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Microsoft
Access 2013



Chapter 10. Preparing data to print using reports

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Just as forms allow you to produce stunning on-screen presentations of data, reports offer a similar feature when you need to get a printed copy of the information. The main difference between a form and a report is that you can't edit data in a report, and you can't paginate and get a good paper layout with a form.

Access has powerful wizards to allow you to construct sophisticated presentations with reports. Like a form, a report can be based on a table or query, and it also supports layout and design views where you can add and change controls in a manner very similar to when you are working

with a form.

Access reports also support multiple subreports, with as forms, as well as the use of macros and Visual Basic for Applications (VBA) to enhance your presentations. You should be careful to note the distinction between Print Preview and report view. Print Preview is designed to show the report layout before going to a printer, whereas report view is for on-screen interaction with a report, making the report work more like a form.

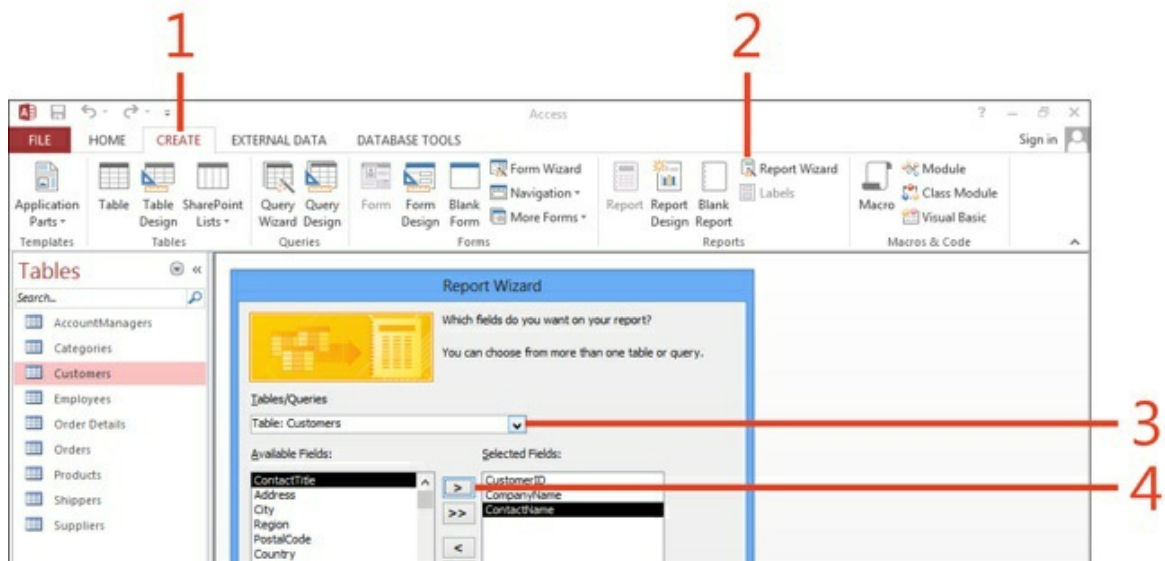
Creating a tabular report with multiple tables

Like a form, a report can have a header and footer above and below the detail section, and within this it also supports a page header/footer. Reports are different from forms in that they allow the detail section to be surrounded by multiple groupings based on common field values. Each layer of grouping supports a group header for adding titles to columns and a group footer that can provide summary information for the group.

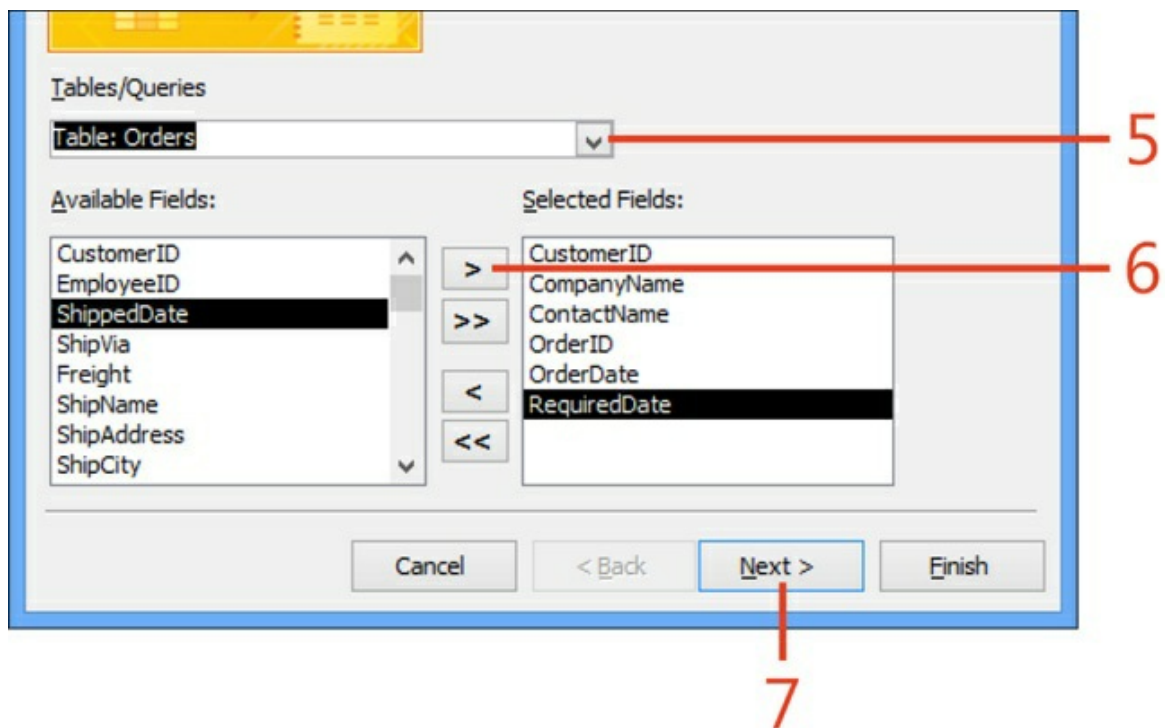
In this example, we show how to select fields from two related tables that will also introduce a single grouping for the data. The Report Wizard also prompts you to add extra levels of grouping.

Create a tabular report

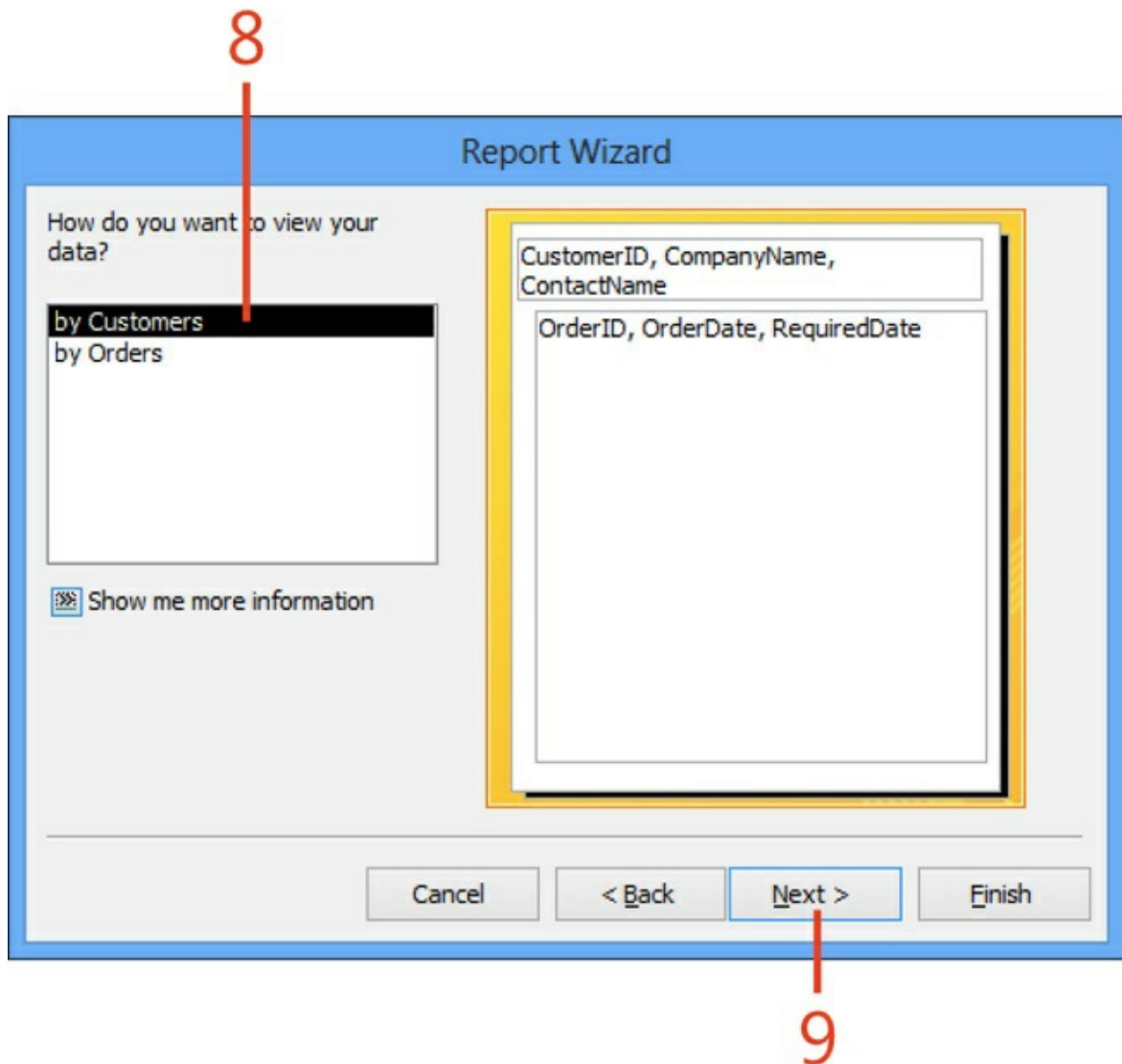
1. Click the Create tab.
2. In the reports group, click Report Wizard.
3. In the Report Wizard, select your first table.
4. Choose fields from the first table.



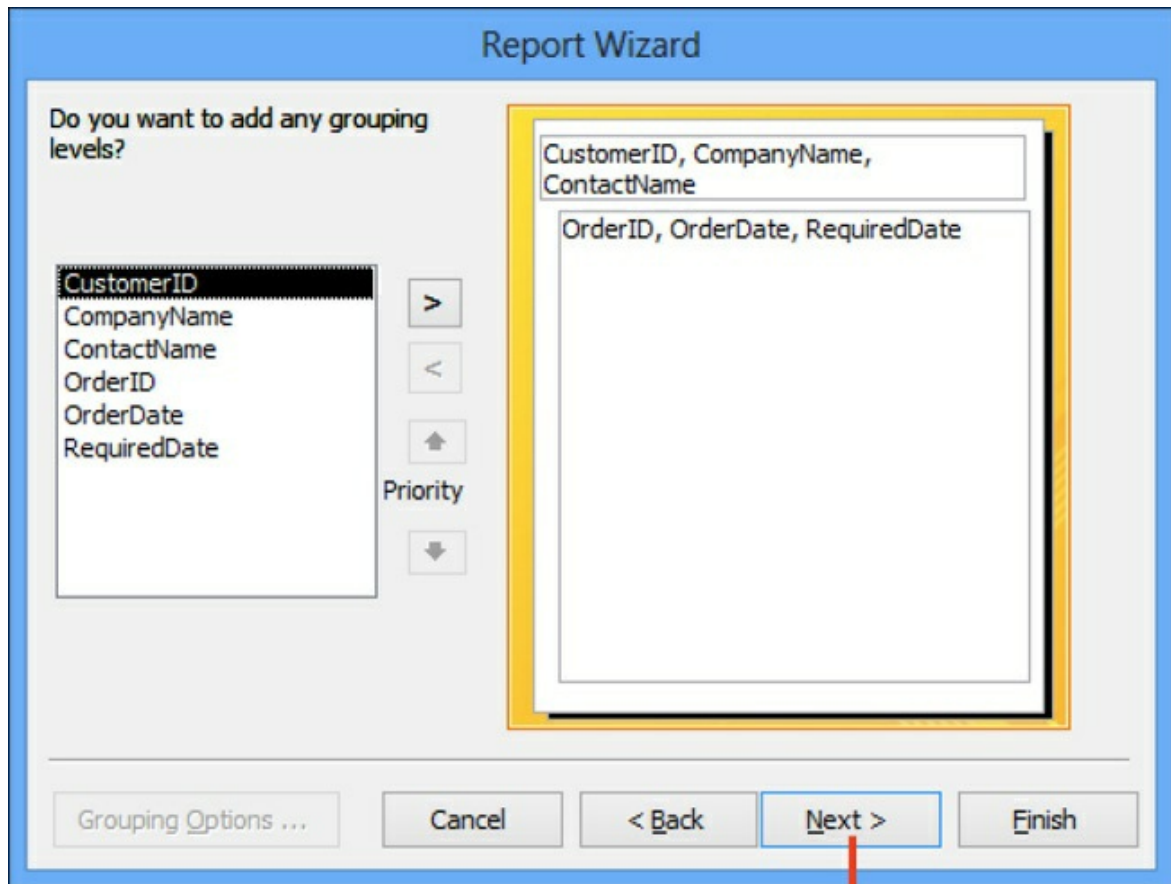
5. On the same page, use the drop-down box to select a second, related table.
6. Choose fields from this second table.
7. Click Next.



8. On the next page of the Report Wizard, you can choose how to view your data. In our example, we've chosen By Customers.
9. Click Next.

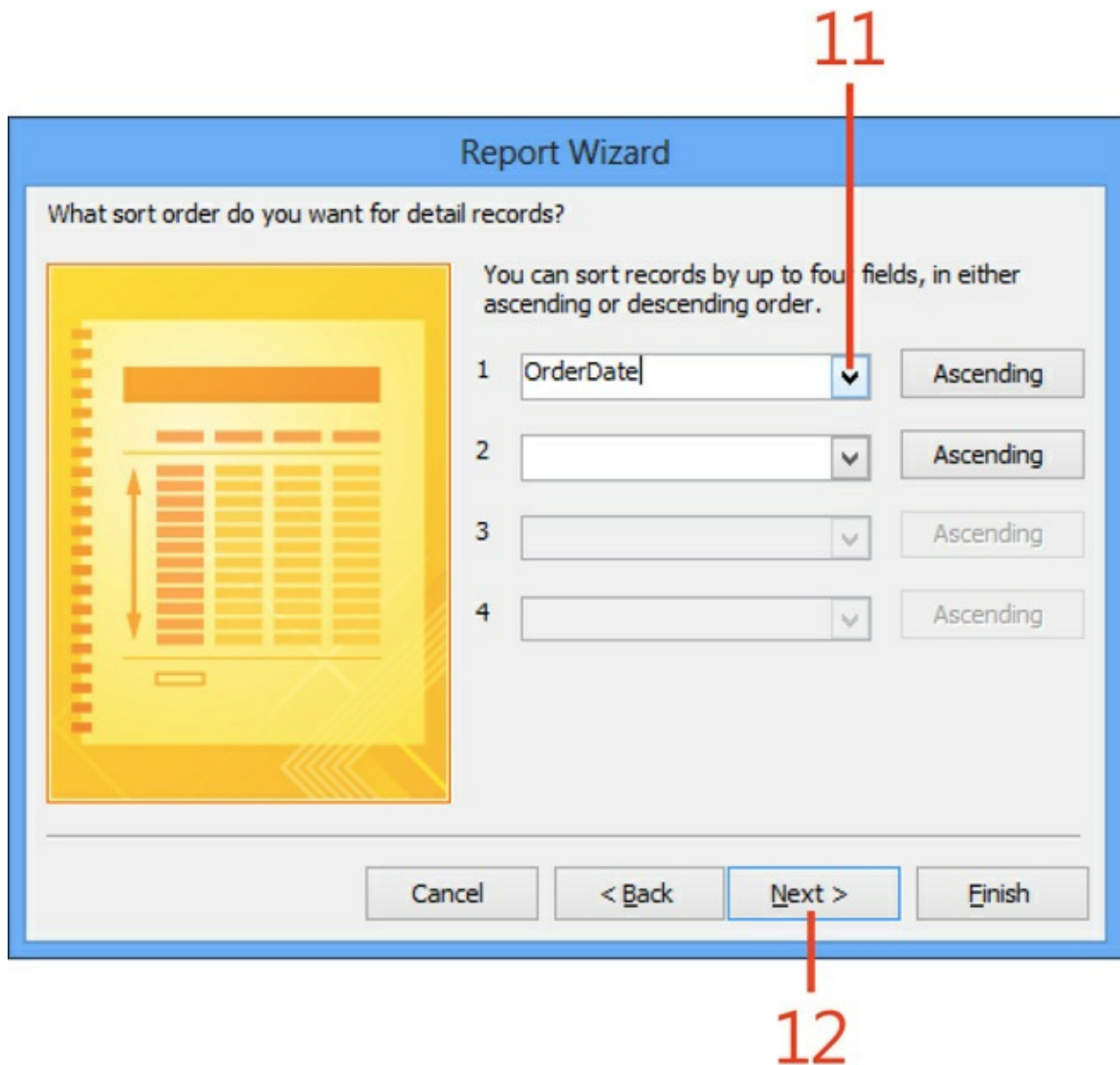


10. On the next page of the Report Wizard, select additional fields to group the data. Click Next.

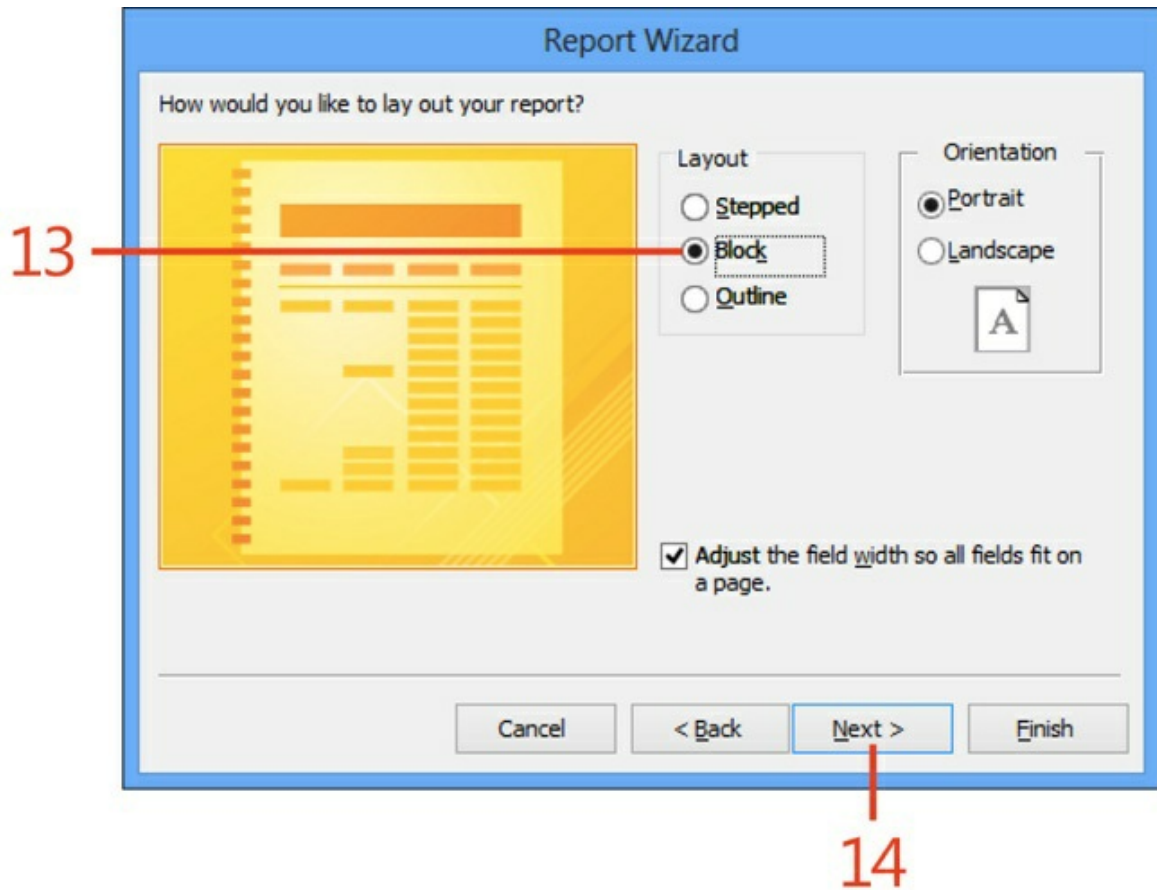


10

11. On the next page of the Report Wizard, choose to sort by one or more fields in the detail section.
12. Click Next.



13. On the next page of the Report Wizard, select the layout and orientation for the report. Change the Layout option to Block.
14. Click Next.



Tip

If you create the report based on a single table or if you create a query involving a single table, the wizard will show different options for Layout (Columnar, Tabular, or Justified). Choose Tabular.

15. On the next page of the Report Wizard, optionally change the name of the report and then select whether to open the report in Print Preview or Design view. Click Finish. The completed report is now displayed in Print Preview.

Report Wizard

What title do you want for your report?

Customers

That's all the information the wizard needs to create your report.

Do you want to preview the report or modify the report's design?

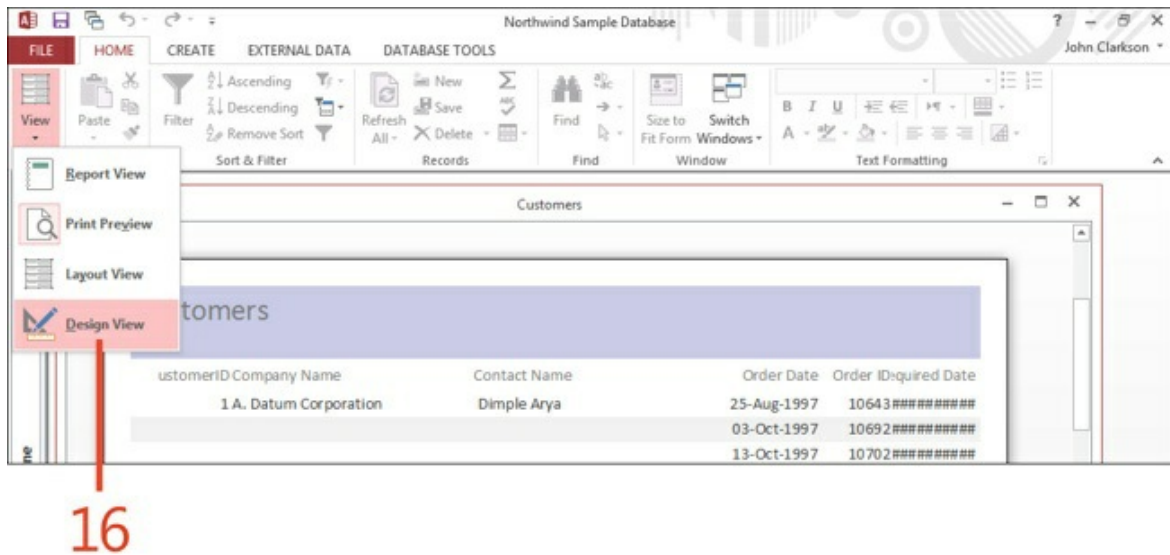
☒ Preview the report.

☐ Modify the report's design.

Cancel < Back Next > Finish

15

16. On the Home tab, click View, and select Design View from the submenu.



17. For our example, in Design view you can see a new additional grouping on CustomerID added by the Report Wizard around the detail section. In this case, the grouping has a header but no footer. Adjust the width of any fields where the label or data is not fully visible.



Tip

When a number or date field does not have enough space to display the information, the data will be shown with pound or hash (#) symbols. In this situation, you need to alter the layout to resize the field to display the information.

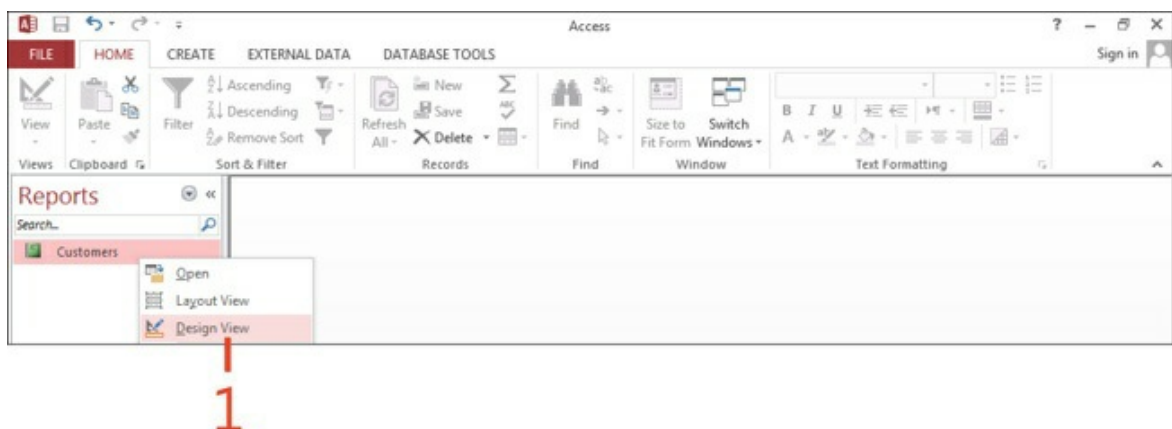
Altering the presentation of controls on a page

In all these examples, we prepared our report using the Report Wizard, which means that the controls are not locked into a layout. We start by looking at how to perform basic adjustments to the presentation of controls on a report, such as altering a control width, or alignment, and splitting label text over multiple lines.

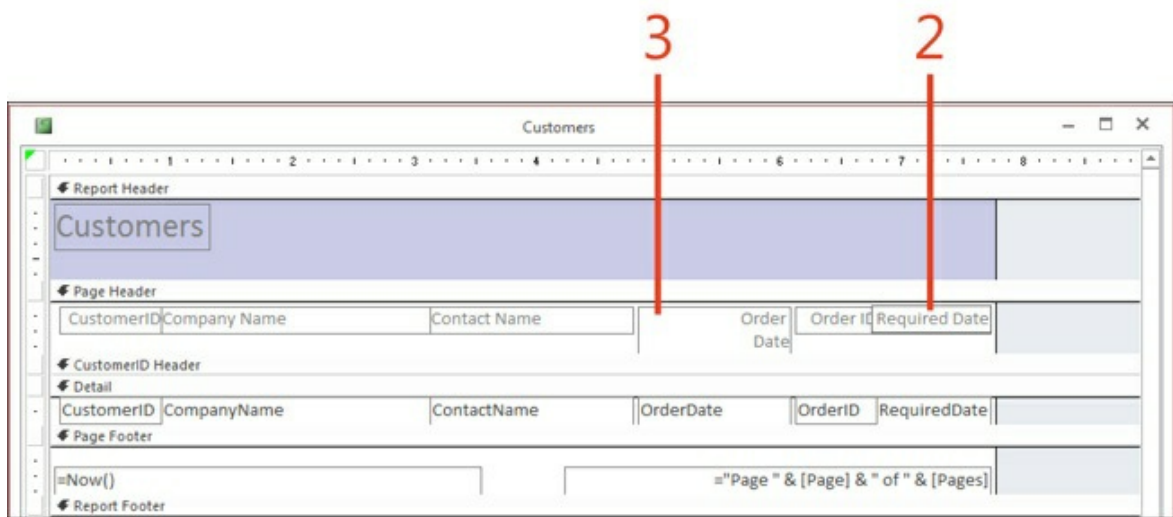
Unlike a form, which has a default view that you can set to Single Form or Continuous Form, a report always displays a continuous table of data. However, by moving controls and labels into the Detail section or group header/footer sections, we can change a tabulation to a single record style of presentation.

Alter the size and position of a control

1. Right-click the report in the navigation pane, and select Design View.



2. If you have a label that is too long and overlaps other labels, click into the text on a label in the page header and position the cursor where you want to split the label text over two lines.
3. Press Ctrl+Enter to split the title. (Shown here is the result of doing this on the Order Date label.) The page header's height will increase to accommodate the label over two lines.



Tip

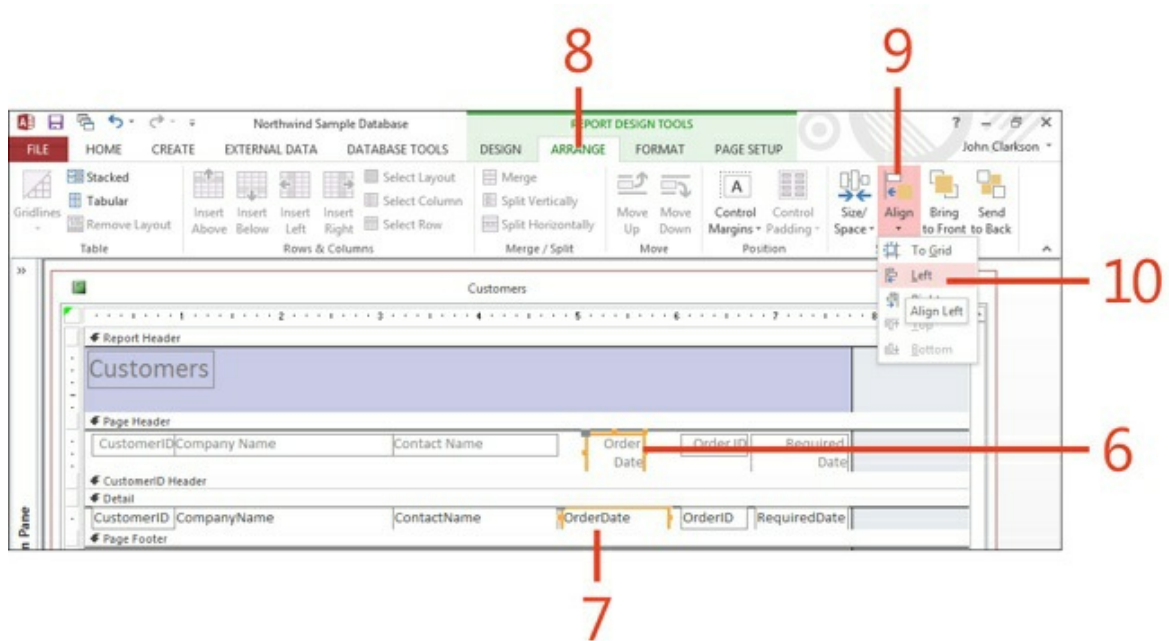
If you already have a report open, use the View button on the Home tab to switch to Design view.

4. To move a label and the control in the detail section together, click to select a label.
5. Hold down the Ctrl key, and select the corresponding field in the detail section. Use the mouse to drag both the label and field to a new position.

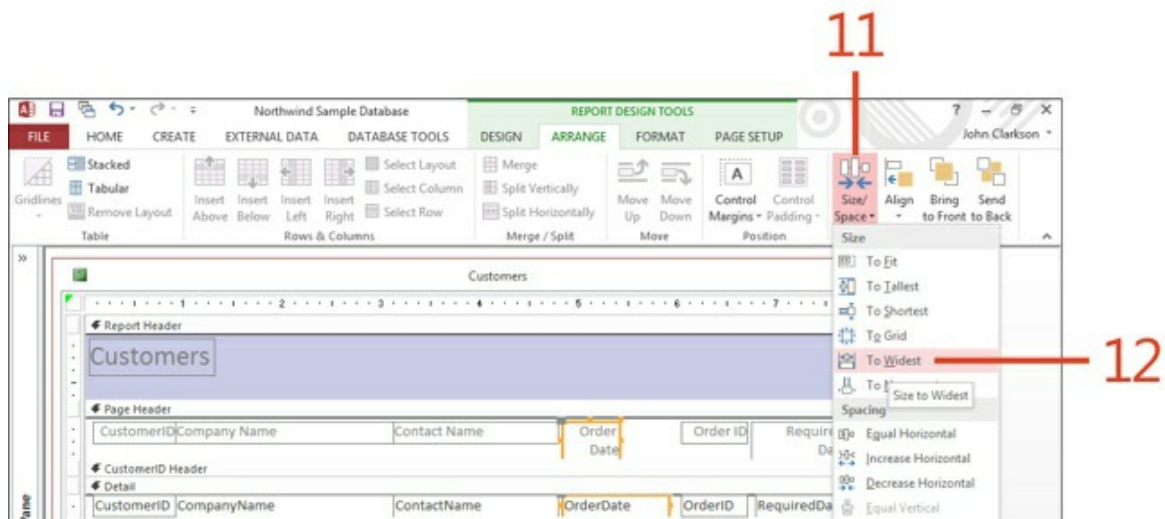


6. If you have a control and label that are not aligned, click to select a label.

7. Click to select the control in the detail section, holding down the Ctrl key so that both the label and the other control are selected.
8. Click the Arrange tab in the Report Design Tools tab.
9. Click Align in the Sizing & Ordering group.
10. On the drop-down menu, click Left to left-align the controls.



11. To make a label and control width the same, click Size/Space in the Sizing & Ordering group.
12. On the drop-down menu, select To Widest, which will change both controls to the largest width.



Tip

To get fine control over moving a label, you can use the arrow keys to move the label and control. Holding down the Ctrl key while pressing the arrow keys will move the controls in smaller increments, and holding down the Shift key while pressing the arrow keys will resize the controls.

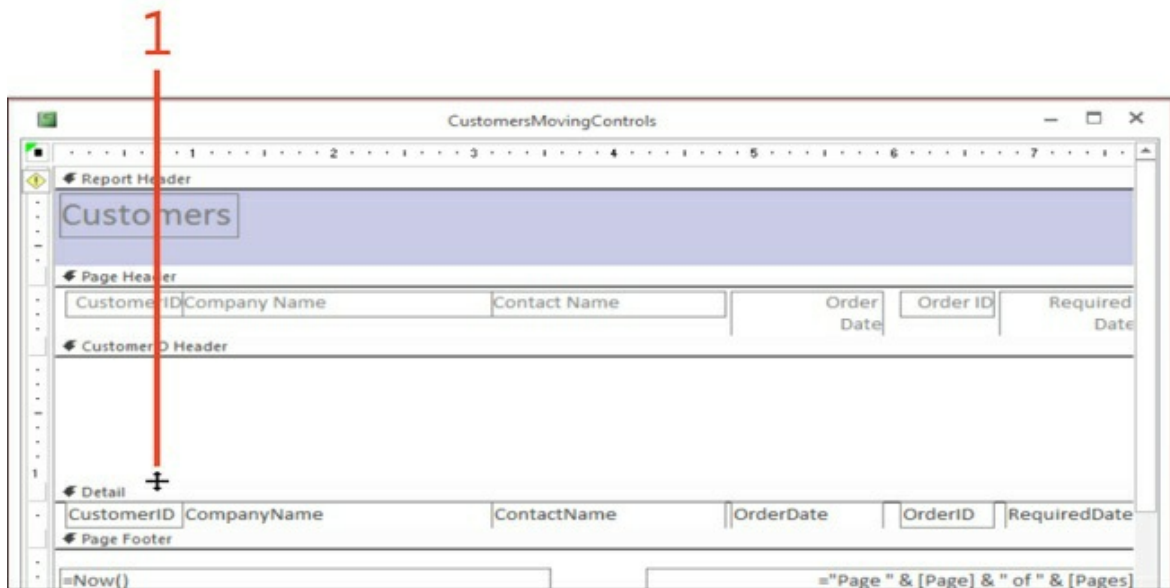
Working with controls and sections

One main difference between reports and forms is that reports have more sections, and by using grouping, further sections can be added to the report. You will often need to increase or decrease the available space in a section and move controls and labels between sections.

