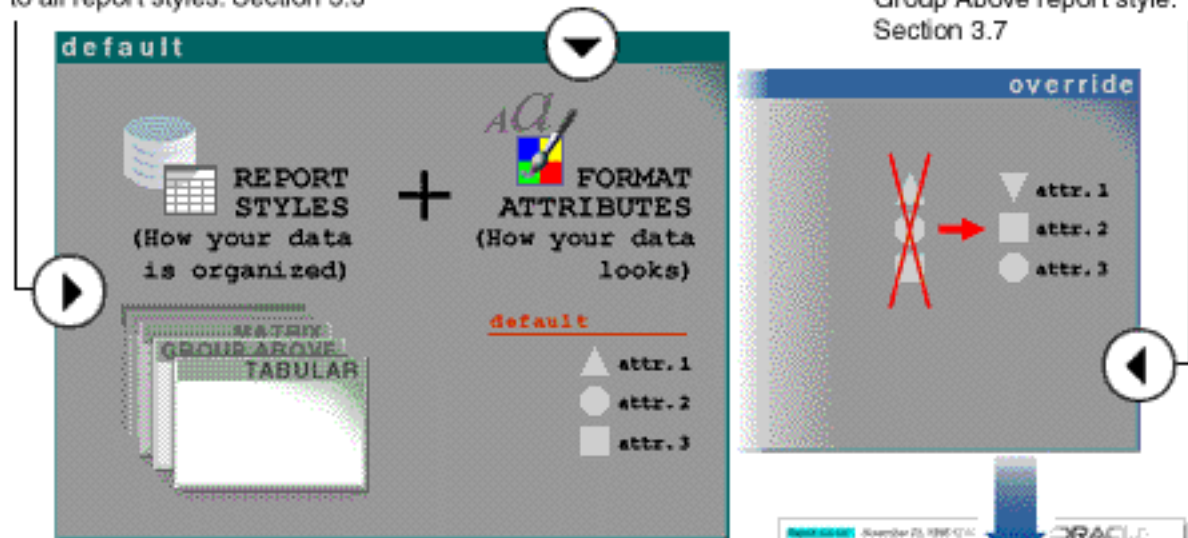
Apply default attributes to a tabular report.
Section 3.3.

Insert a watermark.
Section 3.3.

Include an HTML file that displays a
footer when the report is generated
in HTML. Section 3.3.

Define format triggers that
conditionally display graphics
based on the page number.
Section 3.3.

The following supporting files are used to help you complete the exercises in this chapter. They are located in your ORACLE _HOME\TOOLS\DOC60\US\RBBR60 directory:

- temp_hdrftr.htm
- oreplogo.gif
- osuplogo.jpg
- ostore.gif
- oracle.gif
- cconft.bmp
- cconfa.bmp
- t_image1.bmp
- t_image2.bmp
- temp.tdf
- temp.rdf

You also will work with the following templates (located in your ORACLE_ HOME\REPORT60\ADMIN\TEMPLATE\US directory):

- corp2.tdf
- conf2.tdf

You will work with the global preferences file, cagprefs.ora (located in your ORACLE_HOME directory.) The temp.rdf file contains the report you will create after finishing the tasks in this chapter. You may want to refer to this file while you are working. This file is located in your ORACLE_HOME\TOOLS\DOC60\US\RBBR60 directory.

Table 3–1   Features demonstrated in this Templates sample report

Feature	Location
Create a multi-query data model and data links in the Data Model view.	Section 3.1, "Creating a data model"
Create a report using a pre-defined layout, and modify the layout in the Live Previewer.	Section 3.2, "Creating a report"
Create a new template, which will modify the appearance of your report, using the Layout Model view for templates.	Section 3.3, "Creating a template"
Add your new template to the pre-defined templates list in the Report Wizard so that you can apply it to your report.	Section 3.4, "Adding the new template to the predefined templates list"
Apply your new template to the report, and view the changes in the Live Previewer.	Section 3.5, "Applying the customized template to the report"
Change default attributes of the template that are applied globally to the body of the report.	Section 3.6, "Enhancing the default attributes of the template"
Override default attributes in the Group Above style of the template.	Section 3.7, "Overriding the default attributes of the template"
Create an additional default layout to illustrate the override attribute changes made to the template.	Section 3.8, "Creating an additional layout"
Make final format changes to the report.	Section 3.9, "Enhancing the look of the report"

To get started, open Report Builder. If the Welcome dialog box appears, click **Build a new report manually** and click **OK**. If not, choose **File**->**New**->**Report**. Click **Build a new report manually** and click **OK**. The Data Model appears.

At some point before you generate the report, you will need to log into the database. Choose **File**->**Connect** to connect to the database. Enter the appropriate log on information. See Section 1.3, "Obtaining database access before you start" for details.

3.1 Creating a data model

The steps in this section will help you create a multi-query data model. First, you will create two queries. Then you will create a break group for the first query. Finally, you will link the two queries.

3.1.1 Building two queries using the SQL Query tool

1. In the Data Model view, click SQL .

2. Click in the Data Model view.

3. In the SQL Query Statement dialog box, enter the following query:

```
SELECT      ic.category,
            SUM (h.sales),
            AVG (h.high_365),
            AVG (h.low_365),
            AVG (h.div),
            AVG (h.p_e)
FROM stock_history h,indcat ic
WHERE h.symbol=ic.symbol
GROUP BY ic.category
```

4. Click **OK**. The query by default is labelled Q_1. You will change the query name in a later step.

5. Repeat steps 1 and 2 and enter the following code to create the second query:

```
SELECT   h.symbol,
         h.sales,
         h.high_365,
         h.low_365,
         h.div,
         h.p_e,
         ic.category
FROM stock_history h, indcat ic
WHERE ic.symbol=h.symbol
```

6. Click **OK**. The query by default is labelled Q_2. You will change the query name in a later step.

7. Choose **File**->**Save As**. Save the report in the directory of your choice, and name the report `temp_311.rdf`.

   Tip: It is good practice when you are designing your report to save it frequently under a different file name. If you generate an error or if you don't like some of the changes you made, you easily can go back to the previously saved file and make revisions from that point.

3.1.2 Renaming Data Model objects

In the Data Model view, make the following changes:

1. Click **Q_1** and choose **Tools**->**Property Palette**.

2. Under the **General Information** node, set the Name property to Q_ind.

3. Repeat steps 1 and 2 for the following:

Table 3–2   Column name changes

Old Name	New Name
G_category	G_ind_summary
Q_2	Q_detail

4. Save the report as `temp_312.rdf`.

3.1.3 Creating a break group

In this section, you will create a break group using the category column in the query Q_ind:

?	**1.**	**For online help on this task, choose Help->Report Builder Help Topics**
	2.	**On the Index page, type...** break group, creating
	3.	**Then click Display to view help topic**... creating a break group

1. In the Data Model view, drag the title bar of the group G_ind_summary down a few inches to make space for a new group.

2. Click and drag the category column above the G_ind_summary group to create a break group called G_category. The result will look similar to the following figure:
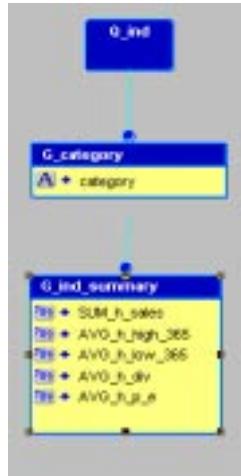
3. Save the report as `temp_313.rdf`.

3.1.4 Creating a data link

In this section you will create a data link between G_category and Q_detail.

?	1. **For online help on this task, choose Help**->**Report Builder Help Topics**
	2. **On the Index page, type...** data link, creating
	3. **Then click Display to view help topic**... creating a data link

1. In the Data Model view, click ⬛.

2. Click the G_category group and drag a link to the G_symbol group. Your data model will look similar to the following figure:
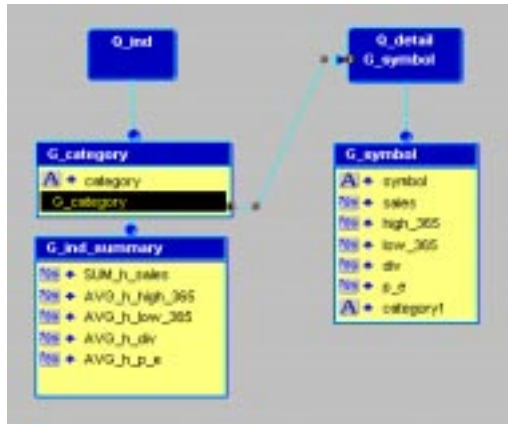
3. Save the report as `temp_314.rdf`.

3.2 Creating a report

The steps in this section will help you create a default layout using the Report Wizard. You will create the default layout using the Tabular style. Finally, you will format several objects in the report using the Live Previewer view.

?	**1.**	**For online help on this task, choose Help->Report Builder Help Topics**
	2.	**On the Index page, type...** default layout, about
	3.	**Then click Display to view help topic...** About layout defaulting

3.2.1 Creating the default layout

1. In the Object Navigator, click ▣ for your report and choose **Tools**->**Report Wizard**. The Report Wizard appears.

2. On the Style page, click **Tabular** as the report style.

3. Click **Next.**

4. On the Groups page, click **G_symbol** from the Available fields list, then click **Down**. G_symbol moves to the Displayed Groups list.

5. Click **Next.**

6. On the Fields page, click symbol, then click [>] to move the field into the Displayed Fields list.

7. Repeat step 6 for the following fields:

   - sales

   - high_365

   - low_365

   - div

   - p_e

   - category1

8. Click **Next.**

9. On the Labels page, change the labels and widths as shown in the following table:

Table 3–3   Labels and widths

Column	Label	Width
symbol	Symbol	5
sales	Sales	6
high_365	High Stock	6
low_365	Low Stock	6
div	Dividend	6
p_e	P/E	6
category1	Industry	6

10. Click **Next.**

11. On the Template page, click **Corporate 2** from the Predefined templates list.

12. Click **Finish**. The Live Previewer appears. The report will look similar to the following figure:

Report run on: March 11, 1999 10:08 AM

Symbol	Sales	High Stock	Low Stock	Dividend	P/E	Industry
ALCB	$12311.00	$34.00	$8.00	$0.00	$1.20	Retail
CSCO	$1200.00	$35.00	$8.00	$0.23	$12.00	Technology
DYTY	$66534.00	$34.00	$25.00	$20.00	$1.40	Retail
GUIG	$10553.00	$45.00	$23.00	$0.85	$4.00	Technology
MSFT	$23000.00	$57.00	$12.00	$0.80	$16.00	Technology
OJSP	$9533.00	$50.00	$15.00	$1.20	$4.00	Retail
ORCL	$64043.00	$53.00	$23.00	$1.20	$21.00	Technology
ULTM	$3334.00	$18.00	$10.00	$0.00	$12.00	Retail
VICA	$3432.00	$36.00	$2.00	$0.00	$30.00	Retail
VLVO	$4500.00	$20.00	$9.00	$0.45	$40.00	Transportation
WBTK	$12565.00	$35.00	$11.00	$1.20	$4.00	Transportation
ALCB	$12311.00	$34.00	$8.00	$0.00	$1.20	Retail
CSCO	$1200.00	$35.00	$8.00	$0.23	$12.00	Technology
DYTY	$66534.00	$34.00	$25.00	$20.00	$1.40	Retail
GUIG	$10553.00	$45.00	$23.00	$0.85	$4.00	Technology
MSFT	$23000.00	$57.00	$12.00	$0.80	$16.00	Technology
OJSP	$9533.00	$50.00	$15.00	$1.20	$4.00	Retail
ORCL	$64043.00	$53.00	$23.00	$1.20	$21.00	Technology
ULTM	$3334.00	$18.00	$10.00	$0.00	$12.00	Retail
VICA	$3432.00	$36.00	$2.00	$0.00	$30.00	Retail

13. Save the report as `temp_321.rdf`.

3.2.2 Formatting objects using the Live Previewer

You will format several objects in the report by changing the format mask to display numeric values as currency. Finally, you will right justify several objects.

1. With the report displayed in Live Previewer, click the column of data under the Sales heading to select it.

2. Click [$] to add a dollar sign.

3. Click [.0+] twice to add two decimal places.

4. Click [≡] to right justify the object.

5. Repeat steps 1 through 4 for the following:

Tip: You can change several columns at one time: shift-click on all columns and choose **Tools**->**Property Palette**.

- Column under High Stock

- Column under Low Stock

- Column under Dividend

- Column under P/E

6. Shift-click the following objects, then click ▤ :

- Sales

- High Stock

- Low Stock

- Dividend

- P/E

The result will look similar to the following figure:

7. Save the report as `temp_322.rdf` , and close the Live Previewer.

3.3 Creating a template

The steps in this section will help you create a new template using the Template Editor Layout Model while in Edit Margin mode. First, you will open two templates, copy the Confidential watermark from one template and paste it into the other. Next, you will change the color of the Date label and add an HTML page footer to the template. Finally you will create a format trigger that will conditionally display graphics based on the page number of a report.

3.3.1 Creating a new template

8. Open the template `corp2.tdf` (located in your `ORACLE_HOME\REPORT60\ADMIN\TEMPLATE\US` directory). This is the Corporate 2 template that is currently applied to your report.

9. In the Object Navigator under the **Templates** node, click [icon] to select the CORP2 template. Then choose **Tools**->**Template Editor** to display the Layout Model view of the template.

10. Open the second template, `conf2.tdf`. This template contains a Confidential watermark.

11. In the Object Navigator under the **CONF2** node, double-click the **Layout Model** node to display the Layout Model view of the template. Notice the rectangular box that spans diagonally across the template. This is the watermark.

    Tip: If you do not see the watermark, the Layout Model view might be displaying the Body.

    Click [icon] to switch between the Margin and Body. Alternatively, choose **View**->**Layout Section**. A check mark next to **Edit Margin** indicates the Layout Model view is in Margin mode.

12. Click the watermark, then click [icon] to copy the watermark.

    Tip: Every object in the Layout Model view is also represented in the Object Navigator. The watermark in the Layout Model view is represented as B_1 in the Object Navigator. To ensure that you have selected the watermark, arrange your workspace to display the Object Navigator and the Layout Model view side-by-side. Expand the **CONF2, Layout Model, Section,** and **Margin** nodes in the Object Navigator. When you click the watermark object in the Layout Model view, B_1 under the **Margin** node in the Object Navigator is highlighted. Your workspace should look similar to the following figure:
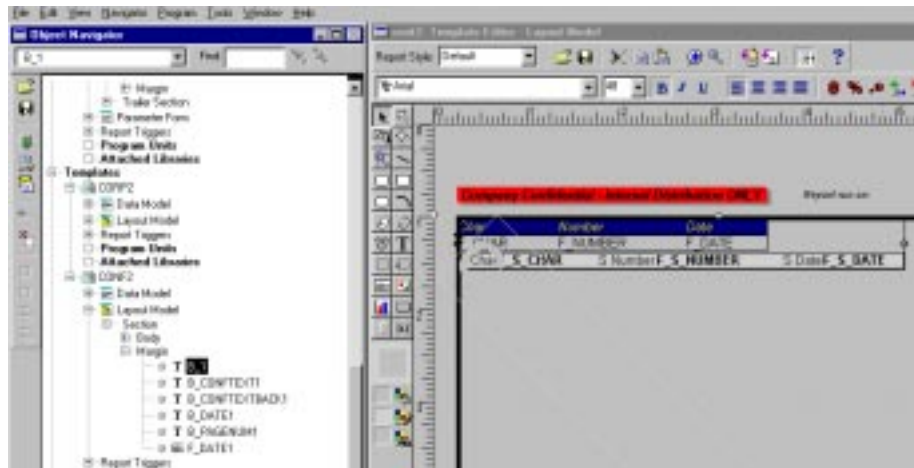
13. In the Object Navigator, click the **CONF2** node, then choose **File**->**Close** without saving any changes.

14. Click the **CORP2** node.

15. In the Layout Model view, click the title bar to make it active.

16. Click ⬛ to paste the watermark into the template.

17. Save CORP2 as `cconf.tdf` in your `ORACLE_HOME\REPORT60\ADMIN\TEMPLATE\US` directory.

18. In the Layout Model view, click the Date label (the B_DATE1 object in the Object Navigator).

19. Click ⬛ , then click a color.

20. Save the template again as `cconf.tdf`.

21. (Optional) Save the template under another name, such as `cconf_b1.tdf`, as a backup file.

    Tip: Backup files are useful when you are making significant changes to your template. If you don't like some of your changes, you always can go back to a previously saved template and make changes from that point.

22. If you saved the template as a backup, re-open the `cconf.tdf` template.

3.3.2 Adding an HTML header to the template

You will add an HTML footer to the template using the After Page Type and After Page Value properties.

?	**1.**	**For online help on this task, choose Help->Report Builder Help Topics**
	2.	**On the Index page, type...** HTML output, about
	3.	**Then click Display to view help topic**... About Web links for HTML output

For your convenience, this HTML footer file and its associated graphics have been provided for this exercise. These files are located in your `ORACLE_HOME\TOOLS\DOC60\US\RBBR60` directory. They are:

- `temp_hdrftr.htm`
- `oreplogo.gif`
- `osuplogo.jpg`
- `ostore.gif`
- `oracle.gif`

1. In the Object Navigator under the **Templates** node, double-click 🖼 of the CCONF template to display the Property Palette. Under the **Report Escapes** node, set the following:

Table 3–4   Property changes to objects under the Templates node

Property	Setting
After Page Type	File

After Page Value	`c:\ORACLE_HOME\TOOLS\DOC60\US\RBBR60 temp_`
	`hdrftr.htm` (where "c" is the location of your `ORACLE_`
	`HOME`)

2. Save the template as `cconf.tdf`.

3. (Optional) Save the template under another name as a backup file, then re-open `cconf.tdf`.

3.3.3 Creating a format trigger

In this exercise, you will insert two boilerplate images in the margin of the template. Then, you will create a format trigger that will conditionally hide or show each of these images based on the page number.

	1.	**For online help on this task, choose Help**->**Report Builder Help Topics**
?	**2.**	**On the Index page, type...** format trigger, description
	3.	**Then click Display to view help topic**... Format trigger

Two images are provided for this exercise and are located in your ORACLE_ HOME\TOOLS\DOC60\US\RBBR60 directory. They are:

- `t_image1.bmp`
- `t_image2.bmp`

1. With the Layout Model view open, click 🖼 to insert a linked file.

2. Using the ruler as a guide, click and drag the Link File object at the 7 inch marker, making the object about 1 inch square.

3. If necessary, click:

- 🎨 to set the object to no fill

- 🖌 to set the object to no line

4. Double-click the Link File object to display the Property Palette.

5. Under the **General information** node, set the Name property to `B_Image1`.

6. Under the **Link File Boilerplate** node, set the following:

Table 3–5   Property changes to t_image1 object under the Link File Boilerplate node

Property	Setting
Source File Format	Image
Source Filename	`c:\ORACLE_HOME\TOOLS\DOC60\US\RBBR60\t_` `image1.bmp` (where "c" is the location of your ORACLE_ HOME)

7. Under the **Advanced Layout** node, double-click Format Trigger property to display the PL/SQL Editor.

8. Type the following code in the editor. New code is displayed in bold:

```
function B_Image1FormatTrigger return boolean is
    F_pge number;
begin
    srw.get_page_num (F_pge);
    If F_pge=1 then
        return (TRUE);
    Else
        return (FALSE);
    End if;
end;
```

9. Click **Compile**.

10. If any compilation errors occur, check to code for syntax errors and recompile as needed.

11. Click **Close**.

12. Repeat steps 1 through 11 to insert the second image and set the following properties:

    Under the **General Information** node, set the Name property to `B_Image2`.

    Under the **Link File** node:

Table 3–6   Property changes to t_image2 object under the Link File node

Property	Setting
Source File Format	Image
Source Filename	`c:\ORACLE_HOME\TOOLS\DOC60\US\RBBR60\t_image2.bmp` (where "c" is the location of your `ORACLE_HOME`)

Under the **Advanced Layout** node, type the following code in the editor. New code is displayed in bold:

```
function B_Image2FormatTrigger return boolean is
    F_pge number;
begin
    srw.get_page_num (F_pge);
    If F_pge=2 then
        return (TRUE);
    Else
        return (FALSE);
    End if;
end;
```

Tip: Place the second image directly over the first image.

13. Save the template as `cconf.tdf`.

14. (Optional) Save the template under another name as a backup file, then re-open `cconf.tdf`.

3.4 Adding the new template to the predefined templates list

The steps in this section will help you add the new template to the predefined template list in the Report Wizard. First you will look at the Style and Template pages of the Report Wizard to gain a better understanding of how templates are applied to different report styles, such as Tabular and Group Above.

You will add template definitions to a global preference file, which defines the preferences for Report Builder.

Finally, you will apply the new template to your report.

1. **For online help on this task, choose Help->Report Builder Help Topics**

2. **On the Index page, type...**
   template, adding to predefined list

3. **Then click Display to view help topic**...
   Adding a template to a predefined templates list

3.4.1 Viewing report styles and the Predefined template list in the Report Wizard

The following steps are an exercise to illustrate how templates are used in the Report Wizard. You will not make changes to your report in this section.

1. In the Object Navigator, click next to your report (last saved as temp_ 322.rdf), and choose **Tools**->**Report Wizard**.

2. On the Style page, click **Form-like**.

3. On the Template page. Notice the three options:

   ■ Predefined template list, a convenient way to select a template from a list and apply it to your report.

   ■ Template file, a way to apply a template to a report by specifying the template location and file name.

   ■ No template, an option not to apply a template to a report.

4. Choose Predefined template list, then click **Corporate 1**. Notice the sample graphic of the template style.

5. Go back to the Style page, and choose another report style.

6. Go back to the Template page. Notice that the sample graphic of the report style has changed.

   This is because, by default, a single template contains layout attributes for several report styles. You will learn more about the layout attributes of templates in a later step.

7. Cancel the Report Wizard without making any changes to the report.

8. Choose **File**->**Close** to close the report without saving any changes.

3.4.2 Adding the template to the Predefined template list

In the previous exercise, you learned that one template contains layout attributes for several report styles. To make the template available for a particular report style, you must add a template description and file name to Report Builder's global preference file. In the global preference file, you will define the template for the Tabular style and Group Above style so that they will be available in the Predefined template list in the Report Wizard.

1. In a text editor (e.g., Wordpad), open the global preferences file cagprefs.ora (located in your ORACLE_HOME directory).

   Tip: Most global preference changes can be made from Report Builder by selecting **Tools**->**Preferences**. For templates, however, you must add template definitions to the Predefined list using a text editor.

