

Microsoft® ACCESS® 2013

The Fast and Easy Way to Learn



Paul McFedries

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$\overset{\text{Microsoft}^{\circ}}{Access} \text{ } 2013$



by Paul McFedries



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Author's Acknowledgments

It goes without saying that writers focus on text, and I certainly enjoyed focusing on the text that you will read in this book. However, this book is more than just the usual collection of words and phrases. A quick thumb through the pages will show you that this book is also chock-full of images, including sharp screenshots. Those colorful images make for a beautiful book, and that beauty comes from a lot of hard work by Wiley's immensely talented group of designers and layout artists. They are all listed in the Credits section on the previous page, and I thank them for creating another gem. Of course, what you read in this book must also be accurate, logically presented, and free of errors. Ensuring all of this was an excellent group of editors that included project editor and copy editor Dana Lesh and technical editor Vince Averello. Thanks for your exceptional competence and hard work. Thanks, as well, to Wiley executive editor Jody Lefevere for asking me to write this book.

How to Use This Book

Whom This Book Is For

This book is for the reader who has never used Microsoft Access. It is also for readers who want to expand their knowledge of Access and learn about the features of the latest version.

The Conventions in This Book

1 Steps

This book uses a step-by-step format to guide you easily through each task. **Numbered steps** are actions you must perform; **bulleted steps** clarify a point, step, or optional feature; and **indented steps** give you the result.

2 Notes

Notes give additional information — special conditions that may occur during an operation, a situation that you want to avoid, or a cross-reference to a related area of the book.

3 Icons and Buttons

Icons and buttons show you exactly what you need to click to perform a step.

4 Tips

Tips offer additional information, including warnings and shortcuts.

5 Bold

Bold type shows command names or options that you must click and text or numbers you must type.

6 Italics

Italic type introduces and defines a new term.



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CHAPTER 1

Getting Started with Access

Are you new to Microsoft Access or upgrading to the latest version of the program? This chapter introduces you to Access and to some useful database concepts. You also learn how to create and open a database as well as how to navigate through the Access interface.

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An Introduction to Access

Microsoft Access is a program for creating and working with special files called *databases*, which are designed to store collections of related information. For example, one database might store business data such as customers, invoices, and inventory, whereas another might store personal data such as contacts, movies, and household items. You can use Access to create, retrieve, and manage large or small collections of information.

To get the most out of Access, you need to understand basic concepts such as tables, records, and fields; database objects such as datasheets and forms; and database tools such as filters, queries, and reports.

Tables, Records, and Fields

In Access, data is stored in *tables*, and each individual entry in a table is called a *record*. For example, in a Customers table, the information about each customer is a separate record. Each record is composed of one or more *fields* that contain individual pieces of data. In this example, customer fields may include Name, Address, City, State, and Zip Code.

	City -	Country 👻	Postal Code 🗸	Region 🗸	Phone 👻	Fax 👻	Click to Adu
E	E México D.F.	Mexico	05023		(5) 555-3932		[
E	E London	UK	WA1 1DP		(171) 555-7788	(171) 555-6750	
E	E Luleå	Sweden	S-958 22		0921-12 34 65	0921-12 34 67	
E	8 Mannheim	Germany	68306		0621-08460	0621-08924	
E	E Strasbourg	France	67000		88.60.15.31	88.60.15.32	
E	🗉 Madrid	Spain	28023		(91) 555 22 82	(91) 555 91 99	
E	8 Marseille	France	13008		91.24.45.40	91.24.45.41	
E	E Tsawassen	Canada	T2F 8M4	BC	(604) 555-4729	(604) 555-3745	
E	E London	UK	EC2 5NT		(171) 555-1212		
E	Buenos Aires	Argentina	1010		(1) 135-5555	(1) 135-4892	
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E	Bern	Switzerland	3012		0452-076545		
E	São Paulo	Brazil	05432-043	SP	(11) 555-7647		

Datasheets and Forms

By default, each table appears as a spreadsheet grid called a *datasheet*. You can type directly into a datasheet. To make data entry more convenient, some people choose to create on-screen *forms*, which are like dialog boxes that prompt for field entries. An attractively formatted form is easier and more pleasant to use to enter new records than a plain datasheet.

18		Customers1		– 🗆 × '
	== Custor	ners		
	Customer ID	ALFKI	City	Berlin
	Company Name	Alfreds Futterkiste	Region	
	Contact Name	Maria Anders	Postal Code	12209
	Contact Title	Sales Representative	Country	Germany
	Address	Obere Str. 57	Phone	030-0074321
			Fax	030-0076545
Reco	rd: I4 → 1 of 91 🕨 🕨	🕨 🛤 🏹 No Filter Search 🛛 🗐		



Getting Started with Access

Filters and Queries

It is often useful to display a filtered view of a table. You can filter a table to show only certain records, only certain fields, or both. You can run a one-time filter, or you can create a *query*, which is like a saved filter. Queries also enable you to combine data from multiple related tables into a single datasheet of results.