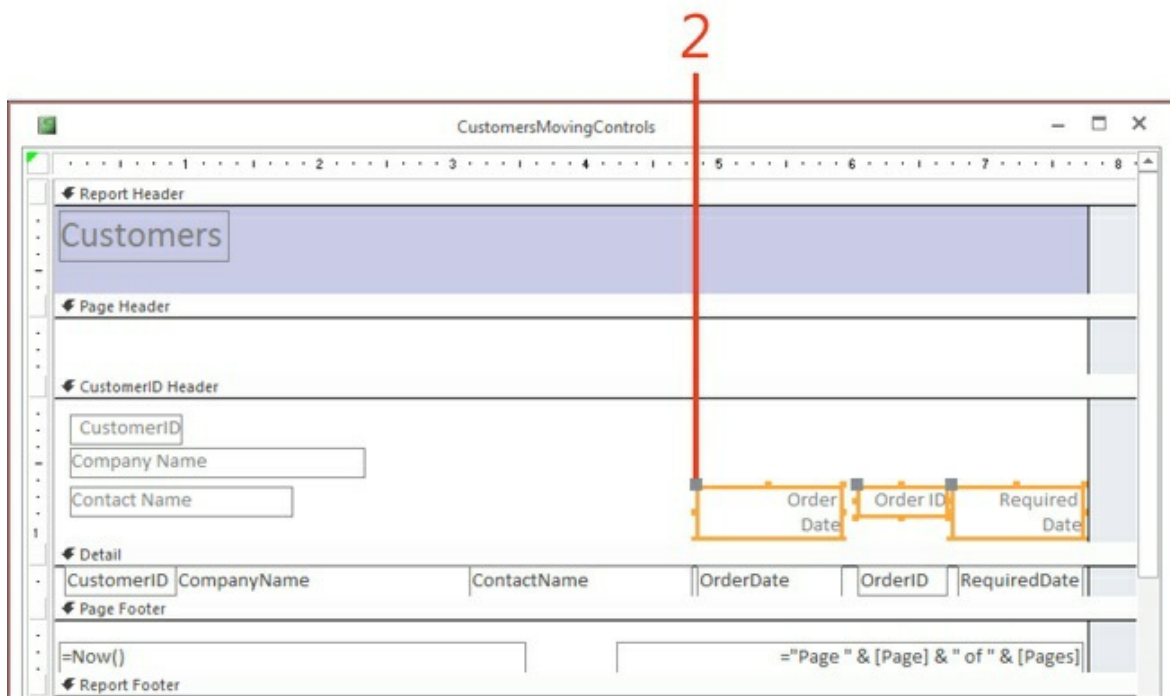
When moving controls from a detail section into a group header, you can produce a presentation that combines the tabulation of the detail section with a single record presentation in the header.

Move controls between sections

1. With your report in Design view, drag down any closed group header section to make space for moving controls.



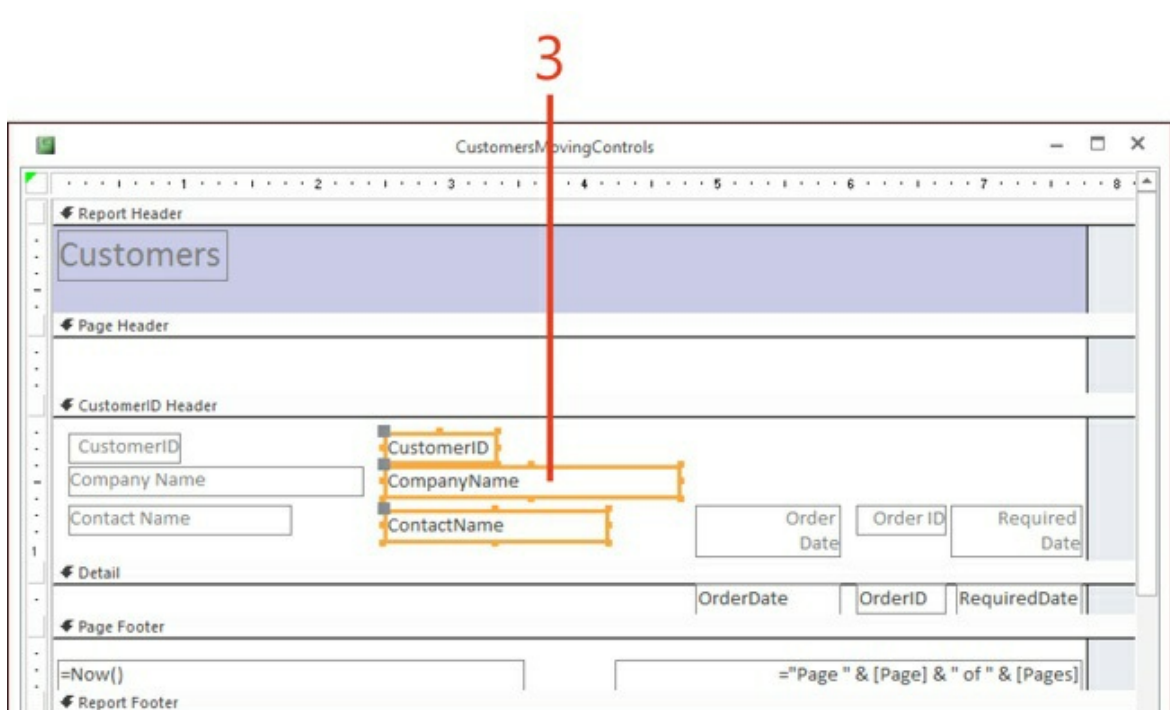
2. We now want to reposition all labels inside the CustomerID group header so that they are repeated for each customer record. Drag the labels from the page header section into the group header. Some labels can be moved individually, and others can be moved with multiple labels selected.



Tip

Sometimes you might want to show a grouping field in the detail section while suppressing the display of duplicate values, or you might have other fields in the report where duplicate values need to be suppressed. Each control has a *Hide Duplicates* property to support this.

3. Move the controls that are common to the grouping field from the detail section into the group header. In our example, these are all the customer-specific fields. The group header now contains the parent fields, and the detail section contains the child fields.



Tip

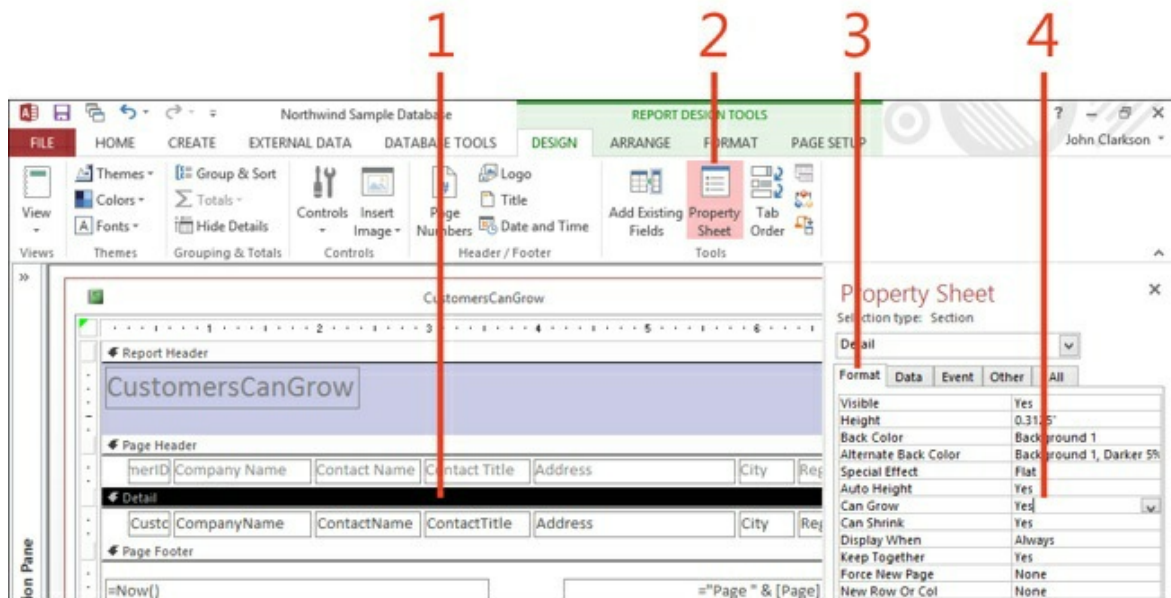
When you move a label from a page header and its associated control has been moved from another section, notice that the label and control do not move together. You can attach the label to the control by cutting the label (press Ctrl+X) and pasting it onto the selected control. Also, to move the label to one section and the control to another section, cut the label and paste it into a different report section.

Using the *Can Grow* and *Can Shrink* Properties

The *Section* properties are related to controls, which also have *Can Grow* and *Can Shrink* properties that allow them to expand or contract to display a larger area of data. This means that you can manage the available spaces for each section and control. You can see how information for the company name and other columns can be truncated, which you can alter to grow and display the truncated data.

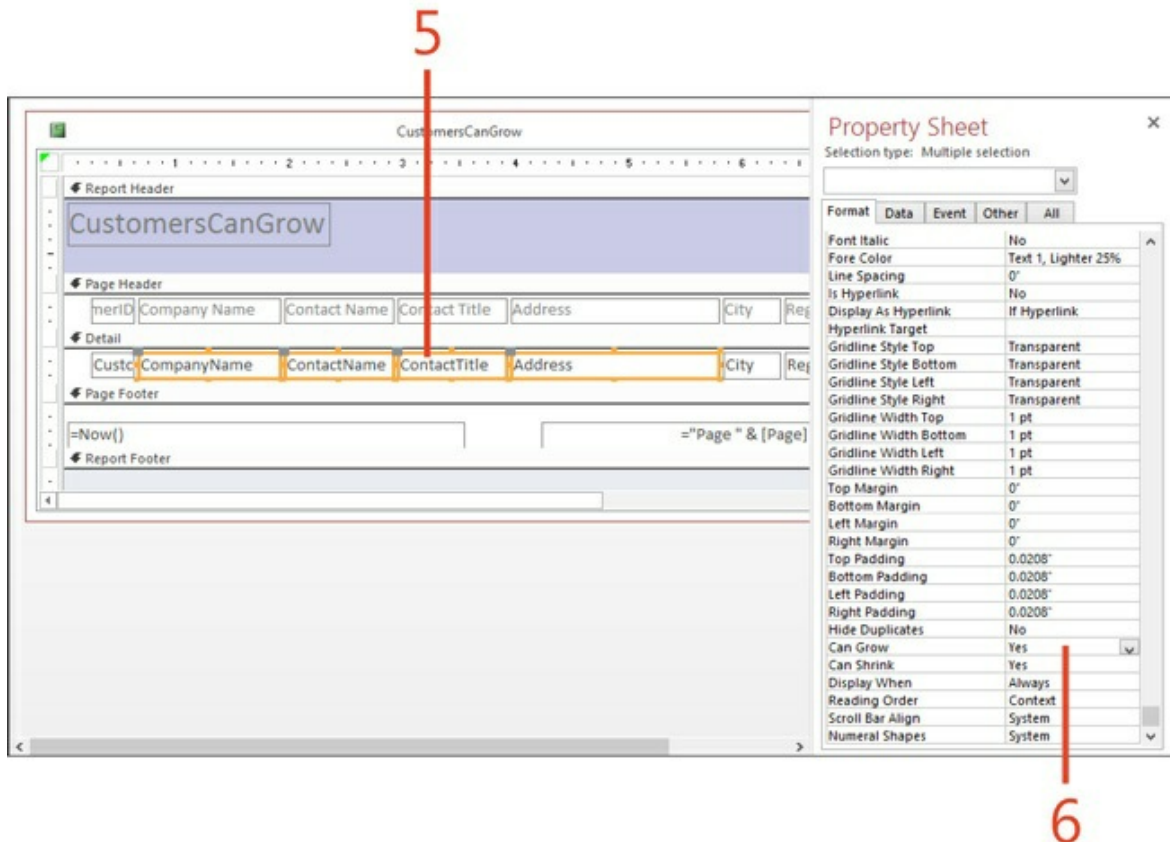
Allow a section and controls to grow and shrink

1. In Design view, select the Detail section.
2. In the Tools group on the Design tab, click Property Sheet.
3. Click the Format tab.
4. Set the Can Grow property to Yes, and set the Can Shrink property to Yes.



5. Use the Ctrl key to select multiple controls.

6. Change the Can Grow property to Yes, and set the Can Shrink property to Yes.



Tip

A fantastic feature in Access is that it allows you to change common properties for multiple controls at the same time. As you select multiple controls, the available properties will sometimes be reduced to only those properties common to the selected controls.

Tip

The *Section* properties are related to controls, which both have *Can Grow* and *Can Shrink* properties to allow them to expand or contract to display a larger area of data. This means that you can manage the available space for the controls and each section.

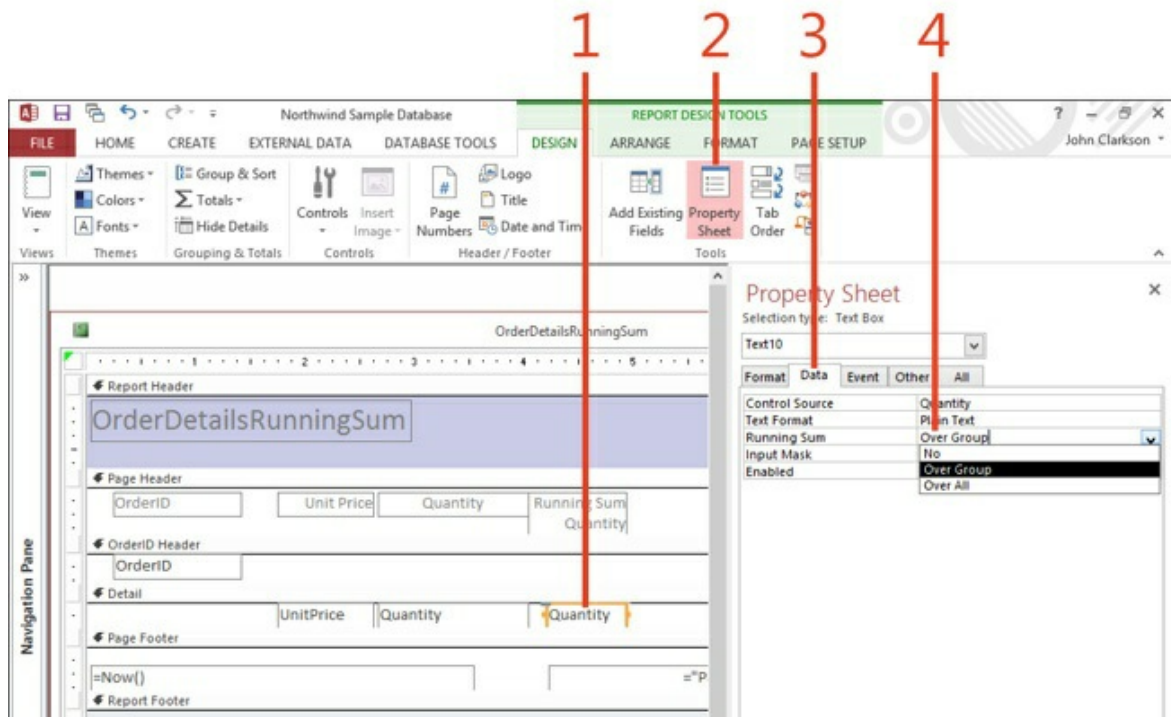
Adding a running sum

Text box controls have a *Running Sum* property, which, when set to true, causes the control to display a running total of a numerical field. You can set the Running Sum property either to ignore any groups and run over all data in the report or to run over a group, where it runs over only a single group value and is reset before producing results for the next group.

In our example, we apply the Running Sum property to the quantity for a sales order, and we set the running total to be over a grouping on the OrderID.

Add a running sum

1. In Design view, click a field that contains numerical data.
2. In the Tools group on the Design tab, click Property Sheet.
3. Click the Data tab.
4. Change the Running Sum property to Over Group.



Tip

When adding a running sum or any summary calculation, you might want to display this at the bottom of each page. If you try to place a bound control in the page footer, you will see an error message displayed. To add these or similar calculation to a page footer, you must add an unbound control in the footer and then add program code to the report section. You might find it simpler to display the control in a group footer.

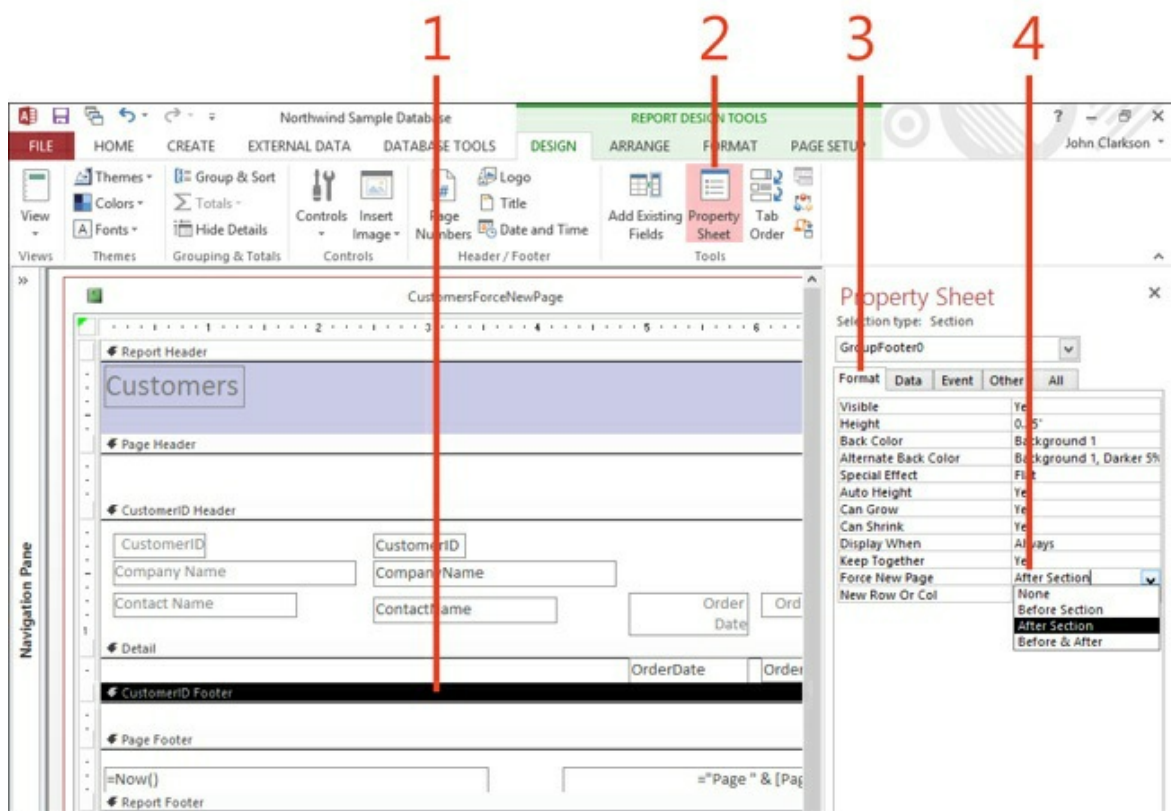
Managing data and page breaks

It is often very important to manage page breaks in your data. In this section, we look at two techniques for managing this. The first technique involves setting the *Force New Page* property (available on all sections except for the page header/footer). The second technique uses a property of all sections of a report (except the page header/footer) *Keep Together*. When this property is set to Yes, the report will throw a new page if it cannot fit all information within the section on the current page. By default, this property is set to true.

You should also look very carefully at the Keep Together property described in the next task, [Adding sorting and grouping on reports](#), because these topics are interrelated.

Force a new page

1. In Design view, select a group footer section.
2. In the Tools group on the Design tab, click Property Sheet.
3. Click the Format tab.
4. Set the Force New Page property to After Section.



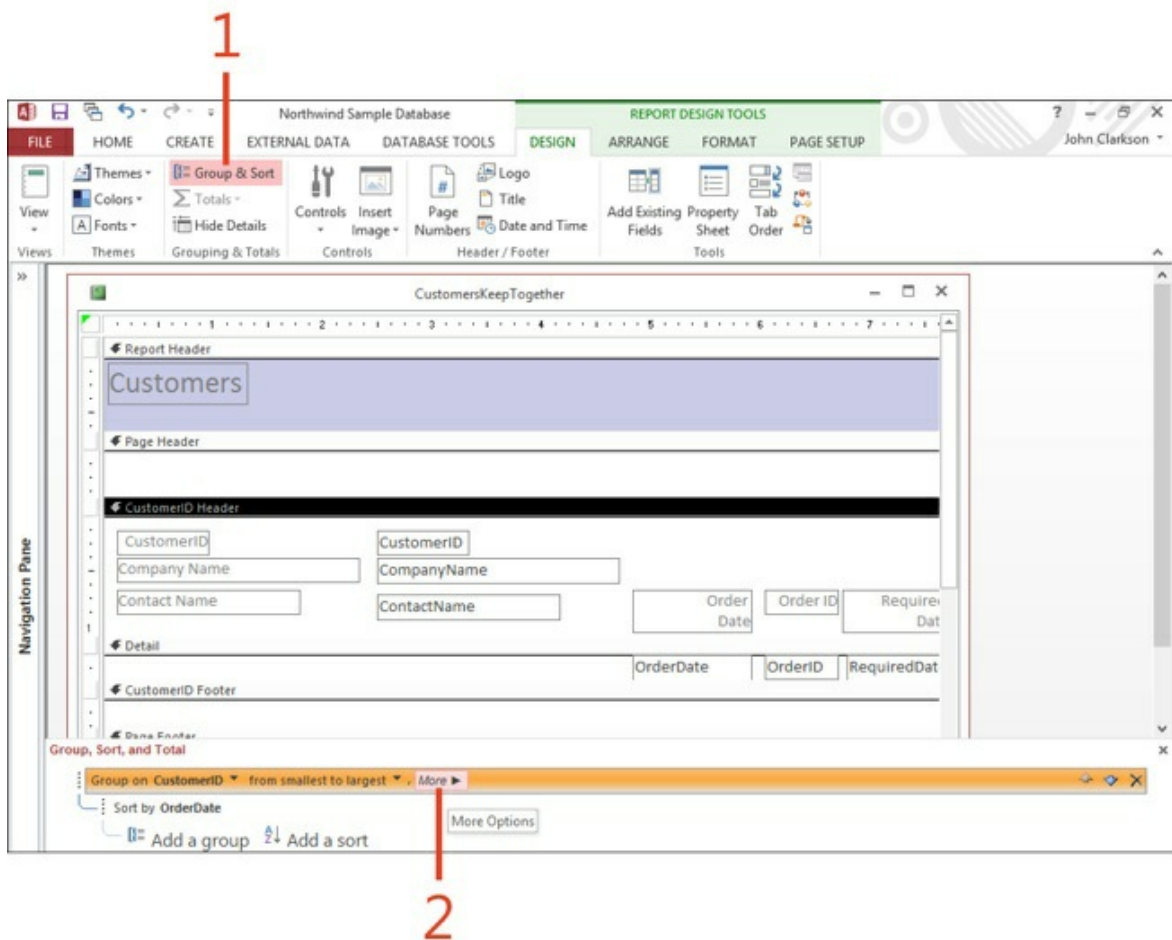
Tip

In Design view (on the Design tab in the Controls group), clicking the Controls icon displays a Page Break control; this gives you finer control of

where page breaks occur in a report.

Keep results together on the same page

1. In Design view, click Group & Sort in the Grouping & Totals group on the Design tab.
2. In the Group, Sort, And Total section, click More.



3. Select the option to keep the whole group together on one page.



Caution

The Keep Together property keeps together only the information being displayed in the section to which it applies for each record. Groups have their own properties, which you can set to keep a group header, footer, and its detail section displayed on the same page.

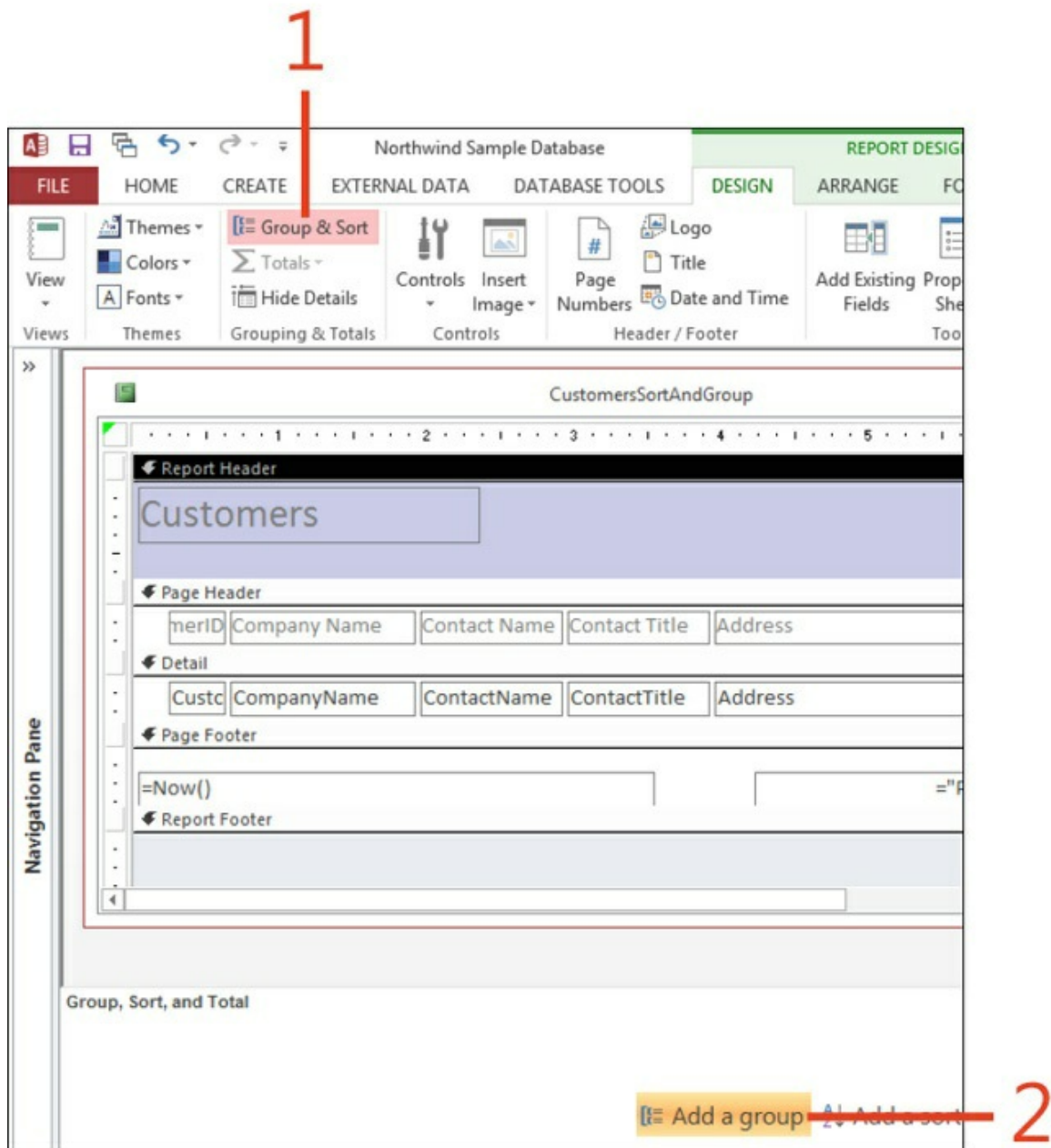
Adding sorting and grouping on reports

Sorting and grouping provides a flexible way to add new sections around the detail section to organize your records. Each sort or group can have a header and/or footer area. The header displays titles and columns that are common to the records that will be displayed inside the group, and the footer displays summary information such as a record count or the sum of a particular value.

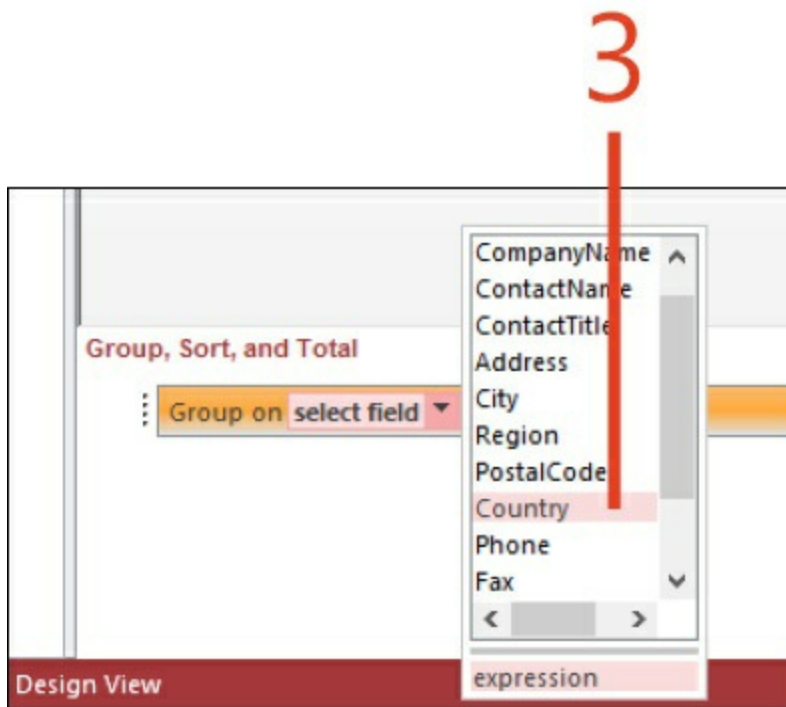
Adding grouping to your reports allows you create a parent/child-styled presentation of data without the need to use a subreport. In this case, you group on a parent field and move controls into the group header/footer.

Add a sort and group

1. In the Grouping & Totals group on the Design tab, with a report in Design view, click Group & Sort.
2. In the Group, Sort, And Total section, click Add A Group.



3. Select a field for the group.

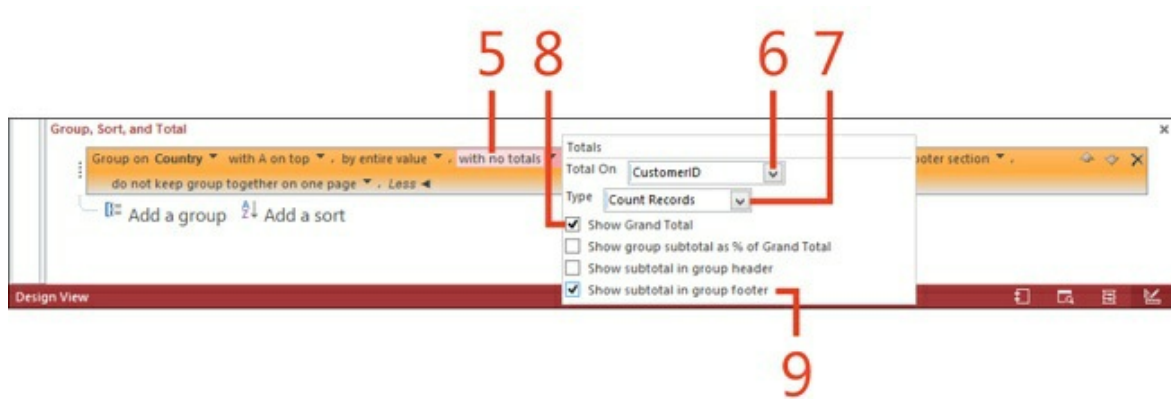


4. In the Group, Sort, And Total section, click More.



5. Click the With No Totals drop-down list.
6. Select the primary key field.
7. In the Type field, select Count Records.
8. Select the Show Grand Total check box.

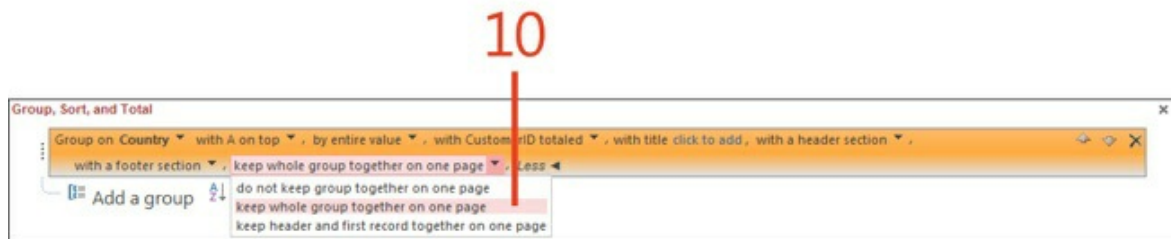
9. Select the Show Subtotal In Group Footer check box.



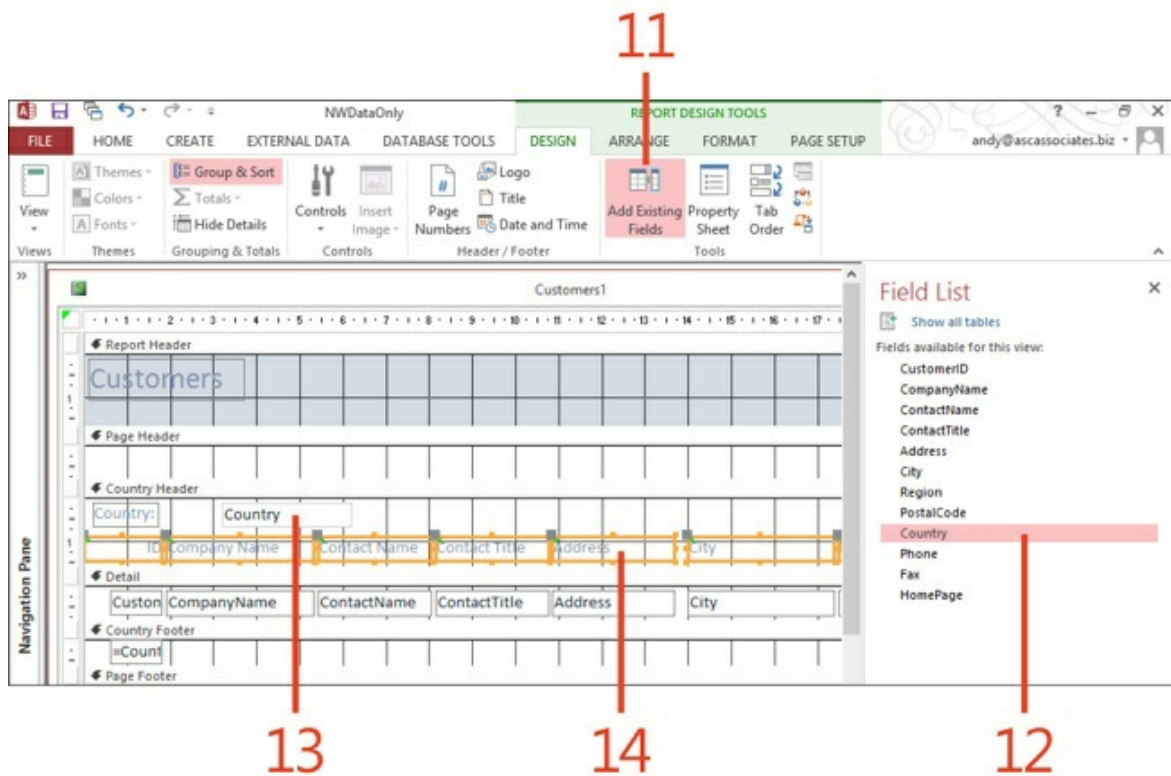
Tip

Access has very powerful grouping features that allow you to group on calculated expressions or incorporate user-defined VBA functions for the grouping.

10. Select Keep Whole Group Together On One Page. Your report will now include the new grouping around the detail section.



11. On the Design tab, in the Tools group, click the Add Existing Fields icon.
12. Click the Country field.
13. Drag the Country field into the group header.
14. Drag the titles from the Page Header section into the group header.



Tip

A fantastic feature in Access is that it allows you to change common properties for multiple controls at the same time. As you select multiple controls, the available properties will sometimes be reduced to only those properties common to the selected controls.

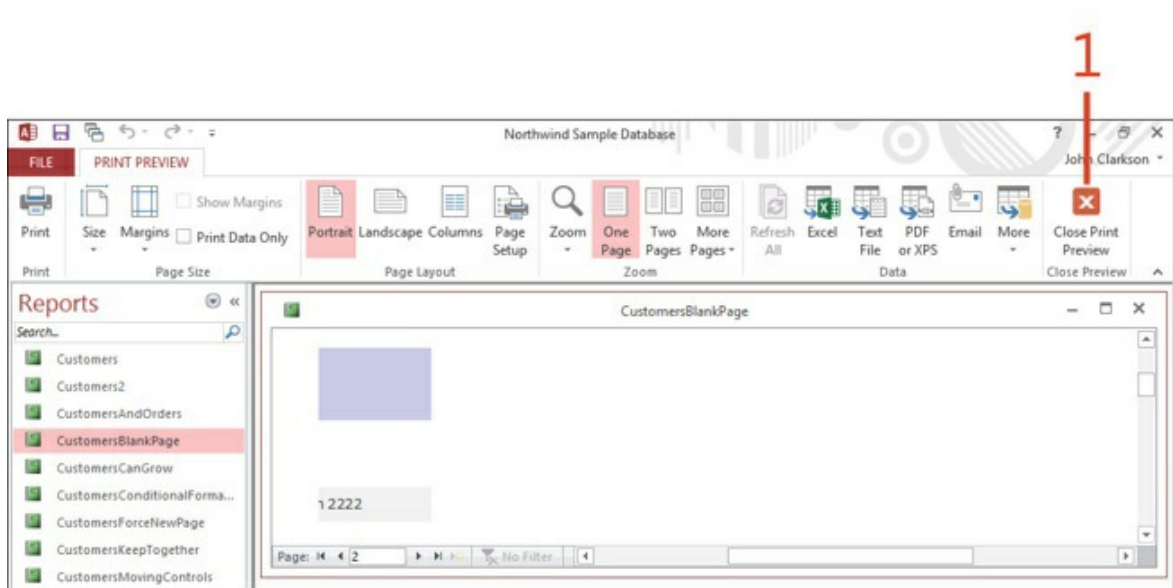
Avoiding blank pages

When you are formatting a report, if the width of the page allowing for margins exceeds the available paper width, the report will spill over onto additional pages. Sometimes this can display more data, and on other occasions, it displays alternating blank pages.