2. Scroll down or search for Reports.Tabular_Template_Desc.

3. Add a new line and type "Custom Confidential", for the template name that will appear in the Predefined template list. See the bold text in the example that follows:

   ```
   Reports.Tabular_Template_Desc =
    ("Corporate 1",
     "Corporate 2",
     "Confidential Heading",
     "Confidential Background",
     "Custom Confidential",
     "Cyan Grid",
   ```

4. Scroll down to Reports.Tabular_Template_File.

5. Add a new line and type cconf, to identify the file name of the template. See the bold text in the example that follows.

   Tip: Be sure to place the file name in the same position as the description. For example, if you insert the template description in the fifth line under Reports.Tabular_Template_Desc, you must insert the template file name in the fifth line under Reports.Tabular_Template_File.

   ```
   Reports.Tabular_Template_File =
   (corp1,
    corp2,
    conf1,
    conf2,
    cconf,
    gngd1,
   ```

6. Scroll down to `Reports.BreakAbove_Template_Desc.`

7. Add a new line and type "`Custom Confidential`", for the template name that will appear in the Predefined template list:

```
Reports.BreakAbove_Template_Desc =
 ("Corporate 1",
  "Corporate 2",
  "Confidential Heading",
  "Confidential Background",
  "Custom Confidential",
  "Cyan Grid",
```

8. Scroll down to `Reports.BreakAbove_Template_File.`

9. Add a new line and type `cconf`, to identify the file name of the template:

```
Reports.BreakAbove_File =
 (corp1,
  corp2,
  conf1,
  conf2,
  cconf,
  gngd1,
```

10. Save the changes to the preferences file and close the text editor.

3.4.3 Displaying sample template images in the Template page of the Report Wizard

In addition to adding new templates to the predefined templates list, you can display a sample image when you select the template for a particular report style in the Templates page of the Report Wizard.

For your convenience, two bitmaps are provided for this exercise. These bitmaps must be located in the same directory as the template files.

1. Locate the following bitmaps (in your `ORACLE_HOME\TOOLS\DOC60\US\RBBR60` directory):

   ■ `cconft.bmp` for the Tabular style sample image

   ■ `cconfa.bmp` for the Group-above report style sample image

2. Copy them to your `ORACLE_HOME\REPORT60\ADMIN\TEMPLATE\US` directory.

These bitmaps will display in the Templates page of the Report Wizard when you select the Custom Confidential template for the Tabular and Group Above styles. You will have an opportunity to view these bitmaps in a later step.

3.5 Applying the customized template to the report

The steps in this section will help you apply the new template to the report using the Report Wizard.

1. **For online help on this task, choose Help->Report Builder Help Topics**
2. **On the Index page, type...**
   template, applying to report
3. **Then click Display to view help topic**...
   About applying templates

1. Close and restart Report Builder for the preferences to take effect. Connect to the database.

2. Choose **File**->**Open** to open your report (last saved as `temp_322.rdf`).

3. In the Object Navigator, click next to your report and choose **Tools**->**Report Wizard**.

4. On the Style page, click **Group Above**.

5. On the Template page, notice that the template, Custom Confidential, appears in the predefined template list.

6. Click **Custom Confidential**. Notice the sample graphic. It should look like the following figure:

   Tip: If the template does not appear in the predefined list, ensure that the template is in the correct directory (located in your `ORACLE_HOME\REPORT60\ADMIN\TEMPLATE\US` directory), and that the template description and file are correctly placed in the preferences file. If the sample graphics do not appear, ensure that `cconfa.bmp` and `cconft.bmp` are also located in the `ORACLE_HOME\REPORT60\ADMIN\TEMPLATE\US` directory.

7. On the Style page, click **Tabular**.

8. On the Template page, notice the sample graphic. It should look like the following figure:

9. Click **Finish**.

10. The report appears in the Live Previewer. Notice the following:

   ■ The report imported the template attributes to the report (i.e., the Report run on label changed colors).

   ■ The currency formatting and justification you made to the report were retained. Report Builder attempts to retain any manual modifications you make to the report when you apply a different template.

   ■ The confidential heading is hidden. This occurred because the frame fill pattern is set to solid. In a later step, you set the fill pattern in the default section of the template to transparent.

   ■ An image (i.e., the Oracle logo in black) is displayed in the upper right-hand corner of the report. Right now you can't check to see if the image changes based on the page number since this report generates only one page. In a later step, you will create an additional report layout that will generate a second page. At that time, you will see that the images change based on the page number.

11. Click [icon] to view the report in a Web browser and test the HTML header.

   Notice that the graphics are missing from the header. This occurred because Report Builder generates a temporary HTML file to your ORACLE_ HOME\REPORT60\TMP directory. If you would like to preview this report with the header graphics, copy the following graphic files (located in your ORACLE_ HOME\TOOLS\DOC60\US\RBBR60 directory) to your ORACLE_HOME\REPORT60\TMP directory:

   ■ oreplogo.gif

   ■ osuplogo.jpg

   ■ ostore.gif

   ■ oracle.gif

12. Close the browser. Click [icon] again to disable the Web preview.

Tip: When you are making a lot of little changes to your report, it is sometimes better to turn off the Web preview. Otherwise, the browser is constantly updating for each change that you make.

13. Save the report as `temp_350.rdf` and close the Live Previewer.

3.6 Enhancing the default attributes of the template

The steps in this section will help you enhance the Custom Confidential (CCONF) template even further. You will change some of the default attributes of the template, such as making objects transparent and changing the font style and color. These changes will be applied globally across all report styles in the template.

The changes you have made to the template so far have affected objects in the margin. The changes you will make to the default attributes will be applied to the objects in the body of the report such as frames, field labels, and fields.

3.6.1 Setting default attributes

1. Choose **File**->**Open** to open your template (saved as).

2. In the Object Navigator under the **Templates** and **CCONF** nodes, double-click the **Layout Model** node to display the CCONF template in the Layout Model view. Ensure that the layout is displaying the Body. Click [icon] to switch between the Margin and the Body.

3. In the Object Navigator, expand the **Layout Model, Section, Body**, **Default,** and **Frames** nodes.

Tip: When you select an object in the Object Navigator, it is selected in the Layout Model, and vice versa. Select the object you want to change in the Object Navigator and see the changes in the Layout Model view. You can work easily between these views by arranging your workspace to display the Object Navigator and the Layout Model view side-by-side. This technique is especially useful if you are new to editing in the Layout Model view.

4. Under the **Frames** node, double-click the Section Frame node. In the Property Palette under the **Style** node, change the Fill Pattern property to transparent.

Tip: Click [...] to display list of values. Click the value, then click **OK** to accept it.

5. Use the tables that follow to set the properties of the following objects:

Tip: You can make these changes using the Property Palette. You can also change some properties (i.e., font and color) directly from the Layout Model view using the toolbar or tool palette.

Under the **Frames** node, set the following:

Table 3–7   Property changes to objects under the Frames node

Object	Property Palette node	Property name	Set to:
Headings Frame	Style	Foreground Color	another color from the tool palette, or specify darkblue in the Property Palette
Fields Frame	Style	Edge Foreground Color	another color from the tool palette, or specify r0g88b75 in the Property Palette

Under the **Field/Labels Headings** node, set the following:

Table 3–8   Property changes to objects under the Field/Labels Headings node

Object	Property Palette node	Property name	Set to:
Character	Labels	Font	Bold Italic
		Text Color	another color from the tool palette, or specify r0g88b75 in the Property Palette
Number	Labels	Font	Bold Italic
		Text Color	another color from the tool palette, or specify r0g88b75 in the Property Palette
		Number Justification	End

Under the **Fields** node, set the following:

Table 3–9   Property changes to objects under the Field/Labels Headings node

| Object	Property Palette node	Property name	Set to:
Number	Fields	Number Justification	End

6. Save the template as `cconf.tdf`.

3.6.2 Inheriting and localizing property values

The steps in this section are designed to help you understand a template's Inheritance feature. Inheritance determines the source from which property values are set. Default attribute properties inherit values preset by Report Builder until you change them. When you change properties, their values become localized (or contained within that template).

You can return a property back to its inherited value when you click ![Inheritance button] (the Inheritance button) in the Property Palette. When a property value is inherited by its preset value, the icon next to the property in the Property Palette is a circle.

Default template property with an inherited value:
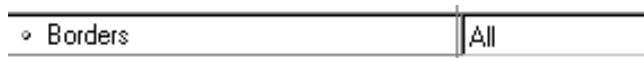
A property value becomes localized when you click ![Localize button] (the Localize button) or change the value in the Property Palette. When a property value is localized, the icon next to the property in the Property Palette becomes a square.

Default template property with a localized value:

1. With the Layout Model view open, in the Object Navigator, find the **Fields Frame** object under the **Frame** node, double-click it to open the Property Palette.

   Under the **Style** node, notice that icon next to the Borders property is a circle, indicating that All is an inherited value.

2. Set the Borders property to Top Only. Notice that the icon changes to a square, indicating that the value is localized.

3. With the Borders property selected, click ![Inheritance button]. Notice that the value returns to its inherited value.

4. Set the Borders property to Bottom Only.

5. Save the template as `cconf.tdf`, and close the Layout Model view of the template.

3.6.3 Applying changes to the template and viewing the results in Live Previewer

1. In the Object Navigator, click next to your report and choose **Tools**->**Report Wizard**.

2. On the Template page of the Report Wizard, click **Custom Confidential,** then click **Apply.**

3. In the Live Previewer, notice that none of your changes took effect (i.e., the watermark is still hidden). Report Builder retains the layout attributes in the report because you applied the same template to the report. Report Builder assumes, in this case, that the changes in the report take precedence over the changes in the template.

   Tip: When you are designing your template and want to continuously preview changes in a sample report, you can:

   ■ Delete all objects in the Live Previewer and apply the template by selecting the template in the Predefined template list on the Template page of the Report Wizard, or

   ■ Alternate between selecting the template from the Predefined template list and specifying the template file name on the Template page of the Report Wizard.

4. On the template page of the Report Wizard, click **Template file**, then **Browse**. Locate the template file `cconf.tdf` (located in your `ORACLE_HOME\REPORT60\ADMIN\TEMPLATE\US` directory).

5. Click **Finish**. The report will look similar to the following figure.

.

6. Save the report as `temp_360.rdf` and close the Live Previewer

3.7 Overriding the default attributes of the template

The steps in this section will help you override the default attributes in the template. You will override some of the settings for the Group Above style.

?	**1.**	**For online help on this task, choose Help->Report Builder Help Topics**
	2.	**On the Index page, type...**
		template, Override
	3.	**Then click Display to view help topic**...
		About template attributes

Tip: With the Property Palette open, click ▐▶▌ to return the selected property back to its inherited value, or click ▐ to localize the value.

Override attribute properties inherit their values from the template's default attributes. When a property inherits a value from the default attribute, the icon next to the property in the Property Palette is an arrow.

Override attribute property with an inherited value:

↳ Between Sibling Frames (Horizontal) | 0

When a property is localized, the icon next to the property in the Property Palette becomes an arrow with a red cross through it.

Override attribute property with a localized value:

↳× Between Sibling Frames (Horizontal) | .1

 See Section 3.6.2, "Inheriting and localizing property values" for more information on inheritance for the template's default attributes.

1. Display the Layout Model view of the CCONF template. The template layout looks similar to the following figure. If it doesn't, the layout most likely is in Margin mode.

If necessary, click to switch to the Body of the template. Notice in the toolbar that the report style is Default. This layout defines the default attributes for the template.

2. Click **Group Above** from the Report Style drop-down list. The layout will look similar to the following figure:

3. In the Object Navigator, if they are not already expanded, expand the **Layout Model, Section, Body, Override**, and **Group Above** nodes.

   Notice that two sections (Level 1 and Level 2) are available. With these section nodes, you can override the default settings at the group level.

   Tip: If necessary, you can add more levels using the tool. For this exercise, however, you will maintain these two section levels.

4. Expand the **Section (Level 1)** node and the **Section (Level 2)** node. Under these nodes, you will change the attributes (i.e., headings, labels, and fields) for the specified group.

5. Double-click the **Section (Level 1)** node.

6. In the Property Palette under the **Spacing** node, set the following properties:

Table 3–10   Property changes to objects under the Spacing node

Property	Setting
Inter-Frame (Horizontal)	0.4
Inter-Frame (Vertical)	0.4

Tip: Reviewing the changes in the Layout Model view might be more difficult when you are working with multiple sections. Some of the objects in the Layout Model view may be hidden behind other objects. The best way to review the changes made to the template is to apply it to your report and preview the report in the Live Previewer. For this exercise, however, you will make all the necessary changes first, then review the changes in a later step.

7. Use the table that follows to change the properties of the following objects under the **Section (Level 1)** node.

Tip: You can make these changes using the Property Palette. You can also change some properties directly from the Layout Model view, such as the font and color of an object using the toolbar or tool palette.

In the **Frames** node, set the following:

Table 3–11   Property changes to objects under the Section (Level 1) Frames node

Object	Property Palette node	Property name	set to:
Headings Frame	Style	Fill Pattern	transparent
Fields Frame	Style	Edge Pattern	transparent

8. Double-click the **Section (Level 2)** node.

9. In the Property Palette under the **Spacing** node, set the following properties:

Property	Setting
Between Sibling Frames (Horizontal)	0.1
Between Sibling Frames (Vertical)	0.1

10. Use the tables that follow to set the properties of objects under the **Section (Level 2)** node. In the **Frames** node, set the following:

Table 3–12   Property changes to objects under the Section (Level 2) Frames node

Object	Property Palette node	Property name	set to:
Headings Frame	Style	Foreground Color	another color from the tool palette, or specify r50g25b50 in the Property Palette
Fields Frame	Style	Foreground Color	another color from the tool palette, or specify r88g100b75 in the Property Palette
		Edge Pattern	transparent

In the **Field Labels/Headings** node, set the following:

Table 3–13   Property changes to objects under the Section (Level 2) Field Labels/Headings node

Object	Property Palette node	Property name	set to:
Character	Labels	Font style	Bold Italic
		Font size	8
		Text color	another color from the tool palette, or specify r88g100b75 in the Property Palette
Number	Label	Font style	Bold Italic
		Font size	8
		Text Color	another color from the tool palette, or specify r88g100b75 in the Property Palette

In the **Fields** node, set the following:

Table 3–14 Property changes to objects under the Section (Level 2) Fields node

Object	Property Palette node	Property name	set to:
Character	Fields	Font Size	8
		Text color	another color from the tool palette, or specify r0g75b0 in the Property Palette
Number	Fields	Font Size	8
		Text Color	another color from the tool palette, or specify r0g75b0 in the Property Palette

11. Save the template as `cconf.tdf`, and close the Layout Model view for the template. You will apply these changes to the report in a later step.

12. (Optional) Save the template as a backup, then re-open `cconf.tdf`.

3.8 Creating an additional layout

The steps in this section will help you create an additional layout using the Layout Model view. You will add the Group Above style to the main section of the report. Finally, you will apply the changes made to the template to your report and preview the results in the Live Previewer.

1. Display the Layout Model view of your report (last saved as `temp_360.rdf`).

2. Ensure that you are in the main section of the report.

3. Click [icon] to create an additional layout area.

4. Using the ruler as a guide, click and drag a rectangle at about the 2 inch marker to define the area of the layout. The Report Wizard appears.

   Tip: Click and drag the width of the logical page to ensure you have enough room to insert all the selected fields. The logical page is delimited by a solid black line in the Layout Model view. If you make the layout bigger than the logical page, you will get an error when you run the report.

5. On the Style page, click **Group Above**, and type the name of the report `Stock Summary by Industry` in the Title field.

6. Click **Next**.

7. On the Groups page, select the following groups and directions:

    ■ click **G_category,** then click **Down**

    ■ click **G_ind_summary**, then click **Across**

    ■ click **G_symbol**, then click **Down**

8. Click **Next**.

9. On the Fields page, click >> to move all fields to the Displayed Fields list.

10. Click **category1** in the Displayed Fields list, then click < . You should now have the following fields in the Displayed fields list:

    ■ category

    ■ SUM_h_sales

    ■ AVG_h_high_365

    ■ AVG_h_low_365

    ■ AVG_h_div

    ■ AVG_h_p_e

    ■ symbol

    ■ sales

    ■ high_365

    ■ low_365

    ■ div

    ■ p_e

11. Click **Next**.

12. On the Labels page, change the following columns as shown in the table:

Table 3–15   Labels and widths

Column	Label	Width
category	Category:	10
SUM_h_sales	Total Sales	6
AVG_h_high_365	Avg High Stock	6
AVG_h_low_365	Avg Low Stock	6
AVG_h_div	Avg Dividend	6
AVG_h_p_e	Avg P/E	6

13. Click **Next**.

14. On the Template page, click Predefined template, then click **Custom Confidential.**

15. Click **Finish**.

> **Tip:** If the default layout region that you defined is too small, a message will appear asking if you want to extend the layout to the page boundaries. Click **Yes**.

16. In the Object Navigator, type `M_G_CATEGORY_GRPFR` in the Find field to locate this object. Note that the search occurs as you type, so you will most likely be taken to the object before you finish typing the entire name.

17. Choose **Tools**->**Property Palette**.

18. Under the **General Layout** node, set the Page Break Before property to Yes.

19. Click [icon] to view the report in Live Previewer.

20. Click [icon] to view the additional layout. The report will look similar to the following figure. Notice that logo in the upper right-hand corner of the report has changed to red.

21. Save the report as `temp_380.rdf`.

3.9 Enhancing the look of the report

The steps in this section are optional. They will help you enhance the look of the Group Above report. You will format the numeric values as currency.

Tip: If you re-enter the Report Wizard after making manual refinements in the Live Previewer, you will lose some of your changes when you click **Apply** or **Finish** in the wizard, and your layout will default back to the state defined by the wizard.

1. With the report displayed in Live Previewer, click the column next to the **Total Sales** heading.

2. Click .

3. Click once.

4. Repeat steps 1 through 3 for the following:

   ■ Column next to Avg High Stock

   ■ Column next to Avg Low Stock

   ■ Column next to Avg Dividend

   ■ Column next to Avg P/E

   ■ Column under Sales

   ■ Column under High Stock

   ■ Column under Low Stock

   ■ Column under Dividend

   ■ Column under P/E

   The report will look similar to the following figure:

5. Save the report as `temp_390.rdf`.

3.10 Summary

Congratulations! You have finished the Templates sample report. You now know
how to:

- Create a multi-query data model with data links.

- Use a pre-defined template to create a report, and modify the report in the Live
  Previewer.

- Create a new template using the Layout Model view.

- Add templates to the Report Wizard.

- Apply templates to a report.

- Change the global default attributes of a template.

- Override default attributes of a template.

For more information about templates, see the online help:

?	**1.** **For online help on this topic, choose Help->Report Builder Help Topics**
	2. **On the Index page, type...** template, about
	3. **Then click Display to view help topic**... About templates

4

Building a Report for the Web

The report described in this chapter is designed to help you learn more about Report Builder features for the Web.

To build this report, you will use the Report Wizard to create a data model. Then, you will use the Web Wizard to create an HTML report. You will make fairly extensive manual refinements in the Layout Model view and the Live Previewer. In particular, you will use the Web Settings properties. You will use the Chart Wizard to create a chart, and then return to the Web Wizard to add chart hyperlinks.

To view your Web report, you will need a Web browser, such as Netscape 3.x or higher, or Internet Explorer 3.x or higher, that supports HTML style sheets and Javascript.

In this example, you will create:

- a detailed Web report containing additional HTML pages, Web links, and Javascript that shows the sales and profit results from a video sales company.

- a one-page executive summary containing a chart with chart hyperlinks.

The following figure illustrates the various Web features that you will add to your Web report. Table 4–1, "Features demonstrated in this Web sample report", describes the steps you will take to enhance your report with these Web features.

Add bookmarks with links to Sales Results. Section 4.4.

Add pop-up text that will display when dragging the mouse over the object. Section.4.7.

Add a hyperlink that points to an external Web page. Section 4.6.

Add a rollover to animate an object when dragging the mouse over the object. Section 4.10.

Add a rollover to display text in the hint line. Section 4.7.

Add an HTML file to display a header title and graphic on every page. Section 4.3.
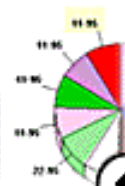
Insert a chart with hyperlinks to detailed Sales Results. Section 4.9.

Set Sales Results as a hyperlink destination. Section 4.6.

Add a hyperlink that points to the Sales Results. Section 4.6

Add navigational controls using Javascript. Section 4.10.

To build this report, you will need the following files, which are located in your ORACLE_HOME\TOOLS\DOC60\US\RBBR60 directory:

- rbweb_hdr.htm
- rbweb_ps.htm
- 1.gif
- 3.gif
- chalk.jpg
- imdb.bmp
- drama.gif
- 14 .GIFs containing page, first, back, or next as part of file name (e.g., page-e.gif).

The web.rdf file contains the report you will create after finishing the tasks in this chapter. You may want to refer to this file while you are working. This file is located in your ORACLE_HOME\TOOLS\DOC60\US\RBBR60 directory.

Table 4–1   Features demonstrated in this Web sample report

Feature	Location
Use the Report Wizard to create a single query and a default layout.	Section 4.1, "Creating a data model"
Modify the look of your report by adding format masks to the numeric values and changing the number of rows to fetch.	Section 4.2, "Modifying the look of your report output"
Add other HTML files to implement special effects and display static objects on every page.	Section 4.3, "Including an HTML report header"
Add bookmarks to report values to facilitate navigation within your report.	Section 4.4, "Adding bookmarks to parts of your report"
Eliminate the gray page separator line that automatically appears between pages.	Section 4.5, "Changing the page separator"
Add targets to your report. Then, add hyperlinks to destinations within your report and to external Web sites.	Section 4.6, "Adding hyperlink destinations and hyperlinks"
Display pop-ups and rollovers as the user's cursor rolls over an image or hyperlink in your report.	Section 4.7, "Displaying pop-ups and rollovers in HTML output"
Conditionally hide and show items for Web output.	Section 4.8, "Using PL/SQL to conditionally hide/show objects for Web output"

Table 4–1   Features demonstrated in this Web sample report

Feature	Location
Create an executive summary section that contains a chart.	Section 4.9, "Creating a summary section with a chart"
Create special effects using Javascript.	Section 4.10, "Adding Javascript"
Run your report using the Oracle Reports Server.	Section 4.11, "Running the Web report from the Reports Server"

To get started, open Report Builder. If the Welcome dialog box appears, click **Use the Report Wizard** and click **OK**. If not, choose **File**->**New**->**Report**. Click **Use the Report Wizard** and click **OK**.

