

Creating a Crosstab

Overview

This tutorial will show you how to do the following:

- Summarize data in a grid format
- Create a crosstab report

Annual Sales

		Sales Month								
Date	State	1	2	3	4	5	6	7	8	9
AL	Sales of Above \$500			\$51,369.00		\$109,692.00		\$36,739.70		
	Average Above \$500			\$51,369.00		\$54,741.00		\$36,739.70		
	Count of Above \$500			1		2		1		
BC	Sales of Above \$500	\$17,517.00			\$7,389.00	\$754.00	\$5,965.00			
	Average Above \$500	\$17,517.00			\$7,389.00	\$754.00	\$4,977.50			
	Count of Above \$500	1			1	1	2			
CA	Sales of Above \$500		\$22,547.00	\$27,453.00				\$42,616.00		\$61,170
	Average Above \$500		\$11,423.00	\$13,711.95				\$21,308.00		\$31,170
	Count of Above \$500		2	2				2		1
Conn	Sales of Above \$500	\$5,597.00	\$16,262.00				\$0.00			\$72,889.90
	Average Above \$500	\$5,597.00	\$16,262.00				\$0.00			\$72,889.90
	Count of Above \$500	1	1				1			1
FL	Sales of Above \$500	\$12,736.00	\$26,630.00	\$124,695.00	\$16,041.00	\$1,153.00	\$26,140.00	\$10,712.00		
	Average Above \$500	\$12,736.00	\$12,116.33	\$62,347.50	\$8,020.50	\$1,016.50	\$11,716.67	\$5,366.00		
	Count of Above \$500	1	3	2	3	2	3	2		
GA	Sales of Above \$500		\$0.00	\$1,189.00	\$479.00		\$15,532.00			
	Average Above \$500		\$0.00	\$1,189.00	\$479.00		\$15,532.00			
	Count of Above \$500			1	1		1			
HI	Sales of Above \$500	\$17,477.35	\$0.00	\$3,962.00	\$7,592.00		\$22,174.00	\$13,945.00	\$10,115.00	
	Average Above \$500	\$17,477.35	\$0.00	\$3,962.00	\$7,592.00		\$22,174.00	\$13,945.00	\$10,115.00	
	Count of Above \$500	2	1	1	3		5	1	2	

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Create a New Application

Note: The crosstab component is available in the Professional and Enterprise editions only.

- 1 Select File | New Application from the Delphi menu. This will create a new project and a blank form.
- 2 Set the Form name to 'frmSaleCross'.
- 3 Select File | Save As from the Delphi menu and save the form under the name rbCross in the My RB Tutorials directory.
- 4 Select View | Project Manager from the main menu.
- 5 Right-click over the project name in the Project Manager (usually Project1.exe) and select the Save menu option.
- 6 Save the project under the name rbCrossProj in the My RB Tutorials directory.

Note: Save your work frequently to avoid losing changes should your computer unexpectedly lose power or crash.

Create a Query, DataSource, and DataPipeline Component

- 1 Select the BDE tab of the Delphi component palette.
- 2 Add a Query component to the form.

3 Configure the Query component:

DatabaseName	DBDEMOS
Name	qryOrder

SQL

```
SELECT AmountPaid, State,
EXTRACT (MONTH FROM SaleDate) AS
SaleMonth
FROM Customer, Orders
WHERE Orders.CustNo = Customer.CustNo
```

4 Double-click on the Active property in the Object Inspector to set it to True.**5** Add a DataSource component to the form.**6** Configure the DataSource component:

DataSet	qryOrder
Name	dsOrder

7 Select the RBuilder tab of the Delphi component palette.**8** Add a DBPipeline component to the form.**9** Configure the DBPipeline component:

DataSource	dsOrder
Name	plOrder

Create a Report**1** Add a Report component to the form.**2** Configure the Report component:

Name	rbOrder
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3 Double-click on the Report component to display the Report Designer.**4** Position the Report Designer so that the Object Inspector is also visible.**5** Place a crosstab component (from the Advanced toolbar) in the detail band.**6** Use the Edit toolbar to assign the crosstab to the plOrder data pipeline.**7** Select File | Page Setup. Access the Paper Size and set the orientation to Landscape. Click OK.**8** Right-click over the crosstab and select Configure. The Crosstab Designer will be displayed.**9** Select the SaleMonth field (at the bottom of the list) and drag it over the new row cell. Black, triangular indicators should show where the new cell will be created.**10** When these indicators appear to the left of the new row cell, release the mouse button.**11** Click OK.**12** Select File | Save from the Delphi main menu.**13** Preview. A blank page is displayed because no Value dimensions have been created for the crosstab.