Customers Who Place	d Orders in January, 2013		– 🗆 ×
Company Name	 Contact Name 		mer ID 👻 🔄
Alfreds Futterkiste	Maria Anders	ALFKI	
Antonio Moreno Taquería	Antonio Moreno	ANTO	N
Berglunds snabbköp	Christina Berglund	BERGS	
Blauer See Delikatessen	Hanna Moos	BLAUS	
Blondel père et fils	Frédérique Citeaux	BLONF	2
Bon app'	Laurence Lebihan	BONA	P
Cactus Comidas para llevar	Patricio Simpson	CACTU	J
Consolidated Holdings	Elizabeth Brown	CONSE	-
Drachenblut Delikatessen	Sven Ottlieb	DRACE)
Ernst Handel	Roland Mendel	ERNSH	4
Folk och fä HB	Maria Larsson	FOLKO)
Frankenversand	Peter Franken	FRANK	<
France restauration	Carine Schmitt	FRANE	2
Great Lakes Ennd Market Record: ₩ 4 17 of 42 → ₩ ₩ 🕵 No Filter	Howard Snyder Search	GREAI	

Reports

Tables and query results appear in plain datasheets, which are not very attractive when printed. Reports present data from tables and queries in an attractive, customizable format complete with titles, headers and footers, and even logos and graphics.

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	2013	178	\$276,330		
Q	uarter: 2				_
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	2013	90	\$161,362		×
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Relational Databases

Microsoft Access creates *relational databases* that is, databases that can contain multiple tables with links between them. For example, a business may have a Customers table for storing customer contact information and an Orders table for storing information about orders placed. Each customer in the Customers table has a unique ID, and each order in the Orders table references a specific customer ID.



Start and Exit Access

Before you can create or open a database file, you must first start Access. This brings the Access window onto the Windows desktop so that you can then begin using the program.

How you start Access depends on which version of Windows you are using. In this section, you learn how to start Access 2013 in Windows 8 and in Windows 7. When you are finished working with Access, you should exit the program.

Start and Exit Access

Start Access in Windows 8

1 On the Windows 8 Start screen, click Access 2013.

The Microsoft Access window appears on the desktop.

Start Access in Windows 7

- 1 Click Start.
- 2 Click All Programs.



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同

Getting Started with Access



Click Microsoft Office 2013.

Click Access 2013.

Exit Access

 Right-click the Access taskbar button (
 (1)

2 Click Close window.

Note: If you have two or more database files open, click **Close all windows** instead.

Access closes, returning you to your desktop view.

TIP

Internet Explorer Windows DVD Maker Windows Fax and Scan 👩 Windows Media Center 🔘 Windows Media Player 🖉 Windows Update Documents A XPS Viewer Accessories Pictures Games li iTunes Music Maintenance Microsoft Office 2013 Game Access 2013 L Excel 2013 Computer OneNote 2013 Outlook 2013 Control Panel PowerPoint 2013 Publisher 2013 Word 2013 Office 2013 Tools Back Search programs and files Q 0 5.0. = Paul McFedries 👻 🎆 🙂 HOME CREATE EXTERNAL DATA DATABASE TOOLS **1**0 % - 11 3 Σ ab vac 秮 Calibri X ABC B I <u>U</u> ∻≣ ≪≣ -→ -.≻¶ -Filter $\frac{A_{\Psi}}{\frac{A}{Z}} = \frac{A_{\Psi}}{\Psi}$ Paste 💉 Refresh 🖉 🗸 Find Size to Switch View R + Size to switch Fit Form Windows + ▲ + 型 - △ + = = = ▲ . Text Formatting Views Clipboard 🗔 Sort & Filter Records Find Window All Access Objects Tables × Queries Forms Recent Reports 1 Northwind 2007 Pages Northwind Macros 1 Northwind 2007 Modules

Are there faster methods that I can use to start Access?

Yes. After you have used Access a few times in Windows 7, it should appear on the main Start menu in the list of your most-used programs. If so, you can click that icon to start the program. You can also force the Access icon onto the Start menu by following steps 1 to 3 in the "Start Access in Windows 7" subsection, right-clicking the **Microsoft Access 2013** icon, and then clicking **Pin to Start Menu**. If you are using Windows 8, you can right-click the **Access 2013** tile and then click **Pin to Taskbar** to add the Access icon to the desktop taskbar.

🚯 Inventory

in Northwind 2003

Access 2013

X Close window

2

🗬 Unpin this program from taskbar



Create a Blank Database

The simplest way to get started with Microsoft Access is to create a blank database. A blank database contains only a single, empty table and no other database objects, such as queries, forms, or reports. A blank database provides the freedom to create exactly the objects that you want for your project.

If another person or your company has provided you with a database file, you should open that file instead; see the section "Open a Database."

Create a Blank Database

1 Click File.

Note: If you have just started Access, skip to step **3**.



The File options appear.

2 Click New.

The New options appear.

3 Click Blank desktop database.

Getting Started with Access



The Blank Desktop Database dialog box appears.