At some point before you generate the report, you will need to log into the database. Choose **File**->**Connect** to connect to the database. Enter the appropriate log on information. See Section 1.3, "Obtaining database access before you start" for details.

4.1 Creating a data model

The steps in this section will help you use the Report Wizard to create a data model with a single query and a report with a default layout.

?	**1.**	**For online help on this topic, choose Help**->**Report Builder Help Topics**
	2.	**On the Index page, type...** report, building
	3.	**Then click Display to view help topic**... Building a standard report

1. If the Welcome page of the Report Wizard appears, click **Next**.

2. On the Style page, click **Matrix with Group**.

3. Click **Next**.

4. If the Type page appears, click **SQL statement**, and click **Next**. The Type page will appear only if you have configured Report Builder to run with Oracle Express.

5. On the Data page, click **Query Builder.**

6. In the Select Data Tables dialog box, click VIDEO_CATEGORY_BY_QTR.

?	**1.**	**For online help on this topic, choose Help->Report Builder Help Topics**
	2.	**On the Index page, type...** query, creating
	3.	**Then click Display to view help topic**... Creating a local query: Report Wizard

7. Click **Include**.

8. Click **Close**.

9. Click 🔲.

Tip: Doing so checks all of the column check boxes.

?	**1.**	**For online help on this topic, choose Help->Report Builder Help Topics**
	2.	**On the Index page, type...** Query Builder, conditions
	3.	**Then click Display to view help topic**... Adding conditions to a query

10. Click the Condition field in the left-hand pane so that your cursor displays in the field.

11. In the Query window, click the SALES REGION column in the table.

12. In the Condition field, place your cursor after "SALES REGION".

13. Type ='West'.

14. Click ✔ in the toolbar.

Tip: You now should see SALES_REGION='West' in the Condition field.

15. Click **OK**.

16. Click **Next**.

17. On the Groups page, click QUARTER, then click ⟩ to move it into the Matrix Group Fields list.

18. Repeat step 17 to move the STATE field to the Matrix Group Fields list.

19. Click **Next.**

20. On the Rows page, click PRODUCT_CATEGORY, then click ⟩ to move the field into the Matrix Row Fields list.

21. Click **Next.**

22. On the Columns page, click CITY, then click [>] to move the field into the Matrix Column Fields list.

23. Click **Next.**

24. On the Cells page, click TOTAL_COST, then click [>] to move the field into the Matrix Cell Fields list.

25. Repeat step 24 to move the following fields into the Matrix Cell Fields list:

- TOTAL_SALES

- TOTAL_PROFIT

26. Click **Next.**

27. On the Totals page, click TOTAL_COST, then click **Sum** to move the sum of the TOTAL_COST field into the Matrix Totals list.

28. Repeat step 27 to move the sums of the following fields to the Matrix Totals list:

- TOTAL_SALES

- TOTAL_PROFIT

29. Click **Next.**

30. On the Labels page, modify the widths as shown in the following table:

Table 4–2   Labels and widths

Column	Width
STATE	2
TOTAL SALES	6
TOTAL COST	6
TOTAL PROFIT	6
All Sum... *columns*	6

31. Click **Next.**

32. On the Template page, under Predefined templates, click the **Corporate 1** template.

33. Click **Finish**.

34. Choose **File**->**Save As**. Save the report in the directory of your choice, and name the report web_41.rdf.

Tip: It is good practice when you are designing your report to save it frequently under a different file name. If you generate an error or if you don't like some of the changes you made, you easily can go back to the previously saved file and make revisions from that point.

4.2 Modifying the look of your report output

The steps in this section will help you modify the appearance of data by using format masks and changing the maximum rows of data returned by your query.

4.2.1 Modifying the layout in the Live Previewer

?	**1.**	**For online help on this topic, choose Help**->**Report Builder Help Topics**
	2.	**On the Index page, type...** object, deleting
	3.	**Then click Display to view help topic**... Deleting an object
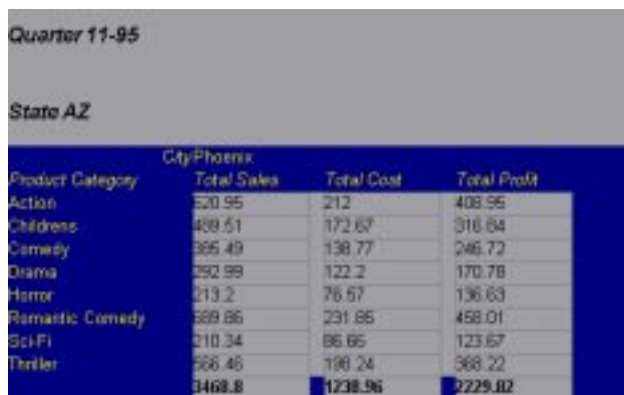
1. In the Live Previewer, click the image in the header to select it, and press DELETE.

2. Select the date and boilerplate text object labeled "Report run on:". You can select the objects by shift-clicking on each object.

3. Press DELETE.

4. Click ▤ to go to the Layout Model view.

5. In the Object Navigator, place your cursor in the Find field and type F_SumTOTAL_SALESPerPRODUCT_CATEGORY.

6. Press DELETE.

7. Repeat steps 5 and 6 to delete these fields:

- F_SumTOTAL_COSTPerPRODUCT_CATEGORY

- F_SumTOTAL_PROFITPerPRODUCT_CATEGORY

- F_SumTOTAL_SALESPerSTATE

- F_SumTOTAL_COSTPerSTATE

- F_SumTOTAL_PROFITPerSTATE

8. Click ![icon] to go to the Live Previewer.

9. In the Live Previewer, click ![icon] to go to the last page of the report.

10. Delete the following fields and their labels:

    - F_SumTOTAL_SALESPerReport

    - F_SumTOTAL_COSTPerReport

    - F_SumTOTAL_PROFITPerReport

    - the page number at the bottom of the page

    Tip: You can view the name of any object by clicking on it once, then choosing **Tools**->**Property Palette** to view the **Name** property.

11. Save your report as web_412.rdf. Your output should look something like the following figure in the Live Previewer:

4.2.2 Adding format masks

![?]	1.	For online help on this topic, choose **Help**->**Report Builder Help Topics**
	2.	On the Index page, type... format mask, applying to numeric object
	3.	Then click Display to view help topic... Applying a format mask to a numeric object

1. In the Live Previewer, click on the F_TOTAL_SALES column of data (located under the Total Sales title of data).

2. Click ![dollar sign icon] to add the dollar sign to each value.

3. Click ![decimal places icon] twice to add two decimal places.

4. Select all of the following objects by shift-clicking each object, then follow steps 2 and 3 to set the format masks:

   - Total Cost column of data
   - Total Profit column of data
   - F_SumTOTAL_SALESPerCITY (the last field in the Total Sales column)
   - F_SumTOTAL_COSTPerCITY (the last field in the Total Cost column)
   - F_SumTOTAL_PROFITPerCITY (the last field in the Total Profit column)

5. Click ![last page icon] to go to the last page of the report.

6. Select all of the following objects by shift-clicking each object, then follow steps 2 and 3 to set the format masks:

   - F_SumTOTAL_SALESPerQUARTER
   - F_SumTOTAL_COSTPerQUARTER
   - F_SumTOTAL_PROFITPerQUARTER

4.2.3 Changing the maximum number of rows returned by your query

When designing a large report (i.e., one that retrieves many records), it is helpful to reduce the number of records retrieved during the design and test phases of the project.

1. In the Live Previewer, click ![Data Model icon] to access the Data Model view.

2. In the Data Model view, click on Q_1.

3. Choose **Tools**->**Property Palette.**

4. In the Property Palette, under the **Query** node, set the Maximum Rows to Fetch property to `100`.

   Tip: Note that you can change this property according to the number of rows you want to view. However, the more rows you fetch, the longer it will take for your browser to load your HTML output. When you are done designing your

report and you want to see all of the rows of data, you should reset this property to blank.

5. Press RETURN or ENTER.

6. Save your report as `web_42.rdf`.

4.3 Including an HTML report header

The steps in this section will help you to add an HTML file to your report. This will add a title and graphic to your HTML output. It will also add a background to every page of your HTML output. The HTML report header page contains the information in the <HEAD> tag of your HTML output.

1. In the Object Navigator, click ![icon] next to your report.

2. Choose **Tools**->**Property Palette.**

3. In the Property Palette, under the **Report Escapes** node, set the Before Report Type property to File.

4. Set the Before Report Value property to *your directory*\`rbweb_hdr.htm`.

    Tip: You can click on the browse (...) button to locate this file. This file should be located in your `ORACLE_HOME\TOOLS\DOC60\US\RBBR60` directory.

    ---
    1. For online help on this topic, choose Help->**Report Builder Help Topics**

    2. On the Index page, type...
        HTML output, creating document header

    3. Then click Display to view help topic...
        Creating an HTML document header
    ---

5. **Optional**: At this point, you can also return to the Layout Model view and modify the colors of the text and field objects in your layout. You can do this by clicking on each object, then clicking ![icon] (or the other two icons above and below it) and choosing a color from the palette.

6. In the Object Navigator, click ![icon] next to your report.

7. Save your report output as `web_43.rdf`.

8. Generate HTML output by choosing **File**->**Generate to File**->**HTML Style Sheet**. When prompted, save your report output as `web_43.htm`.

9. Open `web_43.htm` in your Web browser. Confirm that the title "21st Century Video" and a graphic appear at the beginning of your report.

Tip: At this point, your layout may overlay part of the header. This will be fixed in a later step. Note also that you can add other HTML files to your report by using the other properties under Report Escapes.

Your HTML output should look something like the following figure:

4.4 Adding bookmarks to parts of your report

The steps in this section will help you to add bookmarks to your report and generate HTML output:

1. Go from your web browser to Report Builder, if you are not already there.

2. In the Live Previewer, choose **Tools**->**Web Wizard**.

3. If the Welcome page of the Web Wizard appears, click **Next**.

4. On the Bookmarks page, move the QUARTER and STATE columns to the Bookmarks list by selecting each, and clicking ⟩ .

5. Click **Next**.

6. On the HTML Headers/Footers page, you should see the HTML header file you added to your report in Section 4.3, "Including an HTML report header". Click **Next**.

7. On the Finished page, click **Generate HTML style sheet output now**. Note that if you check the **Generate to Web Browser** check box, not all of the additional HTML files you've added will display.

8. Click **Finish**. You will be prompted to choose a file name and directory. Save your file as `web_44.htm`.

9. In the Object Navigator, click 🗐 next to your report.

10. Save your report output as `web_44.rdf`.

11. Open `web_44.htm` in your Web browser. Click on some of the bookmarks to check that they work properly.

    Your HTML output should look something like the following figure:

4.5 Changing the page separator

While viewing the HTML output in your browser, you will notice a gray line separating each "page" of your output. The steps in this section will help you to remove that page separator.

1. In the Object Navigator, click 🗐 next to your report.

2. Choose **Tools**->**Property Palette.**

3. In the Property Palette, under the **Report Escapes** node, delete the After Page Value property.

	1.	**For online help on this topic, choose Help->Report Builder Help Topics**
?	2.	**On the Index page, type...** After Page Value property
	3.	**Then click Display to view help topic**... After Page Value

4. In the Object Navigator, click ▤ next to your report.

5. Save your report output as web_45.rdf.

6. Choose **File**->**Generate to File**->**HTML Style Sheet**.

7. When prompted, save the HTML output as web_45.htm.

8. Open web_45.htm in your Web browser to confirm the page separator no longer displays between pages. You can compare web_45.htm to web_44.htm.

4.6 Adding hyperlink destinations and hyperlinks

In your HTML output, you may want to add hyperlinks so that you can click on text or images to access other hyperlink destinations, such as external URLs or other destinations within your report. The steps in this section will help you to add targets to your Web report, and then add hyperlinks that link to the targets, as well as to external hyperlink destinations.

4.6.1 Adding hyperlink destinations

1. In the Layout Model view, choose **Edit**->**Select All** to select all the objects, and move the entire selection down 0.5 inches.

   Tip: In addition to dragging with the mouse, you can also move selected objects using the arrow keys.

2. Click **T** to create a boilerplate text object above the layout, and type Sales Results.

Tip: You can use the color-changing tools in the tool palette to modify the look of this text object.

---

1. **For online help on this topic, choose Help->Report Builder Help Topics**
2. **On the Index page, type...**
   text, creating boilerplate

3. **Then click Display to view help topic**...
   Creating a boilerplate object for text

---

3. Choose **Tools**->**Property Palette.**

4. In the Property Palette, under the **General Information** node, set the Name property to `Text_RptTop`.

5. Under the **Web Settings** node, set the Hyperlink Destination property to `rpt_top`.

---

1. **For online help on this topic, choose Help->Report Builder Help Topics**
2. **On the Index page, type...**
   hyperlink destination, creating

3. **Then click Display to view help topic**...
   Creating a hyperlink destination using the Property palette

---

6. In the Object Navigator, click 📇 next to your report.

7. Save your report output as `web_461.rdf`. This text object is the target of a hyperlink you will create in a later step.

4.6.2 Adding hyperlinks to destinations within the report

1. In the Layout Model view, click [T] . Repeating steps 2 and 3 of Section 4.6.1, "Adding hyperlink destinations", create a boilerplate text object below the layout, and type `Back to Top`.

2. Under the **General Information** node, set the Name property to `text_totop`.

3. Under the **Web Settings** node, set the Hyperlink property to `#rpt_top`.

4. In the Object Navigator, click 📇 next to your report.

5. Save your report output as `web_462.rdf`.

4.6.3 Adding hyperlinks to external destinations

1. In the Layout Model view, choose **File**->**Import**->**Image.**

2. In the **Import Image** dialog box, click **File**. Then either type the path and name of the image (`imdb.bmp`), or click **Browse** to find the file.

3. Click **OK**.

4. In the Layout Model view, click on the image object you just imported, and drag it down below the table and the boilerplate text object labeled "Back to Top".

5. Choose **Tools**->**Property Palette**.

6. In the Property Palette, under the **General Information** node, set the Name property to `IMDB_BMP`.

7. Click [T] to create a boilerplate text object below the table. Type `For more information, go to the Internet Movie Database.`

8. When finished, click [▸].

9. Click on the boilerplate text object you just created.

10. Click [▨].

11. In the color palette, click a color, such as blue.

    Tip: You can also choose colors for the background of the textbox, or remove the line from the border of the textbox.

12. Shift-click the image object and the new boilerplate text object.

13. Choose **Tools**->**Property Palette**.

14. In the Property Palette, under the **Web Settings** node, set the Hyperlink property to `http://www.imdb.com`.

[?]	1. **For online help on this topic, choose Help**->**Report Builder Help Topics**	
	2. **On the Index page, type...** hyperlink, creating	
	3. **Then click Display to view help topic**... Creating a hyperlink using the Property palette	

15. In the Layout Model view, select the boilerplate text object labeled "For more information, go to the Internet Movie Database".

16. Choose **Tools**->**Property Palette**.

17. In the Property Palette, under the **General Information** node, set the **Name** property to `IMDB_text`.

Your current layout should look similar to the following figure:

18. In the Object Navigator, click ⬚ next to your report.

19. Save your report output as `web_463.rdf`.

20. Generate HTML output by choosing **File**->**Generate to File**->**HTML Style Sheet**.

21. When prompted, save your report output as `web_463.htm`.

22. Open `web_463.htm` in your Web browser to confirm that the new hyperlinks work properly.

Your HTML output should look similar to the following figure:
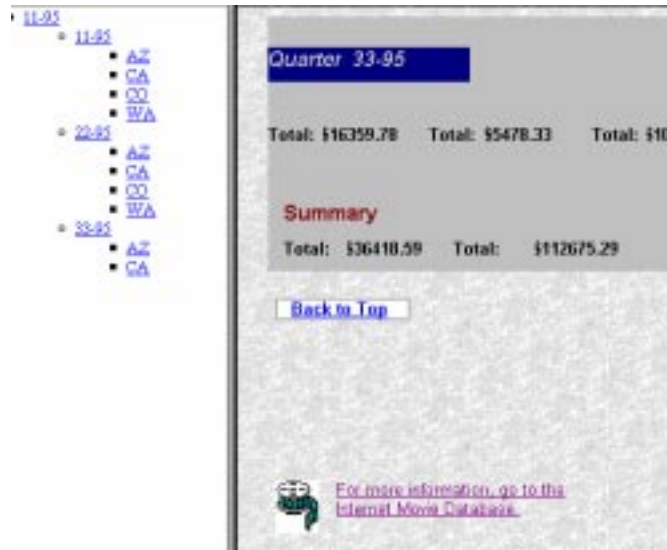
4.7 Displaying pop-ups and rollovers in HTML output

You can further enhance objects that contain hyperlinks by adding pop-ups and rollovers that contain textual descriptions. The steps in this section will help you to create pop-up and rollover text that displays when you drag the mouse over an object in your HTML report.

4.7.1 Adding a pop-up to an image object

1. **For online help on this topic, choose Help**->**Report Builder Help Topics**
2. **On the Index page, type...**
   display name property
3. **Then click Display to view help topic**...
   Display Name

1. In the Object Navigator, place your cursor in the Find field and type IMDB_BMP.

2. Choose **Tools**->**Property Palette** to display the Property Palette for the imported image object.

3. In the Property Palette, under the **Web Settings** node, set the Display Name (HTML) property to `Internet Movie Database`.

4. In the Object Navigator, click ⬛ next to your report.

5. Save your report output as `web_471.rdf`.

6. Generate HTML output by choosing **File**->**Generate to File**->**HTML Style Sheet**.

7. When prompted, save your report output as `web_471.htm`.

8. Open `web_471.htm` in your Web browser.

9. Drag your mouse over the image object to view the pop-up text that displays over the object.

4.7.2 Adding a rollover to an image object

1. In the Object Navigator, under the **Main Section** node, then the **Body** node, click ⬛ next to IMDB_BMP.

2. Choose **Tools**->**Property Palette.**

3. In the Property Palette, under the **Web Settings** node, set the Additional Hyperlink Attributes (HTML) to:

```
onMouseover="window.status='Clicking here will display the
Internet Movie Database home page.';return true"
onMouseOut="window.status=' ';return true"
```

4. Press RETURN or ENTER to make sure the property is set.

5. In the Object Navigator, click ⬛ next to your report.

6. Save your report output as `web_472.rdf`.

7. Generate HTML output by choosing **File**->**Generate to File**->**HTML Style Sheet**.

8. When prompted, save your report output as `web_472.htm`.

9. Open `web_472.htm` in your Web browser.

10. Drag your mouse over the image object to view the rollover text in the hint line of your browser. Note that you will have to scroll down to the end of the HTML document in order to view the image object.

4.8 Using PL/SQL to conditionally hide/show objects for Web output

The steps in this section will help you to specify that certain objects, such as page numbers, will not display in your HTML, HTMLCSS, or PDF output. However, these items will still display in other report file formats.

1. In the Layout Model view, click the boilerplate text object labeled "Back to Top".

2. Choose **Tools**->**Property Palette.**

3. Under the **Advanced Layout** node, set the Format Trigger property to:

```
function text_totop1FormatTrigger return boolean is
begin
  if UPPER(:DESFORMAT) = 'HTML' or
     UPPER(:DESFORMAT) = 'HTMLCSS' or
     UPPER(:DESFORMAT) = 'PDF'
  then
     return (TRUE);
  else
     return (FALSE);
  end if;
end;
```

4. Click **Compile**.

5. If any compilation errors occur, check the code for syntax errors, and recompile as needed.

6. Click **Close.**

7. In the Object Navigator, click ![icon] next to your report.

8. Save your report output as web_48.rdf.

9. Click ![icon] to view your report output in Report Builder's Live Previewer.

10. Generate HTML output by choosing **File**->**Generate to File**->**HTML Style Sheet**.

11. When prompted, save your report output as web_48.htm.

12. Open web_48.htm in your Web browser. Compare your HTML output to your report output in the Report Builder Live Previewer. The boilerplate text object labeled "Back to Top" should display in your browser, but not in the Live Previewer.

4.9 Creating a summary section with a chart

The steps in this section will help you to create a summary section for your report, and include a pie chart in the summary section.

4.9.1 Creating the data model for the summary section

1. Return to Report Builder from the web browser if you are not already there.

2. In the Data Model view, click [SQL] and click on the canvas region.

   Tip: If the Data Model tool palette is not displayed, choose **View**->**Property Palette.**

3. In the SQL Query Statement dialog box, click **Query Builder**.

4. In the Select Data Tables dialog box, click VIDEO_CATEGORY_BY_QTR.

5. Click **Include**.

6. Click **Close**.

7. In Query Builder, check the QUARTER column check box and the TOTAL PROFIT column check box in the table.

8. In the Condition field, type the condition:

   ```
   SALES_REGION='West'AND TOTAL_PROFIT>2000
   ```

9. Click ✔ .

10. Click **OK**.

11. In the SQL Query Statement dialog box, click **OK**.

12. In the Object Navigator, click 🗐 next to your report.

13. Save your report output as `web_491.rdf`.

4.9.2 Creating the default layout for the summary section

1. In the Layout Model view, click [icon] to access the Header section of your report.

?	**1.** **For online help on this topic, choose Help->Report Builder Help Topics**
	2. **On the Index page, type...** repeating frame, creating
	3. **Then click Display to view help topic...** Creating a frame or repeating frame

2. In the Header section, click [T icon] to create a boilerplate text object at the top of the layout. Type `Executive Summary of Video Sales`.

3. Click on the boilerplate text object you just created, then choose **Format**->**Font.**

4. In the Font dialog box, choose a font, such as Footlight MT Light, then click **OK.**

   Tip: While the boilerplate text object is still selected, you can change the font and fill colors.

5. Click [T icon] to create a boilerplate text object below the one you've just created. Type `Quarter Profits`.

6. Click [icon] and create a repeating frame that is about 3 inches wide and 0.5 inches tall about 4 inches from the top of the layout.

7. Choose **Tools**->**Property Palette.**

8. In the Property Palette, under the **General Information** node, set the Name property to `R_execprof`.

9. Under the **Repeating Frame** node, set the Source property to G_QUARTER1.

?	**1.** **For online help on this topic, choose Help->Report Builder Help Topics**
	2. **On the Index page, type...** field, creating
	3. **Then click Display to view help topic...** Creating a field object

10. Click [abc icon] and create a field that fits inside the repeating frame (approximately 1.5 inches wide and 0.25 inches tall).

