

# **Cross-Tab Reports**

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# Learning Outcomes

- Creating a Cross-Tab Report
- Creating a Cross-Tab with Multiple Rows or Columns
- Applying a Formatting Style to the Cross-Tab
- Customizing the Cross-Tab Format
- Changing Background Colors
- Formatting Individual Cells
- Changing the Summary Operation
- Suppressing Rows, Columns or Totals

# Cross-Tab Reports

- The main advantage of using a cross-tab is that it can put multiple summaries together in a compact form.
- You can draw inferences from a single cross-tab on a single page, which displays separate summaries that are nonetheless related.
- Suppose you would like to see how the various product categories are contributing to total sales volume in Canada. A cross-tab report is ideal for presenting that information in a way that can be easily viewed and comprehended.

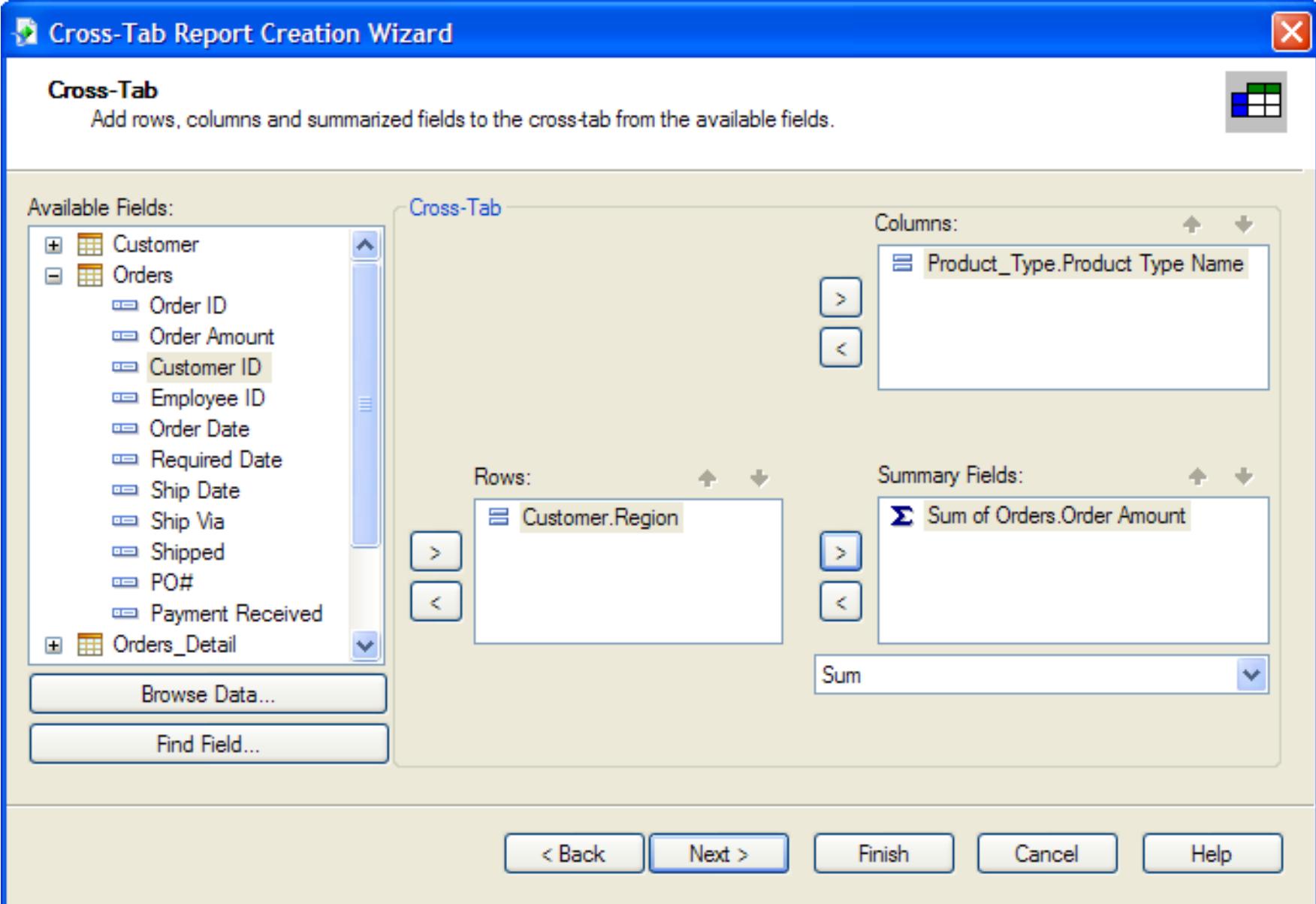
# Cross-Tab Reports

- From the Crystal Reports Start Page, select Cross-tab Report Wizard. The Cross-Tab Report Creation Wizard appears, showing available data sources.
- Select the Customer, Orders, Orders Detail, Product, and Product Type tables from the xtreme.mdb database.
- Move the tables to the Selected Tables pane.
- Click *Next* to display Link view. Link view shows the five tables connected to each other by the fields that they have in common.
- Click *Next* to display the Cross-tab view of the Cross-Tab Report Creation Wizard.

