

The Raiser's Edge™

Creating Custom Crystal Reports Tutorial

020812

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What Is In This Tutorial?



In the *Creating Custom Crystal Reports Tutorial*, you learn step-by-step instructions for the basics of planning and creating a custom Crystal report. You can also learn about the following.

- “Creating a Phone List” on page 22
- “Creating a Gift Detail Report” on page 42
- “Suppressing duplicate records in a report” on page 35
- “Sorting and grouping gifts” on page 63
- “Using the Select Records Expert in a report” on page 64
- “Setting the location for an existing Crystal report” on page 68
- “Want Additional Help For Crystal Reports?” on page 71

How Do I Use These Guides?

The Raiser’s Edge user guides contain examples, scenarios, procedures, graphics, and conceptual information. Side margins contain notes, tips, warnings, and space for you to write your own notes.

To find help quickly and easily, you can access the **Raiser’s Edge** documentation from several places.

User Guides. You can access PDF versions of the guides by selecting **Help, User Guides** from the shell menu bar or by clicking **Help** on the Raiser’s Edge bar in the program. You can also access the guides on our Web site at www.blackbaud.com. From the menu bar, select **Support, User Guides**.

In a PDF, page numbers in the Table of Contents, Index, and all cross-references are hyperlinks. For example, click the page number by any heading or procedure on a Table of Contents page to go directly to that page.

Help File. In addition to user guides, you can learn about **The Raiser’s Edge** by accessing the help file in the program. Select **Help, The Raiser’s Edge Help Topics** from the shell menu bar or press **F1** on your keyboard from anywhere in the program.

Narrow your search in the help file by enclosing your search in quotation marks on the Search tab. For example, instead of entering Load Defaults, enter “Load Defaults”. The help file searches for the complete phrase in quotes instead of individual words.

Creating Custom Crystal Reports Tutorial



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The Raiser's Edge Enterprise includes over 100 standard reports that generate the most commonly used information for development offices. These reports give you information to help you stay up-to-date with every aspect of your organization. You can easily analyze the giving trends of your constituents, evaluate the financial position of your organization, track all phases of your pledges, and generate demographic profiles.

Note: This tutorial is written for *Crystal Reports XI*. *Crystal Reports XI* is included with your **Raiser's Edge** installation package. For instructions about installing *Crystal Reports*, see the *Installation Guide*. If you have your own version of *Crystal Reports*, **The Raiser's Edge** is compatible with *Crystal Reports XI* or higher.

However, for unique reporting needs, you can use *Crystal Reports for Blackbaud* to create your own report designs, and populate them with your constituent data from **The Raiser's Edge**. You can create very simple reports, like a phone list, or complex reports, like a new phonathon form or custom receipts for your constituents. Once you create your report, you can save it with the data or simply save the design and reuse it with a different set of data.

Crystal Reports for Blackbaud is available in two ways. *Crystal Reports Standard* is bundled (free) with **The Raiser's Edge**. You can purchase additional licenses of *Crystal Reports Standard*. If your organization wants to report directly from your SQL Server database, you can purchase *Crystal Reports Professional*. For further information about *Crystal* purchasing options, please send an email to solutions@blackbaud.com.

This tutorial walks you through two basic reports to help you familiarize yourself, and get more comfortable working in *Crystal*. For more detailed information, refer to the *Crystal* help file.

Planning the Report

Note: For additional help with *Crystal Reports*, Blackbaud offers a custom report writing service to fit the needs of your reporting requirements. For more information or to obtain an estimate for your report template, call 1-800-443-9441 or send an email to solutions@blackbaud.com.

Before you create a custom report, you should consider *who* you want on your report, *what* information you want on the report, and *how* the report will look. Proper planning before you start designing your report will save you time, and help avoid mistakes. It is even a good idea to draw the report on paper first to make sure your design is clear.

Step:	1 WHO?	2 WHAT?	3 HOW?
Need to Know	Which records do you want to include?	Which fields do you want on the report?	How do you want the report to look?
Module	<i>Query</i>	<i>Export</i>	<i>Crystal Reports for Blackbaud</i>

You must have a group of records and an export file before you create a new report, but it is not always necessary to create a new query and export every time. For example, you want to create a report of your trustees' home and business phone numbers. You already have a query of your current trustees, so you do not need to generate a new one for this report.

The finished report will look similar to the one below.

<h2>Trustee Phone List</h2>		
Constituent Name	Home Phone	Business Phone
Mark D. Adamson	843-798-6698 madamson@sncn.net	843-498-5589 843-498-5589
George D. Finley	414-276-9162 414-276-9162	302-798-6110 302-658-1870
Phillip B. Keller	808-395-5587	808-734-2101
David B. Murphy	617-499-8814	617-357-6000
Harris F. Sadler	804-555-6325	804-791-5612
Anne C. Sinclair	804-555-6325 843-555-9548	804-342-1683 843-928-0019
Total Constituents	<input type="text" value="6"/>	

Creating an Export File

Before you design and create your report, you need to decide what kind of information you want to display. What fields do you need from *The Raiser's Edge* to generate the correct data on your report? Creating the export file is the first and most important step. Without the correct fields in your export, you will not be able to produce the results you want on your report.

When selecting the fields you need from *The Raiser's Edge*, always include any field you are undecided about. You do not have to include it in the report if you decide it is unnecessary, but once you are in *Crystal*, only fields you exported are available. If you decide you need another field, you will have to export your data again.

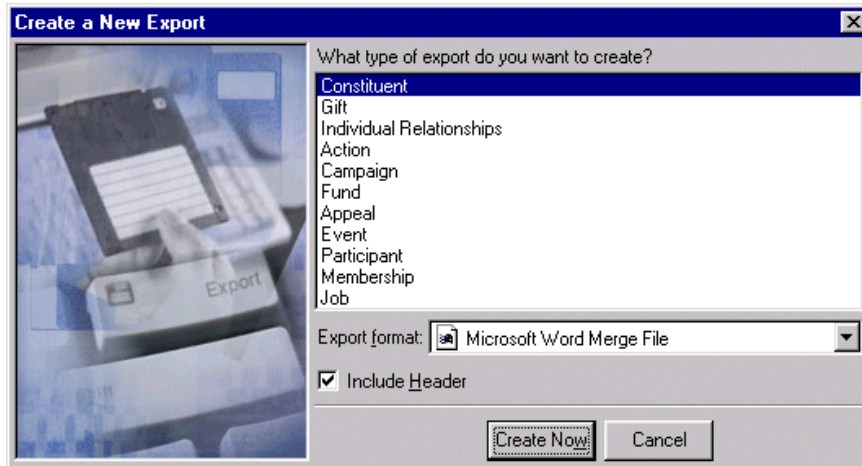
▶ Creating a new export file

Based on your Trustee query, create an export file with the fields **Name**, **Home Phone**, and **Business Phone**.

Scenario: Your Director of Development wants a list of all the current trustees and their home and business phone numbers, if available. Use your Trustee query to create an export file with the fields **Name**, **Home Phone**, and **Business Phone**. Design a custom Crystal report displaying the trustee names in alphabetical order, with a grand total at the bottom.

1. On the *Raiser's Edge* bar, click **Export**. The Export page appears.

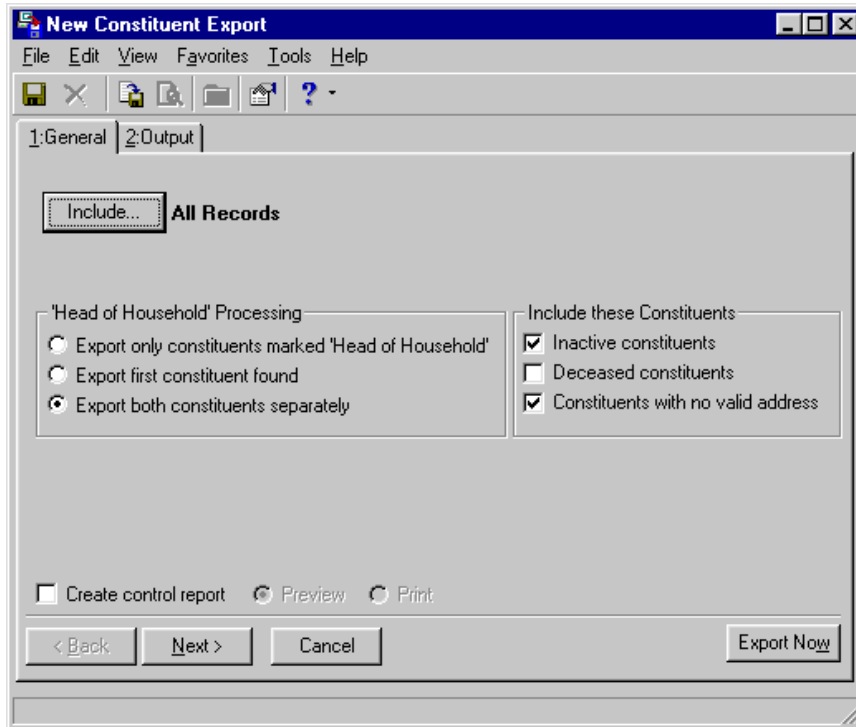
2. On the action bar, click **New Export**. The Create a New Export screen appears.



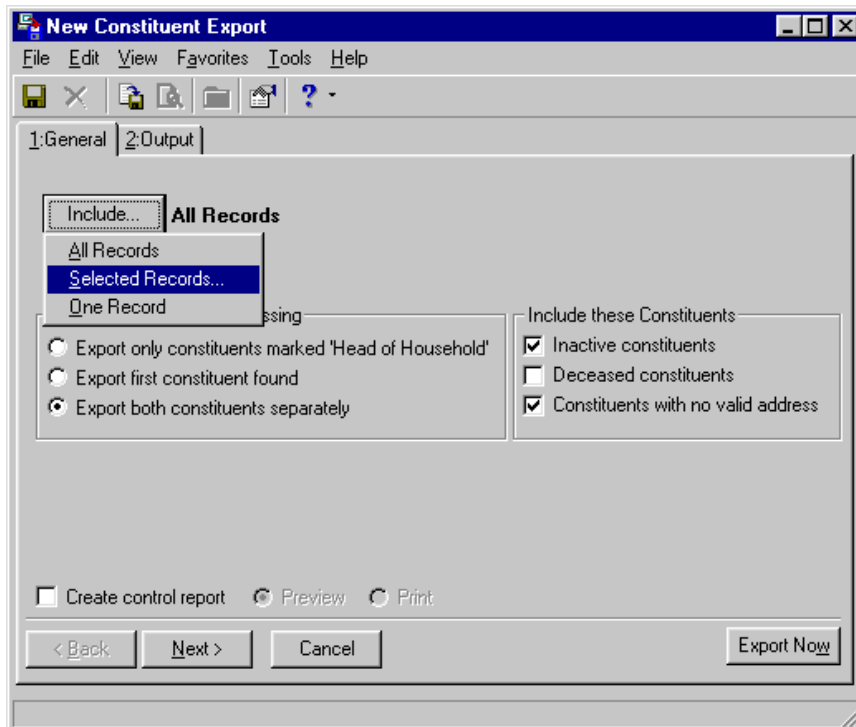
3. In the **What type of export do you want to create** box, select “Constituent” because you want to gather your trustee records.
4. In the **Export format** field, select “Blackbaud Report Writer Database (MDB)”. Selecting an .MDB file type tells the program to format the data in a way Crystal can read.



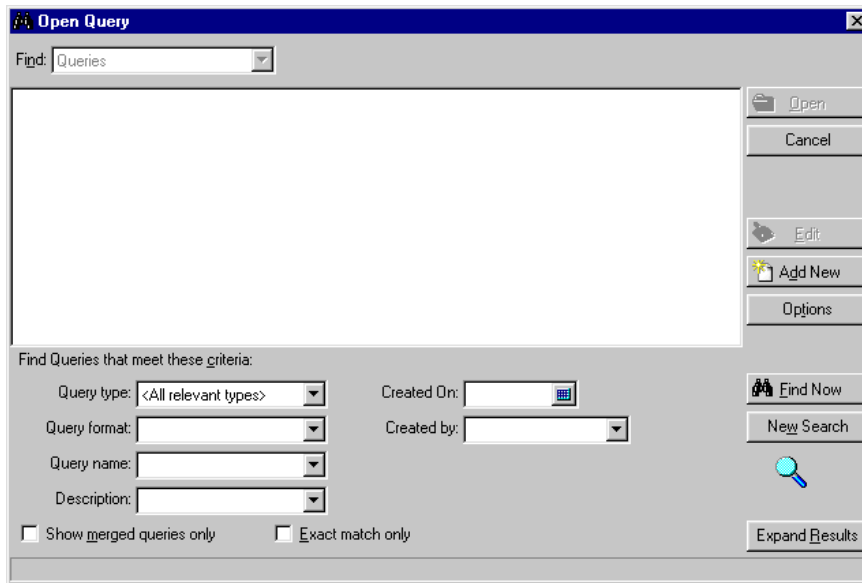
5. Click **Create Now**. The New Constituent Export screen appears.



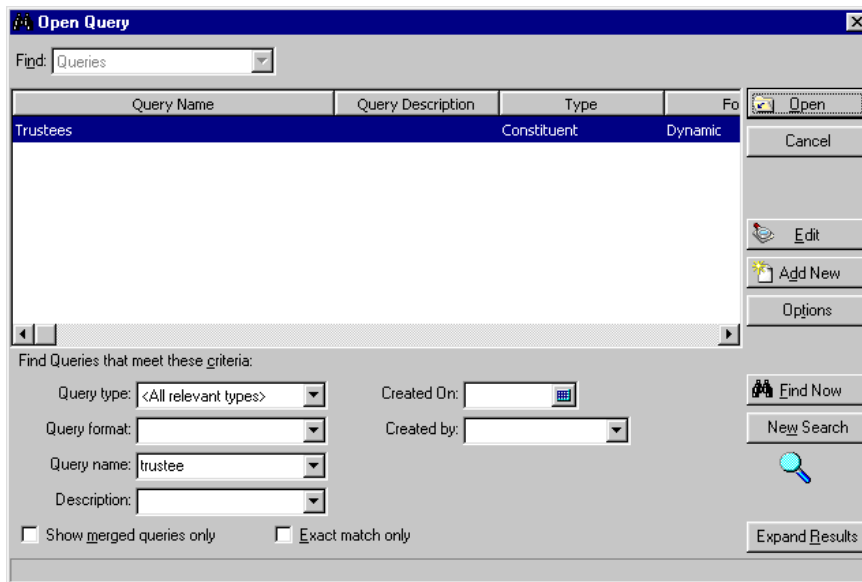
6. On the General tab, click **Include** to select the specific records to include in the export.



- Because you want to export only your trustees' records, choose **Selected Records**. The Open Query screen appears.



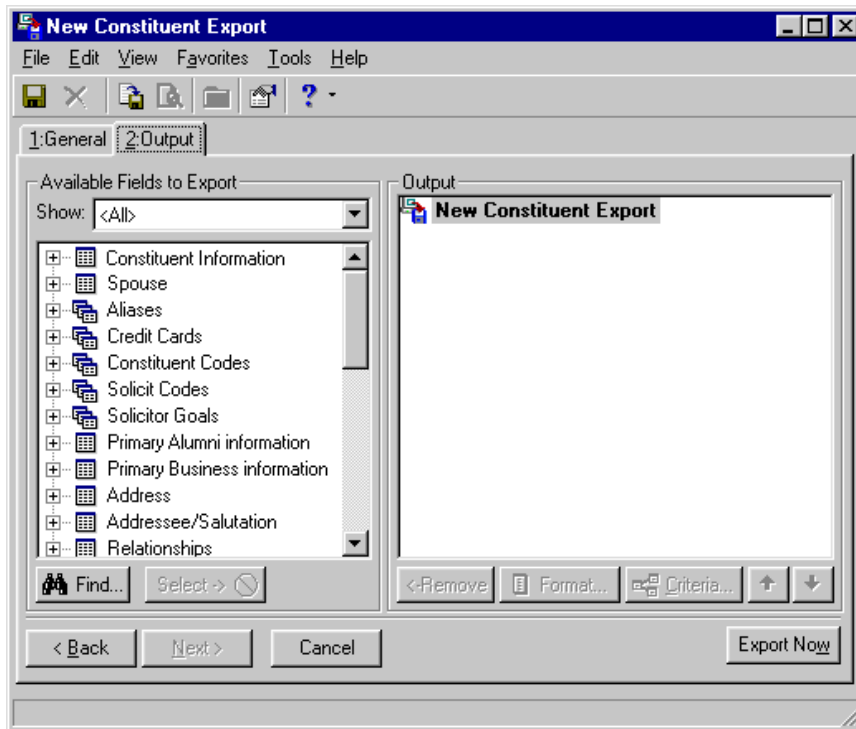
- Because you want to export information about your trustees, enter "trustee" in the **Query name** field. Click **Find Now** and any query beginning with "trustee" displays.



- Highlight the Trustees query.
- Click **Open** and you return to the General tab. "Trustees" shows to the right of the **Include** button.
- Accept the defaults for all other fields on the General tab.

Note: The first field in the **Output** box of an export is either the export's name (for saved exports) or the export type (for exports not saved).

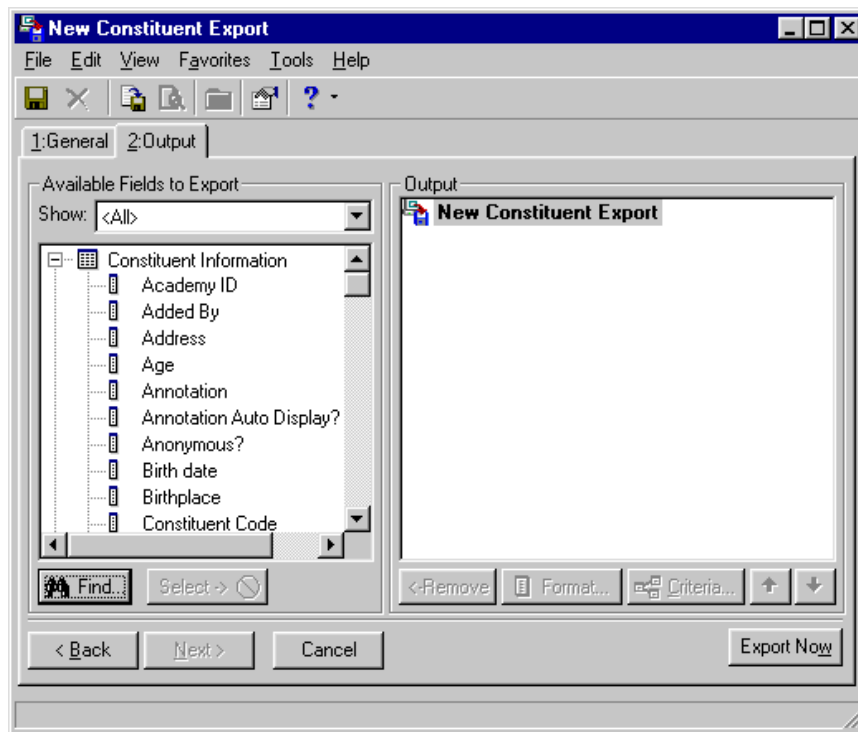
12. Select the Output tab.



Because you want to include **Constituent Name**, **Home Phone**, and **Business Phone** in your export, you must select those fields from the tree view on the left.

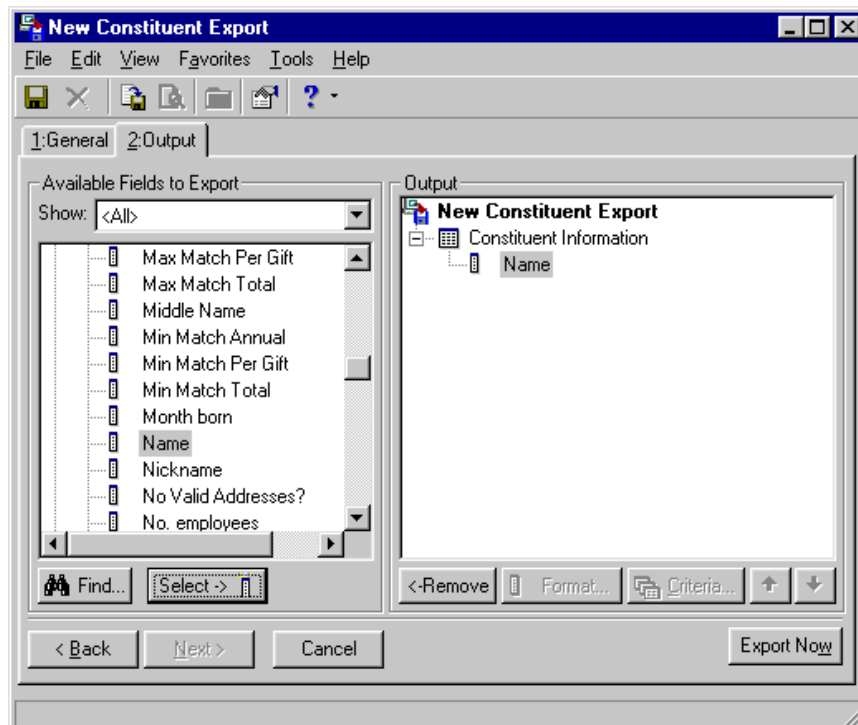
Note: For more information about *Export*, see the *Export* chapter in the *Query & Export Guide*.

- From the tree view on the left, in the **Available Fields to Export** frame, click the plus sign next to **Constituent Information**.

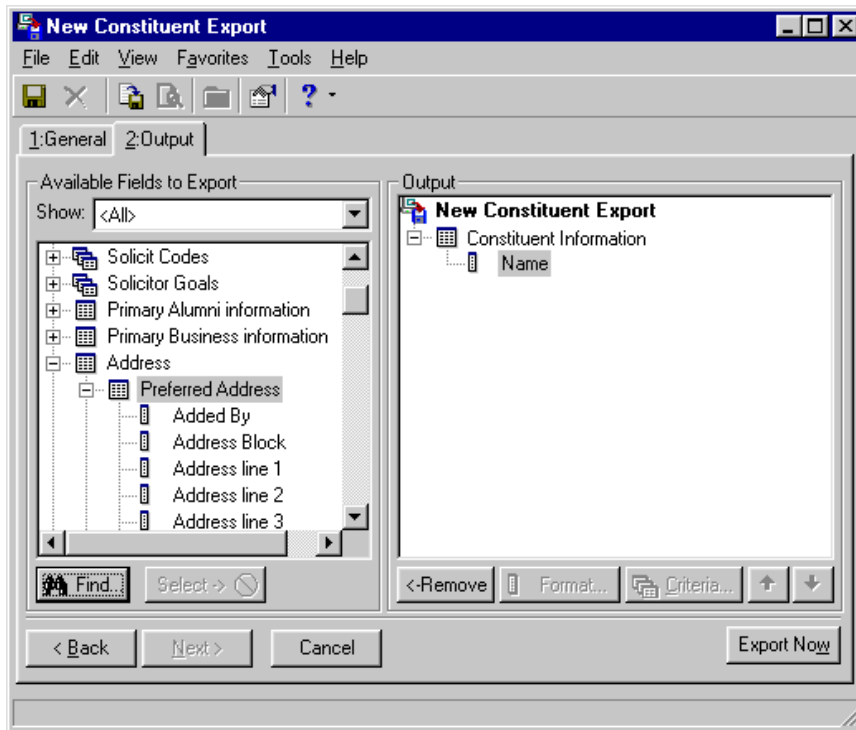


Tip: You can click **Find** to quickly access a field.

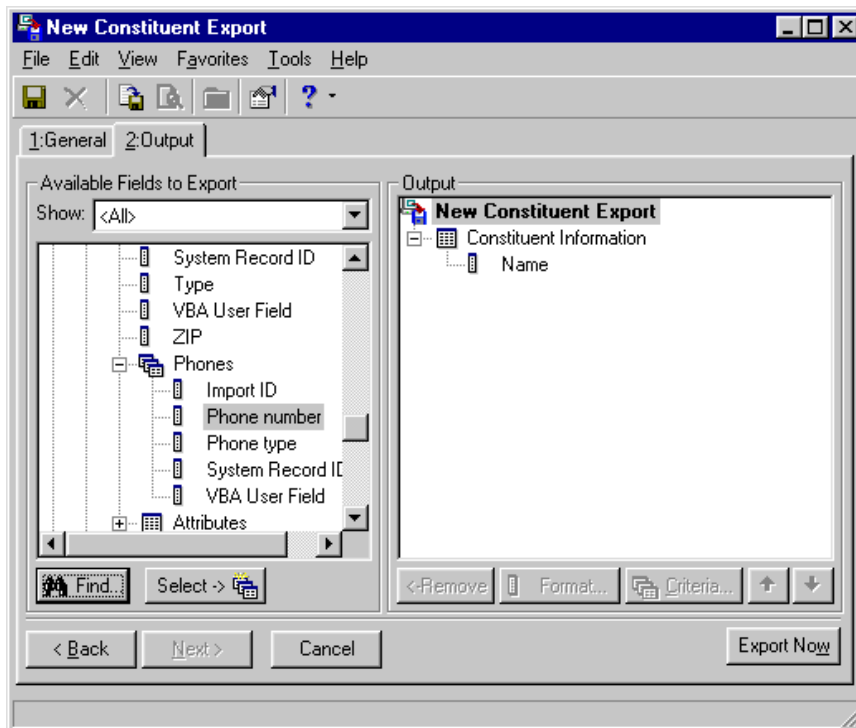
- The fields are in alphabetical order. Scroll down the list and highlight **Name**. To move **Name** into the **Output** box, click **Select** at the bottom of the screen.