11. Choose **Tools**->**Property Palette.**

12. In the Property Palette, under the **General Information** node, set the Name property to `F_qrtr`.

13. Under the **Field** node, set the Source property to QUARTER1.

14. Repeat steps 10 and 11 to create a second field. Set the following properties:

Table 4–3   Property settings for second field

Node	Property	Setting
General	Name	F_proffld
Field	Source	TOTAL_PROFIT1
	Format Mask	$NNN,NN0.NN

15. Arrange the layout to look similar to the following figure:

16. Click [icon] to check that your query and layout work properly.

    Tip: If you receive PL/SQL errors, you can try choosing **Program**->**Compile**->**All** to compile your format triggers.

17. In the Object Navigator, click [icon] next to your report.

18. Save your report as `web_492.rdf`.

19. Generate HTML output by choosing **File**->**Generate to File**->**HTML Style Sheet**.

20. When prompted, save your report output as `web_492.htm`.

21. Open `web_492.htm` in your Web browser to confirm that the first page displays your new header page.

4.9.3 Creating a chart for the summary section

1. **For online help on this topic, choose Help->Report Builder Help Topics**
2. **On the Index page, type...**
   chart, creating
3. **Then click Display to view help topic**...
   Creating a Graphics Builder chart

1. In the Layout Model view, if you are not in the Header section, click [ ].

2. Click [ ] to bring up the Chart Wizard.

   Tip: When you launch the Chart Wizard, Oracle Graphics Builder runs in the background. On Windows, you should see this application in your taskbar.

3. If the Welcome page of the Chart Wizard displays, click **Next.**

4. On the Type page, click **Pie** in the Chart Type list and **Depth** in the Chart Subtype list.

5. Click **Next**.

6. On the Data Group page, click G_QUARTER1(QUARTER1,TOTAL_PROFIT1).

7. Click **Next**.

8. On the Category page, click on QUARTER1, then click [>] to move the field into the Category Axis list.

9. Click **Next**.

10. On the Value page, click on TOTAL_PROFIT1, then click [>] to move the field into the Value Axis list.

11. Click **Next**.

12. On the Break page, choose to display the chart at the beginning of the report.

13. Click **Next**.

14. On the File page, click **Save As**. When prompted, use the file name `rbweb_ chart.ogd`. Save the file in the same directory as your `.RDF` and `.HTM` files.

    1. **For online help on this topic, choose Help->Report Builder Help Topics**
    2. **On the Index page, type...**
       files, supported file types
    3. **Then click Display to view help topic**...
       Supported files

15. Click **Finish**.

16. Click on the chart object.

17. Choose **Tools**->**Property Palette.**

18. In the Property Palette, under the **General Information** node, set the Name property to `rbweb_chart`.

19. Resize the chart and re-arrange the layout to look similar to the following figure:

20. In the Object Navigator, click [icon] next to your report.

21. Save your report output as `web_493.rdf`.

22. Generate HTML output by choosing **File**->**Generate to File**->**HTML Style Sheet**.

23. When prompted, save your report output as `web_493.htm`.

24. Open `web_493.htm` in your Web browser to confirm that a chart displays on the first page of your output.

4.9.4 Adding hyperlinks to your chart

You can also add hyperlinks to your chart that will drill down to corresponding data. In this exercise, you will create hyperlinks from the pie chart to the summary report you created in Section 4.9.2, "Creating the default layout for the summary section".

1.   In the Layout Model view, click the Chart object.

2.   Choose **Tools**->**Property Palette**.

1.   In the Property Palette, under the **Chart** node, set the Chart Hyperlink property to `#rbweb_chart&<Total_Profit1>`.

2.   In the Object Navigator, place your cursor in the Find field and type

     `F_PROFFLD`.

3.   Choose **Tools**->**Property Palette**.

1.   In the Property Palette, under the **Web Settings** node, set the Hyperlink Destination property to `rbweb_chart&<Total_Profit1>`.

1.   Save your report as `web_494.rdf`.

2.   Generate HTML output by choosing **File**->**Generate to File**->**HTML Style Sheet**.

3.   When prompted, save your report output as `web_494.htm`.

4.   Open `web_494.htm` in your Web browser click an area on the pie chart to access the corresponding data in the report.

4.10 Adding Javascript

The steps in this section will help you to add Javascript to your Web report. Doing so will create additional special effects for your report, such as animation and customized navigational controls.

In order for the Javascript in this exercise to work properly, you should have completed Section 4.9, "Creating a summary section with a chart" and Section 4.3, "Including an HTML report header".

4.10.1 Creating animated objects

In this exercise, you will add Javascript to a text object that, when open in a Web browser, will change an image object from blue to red when you pass your mouse over the image.

To complete this exercise, you will need the 1.gif.

1. Copy the 1.gif file (located in your ORACLE_HOME\TOOLS\DOC60\US\RBBR60 directory) to the destination directory (the location where the generated HTML files will reside).

2. In the Layout Model view, if you are not in the Main section, click ![icon].

3. Choose **Tools**->**Property Palette**.

4. Drag the entire selection up to the top of the Layout Model view (so that there is no empty space between the top margin and the boilerplate text object labeled "Sales Results").

5. Click ![T] and create a boilerplate text object about 0.5 inches by 0.5 inches, directly below the layout.

6. Type the following Javascript into the boilerplate text object:

   ```
   <a href="#webrep_bottom" onmouseover=
   "document.images['example'].src=image02.src" onmouseout=
   "document.images['example'].src=image01.src">
   <img src="1.gif" name="example" border=0></a>
   ```

7. Choose **Tools**->**Property Palette.**

8. In the Property Palette, under the **General Information** node, set the Name property to B_JS.

9. Under the **Web Settings** node, set the Contains HTML Tags property to Yes. Note that part of the necessary Javascript coding has already been entered into the head of your HTML output (the `rbweb_hdr.htm` file). In the next step you will add the Javascript to the body of your HTML output.

10. Under the **Advanced Layout** node, set the Format Trigger property to:

```
function B_JSFormatTrigger return boolean is
begin
  if UPPER(:DESFORMAT) = 'HTML' or
     UPPER(:DESFORMAT) = 'HTMLCSS' or
     UPPER(:DESFORMAT) = 'PDF'
  then
     return (TRUE);
  else
     return (FALSE);
  end if;
end;
```

11. Click **Compile**.

12. If any compilation errors occur, check the code for syntax errors, and recompile as needed.

13. Click **Close**.

14. Set the **Print Object On** property to All Pages.

15. In the Layout Model view, create a boilerplate text object labeled `Click on the arrow to view the Executive Summary`. Place this object next to the boilerplate text object containing the Javascript (B_JS).

16. Choose **Tools**->**Property Palette.**

17. In the Property Palette, under the **Advanced Layout** node, set the **Print Object On** property to All Pages.

18. In the Object Navigator, click 🖼 next to your report.

19. Save your report output as `web_4101.rdf`.

20. Generate HTML output by choosing **File**->**Generate to File**->**HTML Style Sheet**.

21. When prompted, save your report output as `web_4101.htm`.

22. Open `web_4101.htm` in your Web browser and confirm that the boilerplate text object you created displays. You should also see a blue arrow that turns red when you drag your mouse over it.

> **Tip**: You can click on this arrow to access your Executive Summary if you've completed Section 4.9, "Creating a summary section with a chart". You can also repeat step 3 in Section 4.8, "Using PL/SQL to conditionally hide/show objects for Web output" to conditionally show/hide the objects you created in this section, so that they only display in your HTML output.

4.10.2 Using HTML page streaming

You can use HTML page streaming in your Web report to display navigational controls so that users can easily move from one page to another. HTML page streaming enables you to display individual pages of your HTML/HTMLCSS report output in your Web browser, without having to download the entire report. From the first page of the report, you can navigate to any page in the rest of the report. When you click a bookmark or hyperlink with a destination:

- within the report, the frame that contains the current page will update with the destination page.

- outside the report, the entire base frame (including the bookmark frame, the page, and the navigation frame) will reload.

Report Builder provides default page streaming controls. For this exercise, however, you will use customized the navigational controls. For your convenience, the graphics and javascript needed to create the customized controls have been provided. They are:

- `rbweb_ps.htm`, which contains the javascript

- 14 .GIFs containing page, first, back, or next as part of file name (e.g., `page-e.gif`)

1. Copy the .GIF and .HTM files (located in your `ORACLE_HOME\TOOLS\DOC60\US\RBBR60` directory) to the destination directory (the location where the generated HTML files will reside).

2. In the Object Navigator, click 📄 next to your report.

3. Choose **Tools**->**Property Palette.**

4. In the Property Palette, under the **Report Escapes** node, set the following
properties:

Table 4–4   Property settings for page streaming

Property	Setting
Page Navigation Control Type	File
Page Navigation Control Value	`ORACLE_HOME\TOOLS\DOC60\US\` `RBBR60\rbweb_ps.htm.`

5. Save your report output as `web_4102.rdf`.

6. Exit Report Builder.

7. Restart Report Builder from the command line by typing the following:

> `rwbld60 pagestream=yes.`

8. Open the report (last saved as `web_4102.rdf`).

9. Connect to the database.

10. Generate HTML output by choosing **File**->**Connect**.

11. Choose

12. In the Object Navigator, click ⬚ next to your report.

13. When prompted, save your report output as `web_4102.htm`.

14. Open `web_4102.htm` in your Web browser and confirm that the navigational
controls display.

	1.	**For online help on this topic, choose Help->Report Builder Help Topics**
?	**2.**	**On the Index page, type...** HTML page streaming, displaying individual pages
	3.	**Then click Display to view help topic**... Displaying individual pages of HTML report output

4.11 Running the Web report from the Reports Server

The steps in this section are optional; they will help you run your report dynamically from the Reports Server.

To complete this exercise, you must have Oracle Reports Server software, and must have installed and configured the Reports Server for dynamic reporting. Refer to the *Publishing Reports* manual for more information, or contact your system administrator for assistance.

1. Copy the following files from the `ORACLE_HOME\TOOLS\DOC60\US\RBBR60` directory on your machine to the directory where the cached files are sent. Refer to the Reports Server configuration file to determine the cache directory.

   - `rbweb_hdr.htm`
   - `rbweb_page.htm`
   - `1.gif`
   - `3.gif`
   - `drama.gif`
   - 14 .GIFs containing page, first, back, or next as part of the file name (e.g., `page-e.gif`).

2. Ensure that the Reports Server can locate your Web report, last saved as `web_4102.rdf` (i.e., the location of the report is set in the SOURCEDIR parameter of the Reports Server Configuration file or set in the REPORTS60_PATH environment variable).

3. From your Web browser, make the following request:

   ```
   http://your_webserver/cgi-bin/rwcgi60.exe?report=web_4102.rdf+
   userid=user_name/password@mydb+
   server=repserver+desformat=htmlcss+
   destype=cache+pagestream=yes
   ```

   where:

   your_webserver is the URL address of the Web server

   cgi-bin is the virtual location of the CGI or OWS executable

   user_name/password@mydb is the connection string to the database

   repserver is the name of the Reports Server

4.12 Summary

Congratulations! You have finished the Web sample report. You now know how to:

- Apply format masks.
- Add other HTML files via Report Escapes.
- Add bookmarks to facilitate navigation.
- Add hyperlinks to destinations within your report and to external Web sites.
- Display pop-ups and rollovers.
- Conditionally hide and show items for Web output.
- Create an executive summary section for your report that contains a chart.
- Create special effects using Javascript.

For more information about web-based reports, see the online help:

1. **For online help on this topic, choose Help->Report Builder Help Topics**
2. **On the Index page, type...**
   web report, about
3. **Then click Display to view help topic**...
   About web reports

5

Building a Report with Sections

The report described in this chapter is designed to help you learn more about Report Builder features for report sections and distribution.

To build this report, you will use the Data Wizard to create a multi-query data model, then use the Report Wizard to create the default layout for the first section. You will make fairly extensive manual refinements in the Data Model and Layout Model views. Then, you will again use the Report Wizard to create a default layout for the second section, based on the same data model, and make minor manual refinements in the Layout Model view and Live Previewer.

In this example, you will create a detailed report in the main section showing investment fund elections, and an account summary for employees vested at a specified percentage (one landscape page per employee). Then you will create one-page summary report in the header section of all employees vested at a specified percentage. Finally, you will set up distribution parameters to output each section of the report to multiple formats and destinations.

About sections   Report sectioning enables you to define multiple layouts in the same report, with each layout having a different target audience, output format, page layout, page size, and orientation. You can define up to three report sections (i.e., the Main, Header, or Trailer section). In the other sections, you can define different layouts rather than creating multiple separate reports. For example, a single report can include an executive summary for senior management in one section and can also include a detailed breakdown for individual managers in another section.

The following figure provides a conceptual overview for building a report with multiple sections, and then distributing the report based on the distribution parameters defined for each section. Table 5–1, "Features demonstrated in this Sections sample report" describes the steps you will take to create this report.

Create a report with layouts in multiple sections. Sections 5.3 and 5.5.

Specify the distribution settings for the report layout in each section. Section 5.7.

Distribute the report sending each section to its specified destination. Section 5.7.
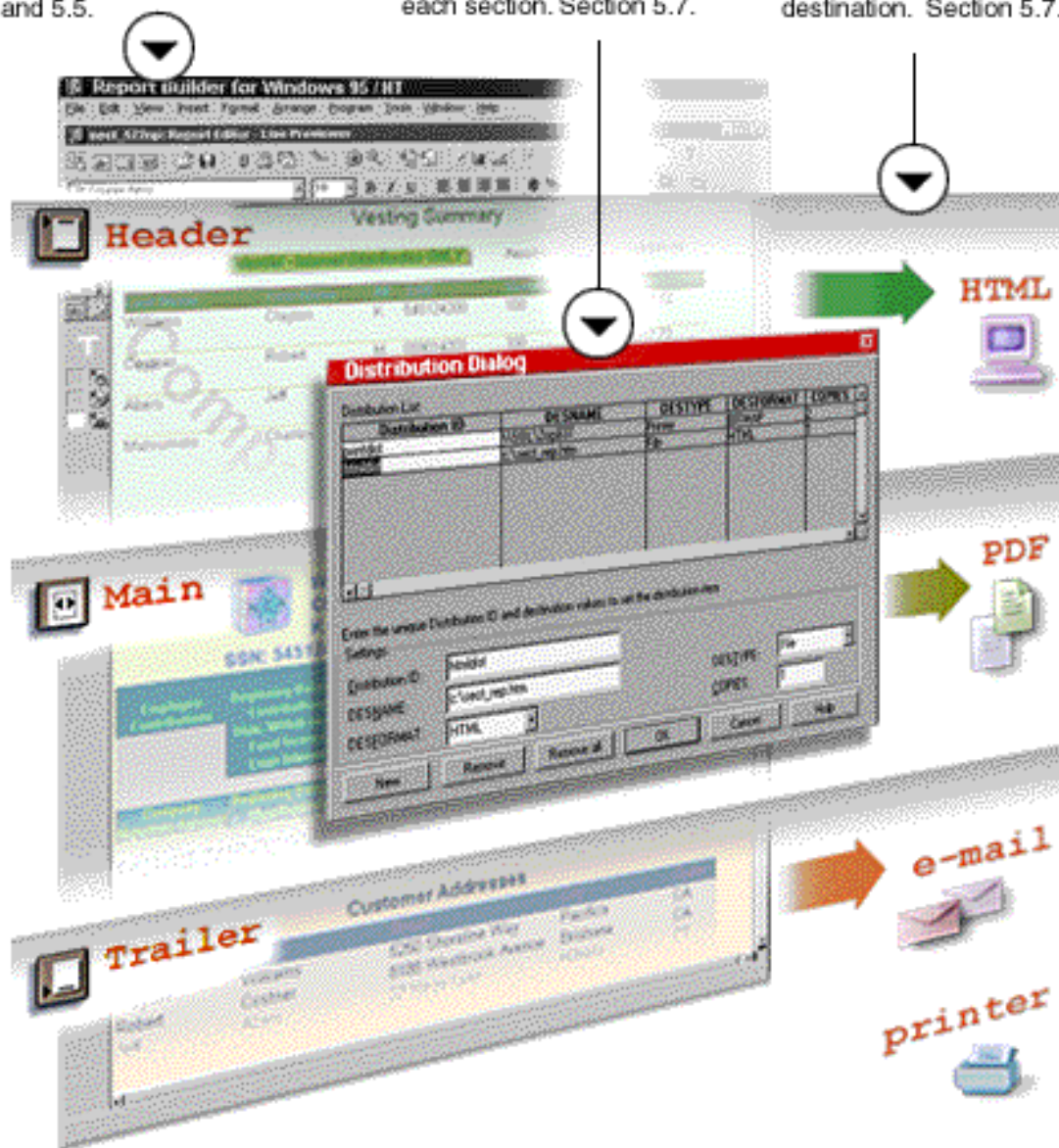
The `sect.rdf` file contains the report you will create after finishing the tasks in this chapter. You may want to refer to this file while you are working. This file is located in your `ORACLE_HOME\TOOLS\DOC60\US\RBBR60` directory.

Table 5–1   Features demonstrated in this Sections sample report

Feature	Location
Create a data model by building five different queries. Then refine the data model in the Data Model view.	Section 5.1, "Creating a data model"
Build a Runtime Parameter Form in which users enter parameter values that determine how the report will run.	Section 5.2, "Designing a Runtime Parameter Form"
Use the Report Wizard to create a default layout for a detailed section.	Section 5.3, "Creating a layout for the first section"
Make manual refinements to the first section in the Layout Model view.	Section 5.4, "Refining the layout in the Layout Model view"
Use the Report Wizard to create a default layout for a summary section. Then make minor manual refinements in the Layout Model view and Live Previewer.	Section 5.5, "Creating a layout for the second section"
Specify how the two sections of the report that you have created will be distributed.	Section 5.7, "Specifying distribution"

To get started, open Report Builder. If the Welcome dialog box appears, click **Build a new report manually** and click **OK**. If not, choose **File**->**New**->**Report**. Click **Build a new report manually** and click **OK**.

At some point before you generate the report, you will need to log into the database. Choose **File**->**Connect** to connect to the database. Enter the appropriate log on information. See Section 1.3, "Obtaining database access before you start" for details.

5.1 Creating a data model

The steps in this section will help you create a data model by building five different queries. Then, you will refine the data model manually in the Data Model view.

5.1.1 Building queries using the Data Wizard

When building a report with multiple queries, you typically use the Data Wizard to create each query and the Report Wizard to create the layout. The steps in this section will help you to create five different queries using the Data Wizard.

> **1.** For online help on this task, choose **Help**->**Report Builder Help Topics**
> **2.** On the Index page, type...
> query, creating
> **3.** Then click Display to view help topic...
> Creating a local query: Data Wizard

1. In the Data Model view, click to display the Data Wizard.

2. If the Welcome page appears, click **Next**.

3. Type Q_acct in Query Name and click **Next**.

4. If the Type page appears, click **SQL statement**, and click **Next**. The Type page will only appear if you have configured Report Builder to run with Oracle Express.

5. Type the following SELECT statement. This query selects personnel information for each employee, along with investment fund deferral and vested percentages:

```
SELECT   a.lastname,
         a.firstname,
         a.mi,
         a.ssn,
         a.pct_deferral,
         a.pct_vested,
         d.street,
         d.city,
         d.state,
         d.zip
FROM     accts a,
         acct_addrs d
WHERE a.pct_vested=:p_pct_vested
AND d.ssn=a.ssn
```

6. Click **Next**. If you are connected to the database, you will receive a notification that Report Builder is creating a bind parameter for you. Click **OK** to dismiss it. Because the WHERE clause of this query refers to a bind parameter (p_pct_vested) that does not yet exist, Report Builder creates the parameter for you and notifies you that it has been created.

7. On the Groups page, click **Next**. This query requires no break groups.

8. On the Summary page, click **Next**. You will create some totals later on in this chapter.

9. Click **Finish**.

10. Repeating steps 1 through 9, create four more queries with the following characteristics:

    ■ Query Name: **Q_dist**

    Q_dist selects the percent distribution of investment fund elections for each employee.

```
SELECT  c.fund_id,
        c.pct_dist,
        c.ssn,
        f.name
FROM    fund_contrib c,
        funds f
WHERE   c.fund_id=f.fund_id
ORDER BY f.name
```

    ■ Query Name: **Q_xact**

    Q_xact selects the contribution category (emconame) and description of income (description) for each category, for each employee.

```
SELECT DISTINCT
        x.description,
        x.type,
        t.ssn,
        t.empcomp,
        c.emconame
FROM
        f_xact_type x,
        fund_xact t,
        f_empcomp c
WHERE   t.trans_type=x.type(+)
AND     c.empcomp=t.empcomp
```

- ■ Query Name: **Q_funds**

  Q_funds selects the name of each fund.

  ```
  SELECT DISTINCT
          f.name,
          f.fund_id
  FROM    funds f
  ```

- ■ Query Name: **Q_amount**

  Q_amount selects the amount invested in each fund, for each employee.

  ```
  SELECT DISTINCT
          amount,
          empcomp,
          fund_id,
          ssn,
          trans_type,
          xact_id
  FROM    fund_xact
  ```

11. Choose **File**->**Save As**. Save the report in the directory of your choice, and name the report sect_511.rdf.

Tip: It is good practice when you are designing your report to save it frequently under a different file name. If you generate an error or if you don't like some of the changes you made, you easily can go back to the previously saved file and make revisions from that point.

5.1.2 Refining the Data Model

The steps in this section will give your groups more meaningful names, create a break group, turn your data model into a matrix data model, create data links, and create summaries.

1. In the Data Model view, double-click G_lastname, the group owned by Q_acct, to display the Property Palette.

2. Under the **General Information** node, set the Name property to G_acct.

3. Press RETURN or ENTER to set the change.

4. Repeating steps 1 through 3, rename the following groups:

Table 5–2   Group names

Old Name	New Name
G_fund_id	G_dist
G_description	G_xact
G_name1	G_funds

5. Click and drag the G_xact group down a couple of inches to create some space above it.

6. Click the column named empcomp in the G_xact group, and drag it outside and above the G_xact group.

1.	**For online help on this task, choose Help->Report Builder Help Topics**
2.	**On the Index page, type...** break group, creating
3.	**Then click Display to view help topic...** Creating a break group

7. Click the column named emconame in the G_xact group, and drag it into the new group, G_empcomp. Place emconame after the empcomp column.