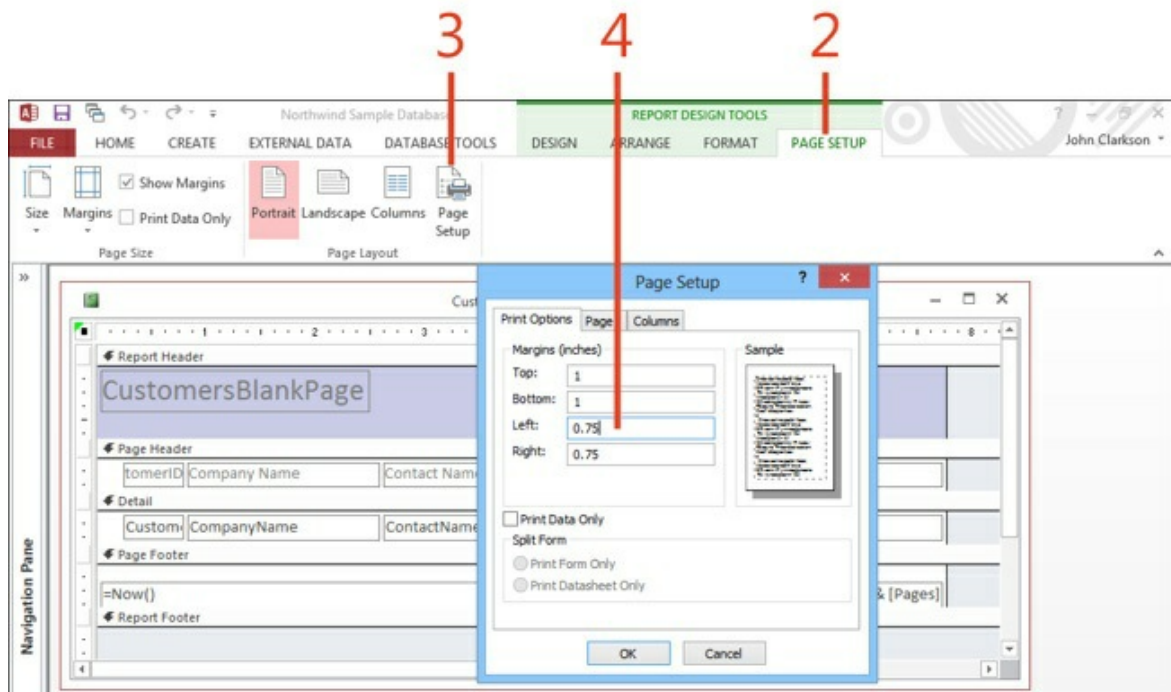
Because a report is set up with a particular printer installed on a system, when the report is used on a system with an alternative printer that supports different margins, you can find that a working report on one system produces blank pages on another system and therefore needs adjustment.

Remove a blank page

1. With a report opened in Design view, switch to Print Preview to see the formatting problem, and then Close Print Preview to return to Design view.



2. In Design view, click the Page Setup tab.
3. Click Page Setup in the Page Layout group.
4. Reduce the margin width, and click OK.



Tip

Other points to consider when removing blank pages include switching from portrait to landscape orientation, shrinking control widths, setting the control and section Can Grow properties to Yes, or moving labels and controls together in a section to provide a columnar layout, making the section narrower and taller.

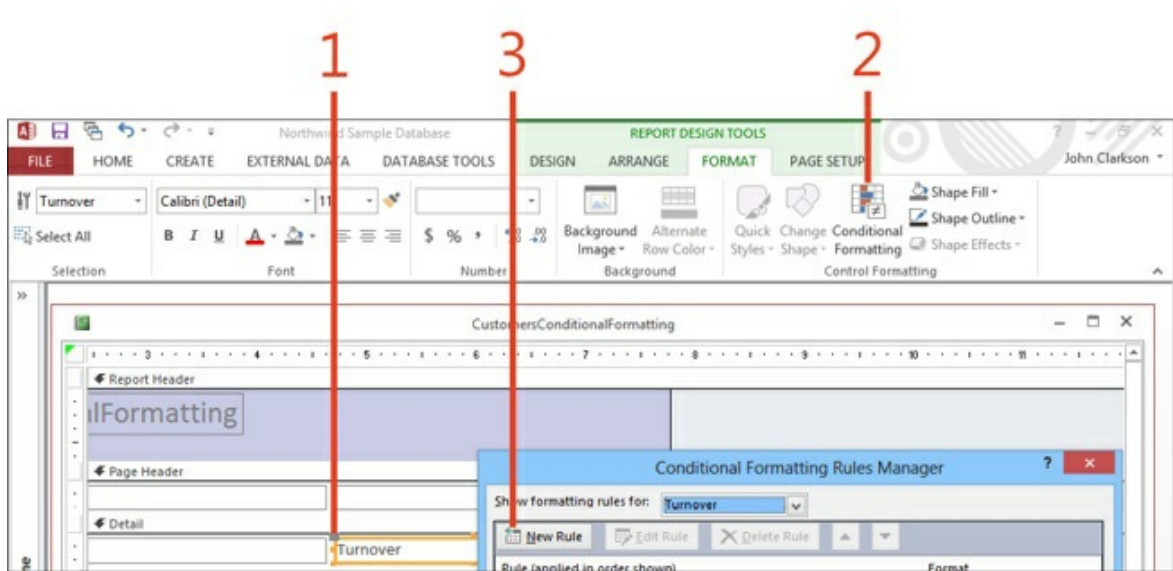
Adding conditional formatting

Conditional formatting applies to both forms and reports and allows you to create colorful presentations in which you format a cell in a record to highlight its value as compared to other fields or values. A simple example would be to display all cell values of less than zero on a red background.

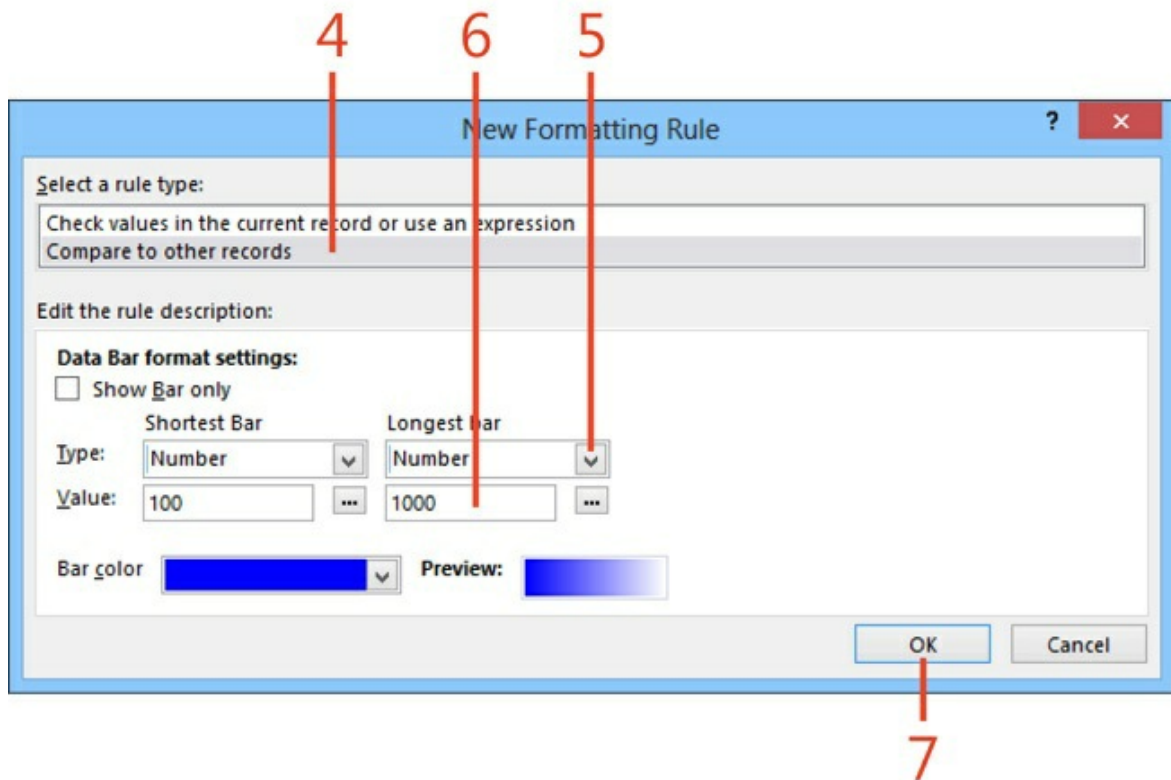
In addition to changing the formatting colors of a cell, you can display a data bar that shows the value compared to the field's range of values in the report or against a specific range of values, providing a quick visual indication of how the data compares against other values.

Add conditional formatting

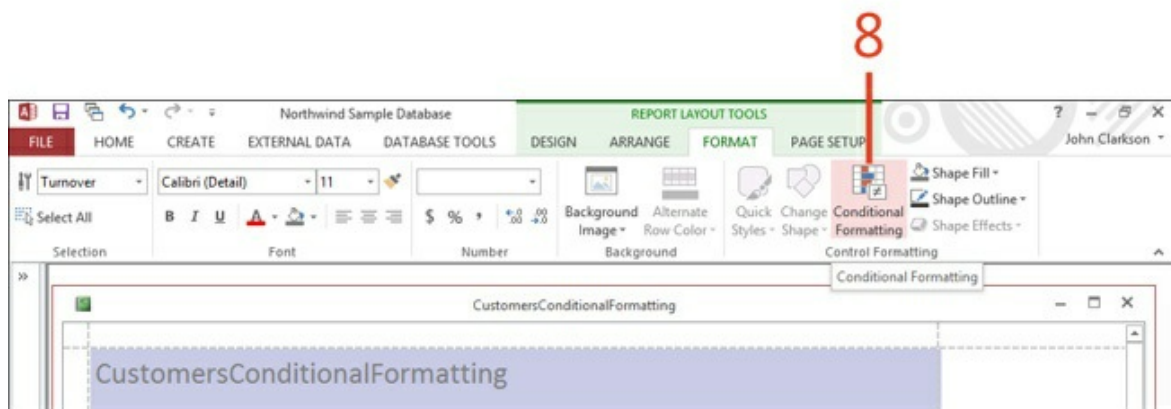
1. Select a field that contains numerical values.
2. Click Conditional Formatting in the Control Formatting group on the Format tab.
3. Click New Rule.



4. Change the rule type to Compare To Other Records.
5. In the Type field, change Lowest to Number and Highest to Number. (The default compares against the lowest and highest values in the report.)
6. Type Values for the shortest and longest bars. In our example, we entered 100 to 1000.
7. Click OK. (Also click OK to close the Conditional Formatting Rules Manager dialog box, and select Layout View from the View drop-down menu on the Design tab.)



8. In layout view, click Conditional Formatting to make further changes to the presentation.



Creating a single record report with the Report Wizard

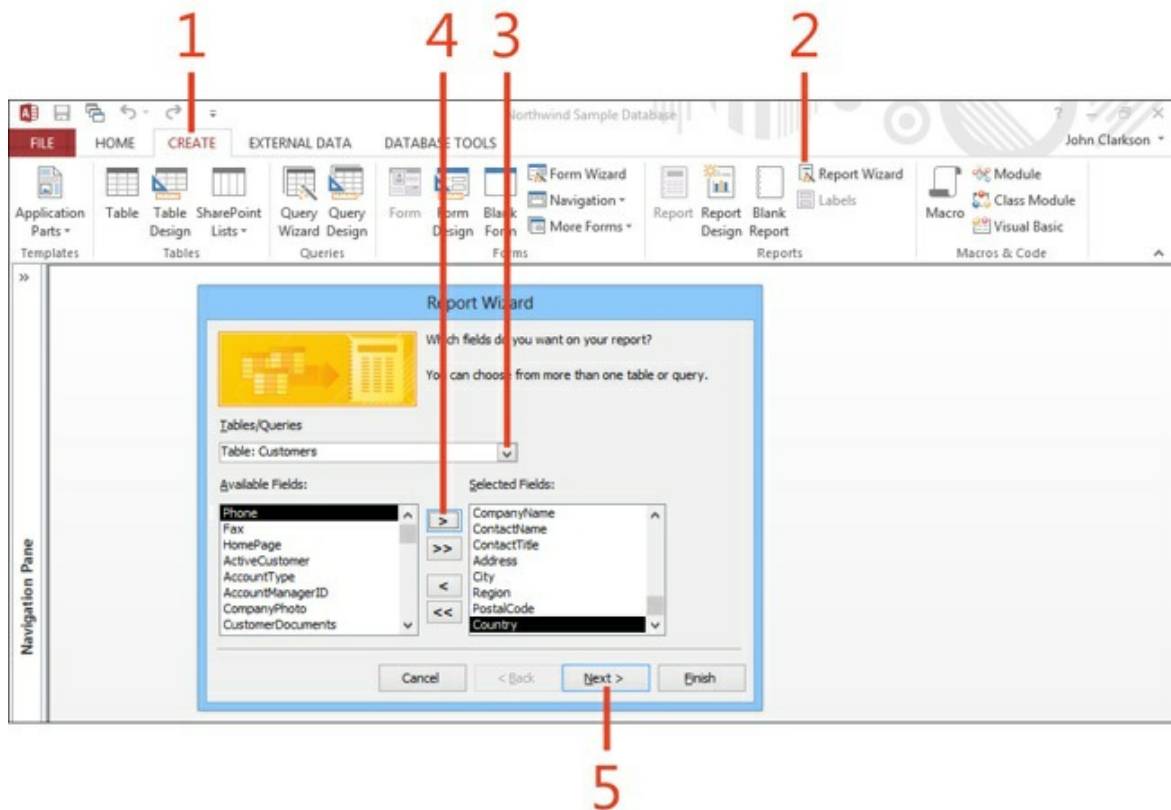
In a single record report, the field labels and controls are displayed in the

Detail section; this is different from a tabular presentation because the controls and labels are attached and move together in the Detail section. In a tabular report, the labels are displayed in a section header and the controls are displayed in the Detail section, and they do not move together unless the report was created via the Report icon, which adds layouts to the controls.

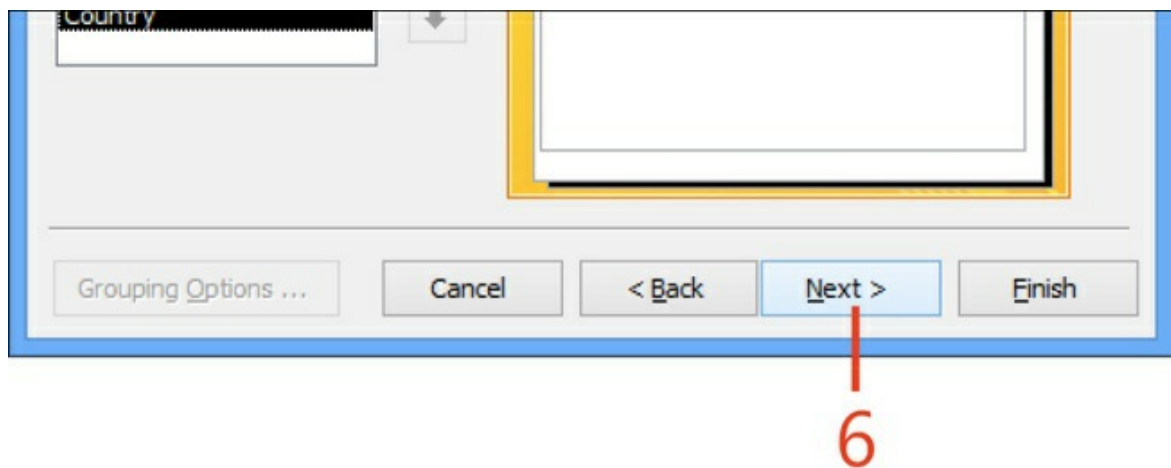
If you create a report either by selecting from multiple tables in the Report Wizard or by using a query containing multiple tables, the Report Wizard does not display a columnar option to lay out the record but displays only tabular layout options.

Create a single record report

1. Click the Create tab.
2. Click Report Wizard in the Reports group.
3. Select a single table.
4. Select several fields from the table.
5. Click Next.



6. Do not select any fields for grouping. Click Next.

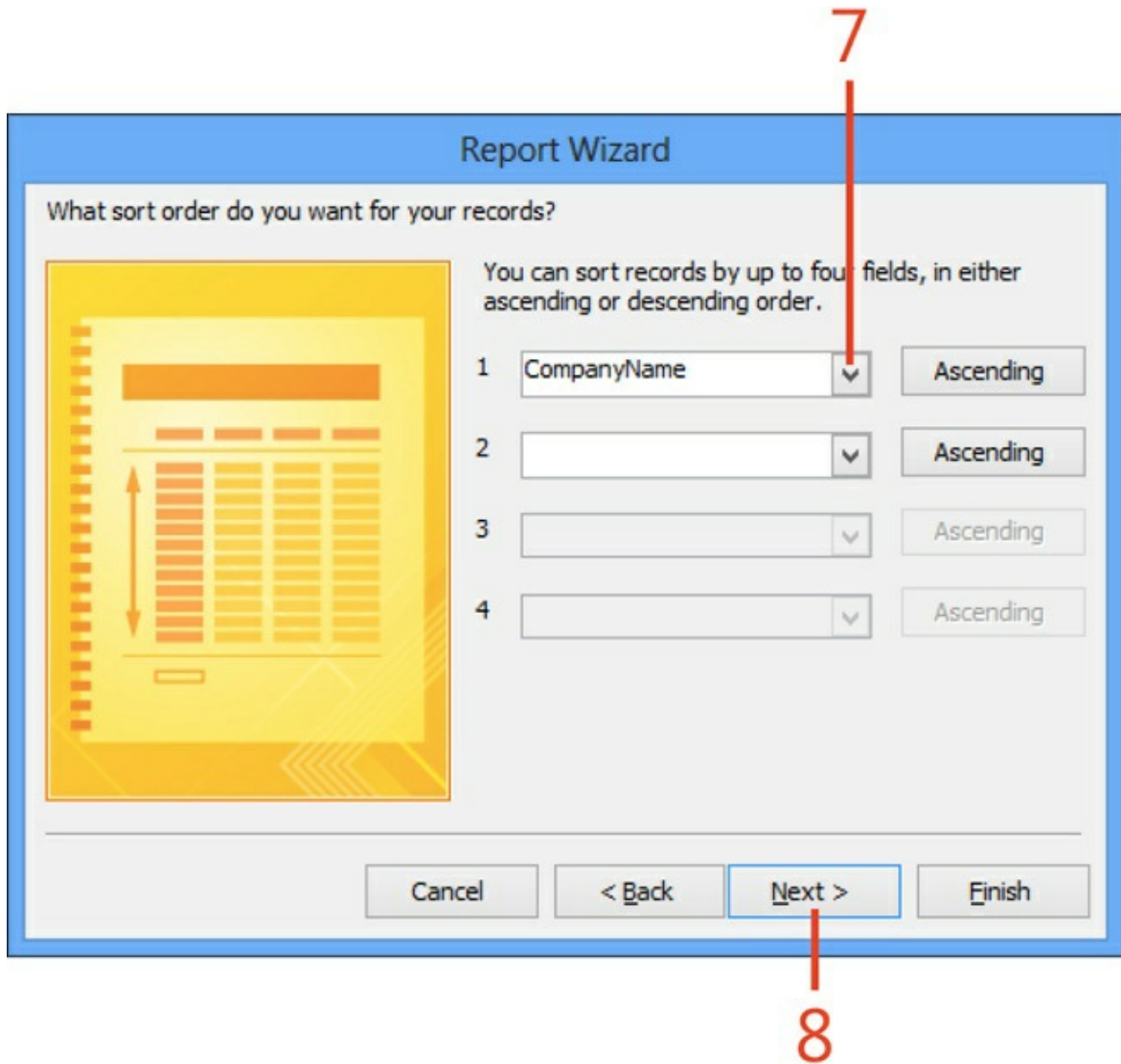


Tip

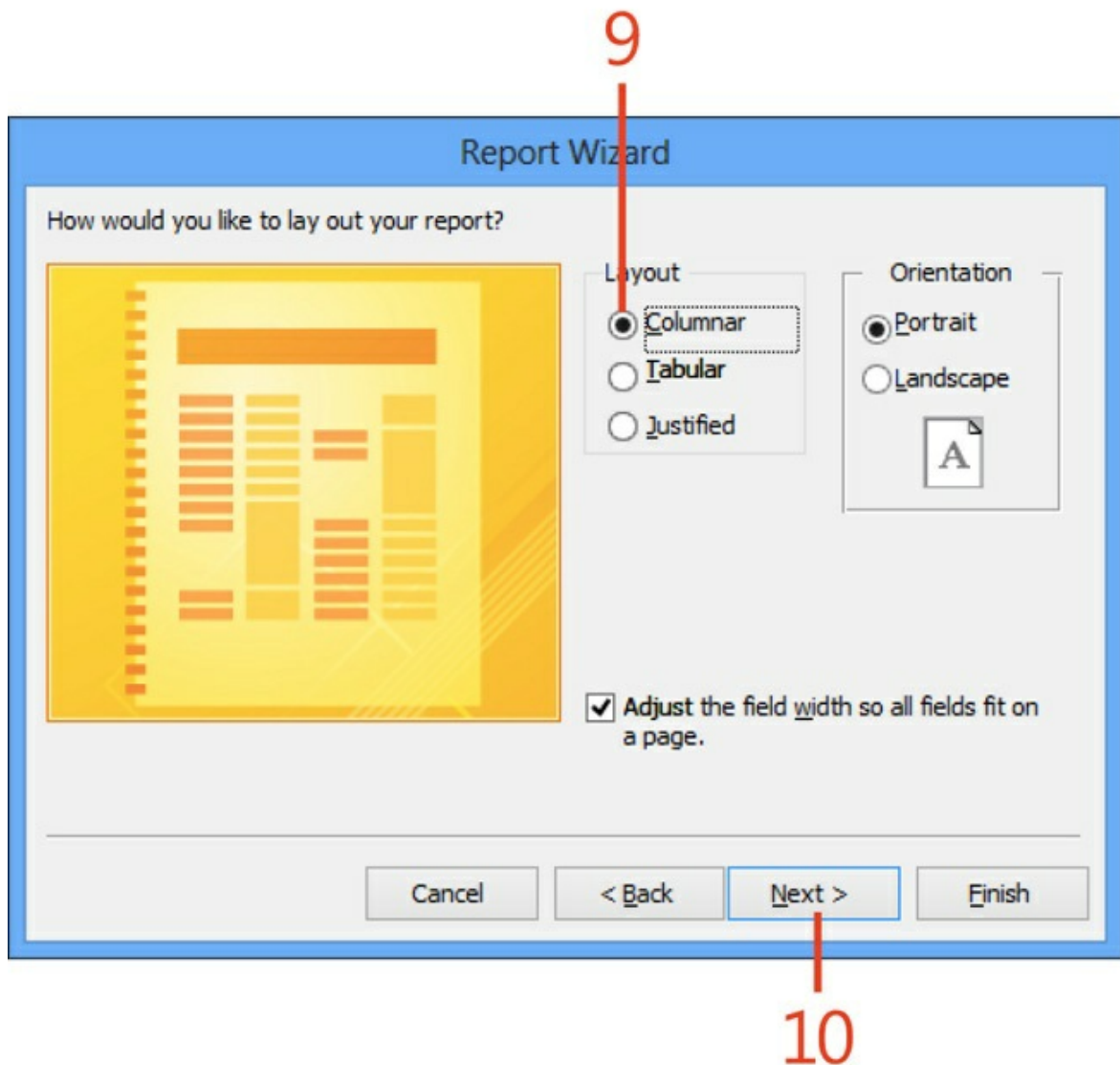
Do not add any grouping options in the Report Wizard. Otherwise, you will not be able to select a columnar report. You can add groupings to

the report after you have finished using the Report Wizard.

7. Select any fields for sorting the records.
8. Click Next.



9. Choose Columnar for the report layout.
10. Click Next. On the final page of the Wizard enter a name for the report and click Finish.



Tip

When viewing your report in Print Preview, you can use the Zoom icon on the Print Preview tab to alter the on-screen presentation of the data.

Creating a parent/child report

A parent/child report is similar to a parent/child form, where one table or query provides the parent record and another table or query contains the related child records, which are displayed in a subreport.

The Report Wizard does not have any options to create these parent/child reports. You start by creating two reports, one of which will be the parent and the other of which will be the child. Then you can drag the child report onto the parent report (while it is in Design view).

As an example, we will use a tabular list of orders, which we can create by using the Report Wizard. The table on which this report is created contains a linking field, which is the CustomerID, although the field does not need to be displayed on the report.

Our parent report will be a columnar report that we create by using the Report Wizard and which displays customer details. We will start with that report in Design view. The primary key on the parent is CustomerID, which will be used to link the parent report to the child subreport.

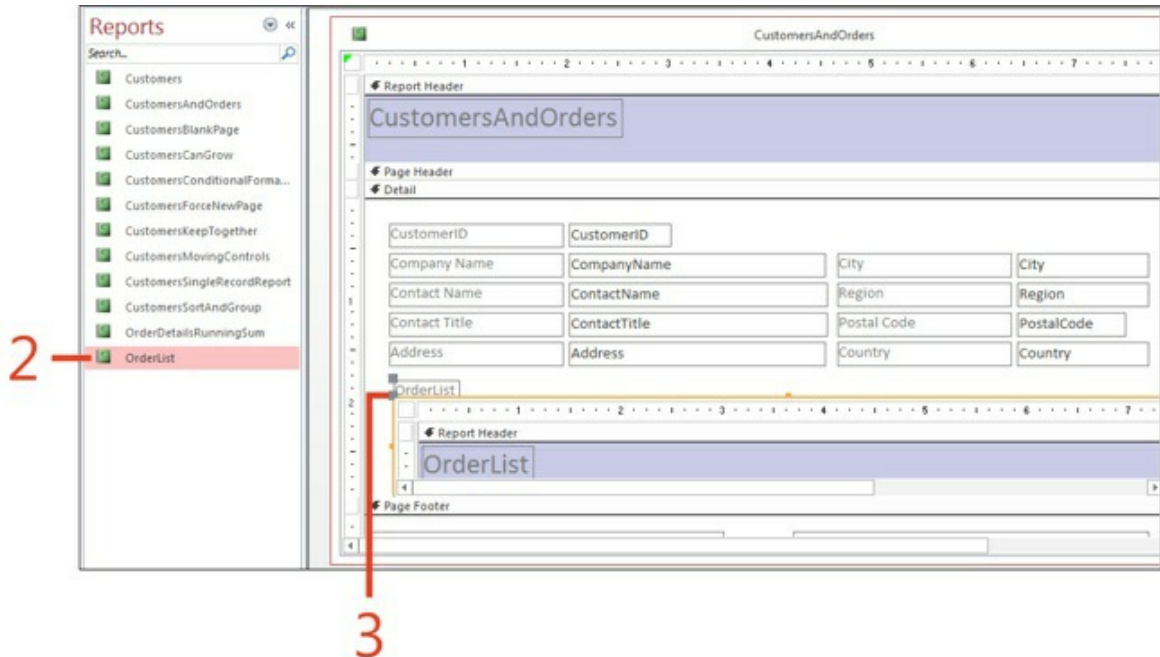
Create a parent/child report

1. Create a tabular subreport by using the Report Wizard, and then save and close the report.



2. With the parent report open in Design view (we have moved several fields to provide space for the subreport), position the report next to the navigation pane and select the child report to be positioned on the parent report.

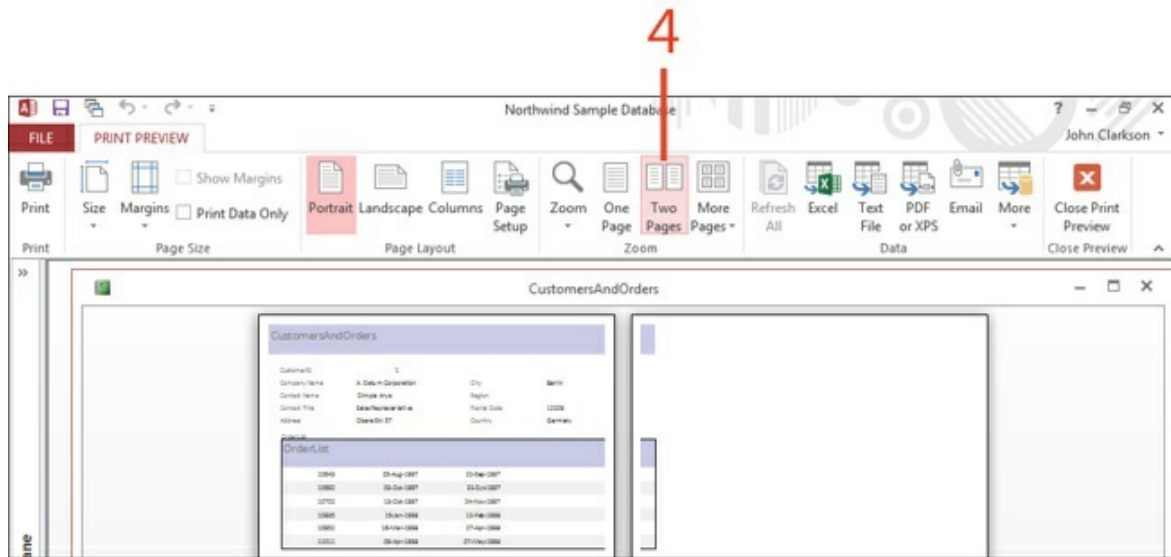
3. Drag the child report onto the parent report. This creates a subreport control. Select Print Preview from the View drop-down menu on the Design tab.



Tip

If you are having problems with the data in a subreport not being filtered by the parent record, display the Report Properties pane and examine the values in the *Link Master Fields* (parent) and *Link Child Fields* properties. These properties also have build buttons that can assist you in selecting the fields to use when linking the parent report to the child report.

4. To see how the report would require further adjustment to prevent the split over two pages, click Two Pages on the Print Preview tab. In this example, the subreport control width needs to be reduced.



Tip

You might find that it is easier to alter your presentation by removing any control layouts. However, if you do this, you will lose many of the benefits associated with working in layout view. By working with control layouts, using the icons in the Rows & Columns group on the Arrange tab, you'll find that altering the layout is greatly simplified.

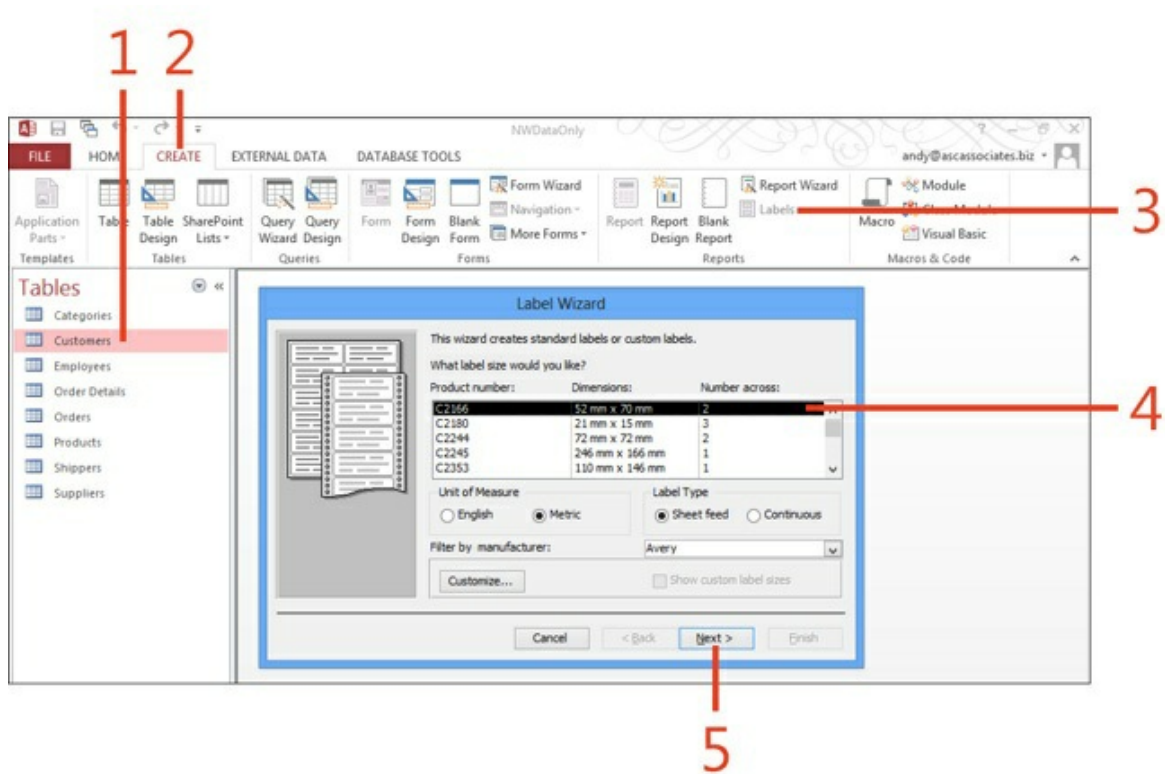
Using labels and managing columns and rows

Reports support portrait or landscape layouts, and in both cases you can alter the presentation to include Columns. With the columns presentation (which is used for labels and can also be used to present a directory-style layout of your data), the layout of records is split into several columns. The report can either show data in each column—filling the page for the first column and then moving to the next column—or display the data by filling all columns from left to right, working down each row in the page.

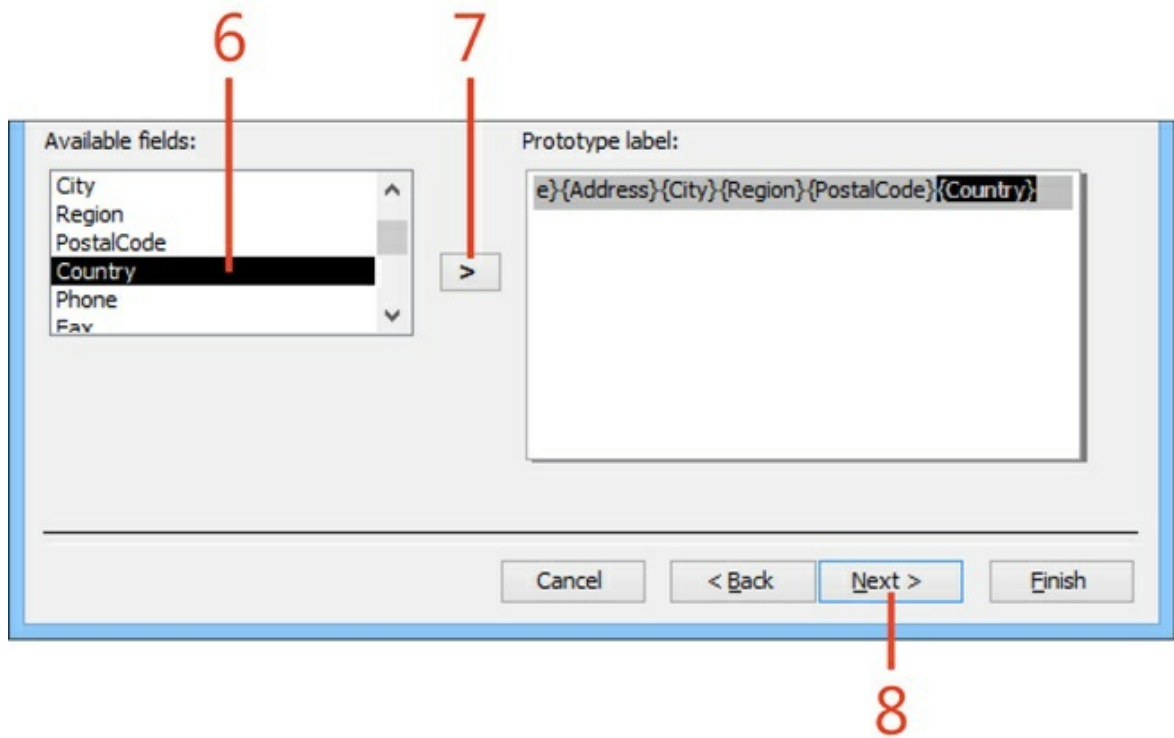
The Label Wizard is the easiest way to generate a set of labels, which you can then further adapt, although you can add this feature to any existing report.