4 Type a filename for the database.

5 Click Create.

A new database opens, with a new blank table started.

	×
	Blank desktop database
	File Name
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TIP

Are there shortcuts that I can use to create a blank database?

Yes, Access offers a couple of techniques that you can use to shorten the process of creating a blank database. First, you can quickly display the New tab by pressing $\mathbb{Ctrl} + \mathbb{N}$. Second, if you prefer to use your mouse to begin the process of creating a blank database, you can add the New command to the Quick Access Toolbar. After you have done this, you can click **New** on the Quick Access Toolbar to go directly to the New tab. See the section "Customize the Quick Access Toolbar" to learn how to add commands to this toolbar.

Create a Database by Using a Template

Rather than start from scratch with a blank database, you can get your database project off the ground easier and faster by creating a new database based on a template.

A *template* is a special file that includes prefabricated database objects that you can use right away. For example, a contact management template might include a table with fields such as Name, Address, and Phone, as well as a form for entering data and a report that organizes the contacts into an address book. With a template, all you do is fill in the data, and Access does the rest.

Create a Database by Using a Template

1 Start Microsoft Access.

Note: If Access is already running, click **File** and then click **New** instead.

- 2 Type a word that describes the type of database you want to create.
- You can also click any of these suggested template search terms.
- You can also click one of these Microsoft-supplied templates that are stored on your computer and then skip to step 5.
- 3 Press Enter.

The search results appear.

4 Click the template that best matches your needs.



CHAPTER

Getting Started with Access



5 Type a name for the database file.

If you chose an online

The database opens. Its

template that you chose.

appearance depends on the

from the Internet.

template, it is downloaded

6 Click Create.



TIPS

When I create a database using a template, why do I sometimes see a security warning at the top of the database?

The Security Warning information bar tells you that the template includes extra programming tools called *macros* that provide some of the template's functionality. Macros can be dangerous if you download a template or database file from an unknown location. However, the templates available through Office Online are safe, so you should click **Enable Content** in the information bar to enable the template's macros.

What do I do if a Welcome or Getting Started tab or window appears in the new database?

Some templates offer extra features that make the template easier to use. For example, depending on the template, there may be instructions to read, a video to play, or web links to explore. Just follow the prompts that appear. Note that you might not see this extra content until you click **Enable Content** in the information bar.

Open a Database

If you have created multiple databases, you can open a database that you previously created to continue developing its structure, type data in it, or analyze its data.

Your database files will most often be stored on your computer's hard drive. However, it is also possible to open databases from your network or from the online SkyDrive storage area associated with your Microsoft account.

Open a Database

1 Start Microsoft Access.

2 Click Open Other Files.

Note: If Access is already running and you have another database open, click **File** instead.

The File options appear.



The Open options appear.

If you opened the database recently, you can also click **Recent** and then click the database. In this case, you can skip the rest of the steps in this section.

Click Computer.

5 Click Browse.

The Open dialog box appears.

- If necessary, you can navigate to a different location.
- 6 Click the database that you want to open.
- 7 Click Open.

Access opens the database.





Close a Database

When you have finished your work with an Access database, you should close the file. You can have multiple databases open at once, each in its own copy of the application, but closing a database when you are finished with it frees up your computer's memory.

When you close a database, Access checks to see whether any open objects have unsaved changes. If Access detects an object that has unsaved changes, it prompts you to save it. This is a very important step because it prevents you from losing work, so be sure to save your changes when and if Access prompts you.

Close a Database



Understanding the Access Interface

A ccess 2013 has a user interface consistent with those of other Office 2013 applications, including Word and Excel. It contains tabs, a multiple-tabbed Ribbon, and a status bar.

A File

Displays a menu of file commands.

B Quick Access Toolbar

Provides shortcuts to commonly used features. This toolbar is customizable.

G Tabs

Contain buttons and other controls for working with data.

D Ribbon

Displays and organizes tabs.

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() Dialog box launcher

Clicking this icon (\Box) opens a dialog box related to the group.

G Groups

Organize controls into sections within tabs.

Object tabs

Provide access to all open database objects, such as tables, reports, and forms.

B Scroll bars

Enable you to scroll through a datasheet.

G View buttons

Switch between various views of the selected object. The buttons are different depending on what type of object is active. Hover over a button to find out which view each button represents.

D Record selector

Displays the current record number and enables you to navigate to other records.



G Status bar

Displays information about the current object or view.

() The Navigation pane

Lists all available database objects.

Customize the Quick Access Toolbar

You can make Access easier to use by customizing the Quick Access Toolbar to include the Access commands that you use most often. You run Quick Access Toolbar commands with a single click, so adding your favorite commands saves time because you no longer have to search for and click a command on the Ribbon.

By default, the Quick Access Toolbar contains three buttons: Save, Undo, and Redo. You can add common commands such as New and Open to the Quick Access Toolbar, as well as hundreds of other Access commands.

Customize the Quick Access Toolbar

- 1 Click the Customize Quick Access Toolbar button (=).
- If you see the command that you want, click it and skip the rest of the steps in this section.