8. Double-click the G_empcomp group to display the Property Palette.

9. Change the Name property to G_emco.

10. Rearrange your data model to look similar to the following figure:
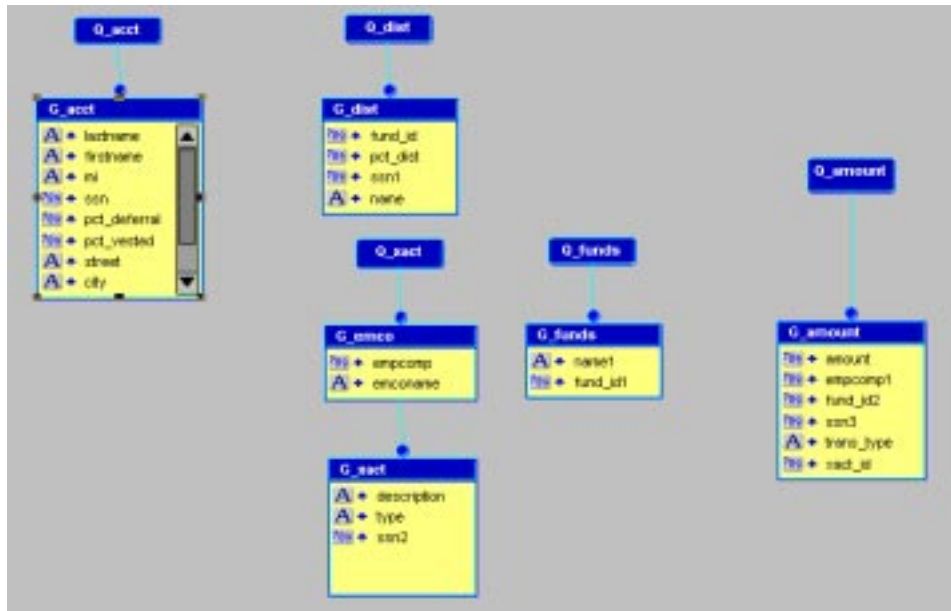
11. Click ⓐⓑ in the tool palette.

> ?
> **1.** **For online help on this task, choose Help->Report Builder Help Topics**
> **2.** **On the Index page, type...**
> matrix group, creating
> **3.** **Then click Display to view help topic**...
> Creating a matrix (crosstab) group

12. Drag a rectangle around groups G_emco, G_xact, and G_funds.

13. Double-click the newly created group, G_1, to display the Property Palette.

14. Change the Name property to G_matrix.

15. Click [icon] to create a column-to-column link.

> 1. **For online help on this task, choose Help->Report Builder Help Topics**
> 2. **On the Index page, type...**
>   data link, creating
> 3. **Then click Display to view help topic**...
>   Creating a data link

16. Click column ssn in group G_acct and drag to column ssn1 in group G_dist. (This retrieves the percent distribution of investment fund elections.)

17. Repeating steps 15 and 16, create data links between:

Table 5–3   Data links to create in the data model

column ssn in group G_acct, and	column ssn2 in group G_xact (to retrieve the contribution category and description of income for each category)
column empcomp in group G_emco, and	column empcomp1 in group G_amount
column ssn2 in group G_xact, and	column ssn3 in group G_amount
column fund_id1 in group G_funds, and	column fund_id2 in group G_amount (to retrieve for each income description in each contribution category in each fund, the account balance)
column type in group G_xact, and	column trans_type in group G_amount (to retrieve for each income description, a distinct amount)

Your data model should now look similar to the following figure:
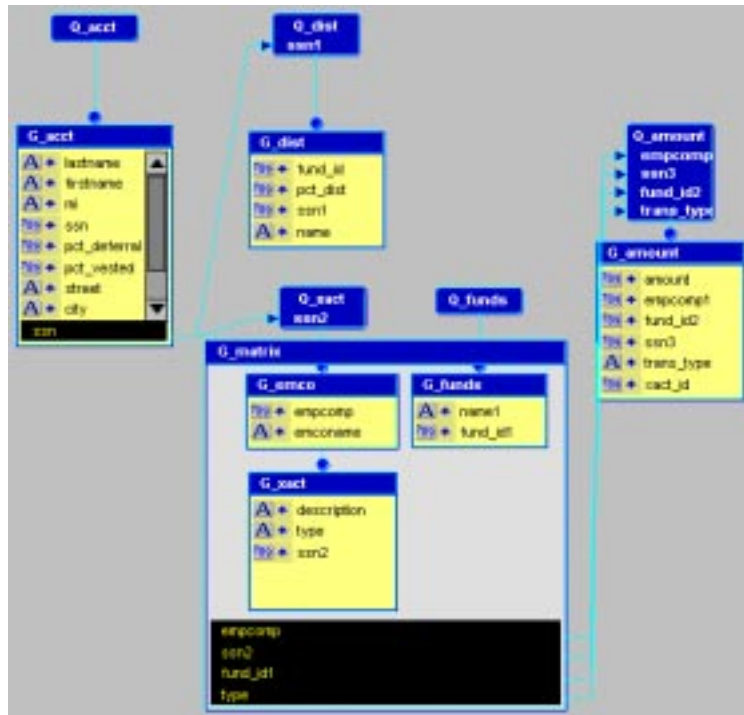
18. Click [icon] .

19. Click on the title bar of group G_matrix.

In the following steps, you will set this new summary column to calculate totals on each income description in each contribution category (row totals).

20. Double-click the newly created column, CS_1 to display the Property Palette.

21. In the Property Palette under the **General Information** node, set the Name property to CS_xactotal.

22. Under the **Column** node, set the Width property to 38, the Product Order property to G_emco G_xact, and the Value if Null property to 0.00.

Tip: The values for the Product Order property can get quite long. To make these values easier to see, resize the Property Palette horizontally.

For more information on the meaning of these properties, click [?] while the property is selected.

23. Under the **Summary** node, set the Source property to amount and the Reset At property to G_xact.

24. Repeating steps 18 through 23, create summary columns in group G_matrix with the following characteristics:

Table 5–4 Total properties

Name	Width	Product Order	Value if Null	Source	Reset At
CS_fundsubtotal	38	G_funds G_emco	0.00	amount	G_emco
CS_emcototal	38	G_emco	0.00	amount	G_emco
CS_fundtotal	38	G_funds	0.00	amount	G_funds

- CS_fundsubtotal calculates totals on each income fund in each contribution category (column totals).

- CS_emcototal calculates grand totals on each contribution category.

- CS_fundtotal calculates grand totals on each fund in all contribution categories.

25. Repeating steps 18 through 23, create a summary column in group G_acct with the following characteristics:

Table 5–5 Total properties

Name	Width	Value if Null	Source	Reset At
CS_grandtotal	38	0.00	CS_fundtotal	G_acct

- CS_grandtotal calculates grand totals on each fund in all contribution categories.

26. You may want to rearrange the objects inside of group G_matrix to make the summary columns more easily visible.

27. Save your report as `sect_512.rdf`.

Your data model should now look similar to the following figure:
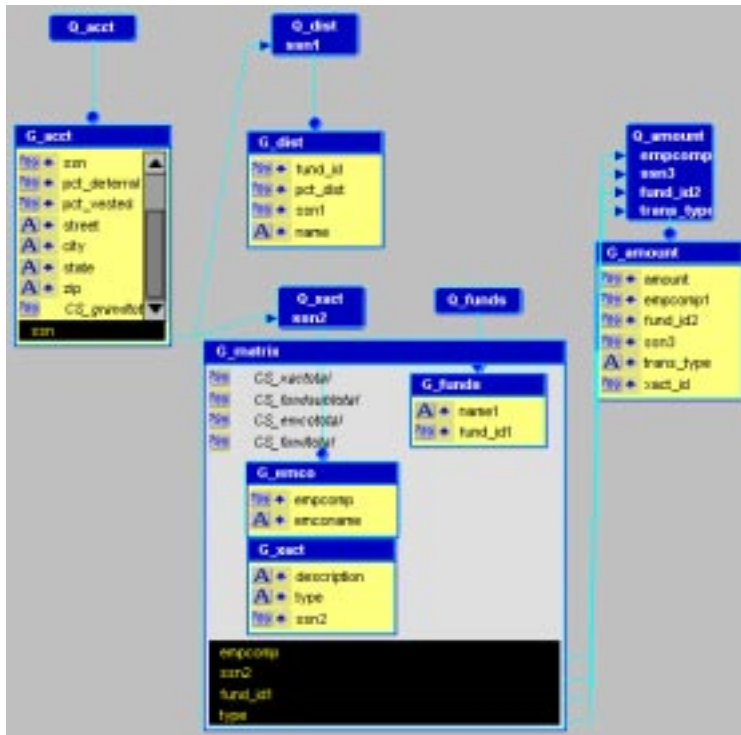
5.2 Designing a Runtime Parameter Form

The steps in this section will help you design a Runtime Parameter Form so that you can run your report regularly as you make refinements.

In Section 5.1.1, "Building queries using the Data Wizard", you created a query with the bind parameter p_pct_vested. Whenever you run a report with a bind parameter, the default Runtime Parameter Form appears. You must assign a value to the bind parameter in order to run your report.

You can use the default Parameter Form to enter a value, or you can build your own Parameter Form using the Parameter Form view.

?	1.	**For online help on this task, choose Help**->**Report Builder Help Topics**
	2.	**On the Index page, type...** Parameter Form view, overview
	3.	**Then click Display to view help topic**... Parameter Form view

1. Choose **Tools**->**Parameter Form Builder**.

2. In the Parameter Form Builder, click the following parameters if they are not already selected:

   - DESTYPE

   - DESNAME

   - DESFORMAT

   - P_PCT_VESTED

3. Click **OK** to create a parameter form in the Parameter Form view.

4. Click once to select the P pct vested label, then click it again to enter edit mode. (Double-clicking will display the Property Palette.)

5. Select the text, and replace it with `% Vested`.

6. Double-click PF_P_PCT_VESTED to display the Property Palette.

7. Under the **Parameter** node, set the Initial Value property to 100.

8. Click in the List of Values property field to display the Parameter List of Values dialog box.

9. If it is not already selected, click **Static Values**.

10. Type `0` in the Value field, then click **Add**.

11. Repeat step 10 to add the following values:

> 10
>
> 25
>
> 50
>
> 75
>
> 100

12. Click **OK** to close this dialog box.

13. Close the Parameter Form view. You will have an opportunity to use the Run-time Parameter Form in a later step.

14. Save the report as `sect_520.rdf`.

5.3 Creating a layout for the first section

The steps in this section will help you to create a layout for a detailed section by using the Report Wizard to create a default layout. The Report Wizard by default builds a report layout in the main section of the report.

?	**1.**	**For online help on this task, choose Help**->**Report Builder Help Topics**
	2.	**On the Index page, type...** default layout, creating
	3.	**Then click Display to view help topic**... Creating a default layout for a report

1. Choose **Tools**->**Report Wizard**.

2. On the Style page, click **Matrix with Group**.

3. Click **Next**.

4. On the Groups page, select the following groups from the Available Fields list box:

   ■   click **G_matrix,** then click **Matrix**

   ■   click **G_emco**, then click **Down**

5. Click **G_dist (Down)** in the Displayed Group list box.

6. Click < . The Groups page should look like the one in the following figure:
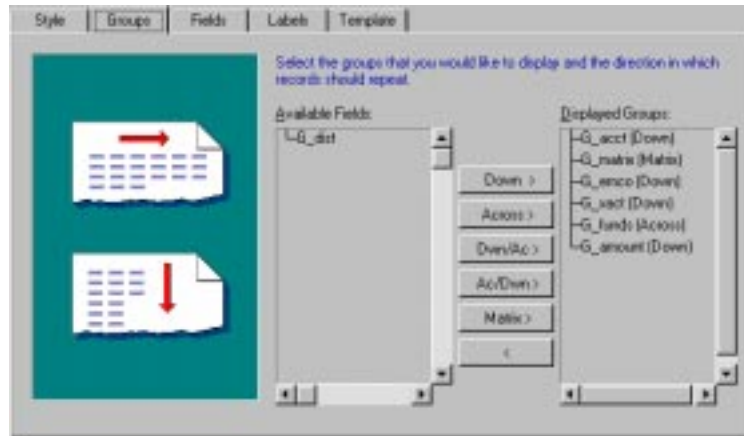
7. Click **Next**.

8. On the Fields page, click lastname, then click [>]. Repeat this step to add the following fields to the Displayed Fields list:

   - firstname

   - mi

   - ssn

   - pct_deferral

   - pct_vested

   - description

   - emconame

   - name1

   - amount

   - CS_xactotal

   - CS_fundsubtotal

   - CS_emcototal

   - CS_fundtotal

   - CS_grandtotal

9. Click **Next**.

10. On the Labels page, delete the labels for all of the columns listed, then rename the following columns:

Table 5–6   Labels

Column	Label
ssn	SSN:
pct_deferral	Deferral Percentage:
pct_vested	Vested Percentage:
CS_grandtotal	Total Balance

11. Change the widths of the following columns:

Table 5–7   Widths

Column	Width
pct_deferral	4
pct_vested	4
description	9
emconame	9
name1	7
amount	4
CS_xactotal	8
CS_fundsubtotal	8
CS_emcototal	8
CS_fundtotal	8
CS_grandtotal	8

12. Click **Next**.

13. On the Template page, select the Predefined template **Cyan Grid**.

14. Click **Finish**.

15. In the Runtime Parameter Form, select 100 from the % Vested list box. Notice the Destination type, Destination name, and Destination format fields. You can choose another output type, such as printer, or change the format. For this exercise, however, you will use the default values.

16. Click to review your report in the Live Previewer. Your report will look similar to the following figure:

17. Close the Live Previewer.

18. Save your report as sect_530.rdf.

5.4 Refining the layout in the Layout Model view

The steps in this section will help you to refine the layout of your report using the Layout Model view. You will make extensive changes to your layout by doing the following:

■ change the attributes of objects, such as font size

■ rearrange objects in your layout

■ add boilerplate objects

■ change the orientation of your report to landscape

When you finish this section, the layout will look similar to the following figure. Use this layout to help guide you through this exercise.

Tip: If you re-enter the Report Wizard after making manual refinements in the Live Previewer, you will lose some of your changes when you click **Apply** or **Finish** in the wizard, and your layout will default back to the state defined by the wizard.

5.4.1 Changing the properties of objects

1. In the Object Navigator, double-click the **Layout Model** node to display the Layout Model view of your report.

2. In the Layout Model view, double-click F_lastname to display the Property Palette.

3. Under the **General Layout** node, change the Horizontal Elasticity property to Variable. Repeat this step for the following objects:

    ■   F_firstname

    ■   F_mi

    Tip: You can change several objects at one time: shift-click on all objects, then choose **Tools**->**Property Palette**.

4. Click in an empty area of the canvas to deselect the objects.

5. Shift-click the following objects:

    ■   F_lastname

    ■   F_firstname

    ■   F_mi

    ■   SSN:

    ■   F_ssn

    ■   Deferral Percentage:

    ■   F_pct_deferral

    ■   Vested Percentage:

    ■   F_pct_vest

6. In the toolbar, select 12 from the font size list box to change the font size of the selected objects.

7. Click in an empty area of the canvas.

8. Shift-click the following objects, then choose **Tools**->**Property Palette**:

    ■   F_pct_deferral

    ■   F_pct_vest

9. In the Property Palette under the **Field** node, type NNNN% (case sensitive) in the Format Mask to display the objects as a percentage.

10. Click in an empty area of the canvas.

11. Shift-click the following layout objects:

    ■   F_amount

    ■   F_CS_fundsubtotal

    ■   F_CS_fundtotal

    ■   F_CS_xactotal

    ■   F_CS_emcototal

    ■   F_CS_grandtotal

12. Click .

13. Click twice.

14. Click .

15. Click F_description, then click .

16. Save the report as sect_541.rdf.

17. Click .

18. At the Runtime Parameter Form, click to view the changes in the Live Previewer.

5.4.2 Re-arranging frames and objects

1. In the Object Navigator, double-click ▣ to display the Layout Model view of your report.

   Tip: Every object in the Layout Model view is also represented in the Object Navigator. Sometimes it is easier to refine the layout of a report by selecting objects from the Object Navigator. Arrange your workspace to display the Object Navigator and Layout Model view side-by-side. When you click an object in the Object Navigator, this object is selected in the Layout Model view.

2. In the Object Navigator, expand the **Layout Model, Main Section, Body,** and **M_G_ACCT_GRPFR** nodes if they are not already expanded.

3. Ctrl-click **M_G_ACCT_GRPFR** and **R_G_ACCT.**

4. In the Layout Model view, using the vertical ruler as a guide, lengthen the M_G_ACCT_GRPFR and R_G_ACCT groups until the bottom of the frames reach 3 inches.

   Tip: M_G_ACCT_GRPFR is the underlying master group. It is under R_G_ACCT. In the Layout Model view, it may look like only one group is selected when, in fact, both frames are selected.

5. In the Object Navigator, type M_G_MATRIX_GRPFR in the Find field to locate this object. Note that the search occurs as you type, so you will most likely be taken to the object before you finish typing the entire name.

   The M_G_MATRIX_GRPFR frame in the Layout Model view looks similar to the following figure:

6. In the Layout Model view using the vertical rule as a guide, lengthen the M_G_MATRIX_GRPFR frame until the bottom of the frame reaches 3 inches.

7. In the Object Navigator, type R_G_FUNDS in the Find field.

The R_G_FUNDS frame in the Layout Model view looks similar to the following figure:

8. In the Layout Model view, lengthen the R_G_FUNDS frame until the bottom of the frame reaches its parent (enclosing) frame.

    Tip: If you are unable resize the frame as expected, you may need to toggle Confine Mode off.

     indicates that Confine Mode is on. indicates that Confine Mode off.

9. Shift-click F_CS_fundtotal and F_CS_grandtotal. Move these objects down until they reach their parent frame.

10. In the Object Navigator under the **Dimension Repeating Frame** node, click R_G_EMCO.

    The R_G_EMCO repeating frame in the Layout Model view looks similar to the following figure:

11. In the Layout Model view, lengthen the R_G_EMCO repeating frame until it reaches the top of the F_CS_fundtotal and F_CS_grandtotal frames.

    The result will look similar to the following figure:
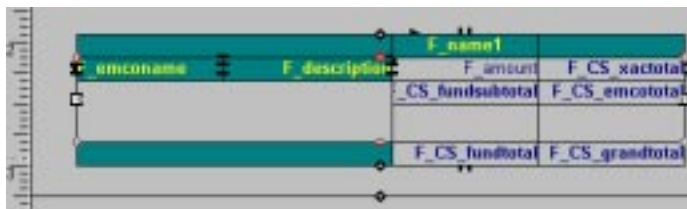
12. Arrange the following frames end-to-end to look like the figure that follows:

- F_lastname

- F_firstname

- F_mi

13. Click and then again at the Runtime Parameter Form.

14. Save your report as `sect_542.rdf`.

5.4.3 Adding boilerplate objects

1. For online help on this task, choose Help->Report Builder Help Topics

2. On the Index page, type...
boilerplate, about

3. Then click Display to view help topic...
About boilerplate objects

1. Display the Layout Model view of your report.

2. Click to create a boilerplate object. Then click in the area directly below F_description.

3. Type `Subtotal:`

4. Click .

5. Change the following, if necessary:

- Font to Arial using the Font list box in the toolbar

- Point size to 10

- Font style to bold. Click .

- Click and change the color to dark blue.

6. If necessary, arrange the boilerplate object so that it is placed next to F_CS_
    Fundsubtotal. The result will look similar to the following figure:

7. Repeat steps 2 through 6 to create the following boilerplate objects with the
    specified characteristics:

Table 5–8   Boilerplate objects

Boilerplate	Location	Text Color
Grand Total:	right of F_CS_ fundtotal	Yellow
Total Funds	Above F_CS_ xactotal	Yellow

8. Click [icon] and then again at the Runtime Parameter Form. Your report will
    look similar to the following figure.

9. Scroll to the right of the report, then click ▶.

   Notice that report is not wide enough to display all the columns on a single page and wraps to the second page. Later, in Section 5.6, "Specifying landscape orientation and page break", you will change the orientation of this layout to landscape and insert a page break. This will allow the report to display one record per page. Before you change the orientation, however, you will create a layout for the second section using the Report Wizard.

10. Save the report as sect_543.rdf.

5.5 Creating a layout for the second section

The steps in this section will help you to create a layout for a summary in the header section of your report. You will use the Report Wizard to create a default layout. Then you will make manual refinements in the Layout Model view and Live Previewer.

5.5.1 Creating the default layout

1. Display the Layout Model view of your report.

2. Choose **View**->**Layout Section**->**Header Section**.

3. Ensure that the Body of the report is displayed.

4. Choose **Tools**->**Report Wizard**.

5. On the Style page, type Vesting Summary in the Title field, and click **Tabular**.

6. Click **Next**.

7. On the Groups page, click **G_acct** from the Available Fields list box, then click **Down**.

8. Click **Next**.

9. On the Fields page, click lastname, then click [>] . Repeat this step for the following fields:

   - firstname

   - mi

   - ssn

   - pct_vested

   - CS_grandtotal

10. Click **Next**.

11. On the Labels page, change labels and widths as follows:

Table 5–9   Labels and Widths

Column	Label	Width
lastname	Last Name	8
firstname	First Name	6
mi	MI	1
ssn	SSN	6
pct_vested	Vested Percentage	4
CS_grandtotal	Total Balance	6

12. Click **Next**.

13. On the Template page, click the Predefined template **Confidential Background**.

14. Click **Finish**.

15. Click [8] and then again at the Runtime Parameter Form.

16. If necessary click [|◄] to display the Vesting Summary report. Your report will look similar to the following figure:

17. Save your report as sect_551.rdf.

5.5.2 Refining the layout in the Live Previewer

1. In Live Previewer, shift-click the following objects, then click [**B**] :

- Last Name
- First Name
- MI
- SSN
- Vested Percentage
- Total Balance

2. Ensure that Flex Mode is on.

Tip: ▭→ indicates that Flex mode is on. ▭↔ indicates that Flex mode is off. Shift-click the data under the following headings:

- Last Name

- First Name

- MI

- SSN

- Vested Percentage

- Total Balance

3. Click the lower-right corner of the selected objects and drag the lower edge of the frame down about 0.25 inches. Notice that the space between the rows increases. See the before and after figures that follow:

Report before increasing the row spacing:

Report after increasing the row spacing:

4. Arrange your workspace so that the Object Navigator and Live Previewer are displayed side-by-side.

5. In the Object Navigator, type R_G_ACCT1 in the Find field.

6. Click the title bar in the Live Previewer to make it active.

7. Choose **Format**->**Border** and choose Top to toggle off the top border. A checkmark next to an option indicates that it is toggled on.

8. Repeat step 7 for Left and Right. The bottom border will remain toggled on.

9. Click ![icon], then choose red. This will place a red line between the rows of data. Your report will similar to the following figure:

10. Save the report as sect_552.rdf.

5.6 Specifying landscape orientation and page break

The steps in this section will help you change the orientation of the layout you created in the Main section.