# Cross-Tab Reports

- In the Available Fields pane, expand the Customer node and select Region. Then click the right-facing arrow to the left of the Rows pane. Each row of the cross-tab now corresponds to a region (in this case, a province of Canada).
- In the Available Fields pane, expand the Product\_Type node, and drag Product Type Name to the Columns pane. Each column of the cross-tab now corresponds to a product type.
- We now add the specific summaries we want, expand the Orders node, drag Order Amount to the Summary Fields pane. The default value displays *Sum*, which is the type of summary you want for this report.

# Cross-Tab Reports

A screenshot of the 'Cross-Tab Report Creation Wizard' window. The window title is 'Cross-Tab Report Creation Wizard' and the sub-tab selected is 'Cross-Tab'. The interface is divided into several sections: 'Available Fields' on the left containing a tree view of fields from 'Customer', 'Orders', and 'Orders\_Detail' tables; 'Cross-Tab' in the center; 'Columns' on the right; 'Rows' below 'Columns'; 'Summary Fields' below 'Rows'; and buttons at the bottom for navigation and completion. The 'Customer' table is selected in the 'Available Fields' tree.

**Available Fields:**

- Customer
- Orders
  - Order ID
  - Order Amount
  - Customer ID
  - Employee ID
  - Order Date
  - Required Date
  - Ship Date
  - Ship Via
  - Shipped
  - PO#
  - Payment Received
- Orders\_Detail