2 Click More Commands.



The Access Options dialog box appears.

- B Access automatically displays the Quick Access Toolbar tab.
- 3 Click the **Choose commands** from .
- 4 Click the command category that you want to use.



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Getting Started with Access

Access Options

Customize the Quick Access Toolbar

General

Current Database



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- 6 Click Add.
- C Access adds the command.
- To remove a command, click it and then click **Remove**.
- 7) Click OK.

Access tells you to close and reopen the database for the change to take effect.

8 Click OK.

Access adds a button for the command to the Quick Access Toolbar.

Note: You do not need to close and then reopen the database.

Note: Another way to remove a command is to right-click the command and then click **Remove from Quick Access Toolbar.**

Choose commands from: Customize Quick Access Toolbar: Datasheet File Tab ¥ For all documents (default) ~ Object Designers Close Database Proofina Compact & Repair Database Connection Convert Options 🕂 Optio S Undo Language nedo Client Setting: Copy Database File Customize Ribbon 🍓 Create from SourceSafe Current File Format line in the second seco Database Properties Add-ins Document Management Serve Drop SQL Database Trust Cente Encode/Decode Database.. 6 Add >> • 🗙 Exit Link Tables • << <u>R</u>emove -D Make MDE File.. New Open 💼 Opt Packag Preview Print Package and Sign Preview and Print Rrint Preview Rublish Customizations: Reset 🕶 🕕 Show Quick Access Toolbar below the Import/Export 🔻 🕕 ► ок Cancel A ... - × ▼ Northwind : Database- C:\Users\Paul\Docu TABLE TOOL: Paul McFedries 🔻 🎆 🙂 HOME REATE EXTERNAL DATA DATABASE TOOLS EIELDS. TABLE Cut Copy 🖞 Ascending **T**¢ -🚅 New Σ ab •ac Calibri - 11 đ h 🛴 Descending 🛛 🔚 👻 🛃 Save ABC → • B I U + = + + • • • Paste 🛷 Format Painter Refresh Find View Filter All 🔹 🗙 Delete 👻 🔜 👻 As Remove Sort **T** ₽ -<u>∧</u> • <u>≥</u> • <u>≥</u> = = <u>≥</u> Text Formatting Clipboard E. Sort & Filter Records Find Б Customers All Access Objects 🛛 🖻 « Contact Name Contact Title Address Tables Obere Str. 57 Maria Anders Sales Representative Categories Avda. de la Constitución 2222 Owner Customers 🗉 Antonio Moreno Mataderos 2312 Owner Employees Thomas Hardy 120 Hanover Sq. Sales Representative 🛄 Order Details 🗉 Christina Berglund Order Administrator Berguvsvägen 8 Orders Hanna Moos Sales Representative Eorsterstr. 57 🗄 Frédérique Citeaux Marketing Manager 24, place Kléber 🗉 Martín Sommer Owner C/Araquil, 67 Products For Update Microsoft Access Shippers Suppliers Đ You must close and reopen the current database for the specified option to take effect Ŧ 8 Queries OK Forms Was this information helpful? Reports Đ Pages + Pedro Atonso Macros 🗉 Elizabeth Brown Sales Representative Berkeley Gardens Modules Order Administrator Walserweg 21 ecord: H 🔞 1 of 91 🕨 H 🛤 🍢 No Filter Search

TIPS

Can I get more room on the Quick Access Toolbar to show more buttons?

Yes, you can increase the space available to the Quick Access Toolbar by moving it below the Ribbon. This gives the toolbar the full width of the Access window, so you can add many more buttons. Click the Customize Quick Access Toolbar button (\equiv) and then click **Show Below the Ribbon**.

Is there a faster way to add buttons to the Quick Access Toolbar?

Yes. If the command that you want to add appears on the Ribbon, you can add a button for the command directly from the Ribbon. Click the Ribbon tab that contains the command, right-click the command, and then click **Add to Quick Access Toolbar**. Access inserts a button for the command on the Quick Access Toolbar.

Customize the Ribbon

You can improve your Access productivity by customizing the Ribbon with extra commands that you use frequently. The Ribbon is a handy tool because it enables you to run Access commands with just a few clicks of the mouse. However, the Ribbon does not include every Access command. If there is a command that you use often, you should add it to the Ribbon for easy access.

To add a new command to the Ribbon, you must first create a new tab or a new group within an existing tab and then add the command to the new tab or group.

Customize the Ribbon

Display the Customize Ribbon Tab

- Right-click any part of the Ribbon.
- 2 Click Customize the Ribbon.

- The Access Options dialog box appears.
- Access automatically displays the Customize Ribbon tab.

Add a New Tab or Group

- 3 Click the tab that you want to customize.
- B You can also click New Tab to create a custom tab.
- 4 Click New Group.
- C Access adds the group.
- 5 Click Rename.

The Rename dialog box appears.

- Type a name for the group.
- 7 Click OK.

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18

CHAPTER

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Getting Started with Access



TIPS

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want to add.