Tip: If you create multiple layouts using the Report Wizard and plan on changing the orientation setting, it is good practice to change the orientation *after* building all of your layouts. If you change the orientation of first layout, then build a second layout using the Report Wizard, the orientation of the first layout will revert back to the orientation settings defined in the template.

1. In the Object Navigator, if necessary, expand the **Layout Model** node, then click the **Main Section** node and choose **Tools**->**Property Palette**.

2. In the Property Palette under the **Section** node, make the following changes:

Table 5–10 Property settings for the Section node

Property	Setting
Width	11
Height	8.5
Orientation	Landscape

3. Display the Layout Model view of your report.

4. Click [icon] to display the Main section,

5. In the Layout Model view, click [icon] in the toolbar to expose the Margin of your report.

    Tip: Click [icon] to switch between the Margin and Body of your report. Alternatively, choose **View**->**Layout Section**. A check mark next to Edit Margin indicates the Layout Model view is in Margin mode.

6. Scroll down to the bottom of the layout, and click the border between the Body and the lower Margin.

7. Using the vertical ruler as a guide, resize the area by dragging the border up to the 7.5 inch mark.

    Tip: Be sure that you are re-sizing the Margin, not moving the Margin.

8. Click [icon] to expose the Body of your report.

9. In the Layout Model view, click the lastname field.

10. Click to select the parent frame.

11. Choose **Tools**->**Property Palette**.

12. Under the **Repeating Frame** node, set the Maximum Records per Page property to 1.

13. Click and then again in the Runtime Parameter Form.

14. Click in the toolbar to display the layout that you created in a previous section.

    Scroll to the right of the report. Notice the orientation of the report has changed. The report can display all the columns on a single page. Notice also that only one record per page is displayed.

15. Save your report as `sect_560.rdf`.

5.7 Specifying distribution

The steps in this section will help you to specify the distribution for the two sections that you have created:

■ a detailed report showing investment fund elections, and an account summary for employees vested at a specified percentage (at least one landscape page per employee).

■ a one-page summary report of all employees vested at a specified percentage.

You will distribute your report as follows:

■ print two copies of the detailed section.

■ format the detailed section in HTML for access on a secure Web site.

■ format the summary section as a PDF.

5.7.1 Specifying distribution for the detailed section

1. In the Object Navigator, type `Main Section` in the Find field.

2. Choose **Tools**->**Property Palette**.

3. Click the Distribution value field to display the Distribution dialog box. Specify two distribution output destinations for the report that summarizes account information for employees.

4. In the Distribution dialog box, specify the distribution for printing the report:

Table 5–11   Distribution settings for the printed Main section

Field	Value
Distribution ID	printdist
DESNAME	printer path and name
DESFORMAT	BITMAP
DESTYPE	Printer
COPIES	2

Tip: If you select Printer as the DESTYPE first, the DESNAME is automatically set to your default printer.Change this value if you want to send this report to another printer.

5. Click **New**.

6. In the Distribution dialog box, define the distribution for HTML output:

Table 5–12   Distribution settings for the HTML version of the Main section

Field	Value
Distribution ID	htmldist
DESNAME	path and file name for the HTML output (e.g., `c:\sect_rep.htm`)
DESFORMAT	HTML
DESTYPE	File
COPIES	1

7. Click **OK**.

8. Save your report as `sect_571.rdf`.

5.7.2 Specifying distribution for the summary section

1. In the Object Navigator, click the **Header Section** node.

2. Choose **Tools**->**Property Palette**.

3. In the Property Palette, under the **Section** node, click in the Distribution value field to display the Distribution dialog box.

4. In the Distribution dialog box, define the distribution for sending the summary section to PDF:

Table 5–13   Distribution settings for the PDF version of the Header section

Field	Value
Distribution ID	pdfdist
DESNAME	path and pdf file name (e.g., `c:\sect_rep.pdf`)
DESFORMAT	PDF
DESTYPE	File
COPIES	1

5. Save your report as `sect_572.rdf`.

Optional Exercise:

Try setting up distribution to e-mail the executive summary. You will need a MAPI-compliant mail application set up on your system.

5.7.3 Distributing the report

1. In the Object Navigator, click your report name, then choose **File**->**Distribute**.

2. In the Runtime Parameter Form, click .

3. In the dialog box that prompts for your confirmation to distribute to multiple destinations, click **Continue**.

4. Check the printer, your file system, and (optionally) your e-mail inbox to verify that your report was distributed as expected.

Optional Exercise:

Try setting up distribution by creating a .DSTfile and running the distribution from the command line.

Tip: You can trace report distribution. The trace file, which is similar to a .DST file, is generated when you check the Distribution check box in the Runtime Trace Settings dialog box.

5.8 Summary

Congratulations! You have finished the Sectioning sample report. You now know how to:

■   Create a data model and refine it in the Data Model view.

■   Build a Runtime Parameter Form.

■   Create a default layout for a detailed section, and refine it in the Layout Model view.

■   Create a default layout for a summary section and refine it in the Layout Model view and Live Previewer.

■   Specify report distribution criteria.

For more information about sectioning and distribution, see the online help:

1. **For online help on this topic, choose Help**->**Report Builder Help Topics**
2. **On the Index page, type...**
    sectioning, about
3. **Then click Display to view help topic**...
    About report sectioning

6

Building a Report with Ref Cursor Queries

The report described in this chapter is designed to help you learn more about Report Builder features for using ref cursors. To build this report, you will use the Data Model view to create a multi-query data model, and then use the Report Wizard to create the report layout. You will make fairly extensive manual refinements in the Data Model view. In this example, you will create a detailed report showing information about available shipping containers at various ports.

About ref cursor queries   A ref cursor query uses PL/SQL to fetch data. Each ref cursor query is associated with a PL/SQL function that returns a strongly typed ref cursor. The PL/SQL function must ensure that the ref cursor is opened and associated with a SELECT statement that has a SELECT list that matches the ref cursor type. You base a query on a ref cursor when you want to:

- more easily administer SQL

- avoid the use of lexical parameters in your reports

- share datasources with other applications, such as Form Builder

- increase control and security

- encapsulate logic within a subprogram

Furthermore, if you use a stored program unit to implement ref cursors, you receive the added benefits that go along with storing program units in the Oracle database.

The following figure shows that you create a report with the SELECT statement in the ref cursor query of the report. It also shows that you can store the SELECT statement in a package in the database. Then, from the report, you can call the package from the database allowing you to reuse the package in many reports.

Table 6–1, "Features demonstrated in this Ref Cursor Query sample report", describes the steps you will take to create this report.
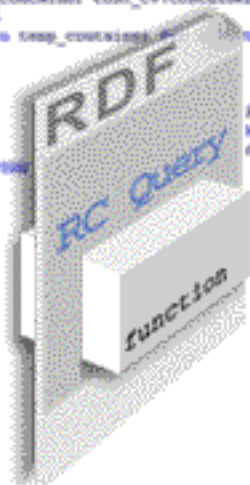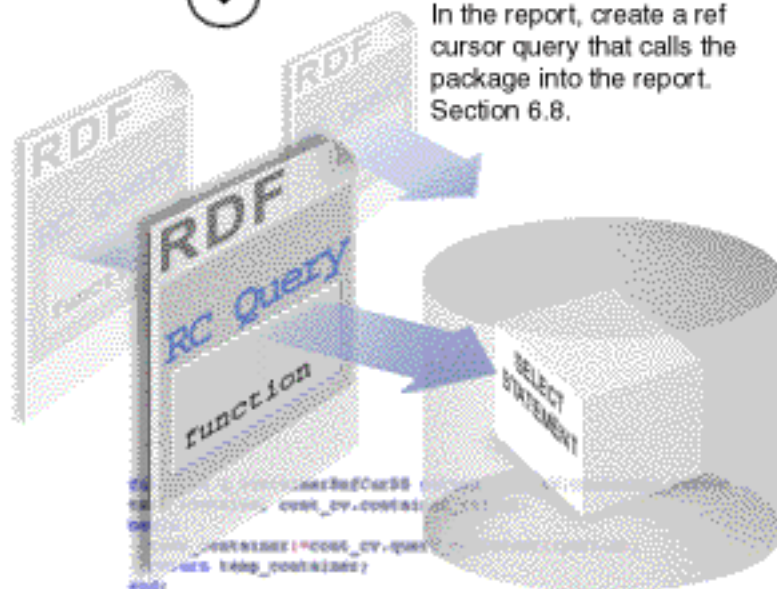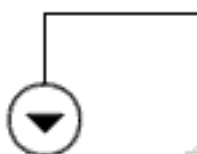
Create a report defining the ref cursor (type and SELECT statement in the .RDF file. Sections 6.1 and 6.2.

Move the SELECT statement from the .RDF into a package stored in the database. Section 6.7.

Reuse the package stored in the database in many RDFs.

In the report, create a ref cursor query that calls the package into the report. Section 6.8.

The `ref.rdf` file contains the report you will create after finishing the tasks in this chapter. You may want to refer to this file while you are working. In addition, the `port_container.pll` is the library file that is associated with `ref.rdf`. These files are located in your `ORACLE_HOME\TOOLS\DOC60\US\RBBR60` directory.

Table 6–1   Features demonstrated in this Ref Cursor Query sample report

Feature	Location
Create package specs that define ref cursors.	Section 6.1, "Defining a ref cursor type"
Create ref cursor queries that will use the ref cursors.	Section 6.2, "Creating a ref cursor query"
Rename objects in the data model so that they have more meaningful names.	Section 6.3, "Refining the data model"
Create group-to-group data links between ref cursor queries to create relationships between them.	Section 6.4, "Creating links between ref cursor queries"
Create summaries that better describe the data.	Section 6.5, "Adding summary columns"
Use the Report Wizard to create a report layout.	Section 6.6, "Creating a layout"
Move the SELECT statements used by the ref cursor queries from the report and into packages that define the ref cursor types.	Section 6.7, "Moving the SELECT statement into a package"
Move the packages into a PL/SQL library so that other reports can share the code.	Section 6.8, "Moving the packages into a library"

To get started, open Report Builder. If the Welcome dialog box appears, click **Build a new report manually** and click **OK**. If not, choose **File**->**New**->**Report**.   Click **Build a new report manually**, and click **OK**.

At some point before you generate the report, you will need to log into the database. Choose **File**->**Connect** to connect to the database. Enter the appropriate log on information. See Section 1.3, "Obtaining database access before you start" for details.

6.1 Defining a ref cursor type

To create a ref cursor query, you first create a package spec that defines the ref cursor. Then you create a query that uses the ref cursor. The steps in this section will help you create package specs that define ref cursors.

1. **For online help on this task, choose Help->Report Builder Help Topics**
2. **On the Index page, type...**
    query, creating
3. **Then click Display to view help topic**...
    Creating a local query: Ref Cursor Query tool

1. In the Object Navigator, click the **Program Units** node under your UNTITLED report node.

2. Click to add a program unit.

3. In the New Program Unit dialog box, type `concl_cv` as the name of the program unit.

4. Click **Package Spec,** and click **OK**.

5. Type the following package spec definition in the editor. The new code that you need to add is in bold:

```
PACKAGE concl_cv IS
      type conclass_rec is RECORD
       (ccap number,
        classid number,
        gwl number,
        twl number,
        htf number,
        hti number,
        notes varchar(50),
        teu number);
     type conclass_refcur is REF CURSOR return conclass_rec;
END;
```

This package spec does two things:

- Defines a record (conclass_rec) that describes the data you want to select from the database.

- Defines a ref cursor that returns the data in the format described by the record.

6. Click **Compile**.

7. If any compilation errors occur, check the code for syntax errors and recompile as needed.

8. Click **Close**.

9. Repeat steps 2 through 8 to create two more package specs with the following characteristics. New code is displayed in bold:

   ■ Package Spec Name: **cont_cv**

   ```
   PACKAGE cont_cv IS
       type container_rec is RECORD
          (title varchar(40),
           dockloc varchar(10),
           portid number,
           repno varchar(10),
           status number,
           key varchar(10),
           key2 varchar(10),
           classid2 number);
       type container_refcur is REF CURSOR return container_rec;
   END;
   ```

   ■ Package Spec Name: **port_cv**

   ```
   PACKAGE port_cv IS
     type portdesc_rec is RECORD
         (portid number,
          locname varchar(10));
     type portdesc_refcur is REF CURSOR return portdesc_rec;
   END;
   ```

10. Choose **File**->**Save As**. Save the report in the directory of your choice, and name the report `ref_61.rdf`.

   Tip: It is good practice when you are designing your report to save it frequently under a different file name. If you generate an error or if you don't like some of the changes you made, you easily can go back to the previously saved file and make revisions from that point.

6.2 Creating a ref cursor query

After creating package specs that define the ref cursors, you are ready to define the queries, as described in this section.

1. In the Object Navigator, double-click ▤ to go to the Data Model view.

2. Click 🔲 .

3. Click in the main area (canvas region) of the Data Model view.

4. In the Program Unit Editor, type in the bold code that follows to define the function. New code is displayed in bold:

    ```
    function q_portdescRefCurDS return port_cv.portdesc_refcur is
    temp_portdesc port_cv.portdesc_refcur;
    begin
      open temp_portdesc for select portid, locname from portdesc;
      return temp_portdesc;
    end;
    ```

5. Click **Compile**.

6. If any compilation errors occur, check the code for syntax errors and recompile as needed.

7. Click **Close**. The data objects display in the Data Model view.

8. In the Data Model view, click the ref cursor query object (QR_1), then choose **Tools**->**Property Palette**.

9. Under the **General Information** node, change the Name property to q_portdesc.

    Tip: It is usually a good idea to give objects meaningful names, particularly when building a report with many objects. Later when building the layout, it is helpful to have queries and groups with meaningful names.

10. Press ENTER or RETURN, or click any other field in the Property Palette to accept the change.

11. Close the Property Palette.

12. Repeat steps 2 through 10 to create two more queries with the following characteristics. Be sure to rename the queries using the Property Palette after creating them. New code is displayed in bold:

- Query name: **q_container**

```
function q_containerRefCurDS return cont_cv.container_refcur is
temp_container cont_cv.container_refcur;
begin
  open temp_container for select cl.title, c.DOCKLOC,
                                 c.PORTID, c.REPNO,
                                 c.STATUS, c.key,
                                 cl.key key2, c.classid classid2
                    from CONTAINERS c, conlabel cl
                    where cl.key=c.key
                    order by c.REPNO;
  return temp_container;
end;
```

- Query name: **q_conclass**

```
function q_conclassRefCurDS return concl_cv.conclass_refcur is
temp_concl concl_cv.conclass_refcur;
begin
  open temp_concl for select CCAP, CLASSID, GWL, TWL, HTF, HTI, NOTES,
TEU
                 from CONCLASS;
                 return temp_concl;
end;
```

13. The Data Model should look similar to the following figure:
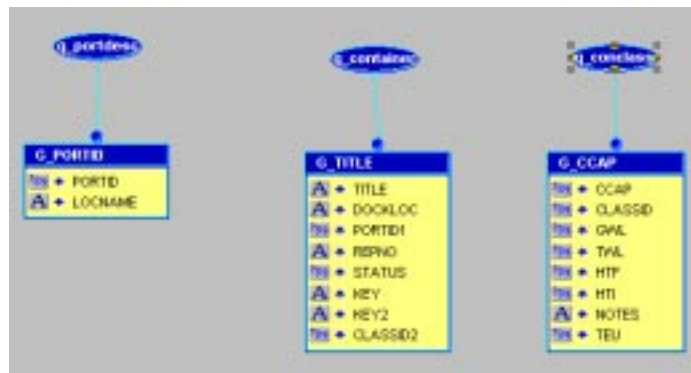
14. Save the report as `ref_62.rdf`.

6.3 Refining the data model

In this section you will rename some of the objects in the data model so that they have more meaningful names. You will also create a break group.

1. In the Data Model view, drag the title bar of the group G_TITLE down a few inches to move the entire group.

2. With G_TITLE still selected, choose **Tools**->**Property Palette**.

3. Under the **General Information** node, change the Name property to `G_container`.

4. Press ENTER or RETURN, or click any other field in the Property Palette to accept the change.

5. Close the Property Palette.

6. Click and drag the column named TITLE out of and above G_container to create a new break group, as shown in the following figure:

?	**1.** For online help on this task, choose Help->Report Builder Help Topics
	2. On the Index page, type... break group, creating
	3. Then click Display to view help topic... Creating a break group
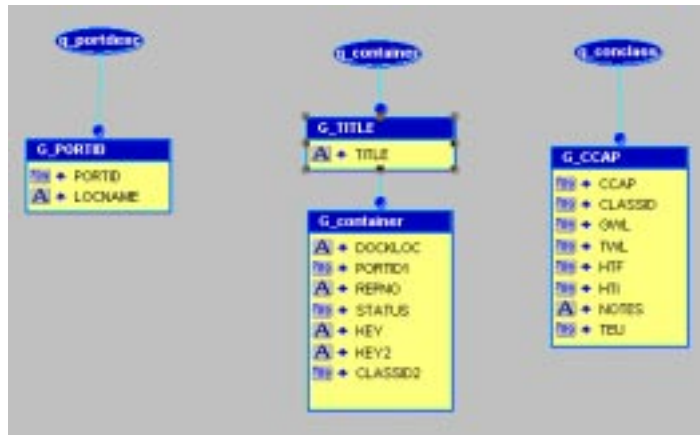
7. Click the title bar of the new group (probably named G_TITLE) that contains TITLE, and choose **Tools**->**Property Palette**.

8. Under the **General Information** node, change the Name property to `G_ conlabel.`

9. Press ENTER or RETURN, or click any other field in the Property Palette to accept the change.

10. Close the Property Palette.

11. Drag and drop KEY2 from G_container to G_conlabel. KEY2 displays in G_ conlabel and is removed from G_container.

12. Click the title bar of G_PORTID and choose **Tools**->**Property Palette**.

13. Change the Name property under the **General Information** node to `G_ portdesc.`

14. Press ENTER or RETURN, or click any other field in the Property Palette to accept the change.

15. Close the Property Palette.

16. Click the title bar of G_CCAP and choose **Tools**->**Property Palette**.

17. Under the **General Information** node, change the Name property to `G_conclass.`

18. Press ENTER or RETURN, or click any other field in the Property Palette to accept the change.

19. Close the Property Palette.

20. In the Data Model view, your data model should look similar to the following figure:
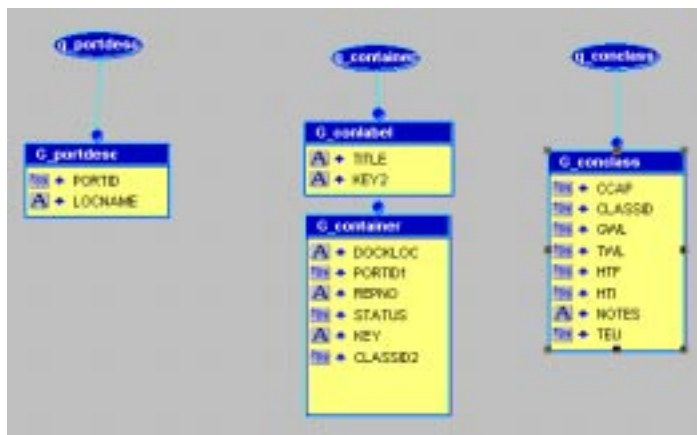
21. Save the report as `ref_63.rdf`.

6.4 Creating links between ref cursor queries

Currently, the queries that you have created are unrelated. To create relationships between them, you need to create group-to-group data links. The steps in this section will help you create the links.

?	**1.**	**For online help on this task, choose Help->Report Builder Help Topics**
	2.	**On the Index page, type...** data link, creating
	3.	**Then click Display to view help topic**... Creating a data link (Report Builder Help)

1. In the Data Model view, click [icon].

2. Click the title bar of G_portdesc, and drag to the title bar of G_container.

3. Double-click q_container. The Program Unit Editor displays.

4. Now you will append code to the WHERE clause of the SELECT statement to specify which columns are being used as primary and foreign keys.

   After `where cl.key=c.key`, add the following code:

   ```
   and :portid=c.PORTID
   ```

   Note that `:portid` is a bind variable referring to the PORTID column in G_ portdesc.

5. Click **Compile**.

6. If any compilation errors occur, check the code for syntax errors and recompile as needed.

7. Click **Close**.

8. Click ![icon].

9. Click the title bar of G_container and drag to the title bar of G_conclass.

10. Double-click q_conclass.

11. Now you will add a WHERE clause to the SELECT statement. Insert your cursor between `FROM CONCLASS` and the semicolon (;), and press ENTER or RETURN to create a new line.

12. Add the following code:

    ```
    where :classid2=conclass.classid
    ```

    Tip: Be sure that the semicolon `(;)` now follows the WHERE clause.

    Note that `:classid2` is a bind variable referring to the CLASSID2 column in G_ container.

13. Click **Compile**.

14. If any compilation errors occur, check the code for syntax errors and recompile as needed.

15. Click **Close**.

16. Your data model should look similar to the following figure:
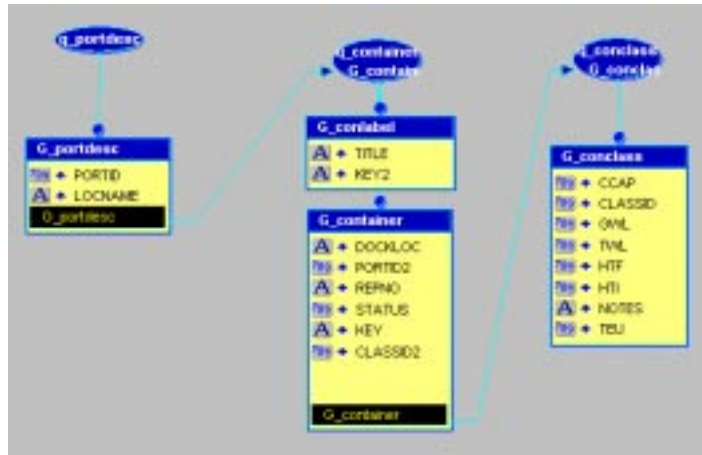
17. Save the report as `ref_64.rdf`.

6.5 Adding summary columns

Now that your queries are complete and linked, the steps in this section will help you to create columns to summarize the data.