- From the tree view on the left, in the **Available Fields to Export** frame, scroll down the list and click the plus sign next to **Address**. Then, click the plus sign next to **Preferred Address**.

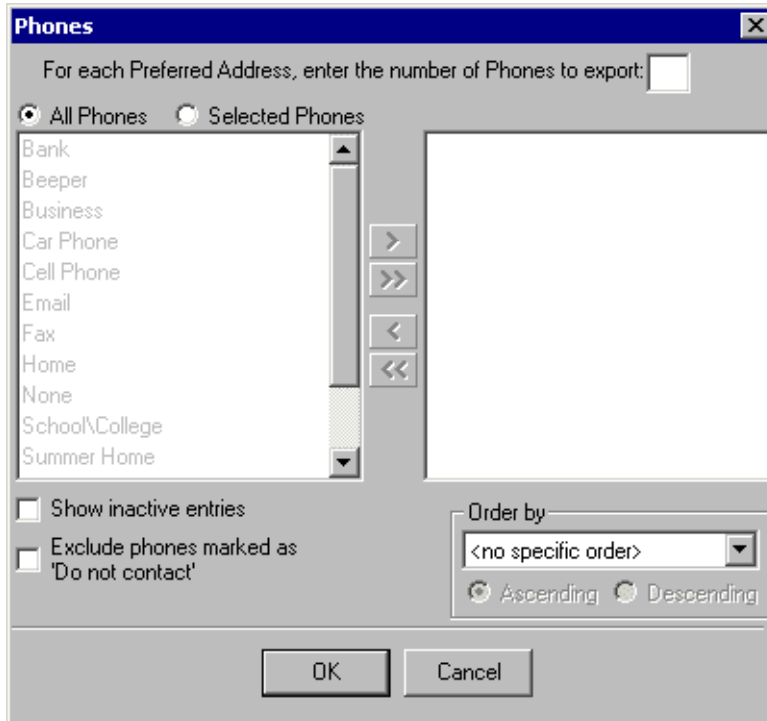


- Continue scrolling down the list under **Preferred Address**, and click the plus sign next to **Phones**. Highlight **Phone number**.

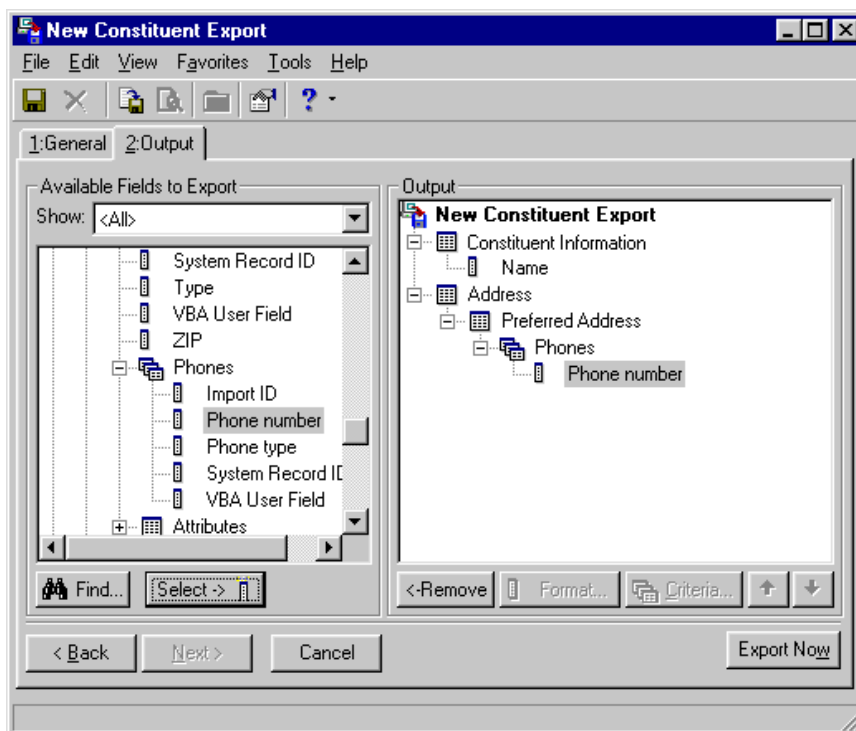


Tip: You can also drag the highlighted field and drop it into the **Output** box or double-click on the field in the **Available Fields to Export** frame.

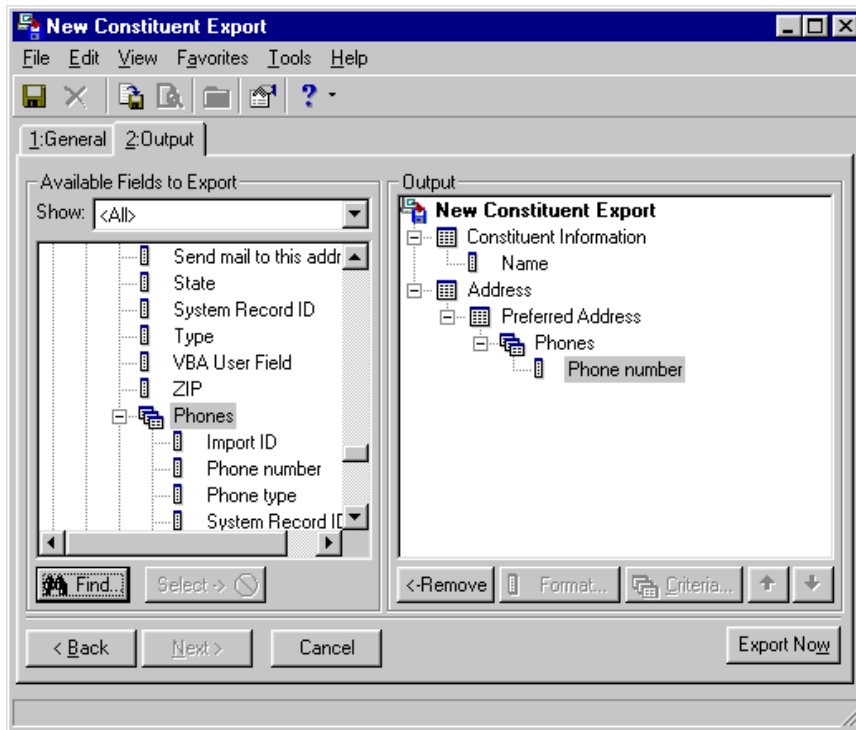
17. Click **Select** at the bottom of the screen. The Phones screen appears.



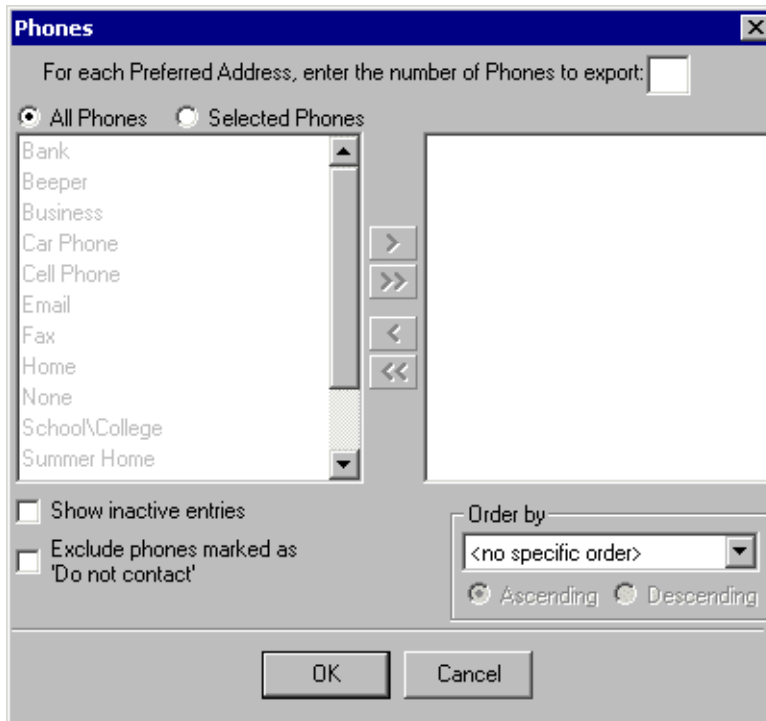
18. Accept the default of **All Phones**. Click **OK**.
19. **Address, Preferred Address, Phones, Phone number** appears in the **Output** box on the right.



20. From the tree view on the left, in the **Available Fields to Export** frame, click the plus sign next to **Primary Business information**. Then scroll down and click the plus sign next to **Address**, and then **Phones**.

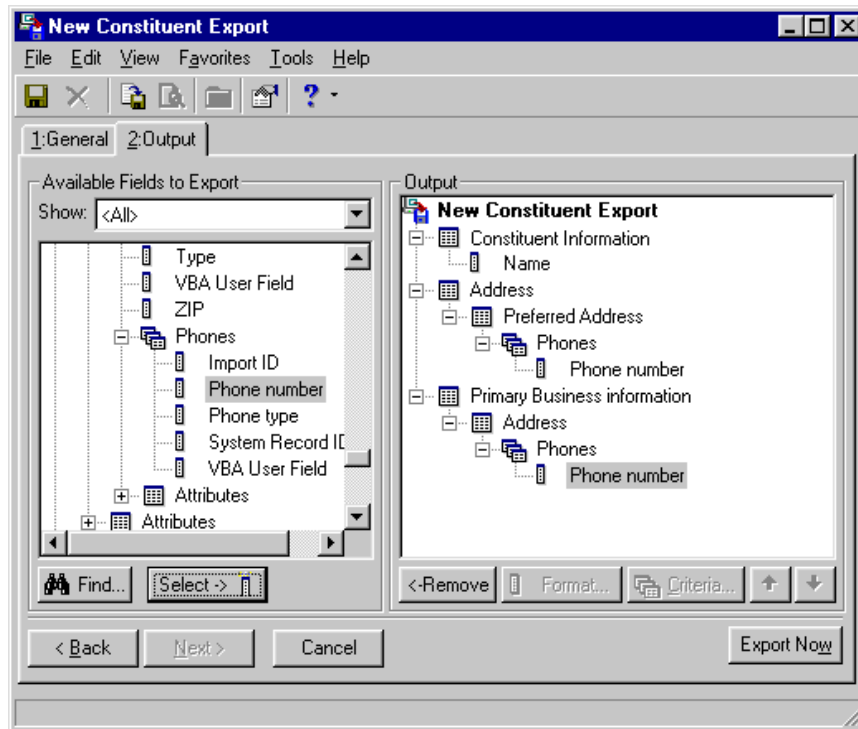


21. Under **Phones**, highlight **Phone number** and click **Select**. The Phones screen appears.



22. Accept the default of **All Phones**. Click **OK**.

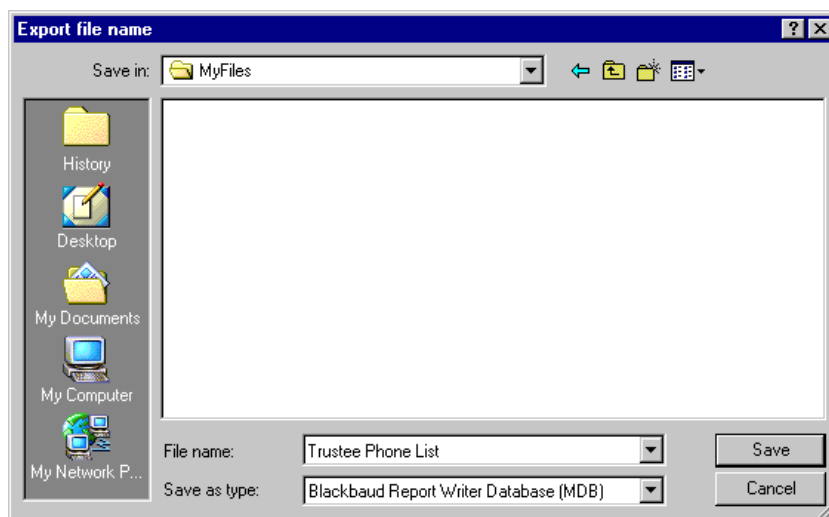
23. **Primary Business information, Address, Phones, Phone number** appears in the **Output** box on the right.



24. This completes the selections for the export. Click **Export Now** in the lower right corner.

Note: It is important to remember the location of your .mdb database file. When you begin creating your Crystal report, you will be prompted to locate this .mdb file.

25. The Export file name screen appears. Name your export “Trustee Phone List”, and select a location to save your export. The **Save as type** field should automatically show “Blackbaud Report Writer Database (MDB)”.



- Click **Save** and the export processes. A screen appears telling you the number of constituent records exported.



- Click **OK**.
- To save and close the export, click **Save and Close** on the toolbar. A message appears, asking if you want to save the export.
- Click **Yes**.
- In the **Export name** field, enter "Trustee Phone List".



- Click **Save**. You return to the main Export page.
For more information about exporting, see the *Query & Export Guide*.

Creating a Report in Crystal Reports for Blackbaud

After you create your Trustee export file with the fields you need, you are ready to start designing your report.

Report Setup

To create a new custom report in *Crystal Reports*, you need to open a new blank report and attach the export file you created to serve as the data. Once you start building your report, only data generated in the export file is available. You are not connected to your *Raiser's Edge* database.

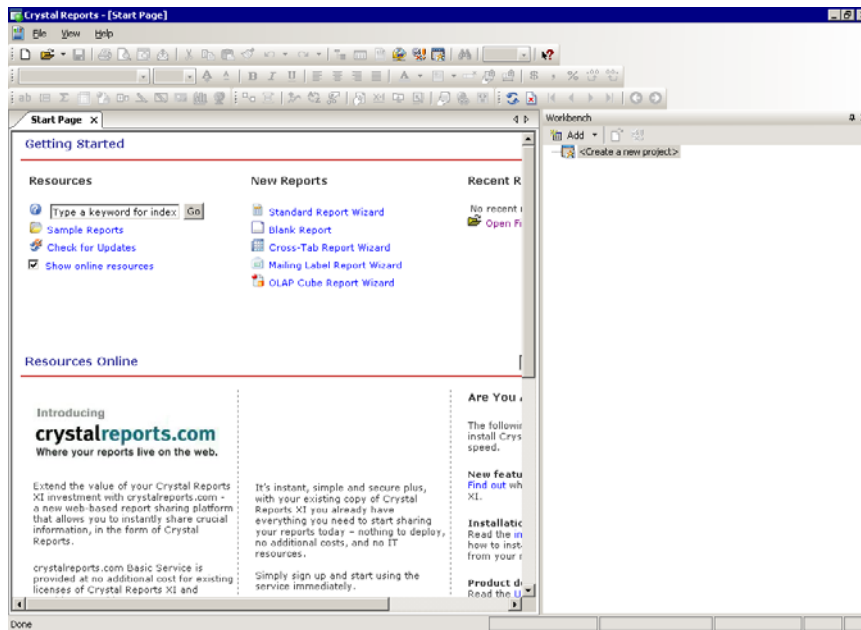
► Creating a new custom report

Now that you have created your export, you are ready to start creating your new custom report. In this section, you will begin inserting your trustee fields and formatting your report to create the look you want.

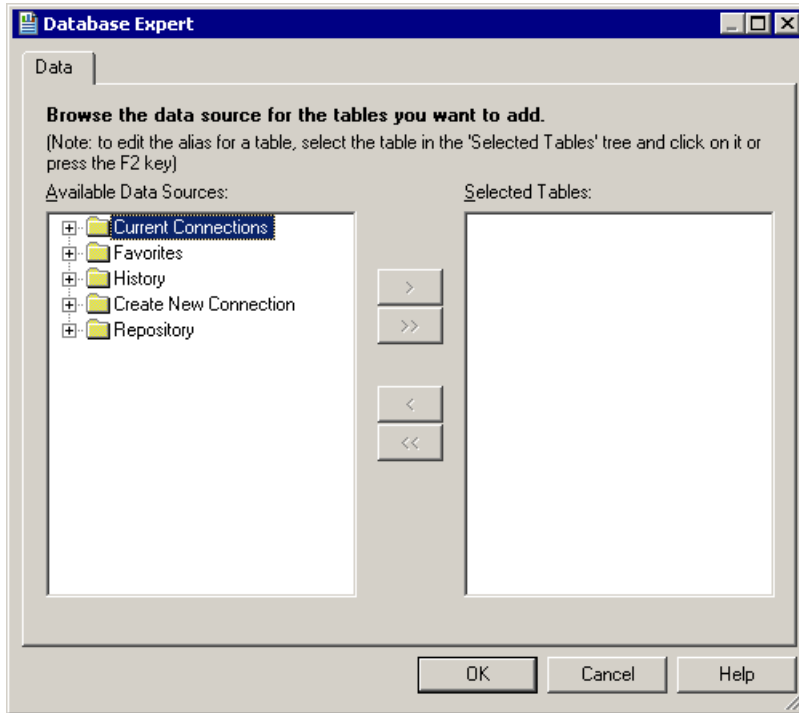
Note: For additional help with *Crystal Reports*, Blackbaud offers a custom report writing service to fit the needs of your reporting requirements. For more information or to obtain an estimate for your report template, call 1-800-443-9441 or send an email to solutions@blackbaud.com.

1. From your desktop, go to **Start, Programs, Crystal Reports 11**. You may also have an icon on your desktop you can double-click to launch the program.

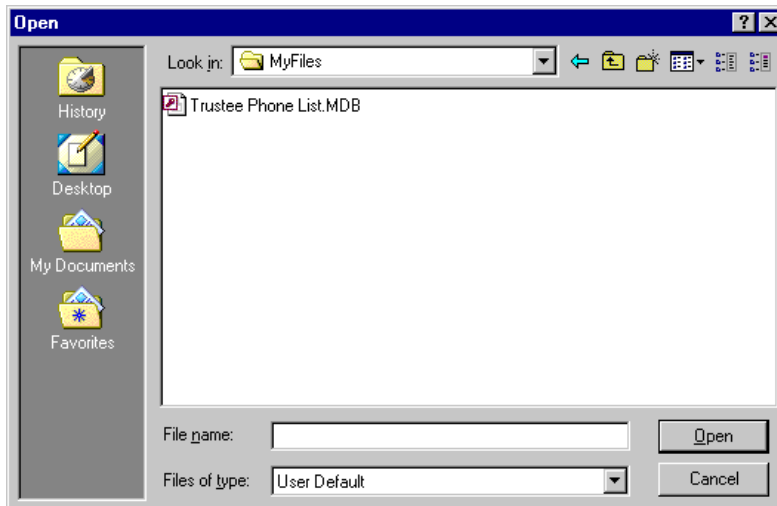
Crystal opens and the Getting Started screen appears.



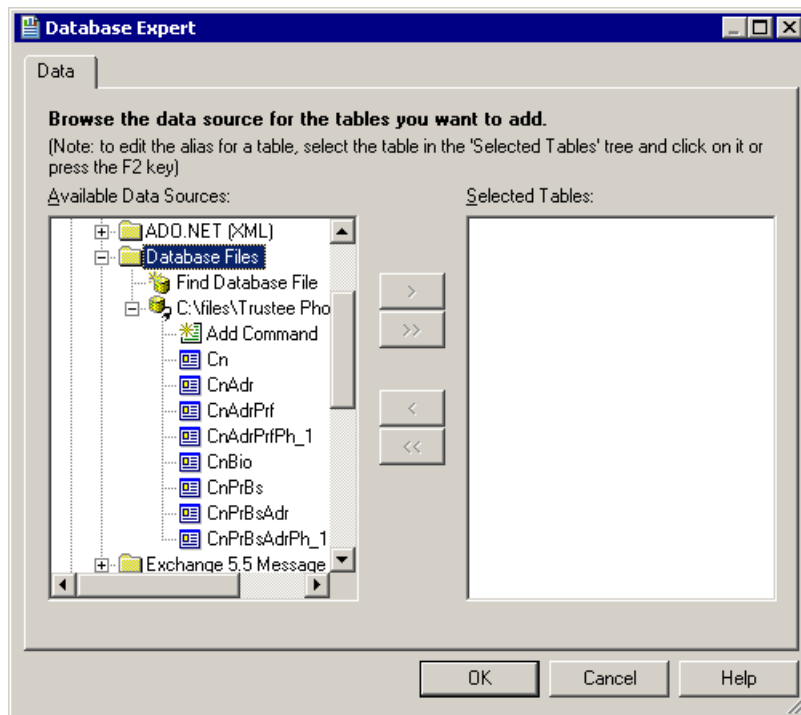
- In the **Getting Started** frame, click **Blank Report**. The Database Expert screen appears.



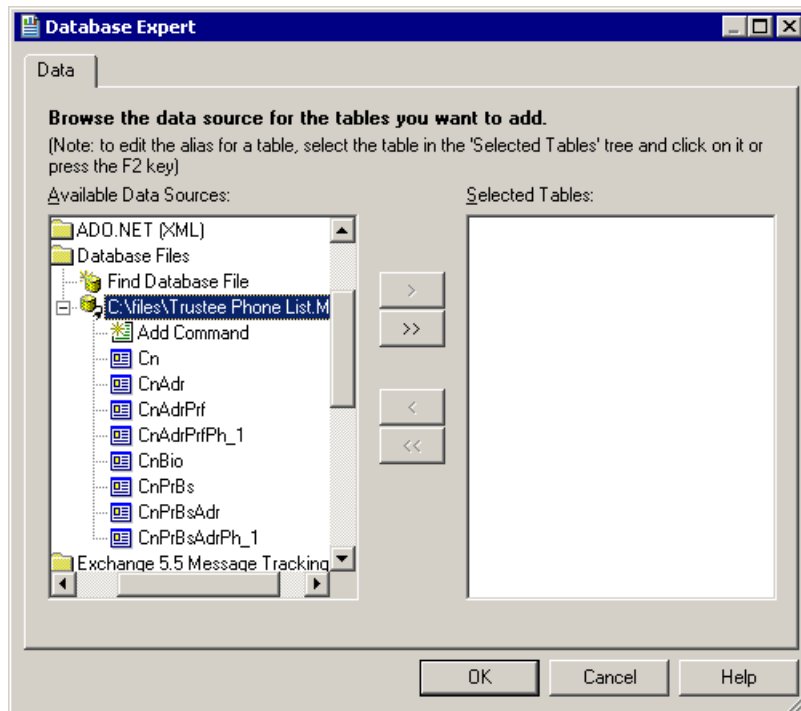
- Click the plus beside **Create New Connection** to expand the tree view.
- Click the plus beside **Database Files**. The Open screen appears so you can find your *Raiser's Edge* database file.



5. Highlight the .mdb file you need, and click **Open**. You return to the Database Expert screen. Notice all your database fields are listed in the tree view.