Add a columns presentation

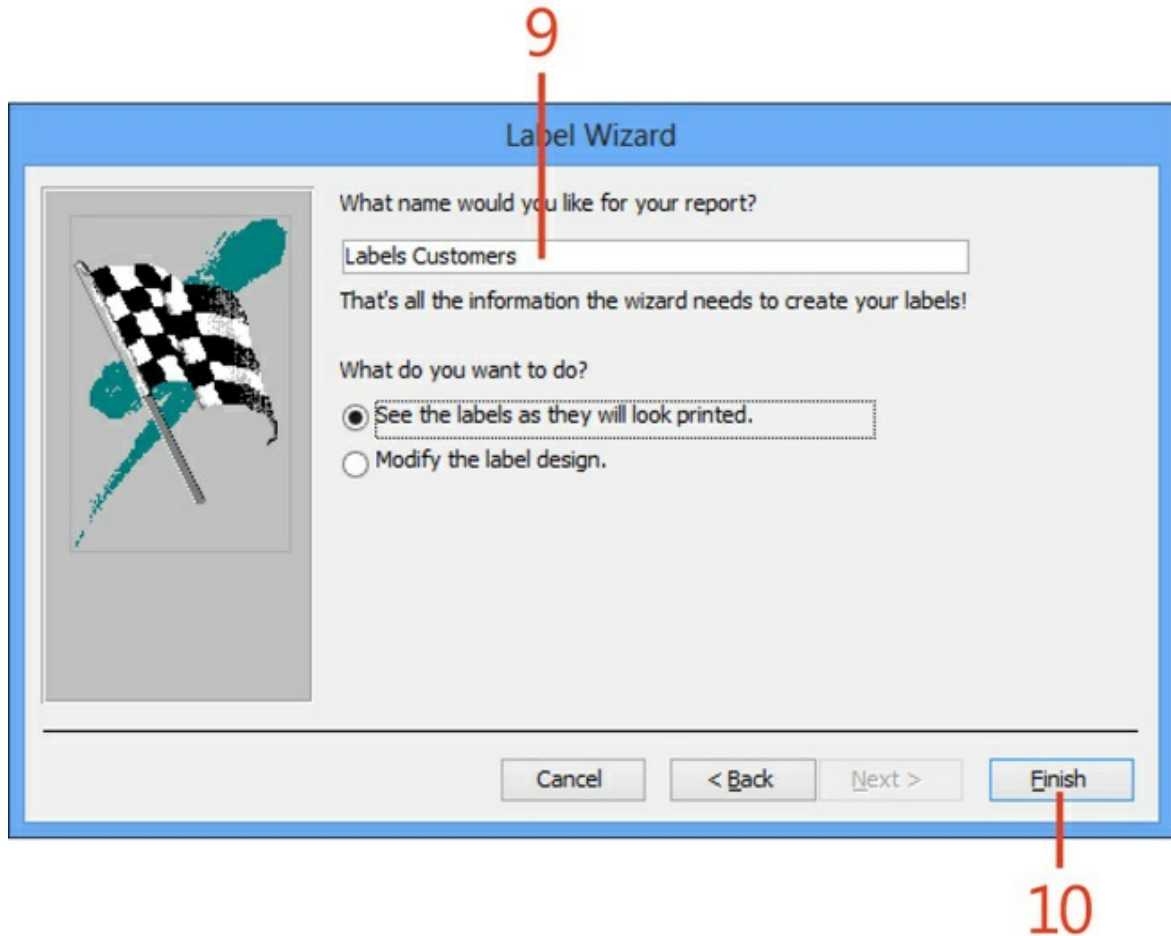
1. Select a table or query in the navigation pane.
2. Click the Create tab.
3. In the Reports group, click Labels.
4. Select an appropriate label.
5. Click Next, and on the next wizard page where you can change the fonts, click Next.



6. Click a label field.
7. Add the field to the label expression, and repeat to build up a list of fields in the label.
8. Click Next. The next wizard screen allows you to choose fields for sorting. Make any appropriate choices, and click Next.



9. Add a suitable title to the report.
10. Click Finish.



11. In the Page Layout group, you can click Columns to make further changes to the label layout. This will display the Page Setup popup window with the Columns tab selected.



Working with layout view, report view, and Print

Preview

When you double-click a report in the navigation pane, it opens the report in report view, which displays all the records as a continuous list. You can then switch the report into Print Preview to see the report paginated as it would be printed.

You can create forms and reports with controls organized in a layout. The layout presentation feature has the advantage of allowing you to easily modify the report while viewing data in layout view. Clicking the Report button on the Create tab will create a tabular report where the controls are placed in a layout. The options on the Arrange tab are intended for use with a layout presentation.

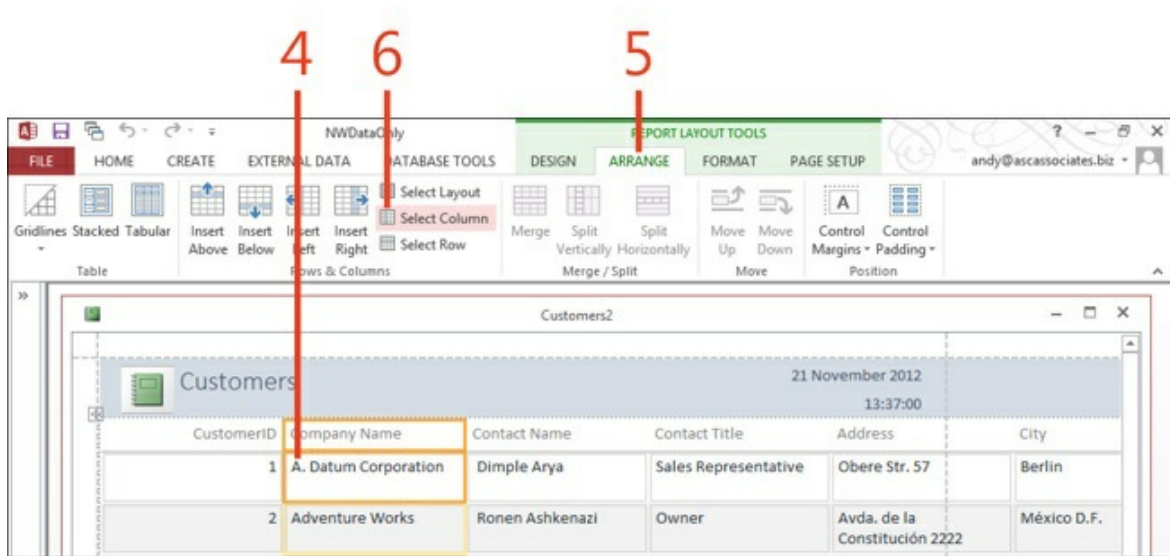
Alter a report in layout view

1. Select a table in the navigation pane.
2. Click the Create tab.
3. Click Report in the Reports group.



4. Click in a column row or heading.
5. Click the Arrange tab.
6. Click Select Column in the Rows & Columns group. You can reposition,

the selected column by dragging it to the left or right.

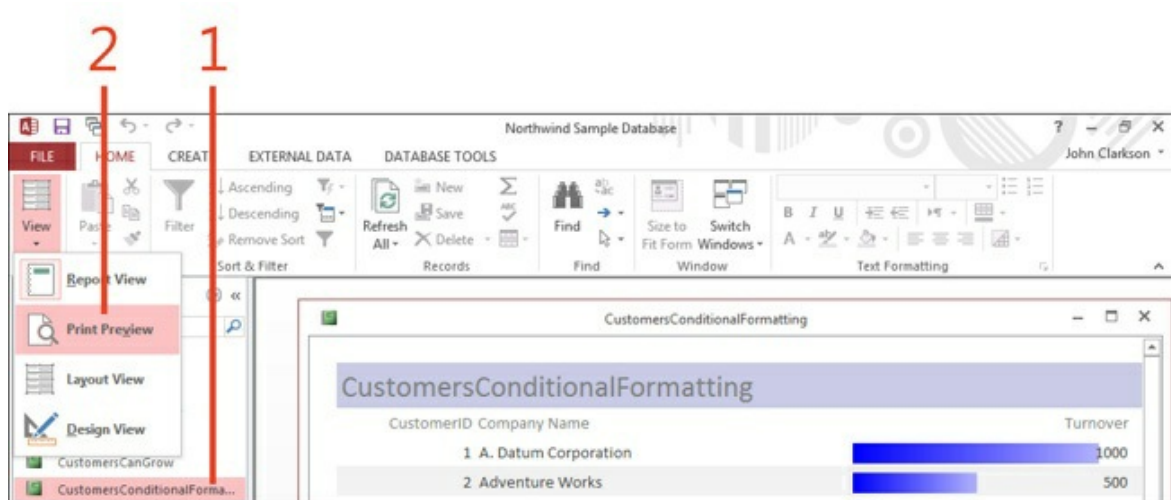


Tip

The child report contains a large report header (OrderList), which can be removed from the child report. Also, the heading titles for the child report are not displayed. To display these titles, you need to add a suitable grouping header on the child report and then move the column titles Order ID, Order Date, and Required Date from the page header into the group header in the subreport.

Switch between report view and Print Preview

1. Double-click a report to open it in report view.
2. Click the View drop-down arrow, and select Print Preview.



Tip

As an alternative method of opening a report, in the navigation pane you can right-click a report and choose how to view the report, selecting Open (Report View), Layout View, or Print Preview. If you open the report in Print Preview, closing the view will close the report, but if you open the report in report view or layout view and then switch to Print Preview, closing Print Preview will leave the report displayed either in report view or in layout view.

When a report is displayed, you can use the icons on the status bar (lower right of the screen) to switch between the available views. Even if you first opened your report in Print Preview, you can use these icons to quickly select any other view without closing the report.

Chapter 11. Exchanging data

In this section:

- [Importing data and objects from Access](#)
- [Linking to data in Access](#)
- [Importing data from Excel](#)
- [Linking to data in Excel](#)
- [Importing data from text files using specifications](#)
- [Exporting data to Excel](#)
- [Refreshing linked tables when files are changed](#)
- [Working with saved imports and exports](#)
- [Exporting data as PDF documents](#)

Access has fantastic support for getting data into and out of your database by using import and export procedures. You can import data into existing tables, or create new tables as the data is imported. In this section, we demonstrate the most popular formats for exchanging data.

In addition to importing and exporting, you can link to the data. This provides a dynamic link so that you will always see the latest data in the other data source, and when linked to data in another Access database or Excel spreadsheet, it will also dynamically reflect any changes made to the data structures in those files.

If you have data in databases such as IBM, Oracle, Informix, SharePoint, or SQL Server, you will find that Access also supports methods to exchange data by linking or importing from those sources via

ODBC (Open Database Connectivity), which is a standard method for interconnecting systems.

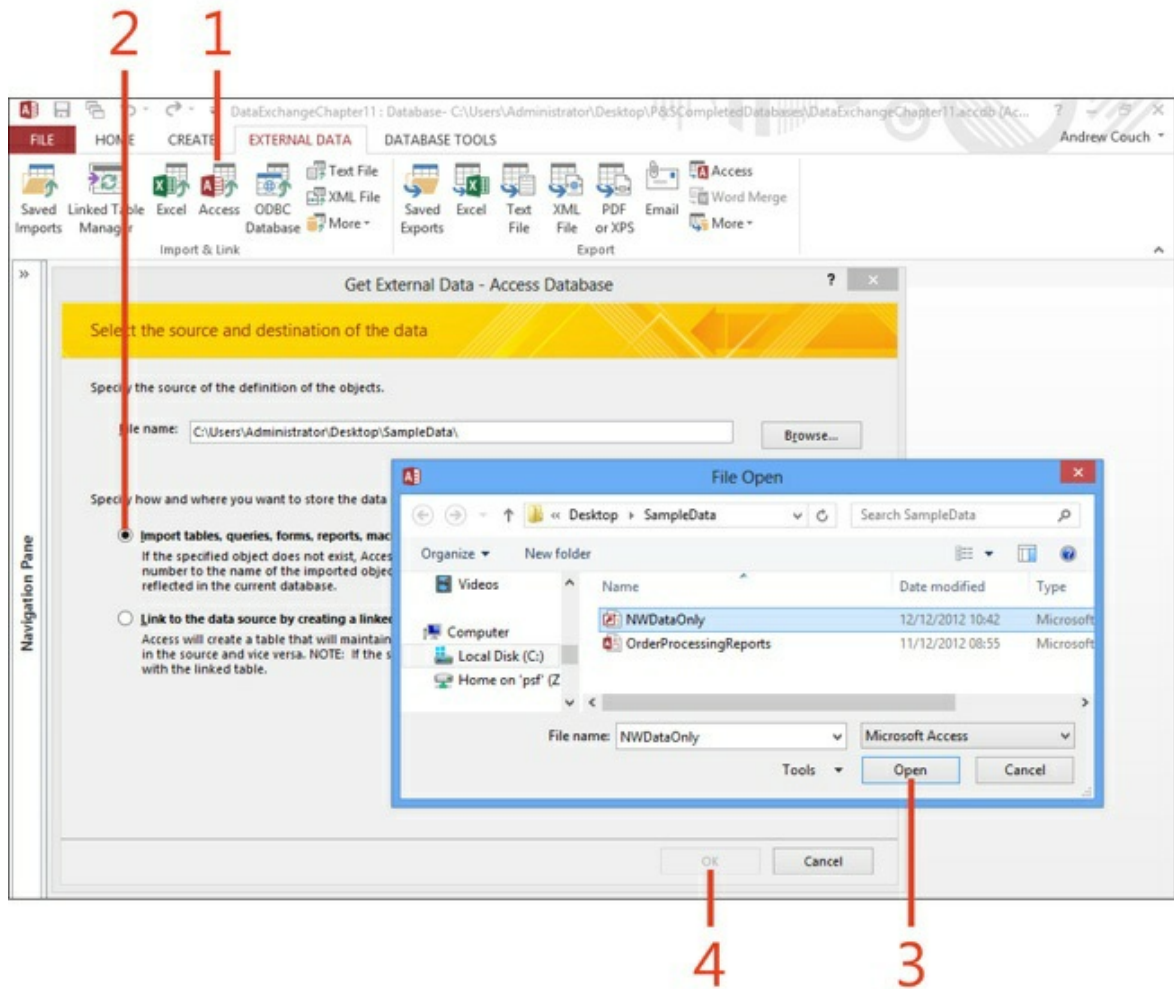
Importing data and objects from Access

When you import from another Access database, you can choose to import any combination of tables, queries, forms, reports, macros, or modules. For each type of object, you have the option to select all the objects or to select individual objects of each type.

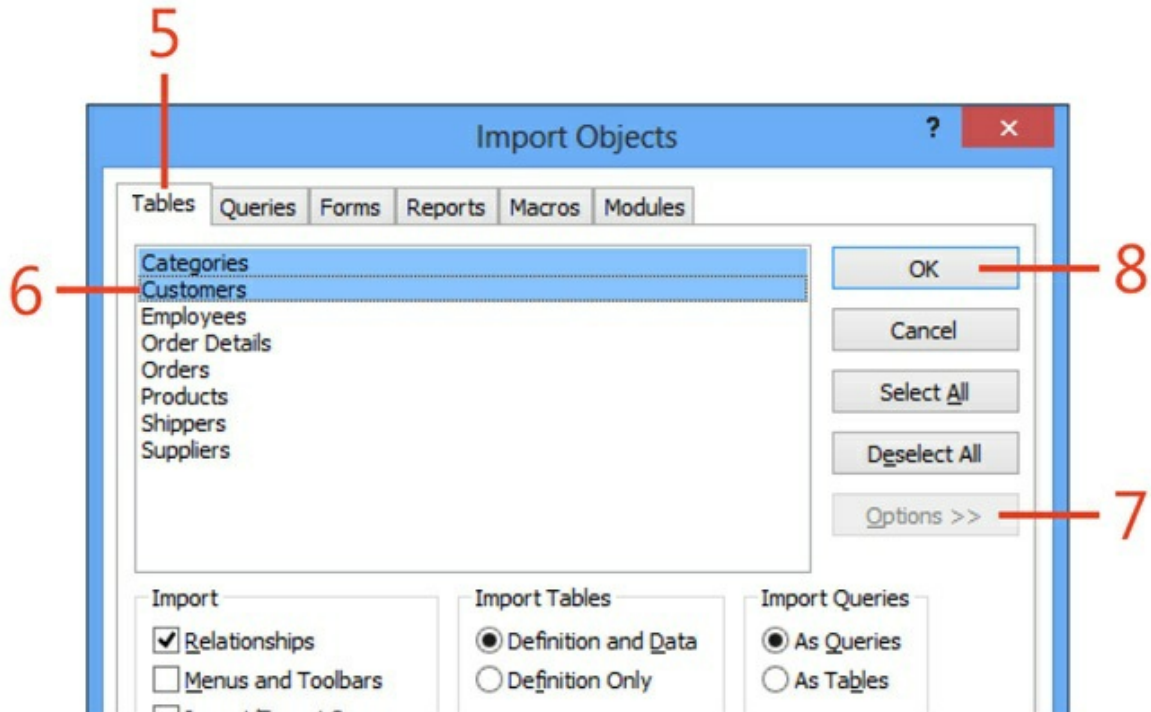
When importing related tables, you import the relationships by default. Options are available to exclude relationships, to import only structures and not data, and to create new tables when importing data from queries rather than importing the query.

Import data and objects from an Access database

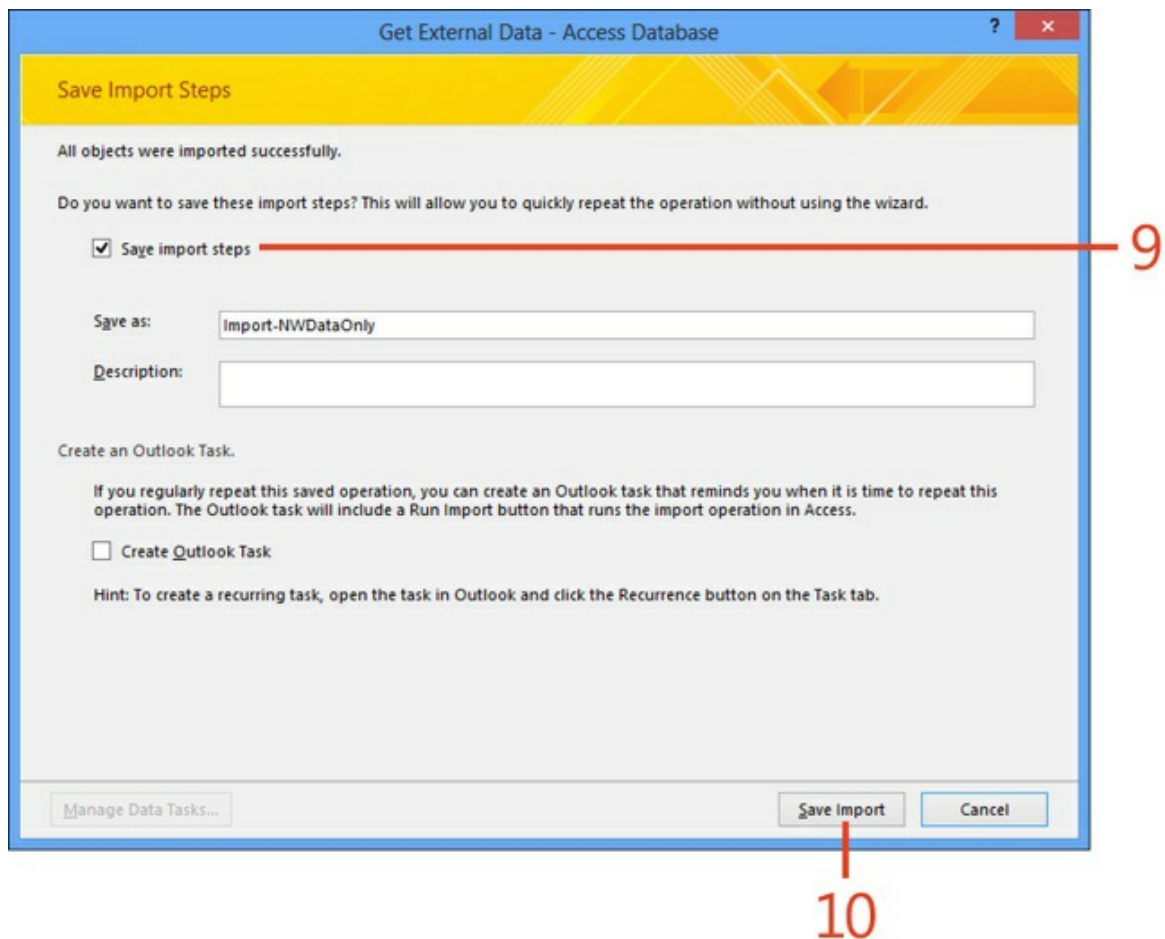
1. Click Access in the Import & Link group on the External Data tab.
2. Keep the default selection to import tables, queries, forms, reports, macros, and modules into the current database.
3. In the File Open popup window, browse to locate the database file. Select the file, and click Open.
4. Click OK.



5. Use the tabs to display objects in the database to be imported.
6. Select objects to import from each tab.
7. Click Options to see more options when importing data.
8. Click OK.



9. If you will be repeating this operation later, select the Save Import Steps check box.
10. Click Save Import.



Tip

When you are importing an object and an existing object in the database has the same name, Access will rename the imported object, appending a number to the end of the name to resolve the conflict. For example, if you import a table called Products when you already have a table with that name, the new table will be called Products1.

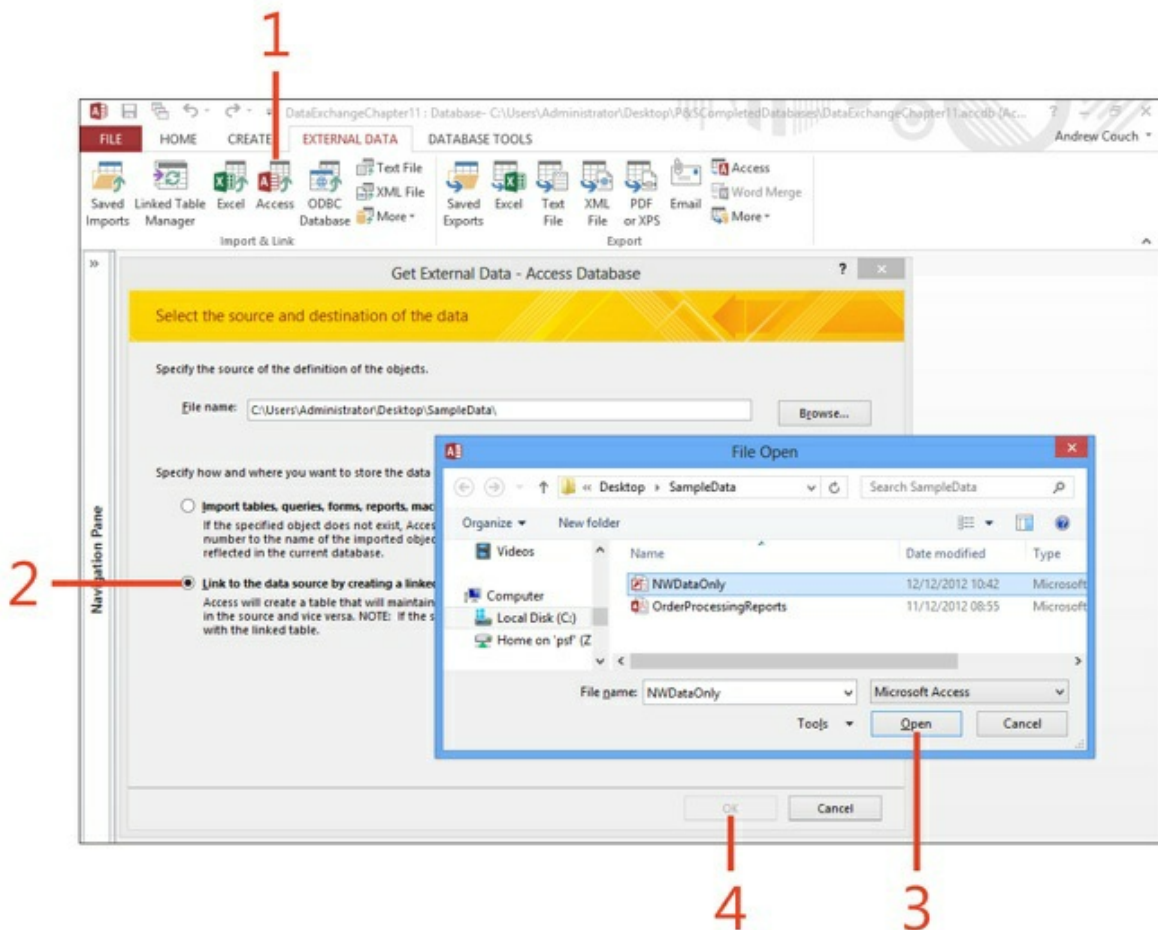
Linking to data in Access

Rather than importing data from an Access database, you can create links to the tables in an other database. You will then be connected to the live data in the other database, and this will save you from needing to regularly import data from the other system.

In addition to not having to copy data, if the linked tables, design is changed in the database to which you are linked, you will automatically see those design changes when next opening the linked table in your database. (If your linked table is open, you will need to close it before making any design changes in the database to the table to which you are linked.)

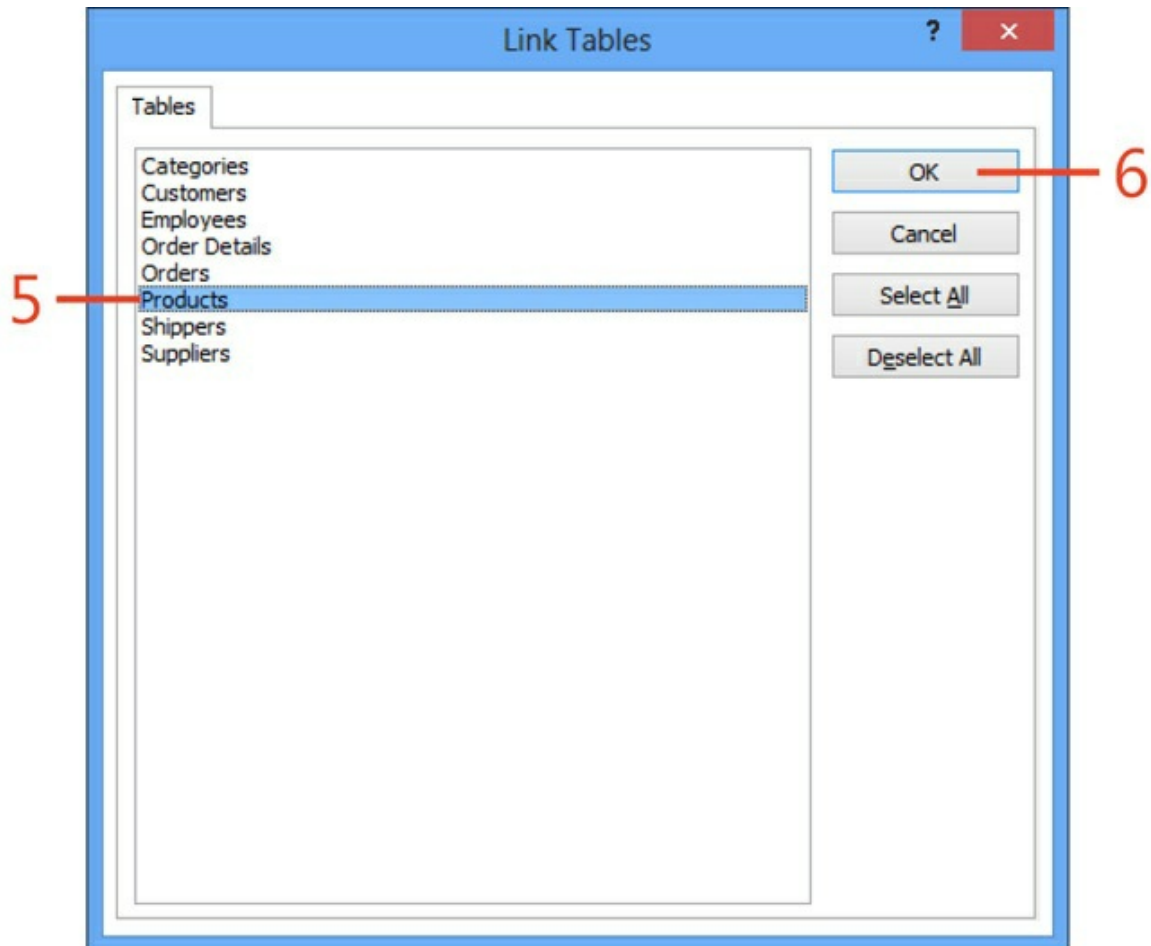
Link to data in an Access database

1. Click Access in the Import & Link group on the External Data tab.
2. Select Link To The Data Source By Creating A Linked Table.
3. Browse to locate the database file. Select the file and click Open.
4. Click OK.

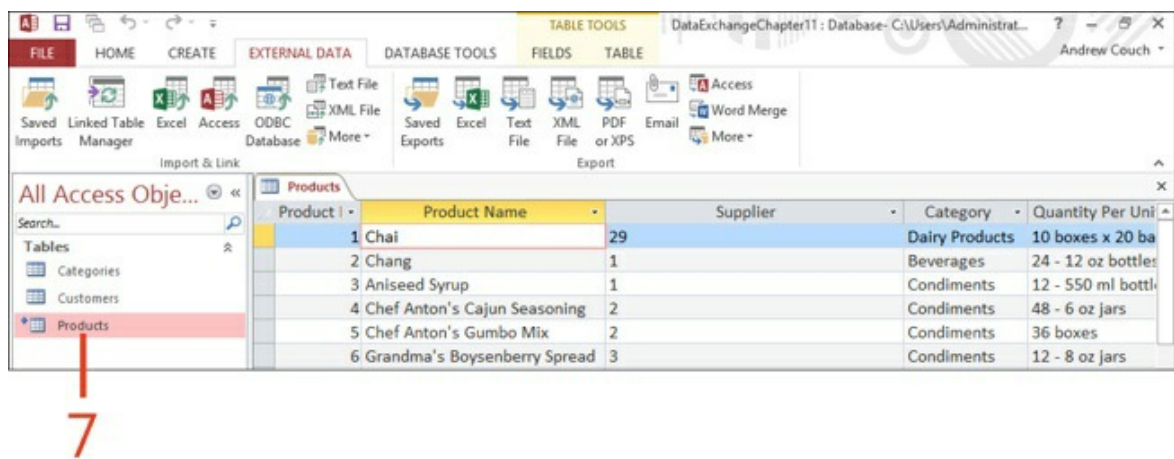


5. Select the tables to be linked.

6. Click OK.



7. A linked table is shown with a different icon in the navigation pane.



Tip

Access databases are often designed where all the items except the Tables are held in one database, and the Tables are held in a different database. This method enables users to have their own copy of the application on their local machine, but link to and share the data from another Access database on the network.

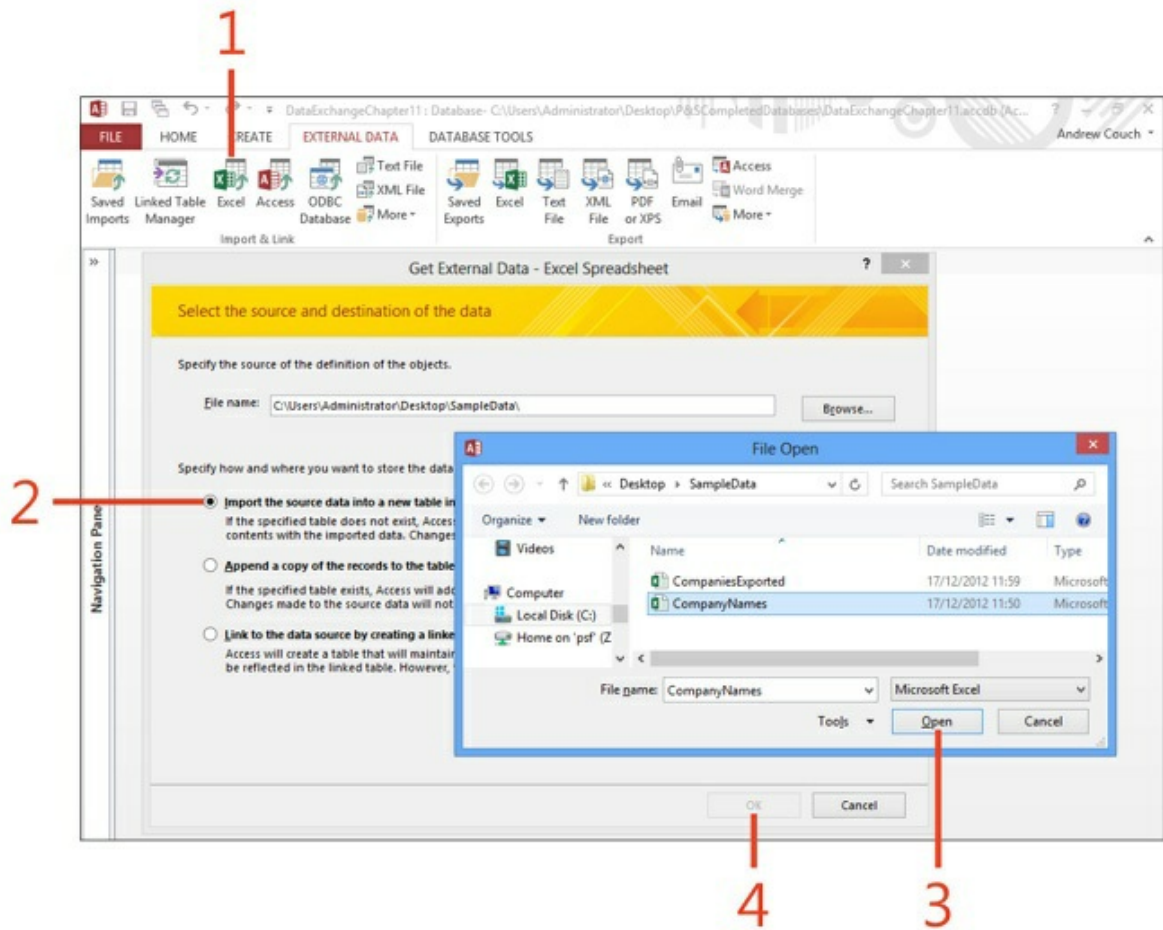
Importing data from Excel

When importing data from Excel, if you have only one worksheet and no named ranges defined, the wizard does not prompt you to make any additional decisions (as described shortly in step 5). But if you have either multiple worksheets or one or more ranges defined in a single worksheet or in multiple worksheets, you are prompted to select either a worksheet or a named range.

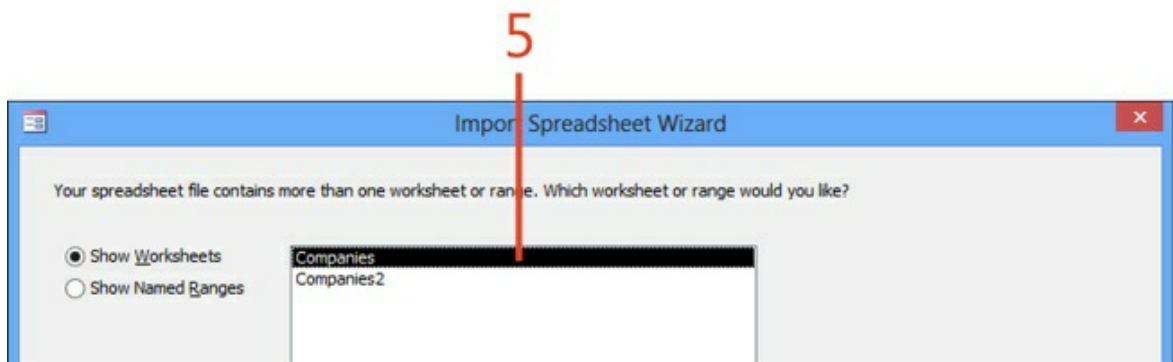
When importing data, you will also find that Access makes a best assessment of the appropriate data type to use for each column, but you can review and change the choice of data type before importing the data.

Import data from Excel

1. Click Excel in the Import & Link group on the External Data tab.
2. Keep the default selection to import the source data into a new table in the current database.
3. Browse to locate the Excel file. Select the file and click Open.
4. Click OK.