1. **For online help on this task, choose Help->Report Builder Help Topics**

2. **On the Index page, type...**
summary column, creating

3. **Then click Display to view help topic**...
Creating a summary column

1. In the Data Model view, click ⊞.

2. Click inside the G_container group. This creates a new column, CS_1.

3. Double-click the newly created column to open the Property palette.

4. Under the **General Information** node, change the Name property to
`CS_classcount.`

5. Under the **Summary** node, change the following settings:

Table 6–2   Property settings for the Summary node

Property	Setting
Function	Count
Source	KEY
Reset At	G_container

6. Click any other field in the Property Palette to accept the changes.

7. Close the Property Palette.

You have now created a summary that counts up the number of containers. You will not use the summary in this report's layout, but you will use it as the source for other, more interesting summaries later.

8. Repeat steps 1 through 5 to create summaries with the following characteristics:

Table 6–3   Summary properties

Create in Group	Name	Function	Source	Reset At
G_conlabel	CS_conlabel_classcount	Sum	CS_classcount	G_conlabel
G_portdesc	CS_port_count	Sum	CS_conlabel_classcount	G_portdesc

You may not understand these summaries now. Their purpose will become clearer when you create the report layout and preview the live data.

Your data model should look similar to the following figure:
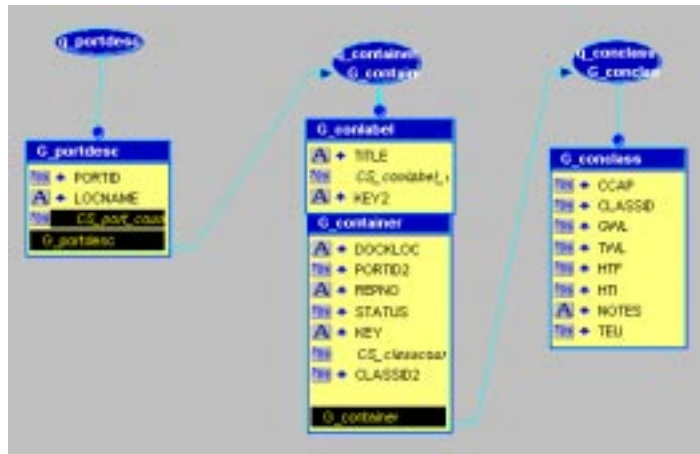
9. Save the report as `ref_65.rdf`.

6.6 Creating a layout

Now that you have a working data model, the steps in this section will help you to create a layout.

1. Click to bring up the Report Wizard.

2. On the Style page, type `Pacific Intermodal Leasing` as the Title.

3. Click **Group Above** as the report style.

4. Click **Next**.

5. On the Groups page, click G_conclass and click **Down**.

6. Repeat step 5 for:

   ■ G_container

   ■ G_conlabel

   ■ G_portdesc

7. Click **Next**.

8. On the Fields page, click LOCNAME, and click .

9. Repeat step 8 for:

   - TITLE
   - DOCKLOC
   - REPNO
   - CLASSID2
   - CCAP
   - GWL
   - TWL
   - HTF
   - HTI
   - NOTES
   - CS_conlabel_classcount
   - CS_port_count

10. Click **Next**.

11. On the Labels page, type in the labels and widths as shown in the following table:

Table 6–4   Labels and widths

Column	Label	Width
LOCNAME	Port of:	15
TITLE	Containers	20
DOCKLOC	Location	10
REPNO	ID	10
CLASSID2	Class	9
CCAP	Cu capy	9
GWL	Gross wt	9
TWL	Tare wt	9
HTF	Htf	9
HTI	Hti	9
NOTES	Notes	15
CS_conlabel_classcount	Total available:	8
CS_port_count	Total available:	15

12. Click **Next**.

13. On the Template page, click **Predefined template**, and choose Cyan Grid Landscape.

14. Click **Finish**. The report automatically displays in the Live Previewer:

Port of: Oakland

15. Save the report as `ref_66.rdf`.

6.7 Moving the SELECT statement into a package

In your current report configuration, the SELECT statements used by the ref cursor queries reside within the report itself. In many cases, it is advantageous to have SELECT statements reside in the packages that define the ref cursor types. Then, you can simply reference the packages, rather than typing the same SELECT statement directly into every report that uses it. If you need to change the SELECT statement (for example, to modify or add clauses), you simply update it once in the package, rather than in every report that uses it.

The steps in this section will help you to move the SELECT statements to the packages that define the ref cursor types.

1. In the Object Navigator, click the **Program Units** node for your report.

2. Click [icon] to add a program unit.

3. In the New Program Unit dialog box, type `cont_cv` as the name of the program unit.

4. Click **Package Body,** and click **OK**.

5. Type the following code in the editor. New code is displayed in bold:

```
PACKAGE BODY cont_cv IS
function query_container (p_portid number) return container_refcur is
       tempcv_container cont_cv.container_refcur;
begin
open tempcv_container for select cl.title, c.DOCKLOC,
                                 c.PORTID, c.REPNO,
                                 c.STATUS, c.key,
                                 cl.key key2, c.classid classid2
                    from CONTAINERS c, conlabel cl
                    where cl.key=c.key
                    and p_portid=c.PORTID
                    order by c.REPNO;
return tempcv_container;
end;
END;
```

6. Click **Compile**.

7. If any compilation errors occur, check the code for syntax errors and recompile as needed.

8. Click **Close**.

9. Now that the function is defined, you must add it to the package spec so that it can be referenced. Other program units will know about the function in the package body only if it is described in the package spec.

   In the Object Navigator, double-click the **CONT_CV(Package Spec)** object.

10. In the Program Unit editor, type the following line above the END; statement:

    ```
    function query_container (p_portid number) return container_refcur;
    ```

11. Click **Close**.

12. Choose **Program**->**Compile**->**All**.

13. Click **OK** when done.

14. In the Object Navigator, double-click the **Q_CONTAINERREFCURDS** object under the **Program Units** object.

15. Edit the code to look as follows:

```
function q_containerRefCurDS return cont_cv.container_refcur is
temp_container cont_cv.container_refcur;
begin
  temp_container:=cont_cv.query_container (:portid);
  return temp_container;
end;
```

When you are done, all of the query's logic will reside in the function named query_container. From now on, when you change query_container, you will change this and any other queries that reference it.

16. Click **Compile**.

17. If any compilation errors occur, check the code for syntax errors and recompile as needed.

18. Click **Close**.

19. Double-click ![icon] to view the report in the Live Previewer.

20. Save the report as ref_67.rdf.

Optional Exercise:

Repeat steps 1 through 19 for the other two queries in the report.

6.8 Moving the packages into a library

If you have many reports that use these same ref cursor types and SELECT statements, you can move the program units that you created into a PL/SQL library stored in a file or the database, so that other reports can easily share the code. The steps in this section will help you to move the program units to a PL/SQL library.

1. In the Object Navigator, click the **PL/SQL Libraries** object.

2. Click ![icon] to add a new library.

3. Choose **File**->**Save As**.

4. Type PORT_CONTAINER as the Library.

5. Click File System.

6. Click **OK**.

7. Drag and drop the following program units from your report to the **Program Units** node under the newly created PORT_CONTAINER library:

   - CONCL_CV(Package Spec)

   - CONT_CV(Package Spec)

   - CONT_CV(Package Body)

   - PORT_CV(Package Spec)

8. Save PORT_CONTAINER.

9. If the Live Previewer is open, close it.

10. In the Object Navigator, under the **Program Units** node of your report, delete CONCL_CV(Package Spec), CONT_CV(Package Spec), CONT_CV(Package Body), and PORT_CV(Package Spec).

    Tip: If the Live Previewer is open when you delete the packages from the report, you may get some errors.

11. Click the **Attached Libraries** node for your report.

12. Click [icon] to add a new attached library.

13. In the Attach Library dialog box, click File System.

14. Click **Browse** to find the PORT_CONTAINER library. It will have a .PLL file extension. After you have found and selected PORT_CONTAINER, click **Open**.

15. Click **Attach**.

16. Choose **Program**->**Compile**->**All**.

17. Click **OK** to close the Compile window.

18. Double-click [icon] to view the report.

    Tip: If you get an error when you attempt to view the report, repeat steps 16 through 18.

19. Save the report as ref_68.rdf.

Optional Exercise:

Store the PL/SQL library in the database rather than in a file. Note that you will need "create" privileges on the database to complete this optional exercise.

6.9 Summary

Congratulations! You have finished the Ref Cursor Query sample report. You now know how to:

- Create package specs that define ref cursors.

- Create ref cursor queries.

- Create data links between ref cursor queries.

- Create summaries to describe data.

- Create a report layout.

- Move SELECT statements into packages.

- Move packages into a PL/SQL library.

For more information about using ref cursors, see the online help:

1. **For online help on this topic, choose Help->Report Builder Help Topics**
2. **On the Index page, type...**
   ref cursor, about
3. **Then click Display to view help topic**...
   About ref cursor queries

7

Building a Report Using Express Data

The report described in this chapter is designed to help you learn more about the Report Builder features for Express data. You will build an Express report that summarizes the yearly projected and actual sales for each region and sales channel in a product division.

To build this report, you will use the Report Wizard to create the initial data model and report layout. You will make refinements to the data model and to the Express query. Finally, you will enhance the look of the report in the Layout Model view and Live Previewer.

About Express   Express delivers on-line analytical processing (OLAP) using a multidimensional data model. This model is optimized for the analysis of trends or patterns of intersecting corporate data — such as sales, marketing, or financial variables.

The figure on the next page illustrates the 1997 Sales report that you will build. Think of the data you wish to extract as being contained in the volume of a cube. Each side of the cube is a list of variable data contained in a category (i.e., Product). This category and its list of values together is called a dimension. You will select portions of each dimension and analyze them for their interaction with other dimensions. This analysis is called a measure.

An example measure for a sales analysis might select data from dimensions for time, product, geographic division, and channel. With Express, you can create a query to report on information that is as broad (e.g., yearly direct and indirect sales for products sold everywhere) or as narrow (e.g., monthly direct sales for all televisions sold in California) as you like.

Table 7–1, "Features demonstrated in this sample report of Express data" describes the steps you will take to create this report.

Time dimension selected by 1997 yearly sales.

Product dimensions selected by divisions.

1997 Sales Report

dimension: TIME

dimension: PRODUCT

Product: Accessory Division

Channel	All Channels			Direct			Indirect	
Region	Projected Sales	Actual Sales	Increase	Projected Sales	Actual Sales	Increase	Projected Sales	Actual
Areas in the Americas	$385,203.00	$550,266.00	43%	$253,300.00	$253,300.00	0%	$131,902.00	$296,9
Asia	$265,383.00	$381,005.00	44%	$172,989.00	$172,989.00	0%	$92,394.00	$208,0
Australia	$87,683.80	$125,916.00	44%	$57,132.20	$57,132.20	0%	$30,551.60	$68,7
Europe	$607,774.00	$866,423.00	43%	$401,087.00	$401,087.00	0%	$206,687.00	$465,
Totals	$1,346,043.80	$1,923,610.00		$884,508.20	$884,508.20		$461,531.60	

Product: Audio Division

Channel	All Chan					
Region	Projected Sales	Actual				
	$5,499,200.00	$7,905				
	$3,088,620.00	$4,461				
	$1,539,260.00	$2,225				
	$7,315,500.00	$10,423				
	$17,442,580.00	$25,016				

Geographic dimension selected by regions/continents.

Channel dimension selected by all channels.

Projected and actual Sales measures reported by dimension values selected.

dimension: REGION

dimension: CHANNEL

SALES

PRODUCT

CHANNEL

Region

measure:

1997 Sales

1998 sales

1996 sales

The `xprs.rdf` file contains the report that you will create after finishing the tasks in this chapter. You may want to refer to this file while you are working. This file is located in your `ORACLE _HOME\TOOLS\DOC60\US\RBBR60` directory.

Table 7–1   Features demonstrated in this sample report of Express data

Feature	Location
Use the Report Wizard to define the Express query and create a first draft of the report.	Section 7.1, "Creating an Express report with the Report Wizard"
Streamline the Express query by specifying dimension values.	Section 7.2, "Refining the Express query"
Add summary and calculated totals using the Data Model view.	Section 7.3, "Adding summary columns and custom measures to your data model"
Add summary and calculated totals to the report layout. Enhance the look of the report.	Section 7.4, "Enhancing the report layout"

Before you start building this Express report, you must have already configured Report Builder to run with Express Server, R6.2 and Oracle8 Server for Windows NT with Object Option, R8.0.5, or later. Refer to the *Getting Started* manual for more information on how to do this.

To get started, open Report Builder. If the Welcome dialog box appears, click **Use the Report Wizard** and click **OK**. If not, choose **File**->**New**->**Report**. Click **Use the Report Wizard** and click **OK**.

At some point before you generate the report you will need to log on to the Oracle8 database. Choose **File**->**Connect** to connect to the database. Enter the appropriate logon information. See Section 1.3, "Obtaining database access before you start" for details.

In addition, you will at some point also need to connect to Express Server. Choose **File**->**Express**

7.1 Creating an Express report with the Report Wizard

The Report Wizard is a great way to start building a report. The Report Wizard alone may give you an Express report that satisfies your requirements. If it doesn't, you can use the Data Model view, the Live Previewer, and the Layout Model view to further refine your report. For this report, you will start with the Report Wizard. The steps in this section will help you to create the initial report.

?	1. **For online help on this task, choose Help->Report Builder Help Topics**
	2. **On the Index page, type...** report wizard, about
	3. **Then click Display to view help topic**... Report Wizard: Welcome page

The report that you create in this exercise will present the monthly regional and channel projected and actual sales for each product division. Your Express query will have two measures, and each measure will be dimensioned by product, time, geographic area, and channel.

1. If the Welcome page of the Report Wizard appears, click **Next**.

2. On the Style page, type `Sales Report` as the Title, and click **Matrix with Group** as the report style.

    Tip: If you are unsure about what to do on any page of the wizard, click **Help**.

3. Click **Next**.

4. On the Type page, click **Express query**, and click **Next**. If the Type page does not appear, ensure that you have properly configured the Report Builder to run with Express data.

5. On the Data page, click **Express Query**.

    Tip: If you haven't already connected to Express Server, the Connect dialog box appears. Choose the Express Server instance that you want to access. Click **OK**.

6. In the Express Query dialog box, click **Attach Database** to choose the path and name of the database that you want to attach to your session.

7. In the Attach Database dialog box, select the directory labeled /oec62/. Select xademo.db. This is the sample database that is provided with Express Server.

8. Click **Open** to attach the database to your session.

9. In the Express Query dialog box, CTRL-click to select Sales and Projected Sales from the Available Measures list.

10. Click [>] to move Sales and Projected Sales to the Selected Measures list box. The Express Query dialog will look similar to the one below:

11. Click **OK** to accept the Express query selections. You will return to the dialog box in a later step to refine the dimension values that are associated with the Sales and Projected Sales measures.

12. On the Data page, click **Next**.

    Tip: If you haven't already connected to an Oracle8 database, the Connect dialog box appears. Enter a User Name, Password, and Database. Click **OK**.

13. On the Groups page, select PRODUCT in the Available Fields list box and click [>] to move this field to the Matrix Group Fields list box.

14. Repeat this step for TIME so that the Matrix Group Fields box appears as follows:
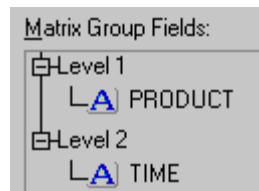
15. Click **Next**.

16. On the Rows page, click GEOG_AREA.

17. Click [>].

18. Click **Next**.

19. On the Columns page, click CHANNEL in the Available Fields list box.

20. Click [>].

21. Click **Next**.

22. On the Cells page, select PROJECTED SALES in the Available Fields list box and click [>] to move this field to the Matrix Cell Fields list box.

23. Repeat this step for SALES.

24. On the Totals page, click **Next**. You will add summary totals in a later step.

25. On the Labels page, change the following labels and widths:

Table 7–2 Labels

Field	Label	Width
SALES	Actual Sales	7
PROJECTED_SALES	Projected Sales	7
GEOG_AREA	Region	10
PRODUCT	Product:	10
TIME	Time:	10
CHANNEL	Channel	7

Tip: You will change the width of labels at this point because in a later step you will add a new layout column. This will cause columns to wrap to the next page at their current default width of 10 points each.

26. On the Template page, click **Predefined template** if it is not already selected, and click **Cyan Grid Landscape** in the list box.

27. Click **Finish**. The report output automatically displays in the Live Previewer and should look similar to the following figure.

Sales Report

Product: All Products

Time January 1997

	Channel All Channels		Direct		Indirect	
Region	Projected Sales	Actual Sales	Projected Sales	Actual Sales	Projected Sales	Actual Sales
Regions of the World	5062700	5769580	4068760	4068760	5194020	4700840
Areas in the Americas	2768420	2620110	1206540	1206540	1561880	1413570
Australia	782334	740387	340566	340566	441768	399821
Europe	3982740	3773570	1779640	1779640	2203900	1993730
Asia	1729280	1635620	741808	741808	987477	893714

Time February 1997

	Channel All Channels		Direct		Indirect	
Region	Projected Sales	Actual Sales	Projected Sales	Actual Sales	Projected Sales	Actual Sales
Regions of the World	4651570	5020240	4091390	4091390	5560180	4728850
Areas in the Americas	2906480	2654540	1221440	1221440	1685040	1433100
Australia	831751	799259	346904	346904	484846	412355
Europe	4154330	3800860	1788890	1788890	2365450	2011760
Asia	1759010	1606780	734164	734164	1024850	871616

28. Choose **File**->**Save As**. Save the report in the directory of your choice, and name the report `xprs_710.rdf`.

Tip: It is good practice when you are designing your report to save it frequently under a different file name. If you generate an error or if you don't like some of the changes that you made, you easily can go back to the previously saved file and make revisions from that point.

7.2 Refining the Express query

The steps in this section will help you refine the Express query. So far you have developed a useful report that shows the monthly projected and actual sales for each region and channel in a product category. But you are really interested in the yearly projected and actual sales results for each channel and region in a product division. You can achieve this by restricting the dimension values that you want to view.

?	**1. For online help on this task, choose Help->Report Builder Help Topics**
	2. On the Index page, type... selecting data
	3. In the Topics Found dialog box, select... selecting data.
	4. Then click Display to view help topic... Selecting data

In this exercise, you will specify the following dimension values in the Express Query dialog box:

- projected and actual sales for 1997

- geographic regions, such as Asia and the Americas

- product divisions, such as the Accessory and Audio division

1. In the Live Previewer, choose **Tools**->**Report Wizard**.

2. On the Data page, click **Express Query**.

3. In the Express Query dialog box, click **Selector**.

4. In the Selector dialog box, click **Time Period** from the Dimensions option.

5. Click [List icon] to select the List tool from the toolbar.

6. In the List dialog box, choose 1997 from the Available Time Periods list box.

7. Click **Select**. Notice that 1997 replaces the previous selections.

8. Click **OK**.

9. In the Selector dialog box, click **Geographical Area** from the Dimensions option.

10. Click [Level icon] to select the Level tool from the toolbar.

11. In the Select by Level dialog box, choose Continents/Regions in the At level(s) list box.

12. Click **OK**.

13. In the Selector dialog box, click **Product** from the Dimensions option.

14. Click .

15. In the Select by Level dialog box, choose Divisions in the At level(s) list box.

16. Click **OK**.

17. In the Selector dialog box, click **OK**.

18. In the Express Query dialog box, click **OK**.

19. On the Groups page, click TIME in the Matrix Groups Fields list box. Note that using TIME as a break group is no longer necessary since the Express query will retrieve only aggregate data for 1997.

20. Click . PRODUCT should be the only dimension that is listed in the Matrix Group Fields list box.

21. On the Style page, change the title to `1997 Sales Report`.

22. Click **Finish**. Your report should look similar to the following figure:

1997 Sales Report

Product: Audio Division

	Channel	All Channels		Direct		Indirect	
Region		Projected Sales	Actual Sales	Projected Sales	Actual Sales	Projected Sales	Actual
Areas in the Americas		5499200	7905060	3627530	3627530	1871670	427753
Australia		1539260	2225800	1005160	1005160	534098	122063
Europe		7315500	10423400	4897670	4897670	2417830	552573
Asia		3088620	4461760	2020370	2020370	1068250	244139

Product: Video Division

	Channel	All Channels		Direct		Indirect	
Region		Projected Sales	Actual Sales	Projected Sales	Actual Sales	Projected Sales	Actual
Areas in the Americas		3753910	5464250	2497840	2497840	1256070	296641
Australia		1107870	1615480	735078	735078	372791	380406

23. Save the report as `xprs_720.rdf`.

24. If you want, compare this report with the one that you previously saved as `xprs_710.rdf`.

Notice the projected and actual sales. In the new report, each cell represents the yearly sales for a region and channel in a product division for 1997, while the previous report displays sales data for a region and channel in a product division for each month.

7.3 Adding summary columns and custom measures to your data model

The steps in this section will help your refine the data model to include summary totals for each channel in a product division. Additionally, you are curious about how accurately you predicted the actual sales. You can find this out by creating a *custom measure* that calculates the percent of sales above projected sales.

First, you will create the summary column using the Summary tool in the Data Model view.

Next, you will create the custom measure using the Custom Measure tool in the Express Query dialog box.

Before you begin, take a look at the data model:
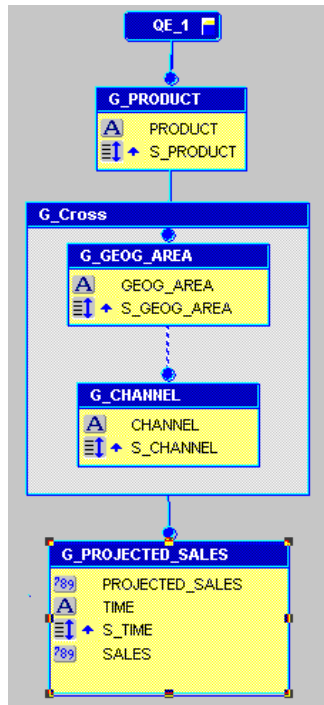
In the Data Model view you may notice additional columns, such as
S_GEOG_AREA, or S_CHANNEL. These are *dimension sorting* columns. They are
visible only in the data model and are the index used to sort dimensions by logical
order, as opposed to alpha-numeric order. If you move a column to a new group,
you must also move the associated sort column into that group as well.

	1.	**For online help on this task, choose Help->Report Builder Help Topics**
	2.	**On the Index page, type...** dimension sorting
	3.	**In the Topics Found dialog box, select...** new feature
	4.	**Then click Display to view help topic...** Dimension sorting

In a later step, you will sort dimension values using the **Sort** tool in the **Express
Query** dialog box.