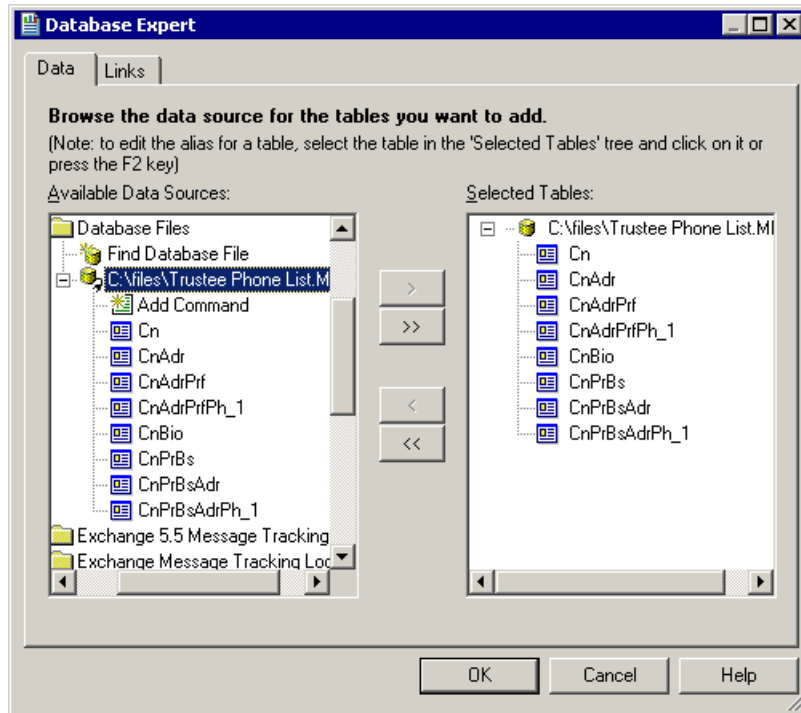


6. Highlight the path to your .mdb file in the **Available Data Sources** box.



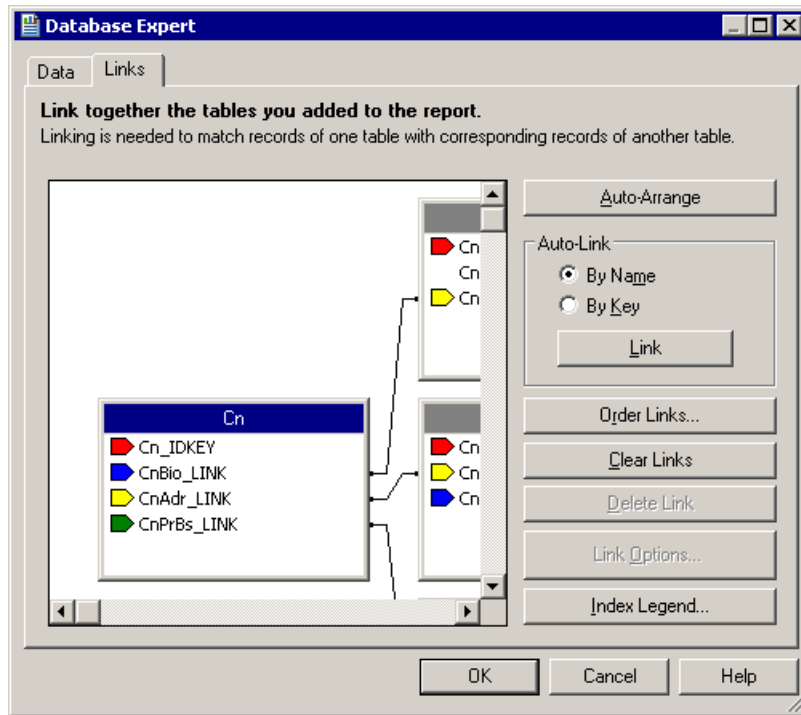
Note: When you select the export format Blackbaud Report Writer Database (MDB) in *Export*, linking tables are included in the data file (in addition to the fields you select). Typically, you may not use this data in your Crystal report. However, it is best to select all the data for your report in these beginning steps. By doing this, you avoid repeating steps if you leave intended fields for your report behind.

- To move all of the fields in the .mdb file to the **Selected Tables** box, click the right double arrow button. The fields appear in the box to indicate they have been included for your Crystal report.



Note: The Visual Linking Expert screen shows the tables in the export file, and how they link together. For most reports, you do not need to alter these tables or their links manually. When you click **OK**, *Crystal Reports* automatically links the tables correctly.

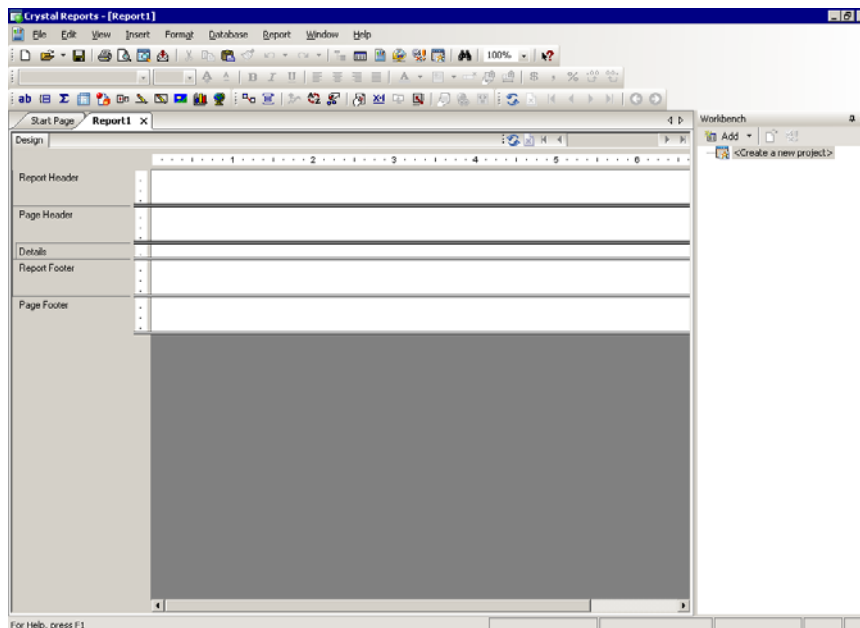
- Click **OK**. The Visual Linking Expert on the Links tab appears.



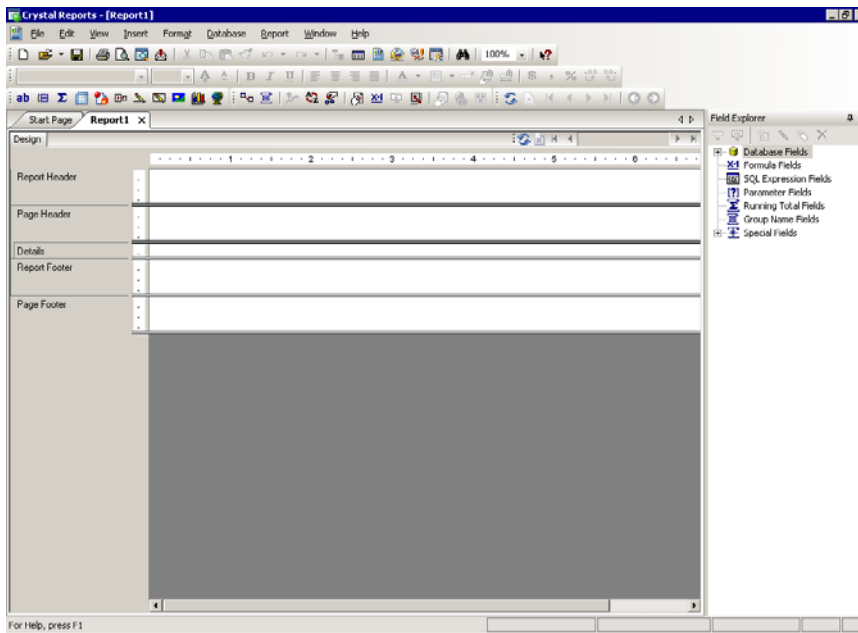
- Click **OK**.

Note: The **Workbench** appears on the right side of the screen. You can use the **Workbench** to contain projects that contain one or more reports. For more information, see the *Crystal Reports XI* help file. To remove the **Workbench** from your screen, click the X in the top right corner of the screen.

The blank Crystal report is now available.



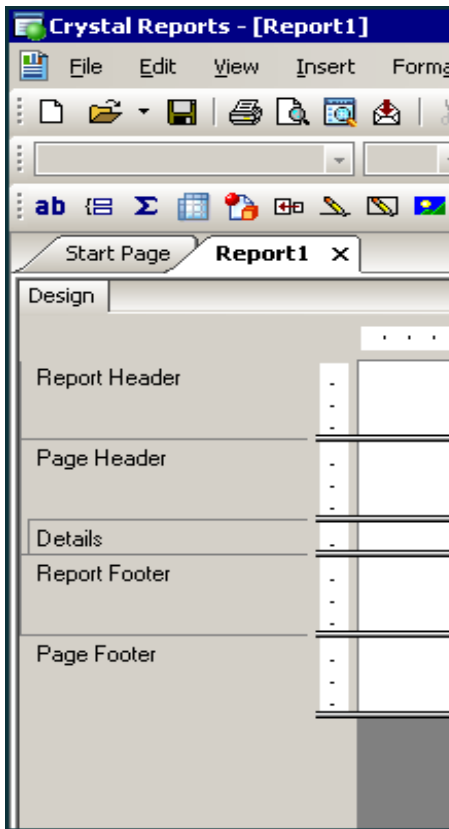
10. To display the **Field Explorer** frame, select **View, Field Explorer** from the menu bar. The frame appears on the right side of the screen.



11. This frame contains all the fields you exported from *The Raiser's Edge*. You will use these fields to build your report.

Report Sections

On a new Crystal report, five standard sections designate how and where information displays on a report. Additional sections are added when groups and totals are established. As you build your report, it is very important to make sure you insert the correct fields into the correct sections. For example, any field you want the program to calculate, like **Gift Amount**, must be inserted into the Details section.



Report Header. Information in this section appears at the top of the first page of the report.

Page Header. Information in this section appears at the top of each page of the report.

Note: As you establish groups and totals for the report, additional sections are added.

Details. This section is commonly used to process data, and it contains the bulk of the information you view on the report. If the Details section occupies one line in the Design window, each constituent is allotted one line on the report.

Report Footer. Information in this section of the report appears at the bottom of the last page of the report. For example, you insert your grand total or summary data here.

Page Footer. Information in this section appears at the bottom of each page of the report. This is a good place for page numbers or running totals.

Creating a Phone List

Generating a phone list is an easy way to get familiar with *Crystal Reports* and learn some of the basics. In this report, you are working with a limited number of fields, and you do not need to write any equations or formulas. As you begin to insert fields onto the report, do not be afraid to make a mistake. Because you are working only with an export file, it is not possible to damage your database in any way. *The Raiser's Edge* and *Crystal Reports* are completely separate programs.

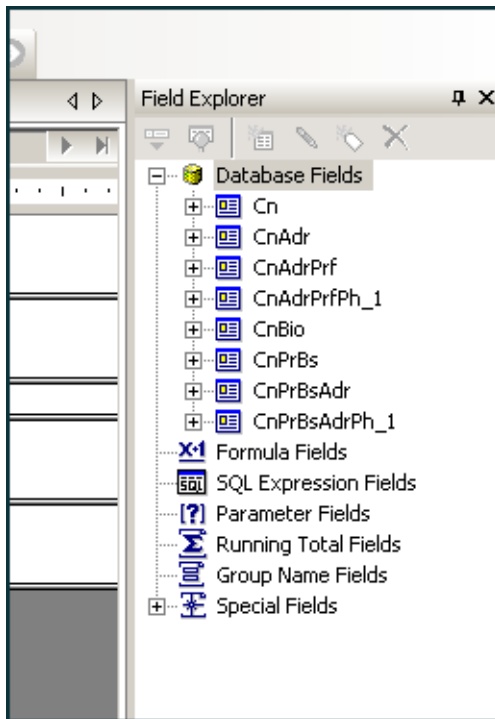
Report Layout

The placement of the fields on the report determines the final look and effectiveness of the report. It is important to understand that fields are calculated and grouped based on the section into which you insert them.

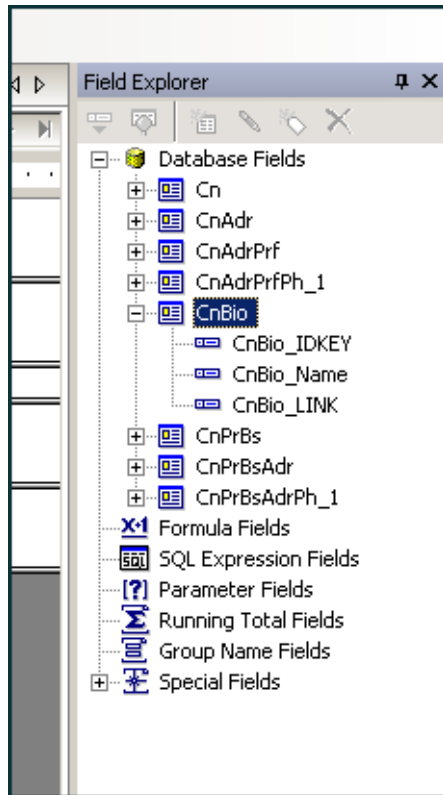
▶ Inserting fields into a new report

Once you have plan your report, you are ready to start inserting your export fields into the report. Pay close attention to the fields and report sections to make sure you place everything correctly.

1. From the new blank report, in the **Field Explorer** frame, click the plus sign next to **Database Fields**. All of the data from *The Raiser's Edge* appears.



2. Click the plus sign next to **CnBio**.

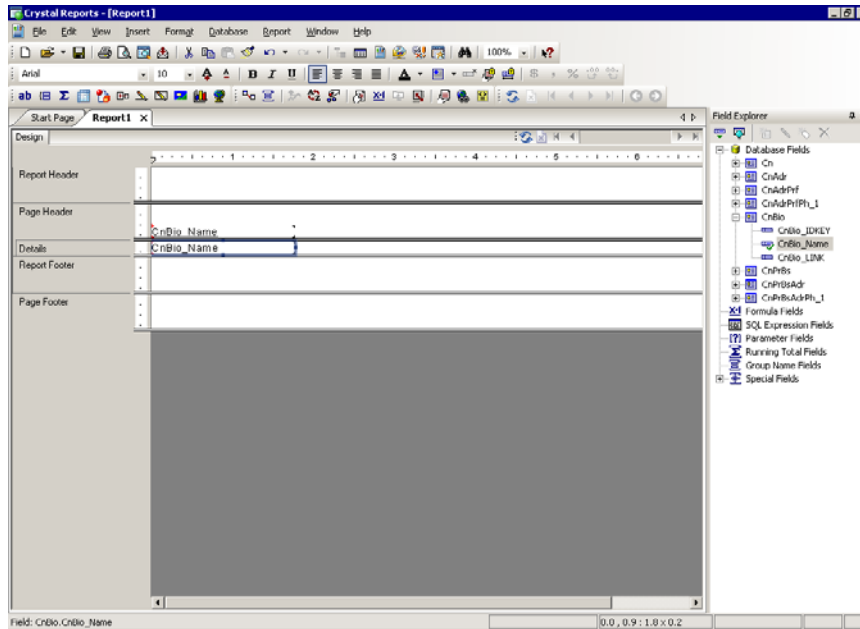


3. Based on your report design, the first field you need to insert is constituent name. Highlight **CnBio_Name**.

Warning: Remember that links and identifier keys are exported out of *The Raiser's Edge* along with the fields and data. When you look through the **Field Explorer** frame, make sure you insert fields onto the report, not LINKS or IDKEYS.

4. Click and drag it up to the far left side of the Details section. Release your mouse to drop the field in place.

The field name is automatically added in the Page Header section above the field.



Before you add any other fields, you may need to move or size this field to make sure it is the correct size for the data. If the box is too small, the data will be truncated. If the box is too large, there will be too much blank space between fields.

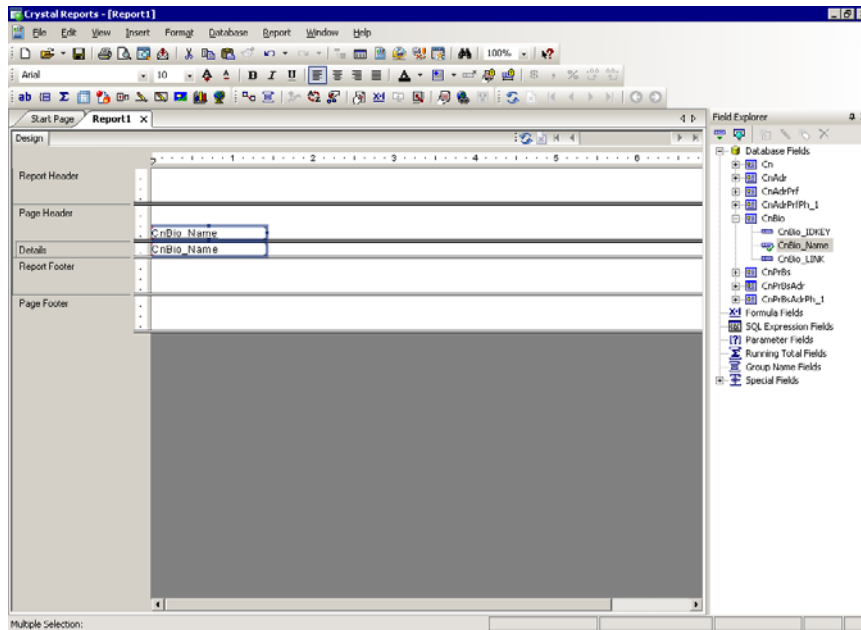
► Sizing fields in a report

If you notice the standard length or height of a field is too big, or not big enough to display your information correctly, you can change the size of the field after it is on the report.

1. To change the length of a field, click the field once to highlight it. Move your cursor over the small black square on the right side of the highlighted rectangle until it changes to a double arrow.

Tip: To save time, you can size more than one field simultaneously. For example, if you need to size constituent name and the field header, click **CnBio_Name** in the Details section. While holding down the **CTRL** key on your keyboard, click **CnBio_Name** in the Page Header section.

2. Maintaining the double arrow, click and drag the rectangle to the left to shorten the field size, or to the right to lengthen the field. For this report, shorten the constituent name field and the attached header field to approximately two inches.



You can resize the fields at any time.

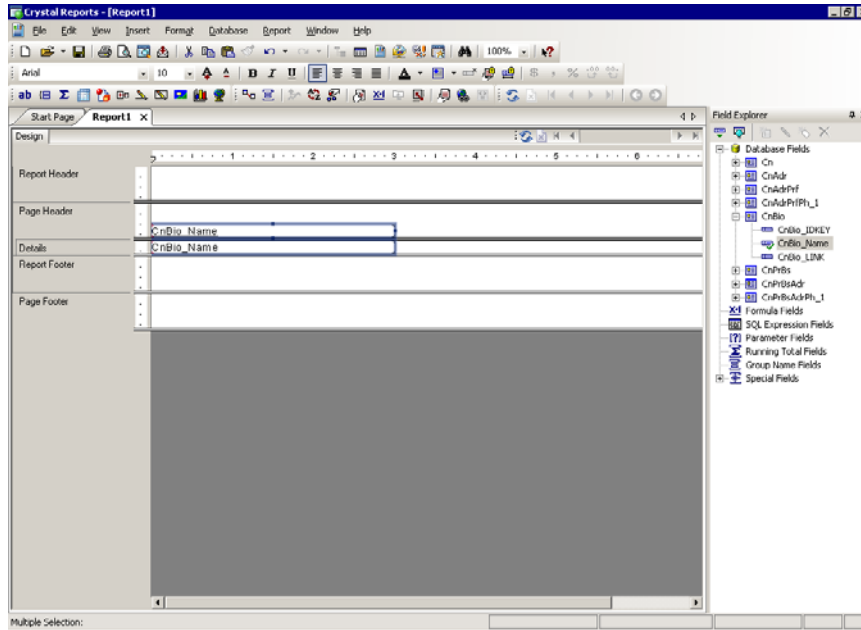
► Moving fields in a report

After you insert your fields into the report, you may need to move them to get the result you want.

1. To move a field after you place it on the report, click the field once to highlight it, then drag it to the new location.

Warning: When you select multiple fields, be careful not to drag the first field you select on top of the second field. This is an easy mistake to make once you press the **CTRL** key. Make sure you click each field only once. Wait until they are all highlighted. Now, you are ready to move.

To save time, you can move more than one field simultaneously. For example, if you need to move constituent name and the field header together, click **CnBio_Name** in the Details section, then while holding down the **CTRL** key on your keyboard, click **CnBio_Name** in the Page Header section.



Note: You can move fields left and right in the same section, or up and down across sections, with the exception of grand totals, subtotals, and summaries.

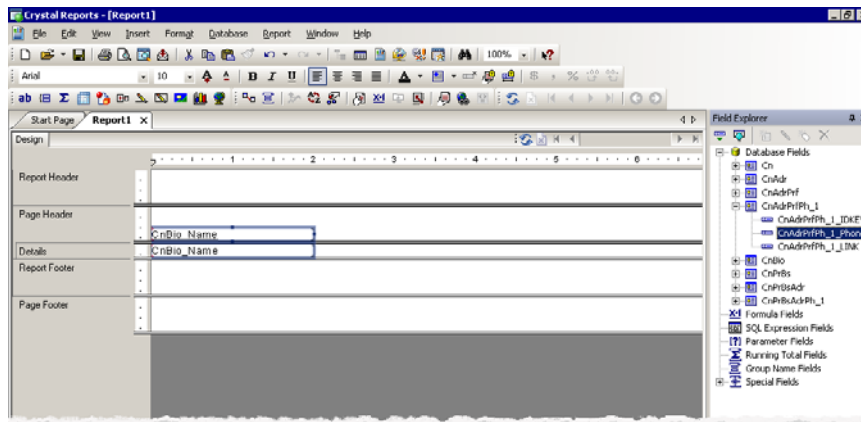
2. Once both fields are highlighted, click your cursor in one of the boxes and drag the fields together to the new location.

► Inserting additional fields into a new report

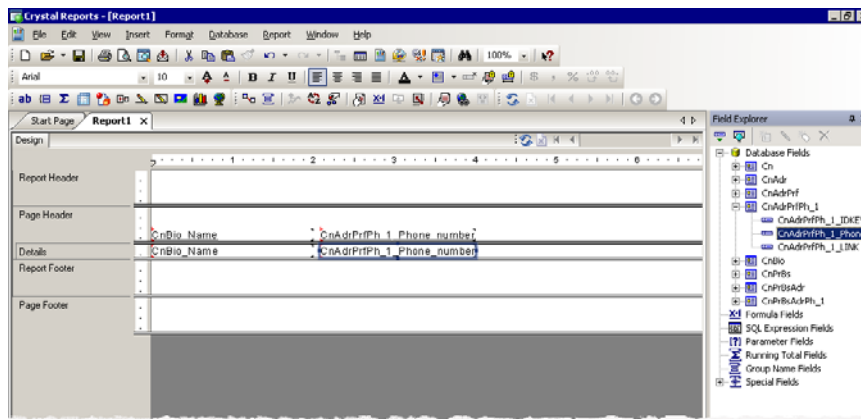
Now that you are familiar with placing, moving, and sizing fields on a report, you are ready to insert any additional fields to complete your report. Insert the home phone and business phone into the Details section next to the constituent name.

Warning: Remember, links and identifier keys are exported out of *The Raiser's Edge* along with the fields and data. When you look through the **Field Explorer** frame, make sure you insert fields onto the report, not LINKS or IDKEYS.

1. On your report, click the plus sign next to **CnAdrPrfPh_1** in the **Field Explorer** frame. Then, highlight **CnAdrPrfPh_1_Phone_number**.

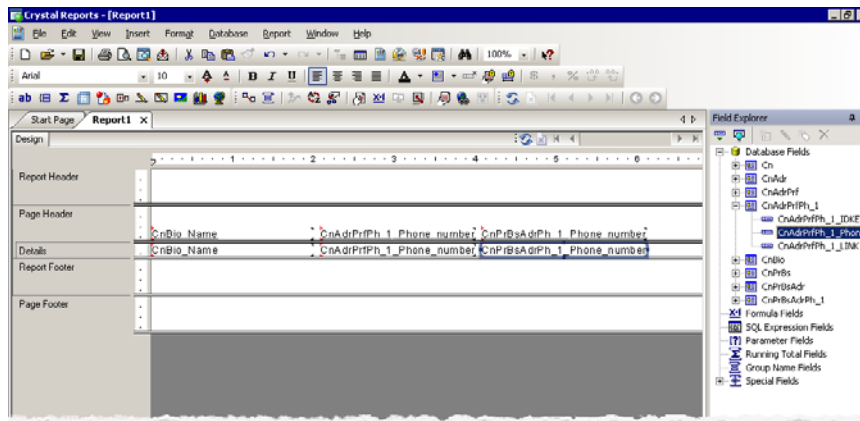


2. Click and drag **CnAdrPrfPh_1_Phone_number** up into the **Details** section next to **CnBio_Name**. Release your mouse to drop the field in place. Leave about a quarter of an inch between the two fields. The field name is automatically added in the **Page Header** section above the field.
3. Resize the **CnAdrPrfPh_1_Phone_number** field to be about an inch long. Your field should fall somewhere between the 2 and 3 inch mark on the report ruler.



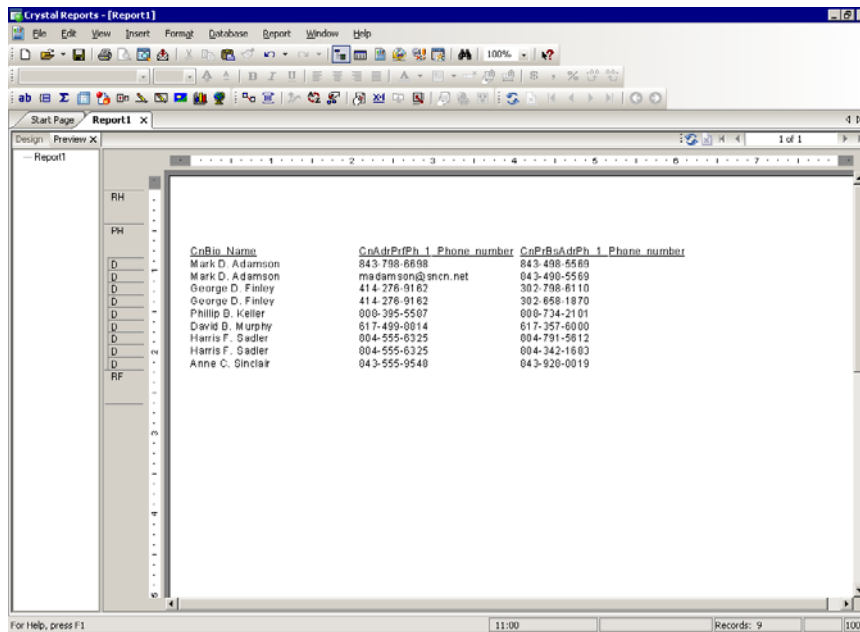
4. From the **Field Explorer** frame, click the plus sign next to **CnPrBsAdrPh_1**. Then, highlight **CnPrBsAdrPh_1_Phone_number**.
5. Click and drag **CnPrBsAdrPh_1_Phone_number** into the **Details** section next to **CnAdrPrfPh_1_Phone_number**. Again, leave about a quarter of an inch between the two fields.
6. Resize the field to be approximately an inch in length. You may need to scroll to the right to see the end of the field box.