5. Select the required worksheet from which to import the data, and click Next.

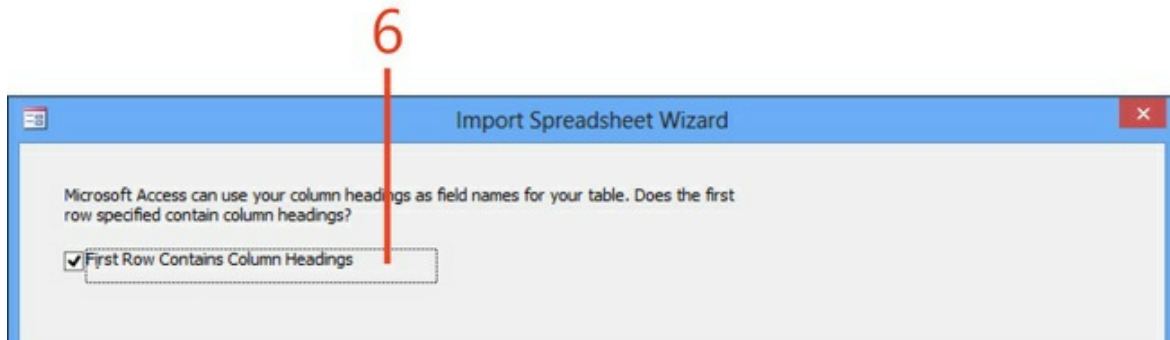


Tip

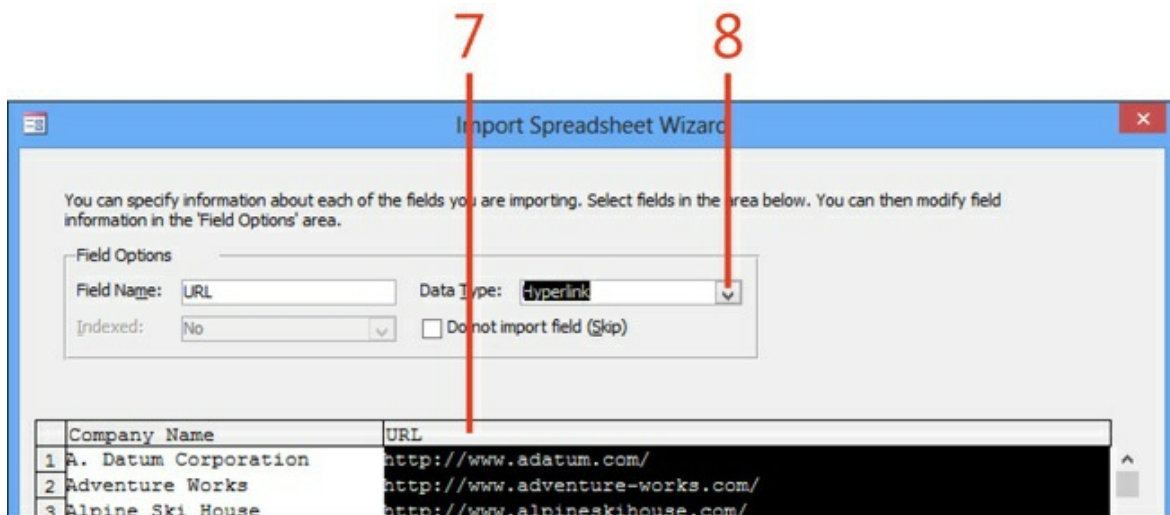
The wizard also offers an option to directly append data into an existing

table. However, it is often better to import data into a temporary staging table and then use the techniques described in [Chapter 7](#), using action queries to transfer the data into your main tables after checking the data.

6. If your spreadsheet includes column headings, select the First Row Contains Column Headings check box, and click Next.



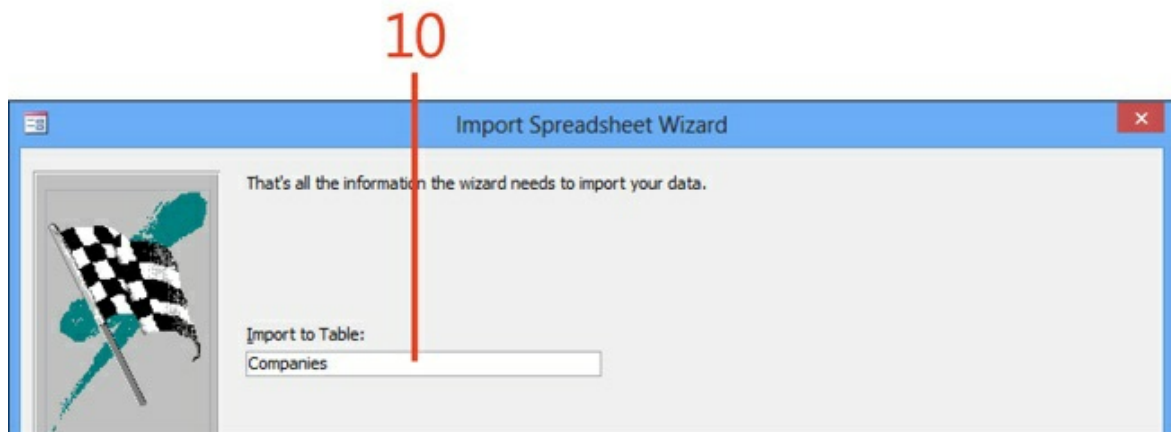
7. To change imported data types for a column, select the column. Use the horizontal scroll bar to see more columns from the source data.
8. Select a data type in the Data Type drop-down box and click Next.



9. Allow Access to add a primary key, or choose a column to use as the primary key. Click Next.



10. Type a name for the imported data table and click Finish.



Tip

After you complete the import steps you will be prompted with a screen to save the imported steps. This option allows you to repeat the the saved operation, as described later in this section.

Linking to data in Excel

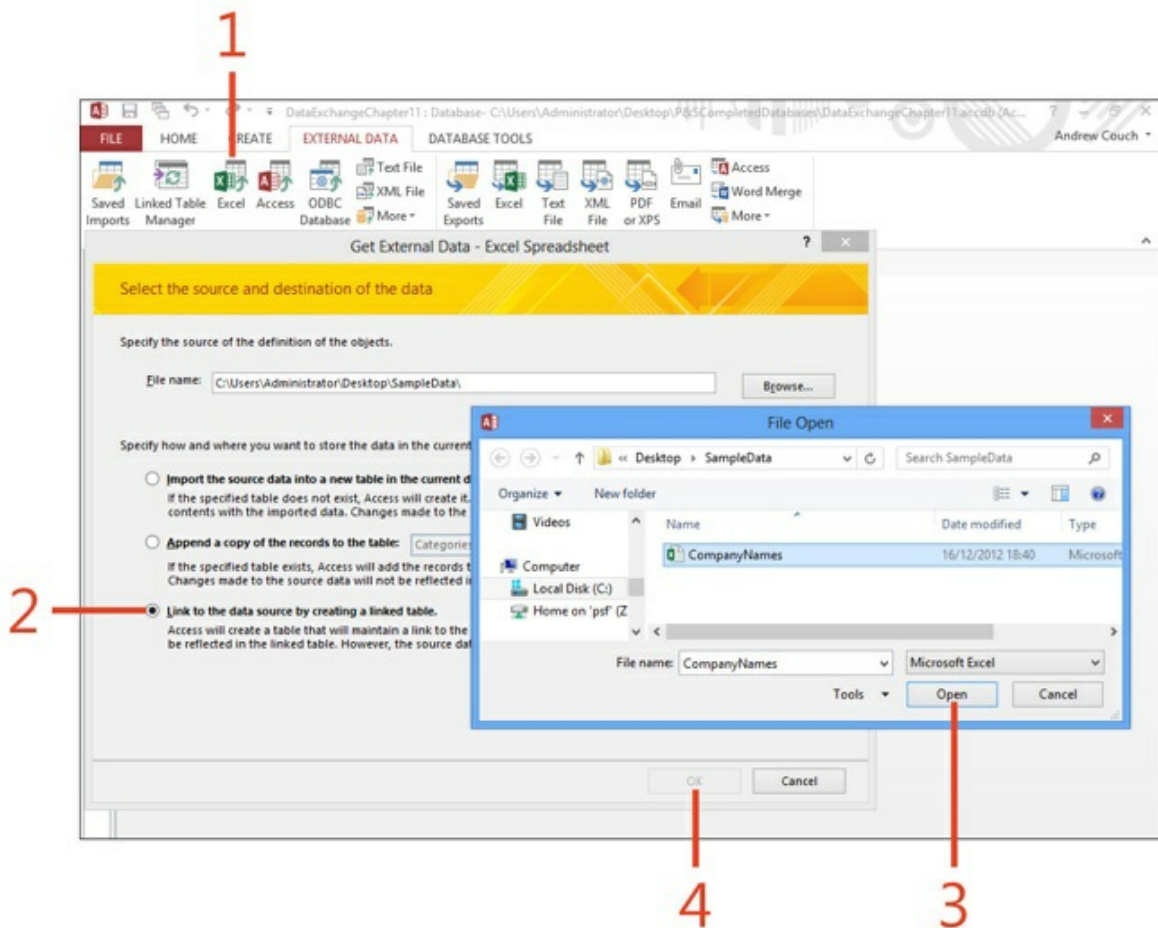
The ability to link Access to data in Excel can mean that rather than repeatedly importing data, you can link directly to the data in the spreadsheet. This means that you will always be working with the latest dataset.

If you link to an Excel Worksheet and columns are subsequently altered in the spreadsheet, when you reopen the table you will see the linked data

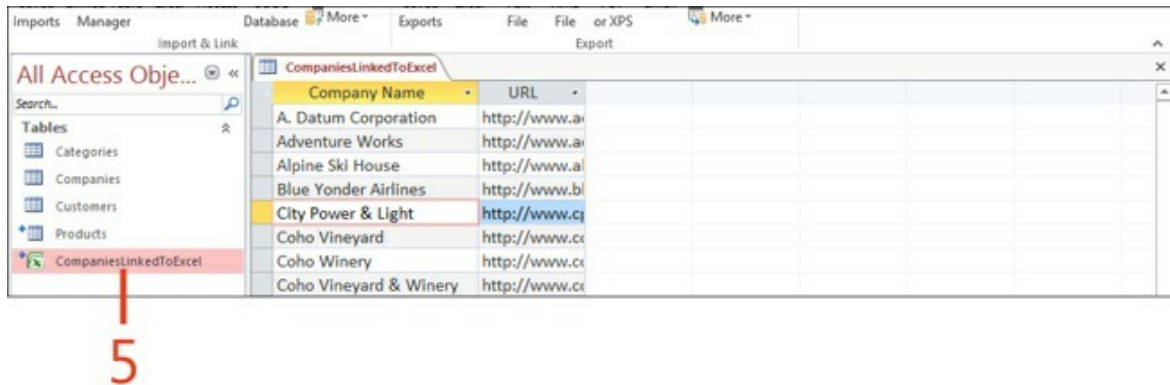
reflecting any structural changes to the spreadsheet. If you would prefer not to see these changes, you could link to a named range of cells in a worksheet instead.

Link to data in Excel

1. Click Excel in the Import & Link group on the External Data tab.
2. Select Link To The Data Source By Creating a Linked Table.
3. Browse to locate the Excel file. Select the file and click Open.
4. Click OK. You will be asked the same series of questions as described in the preceding task, [Import data from Excel](#) (steps 5 to 10).



5. The linked table is shown with a different icon in the navigation pane.



Tip

When you link to an Access table, the linked table will allow you to edit and insert data, but when you are linked to an Excel spreadsheet, you will find that the Access application cannot modify the data because you have a read-only link to the Excel data.

Refreshing linked tables when files are changed

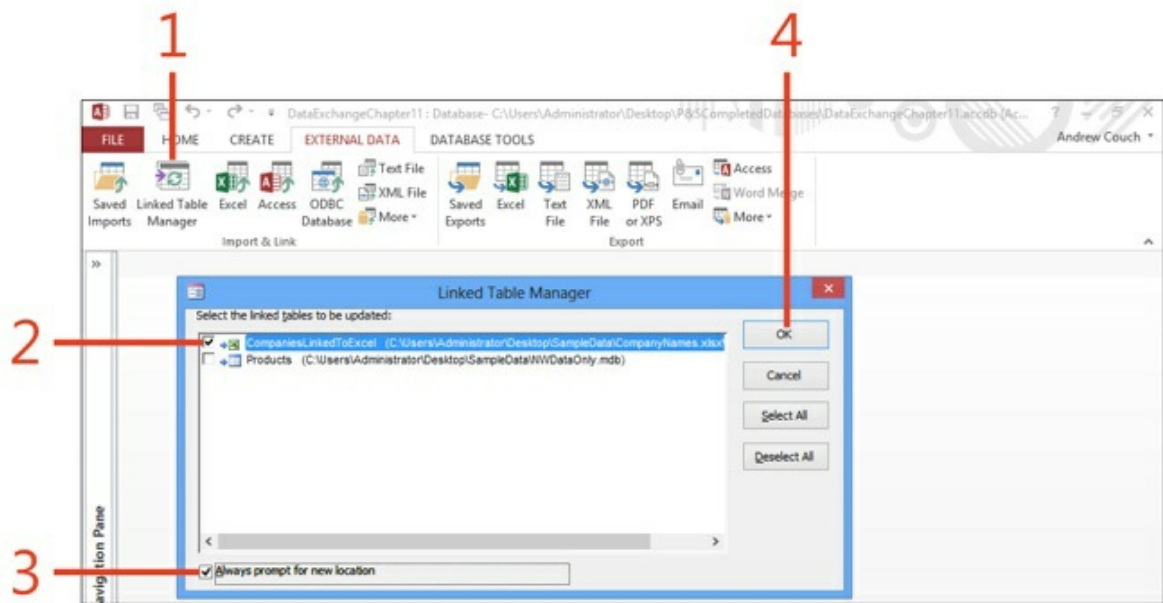
If you have linked tables to Access or Excel and if the files to which you are linking are moved to a different folder or the file name is changed, the links will no longer work. The Linked Table Manager allows you to select several linked tables and then inform Access of the new file path/name to the linked file.

If you know that a file name/path has changed, when relinking you should select the option Always Prompt For A New Location. If that option is not selected, when you refresh the links you will be prompted to specify a valid file path each time a link cannot be refreshed.

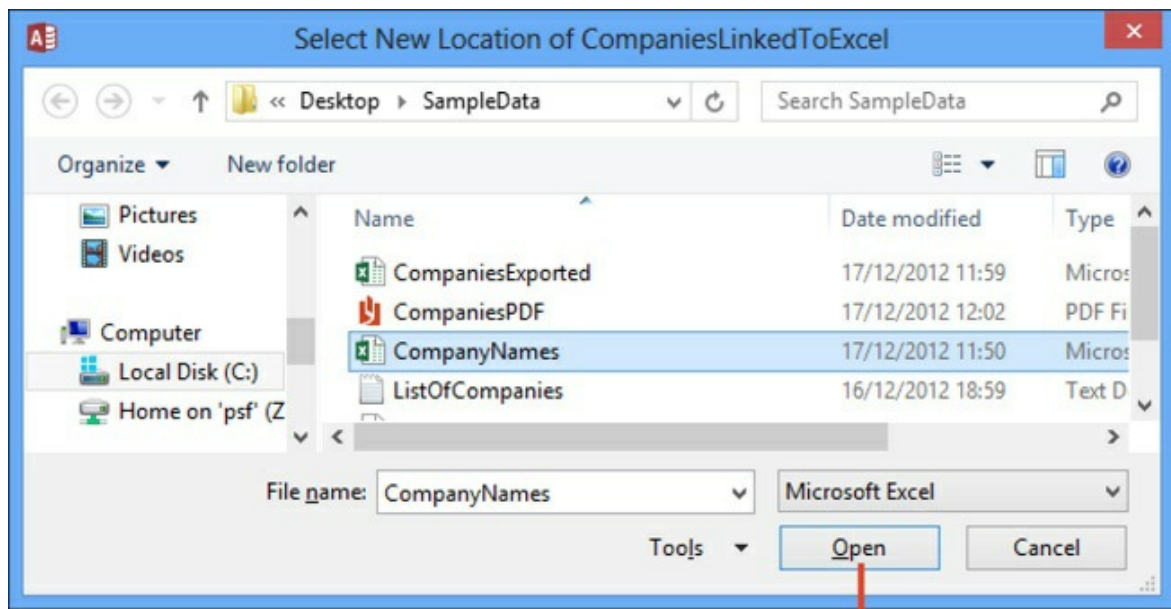
Refresh linked tables

1. Click Linked Table Manager in the Import & Link group on the External Data tab.

2. Click to select any links that need to be refreshed.
3. Select the Always Prompt For New Location check box.
4. Click OK.



5. Locate the file at the new location, and click Open.



Tip

For links to Access and Excel worksheets, if the source data structure changes, the links do not need to be manually refreshed; they automatically display the latest structure. But if the links connect to tables in SQL Server or another database server, when the table structures change in the other database you will need to refresh those links.

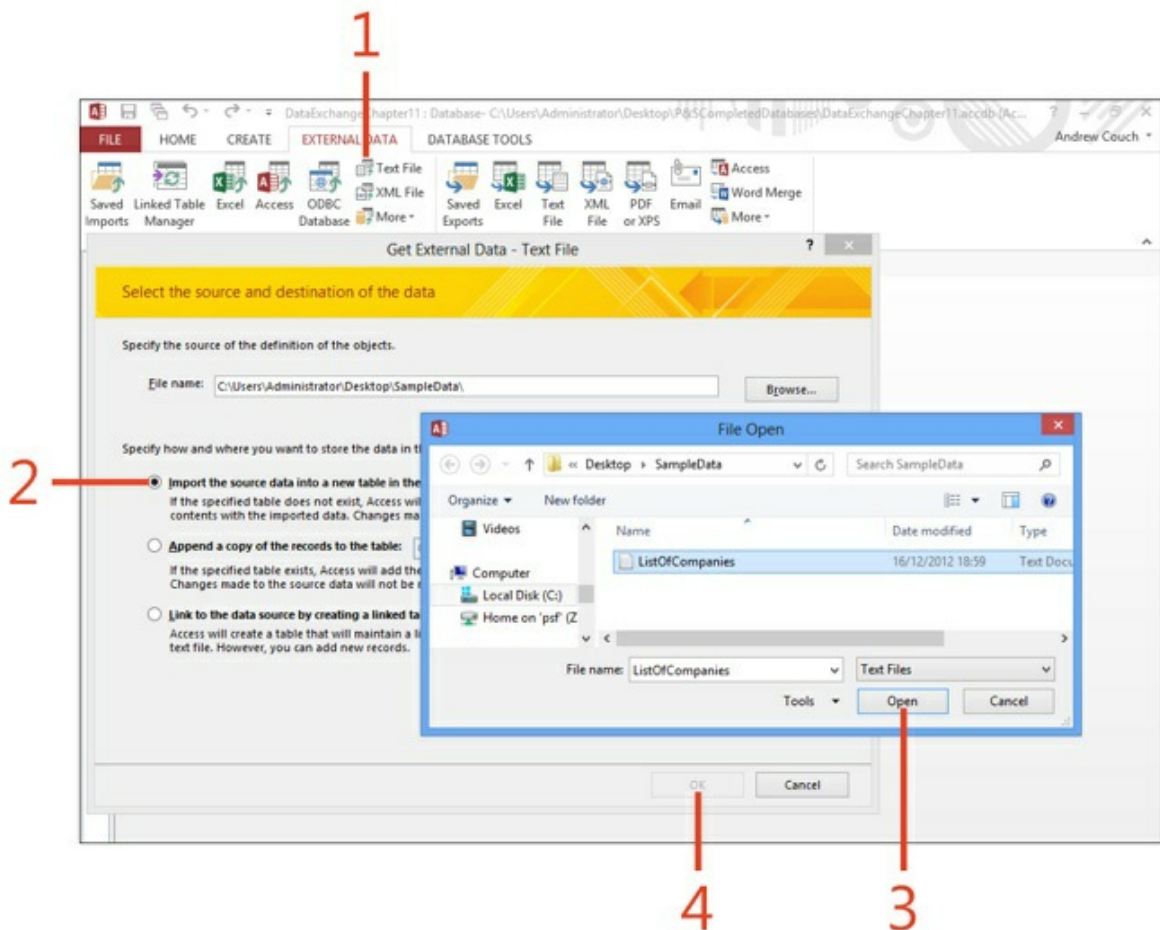
Importing data from text files using specifications

The Import Text Wizard is a very sophisticated tool that allows you to import data in a wide variety of formats. The most popular text format is called *delimited*. In this format, columns are separated by a comma and text fields are surrounded with double quotes. You might occasionally come across a file that uses different delimiters, and the wizard can accommodate this.

The second format you might come across is fixed width, where every field has a fixed number of characters. The wizard will also help you to decide on column boundaries when you are working with this format.

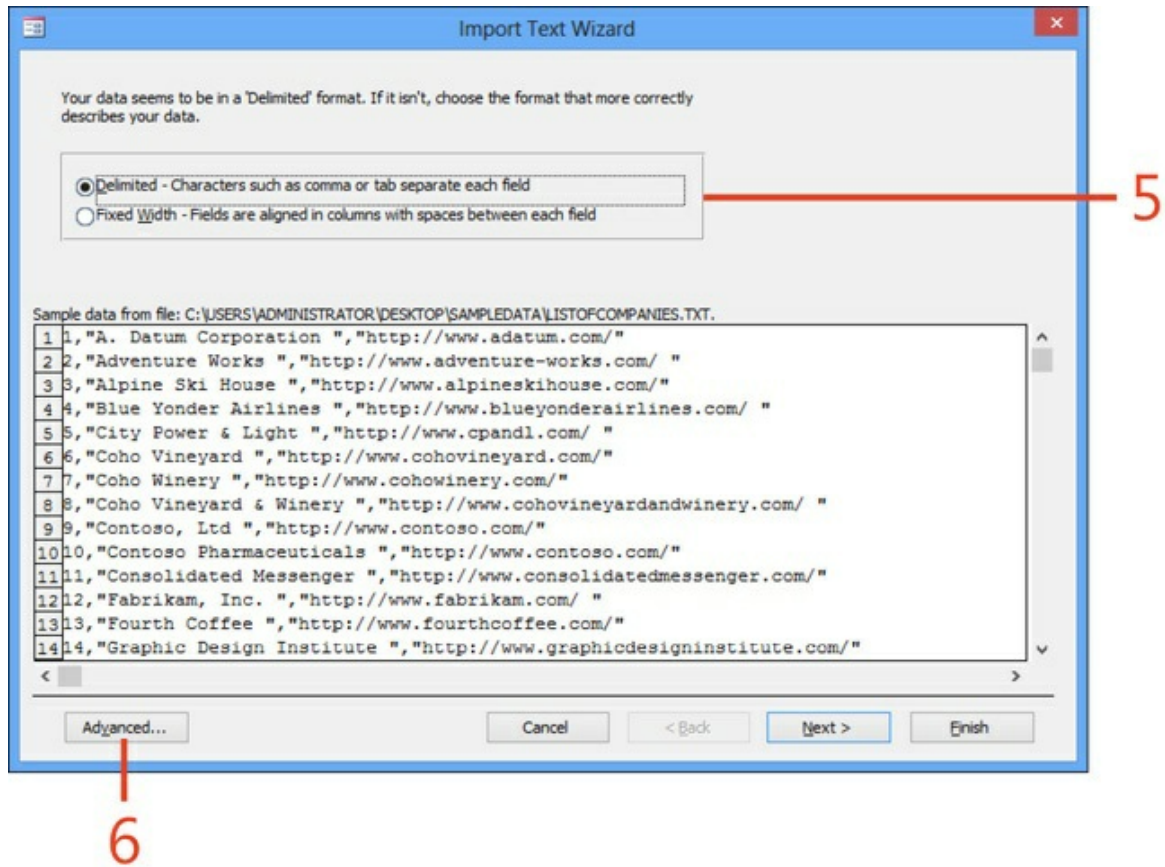
Import data from a text file

1. Click Text File in the Import & Link group on the External Data tab.
2. Keep the default selection to import the source data into a new table in the current database.
3. Browse to locate the text file. Select the file and click Open.
4. Click OK.



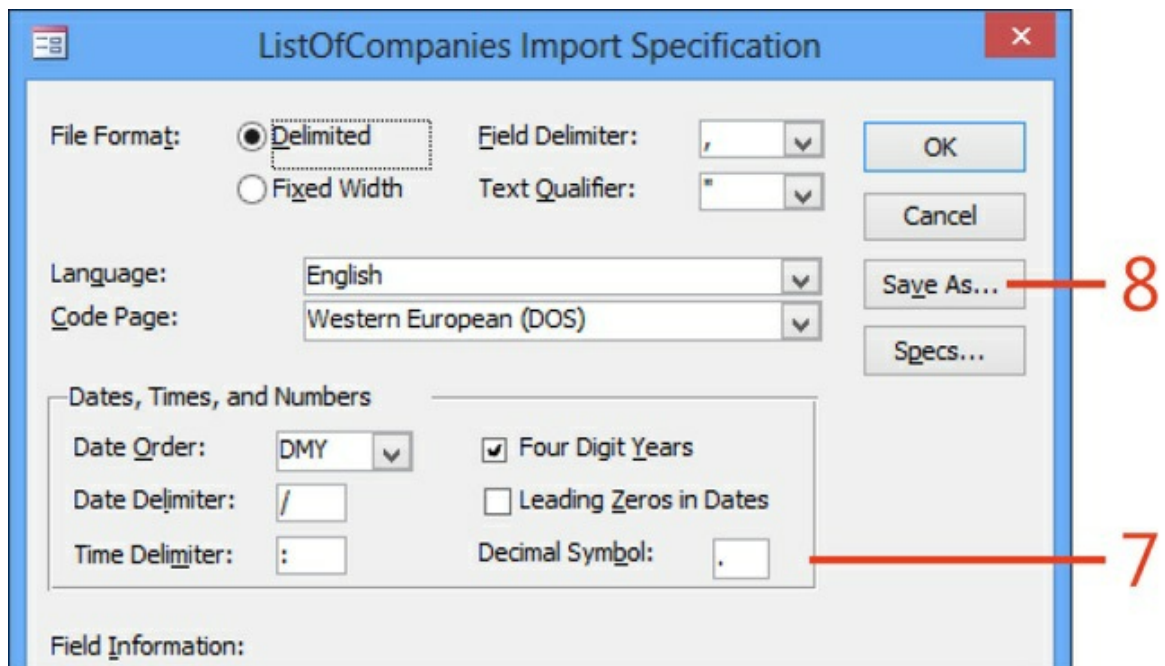
5. Select either Delimited or Fixed Width, according to the text file format. Delimited is the more common choice. If you want to see more advanced features of the Import Text Wizard, continue with step 6; otherwise, click Next and proceed to step 10.

6. Click Advanced.

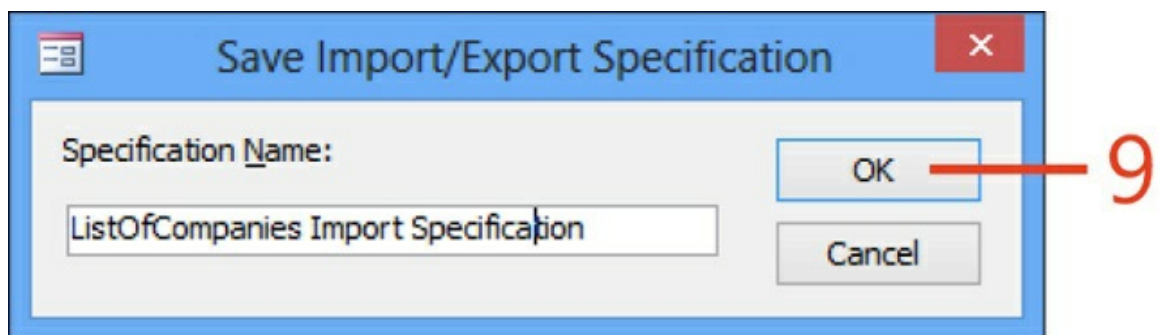


7. Adjust any of the advanced settings associated with the text import.

8. Click Save As to save your settings as a specification.



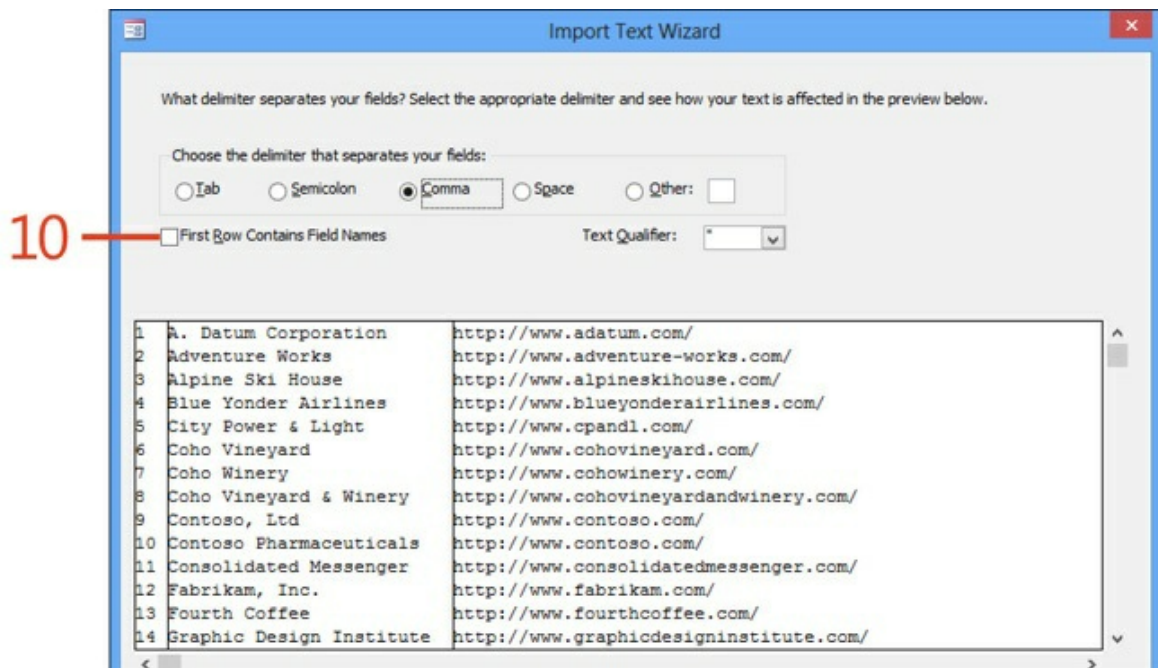
9. Type a name for the specification, and click OK. Click OK to close the Advanced screen.



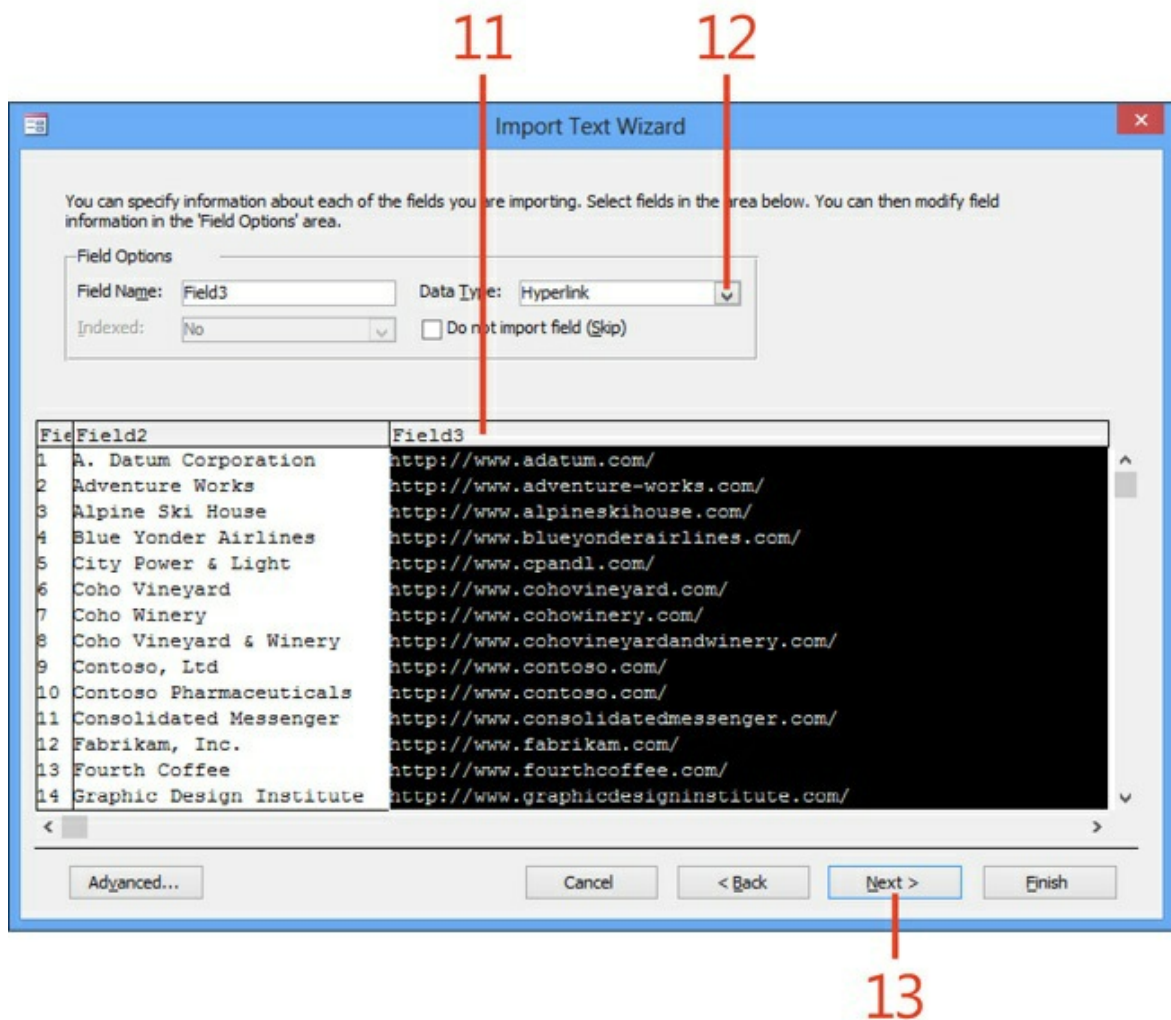
Tip

Import specifications allow you to set up specialized settings for controlling how a file is imported. You can then reload them when repeating an import process. Usually, you will not need this extra flexibility, but if required, it can prove very useful.

10. If your first row in the text file contains field names, select the First Row Contains Field Names check box, and click Next. (Our example does not contain this row.)



11. To change imported data types for a column, select the column.
12. Select a data type in the Data Type drop-down box. Use the horizontal scroll bar to view the other columns from the data source.
13. Click Next.



14. Allow Access to add a primary key, or choose a column to use as the primary key. Click Next.

14

Microsoft Access recommends that you define a primary key for your new table. A primary key is used to uniquely identify each record in your table. It allows you to retrieve data more quickly.

☒ Let Access add primary key.

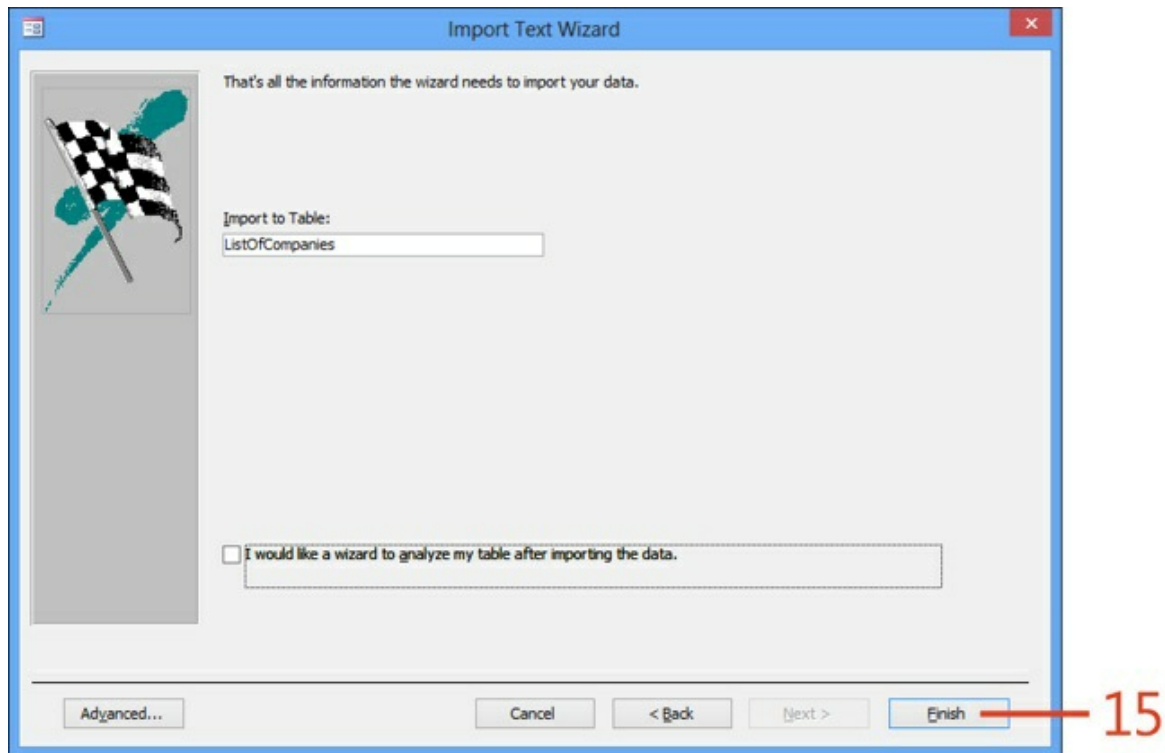
☐ Choose my own primary key.