7.3.1 Renaming data objects

1. In the Object Navigator, double-click ☰ under your report's node if you are not already viewing the Data Model view.

2. Click QE_1.

3. Select **Tools**->**Property Palette**.

   Tip: If you want to modify your Express query, click the Express Query property under the **Query** node.

4. Under the **General Information** node, change the Name property to QE_SALES.

5. Press **Enter** or click outside of the property to accept the value. Close the Property Palette.

6. Repeat steps 2 through 5 and change the Name property of the G_PROJECTED SALES group to G_SALES_DATA.

7. Save your report as xprs_731.rdf.

7.3.2 Creating summary columns

In this exercise, you will add two summary columns to the G_Cross group. Each summary column will calculate the projected and actual sales totals for each channel (all channels, direct, and indirect) in a product division.

1. In the Data Model view, click ⬛, then click the G_Cross group.

2. Select **Tools**->**Property Palette**.

3. Set the following properties for projected sales:

Table 7–3   Summary Column properties for Projected Sales

Node	Property	Value
General Information	Name	CS_PjSalesPerChannel
Column	Product Order	G_CHANNEL
Summary	Source	PROJECTED_SALES
	Reset At	G_CHANNEL

4. Press **Enter** or click outside of the property to accept the value. Close the Property Palette.

5. Repeat steps 1 through 4 to create a summary column for actual sales. Set the following properties:

Table 7–4   Summary Column properties for Actual Sales

Node	Property	Value
General Information	Name	CS_SalesPerChannel
Column	Product Order	G_CHANNEL
Summary	Source	SALES
	Reset At	G_CHANNEL

6. Save your report as `xprs_732.rdf`.

7.3.3 Creating a custom measure

In this exercise, you will create a custom measure that will calculate the percent of actual sales above projected sales for each region and in each product division. To do this you will use the Custom Measure tool within the Express Query dialog box to build the new measure called Increase.

1. In the Data Model view, double-click the **QE_Sales** query object to open the Express Query dialog box.

2. Click **Custom Measure** at the bottom of the Express Query dialog box.

3. Click **New...** to open the **Custom Measure — New** dialog box.

4. In the **Name** box type INCREASE.

5. In the **Description** box type Increase.

6. Click **Template** under **Operators** in the **Category** box. Notice a list of templates appears under **Choices**.

7. Select the left parenthesis and then click **Insert**. A left parenthesis appears in the **Expression** box.

8. Click **Measures** under **Express Objects** in the **Category** box.

9. Select F.SALES and then click **Insert**.

10. Use the following table to build the expression:

Table 7–5   Categories and Choices for custom measure Increase

Category	Sub-category	Choose	or Type:
Operators	Numeric	Minus Sign	-
Express Objects	Measures	F.WHATIF	F.WHATIF
Operators	Template	Right parenthesis	)
Operators	Numeric	Forward slash	/
Express Objects	Measures	F.WHATIF	F.WHATIF
Operators	Numeric	asterisk	*

11. Following the asterisk, type 100 in the **Expression** box.

12. When you are finished, your expression should look like the following figure:
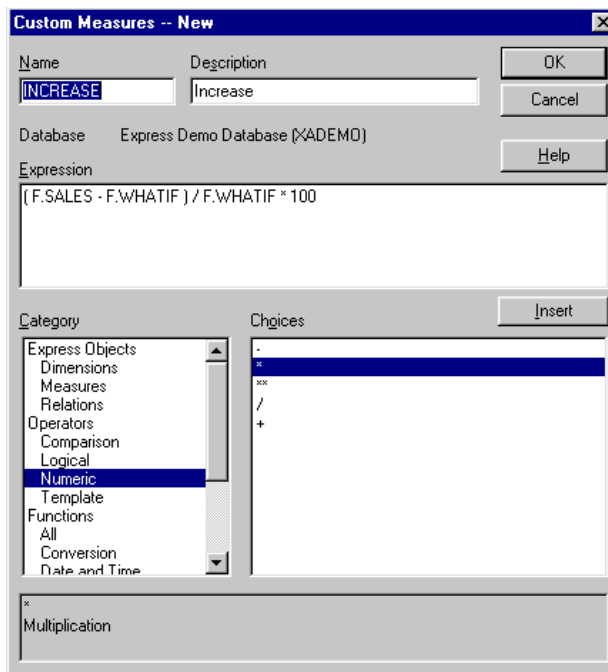
13. Click **OK**. Note that **Increase** is listed in the **Custom Measures** text box in the Custom Measures dialog box.

14. Click **Close**.

15. In the Express Query dialog box, scroll through the **Available Measures** box. **Increase** now appears alphabetically. Click **Increase** and then click [>]. **Increase** appears in the **Selected Measures** box, below Projected Sales and Sales.

16. Click **OK** to return to the Data Model. The group G_SALES_DATA now includes the custom measure you just created, INCREASE.

17. Click [8] to view the report in Live Previewer. Note that neither the summary columns nor the custom measure are available in the report. This occurred because you have not yet added them as fields to the report layout. You will do this in the next few exercises.

18. Save your report as `xprs_733.rdf`.

7.4 Enhancing the report layout

The steps in this section will show you how to re-arrange the report layout, add the summary and custom measure columns that you created in Section 7.2, "Refining the Express query", and format objects to further enhance the look of your report. You make these changes using the Layout Model view and Live Previewer.

7.4.1 Inserting summary fields in the report

1. In the Object Navigator, double-click [icon] under your report's node to display the Layout Model view.

2. Arrange your workspace to display the Object Navigator and the Layout Model view side-by-side. Expand the **Layout Model, Main Section, Body,** and the remaining nested nodes, such as the MG_PRODUCT_GRPFR and R_G_ PRODUCT nodes. Your workspace should look similar to the following figure:
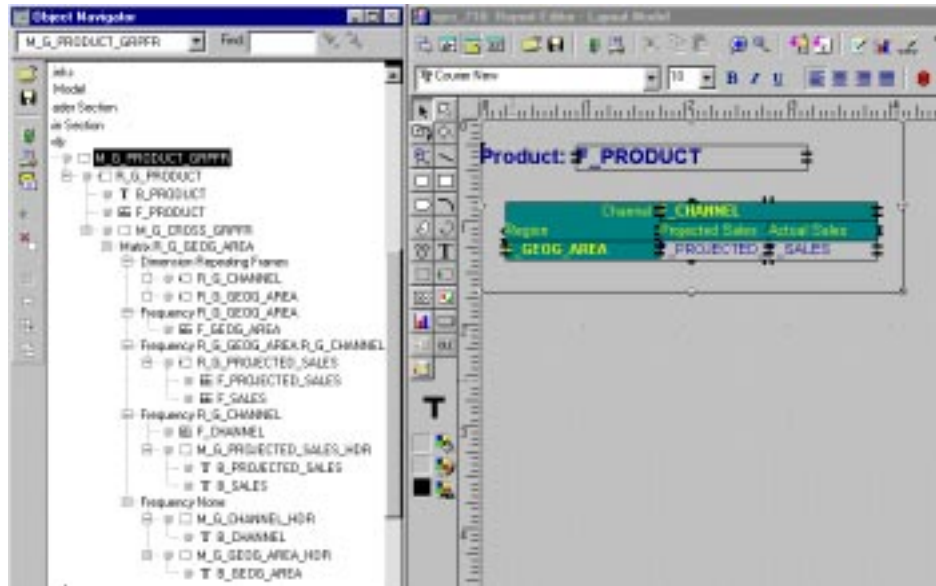
3. In the Object Navigator, type M_G_CROSS_GRPFR in the Find field to locate this object. Note that the search occurs as you type, so you will most likely be taken to the object before you finish typing the entire name. In the Layout Model view, the master cross-matrix frame is selected as illustrated in the following figure:
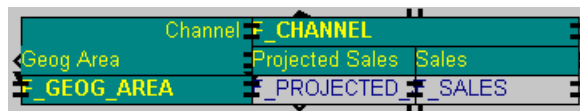
4. Extend the selected frame down about 1/4 inch as illustrated in the following figure:

5. Click F_CHANNEL in the Object Navigator.

6. Click to select the parent frame, R_G_CHANNEL, as illustrated in the following figure:

Tip: You may need to resize your Layout Model window to see the button, as it is located on the far right of the toolbar.

7. Extend the frame down about 1/4 inch as illustrated in the following figure:

8. Click .

9. Click and drag a rectangle in the area directly under the F_PROJECTED_SALES field to insert a field object as follows:
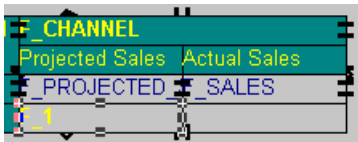
10. **Tools**->**Property Palette**.

11. Set the following properties:

Table 7–6   Projected Sales per Channel field properties

Node	Property	Value
General Information	Name	F_PjSalesPerChannel
Field	Source	CS_PjSalesPerChannel

12. Arrange this field and change the format as follows:

- Click to change fill color to light yellow.

- Click to change the text color to dark brown.

- Click to surround the field with dark brown border lines.

Tip: You can turn Snap to Grid on or off as desired to help you arrange objects in the layout. Select **View**->**Snap to Grid**. A check mark indicates that the option is on.

13. Repeat steps 8 through 11 except place the new object directly under F_SALES. Set the following properties:

Table 7–7   Sales per Channel field properties

Node	Property	Value
General Information	Name	F_SalesPerChannel
Field	Source	CS_SalesPerChannel

Tip: Note that the fill and text colors, as well as the border lines, match the field you just created, F_PjSalesPerChannel.

14. Click .

15. Click and drag a rectangle to fill the space directly under F_GEO_AREA.

16. Type Totals:.

17. Align the text object to center by clicking and make format changes to match the summary fields you created.

18. Click [8] to view the changes in the Live Previewer. Your report should look similar to the one displayed here:

1997 Sales |

Product: Audio Division

Channel	All Channels		Direct	
Region	Projected Sales	Actual Sales	Projected Sales	Actual Sales
Areas in the Americas	5499200	7905060	3627530	3627530
Australia	1539260	2225800	1005160	1005160
Europe	7315500	10423400	4897670	4897670
Asia	3088620	4461760	2020370	2020370
Totals:	17442580	25016020	11550730	11550730

19. Save the report as xprs_741.rdf.

7.4.2 Inserting the custom measure field into the report

You will add a column to display the custom measure you created in Section 7.3.3, "Creating a custom measure" by inserting a field object in the report layout.

To do this, you will add a new column to the layout of your report and then insert the field object into the column.

Tip: The new field object also must have the same frequency as F_PROJECTED_ SALES and F_SALES. If the field object is not at the same frequency, the report will fail to run.

1. In Live Previewer, click ▣ to display the Layout Model view. Ensure that the Layout Model view and Object Navigator are placed side-by-side.

2. In the Object Navigator, Ctrl-click M_G_PRODUCT_GRPFR and R_G_ PRODUCT.

Tip: M_G_PRODUCT_GRPFR is the underlying master group. It is hidden directly under R_G_PRODUCT. In the Layout Model view, it may look like only one group is selected when, in fact, both frames are selected.

3. In the Layout Model, expand the width of the selected frames to about 4 3/4 inches.

   Tip: Click ⊞ to turn Flex mode on, or click ⊞ to turn Flex mode off if you are unable to resize or move an object.

4. In the Object Navigator, click M_G_CROSS_GRPFR.

5. In the Layout Model, expand the width of the selected frame to about 4 3/4 inches. It should look similar to the figure below:
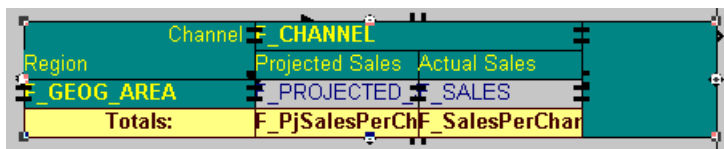
6. Click the F_GEOG_AREA object, then click 🗐 to select the parent frame, R_ G_GEOG_AREA:
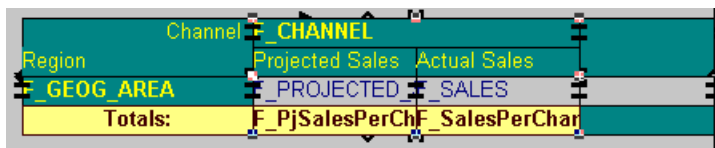
7. Expand the width of the selected frame to about 4 3/4 inches.

8. Click F_CHANNEL and click 🗐 to select the parent frame, R_G_CHANNEL.

9. Expand the width of the selected frame to about 4 3/4 inches:
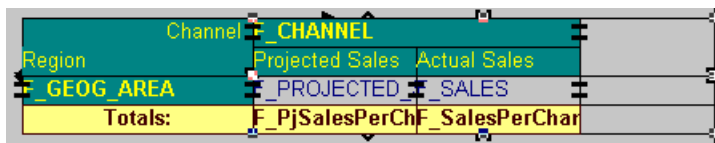
10. Click F_CHANNEL again and expand the width of the object to about 4 3/4 inches:
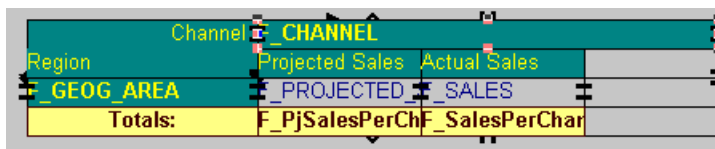
11. Click [abc].

12. Click and drag a box to the right of the F_SALES object. It should look similar to the figure below:

13. **Tools**->**Property Palette**.

14. Set the following properties:

Table 7–8   Increase field properties

Node	Property	Value
General Information	Name	F_Increase
Field	Source	INCREASE

15. Click [8] to run the report. You should see an error indicating that F_Increase references INCREASE at a frequency below its group. You are unable to run your report.

    To understand why this error occurred, look for F_INCREASE in the Object Navigator. It is probably placed at a higher level (and lower frequency) than R_G_PROJECTED_SALES. Recall that the column INCREASE calculates the percent of actual sales above projected sales. In order to run this report, F_INCREASE must have the same frequency as F_PROJECTED_SALES and F_SALES to reference the data it needs to calculate the value.

16. Click **OK** to close the error message.

17. Click [icon] to display the Layout Model view.

18. Select the field F_INCREASE and delete it.

19. Click F_SALES and then click [icon] to select the parent frame, R_G_PROJECTED_SALES.

20. Expand the width of the selected frame to about 4 3/4 inches:

21. Repeat steps 11 through 14 to create the field object. Your layout model should resemble the following figure:

22. With the F_Increase object selected, locate F_INCREASE in the Object Navigator to ensure that it has the same frequency as F_PROJECTED_SALES and F_SALES. The Object Navigator should look similar to the figure below:

23. Change the format of the F_Increase field as follows:

   - Click ![icon] to change fill color to light yellow.

   - Click ![icon] to change the text color to dark brown.

   - Click ![icon] to surround the field with dark brown border lines.

   - Click ![B] to make the text darker and more noticeable.

24. Click ![T].

25. Click and drag a rectangle above F_Increase to add the column title.

26. Type Increase.

27. Arrange the text object in the column and change the format to match the field to its left, Actual Sales.

   Tip: You may wish to turn off Snap to Grid on the View pull-down menu in order to extend the text object to cover the entire field. Make sure the text object is selected when you apply formatting, or it will not take effect.

   Your layout model should resemble the following image:

28. Click . The report should look similar to the figure below:
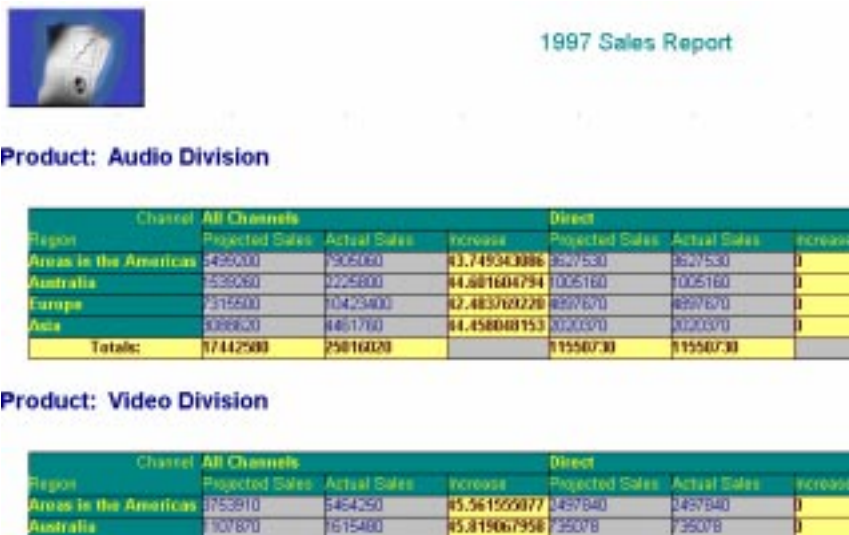
29. Save the report as xprs_742.rdf.

7.4.3 Sorting dimension values

Suppose you wish to change the sorting order of the distribution channels in your report. In this exercise, you will change the sorting criteria for the Channel dimension by using the Selector in the Express Query dialog box. Instead of listing the order by the default channel hierarchy (top to bottom), you will display data from the lowest to the highest channel in the hierarchy. Note: the hierarchy is predefined in the database to place "All Channels" first, with "Indirect" placed last.

1. In the Data Model view, double-click the query object, **QE_SALES**.

2. Click **Selector** in the **Express Query** dialog box.

3. In the **Dimensions** list, select **Distribution Channel** and then click [Sort icon].

4. In the **Sort Selection** dialog box, choose the following values:

Table 7–9   Sort Selections

Criteria	Selection
based on	hierarchy
in order	bottom to top
in hierarchy	Standard

5. Click **OK** in the **Sort Selection** dialog box.

6. Click **OK** in the **Selector** dialog box.

7. Click **OK** in the **Express Query** dialog box.

8. Click [icon]. The report should look similar to the figure below. Note that Indirect is first while All Channels is last in the order:
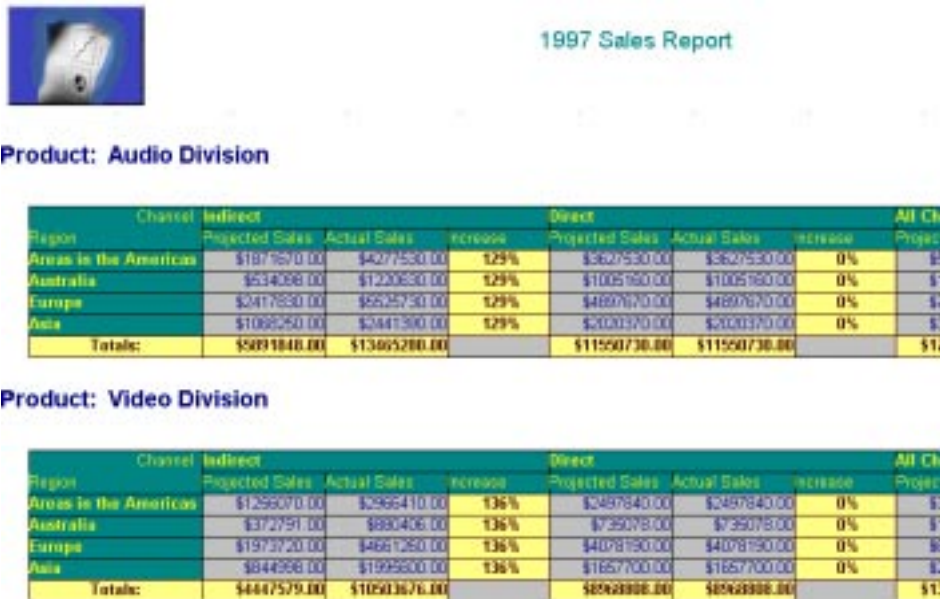
Product: Audio Division

Channel	Indirect			Direct	
Region	Projected Sales	Actual Sales	Increase	Projected Sales	Actual
Areas in the Americas	1871670	4277530	128.54110421	3627530	362753
Australia	534098	1220630	128.54111714	1005160	100516
Europe	2417830	5525730	128.54110026	4897670	489767
Asia	1068250	2441390	128.54111863	2020370	202037
Totals:	5891848	13465280		11550730	115507

9. Save the report as `xprs_743.rdf`.

7.4.4 Making format changes in Live Previewer

1. In Live Previewer, shift-click the columns under Projected Sales and Actual Sales, and the Projected Sales total and the Sales total fields.

2. Click ![icon] to change the format mask to currency.

3. Click ![icon] to right justify the values.

4. Click ![icon] twice to insert two decimal places

5. Click the column under Increase.

6. Click ![icon] to change the format mask to percentage.

7. Click ![icon] to center the values.

8. The report should now look similar to the figure below:

9. Save the report as `xprs_744.rdf`.

7.5 Summary

Congratulations! You have finished the Express sample report. You now know how to:

- Use the Report Wizard to define a data model and layout.

- Make changes to the Express query by restricting the dimension values.

- Use the Data Model view to add summary and custom measures columns to the report.

- Use the Layout Model view to insert fields and re-arrange the layout.

- Use the Live Previewer to enhance the look of the report.

For more information about Express, see the online help:

1.	**For online help on this topic, choose Help->Report Builder Help Topics**
2.	**On the Index page, type...** Express, working with
3.	**Then click Display to view help topic**... Working with Express

Index

ref cursor
   queries, about,   127
   queries, creating links between,   136
   query, creating,   132
   type, defining,   130
renaming Data Model objects,   28
repeating frame, adding formatting exception,   19
report
   header, HTML,   70
   output, modifying,   67
   sections, about,   93
   styles, viewing,   40
Report Builder
   starting,   9, 151
   what is,   1
Report Editor, description,   4
Report Wizard
   description,   2
   using,   10, 152
reports
   basics,   1
   conditional formatting,   7
   Express,   149
   ref cursors,   127
   sections,   93
   templates,   23
   web,   61
required software,   6
rollover, creating,   78
rows returned by query,   69
Runtime Parameter Form, designing,   105

S

sections, about,   93
SELECT statement, moving into a package,   143
shift-clicking objects,   13
software required,   6
specifying report distribution,   123
SQL Query tool, using,   27
starting Report Builder,   9, 151
summary
   columns, adding,   138
   section, creating,   80

T

template
   about,   23
   adding HTML header,   36
   adding to predefined template list,   39
   applying to a report,   43
   creating,   34
   default attributes,   45
   default attributes, overriding,   50
text conventions,   xii

U

using
   Data Wizard,   96
   Layout Model view,   110
   Report Wizard,   10, 152
   Web Wizard,   71

V

viewing
   report styles,   40
   reports,   4

W

web report,   61
Web Wizard
   description,   4
   using,   71
wizards, description,   2