7. Once you insert all your fields on the report, close the **Field Explorer** frame.



Note: Once you preview your report for the first time, a Preview tab is added in the top left of the screen along with the original Design tab. While you are creating your report, you can move back and forth between these two tabs at any time.

8. On the toolbar, click the **Print Preview** button to view your report. This is merely a preliminary preview of the basic data, so you can verify the information. You may notice your phone number headers are truncated, or that some constituent names appear more than once. This is normal and is addressed in the next section.



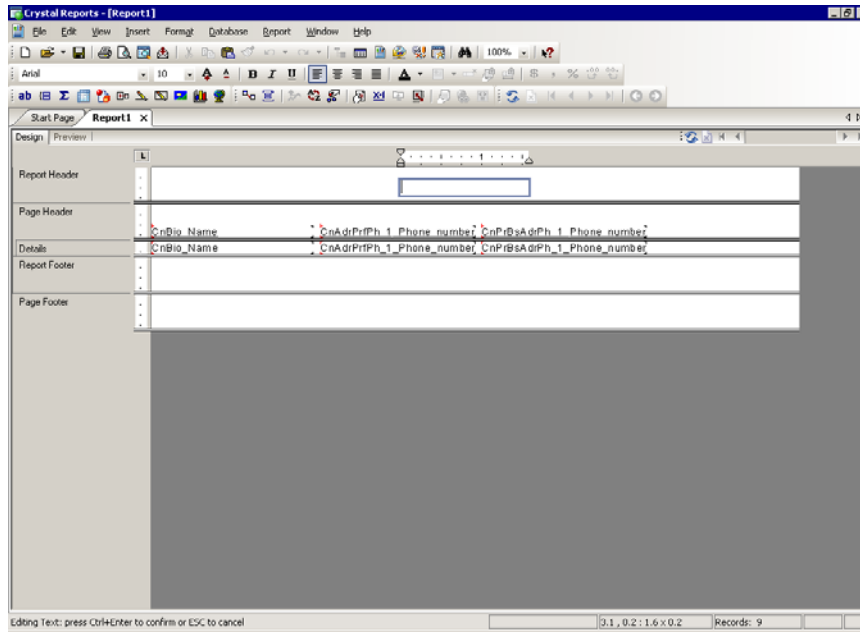
Formatting a Crystal Report

After you insert your fields, move them to the correct sections, and size them appropriately, you are ready to format the report. Enter a report title, update your field headings if necessary, select a color and font size for your data, and generate a report grand total.

► Inserting text fields in a report

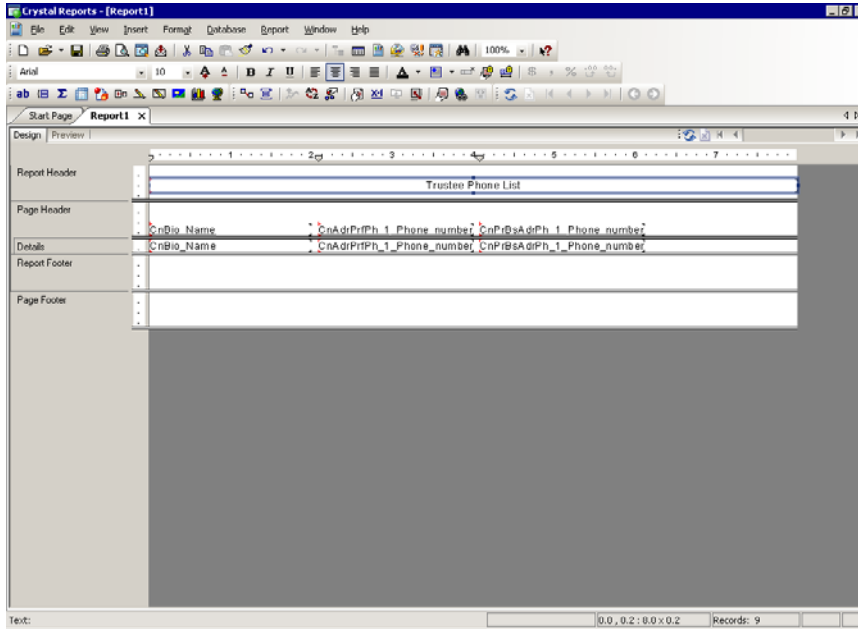
Text fields, such as titles, can be inserted into a report at any time.

1. From the Design tab of your report, click the **Insert Text Object** (or **ab**) button on the toolbar. Drag your cursor into the Report Header section and click your mouse once. A text box appears with an active cursor.



2. In the text box, enter "Trustee Phone List", then click once outside the box, or press the **Esc** key on your keyboard.
3. To center the title across the top of the report, click once on the field to activate the move box. Using the small, black squares on either side of the box, stretch the field all the way to the left of the Report Header section, and then all the way to the right. The title box should stretch across the entire length of the section.

4. On the toolbar, click the **Align Center** button. The title moves to the center of the report.

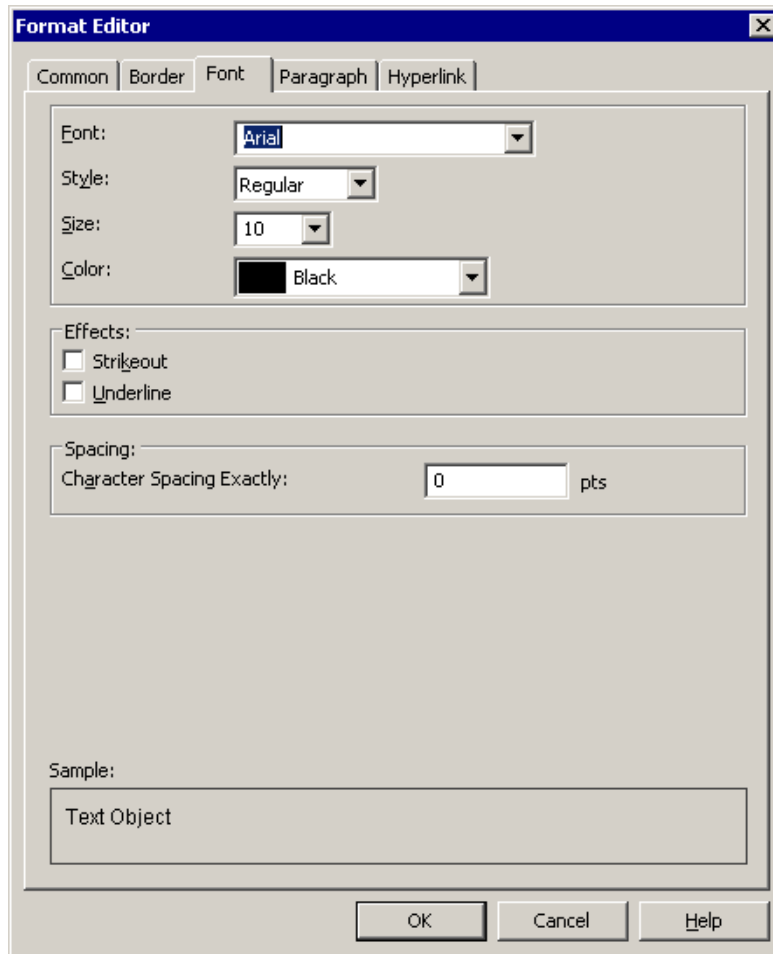


► Formatting fields in a report

In *Crystal Reports*, you can increase the effectiveness of your report by changing the format of the fields. You can change the font, size, and color; add a border; or make a field bold. For this report, emphasize the report title by increasing the font size, making it bold, and changing the color.

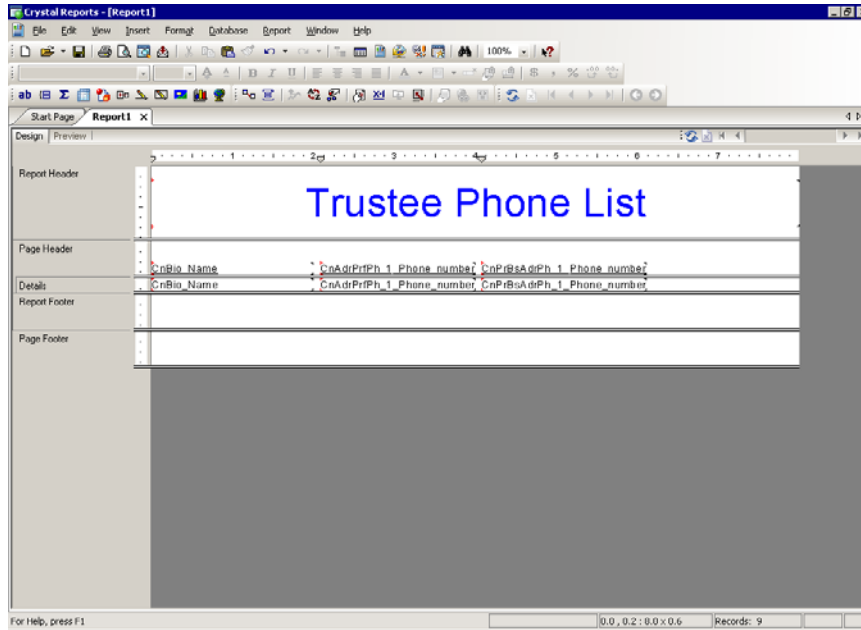
1. From the Design tab of your report, highlight the title field and right-click your mouse. Select **Format Text** from the menu. The Format Editor screen appears.

2. Select the Font tab.



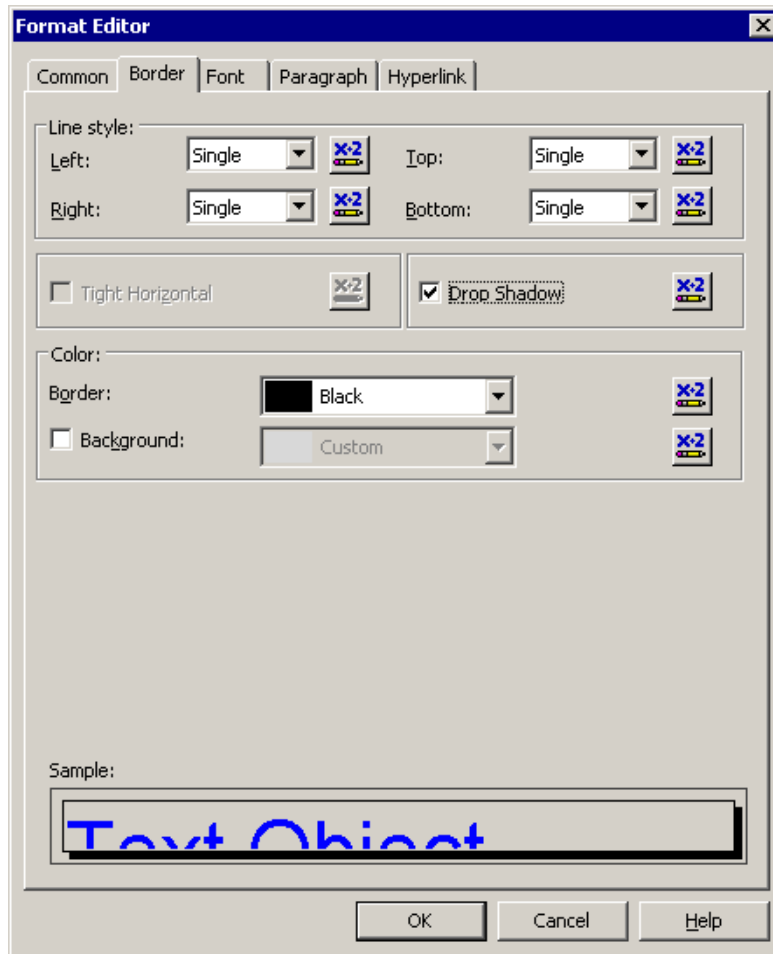
3. In the **Size** field, change “10” to “36”.
4. In the **Color** field, change “Black” to “Blue”.
5. Click **OK**.

- You will need to increase the height of the title field to compensate for the larger text. You will also need to increase the size of the Report Header section. Move your cursor over the line separating the Report Header section from the Page Header section. Once it turns into a double arrow, pull the bar down until you can see the entire title.



- To add a border to the title, click once in the title field, then right-click your mouse. Select **Format Text** from the menu again.
- Select the Border tab, and change “None” to “Single” in all four of the fields in the **Line style** frame.

9. Mark the checkbox next to **Drop Shadow**.



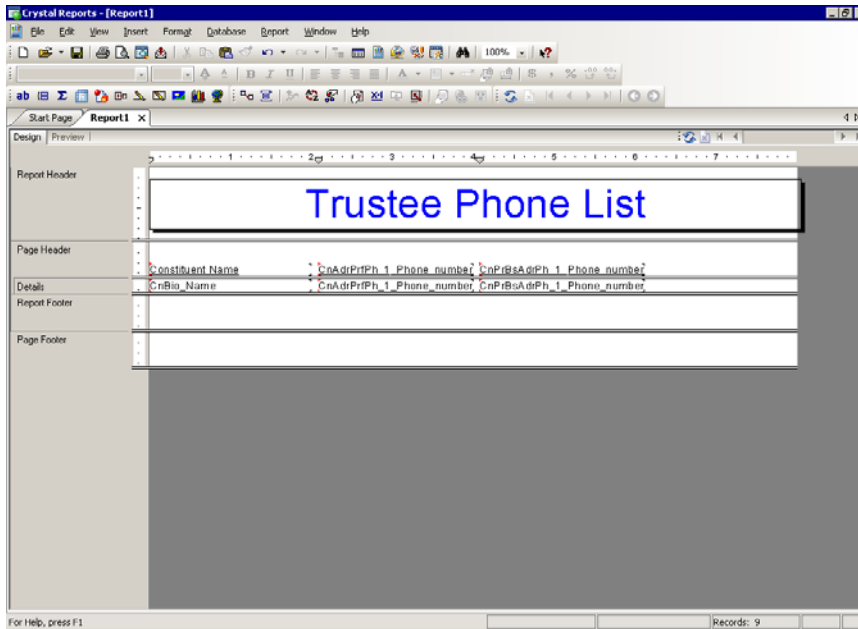
10. Click **OK**.

► **Changing field headings in a report**

You can change the name of a field heading on your report to make it more intuitive for your audience. For example, you can change **CnBio_Name** to Constituent Name to make your report more clear.

1. To change the name of the constituent field, click once on **CnBio_Name** in the Page Header section.
2. Right-click your mouse and choose **Edit Text** from the menu. An active cursor appears in the field header box.

3. Replace **CnBio_Name** with “Constituent Name”, then click outside the box.

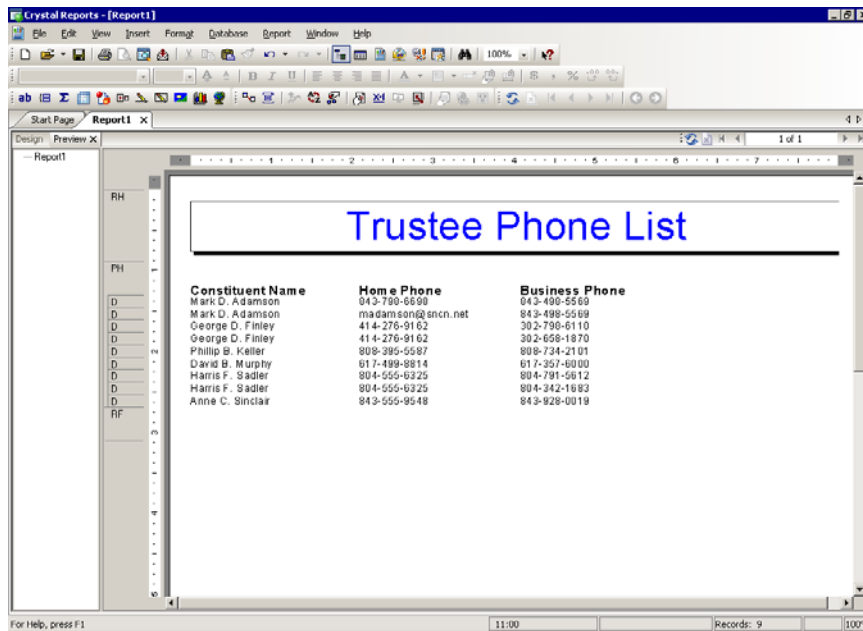


4. Change the other two field header names to “Home Phone” and “Business Phone”. Make sure you are in the Page Header section before you attempt to change the name.

Tip: You can make changes to all your field headers at once by holding down the **CTRL** key on the keyboard, and clicking once in each of the header boxes. Once all headers are highlighted, any changes made to one are made to all.

5. Once you change all your field headers, you can also increase the font size, or change the colors to match the title. Remember, increasing your font size may make it necessary to increase the size of your field box. To create more space between any of your data (for example, the headers and the data, or the list of names), move the bar separating the sections up or down.

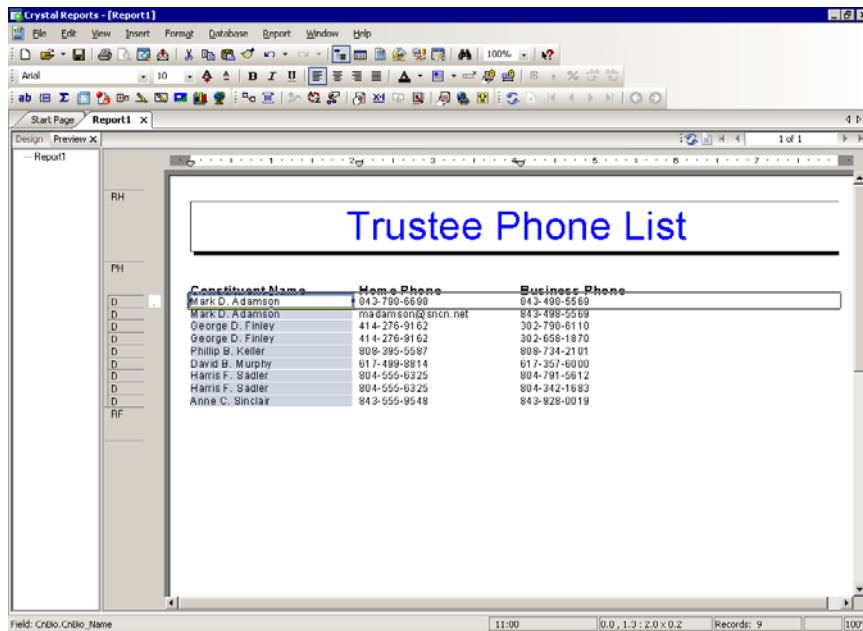
6. Select the Preview tab to view the results of your report so far.



► Suppressing duplicate records in a report

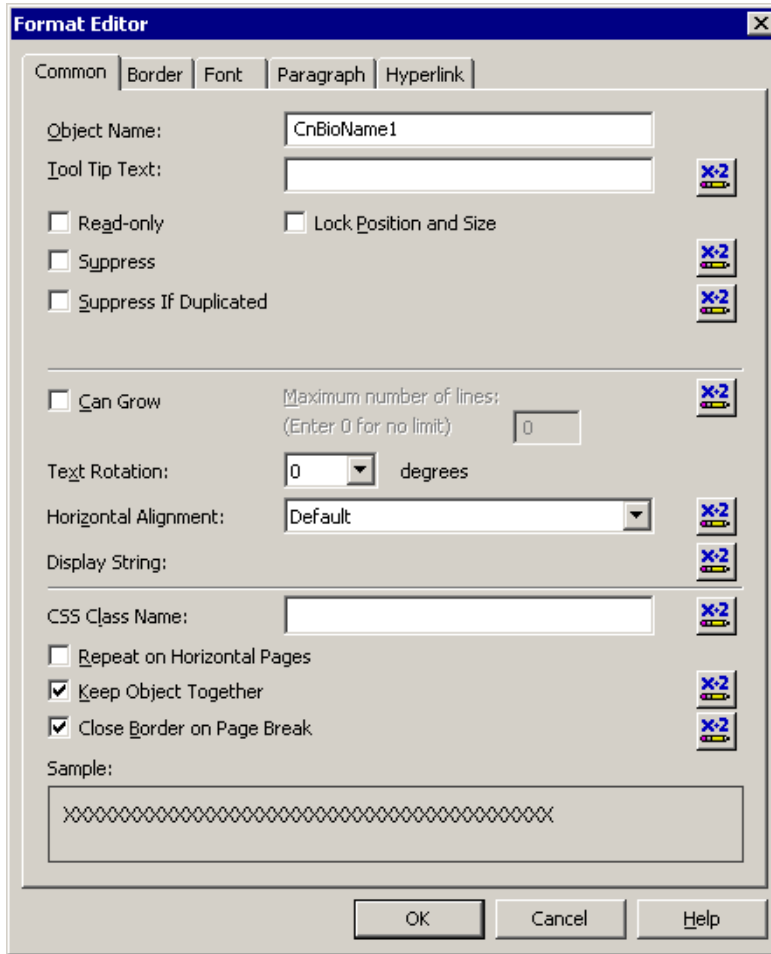
When you export records from *The Raiser's Edge* with multiple pieces of data attached (for example, more than one business phone number), the records often appear more than once on the Crystal report. If you want to see the constituent name displayed only once, you need to suppress the duplicate records.

1. From the Preview tab of your report, highlight one of the names. By doing this from the Preview screen, all names in the list are highlighted and treated as one field.

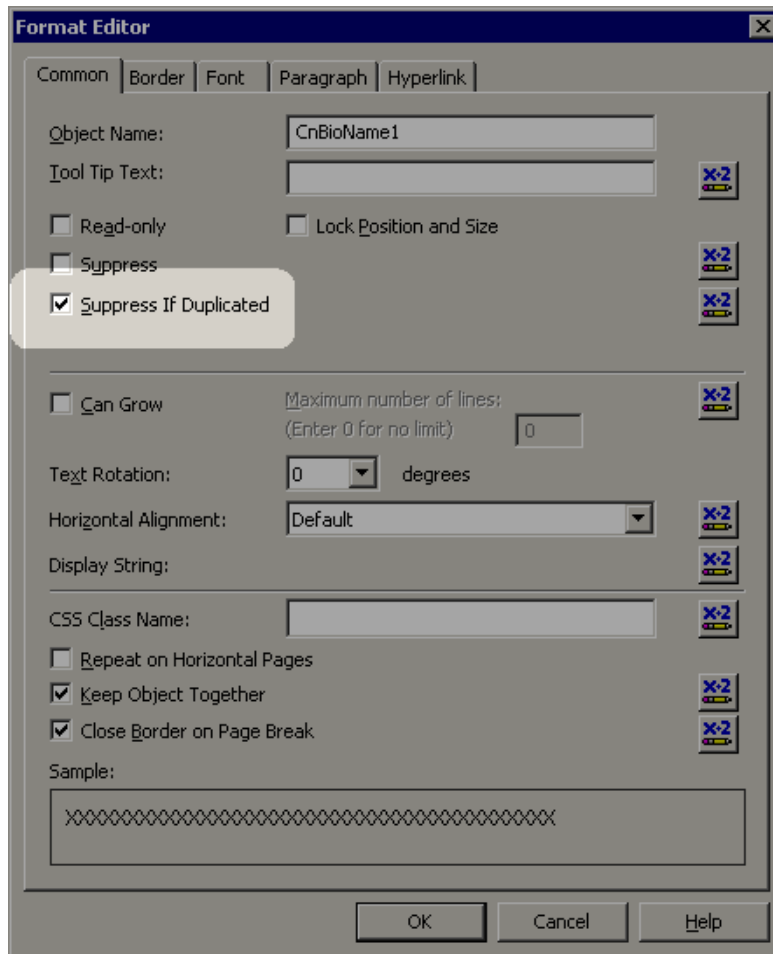


2. With the list of names highlighted, right-click and select **Format Field** from the menu. The Format Editor screen appears.