☐ No primary key.

ID	Field1	Field2	Field3
1	1	A. Datum Corporation	http://www.adatum.com/
2	2	Adventure Works	http://www.adventure-works.com/
3	3	Alpine Ski House	http://www.alpineskihouse.com/
4	4	Blue Yonder Airlines	http://www.blueyonderairlines.com/
5	5	City Power & Light	http://www.cpandl.com/
6	6	Coho Vineyard	http://www.cohovineyard.com/
7	7	Coho Winery	http://www.cohowinery.com/
8	8	Coho Vineyard & Winery	http://www.cohovineyardandwinery.com/
9	9	Contoso, Ltd	http://www.contoso.com/
10	10	Contoso Pharmaceuticals	http://www.contoso.com/
11	11	Consolidated Messenger	http://www.consolidatedmessenger.com/
12	12	Fabrikam, Inc.	http://www.fabrikam.com/
13	13	Fourth Coffee	http://www.fourthcoffee.com/
14	14	Graphic Design Institute	http://www.graphicdesigninstitute.com/

Advanced... Cancel < Back Next > Finish

15. Type a name for the imported data table, and click Finish.



Tip

When importing data Access gives you three choices for setting the new primary key on a table. The simplest option is to accept the default choice and Let Access add primary key, this will add an autonumber field called ID to your table.

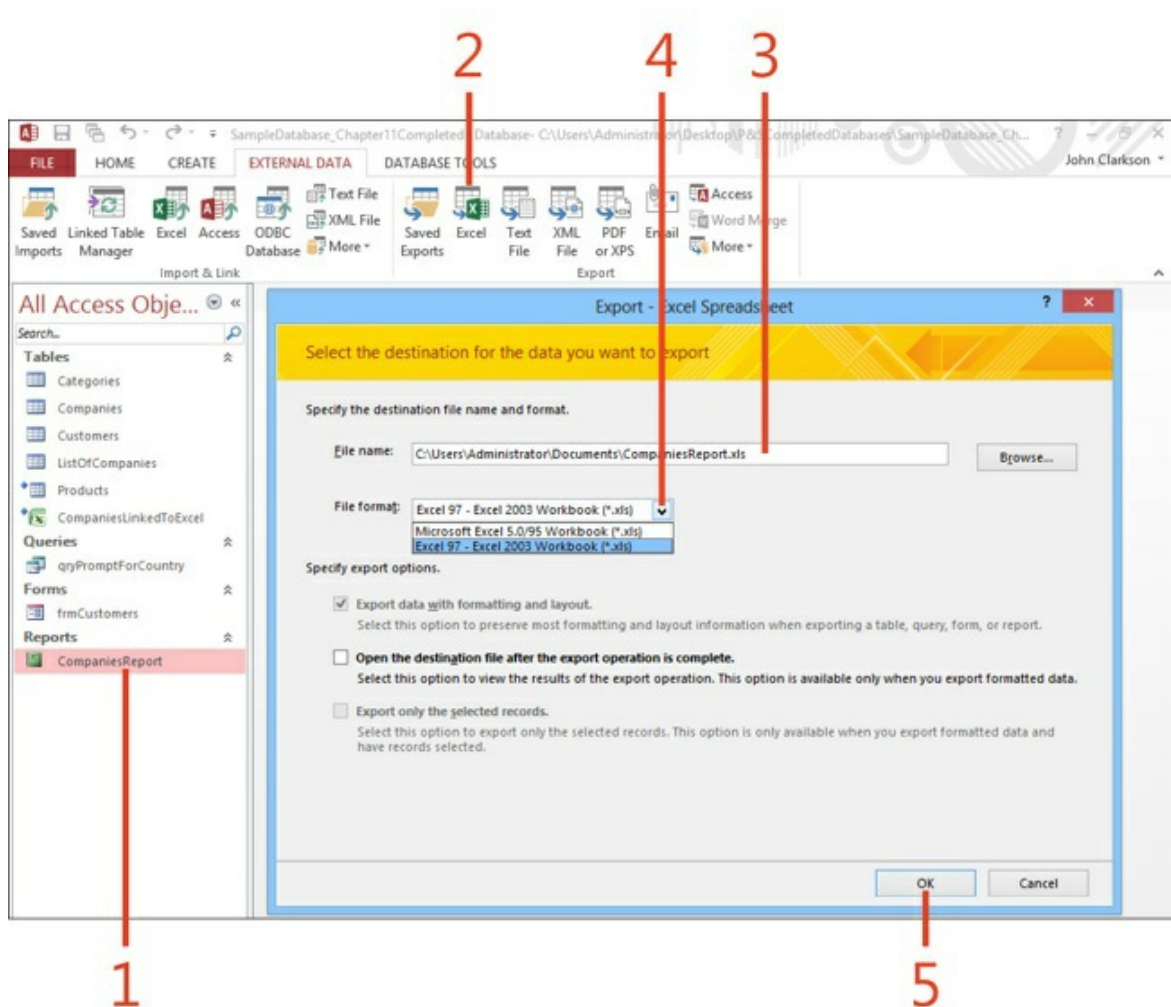
Exporting data to Excel

Access supports a wide range of formats for exporting data, and in this task, we demonstrate one of the most popular—Excel. After exporting data, you are prompted to save the export. Saving an export allows you to easily repeat it at a later date.

You can export data by using a table, query, form, or report. Using a query allows you to choose only the required subset of data, rather than including all the columns and rows in the underlying tables of data.

Export data to Excel

1. In the navigation pane, highlight the object you want to export.
2. Click Excel in the Export group on the External Data tab.
3. Type a file name for the exported file.
4. Choose the file format.
5. Click OK.

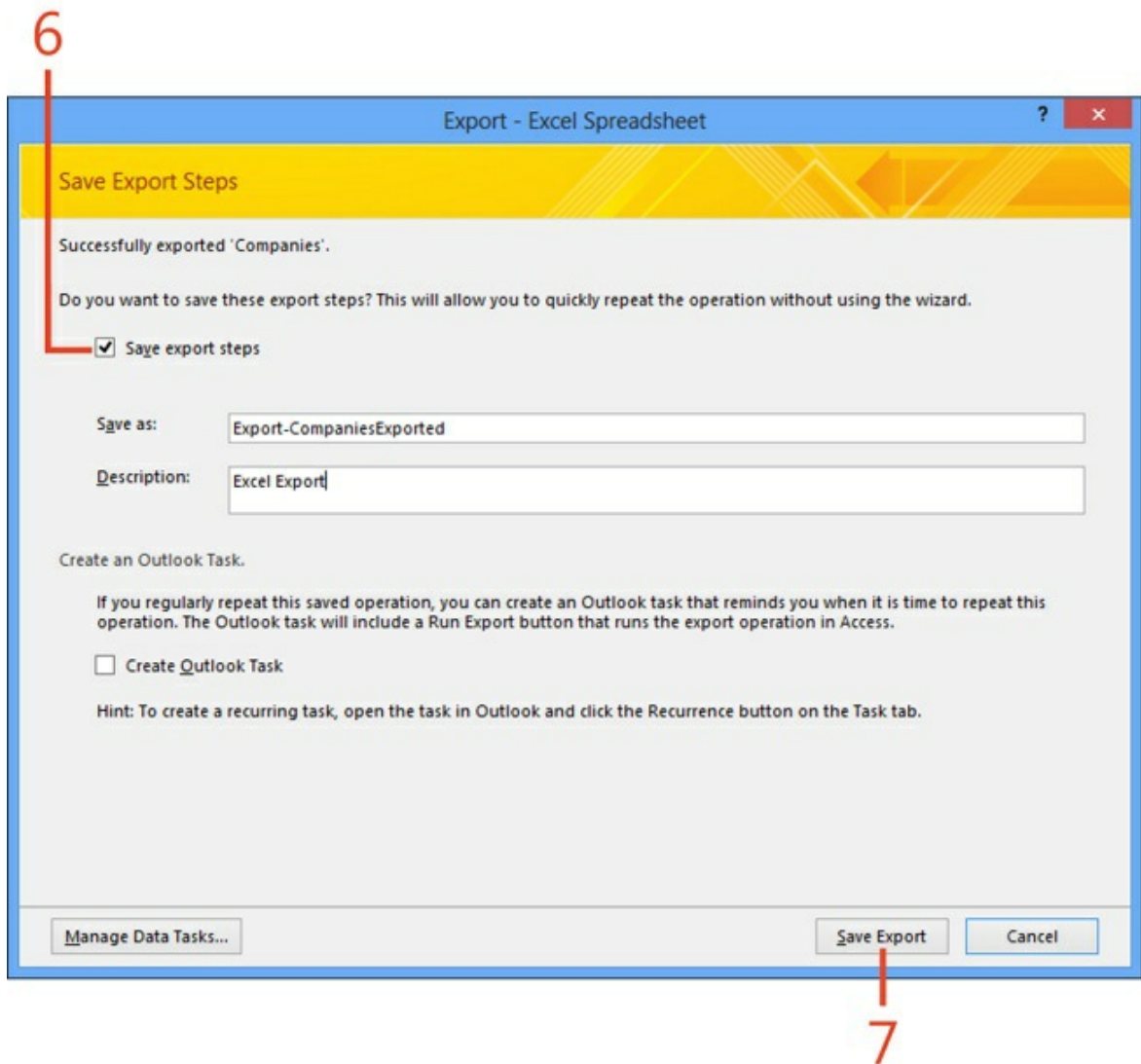


Tip

In [Chapter 6](#) we explain how to create a query that prompts for filter criteria when opened. This type of parameterized query can be used

when you are exporting data and provides a great way to add flexibility to your export routines.

6. If you will be repeating this operation later, select the Save Export Steps check box.
7. Click Save Export.



Working with saved imports and exports

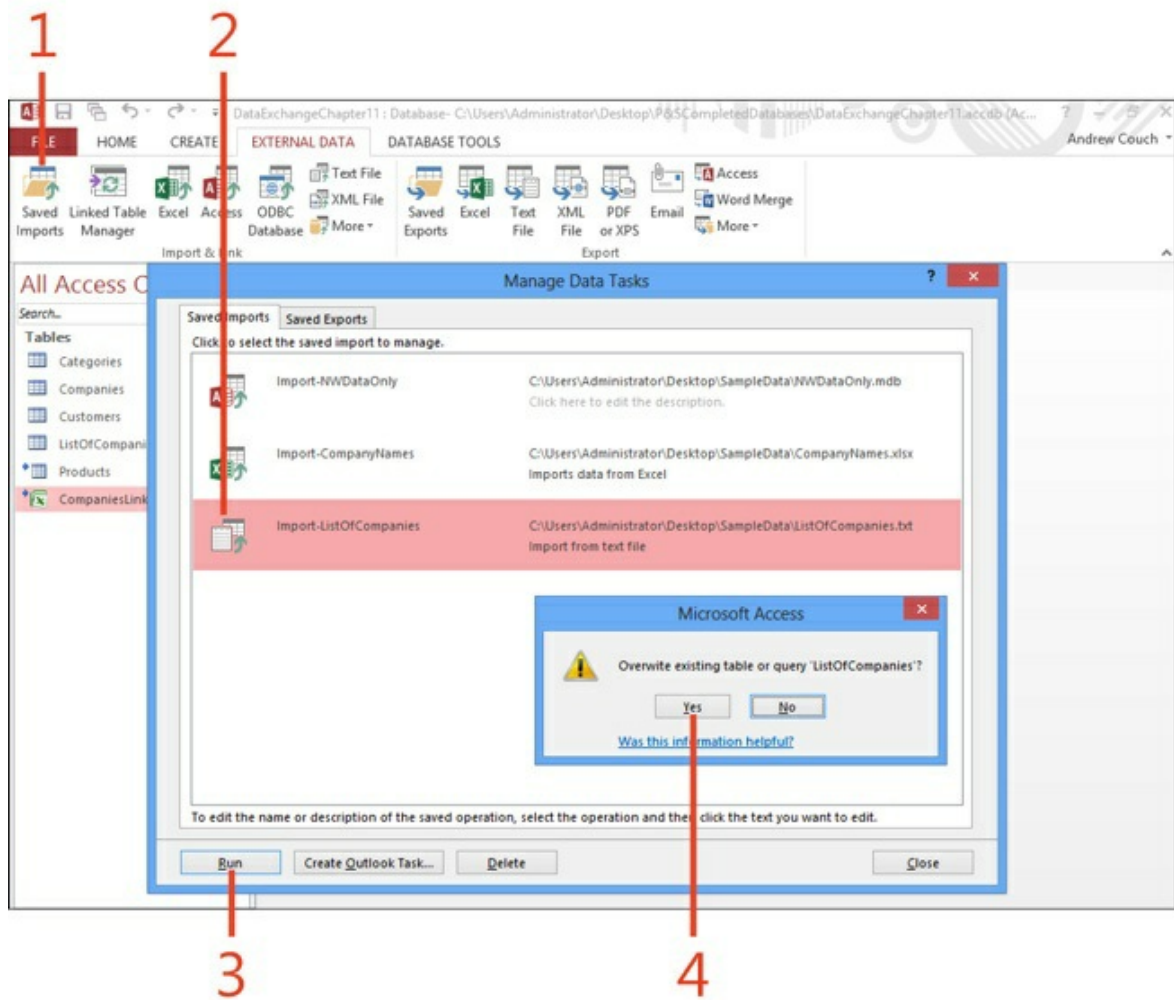
Saving imports and exports allows you to repeatedly run data imports and

exports with minimum effort. When you first import or export data, Access prompts you to save the import/export operation. If you save the operation at this time, you can later take advantage of this feature to rerun the process.

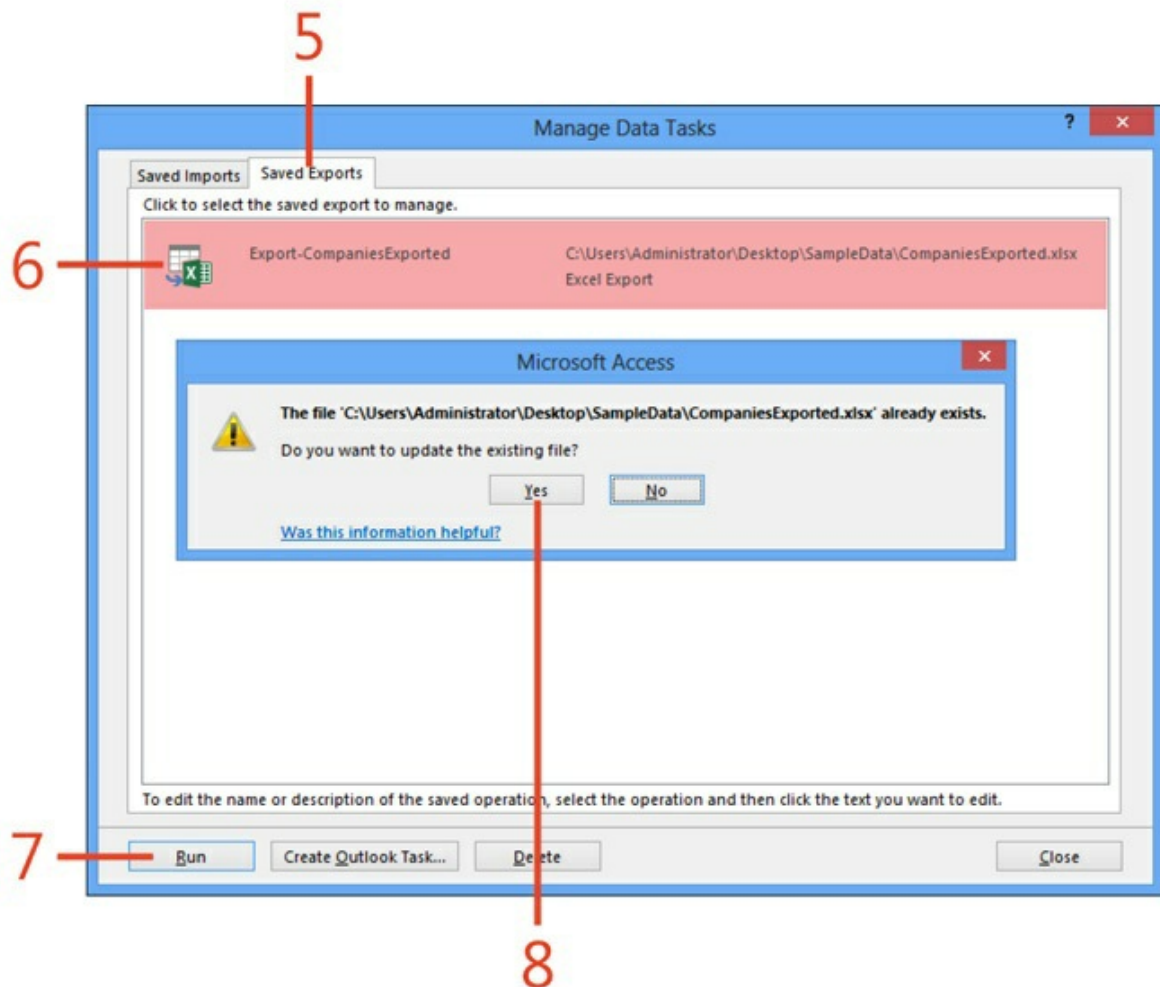
If the operation involved importing or exporting data and you have an existing file on your machine or a table in your database, you will be prompted to overwrite the object (except when importing from an Access database where, if the table exists, the new imported copy will be named with a suffix, such as Products1, Products2, and so on). If you select No, the operation will be canceled.

Run an import/export operation

1. Click Saved Imports in the Import & Link group on the External Data tab.
2. Select an import to run.
3. Click Run.
4. Click Yes to overwrite the table, or click No to cancel the import.



5. Click the Saved Exports tab.
6. Select an export to run.
7. Click Run.
8. Click Yes to overwrite the file, or click No to cancel the export.



See Also

In [Chapter 12](#) we will describe how macros can be used to repeat a saved import/export.

Exporting data as PDF documents

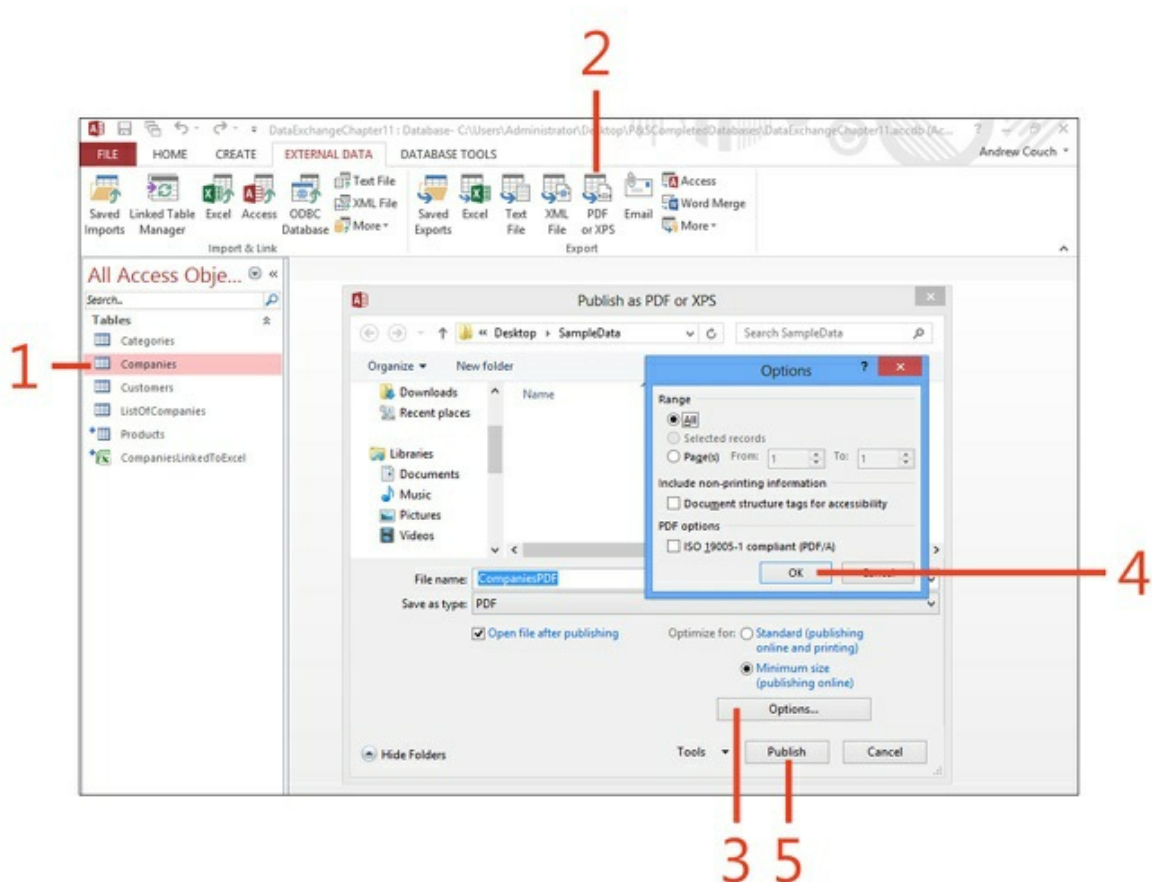
A great feature in Access is the ability to easily facilitate exchanging information in the PDF file format. This allows you to export a complex report as a PDF file. Access also supports the alternative Microsoft standard XPS (XML Paper Specification).

Exporting data in PDF format is not limited to exporting a report. You can

also export data in tables, queries, and forms in PDF format.

Save data as a PDF document

1. Select an object in the navigation pane.
2. Click PDF Or XPS in the Export group on the External Data tab.
3. Click Options to display other publishing options.
4. Click OK.
5. Click Publish to export the data.



Tip

If you have a report open in print preview, you can use the PDF or XPS icon

on the print preview ribbon tab to publish the report.

Chapter 12. Introducing the power of macros

In this section:

- [Enabling macro commands and disabling Trusted Documents](#)
- [Linking together forms](#)
- [Linking a form to a query](#)
- [Validating data entered in controls](#)
- [Making controls change other controls](#)
- [Executing a saved import/export](#)
- [Processing data with action queries](#)

Unlike Excel, which has a macro recording tool that creates code that you can then edit in the VBA editor, Access has two separate approaches to programming. The first is macro programming (there is no recording tool), which comes equipped with a special macro designer and set of macro commands. The second approach is VBA programming, which has an editor and environment very similar to the Excel programming environment. There is a crossover between the macro commands and VBA programming—that is, macros can be converted to VBA, and VBA can make use of macro commands.

Macros have many uses, including linking together user interface elements like forms, queries and reports, performing complex data validation, or executing sequences of operations to import and process sets of data.

In programming macros, you can save sequences of instructions either as a stand-alone macro, which you can execute from the navigation pane, or as an embedded macro inside a form/report.

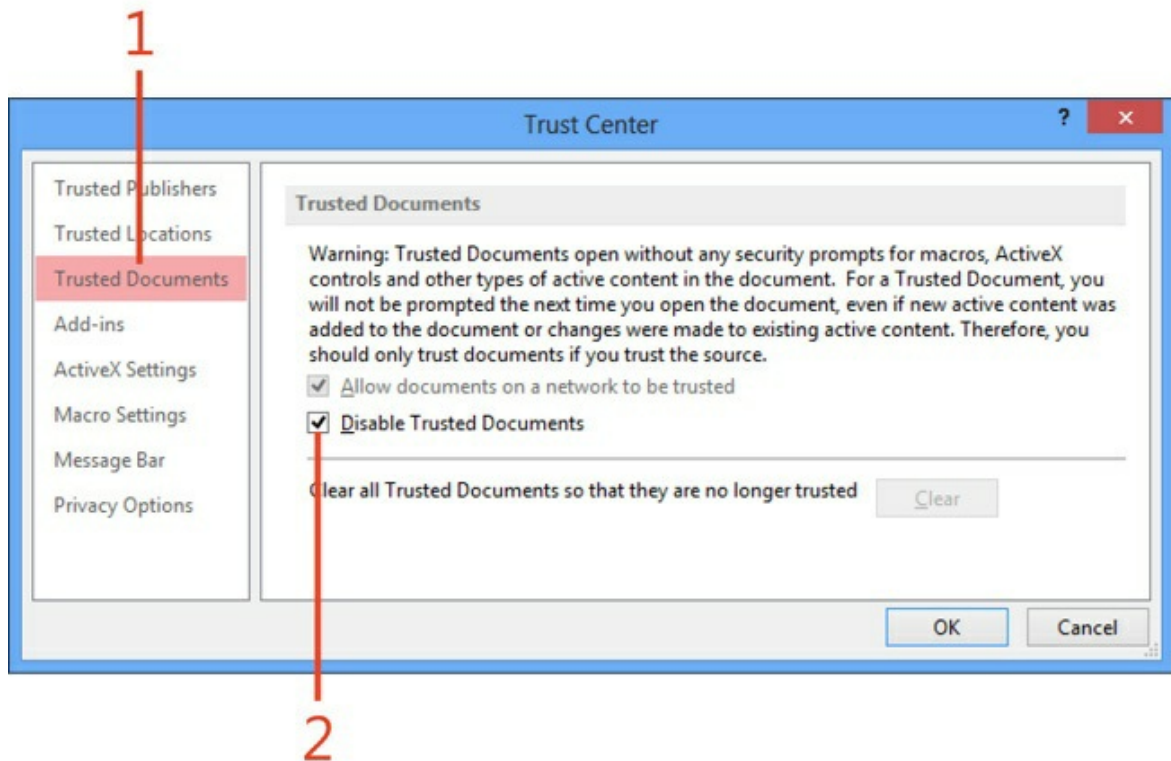
Enabling macro commands and disabling Trusted Documents

Before you can use macro programming in your database, you need to enable macros in the Access installation. This process is described in [Change the default database options](#). Refer to this task to make any further changes to settings described in this section.

After you enable macros, 20 macro commands will remain disabled and will not be visible in the macro designer. These commands can be made available only in Trusted Documents or when the Trusted Documents feature is disabled. You should refer to your company's policy on Trusted Documents for advice on this. In this exercise, we demonstrate how to disable this feature and thus enable these additional commands.

Disable Trusted Documents

1. Enable macros as described in [Change the default database options](#), then select Trusted Documents from the options on the left in the Trust Center window.
2. Select the Disable Trusted Documents check box, click OK to close any open windows, and then close and reopen your database.



Caution

The methods described in this book are intended to help you get started quickly and should not be interpreted as recommending a standard configuration for your Office software. For further details about Trusted Documents and other security issues, visit the Microsoft Trustworthy Computing page at www.microsoft.com/about/twc/en/us/default.aspx?CE=Nav2b.

The macro commands listed in the following table operate only in Trusted Documents. You will find that the ImportExportData, SetValue, and SetWarnings commands are especially useful to have available when you are creating macros.

Macro commands

Data import/export	Database	Filter/query/search	Macro commands
--------------------	----------	---------------------	----------------

commands

objects

commands

ImportExportData

CopyObject

RunSQL

Echo

ImportExportSpreadsheet DeleteObject

OpenVisualBasic

ImportExportText

RenameObject

ImportSharePointList

SaveObject

RunSavedImportExport SetValue

Tip

If you do not trust the use of these commands in your database, you might get confused when, after searching online to find further examples, you fail to reproduce actions; as the commands are not be listed in the macro designers list of available actions.

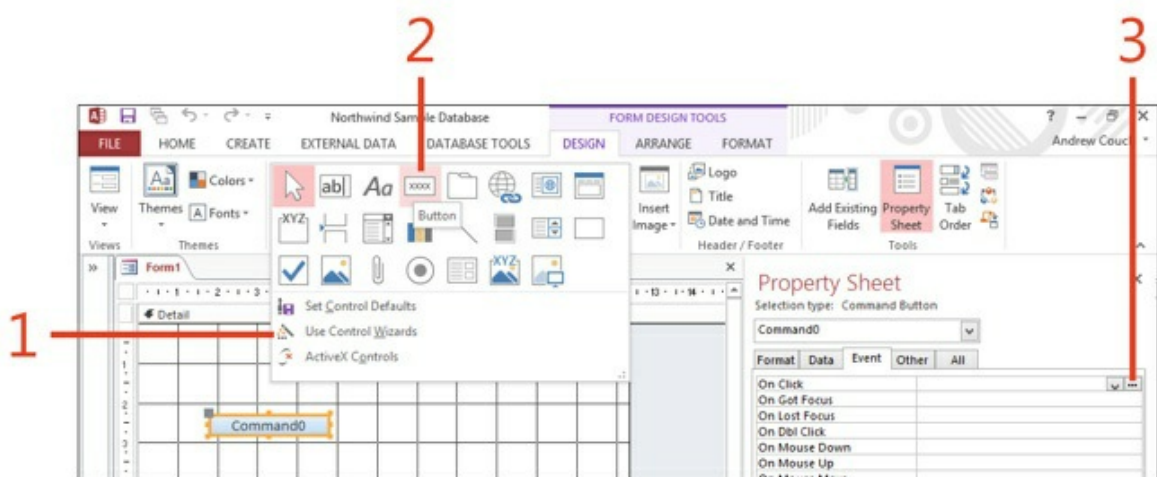
Linking together forms

The OpenForm, OpenReport, OpenTable, and OpenQuery macro commands are among the most common and easiest to use. These commands allow you to open other forms, print reports, or display data in tables and queries. Normally, these macro commands are used on a command button control's OnClick event, but they can also be used as macros independent of a form.

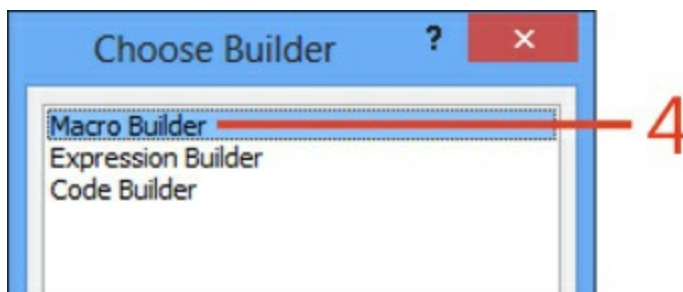
Each control on a form has a set of events, and the On Click event for a button is activated when a user clicks the button. You will find that you do not need to understand all the available events and that you can accomplish most programming with only a few of them.

Create an embedded macro to open a form

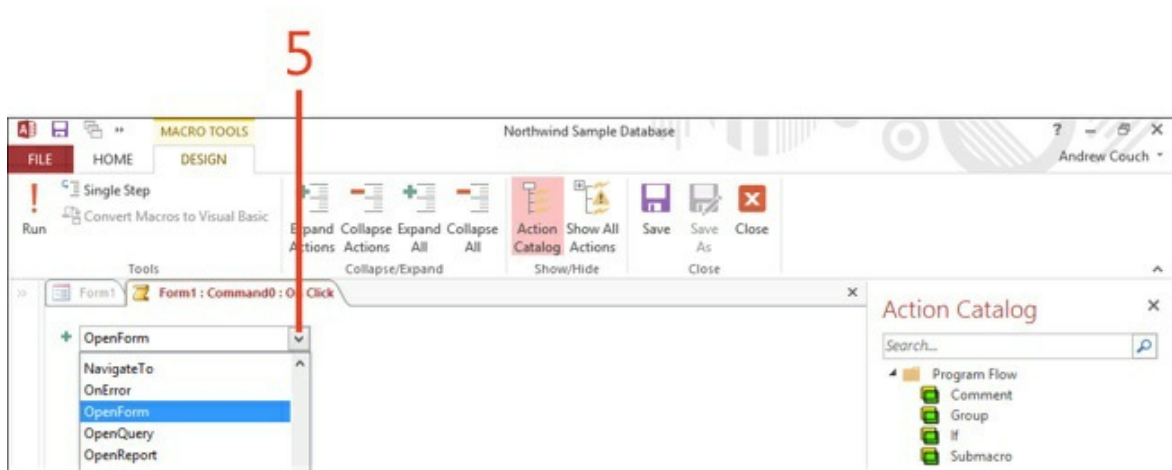
1. With a form in Design view, click to expand the controls list, and turn off the Use Control Wizards option.
2. Click the Button control, and click in the form to add the button to the form.
3. In the Property Sheet pane, click the Event tab, then click the Build button for the On Click event.



4. In the Choose Builder dialog box, select the Macro Builder, and click OK.



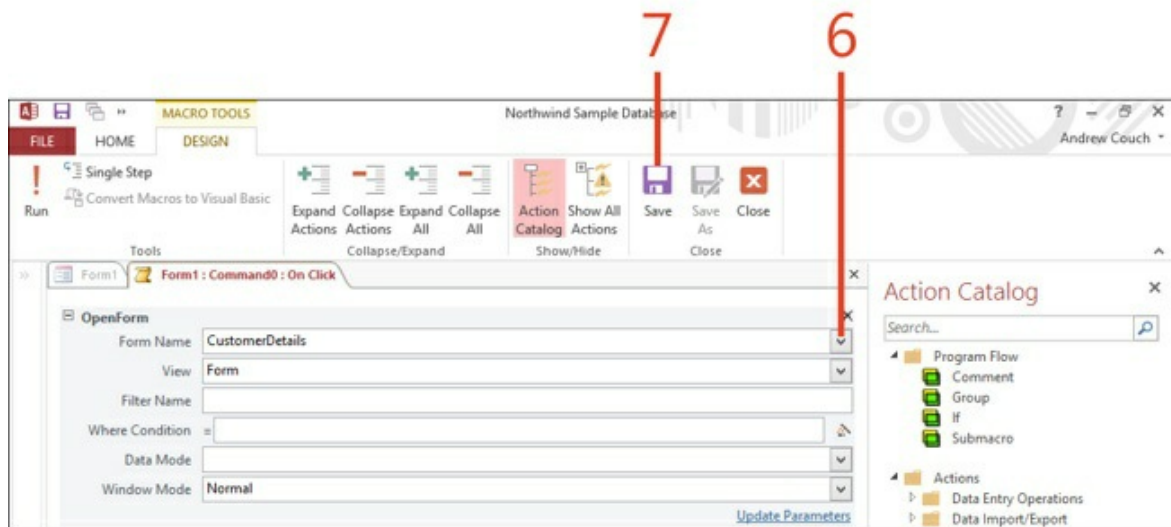
5. In the Add New Action drop-down box, select OpenForm from the list of commands.



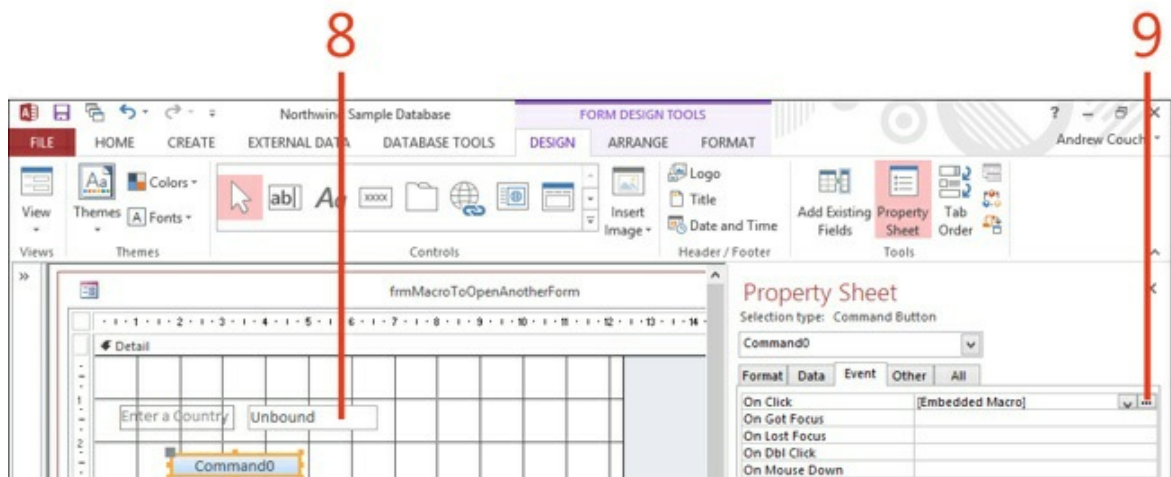
Tip

If you leave the Control Wizard active when adding a button, after navigating through the wizard choices, you will find that an embedded macro has been added behind the button's On Click event. This useful feature might get in the way when you want to write your own embedded macros. You can click the Control Wizard option to switch off this feature.