**Cross-Tab**

**Columns:** Product\_Type.Product Type Name

**Rows:** Customer.Region

**Summary Fields:**  $\Sigma$  Sum of Orders.Order Amount

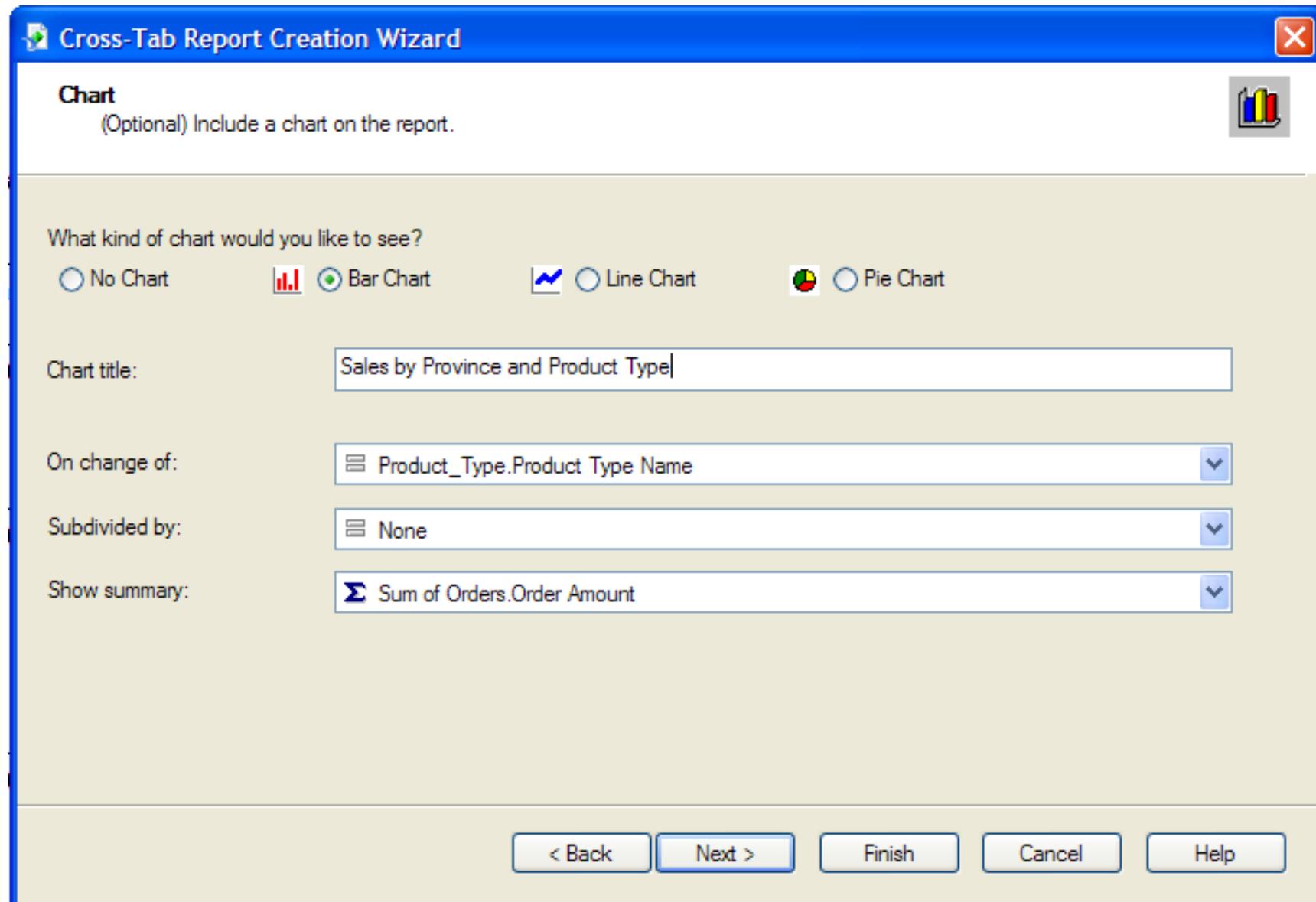
**Sum**

**Buttons:** < Back, Next >, Finish, Cancel, Help

# Cross-Tab Reports

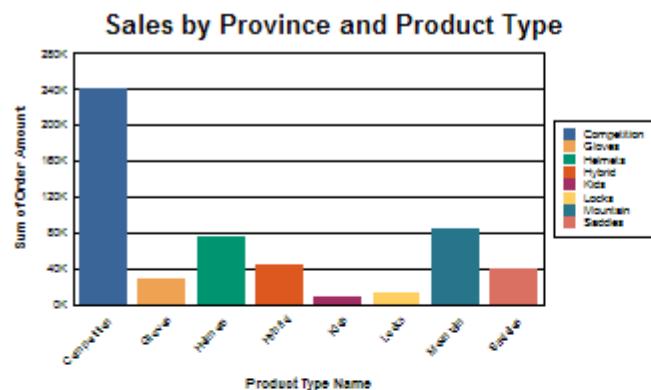
- Click *Next* to display Chart view. You can add a bar, line, or pie chart to the report, if you want.
- Select Bar Chart to see what it will give you. When you select a chart type, the wizard suggests a chart title that you can override if you want. It also asks that you verify several other assumptions it has made about what you want the chart to show.
- Change the Chart Title to Sales by Province and Product Type.
- Click *Next* to display Record Selection view. Select Customers only from Canada. Select Original in Grid Style View, then *Finish*.