12 Click Add.

13 Click OK.

14 Click OK.

Can I customize the tabs that appear only when I select an Access object?

Yes. Access calls these tool tabs, and you can add custom groups and commands to any tool tab. Right-click any part of the Ribbon and then click **Customize the Ribbon** to display the Access Options dialog box with the Customize Ribbon tab displayed. Click the **Customize the Ribbon** v and then click Tool Tabs. Click the tab that you want and then follow the steps in this section to customize it.

How do I restore the Ribbon to its default configuration?

Right-click any part of the Ribbon and then click **Customize the Ribbon** to display the Access Options dialog box with the Customize Ribbon tab displayed. To restore a tab, click the tab, click Reset, and then click Restore only selected Ribbon tab. To remove all customizations, click Reset and then click **Restore all customizations**.

Change the Navigation Pane View

The Navigation pane on the left side of the database window presents a list of all the objects in the database, including its tables, queries, forms, and reports. This is an important element of the Access interface because it enables you to view and manage the objects, so you should set up the Navigation pane to suit the way that you work.

If you need more horizontal room to work on a table or form, you can hide the Navigation pane. You can also adjust the width of the Navigation pane as well as change the way it sorts and lists objects.

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Change the Navigation Pane View

Hide the Navigation Pane

- 1 If the Navigation pane is displayed, click << .
 - Access hides the Navigation pane.

Display the Navigation Pane

- If the Navigation pane is hidden, click >>.
 - Access displays the Navigation pane.

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TABLE TOOLS

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Getting Started with Access

Adjust the Navigation Pane Size

- A black line shows the new position for the border.

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- 1 Click 🕤.
 - A menu of object options opens.
- Click the way that you want to view the object list.
- You can also filter the list to show only a certain type of object.
- You can choose All Access Objects to return to the full list after filtering.



TIPS

What are some other ways to display and hide the Navigation pane?

Pressing **F11** toggles the Navigation pane on and off. You can also click **Navigation Pane** along the left edge of the window when it is hidden to display it. Another way to hide it is to double-click the divider line between the Navigation pane and the main window when it is displayed.

What is the purpose of the \leq and \Rightarrow arrows in the Navigation pane?

You use these arrows to expand or collapse a Navigation bar category. To expand a category and see its contents, click \ll . To collapse a category and hide its contents, click \approx .

Open and Close an Object

You perform work in Microsoft Access by manipulating database objects such as tables, queries, and forms. Before you can work on an object, you must open it. You can open any available database object from the Navigation pane. The object appears in the main window to the right of the Navigation pane; from there, you can work with the object's content. You can open multiple objects at the same time and then switch among them.

When you no longer need to work with an object, you should close it to reduce clutter in the main database window.

Open and Close an Object

Open an Object

- If necessary, click the category's imes icon to expand it.
- 2 Double-click the object.
- The object appears in the database window.
- B Access displays a tab for the object.
- C To switch among open objects, click the tab of the object that you want.

Close an Object

- Click the tab of the object that you want to close.
- 2 Click 🗙.

Note: You can also right-click the object's tab and then click **Close**.

The object closes.


CHAPTER

Change an Object's View

A ccess offers you multiple ways to interact with each database object. For example, with a table, Ayou can work either with the data, including adding, editing, and deleting records, or you can work with the table structure, including adding, editing, and deleting fields. To switch between these different ways of interacting with a database object, you change the object's view.

The available views depend on the object type but usually include a view for using the object, such as the Datasheet view, and a view for modifying the object, such as the Design view.

Change an Object's View

Select a View from the Ribbon

- 1 Click the **Home** tab.
- 2 Click the View 🔫 .
- 3 Click the view that you want to use.

Note: You can also right-click an object's tab and then click the view that you want from the shortcut menu.

Select a View by Using the View Buttons

1 In the status bar, click the button for the view that you want.

Note: The buttons that are available change depending on the object type.

A To determine which view a button represents, move over the button to see a screen tip.

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CHAPTER 2

Working with Tables

After you create a blank database, you cannot enter data until you create at least one table. Therefore, tables are the foundation of any database. A table's structure defines the fields and their properties and specifies how data should be entered. In this chapter, you learn how to create and manage tables.

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Plan Effective Tables

As a database designer, you have the opportunity to create tables in your database that match your storage needs. You can create tables based on templates that Access provides, or you can create your own tables. Before creating the tables, however, you should spend some time thinking about what type of data each table should contain.

This involves thinking about what purpose your tables will serve, how your tables will be related to each other, which fields you'll need in each table, and how you will differentiate between each record in a table.

Choose One Purpose per Table

Each table should have a single, well-defined purpose. For example, a table may store customer contact information, product inventory, or personnel records. Do not worry that the information you need to work with is stored in different tables because you can easily create queries and reports that summarize and combine data from any number of tables.

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Avoid Redundant Data Entry

Combining multiple purposes in a single table results in needless duplication and increases the chance of data-entry error. For example, suppose that your Orders table also contained fields for the customer's shipping address. Every time a repeat customer placed an order, you would need to re-enter the shipping address. By placing customer shipping information in a separate Customers table, you eliminate the duplication.