6. Select another form to display by using the Form Name drop-down list of available forms.
7. Save and close the macro design tool. If you now display your form in Form view and click the command button, it will open the other form that you defined in the OpenForm macro command.



8. Return to Design view, and add a text box control to the form. Ensure that you change the control name. (In our example, it is called txtCountry.) Save your form.
9. Click to select the button control you added in step 2. Then click the Build button to return to the macro editor, and change the macro code embedded on your button.



10. Change the Where Condition so that data in the form that you open will be filtered by the data entered into the text box control. In our example, txtCountry is the control name, and the form we are opening is based on a table that has a field called [Country].

10

Tip

As you start typing in the Where Condition box, IntelliSense will help you locate a form. After typing **Forms!**, you will see a list of available forms. Then, after you select a form and type the ! character, a list of controls on the form is displayed.

Linking a form to a query

A popular design technique in creating a user interface is to use a method often called *query by form*. The idea is to create a query that has filter criteria that directly references one or more controls on a form. The user then types a value into the control on the form and clicks a button on the form, which opens either a query or a form/report based on a query, where the query links back to filter by the value entered on the form.

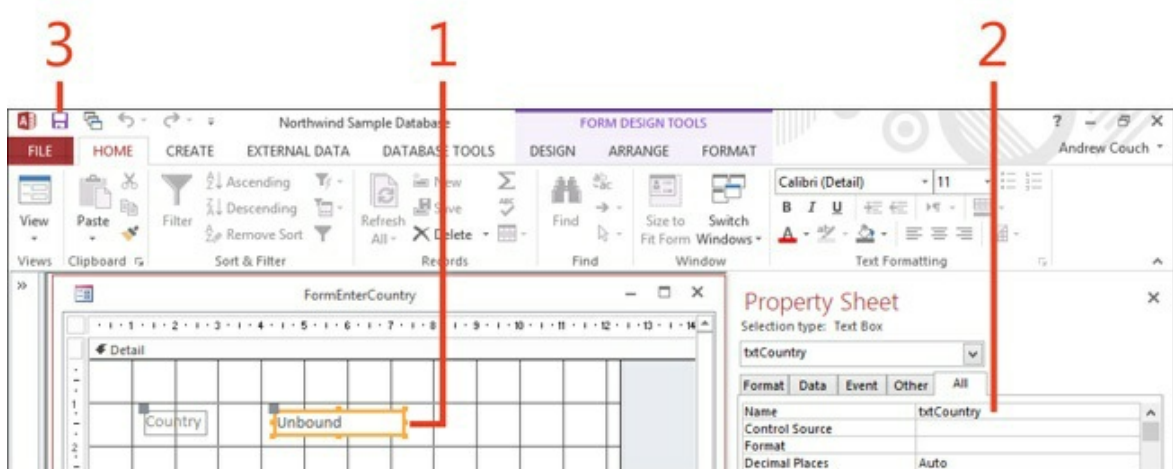
In our example, we will make the form open the query, but you could easily change this to open a form or report based on that query.

Link a form to a table or query

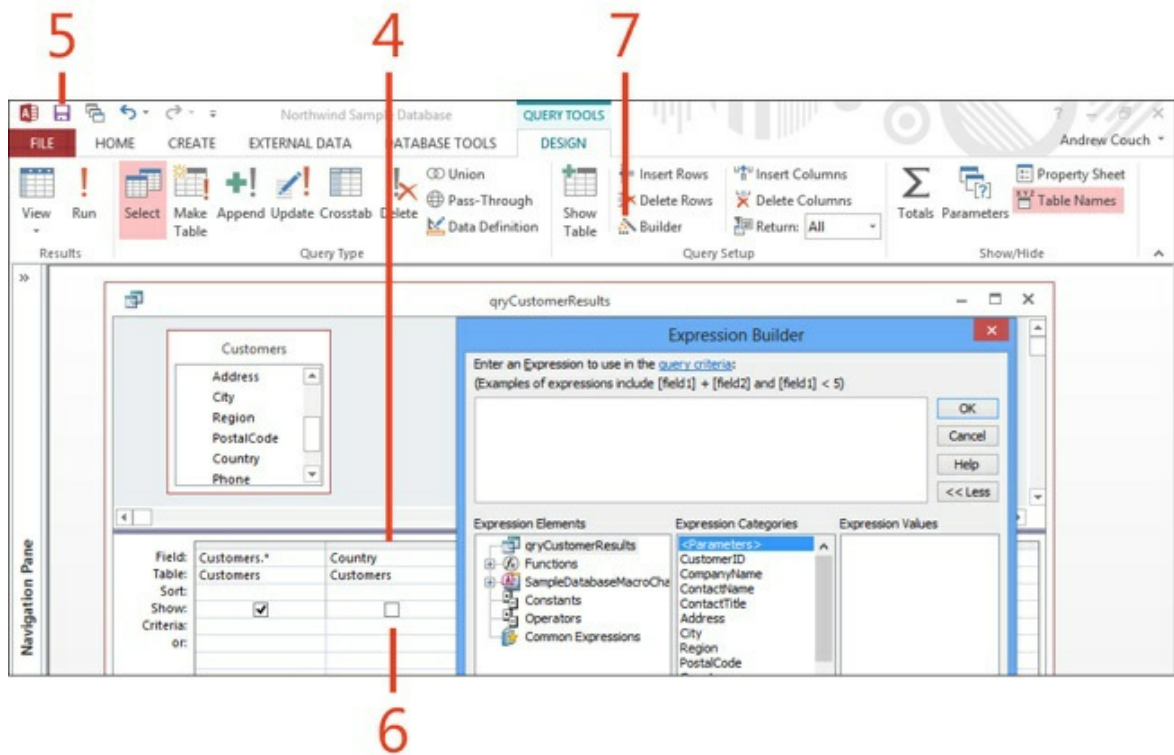
1. With a form in Design view, add a text box control. This text box will contain a value that will be used to filter data in a query.
2. Type a name for the text box control. (Naming controls will make

creating expressions easier when you have several controls on a form.)

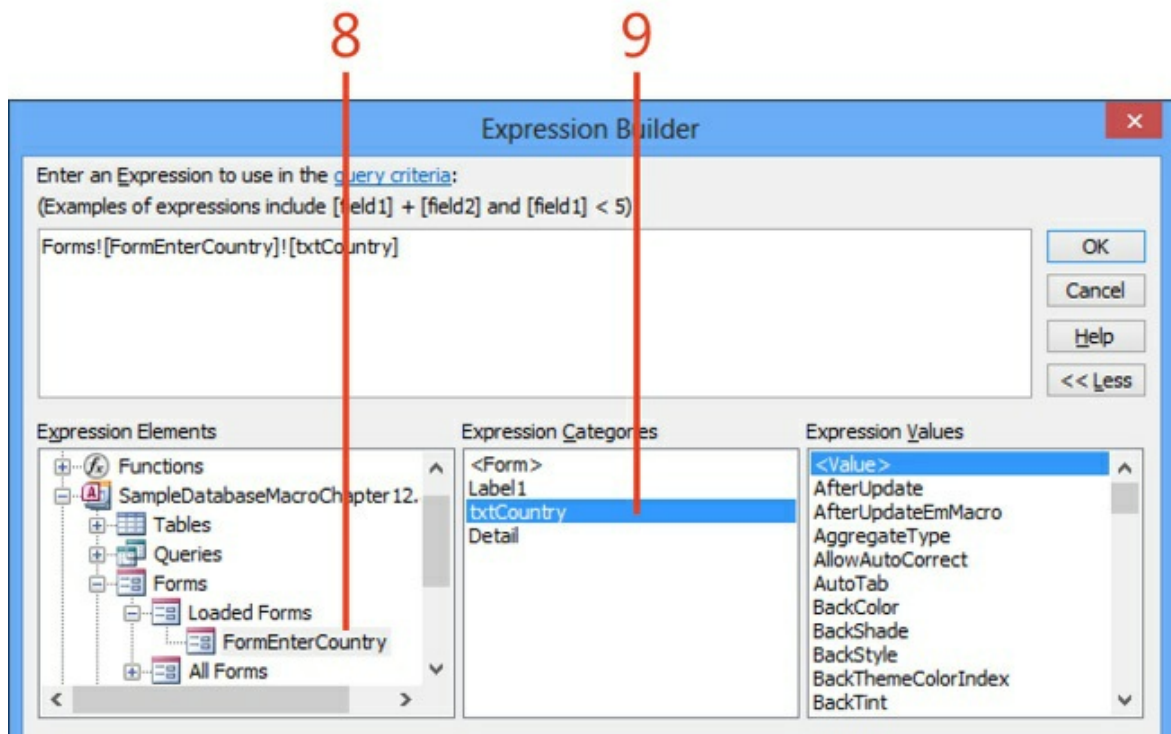
3. Save the form, but do not close it.



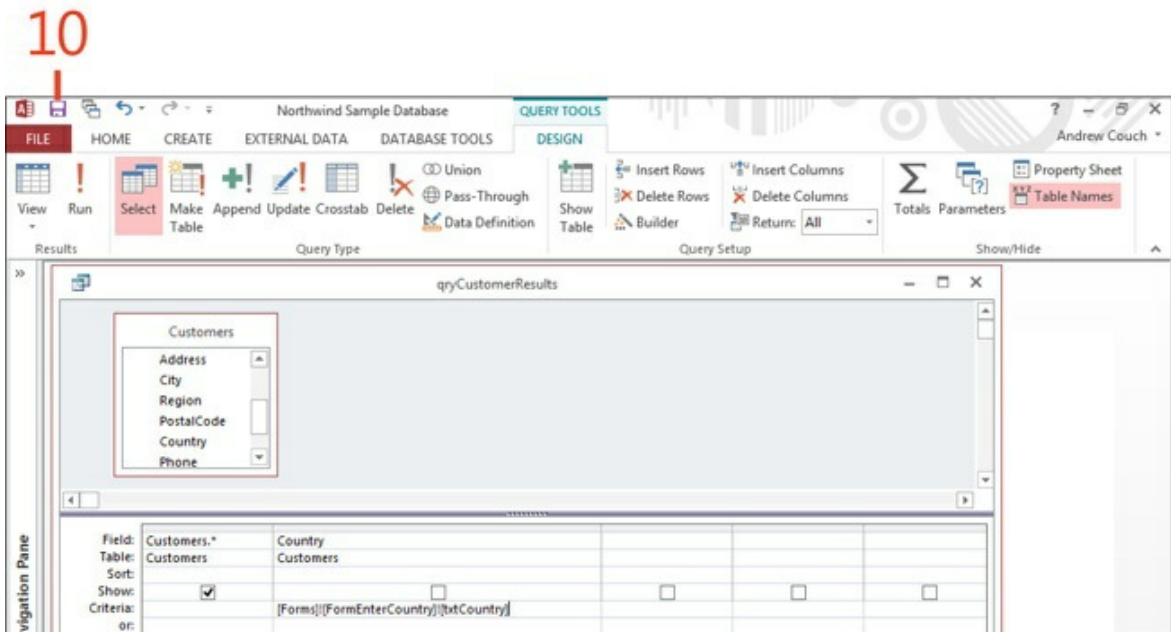
4. Create a query, and choose a field that will be filtered against the data in the control on the form we created.
5. Save the query.
6. Click in the Criteria row, in the column against which we'll be filtering the data.
7. Click Builder to open the Expression Builder popup window.



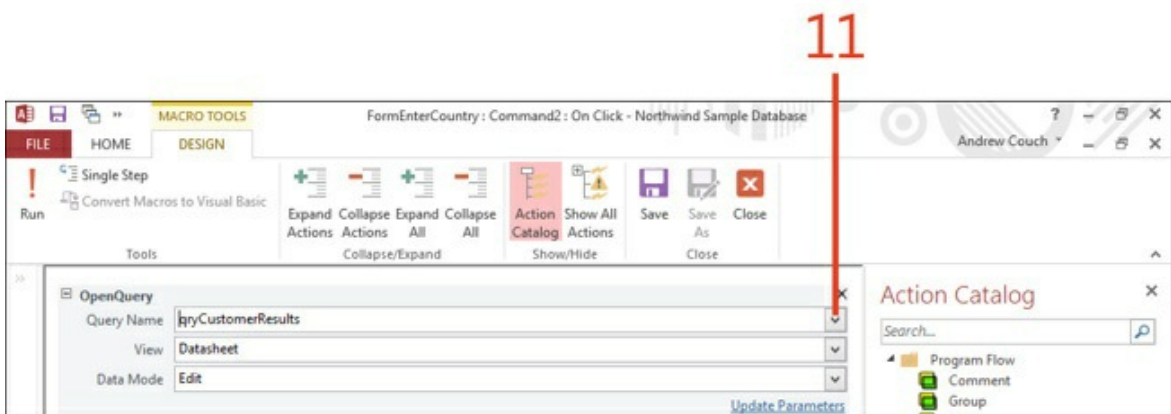
8. In the Expression Elements pane, browse the tree of information to locate the form that you created in earlier steps. (If you have many forms and you know that the form you are looking for is open, select Forms; then select Open Forms to display only a list of forms that are open. This is particularly useful when you are referencing controls on subforms.) Select the form.
9. Double-click the text control that we added to that form. Click OK.



10. Save and then close the query. Return to your form in Design view, and repeat steps 2–5 of the previous task ([Create an embedded macro to open a form](#)), where we added a command button to the form and displayed the macro design tool for the On Click event on the command button. However, this time choose the macro command OpenQuery in step 5.



11. From the available list of queries, select the query that you saved. Then save and close the macro window. You will now have a form with a control into which you can type a value and a button that opens a query that filters the data by the choice you have typed into the control.



Tip

You can enhance this method by adding a Requery macro command, which will update the query after you make a change in the text box on your form without the need to close the query window.

Tip

The symbol ! is part of the syntax used to refer to objects inside a collection. Therefore, the syntax in this example translates to “look in the Forms collection for a form, and then look in that form’s Controls collection for a control.”

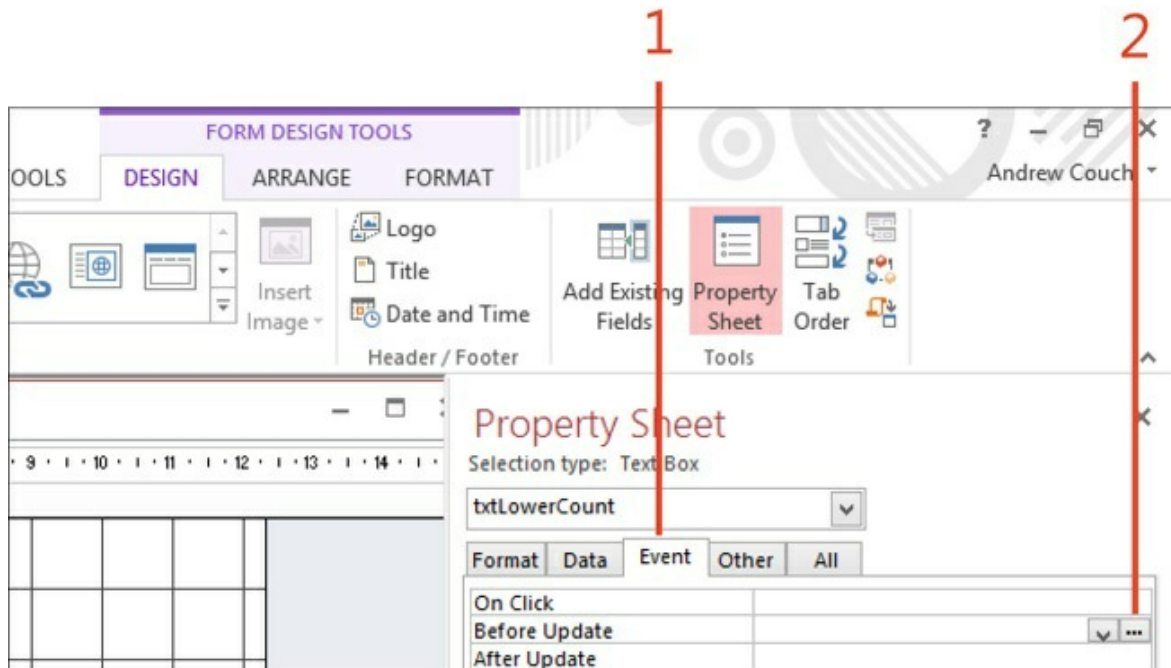
Validating data entered in controls

Controls on a form have a Before Update event that enables you to use macro commands to add actions when a user enters data before the entry is accepted. You can then decide whether to accept or reject the data entered in the control.

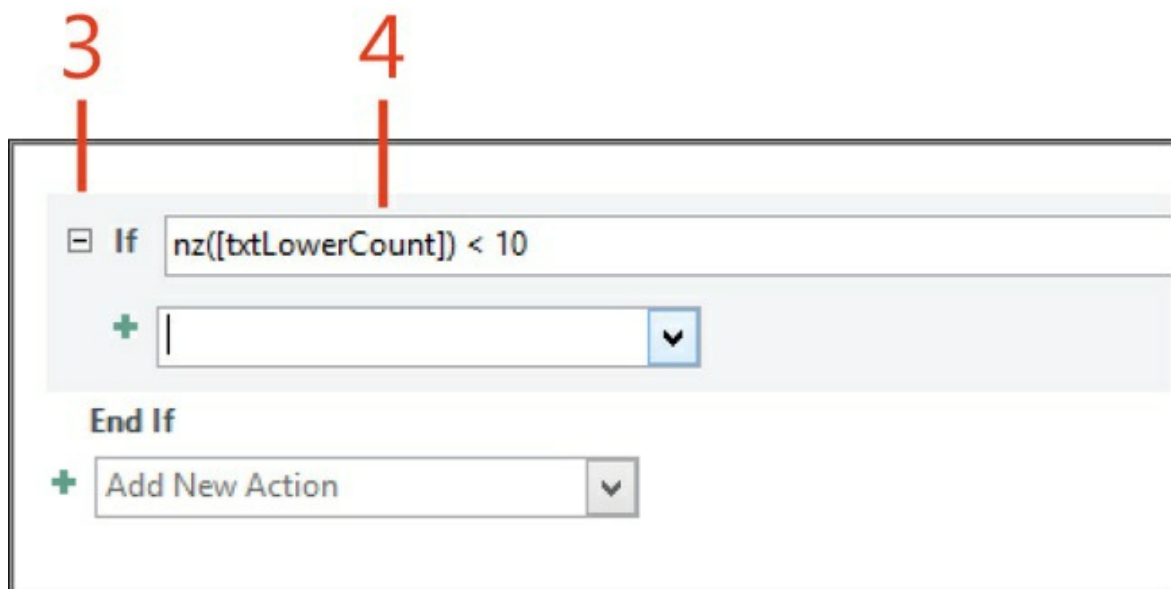
The Form’s Before Update event executes before a record is saved. You can use this event to check the data, comparing values in multiple controls, before accepting or rejecting changes. If you need to cross-validate controls, it is often simpler to write the macro checking actions on the forms event, rather than repeating similar operations on several different controls.

Validate data entered in a control

1. In Design view, locate a control on which you want to add validation, and click the Event tab in the Property Sheet pane to display the event properties. In our example, we have created a new form and added an unbound text box control to the form.
2. Click the build button for the Before Update event, and select Macro Builder.



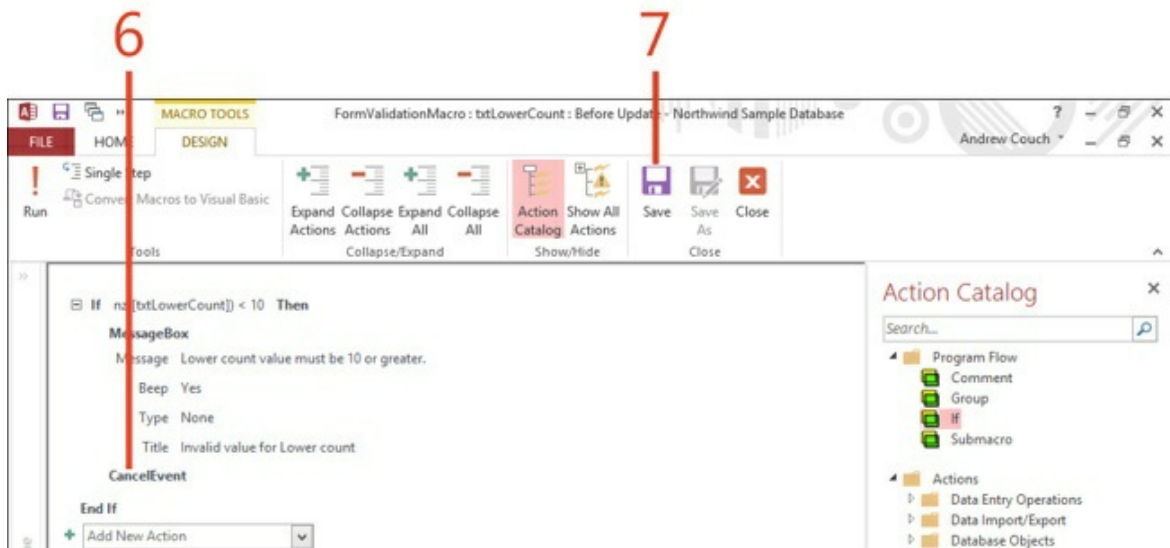
3. Select the If command in the Add New Action field. This is a conditional logic block where we can test a value and take an action.
4. Type the expression **NZ(txtLowerCount) < 10**; IntelliSense will display a list of controls after you type NZ. (Our control is called txtLowerCount.)



5. In the drop-down box below the If command, select the MessageBox action in the Add New Action field. Type a warning message and a title for the MessageBox action.



6. In the Add New Action field below the MessageBox action (but still inside the If block), select the command CancelEvent. This will reject the user's changes.
7. Save and close the macro designer. If you now view your form and type values in the field, you should find that the validation rule displays a message box and cancels your action when an invalid date has been entered.



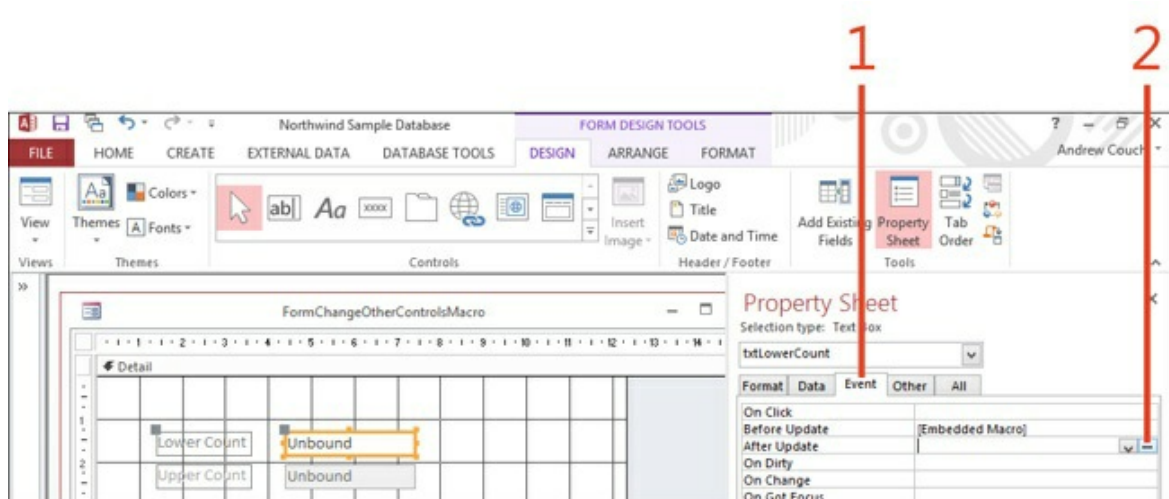
Making controls change other controls

Controls on a form have an After Update event that occurs after a successful Before Update event. If the Before Update event cancels the data change because it fails validation (as previously described), the After Update event will not fire. The After Update event is used to take action following a successful change to data, and one possible implementation is in changing how other controls can be used following a change in the data.

In addition to each control having an After Update event, the form also has an After Update event, after changes have been successfully validated for the record, which you can use to take further action based on values in several controls.

Change other controls

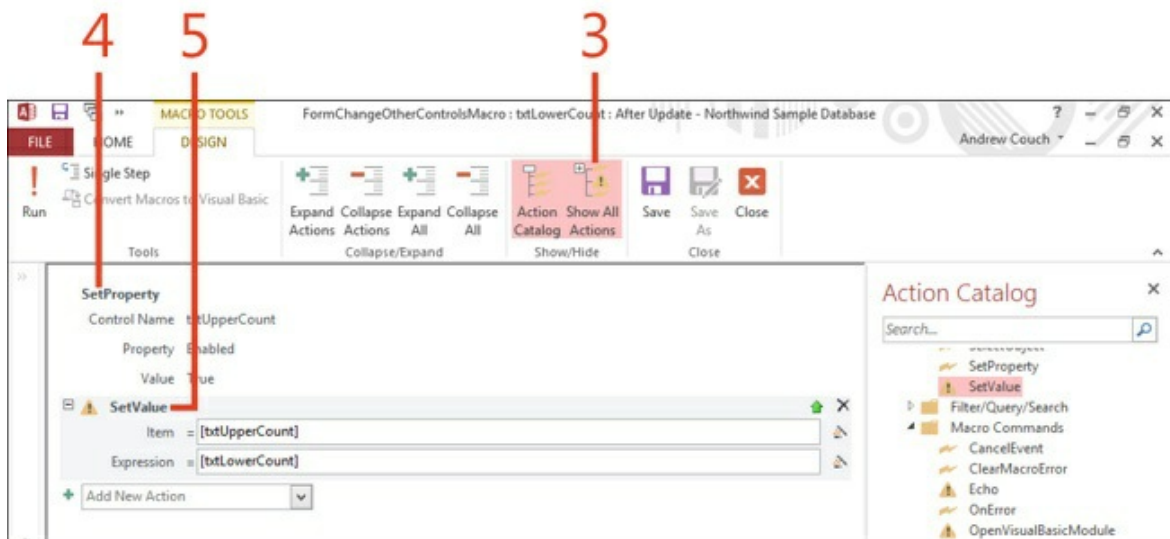
1. In Design view, locate a control to which you want to add an After Update action, and click the Event tab in the Property Sheet pane. In our example, we took the form from the previous task ([Validate data entered in a control](#)) and added an additional unbound text box (which has the Enabled property set to false).
2. Click the build button for the After Update event, and select Macro Builder.



Tip

In the macro designer, if you have a trusted database and you want to use macro commands restricted to a Trusted Document, remember to click Show All Actions. Otherwise, you will not see the extended list of all available macro commands in the drop-down list.

3. On the Macro Tools Design tab, select Show All Actions. (Otherwise, you will not see the SetValue macro command in the drop-down list of commands.)
4. Add a SetProperty command. In our example, this will enable a second control when the first control has been validated and the After Update macro fires.
5. Add a SetValue macro command. In our example, we set the value of our second control to the same value entered in the first control. (IntelliSense will assist you when you are typing data in the Item and Expression fields.)



Tip

The Action Catalog on the right side of our screen provides an alternative method for both displaying the available macro commands and selecting a command. If you double-click a command, it will be added on the left. Also notice the warning triangle shown next to all commands that are available

only in a Trusted Document.

Processing data with action queries

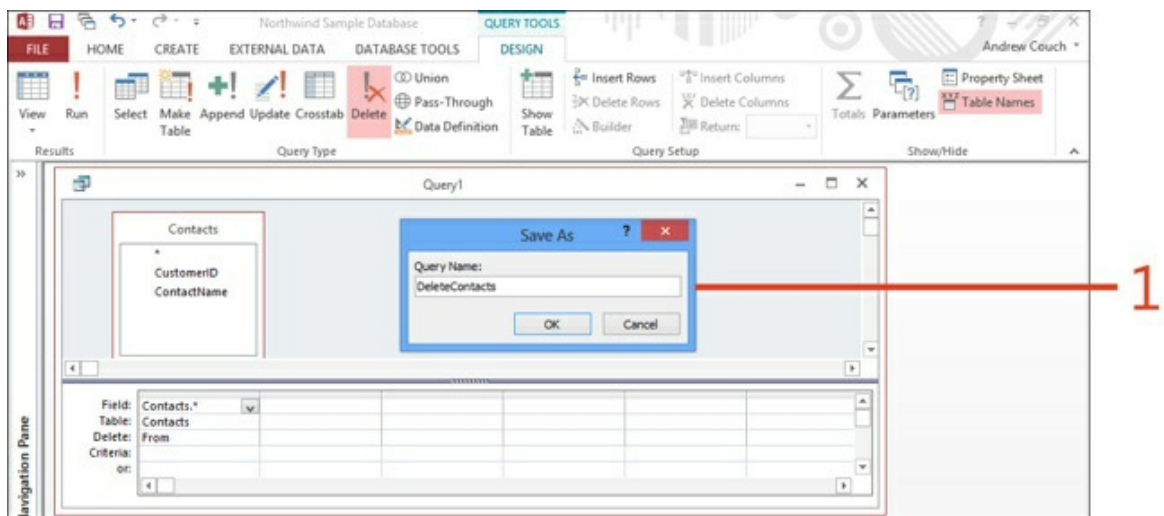
[Chapter 7](#), explains how action queries can update, insert, and delete data. When you need processing that executes a sequence of action queries, macros enable you to run those action queries to make bulk changes to the data in your system.

The OpenQuery macro will either open and display the results of a selected query or execute an action query with prompting for changing the data. By using the Set Warnings macro, you can switch off the prompting while the macro is executing.

In this example, we are going to use two action queries, first to empty a table and then to populate the table with data.

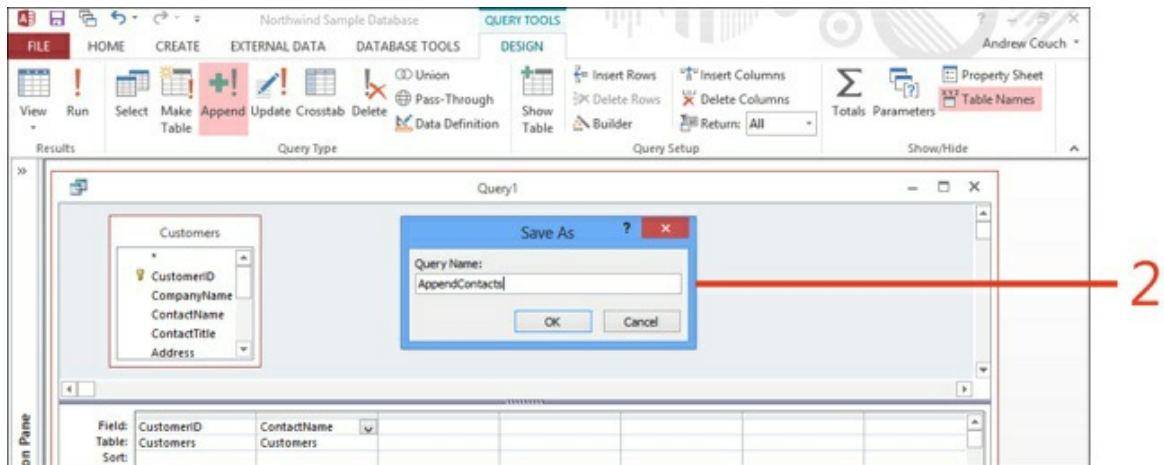
Empty and populate a table of data

1. Create an action query to delete all the data in a table that you regularly need to populate from another table of imported data.



2. Create an action query that will append a set of records from another table to the same table from which you deleted all the records. (We are

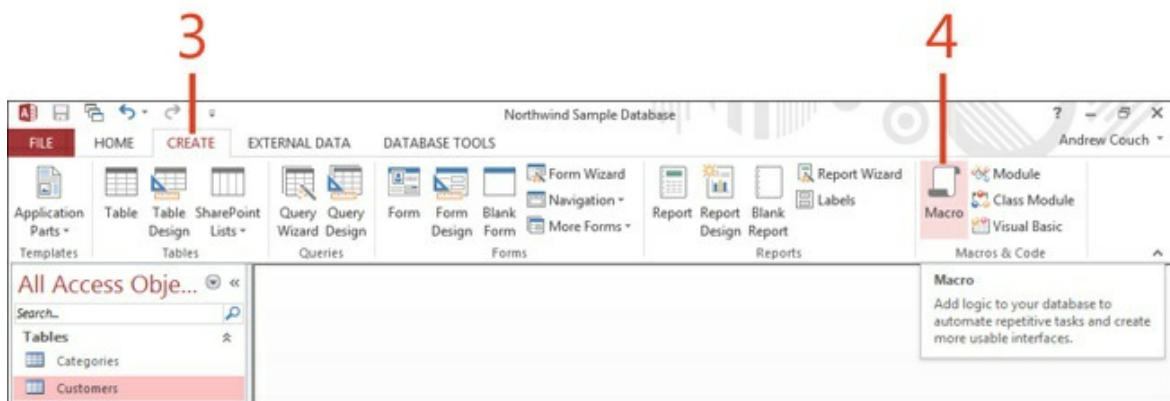
going to assume here that you regularly import data from another system into a table and that you then need to further process that data into other tables in your database.)



Tip

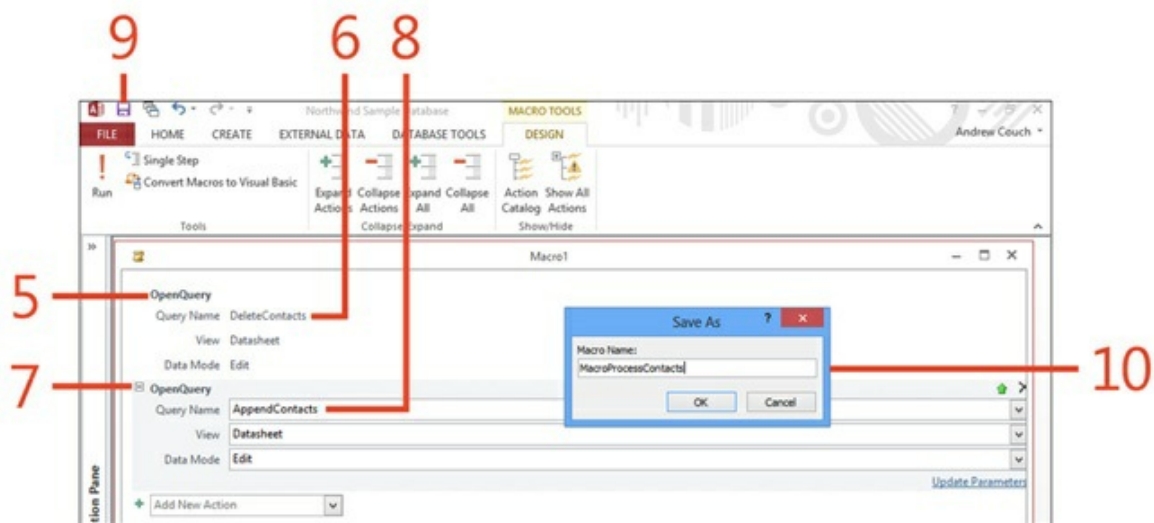
When you are developing a stand-alone macro, you can take advantage of the Run button on the far left of the ribbon to execute your macro while staying in the design tool. You can also click the Single Step button to allow execution of the macro one step at a time.

3. Click the Create tab.
4. Click Macro.



5. Add an OpenQuery command.

6. Select the query that empties the data from your table.
7. Add an OpenQuery command.
8. Select the query that adds data to the empty table.
9. Save the macro.
10. Type a name for the macro, and click OK. At this point, you should save and test the macro.