3. Select the Common tab.

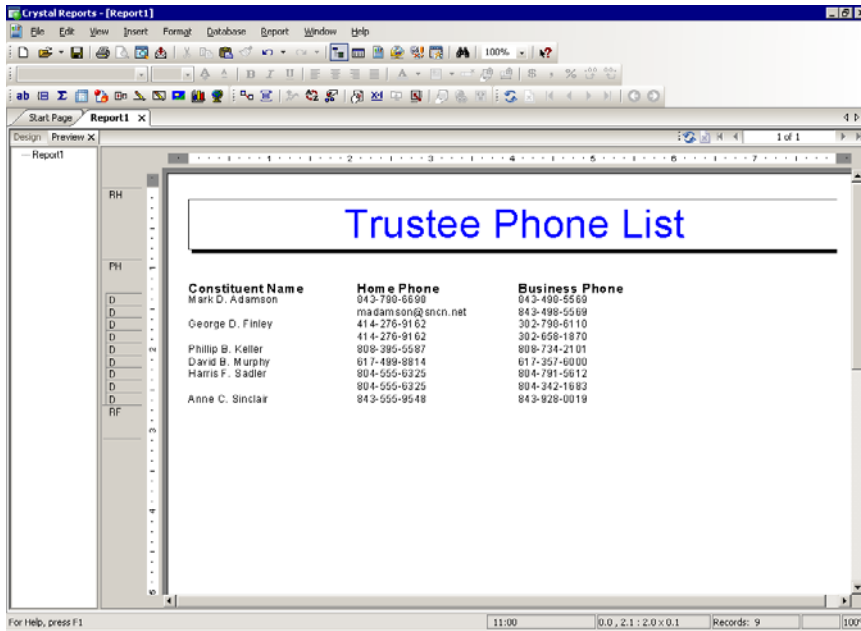


4. From the Format Editor, mark the **Suppress If Duplicated** checkbox at the bottom of the screen. Be careful *not* to mark the **Suppress** checkbox at the top of the screen. Marking this box will hide all the highlighted data.



5. Click **OK**. Your list of names should now show each constituent only once.

6. Repeat this procedure for the list of home and business phone numbers.



► Generating a report grand total

You can generate a grand total for any list of data on your report. For example, generate a grand total of the number of trustees listed.

1. From the Preview tab of your report, highlight one of the names. By doing this from the Preview screen, all names in the list are highlighted and treated as one field.
2. Right-click and select **Insert**. A submenu appears.

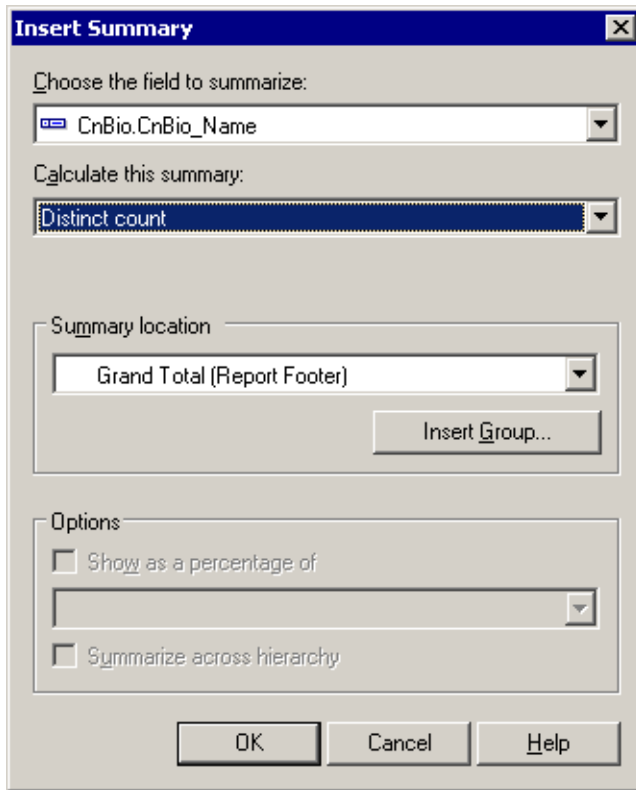
3. From the submenu, select **Summary**. The Insert Summary screen appears.

The screenshot shows the 'Insert Summary' dialog box with the following configuration:

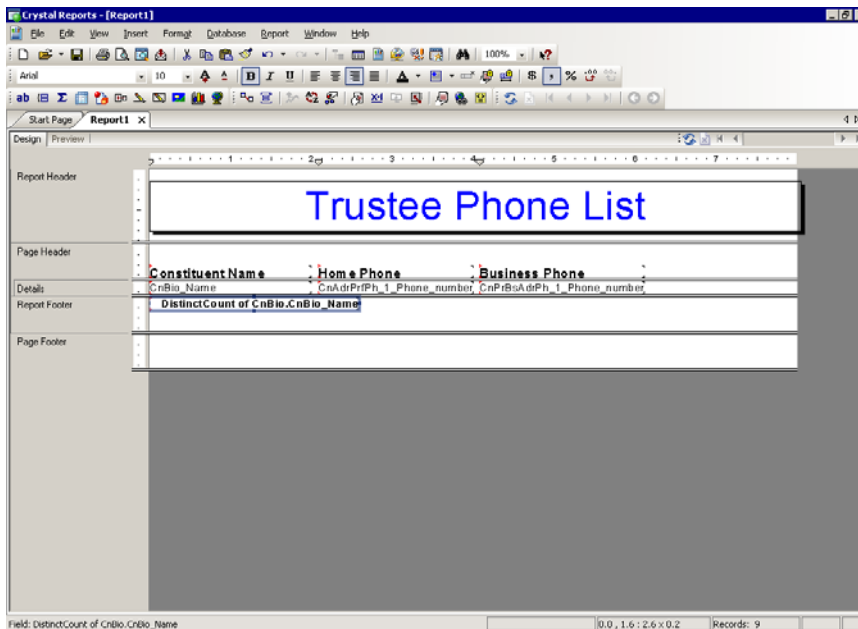
- Choose the field to summarize:** CnBio.CnBio_Name
- Calculate this summary:** Maximum
- Summary location:** Grand Total (Report Footer)
- Options:**
 - Show as a percentage of
 - Summarize across hierarchy

Buttons at the bottom: OK, Cancel, Help.

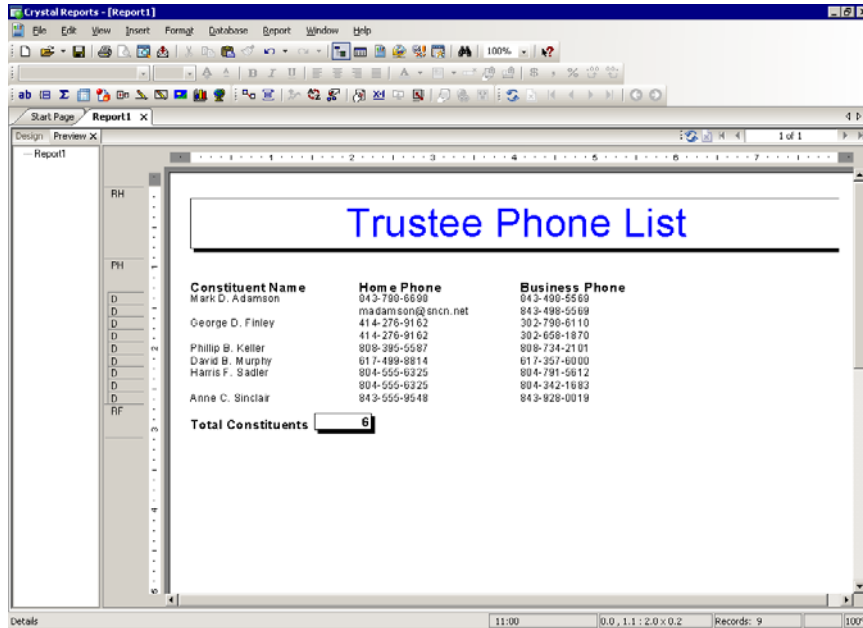
- In the **Calculate this Summary** field, select “Distinct count”. Distinct count means you want the report to count each piece of data only once.



- Click **OK**.
- To see the grand total number, scroll to the bottom of the Preview screen, under the list of constituent names. From the Design screen, the grand total shows as **Count of CnBio.CnBio_Name** in the Report Footer section.



7. For more emphasis, you can increase the font size of the grand total field, change the color, or add a border. You can also insert an explanatory text field into the Report Footer section. For example, "Total Constituents". For more information about inserting a text field, see "Inserting text fields in a report" on page 29.



This completes your Trustee Phone List. Congratulations!

Saving a Crystal Report

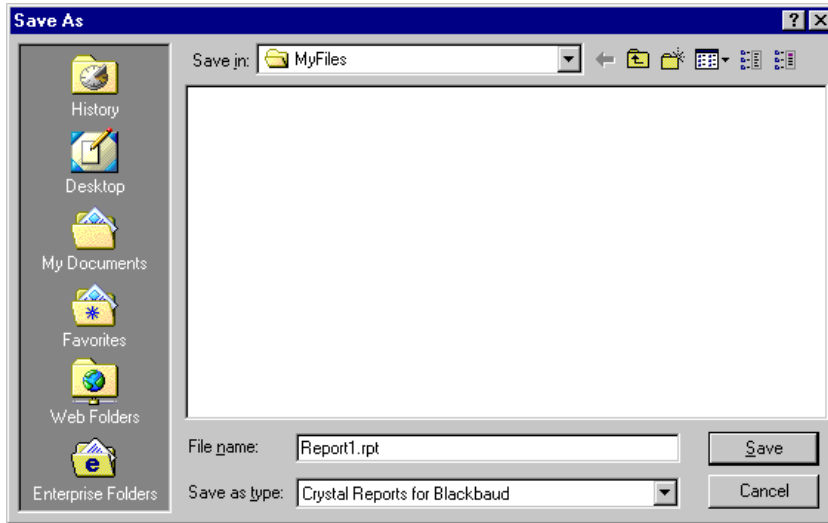
You can save your report with the data included, or choose to save only the report layout. Once you save a report layout, you can use the report over and over with different sets of constituent data. Make sure you name your report something you will recognize later, and save it in a directory you create especially for your Crystal reports.

► Saving a report

Before you save your report, decide whether you want to save it with your data attached or save only the report layout.

1. To save your report with the data, select to **File, Save Data with Report** from the menu bar. If you want to save only the report layout, do not check this option.

2. On the toolbar, click the **Save** button. The Save As screen appears.



3. In the File name field, enter the name of your report. Name your report something you can remember (for example, Trustee Phone List).
4. Make sure “Crystal Reports for Blackbaud” is in the **Save as type** field.
5. Click **Save**.
6. To close your report, click the “X” in the top right corner.

Creating a Gift Detail Report

Designing and writing a report with gifts and formulas is a good way to learn some advanced techniques in *Crystal Reports*. Including gift information on your report allows you to work with summaries, subtotals, and mathematical grand totals. You can use equations to exclude data, regroup data, or change the appearance of your data.

When you create a custom report, you decide exactly what information you want to see, and how you want it presented. This is especially convenient when dealing with gifts and gift dates. Designing your own Crystal report lets you control every aspect of your report.

Your finished report will look similar to the one below.



2003 Annual Fund		
Elizabeth A. Ashton	03/17/2003	\$ 5,000.00
2004 Annual Fund		
Robert C. Hernandez	06/15/2004	\$ 125.00
Christopher T. Young	06/25/2004	\$ 125.00
Nicholas Vincent	06/01/2004	\$ 75.00
2004 Membership Fund		
Sean A. Davenport	02/10/2004	\$ 1,500.00
Sean A. Davenport	09/29/2004	\$ 1,500.00
2005 Annual Fund		
Nicholas Vincent	06/02/2005	\$ 300.00
2005 Membership Fund		
Elizabeth A. Ashton	10/15/2004	\$ 100.00
Andrea L. Tidwell	01/03/2005	\$ 50.00
2006 Annual Fund		
Elizabeth A. Ashton	11/28/2006	\$ 75.00
Paul R. Frantz	11/24/2006	\$ 75.00
2006 Membership Fund		

Creating an Export File

Before you design and create your report, you need to decide what kind of information you want to display. What fields do you need from *The Raiser's Edge* to generate the correct data on your report? Creating the export file is the first and most important step. Without the correct fields in your export, you will not be able to produce the results you want on your report.

When selecting the fields you need from *The Raiser's Edge*, always include any field you are undecided about. You do not have to include it in the report if you decide it is unnecessary, but once you are in *Crystal*, only fields you exported are available. If you decide you need another field, you will have to export your data again.

▶ Creating a new export file

To create a report of your board members and their giving histories, you need to export their names, gift amounts, gift dates, and funds. Build a constituent export based on your board member query.

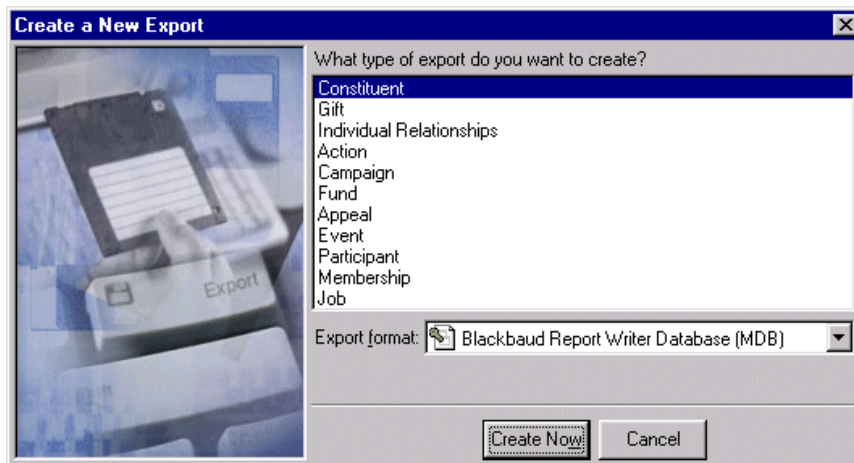
Scenario: During your organization's last board meeting, some of your board members expressed an interest in their recent giving history. They want to see a giving history of board members, broken down and grouped by fund, including details like constituent names, gift dates, and individual gift amounts. Because no report exactly like this is available in *Reports*, you need to create a custom report in *Crystal Reports*.

1. On the *Raiser's Edge* bar, click **Export**. The Export page appears.

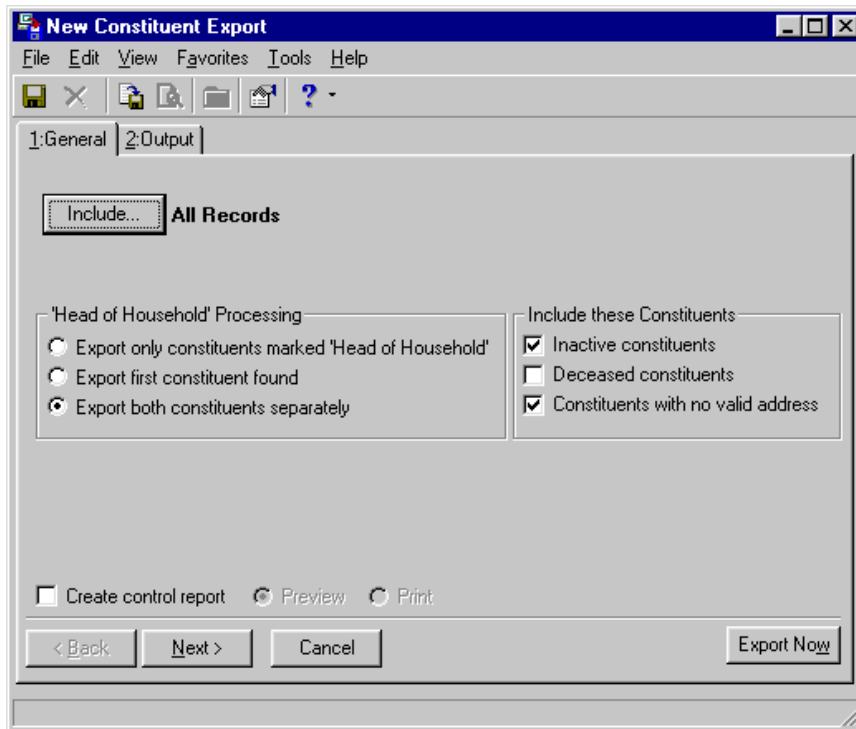
2. On the action bar, click **New Export**. The Create a New Export screen appears.



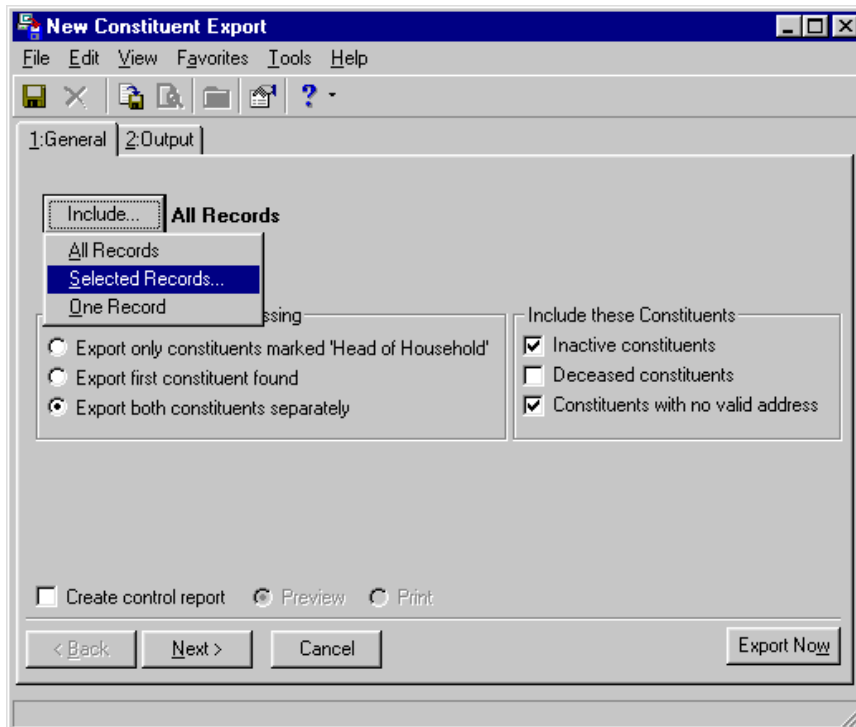
3. In the **What type of export do you want to create** box, select “Constituent” because you want to gather your board member records.
4. In the **Export format** field, select “Blackbaud Report Writer Database (MDB)”. Selecting an .MDB file type tells the program to format the data in a way Crystal can read.



5. Click **Create Now**. The New Constituent Export screen appears.



6. On the General tab, click **Include** to select the specific records to include in the export.



7. Because you want to export only your board members' records, choose **Selected Records**. The Open Query screen appears.

The screenshot shows the 'Open Query' dialog box. At the top, there is a 'Find:' dropdown menu with 'Queries' selected. Below this is a large empty rectangular area. To the right of this area are several buttons: 'Open', 'Cancel', 'Edit', 'Add New', 'Options', 'Find Now', and 'New Search'. Below the empty area, there is a section titled 'Find Queries that meet these criteria:'. This section contains several dropdown menus: 'Query type:' (set to '<All relevant types>'), 'Query format:', 'Query name:', and 'Description:'. There are also two input fields: 'Created On:' and 'Created by:'. At the bottom left of this section are two checkboxes: 'Show merged queries only' and 'Exact match only'. At the bottom right are buttons for 'Find Now', 'New Search', and 'Expand Results'.

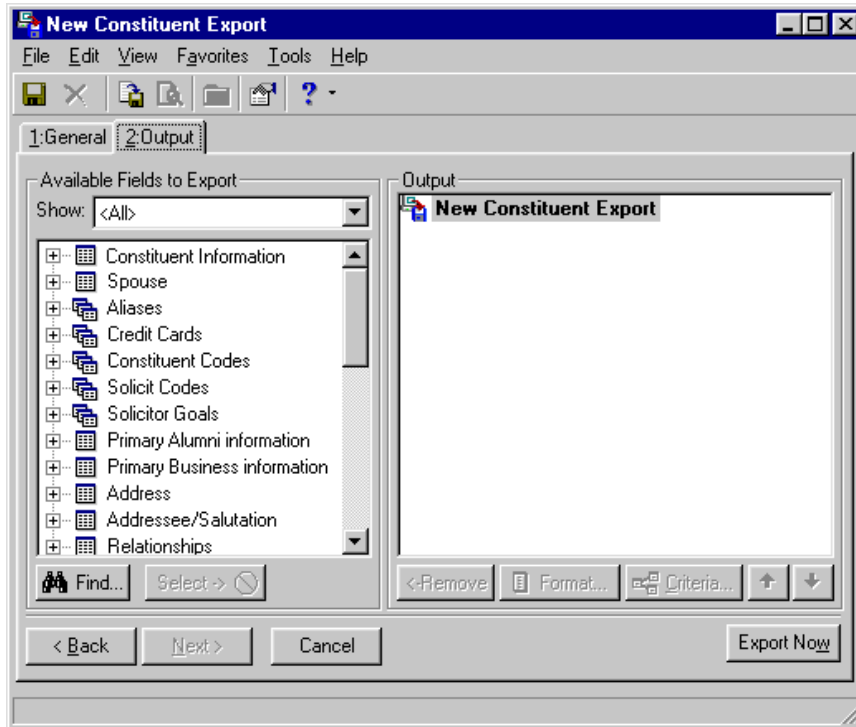
8. Because you want to export information about your board members, enter “board” in the **Query name** field.
9. Click **Find Now** and any query beginning with “board” displays.

The screenshot shows the 'Open Query' dialog box after a search. The 'Find:' dropdown is still 'Queries'. The search criteria section now has 'Query name:' set to 'board'. The search results are displayed in a table with the following columns: 'Query Name', 'Query Description', 'Type', and 'Fo'. The table contains one row: 'Board Members', 'This query is being us...', 'Constituent', and 'Dynamic'. Below the table, the 'Find Queries that meet these criteria:' section is the same as in the previous screenshot, but the 'Query name:' dropdown is now 'board'. At the bottom left, it says '1 record found.' The 'Find Now' button is highlighted.

10. Highlight the Board Members query.
11. Click **Open** and you return to the General tab. “Board Members” shows to the right of the **Include** button.

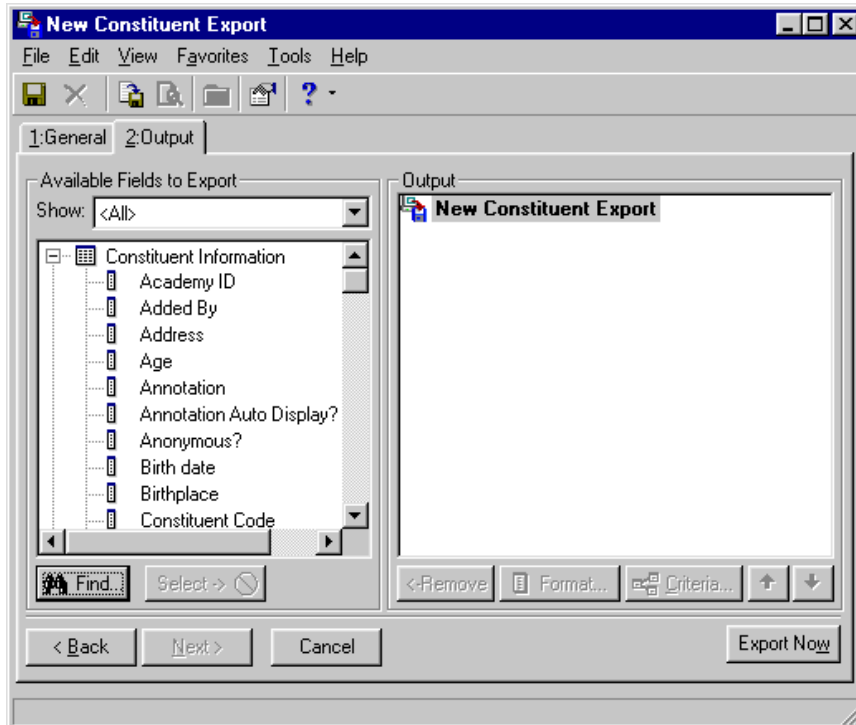
Note: The first field in the **Output** box of an export is either the export’s name (for saved exports) or the export type (for exports not saved).