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Working with Tables

chapter s 2

Plan for Relationships

Think about how tables will be related. For example, the Orders and Customers tables may be related to display a list of all the orders placed by a certain customer. You could also relate the Employees and Orders tables to display a list of orders taken by certain employees. It may be helpful to draw a diagram to envision the relationships needed.

Decide on the Fields to Use

If you think that you may need to sort or filter by a certain type of information, make it a separate field. For example, to sort an Employees table by last name, you need separate fields for First Name and Last Name. And if you ever plan on addressing your employees with Mr., Ms., or Miss, you need a field that contains that salutation.



Ì		Employe	es —
2	Field Name	Data Type	Description (Optional)
	LastName	Short Text	Employee's last name.
	FirstName	Short Text	Employee's first name.
	Title	Short Text	Employee's title.
	TitleOfCourtesy	Short Text	Title used in salutations.
	BirthDate	Date/Time	Employee's date of birth.
	HireDate	Date/Time	Employee's date of hire.
	Address	Short Text	Employee's street or post-office box.
	City	Short Text	Employee's city.
	Region	Short Text	Employee's state or province.
	Postal Code	Short Text	Employee's ZIP or postal code.
	Country	Short Text	Employee's country of residence.
	1	Fiel	d Properties

Plan to Differentiate between Records

In most tables, at least one field should be unique to each record to differentiate between them. For example, the Customers table may have a unique Customer ID field. You could then use the value to refer to that customer in relationship to other tables. For example,

	Customers											
	Customer ID 👻	Company Name 👻	Contact Name 🛛 👻	Contact Title								
H	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representativ								
H	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner								
Ð	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner								
H	AROUT	Around the Horn	Thomas Hardy	Sales Representativ								
H	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrato								
H	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representativ								
H	BLONP	Blondel père et fils	Frédérique Citeaux	Marketing Manager								
H	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner								
Ð	BONAP	Bon app'	Laurence Lebihan	Owner								
H	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manage								
÷	BSBE∨	B's Beverages	Victoria Ashworth	Sales Representativ								

each order could be positively matched with a particular customer by using the customer ID.

Create a Table in the Datasheet View

A ccess offers two methods for creating a table: the Datasheet view and Design view. The easiest of A these methods is the Datasheet view, which enables you to add new fields simply by typing the field names into the column-heading placeholders. This method works well when you need a quick table consisting of just a few fields.

The Datasheet view does not offer many options for setting up your table fields, so if you need more control over your table creation, you must use the Design view method, as described in the "Create a Table in the Design View" section.

Create a Table in the Datasheet View

- 1 Click the **Create** tab.
- Click Table.

A new datasheet opens with an ID field and a Click to Add placeholder.

3 Click the **Click to Add** placeholder.

A menu of field types appears.

4 Click the field type that you want.

A new field appears.

- **5** Type a name for the field.
- 6 Press Enter to accept the field name.
- A The menu of field types opens in the blank column to the right so that you can create another new field if needed.
- 7 Repeat steps 4 to 6 as needed to finish entering field names.

Your table is created.



Save a Table

? ×

Save As

Table Name

A fter creating a new table, you must save the table to make it a permanent part of the database. When you save a table, Access prompts you to give the table a name. Choose a name that is descriptive enough that it will help you remember the table's purpose. However, for technical reasons, it is best to avoid using spaces and non-alphanumeric characters. If you would like to use two or more words in the name, either separate them with the underscore character (_) or combine the words and use uppercase for the first letter of each word (for example, CustomerOrderDetails).

Save a Table

- 1 Right-click the table's tab.
- 2 Click Save.
- ▲ You can also click the Save button (□) on the Quick Access Toolbar.

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The Save As dialog box opens.

3 Type a name for the table.

Note: Access allows table names to include spaces, but you should avoid using spaces to make the names easier to refer to in some types of queries. Use an underscore symbol instead.

👍 Click **OK**.

B The table remains open, and its new name appears on its tab.

You can either leave the table open to work with it, or you can close it. To close the table, right-click its tab and then click **Close**.



Create a Table in the Design View

As shown in the section "Create a Table in the Datasheet View," you can build a small table easily and quickly using a datasheet. However, if you want more control over the structure of your table or if you are creating a table with many fields, you should construct the table in the Design view.

This gives you access to the full range of table-creation tools that enable you to get the exact fields that you want. In the Design view, you can create and arrange fields, specify field types and properties, and enter field descriptions. Chapter 4, "Working with Fields," covers modifying a table in the Design view in more detail.

Create a Table in the Design View

1 Click the **Create** tab.

2 Click Table Design.

The Design view opens with a new table started.

3 Click in the first empty cell beneath **Field Name** and type a field name.

Note: It is a good design practice to begin with an ID field that will contain a unique value for each record.



For a detailed explanation of data types, see the section "Understanding Data Types."

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				Lookup M	2010										

Working with Tables

CHAPTER

A You can click in the Description column to type a description for the field.