Design the Crosstab

1 Return to the design workspace, right-click over the crosstab, and select Configure.

2 Drag the Amount Paid field over the new value cell. When the indicators appear, release the mouse button.

diagram check

		new column
SaleMonth	new row	Sum of AmountPaid 1000
		new value
Grand Total		1000

Note: The number 1000 represents the format of the calculated value. The Grand Total indicates that the last row of the crosstab will show the total Amount Paid for all months.

Add Additional Values to the Crosstab

1 Drag the Amount Paid field over the new value cell and release it.

2 Select the second Sum of Amount Paid value.

3 Locate the drop-down list box on the toolbar.

4 Select Average from the drop-down list.

5 Once again, drag the Amount Paid field over the new value cell and release it.

6 Select the second Sum of Amount Paid (the one below the average).

7 Select Count from the drop-down list.

diagram check

		new column
SaleMonth	new row	Sum of AmountPaid 1000
		Average AmountPaid 1000
		Count of AmountPaid 1000
		new value
Grand Total (Sum of AmountPaid)		1000
Grand Total (Average AmountPaid)		1000
Grand Total (Count of AmountPaid)		1000

8 Click OK.

9 Select File | Save from the Delphi main menu.

10 Preview. The crosstab includes new values.

Advance to the second page. The grand totals are on this page. The report tells us the sum, average, and count for the Amount Paid per month.

Set the Format of the Values

1 Access the Crosstab Designer.

2 Select the 1000 under Sum of Amount Paid.

3 Right-click and select Display Format. Select the first menu option with a dollar sign.

4 Select the 1000 under Average Amount Paid.

5 Right-click and select Display Format. Select the first menu option with a dollar sign.

Calculate Totals by State

- 1 Move the SaleMonth cell over the new column cell and release.
- 2 Drag State from the field list, place it over the new row cell, and release.

diagram check

		SaleMonth	Grand Total
		new column	
State	new row	Sum of AmountPaid \$1,000.00	\$1,000.00
		Average AmountPaid \$1,000.00	\$1,000.00
		Count of AmountPaid 1000	1000
		new value	
Grand Total (Sum of AmountPaid)		\$1,000.00	
Grand Total (Average AmountPaid)		\$1,000.00	
Grand Total (Count of AmountPaid)		1000	

- 3 Click OK.
- 4 Select File | Save from the Delphi main menu.
- 5 Preview. Select Whole Page on the preview toolbar. The crosstab shows us the sum, average, and count of the Amount Paid per month for each state. Notice that the months go across the top of the report instead of down the side. This is because SaleMonth is now a column dimension.

Lay Out the Header Band

- 1 Return to the design workspace and place a label in the upper left corner of the header band.
- 2 Set the caption to Monthly Sales by State.
- 3 Configure the label:

Font Name	Arial
Font Size	12
Font Style	Bold
Font Color	Black

- 4 Place a SystemVariable in the lower left corner of the footer band.
- 5 Set it to PrintDateTime.
- 6 Place another SystemVariable in the lower right corner of the footer band.
- 7 Set it to PageSetDesc.
- 8 Align the top of the SystemVariables.

Configure the SystemVariables:

Font Name	Arial
Font Size	8
Font Style	Regular
Font Color	Black

- 10 Select File | Save from the Delphi main menu.
- 11 Preview. Notice that the page number prints on each page.

Set Pagination

- 1 Right-click over the crosstab component and select Pagination. Notice that the default setting is Down then Across.
- 2 Select Across then Down.
- 3 Preview. The pages print across then down.

Use Repeated Captions

- 1 Right-click over the crosstab component.
- 2 Expand the Style menu option. Notice that the default setting is Standard.
- 3 Select Repeated Captions.
- 4 Preview and print all four pages of the crosstab. Notice how the repeating captions clarify the context of the crosstab.