12. Accept the defaults for all other fields on the General tab. Select the Output tab.



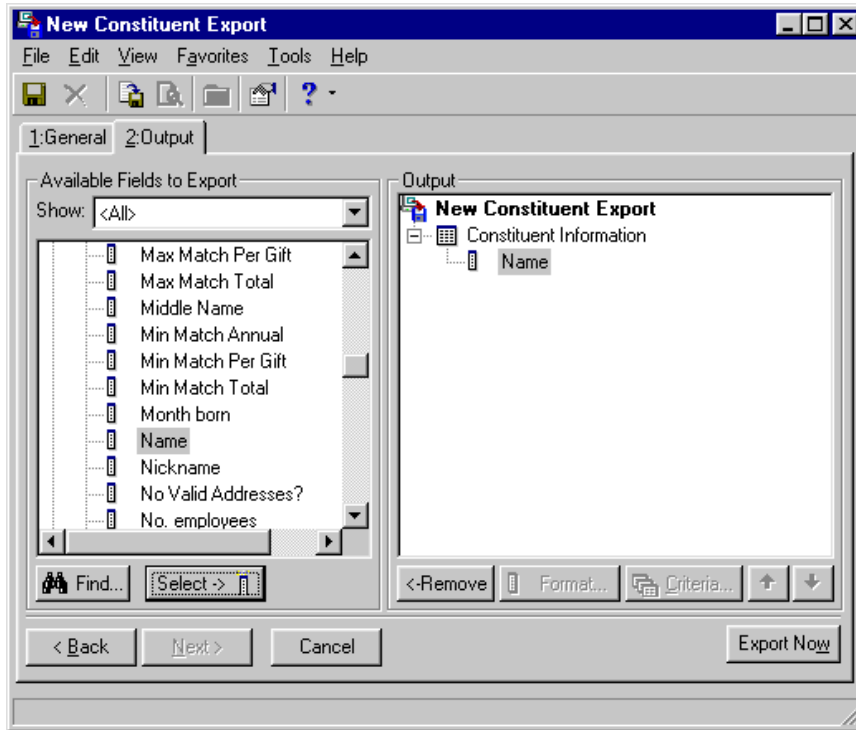
Because you want to include **Constituent Name**, **Gift Date**, **Gift Amount** and **Fund Description** in your export, you must select these fields from the tree view on the left.

13. From the tree view on the left, in the **Available Fields to Export** frame, click the plus sign next to **Constituent Information**.



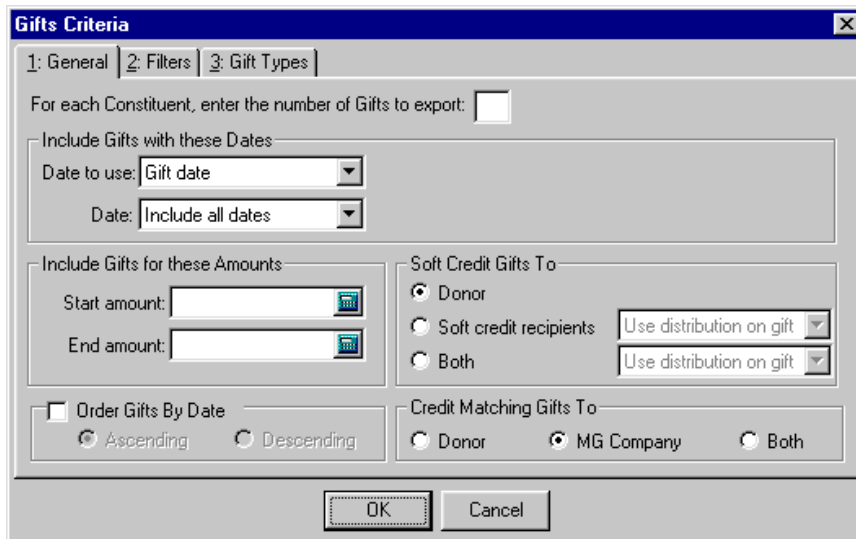
Tip: You can click **Find** to quickly access a field.

14. The fields are in alphabetical order. Scroll down the list and highlight **Name**.
15. Click **Select** at the bottom of the screen to move **Name** into the **Output** box on the right.



Note: For more information about *Export*, see the *Export* chapter in the *Query & Export Guide*.

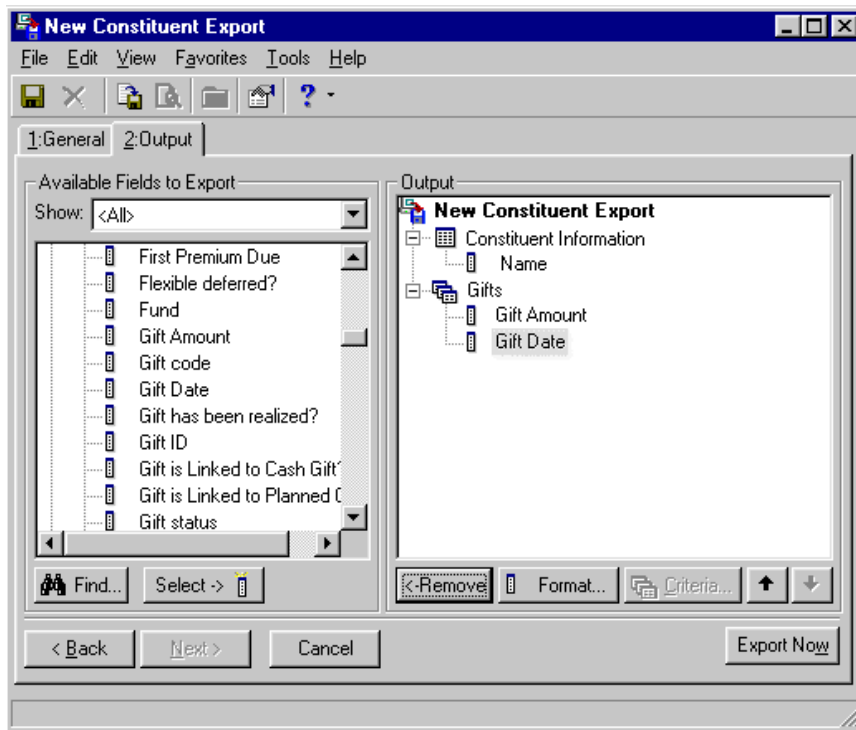
16. From the tree view on the left, in the **Available Fields to Export** frame, click the plus sign next to **Gifts**.
17. Highlight **Gift Amount**, then click **Select** to move it into the **Output** box on the right. The Gifts Criteria screen appears.



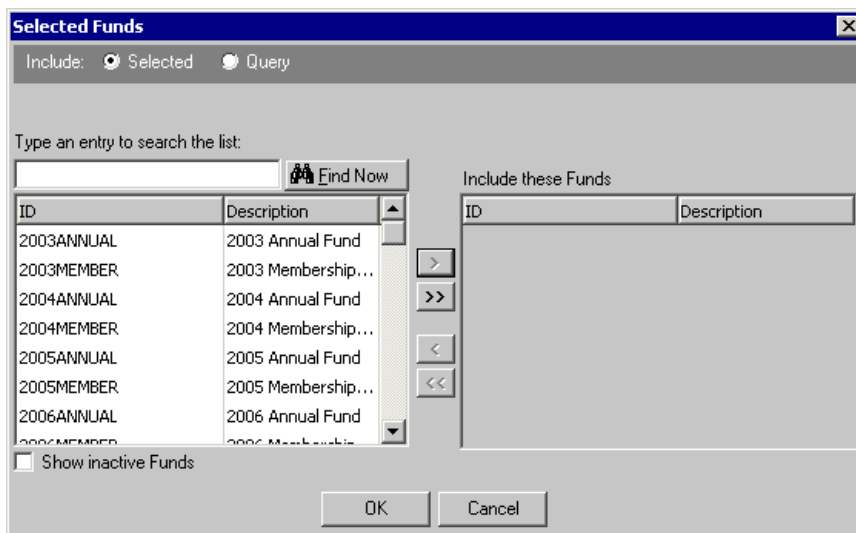
18. Because you want to include all gifts to all funds for this group of constituents, accept the defaults on the Gifts Criteria screen. Click **OK**.

Note: You can also double-click on a field to move it to the **Output** box.

19. From the tree view on the left, under **Gifts**, highlight **Gift Date** and click **Select** to move it into the **Output** box.



20. From the tree view on the left, under **Gifts**, click the plus sign next to **Funds**. Highlight **Description**, and click **Select**. The Selected Funds screen appears.

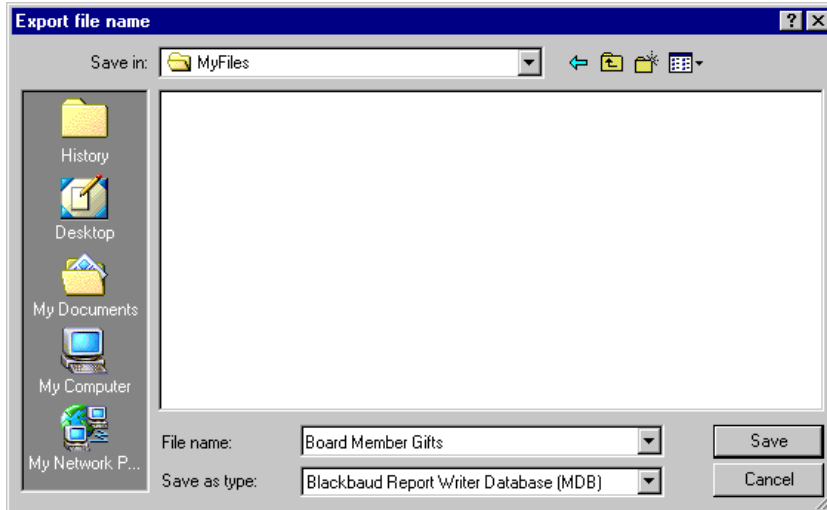


21. Because you want to report on gifts to all funds for your board members, click the double right arrows to move all funds into the **Include these Funds** box on the right.
22. Click **OK**. This completes the selections for the export.

23. Click **Export Now** in the lower right corner. The Export file name screen appears.

Note: It is important to remember the location of your .mdb database file. When you begin creating your Crystal report, you will be prompted to locate this .mdb file.

24. In the **File name** field, enter “Board Member Gifts”. Select a location to save your export. The **Save as type** field should automatically show “Blackbaud Report Writer Database (MDB)”.



25. Click **Save** and the export processes. A screen appears telling you the number of constituent records exported.



26. Click **OK**.
27. Click the “X” in the top right corner of the New Constituent Export screen. A message appears, asking if you want to save the export.
28. Click **Yes** and name the export “Board Member Gifts”.

For more information about exporting, see the *Query & Export Guide*.

Report Setup

To create a new custom report in *Crystal Reports*, you need to open a new blank report, and attach the export file you created to serve as the data. Once you start building your report, only data generated in the export file is available. You are not connected to your *Raiser’s Edge* database.

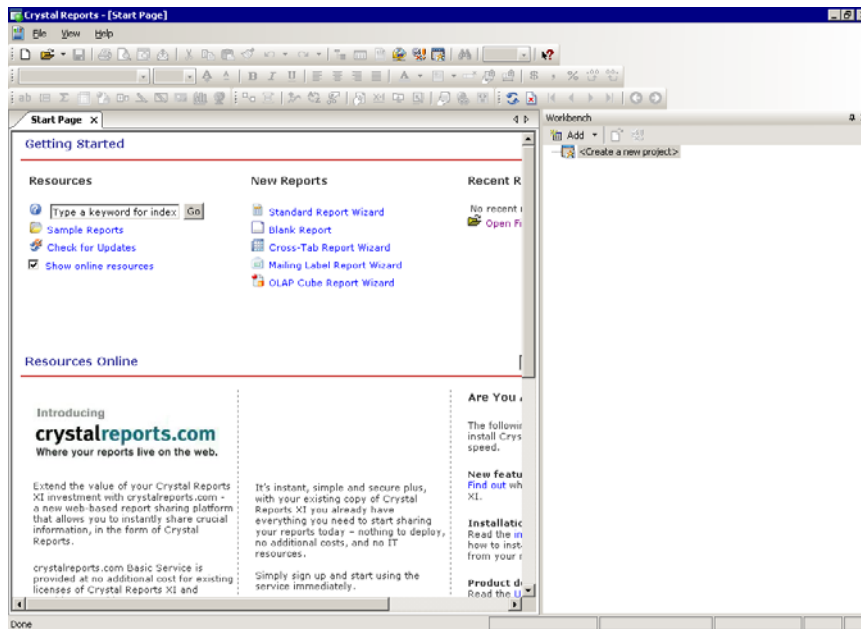
► Creating a new custom report

Now that you have created your export, you are ready to start creating your new custom report. In this section, you will begin inserting your board member fields and formatting your report to create the look you want.

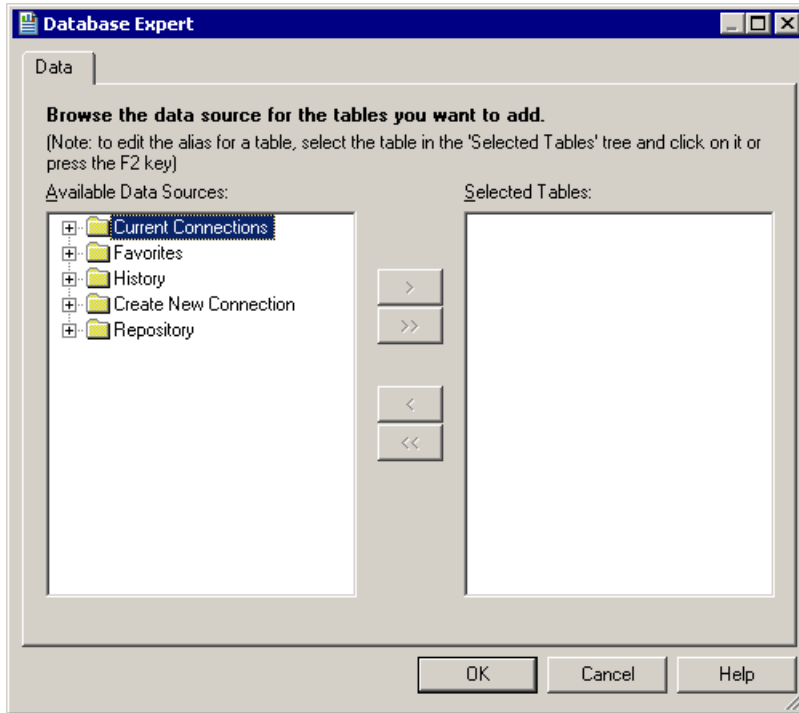
Note: For additional help with *Crystal Reports*, Blackbaud offers a custom report writing service to fit the needs of your reporting requirements. For more information or to obtain an estimate for your report template, call 1-800-443-9441 or send an email to solutions@blackbaud.com.

1. From your desktop, go to **Start, Programs, Crystal Reports 11**. You may also have an icon on your desktop you can double-click to launch the program.

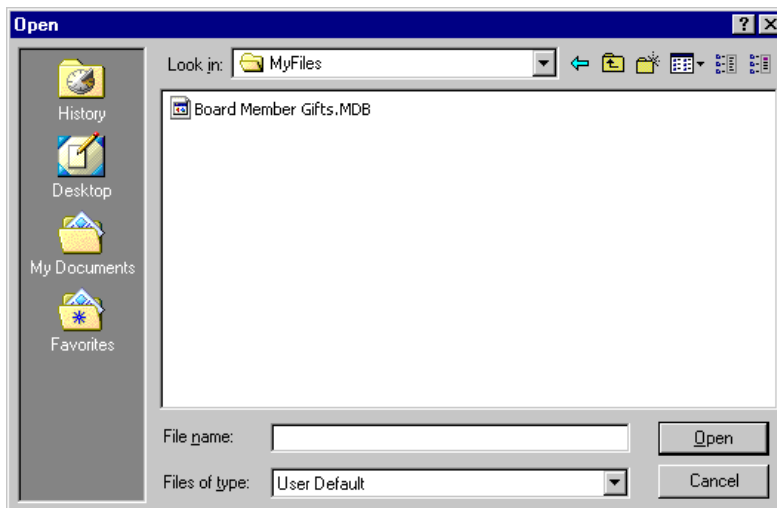
Crystal opens and the Getting Started screen appears.



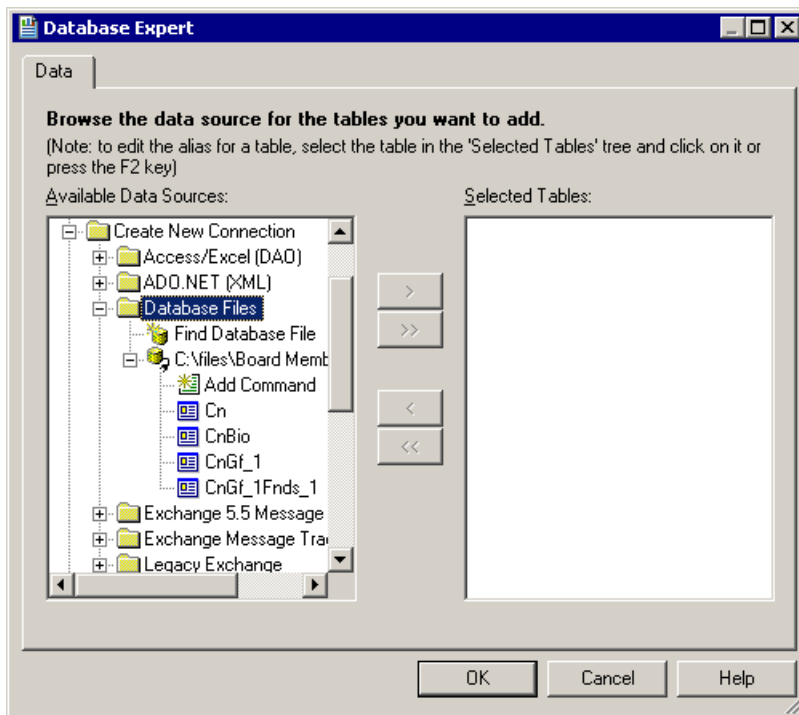
2. In the **Getting Started** frame, click **Blank Report**. The Database Expert screen appears.



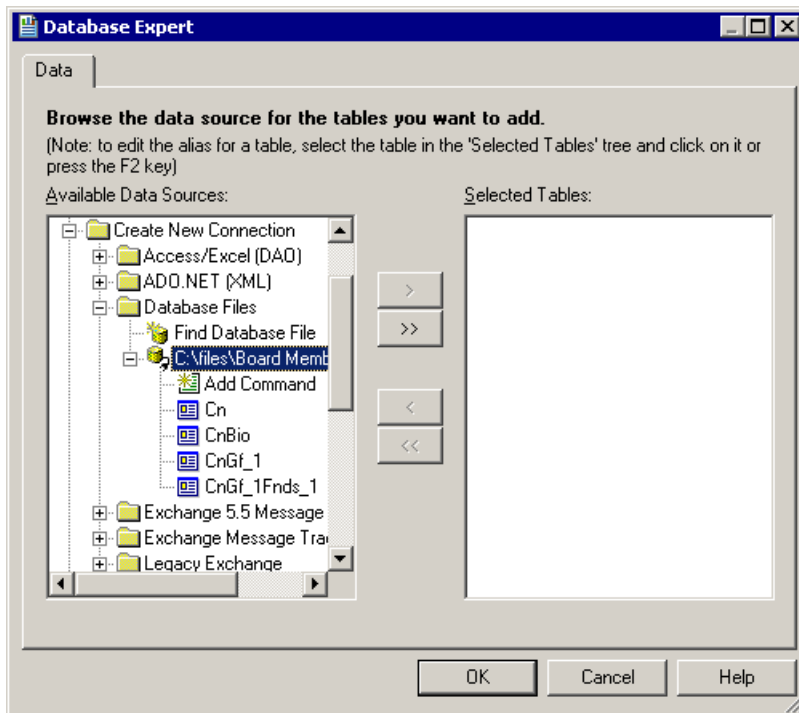
3. Click the plus beside **Create New Connection** to expand the tree view.
4. Click the plus beside **Database Files**. The Open screen appears so you can find your *Raiser's Edge* database file.



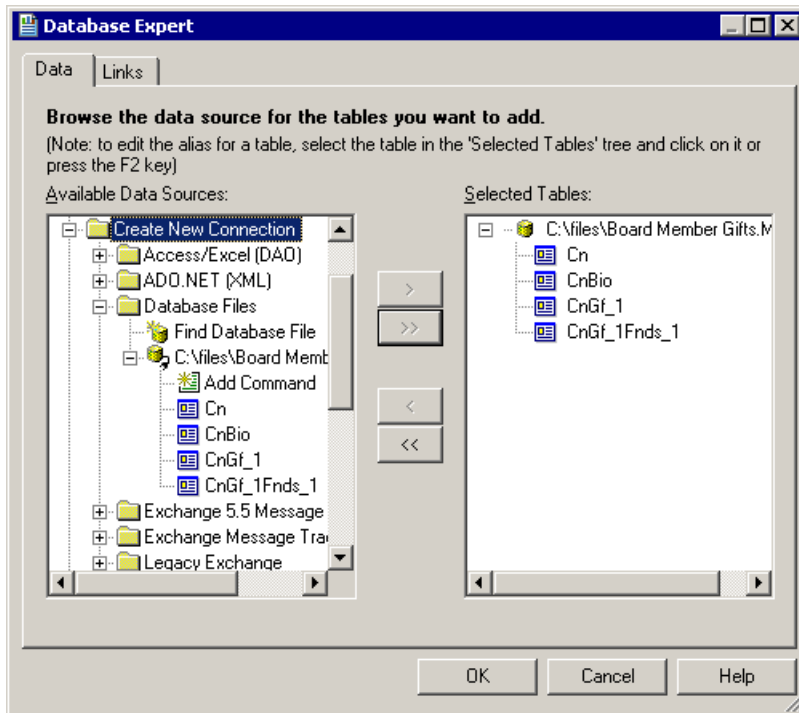
5. Highlight the .mdb file you need, and click **Open**. You return to the Database Expert screen. Notice all your database fields are listed in the tree view.



6. Highlight the path to your .mdb file in the **Available Data Sources** box.

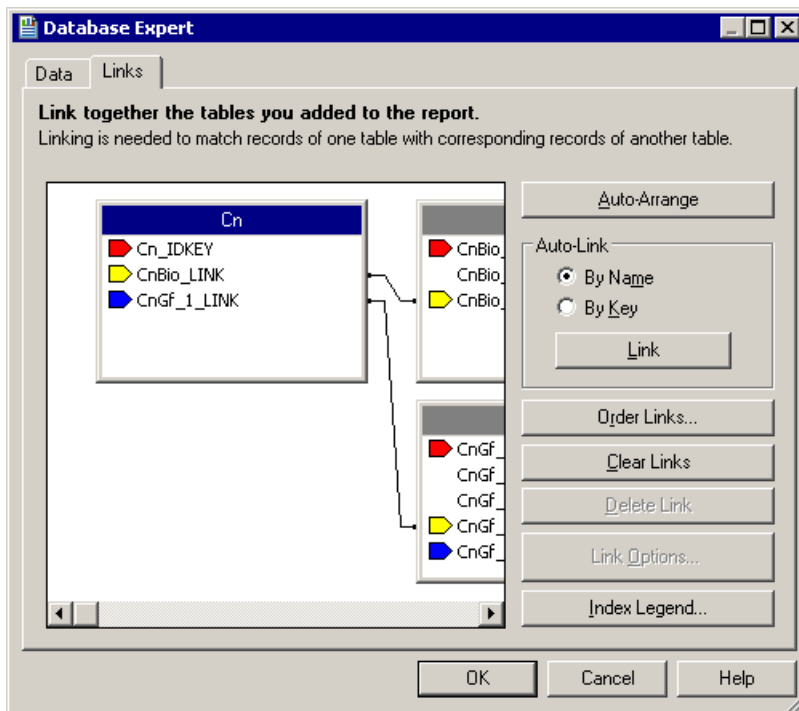


- To move all of the fields in the .mdb file to the **Selected Tables** box, click the right double arrow button. The fields appear in the box to indicate they have been included for your Crystal report.



Note: The Visual Linking Expert DAO screen shows the tables in the export file and how they link together. For most reports, you do not need to alter these tables or their links manually. Click **OK**, and *Crystal Reports* automatically links the tables correctly.

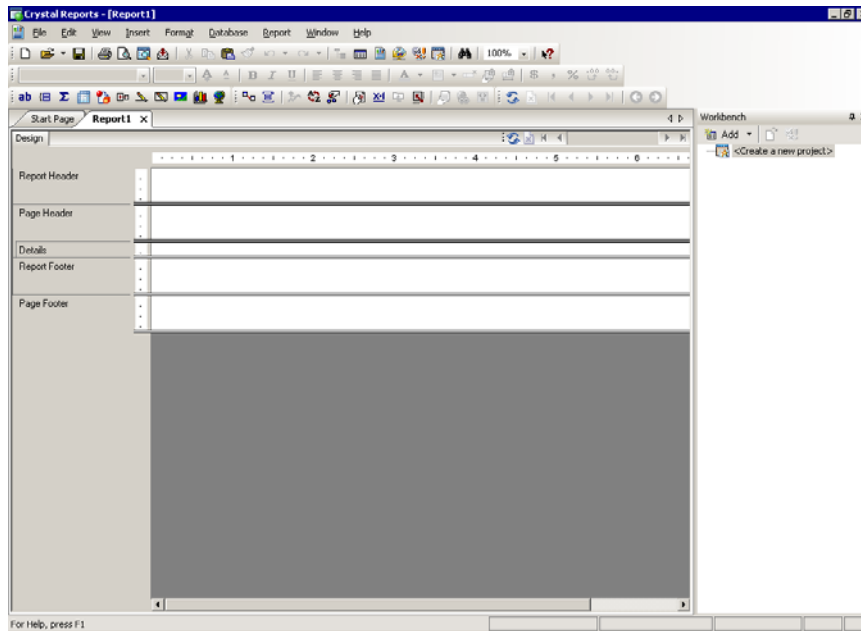
- Click **OK**. The Visual Linking Expert on the Links tab appears.