Note: Descriptions are only necessary if the purpose of the field is not obvious from its name.

- 5 Repeat steps 3 and 4 to create additional fields as needed.
- 6 Save your changes to the table, as described in the "Save a Table" section. If Access prompts you for a primary key, click **No**.

Note: See the section "Set the Primary or Composite Key" to set up the primary key for the table.

Table1			×
Field Name	Data Type	Description (Optional)	4
OrderID	AutoNumber	Unique order number. 🧹 🗛 🔪	L
	Field	Properties	

III Table1			د د	×
∠ Fi	eld Name	Data Type	Description (Optional)	*
OrderID	Aut	oNumber	Unique order number.	
CustomerIE) Sho	rt Text	ID of customer who placed the order.	
Employeel) Nur	nber	ID of employee who took the order.	
OrderDate	Dati	e/Time	The date the order was placed.	
RequiredDa	ite Dati	e/Time	The date the customer requires the order.	
ShippedDat	e Dati	e/Time	The date the order was shipped.	
Ship∨ia	Nur	nber	The ID of the shipping company.	
Freight	Curi	rency	The shipping cost.	
				Ŧ

TIPS

Is it always necessary to start with an ID field? You should have one field that contains unique data for each record, but it does not have to be named *ID*. If you have your own numbering scheme for this unique field, set the data type to accommodate it. But if you do not already have a scheme, use AutoNumber to save some time.

Why can I not use spaces in the field names?

You can use spaces if you want, but it makes it harder to refer to the fields when you create functions and write complex query specifications. It is better to get into the habit of not using spaces. You can simulate spaces by using the underscore character. You can also specify a caption for the field, as explained in Chapter 4.

Open a Table in the Design View

A fter you have created and saved a table, you might find that you need to make changes to it. For example, you might think of one or more fields to add, or you might want to change a field's data type, add descriptions, or even delete fields. To perform these and other table design tasks, you must open the table in the Design view.

If you do not already have the table open, you can go directly into the Design view from the Navigation pane. If the table is already open in another view, you can switch to the Design view.

Open a Table in the Design View



Rearrange Fields



When you first build a table, the order in which the fields appear in the datasheet is the order in which you added the fields. That is, the field order in the Design view from top to bottom corresponds to the order in a datasheet from left to right. Field order also determines the default positioning of fields on forms and reports. However, this order is not set in stone. If the current field order is not logical or efficient, you can change the order in which the fields appear.

Rearrange Fields

 Click the selector to the left of the field name.

Note: To move multiple adjacent fields, click the first one, press and hold **Shift**, and then click the last one.

1

(2

- 2 With ▷ on the selector, drag up or down to move the field.
- A horizontal line shows where the field is going.
- 3 When the field is where you want it, release the mouse button.
- 4 Repeat steps 1 to 3 to move other fields as needed.

	Field Name	Data Type	Description (Optional)	
3	OrderID	AutoNumber	Unique order number.	
	CustomerID	Short Text	ID of customer who placed the order.	
	EmployeeID	Number	ID of employee who took the order.	
	OrderDate	Date/Time	The date the order was placed.	
	RequiredDate	Date/Time	The date the customer requires the order.	
	ShippedDate	Date/Time	The date the order was shipped.	
	Ship∨ia	Number	The ID of the shipping company.	
		Commence	The shinning cost	
-	Freight	currency	The shipping osci	
-	Freight	Currency		
-	Freight	currency	The support	
	Orders	currency		
	Freight Orders Field Name	Data Type	Description (Optional)	
	Freight Orders Field Name OrderID	Data Type AutoNumber	Description (Optional)	
	Freight I orders Field Name OrderID CustomerID	Data Type AutoNumber Short Text	Description (Optional) Unique order number. ID of customer who placed the order.	
	Freight Orders Field Name OrderID CustomerID EmployeeID	Data Type AutoNumber Short Text Number	Description (Optional) Unique order number. ID of customer who placed the order. ID of employee who took the order.	
	Freight	Data Type AutoNumber Short Text Number Date/Time	Description (Optional) Unique order number. ID of customer who placed the order. ID of employee who took the order. The date the order was placed.	
	Freight Field Name OrderID CustomerID EmployeeID OrderDate RequiredDate	Data Type AutoNumber Short Text Number Date/Time Date/Time	Description (Optional) Unique order number. ID of customer who placed the order. ID of employee who took the order. The date the order was placed. The date the oustomer requires the order.	
	Freight I orders Field Name OrderID CustomerID EmployeeID OrderDate RequiredDate ShippedDate	Data Type AutoNumber Short Text Number Date/Time Date/Time Date/Time	Description (Optional) Unique order number. ID of customer who placed the order. ID of employee who took the order. The date the order was placed. The date the customer requires the order. The date the order was shipped.	
	Freight Field Name Field Name OrderID CustomerID EmployeeID OrderDate RequiredDate ShippedDate A	Data Type AutoNumber Short Text Number Date/Time Date/Time Date/Time Number	Description (Optional) Unique order number. ID of customer who placed the order. ID of employee who took the order. The date the order was placed. The date the order was shipped. The lD of the shipping company.	