# Cross-Tab Reports



# Cross-Tab Reports

- We need to format the Report as the Cross-Tab is too wide.
- Simply change the Orientation to Landscape and widen the Totals and Competition fields (whenever hashes are shown). Save your report as [12a.rpt](#) (208 records)



	Competition	Gloves	Helmets	Hybrid	Kids	Locks	Mountain	Saddles	Total
BC	\$230,190.63	\$27,859.89	\$74,728.67	\$43,726.32	\$6,979.00	\$13,203.90	\$83,432.92	\$38,741.09	\$520,862.42
MB	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$863.74	\$0.00	\$863.74
NS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$959.70	\$0.00	\$959.70
ON	\$8,819.55	\$0.00	\$0.00	\$0.00	\$274.35	\$0.00	\$0.00	\$0.00	\$9,093.90
PQ	\$1,799.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,799.70
Total	\$240,809.88	\$27,859.89	\$74,728.67	\$43,726.32	\$9,253.35	\$13,203.90	\$85,256.36	\$38,741.09	\$533,579.46

10/26/2009

# Cross-Tab Reports

- The previous chart should be of interest to the Sales Manager. It shows that competition bikes are outselling mountain bikes by a factor of almost 3 to 1.
- It also shows that Xtreme is deriving almost as much revenue from the sale of helmets as it is from the sale of mountain bikes.
- This kind of information can be a great help to decision-makers.
- Moving down the page to the actual cross-tab report, we can see that most sales are coming from British Columbia (BC). This information might also be important to the Sales Manager.

# Cross-Tab Reports

- We can also create individual cross-tab objects for each group in a report.
- For example, we can create a report similar to the preceding one, but with summaries for each province rather than one overall summary for all of Canada.

# Cross-Tab Reports

1. From the Crystal Reports Start Page, select Report Wizard. (rather than the Cross-Tab Wizard) to create the report.
2. Place the Customer, Orders, Orders Detail, Product, and Product Type tables in the Selected Tables pane.
3. Click Next to display Link view.
4. Click Next to display Fields view.

*Your report won't include any fields other than those in the cross-tabs, so there's no need to select any fields here.*