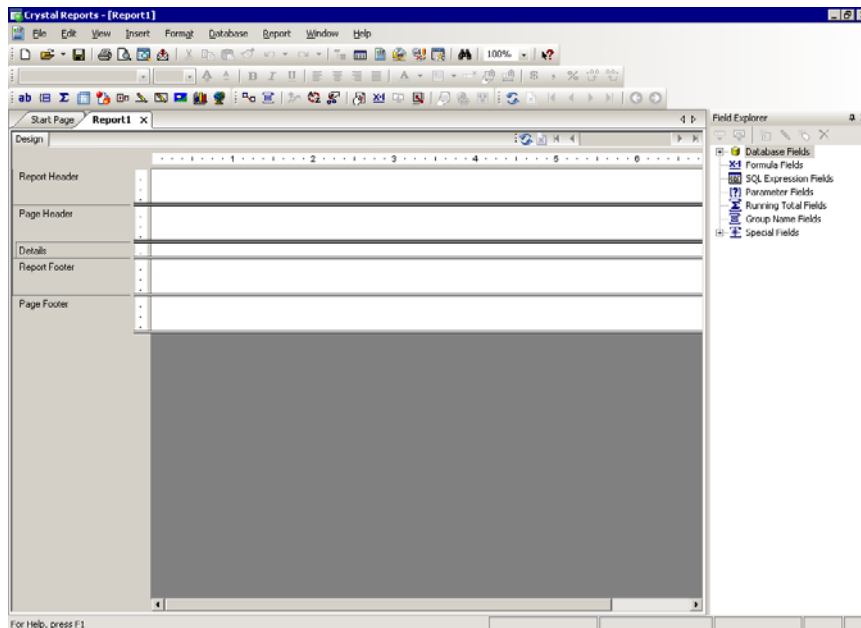
9. Click **OK**.

Note: The **Workbench** appears on the right side of the screen. You can use the **Workbench** to contain projects that contain one or more reports. For more information, see the *Crystal Reports XI* help file. To remove the **Workbench** from your screen, click the X in the top right corner of the screen.

The blank Crystal report is now available.



10. To display the **Field Explorer** frame, select **View, Field Explorer** from the menu bar. The frame appears on the right side of the screen.



This frame contains all the fields you exported from *The Raiser's Edge*. You will use these fields to build your report.

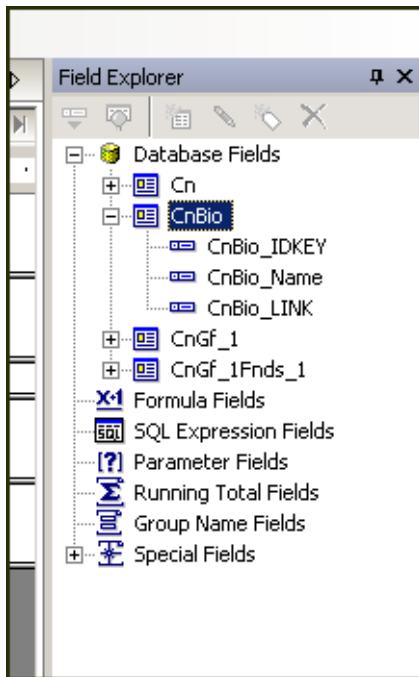
Report Layout

The placement of fields on the report determines the final look and effectiveness of the report. It is important to understand that fields are calculated and grouped based on the section into which you insert them.

▶ Inserting fields into a new report

Once you have designed your report, you are ready to start inserting your export fields into the report. Pay close attention to the fields and report sections to make sure you place everything correctly.

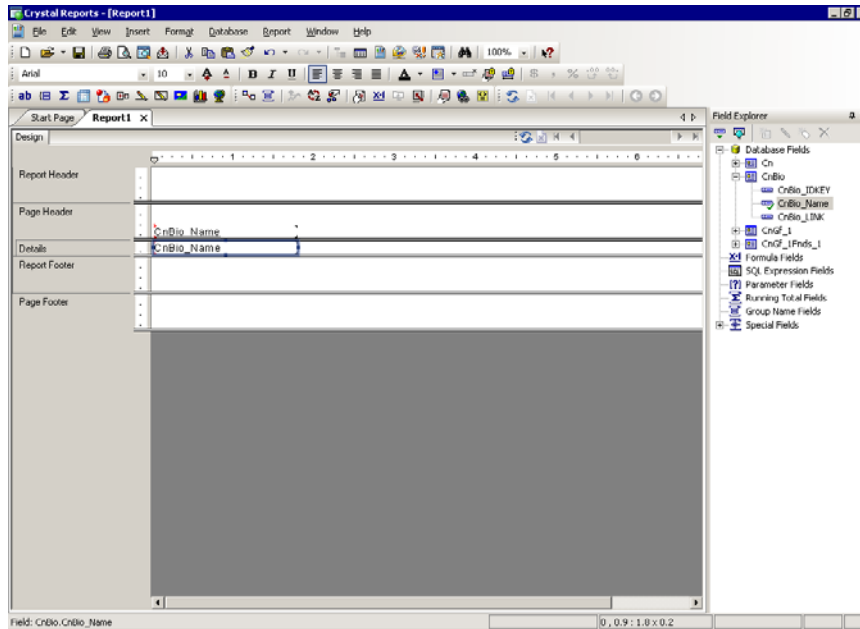
1. From the new blank report, in the **Field Explorer** frame, click the plus sign next to **Database Fields**. All the data from *The Raiser's Edge* appears.
2. Click the plus sign next to **CnBio**.



Warning: Remember, links and identifier keys are exported out of *The Raiser's Edge* along with the fields and data. When you look through the **Field Explorer** frame, make sure you only insert fields onto the report, not LINKS or IDKEYS.

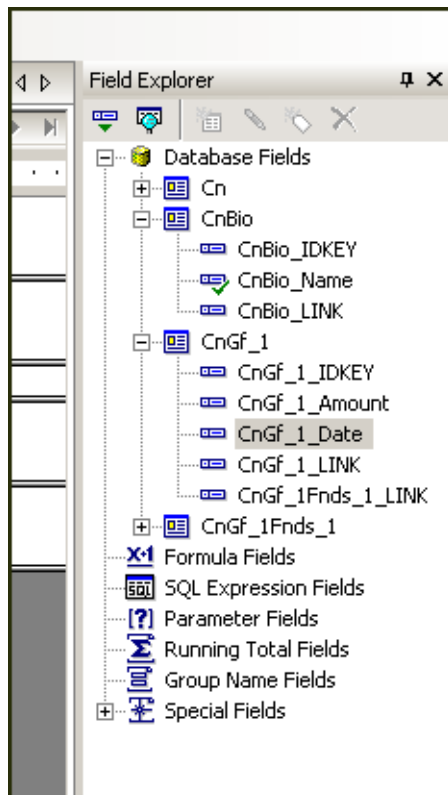
3. Highlight **CnBio_Name**. Click and drag it up to the far left side of the Details section. Release your mouse to drop the field in place.

The field name is automatically added in the Page Header section above the field.



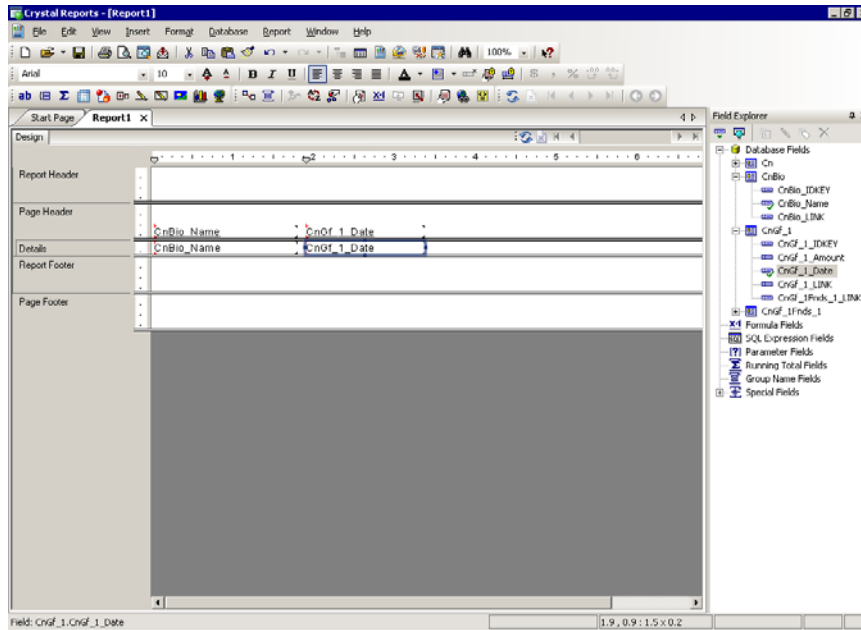
Before you add any other fields, you may need to move or size this field to make sure it is the correct size for the data. If the box is too small, the data will be truncated. If the box is too large, there will be too much white space between fields. For more information about moving and sizing fields, see “Moving fields in a report” on page 25, or “Sizing fields in a report” on page 24.

4. From the **Field Explorer** frame, click the plus sign next to **CnGf_1**. Then, highlight **CnGf_1_Date**.



- Click and drag **CnGf_1_Date** into the Details section next to **CnBio_Name**. Release your mouse to drop the field in place. Leave about a quarter of an inch between the two fields.

The field name is automatically added in the Page Header section above the field.



- From the **Field Explorer** frame, under **CnGf_1**, highlight **CnGf_1_Amount**.
- Click and drag **CnGf_1_Amount** into the Details section next to **CnGf_1_Date**. Again, leave about a quarter of an inch between the two fields.
- Once you insert these fields on the report, close the **Field Explorer** frame.

Even though you exported fund description from *The Raiser's Edge*, you do not actually insert it on the report. You will use it later to group and sort your records.

Formatting a Crystal Report

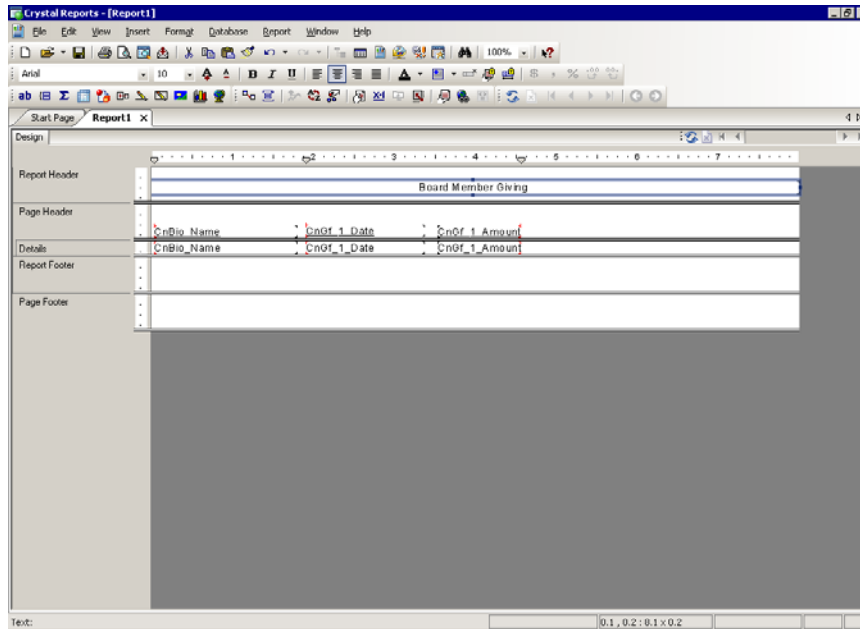
After you insert your fields, move them to the correct sections, and size them appropriately, you need to format the report. You will add a report title, update your field headings if necessary, select a color and font size for your data, and generate a report grand total.

▶ Inserting text fields in a report

Text fields, such as titles, can be inserted into a report at any time.

- From the Design tab of your report, click the **Insert Text Object** (or **ab**) button on the toolbar. Drag the box down into the Report Header section and click once. A text box appears with a active cursor.
- In the text box, enter "Board Member Giving", then click once outside the box, or press the **Esc** key on your keyboard.
- To center the title across the top of the report, click once on the field to activate the move box. Using the small, black squares on either side of the box, stretch the field all the way to the left of the Report Header section, and then all the way to the right. The title box should stretch across the entire width of the section.

4. On the toolbar, click the **Align Center** button. The title moves to the center of the report.

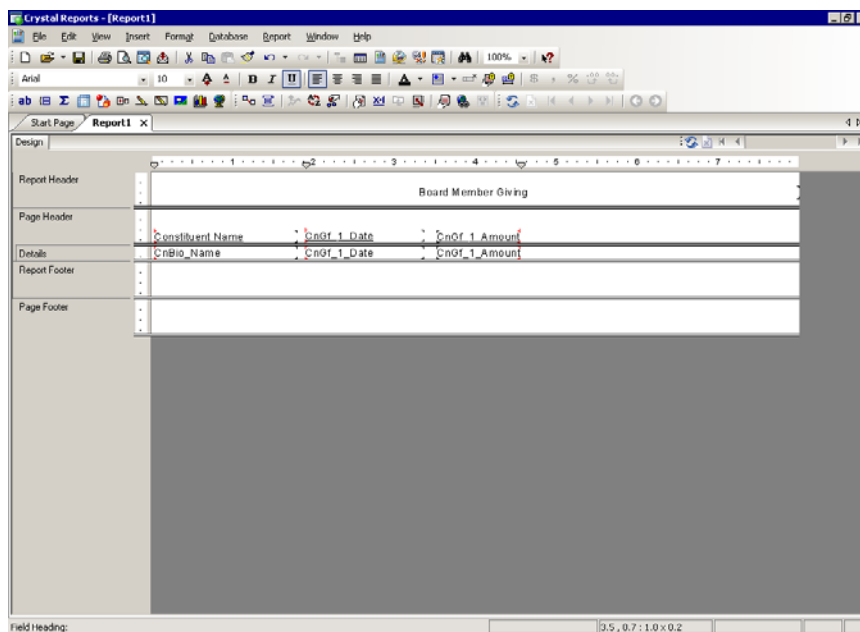


Normally you would probably increase the font size of the title, change the color, and add a border. However, for this report, we are going to apply a style expert later that automatically makes these enhancements.

► Changing field headings in a report

You can change the name of a field heading on your report to make it more intuitive for your audience. For example, you can change **CnBio_NAME** to Constituent Name to make your report more clear.

1. To change the name of the constituent field, click once on **CnBio_NAME** in the Page Header section. Right-click and choose **Edit Text** from the menu. An active cursor appears in the field header box.
2. Replace **CnBio_NAME** with "Constituent Name", then click once outside the box.



3. Change the other two field header names to “Gift Date” and “Gift Amount”. Make sure you are in the Page Header section before you attempt to change the name.

► **Generating subtotals**

Because you want your report to display a subtotal for each fund, you need to generate one based on the gift amount.

Warning: Be careful to click the **CnGf_1_Amount** in the Details section, and not in the Report Header section. Because you are asking the program to perform a calculation, you must use a numerical field, not a text field.

1. To generate a subtotal of the gift amounts, click once on **CnGf_1_Amount** in the Details section. Right-click with your mouse and select **Insert**. A submenu appears.
2. From the submenu, select **Summary**. The Insert Summary screen appears.

Insert Summary

Choose the field to summarize:
CnGf_1 Amount

Calculate this summary:
Sum

Summary location
Grand Total (Report Footer)
Insert Group...

Options
 Show as a percentage of
 Summarize across hierarchy

OK Cancel Help

3. Click **Insert Group**. The Insert Group screen appears.

Insert Group

Common Options

When the report is printed, the records will be sorted and grouped by:

CnBio.CnBio_Name

in ascending order.

Use a Formula as Group Sort Order x/2

The section will be printed on any change of:
CnBio.CnBio_Name

OK Cancel Help

4. In the first drop-down field, scroll down to the bottom of the list and select **CnGf_1Fnds_1_Description**.
5. In the second field, leave the default of “in ascending order”.

Insert Group

Common Options

When the report is printed, the records will be sorted and grouped by:

CnGf_1Fnds_1_Description

in ascending order.

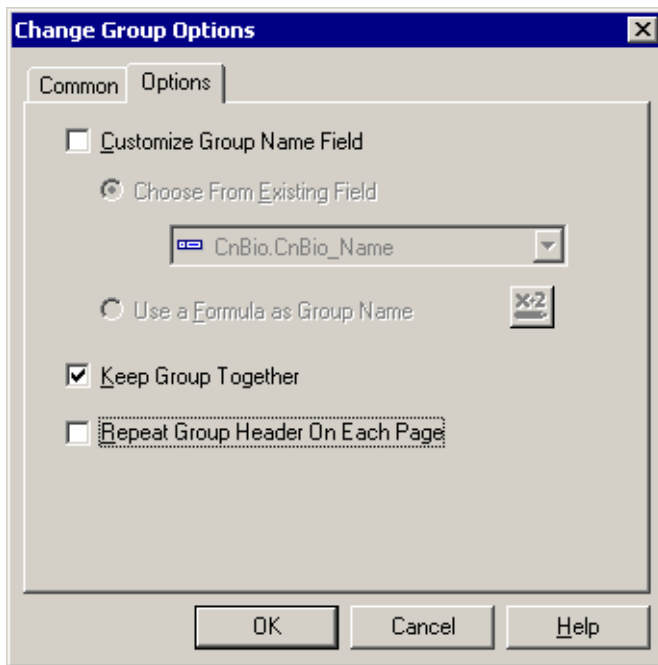
Use a Formula as Group Sort Order x/2

The section will be printed on any change of:
CnGf_1Fnds_1_Description

OK Cancel Help

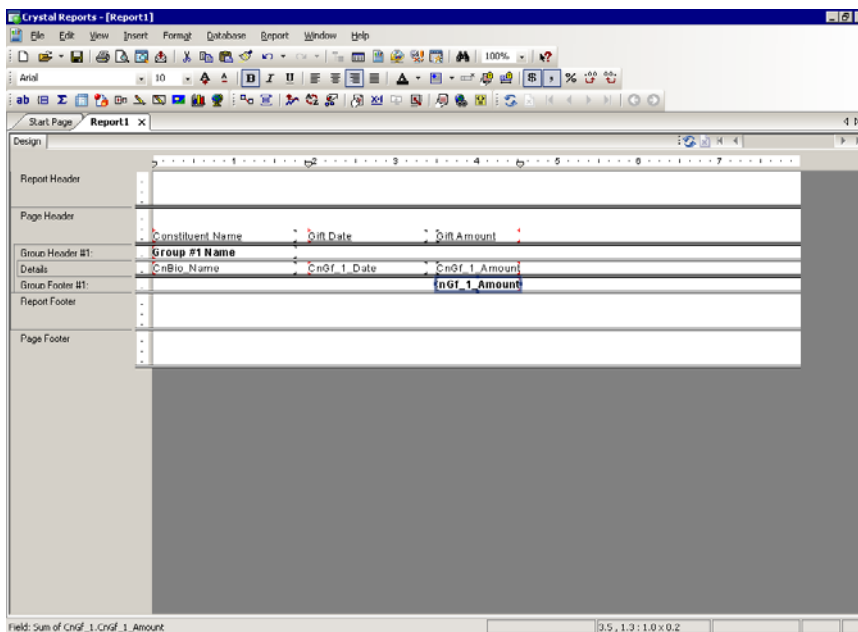
6. Select the Options tab.

7. Mark the **Keep group together** checkbox. This ensures groups of gifts to the same fund are not split over two pages.



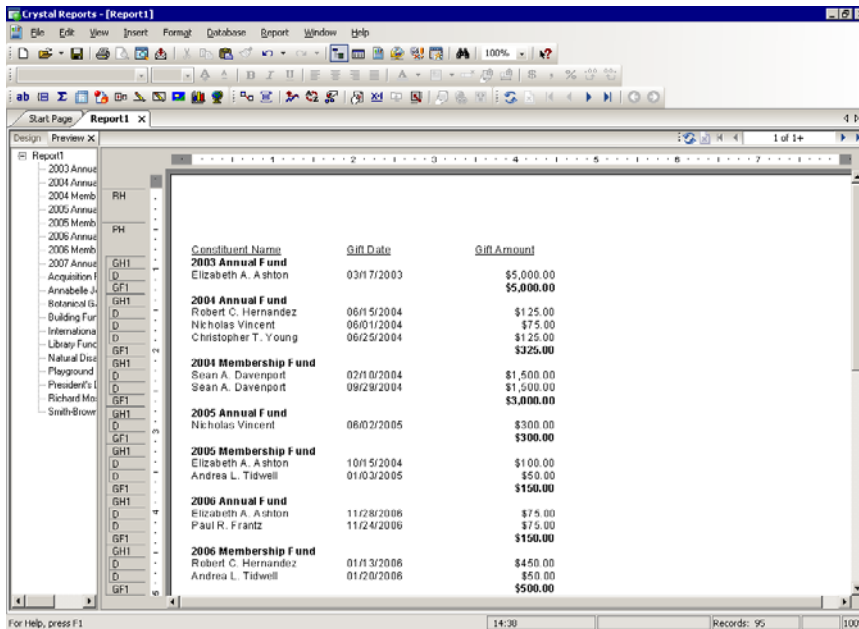
8. Click **OK**. You return to the Insert Summary screen.
9. Click **OK**. You return to the Design tab of your report.

Notice that two new sections, Group Header #1 and Group Footer #1, have been added. Also notice two new fields have been added to the report itself. These are the subtotal and group fields. The new field in the Group Header #1 section will show as the fund description on your final report. For example, 2007 Annual Fund. The field in the Group Footer #1 section is the actual subtotal amount of all the gifts for one fund.



Note: If the time appears in your **Gift Date** column, you can quickly remove this information. To do this, right click on **CnGf_1_Date** in the Details section on the Design tab. A menu appears. From the menu, select **Format Field**. On the Date / Time tab, select the format you prefer to view dates in your Crystal report.

- To view the results of your report so far, click the **Print Preview** button on the toolbar. This provides a preliminary preview of the basic data so you can verify the information. You may notice your gift amount headers are truncated, or that some constituent names appear more than once. This is normal and is addressed in the next section.

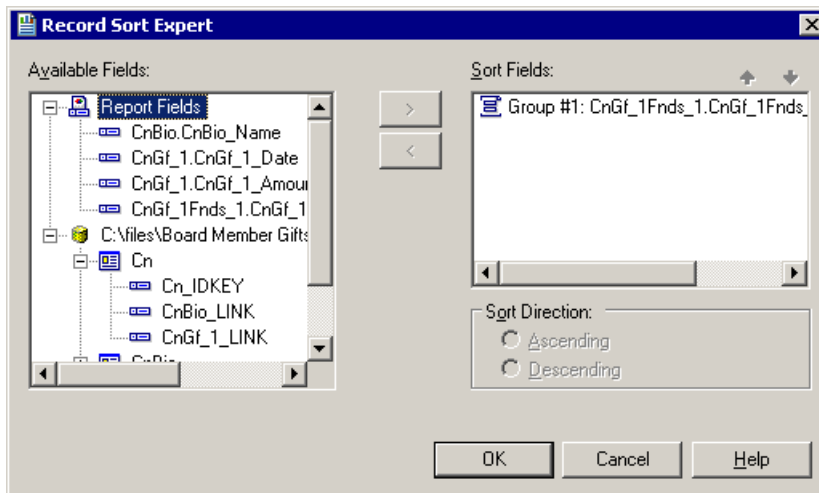


► **Sorting and grouping gifts**

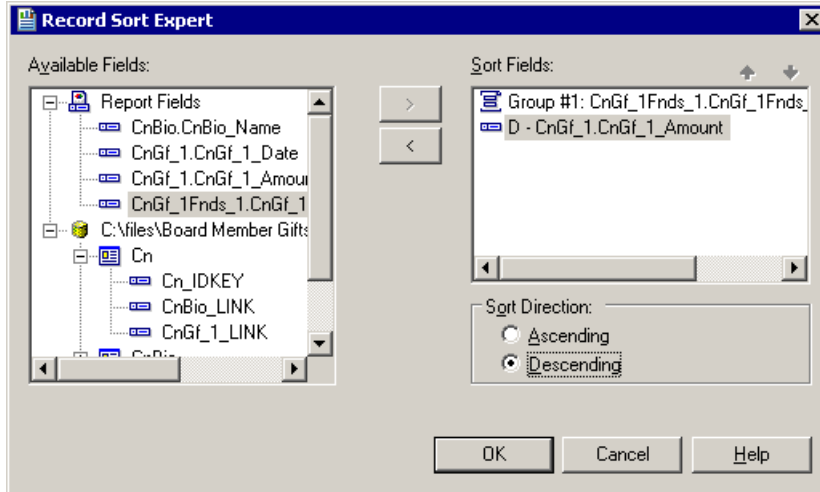
Because you generated a subtotal for your gift amounts, there is already a report group of fund description. However, you can add another group or an additional sort to your report.