11. Add the Set Warnings command, with Warnings On set to No. This prevents the prompting boxes from displaying when you are executing the query. (When you have verified that it executes correctly, you might want to switch off the built-in warnings when executing an action query.)
12. Add the Set Warnings command, with Warnings On set to Yes. It is very important that you always switch the standard warnings back on.
13. Add a MessageBox command to indicate that the processing is completed.
14. Use the up and down arrows to move your commands to the correct position in the macro sequence.



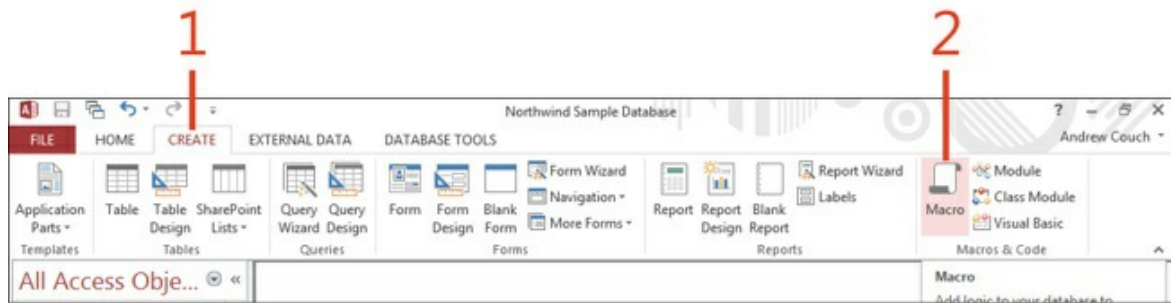
Executing a saved import/export

Macro commands are provided for running the saved import/export processes that we described in [Chapter 11](#). For example, on a form, these commands could allow you to create a button that executes a sequence of import/export processes to manage your data.

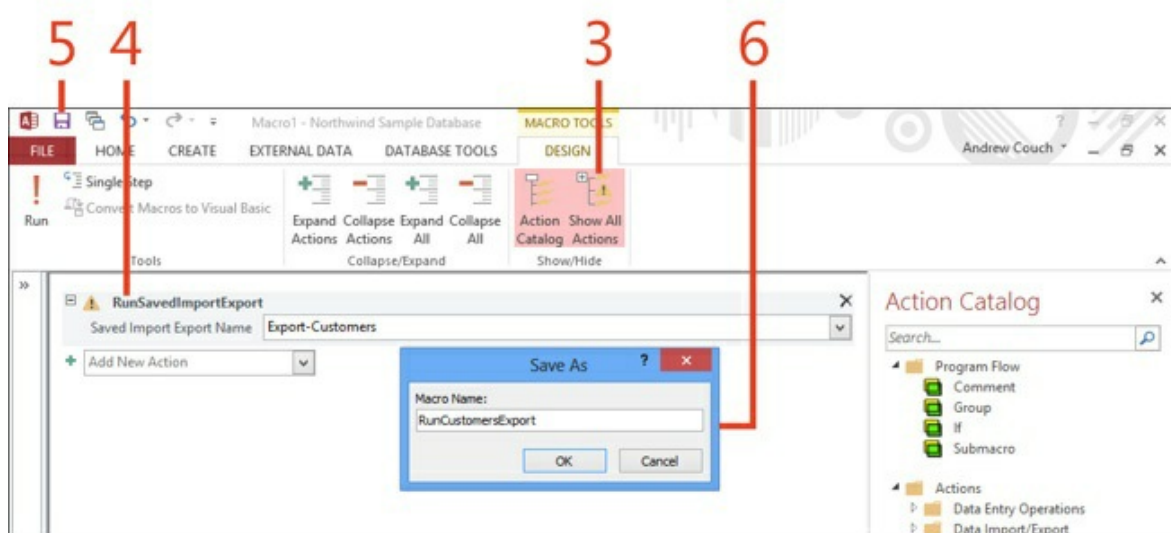
In this example we will show how to create a macro that is not embedded inside a form. You can then execute this macro from the navigation pane, or alternatively, you could use the RunMacro command inside an embedded macro on a button on a form. (Macros can run other macros.)

Execute a saved import/export

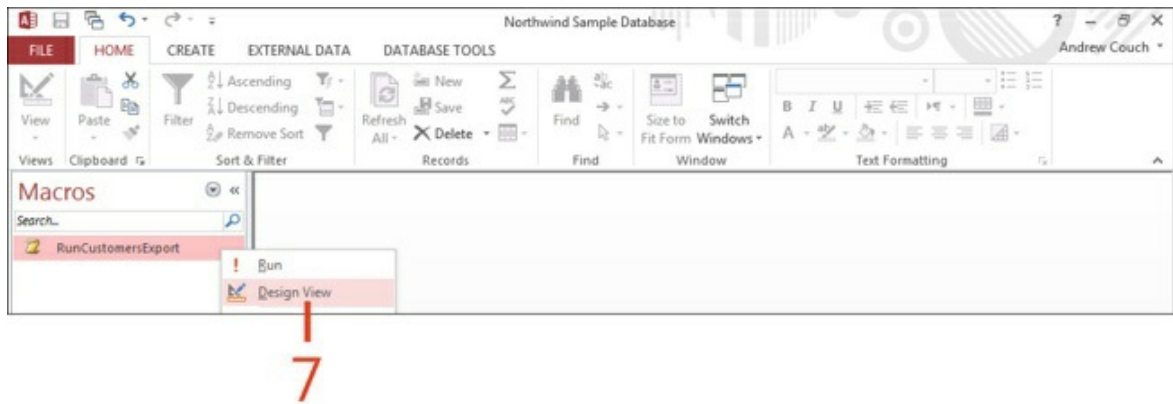
1. Click the Create tab.
2. Click Macro.



3. Click Show All Actions.
4. Select the RunSavedImportExport action. (You will need to have already saved an import/export to use this.) Select the file to import or export.
5. Click Save.
6. Type a name for the macro, and click OK. In the navigation pane, a new object type will be shown (unless you have previously created macros). Double-click the macro to execute the operation.



7. To edit your macro, display the macro in the navigation pane, right-click, and select Design View.



Tip

You will notice when executing this macro that there is not a message indicating that the macro has executed. As a final step, you could add a message box to indicate that the macro has completed the export.

Chapter 13. Administrating a database

In this section:

- [Compacting and repairing your database](#)
- [Analyzing your database](#)
- [Protecting your data](#)
- [Viewing object dependencies](#)

In this section, we will look at a number of Access features that will assist you in managing and configuring your database.

The Compact & Repair feature helps you optimize the database for best performance and resolve any inconsistencies.

In protecting your data, we look at how to password-protect and encrypt your database to prevent others from opening it either with Access or with another tool.

The Analysis Tools feature enables you to use the Database Documenter tool to produce printed documentation of your design. The Performance Analyzer database tool will give you advice and tips on improving your design, and you can use the Table Analyzer Wizard to restructure a table into a more consistent format for use in a relational database.

Inside Access is a map of how all your tables, queries, forms, and reports are dependent on each other. The Object Dependencies feature allows you to examine this map and quickly locate dependent objects.

Compacting and repairing your database

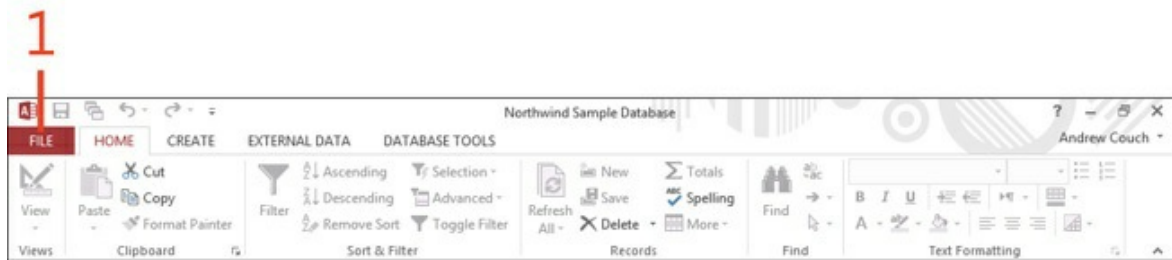
As changes are made to your data over a period of time, such as when data is

deleted or updated, the data will eventually no longer be ordered on the physical storage in the most efficient manner. Over time, as objects are created and removed, the database will also grow in size. Compacting the database reduces the size of the files and makes the database operate faster by reorganizing the physical data. Before you can compact or repair a shared database, you must ensure that no one is using it.

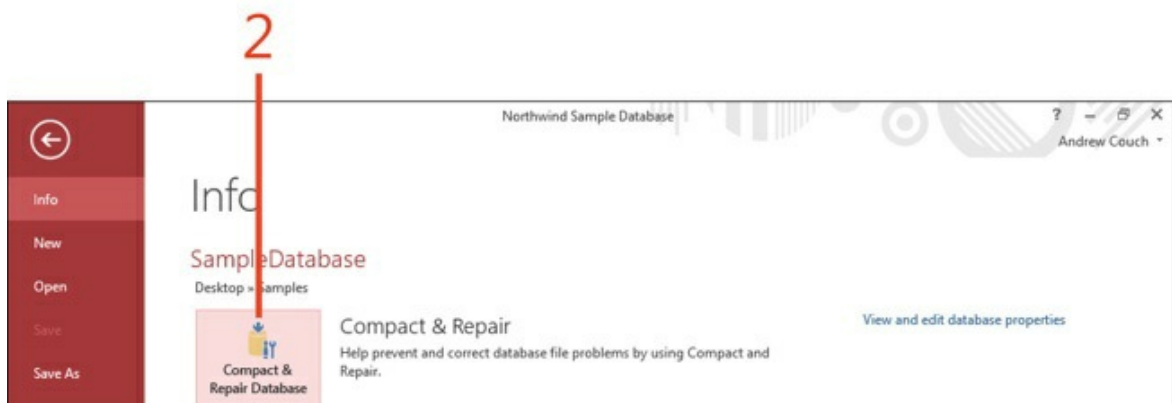
The repair operation corrects for any problems in the consistency of the data or indexes in the database. A single process is used to both compact and repair a database.

Compact and repair a database

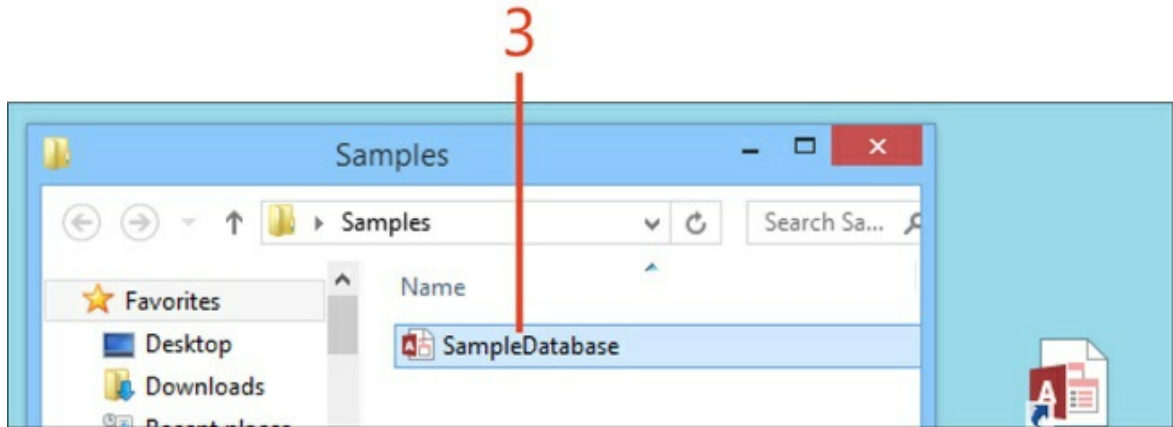
1. With your database open, click the File tab.



2. Click Compact & Repair. This will compact and repair the database and will reopen the database when the process is completed.



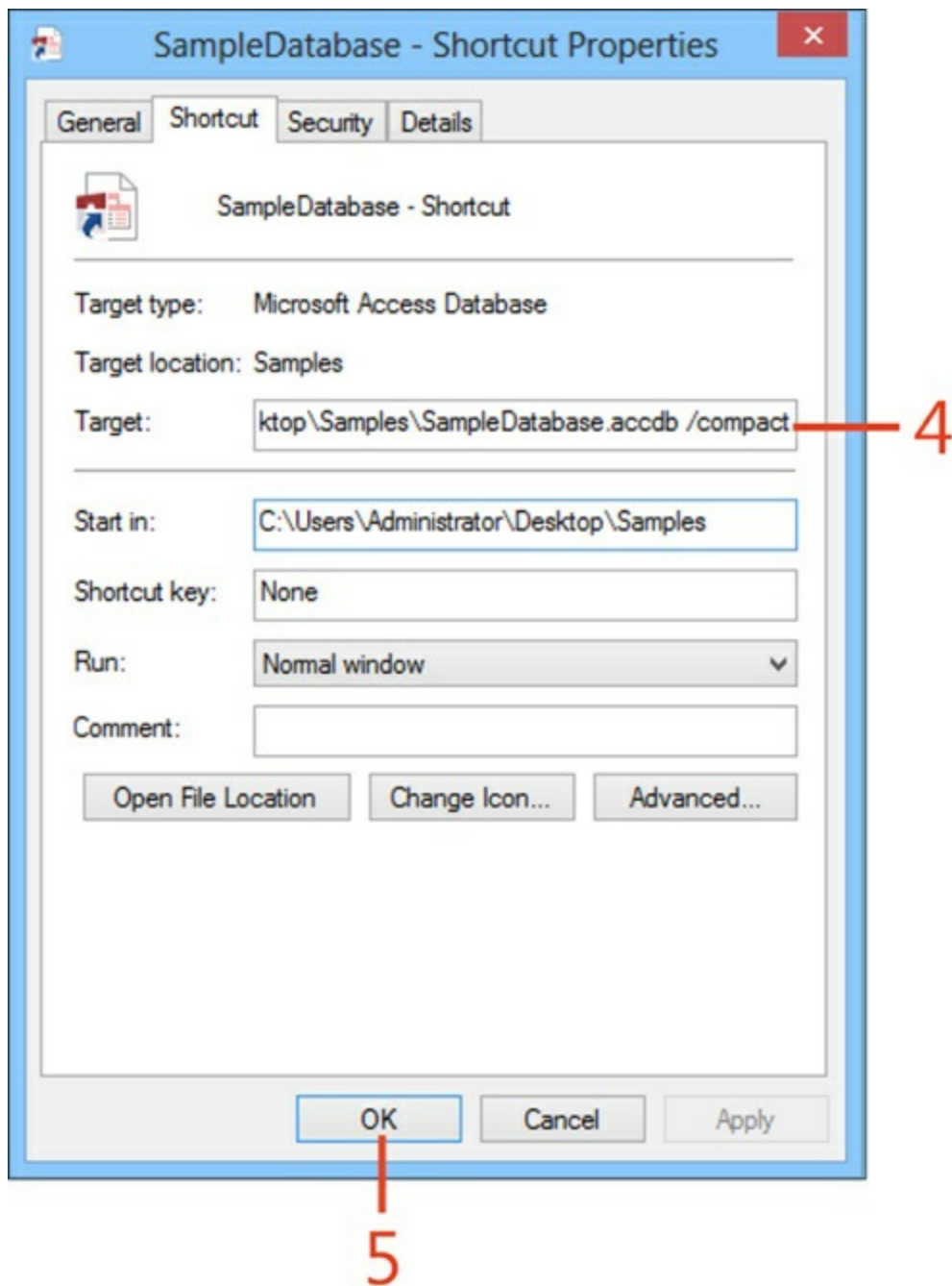
3. Drag your database onto the desktop to create a shortcut.



Tip

To create a shortcut, click to select the database, hold down the right mouse button, drag the file to for example the desktop, release the mouse button and select Create shortcuts here.

4. Right-click the shortcut, select Properties, and then edit the target by entering a space followed by **/Compact**.
5. Click OK. This creates a shortcut that you can click to compact and repair your database.



Tip

You can use the File tab Options submenu and select the Current Database choice, where an option is provide to Compact on Close which when set means that every time you close the database it will automatically be compacted and repaired.

Analyzing your database

Access provides the following tools for gaining an overview of your database structure:

- The Documenter tool provides you with a basic level of documentation on your design.
- The Analyze Performance tool looks at the structure of your database and provides recommendations for revisions that you can make to the design of the database.
- The Analyze Table tool can restructure tables to provide for a more flexible and relational structure.

Document a database

1. Click the Database Tools tab.
2. Click Database Documenter.
3. Use the tabs and check boxes in the Documenter popup window to select objects that you want to document.
4. Click OK to produce a report documenting the selected objects.

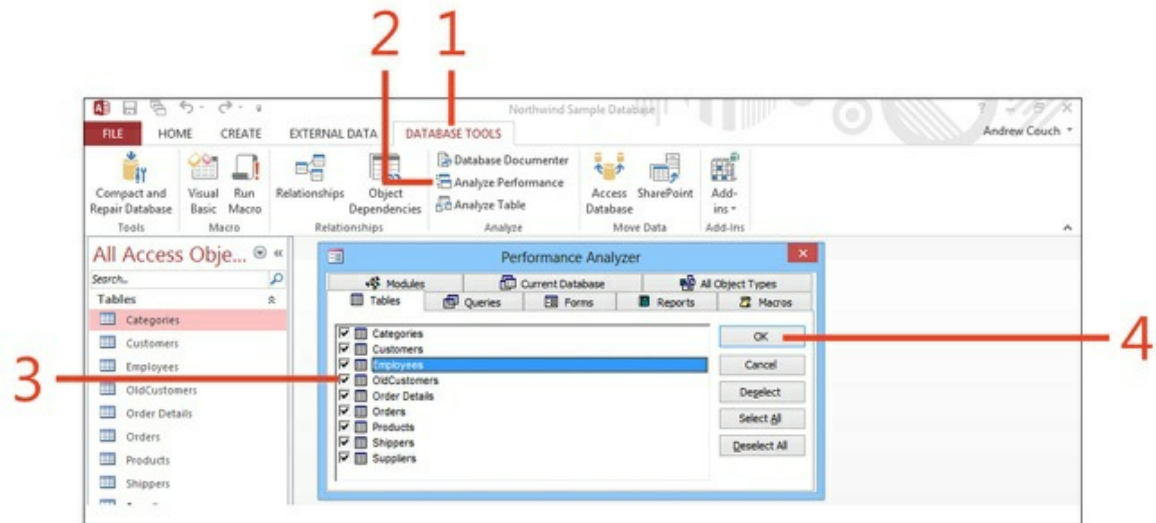


Tip

The default documentation can produce a large amount of paper. One of the available options enables you to produce a shorter summary of the information.

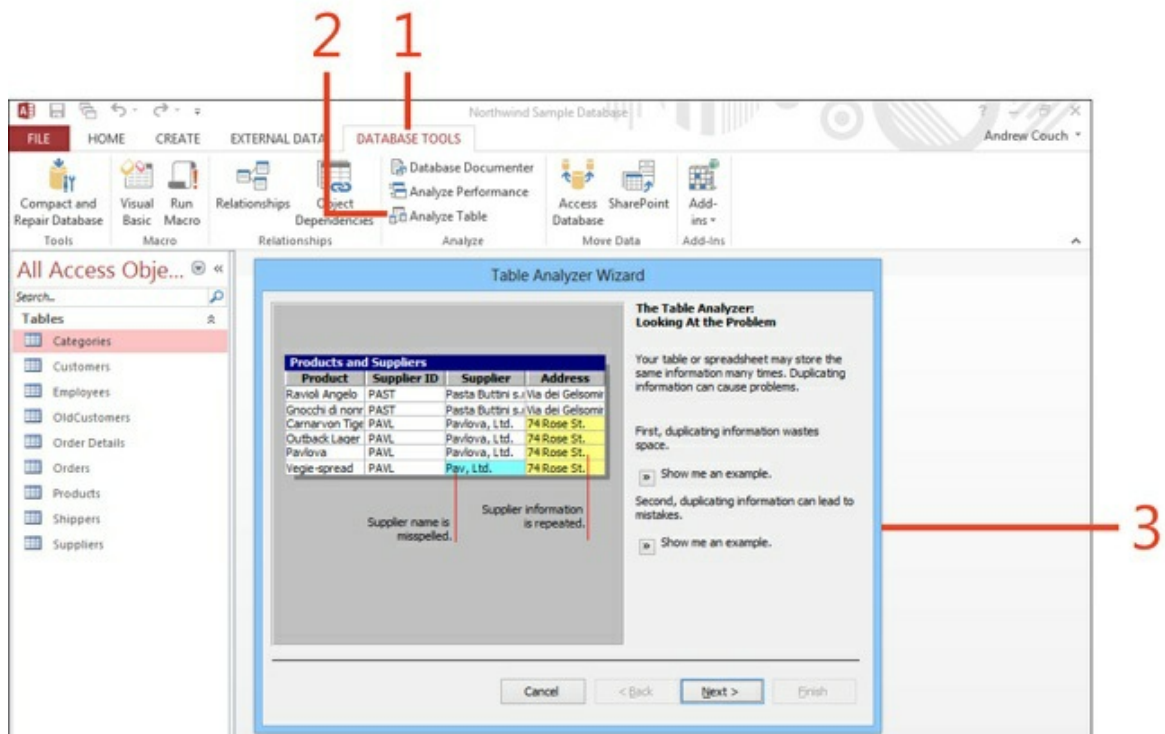
Analyze performance of a database

1. Click the Database Tools tab.
2. Click Analyze Performance.
3. In the Performance Analyzer popup window, use the tabs and check boxes to select objects to analyze.
4. Click OK to receive advice about improving performance of your database.



Analyze a table

1. Click the Database Tools tab.
2. Click Analyze Table.
3. Follow the instructions in the Table Analyzer Wizard to analyze the design of a table.



See Also

If you need to manually undertake these operations, then in [Chapter 7](#) we show how to create new tables for your data based on existing tables, and in [Chapter 4](#) we described how to add relationships between any new tables.

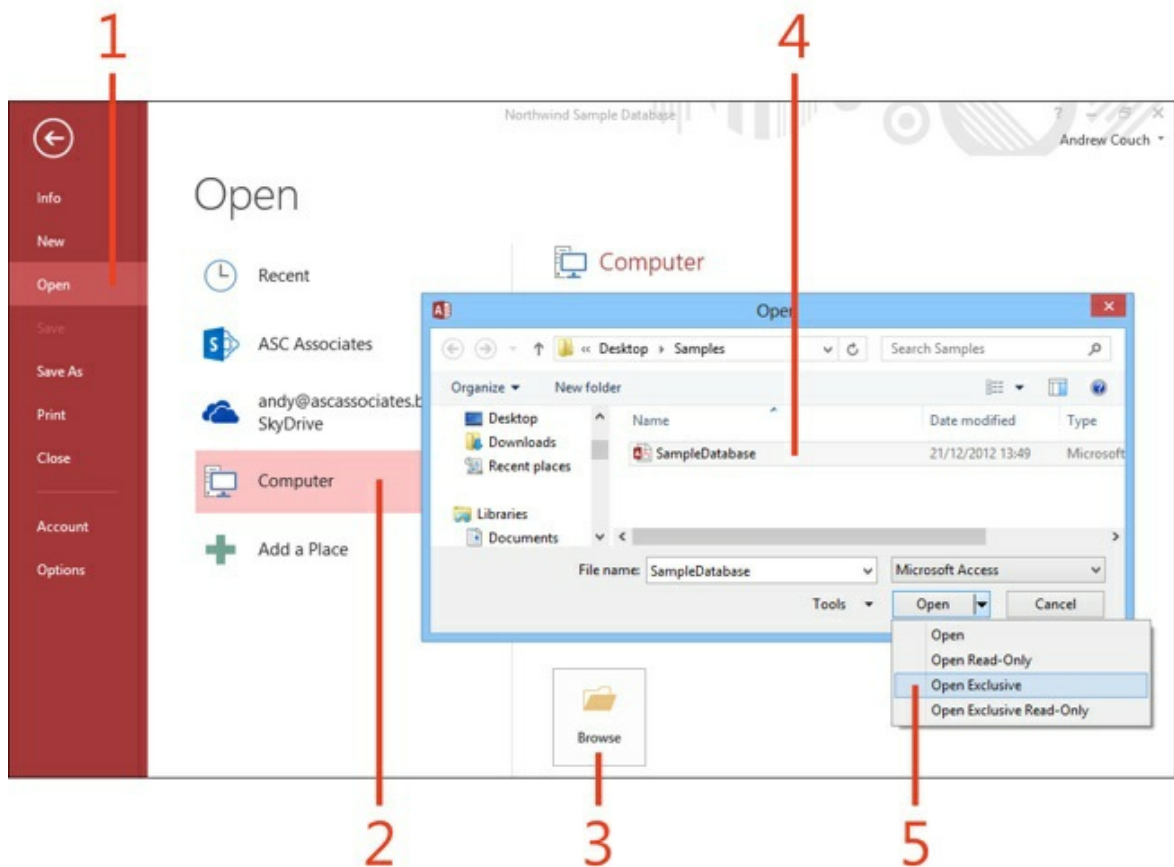
Protecting your data

A database can be protected with a password. This prevents unauthorized users from successfully opening the database. As part of the password protection process, the database is encrypted to prevent other software tools from being used to examine the data.

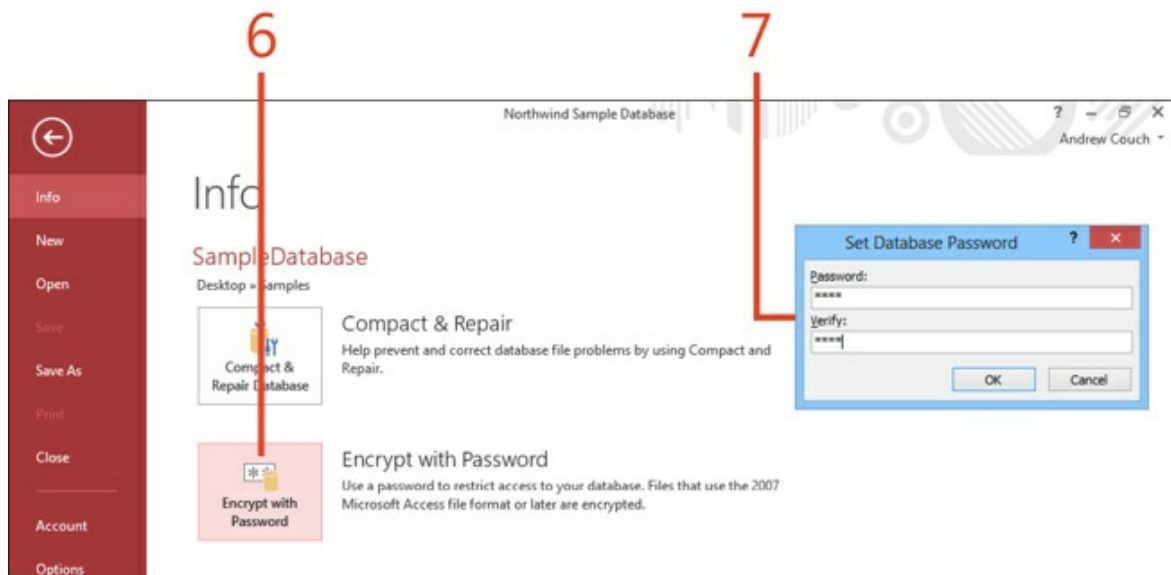
To add or remove a password, you must access the database by using a special sequence of steps that will open the database with the Open Exclusive option.

Protect a database

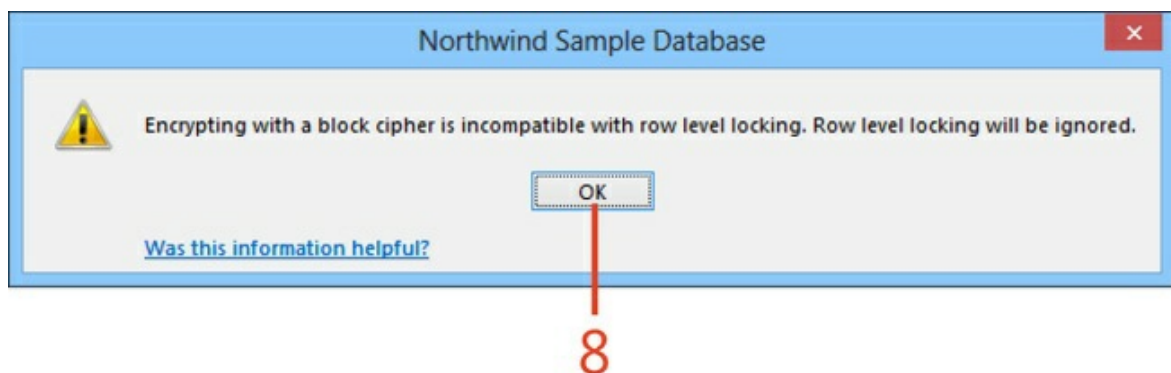
1. Click the File tab, and select Open.
2. Select the file location.
3. Browse to locate the file.
4. In the Open popup window, select the file.
5. Change the option to Open Exclusive.



6. After the database opens, return to the File menu, and click Encrypt With Password.
7. Type a password, type it again to verify it, and click OK.



8. Click OK on the warning message indicating that row-level locking will be ignored.



Tip

To remove a database password, repeat these steps for the database. At step 6, the icon will be labeled Decrypt Database. To decrypt the database, you need to have opened the database for exclusive use.

Tip

The warning displayed in step 8 means that although Access is designed to allow multiple users to share data, because you have chosen to further constrain the sharing of data with encryption Access can no longer share data

out to other users with the normal flexibility of locking individual rows, it will lock pages of data. This is not normally a serious limitation in a database with few users. In a database which was shared out to a larger number of users you would probably not want to impose encryption because encryption reduces performance and in addition, offers less flexibility in the method of locking data.

Viewing object dependencies

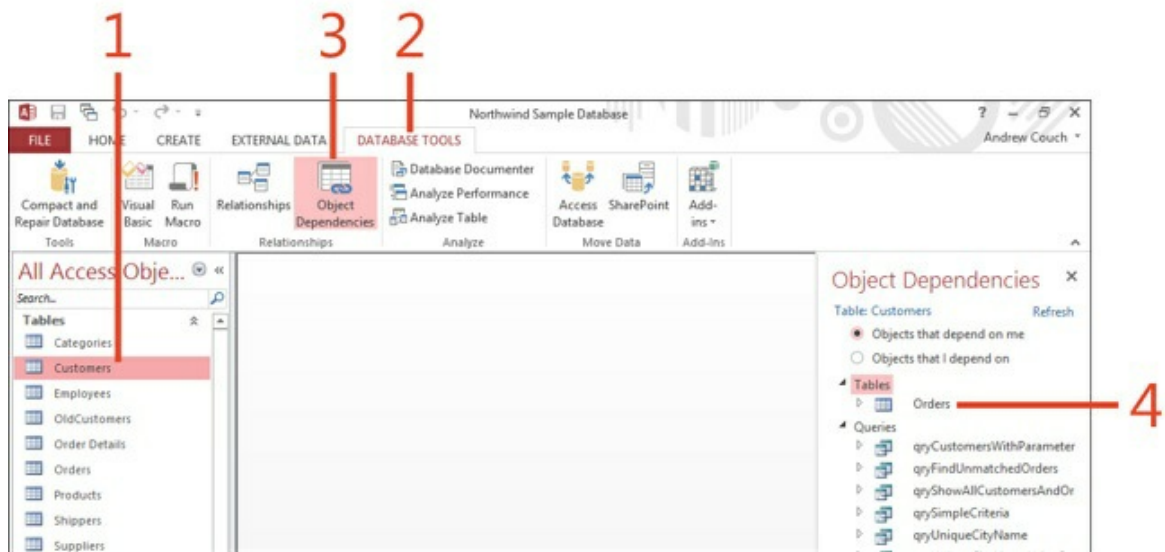
The database has an internal map that tells Access where an object like a table is used in queries, in relationships to other tables, and on forms and reports. This feature enables the product to automatically modify the design of dependent objects when you make changes in an object.

For example, say you have a table with a field called [Contact Name], and you decide to remove the space and rename it [ContactName].

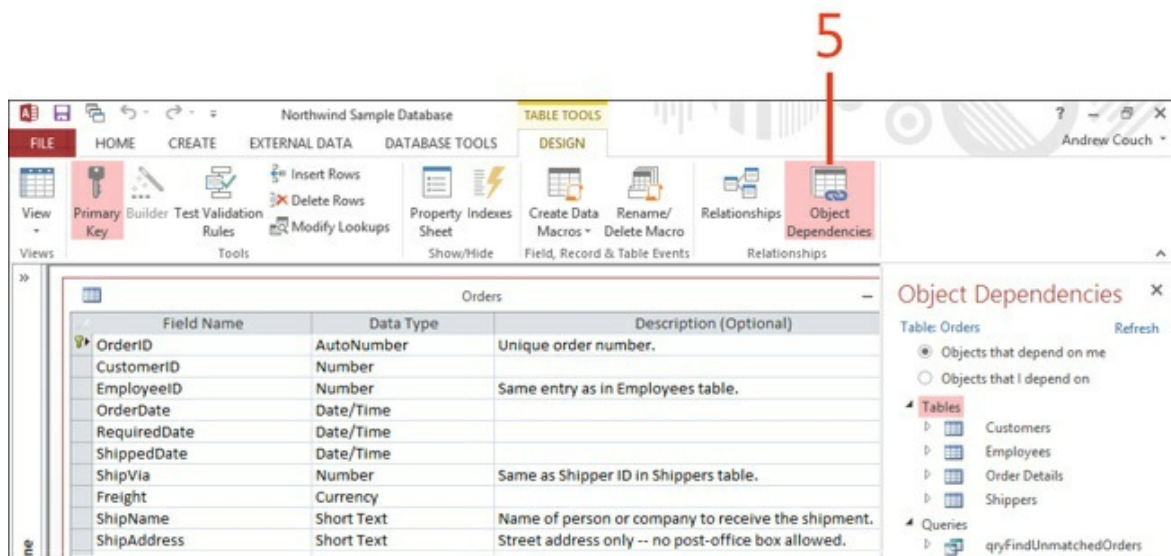
Now imagine that you have queries, forms, and reports that all refer to [Contact Name]. However, because Access has a map of the dependencies, it can automatically correct references to [Contact Name]. Note that there are some limitations on these changes, relating to using the object name in more complex expressions and calculations.

View an object's dependencies

1. Select an object in the navigation pane.
2. Click the Database Tools tab.
3. Click Object Dependencies.
4. Click any of the objects on the right to display the object in Design view.



5. Close the Object Dependencies pane, and open a table in Design view. Then click Object Dependencies to see how this feature can be activated when you have a table in Design view.



Appendix A. About the Author

Andrew Couch has been working with Microsoft Access since 1992 as a developer, trainer, and consultant. He is a joint founder of the UK Access User Group and has been a Microsoft Access MVP for the past six years. He is the author of *Microsoft Access 2010 VBA Programming Inside Out*, and he is a co-author of *Microsoft Office Professional 2013 Step by Step*. Andrew also provides free technical articles for Access at www.upsizing.co.uk/TechLibrary.aspx.

Index

A note on the digital index

A link in an index entry is displayed as the section title in which that entry appears. Because some sections have multiple index markers, it is not unusual for an entry to have several links to the same section. Clicking on any link will take you directly to the place in the text in which the marker appears.

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[#] as symbol for filtering queries, [Add a second set of criteria](#)

* (asterisk)

adding all columns to query grid, [Simplifying a problem with a query by using other queries](#)

as symbol for filtering queries, [Add a second set of criteria](#)

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using in UNION queries to select all fields, [Adding two sets of query results together](#)

using to include all columns in table, [Selecting individual columns from one or more tables](#)

[A-Z] (character pattern match), in filtering queries, [Add a second set of criteria](#)

\ (backslash), as symbol for entering custom format string, [Formatting a field](#)

“ (double quote) marks, using in text fields, [Save a filter as a query](#)

! (exclamation mark), as symbol for entering custom format string, [Formatting a field](#)

! (exclamation mark) symbol, reading code using, [Link a form to a table or query](#)

+ (expansion symbol)

beside record selector, [Deleting records](#)

displaying subdatasheet using, [Creating summary data for records](#)

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> (greater than) symbol, in filtering queries, [Add a second set of criteria](#)
<= (less than or equal to) symbol, in filtering queries, [Add a second set of criteria](#)
< (less than) symbol, in filtering queries, [Add a second set of criteria](#)
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+ (plus) icon, on action bar, [Working with the Datasheet view](#)
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Andrew Couch is a Microsoft MVP for Access and an experienced instructor who has taught introductory and advanced Access courses as well as VBA programming courses. He is the author of *Microsoft Access 2010 VBA Programming Inside Out*.

Microsoft Access 2013 Plain & Simple

Andrew Couch

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