5. Click Next to display Template view.
6. Leave the default choice (No Template) intact; click Finish.

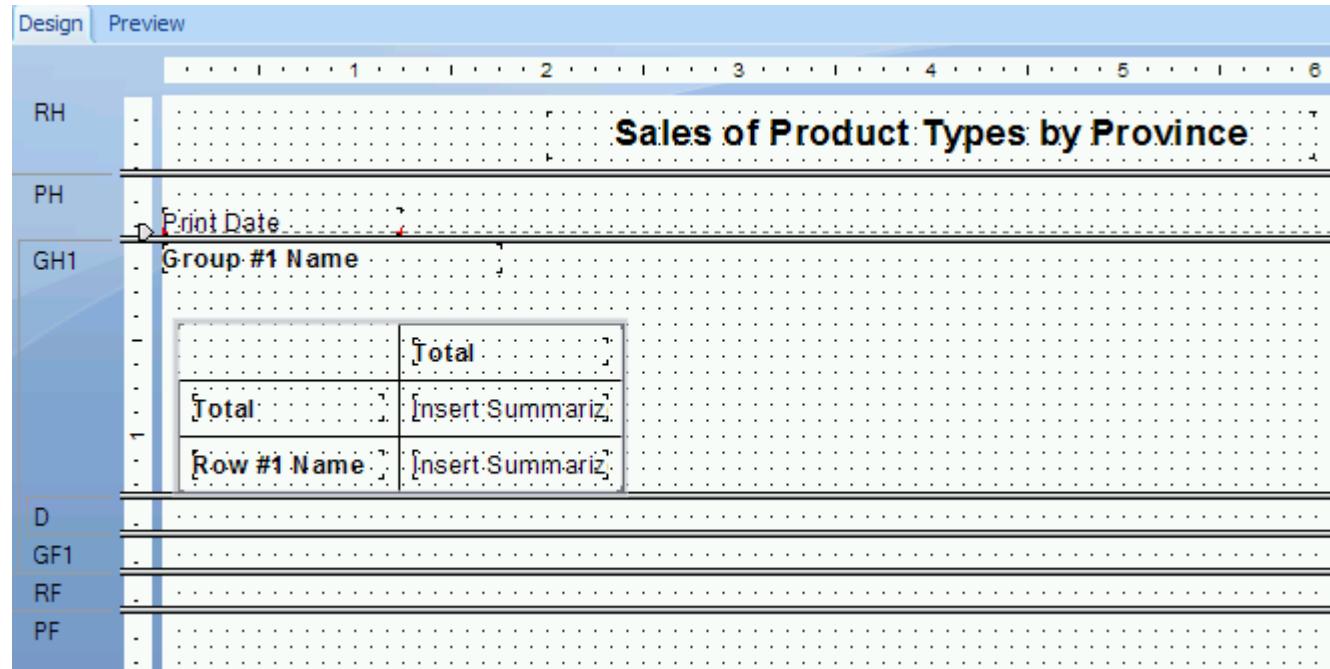
*This creates a report with nothing in it but a date and a page number.*

# Cross-Tab Reports

1. Switch to Design mode.
2. Expand the Print Date field in the Page Header to make it big enough to display a date in a long format.
3. Add a text field in the Report Header to hold the report title - Sales of Product Types by Province.
4. On the Expert Tools toolbar, click the Group Expert icon.
5. Expand the Customer node and then move Region over to the Group By pane. Click OK. GH1 and GF1 are created.
6. Drag the bottom boundary of the Group Header section down to make room for the cross-tab you will place there.

# Cross-Tab Reports

7. On the Insert Toolbar, click the Insert Cross-Tab icon. Drag the placement rectangle that appears into group header GH1 and release it with a mouse click.
8. Select Customer Name from Field Explorer and drag it onto the cross-tab object, and then place it at the lower left-hand corner. This makes Customer Name the item displayed in the rows of the cross-tab.



The screenshot shows the Microsoft Access 'Design' view for a report titled 'Sales of Product Types by Province'. The report structure is as follows:

- Group Header (GH1):** Contains a 'Group #1 Name' label and a cross-tab object.
- Row Header (RH):** Contains a 'Print Date' label.
- Detail (D):** Contains a 'Total' label.
- Group Footer (GF1):** Contains an 'Insert Summariz' label.
- Report Footer (RF):** Contains a 'Row #1 Name' label and an 'Insert Summariz' label.
- Page Footer (PF):** Contains an 'Insert Summariz' label.

The cross-tab object in the GH1 section has the following structure:

	Total
Total	[Insert Summariz]
Row #1 Name	[Insert Summariz]

# Cross-Tab Reports

9. In Field Explorer, drag Product Type Name from the Product Type table onto the cross-tab object, at the upper-right corner. This establishes the columns of the cross-tab.
10. Drag Order Amount from the Orders table in the Field Explorer into the Insert Summarized Field Here cells.

11. Switch to Preview.

**Sales of Product Types by Province**

26-October-2009  
Abu Dhabi

	Total	Helmets
Total	\$41.90	\$41.90
UAE Cycle	\$41.90	\$41.90

AL

	Total	Competition	Gloves	Helmets
Total	\$513,032.45	\$230,101.07	\$55,505.87	\$58,328.21
Benny - The Sp	\$101,917.88	\$27,877.41	\$4,433.36	\$18,471.61

# Cross-Tab Reports

Now, we only want Canadian Customers, so we apply a Selection on Country equal to Canada.