You decide you want to see all the gifts for each fund group sorted from the largest gift to the smallest.

- To sort the gift amounts in descending order, highlight one of the individual amounts from the Preview screen. All gifts in the list are shaded in gray. On the toolbar, click the **Record Sort Export** (or **A to Z**) button. The Record Sort Expert screen appears.



2. From the **Available Fields** box on the left, highlight **CnGf_1.CnGf_1_Amount**.
3. Click the single right arrow button to move it into the **Sort Fields** box on the right.
4. In the **Sort Direction** frame, select **Descending**.

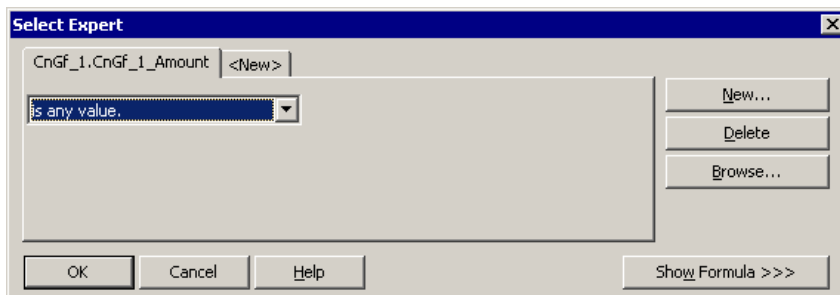


5. Click **OK**. Your individual gift amounts should now show in descending order from largest to smallest gift.

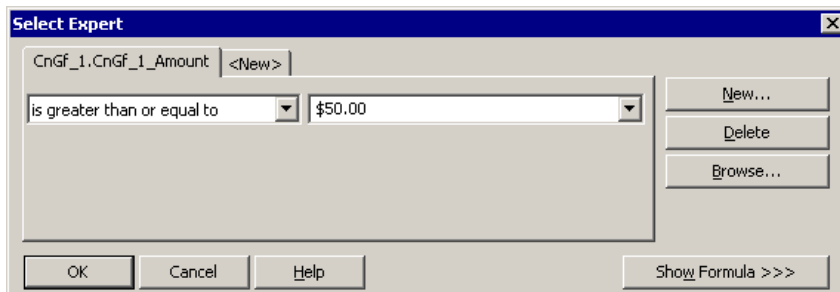
► Using the Select Records Expert in a report

Select Records Expert is a filtering tool within *Crystal Reports* that enables you to limit the results of your data, even after you have already created the report. The main advantage of this tool is that you do not have to export data again to change the results of your report. Also, the entire set of data you export is always there. You can choose to display only what you want to see at one time.

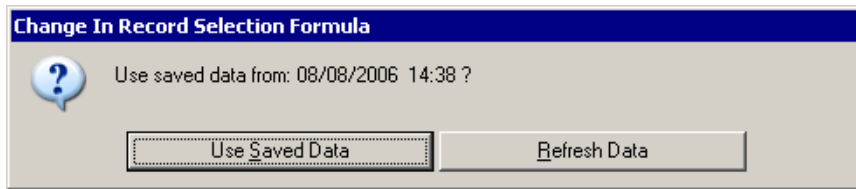
1. To filter the results of your report to show only gifts of \$50 or more, highlight one of the gift amounts on the Preview tab and click **Select Expert** on the toolbar. The Select Expert screen appears.



2. In the first field, select “is greater than or equal to” from the drop-down arrow. A second field appears. Select \$50.00 from the drop-down arrow. This simple equation tells the program to only show gifts of \$50 or more on the report.



- Click **OK**. A screen appears telling you the data has changed. It also asks if you want to use data automatically saved from the last time you made a change, or do you want to refresh the data.

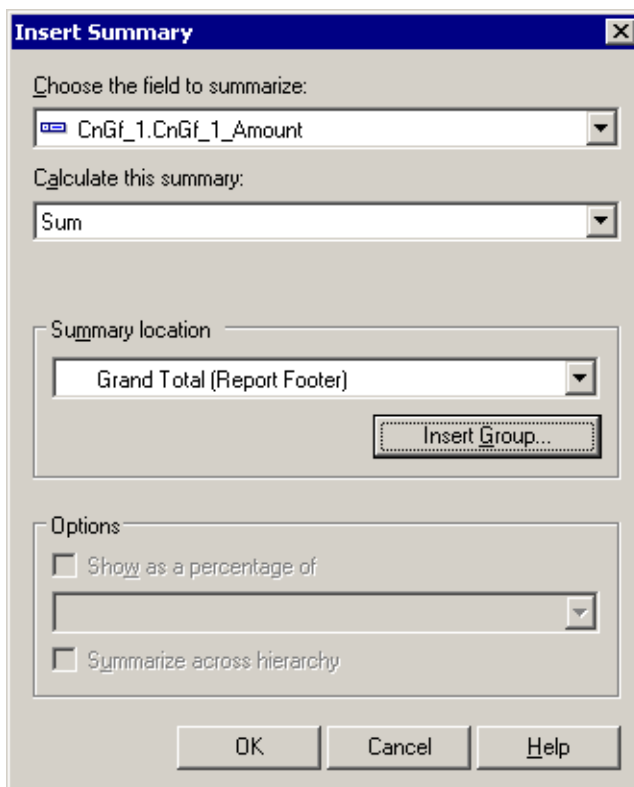


- To use the most recent data, click **Refresh Data**. You return to the Preview screen of your report. Now, only gifts of \$50 or more show.

► Generating a report grand total

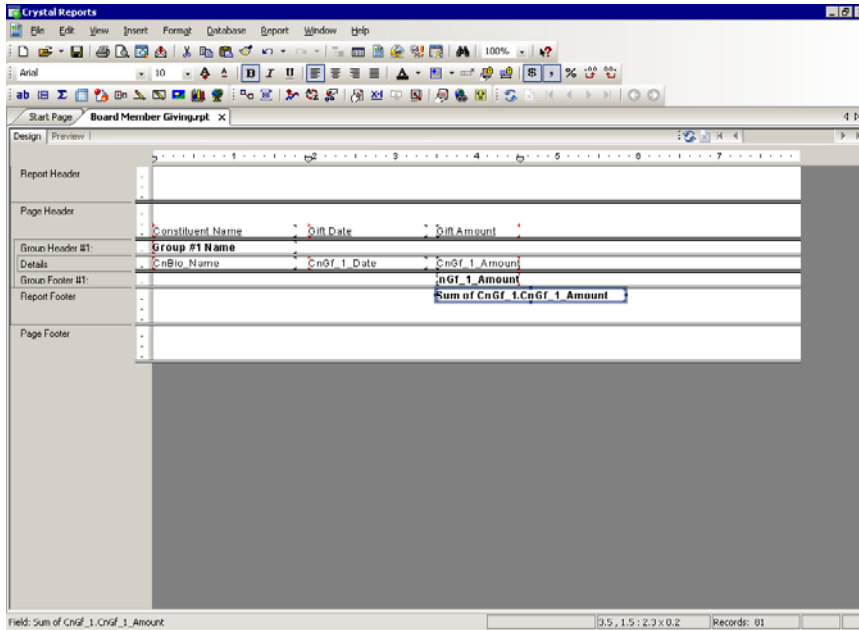
You can generate a grand total for any list of data on your report. For example, generate a grand total of all gifts listed.

- From the Preview tab of your report, highlight one of the gift amounts. Make sure it is a single gift, not one of the subtotal amounts. By doing this from the Preview screen, all gifts in the list are highlighted and treated as one field.
- Right-click and select **Insert**. A submenu appears.
- From the menu, select **Grand Total**. The Insert Grand Total screen appears.
- In the **Calculate this summary** field, select sum from the drop-down menu.
- In the **Summary location** field, select Grand Total (Report Footer) from the drop-down arrow. This indicates you want to place the grand total in the Report Footer of your report.



- Click **OK**. The program calculates a simple mathematical sum of all gift amounts.

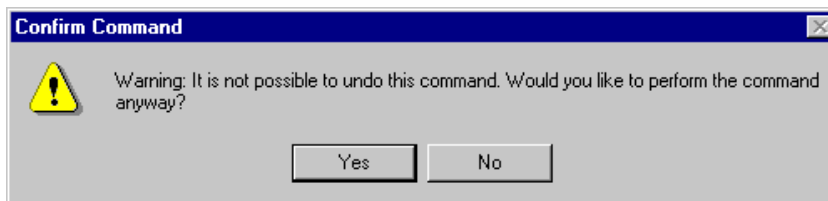
7. Scroll to the bottom of the Preview screen to see the grand total amount under the list of gift amounts. From the Design screen, the grand total shows as **Sum of CnGf_1.CnGf_1_Amount** (when you expand the entire field) in the Report Footer section.



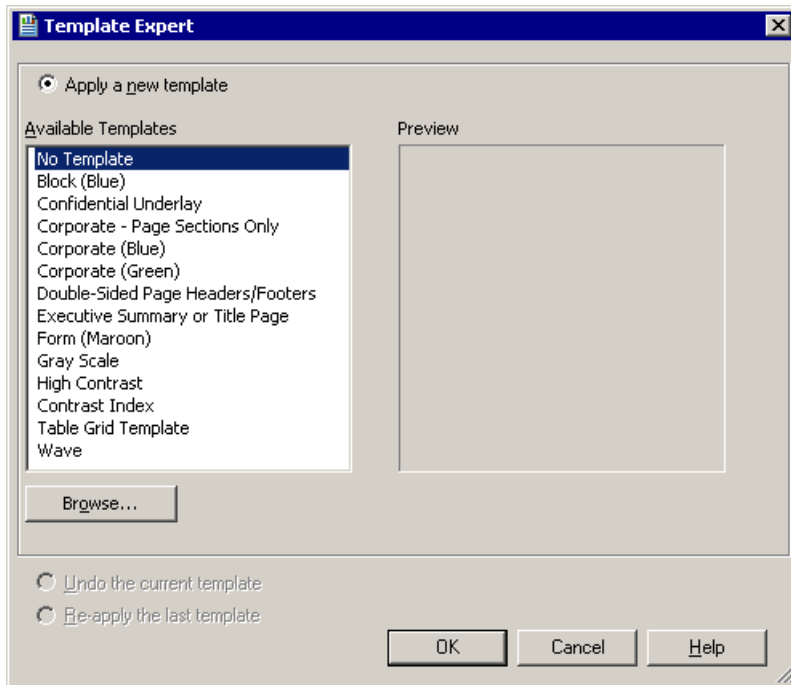
► Applying a report style

Using the Style Expert is an easy way to make your report look professional and more presentable. You do not have to manually go through each field and apply format changes.

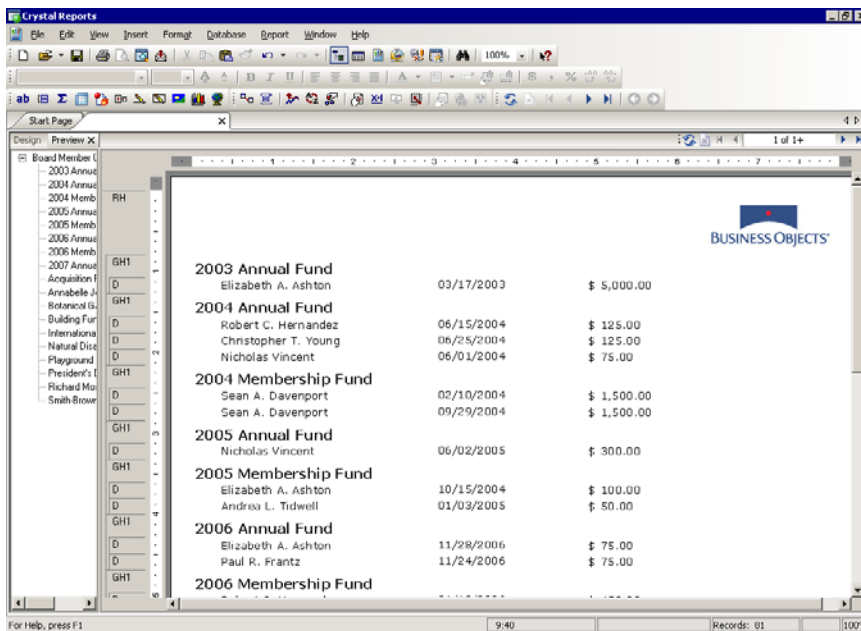
1. Before you apply a style template, highlight the three header fields (Constituent Name, Gift Date, and Gift Amount) in the Report Header section and press **DELETE** on your keyboard. After you apply a style, these headers will be unnecessary.
2. To apply a style template to your report, select **Report, Template Expert** from the menu bar. A warning message appears, letting you know it is not possible to undo this command.



3. Click **Yes**. The Report Style Expert screen appears.



4. Go through the different styles on the left, and based on the preview on the right, highlight the one you want to use.
5. Click **OK**. The style is automatically applied to your report. You can still make changes to the report if necessary.



6. Once you make your final adjustments, save your report with a name you can remember. For example, Board Member Giving. For more information about saving a Crystal report, see "Saving a report" on page 41.

Setting the Location for an Existing Crystal Report

As you have learned, two files exist in a Crystal report. The .mdb file is the file you create when you export data from *The Raiser's Edge*. This file contains your actual *Raiser's Edge* data. The .rpt file is the file you create in *Crystal Reports for Blackbaud*. This file includes the design and layout of your report.

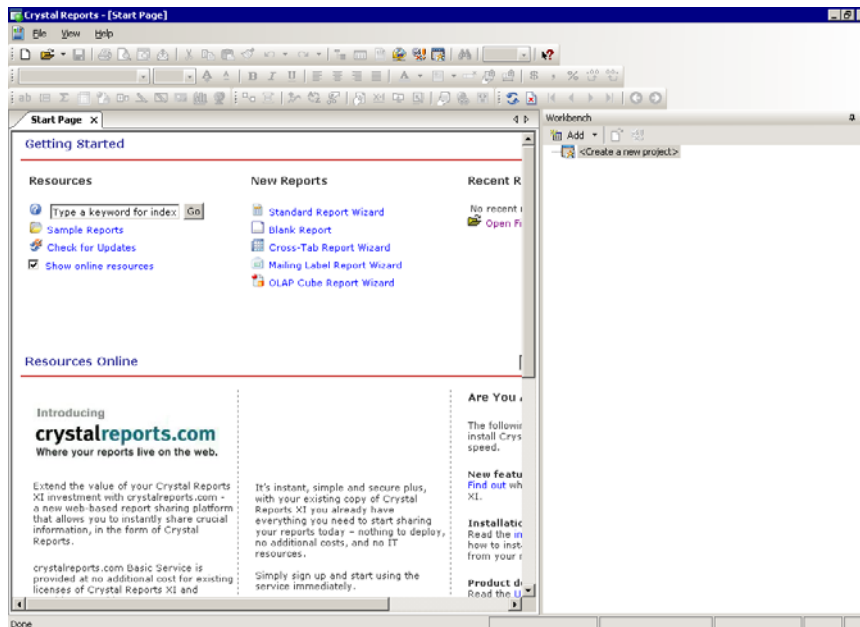
▶ Setting the location for an existing Crystal report

You may want to create a certain custom report for your organization in *Crystal Reports* only once. Other times, you may want to create a Crystal report that you can use to report weekly or monthly information. For example, you can create a custom report to show new pledge donations made every month. For custom reports you want to generate multiple times, you can use the same Crystal report file (the .rpt file). You can update this file with your most current *Raiser's Edge* file (the .mdb file) by setting the location of the new data file in *Crystal Reports*.

Note: This procedure is written as if you have already exported your data file from *The Raiser's Edge*. For more information about exporting a data file, see “Creating a new export file” on page 4 or the Export chapter in the *Query & Export Guide*.

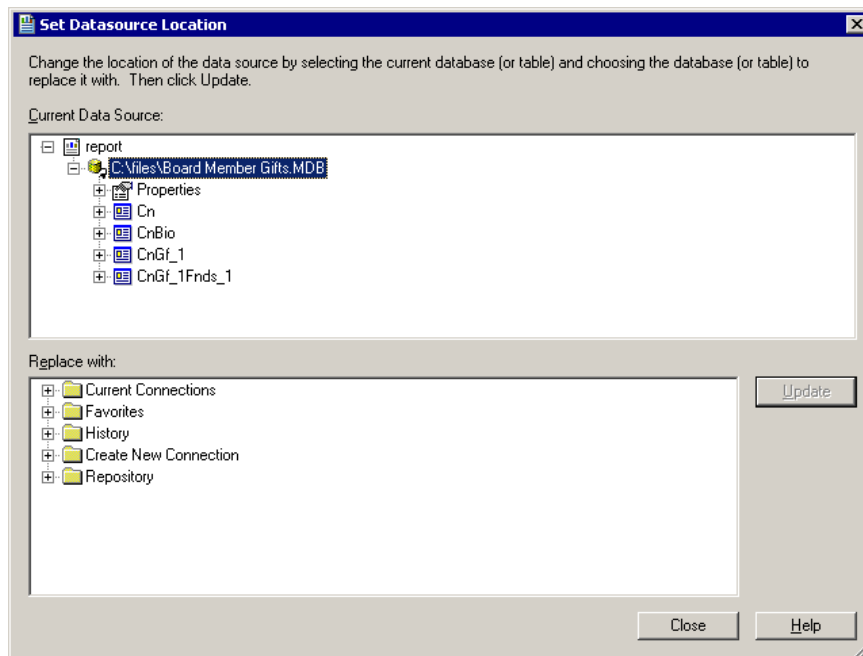
1. From your desktop, go to **Start, Programs, Crystal Reports 11**. You may also have an icon on your desktop you can double-click to launch the program.

Crystal opens and the Getting Started screen appears.

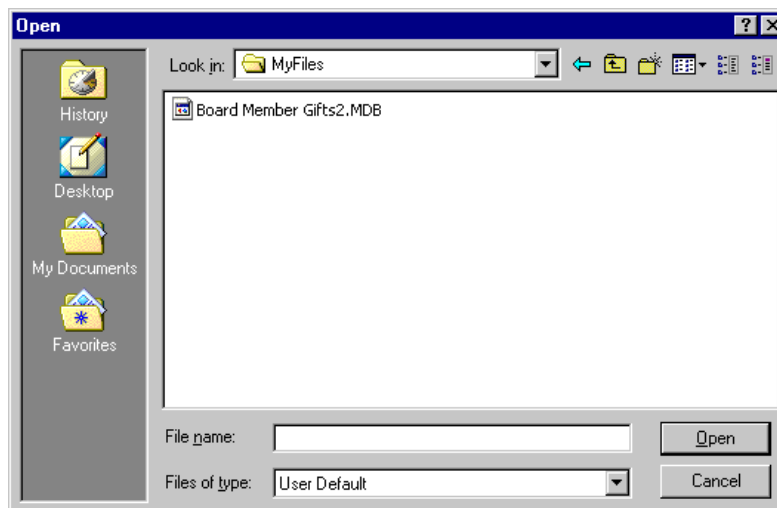


2. In the **Recent Reports** frame, click the report name if you recently opened the report. If the report name does not appear in the frame, click **Open** on the action bar to browse to your .rpt report file.

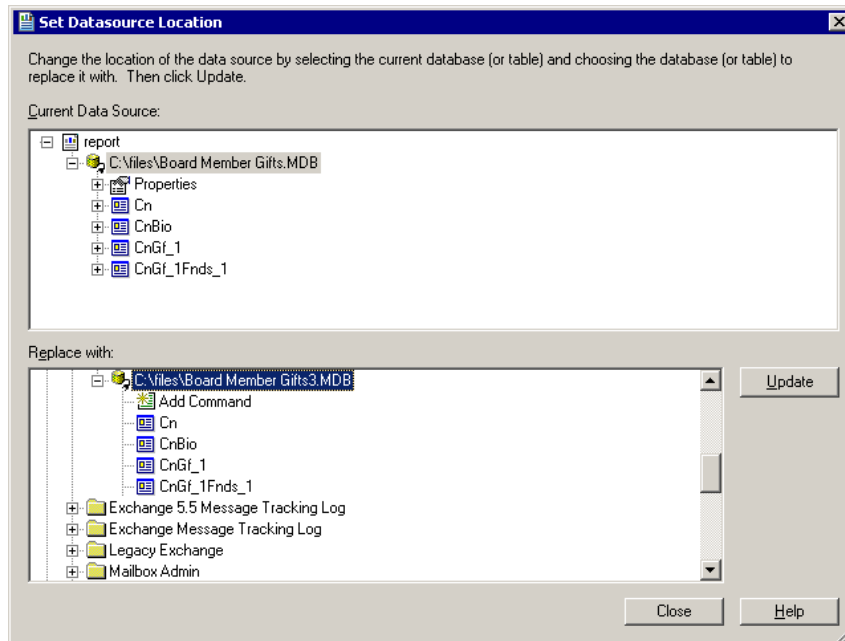
3. After your Crystal report (the .rpt file) appears, select **Database, Set Datasource Location** from the menu bar. The Set Datasource Location screen appears.



4. To replace the linked .mdb file with the most current .mdb file you exported from *The Raiser's Edge*, click the plus next to Create New Connection in the **Replace with** frame.
5. Click the plus beside **Database Files**. The Open screen appears for you to find your *Raiser's Edge* database file.

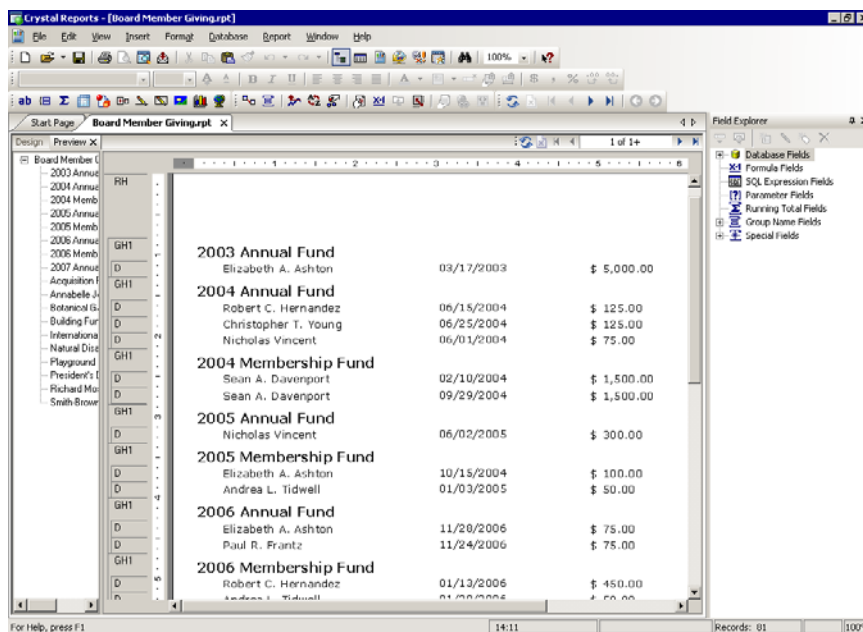


- Highlight the .mdb file you need, and click **Open**. You return to the Set Datasource Location screen.

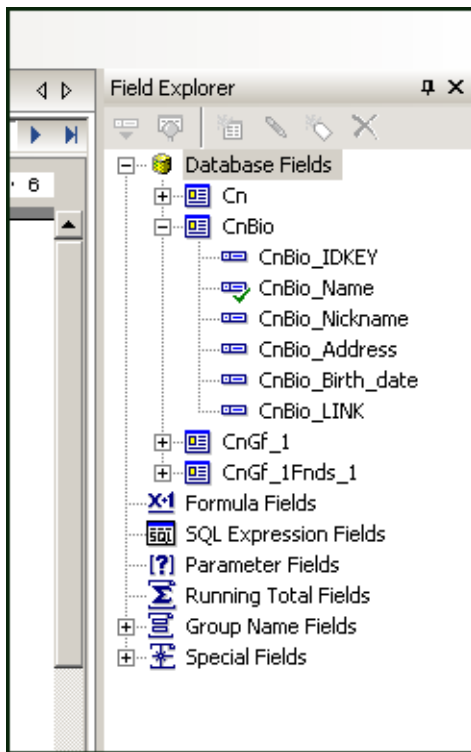


Your old .mdb file still remains in the **Current Datasource** box. The new .mdb file is in the **Replace with** box.

- Highlight the path to the new .mdb file, and click **Update**. Note, the path to the .mdb file in the **Current Datasource** box now reads the location to the new .mdb file.
- To return to the report screen, click **Close**.
- You can view new fields added to the .mdb file. To do this, select **View, Field Explorer** from the menu bar. The **Field Explorer** frame appears on the right side of the screen.



10. In the **Field Explorer** frame, click the plus beside **Database Fields** to access your fields from *The Raiser's Edge*.



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