Next, refresh the data (actually it doesn't make any difference because the database hasn't changed yet).

On the Insert Toolbar, click the Insert Cross-Tab icon. Drag the placement rectangle that appears into group header GH1 and release it with a mouse click.

8. Select Customer Name from Field Explorer and drag it onto the cross-tab object, and then place it at the lower left-hand corner. This makes Customer Name the item displayed in the rows of the cross-tab.
9. Now we Suppress (No Drill-Down) on all the D-Section and Change Orientation to Landscape and save as [12b.rpt](#)

# Cross-Tab Reports

Suppose you want your report to show the result of a calculation based on the data in the report. You can do this by creating a Calculated Member. For this example, suppose you want to display the totals of gloves and helmets combined, for all the customers in your report.

1. In the cross-tab, right-click the Gloves column header.
2. From the shortcut pop-up menu, choose Calculated Member.
3. From that submenu, choose Select “Gloves” as first value.

*A dialog box appears and tells you that you have just selected the first value for a predefined calculation.*

4. Click OK.
5. Right-click the Helmets column header.

# Cross-Tab Reports

6. From the shortcut menu, choose Calculated Member.
7. From that submenu, choose Sum of “Gloves” and “Helmets.”

*A dialog box appears telling you that you have just added a calculated row/column.*

8. Click OK.

*A new column appears in the cross-tab to the right of the Helmets column. It contains the sum of the values in the Gloves and the Helmets columns.*

9. Save the new report as [12c.rpt](#)

# Cross-Tab Reports

The width and height of cross-tab cells are easy to change in Design mode. Merely select the cell you want to change and then drag its width or height handle in the direction you want. If you drag a width handle, all the cells in that column are changed along with the cell you're dragging. If you drag a height handle, all the cells in the same row are changed in the same way. This retains size consistency across columns and rows.

You can apply formatting to an entire cross-tab object by right-clicking the blank area at the top-left corner of the object and choosing Format Cross-Tab from the menu that pops up. You can specify various attributes such as Read-Only and Lock Position and Size. By switching to the Border tab, you can also specify refinements such as border lines, drop shadows, and foreground and background colors. From the Hyperlink tab, you can associate your cross-tab with a Web site, an e-mail address, or a disk file.

# Cross-Tab Reports

To format an individual field, right-click it and choose Format Field. This displays a version of the Format Editor tailored to the data type of the field you're formatting. For example, a currency field displays font options and currency format options in addition to the Common, Border, and Hyperlink options that appear when you're formatting an entire cross-tab. You can give multiple cross-tab cells the same formatting by selecting them simultaneously by Shift+clicking, and then applying formatting in the same way you would for a single cell.

Sometimes the cross-tab objects you create might contain empty rows or columns because no data is available to fill them. For readability, you might want to suppress these empty rows and columns. To do so, right-click the blank area in the upper-left corner of the cross-tab object and choose Cross-Tab Expert. One of the tabs for this Expert is Customize Style.

# Cross-Tab Reports

Commonly, a cross-tab object is wider or longer than the specified page size. Crystal Reports automatically formats the report on as many extra (*extension*) pages as needed. Column headings are repeated on all such extra pages.

By default, row labels are not repeated. If you want row labels to be repeated on extension pages, select the Repeat Row Labels option on the Customize Style tab of Cross-Tab Expert

# Cross-Tab Reports

## Tasks

Reproduce a Cross-tab Report like this one.

Database is Northwind 2008, Tables are  
Categories, Employees, Orders, Order Details  
and Products.

Modify the Report above to produce this one.

Modify the Report above to produce this one.

Modify the Report above to produce this one.

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