Insert and Delete Fields

A fter you have created your table, you might realize that you missed a field, or a user might request that another field be included. Whatever the scenario, you can insert new fields into the field list. You can add a field at the bottom of the list and then move it to the position that you want. However, it is easier to insert the new field directly where you want it in the field list.

If you added a field by accident or if you realize that you do not need a particular field in your table, you can also remove existing fields.

Insert and Delete Fields

Insert a Field

- 1 Click the field that the new field should appear above.
- 2 Click the Design tab.
- 3 Click Insert Rows.
- A new row appears in the grid — above the one that you selected.
- Type a field name and choose a field type as you would normally.

Delete a Field

1 Click the field that you want to delete.

Note: To delete multiple contiguous fields, click the first one, press and hold **Shift**, and then click the last one.

- **2** Click the **Design** tab.
- 3 Click Delete Rows.

The row is deleted, along with any data that the fields contained.

B If you make a mistake, immediately click 5 or press Ctrl + Z to undo the deletion.

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/ Field N	lame	Da	ata Type		Descrip	tion (Optiona	l)	
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	-	$\leq A$						
 First Name 		Short Tex	t	The contact	's first name			
Last Name		Short Tex	t	The contact	s last name			
Company Name		Short Tex	t	The contact	s company na	me		
Phone Number		Short Tex	t	The contact	's phone num	ber		
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Understanding Data Types



Each field has a data type that defines what you can store in it. Data entry is restricted to valid entries for the type that you choose, which helps to prevent data-entry errors. For example, you cannot enter letters in a field set to Number, and you must enter valid dates or times in a Date/Time field.

Data Type	Used For	Notes
Short Text	Text and numbers	This is a general-purpose field containing any data. It has a limit of 255 characters and cannot be used for numeric calculation. Use this type for numeric entries that will not have calculations performed on them, such as telephone numbers and zip codes.
Long Text	Text and numbers	This type has a limit of 63,999 characters. In the Access 2007 and later file format, it can hold rich text with formatting. There are some limitations on usage in formulas and functions.
Number	Numbers only	This type offers a flexible field size of 1, 2, 4, 8, or 16 bytes. It can also hold symbols used as helpers for numbers, such as decimal points and commas.
Date/Time	Numbers representing dates or times	This type stores dates and times as 8-byte numbers. It stores only numbers representing valid dates and times.
Currency	Numbers representing currency values	This type stores currency values as 8-byte numbers. Even though the field might show only two decimal places depending on formatting, it keeps track of up to four places to prevent rounding off.
AutoNumber	Automatically generated numbering for each record	This type stores Access-generated values as 4-byte numbers.
Yes/No	Boolean data	The value -1 represents Yes, and the value 0 represents No, but the field can be formatted to display values as True/False, On/Off, or Yes/No.
OLE Object	Embedded OLE objects	Use this type when you need to attach external documents in a backward-compatible database or when you need OLE linkage.
Hyperlink	A text address representing an external source	You can link to websites, e-mail addresses, files on your computer, files on a LAN, or virtually any other location.
Attachment	Any supported file type	This type works only in Access 2007 and later. You can attach data files from word-processing programs, spreadsheets, graphic-editing programs, and so on.
Calculated	The result of a calculation performed on one or more other fields	You can use this field type to create calculated fields directly in a table; in earlier versions, you could create calculated fields only in queries.
Lookup Wizard	Varies	Depending on the usage, this type creates either a lookup list from data that you specify or a lookup list from the values in another table. It can also be used to set up multivalued lists.

Change a Field's Data Type

You can change a field's data type to better represent what you plan to store in it. It is easiest to set field types before you enter data into the table, but you can change the field type at any time.

To avoid losing data, you should change the data type to one that is compatible with the existing data, such as changing Short Text to Long Text. Any existing data that violates the rules of the new data type is deleted, but Access warns you before deleting it.

Change a Field's Data Type

- In the Design view, click the Data Type yrightarrow for the field.
- Click the new type.

The type changes in the Data Type column.

3 Click 🖬 on the Quick Access Toolbar to save the changes to the table.

You can also press Ctrl + S.

If the existing data violates the rules of the new data type, a warning message appears.

Note: Even though the warning may say that records were deleted, they have not actually been deleted at this point; you can still change your mind.

- Click Yes to allow the deletion of records that violate the new field type's rules.
- (A) You can click No to abandon the change.





Understanding Primary and Composite Keys

In many tables, it is advantageous to be able to uniquely identify each record. For example, if you have a Contacts table that has multiple entries for people named John Smith, how do you easily differentiate between them? In Access, you do this by designating a *primary key*, which is the field by which each record will be uniquely identified and by which relationships between tables can be created. A table usually has only one primary key. When a unique combination of two or more fields' values forms the primary key, it is called a *composite key*.

Which Field?

Traditionally, the first field in the table is the primary key. Using this convention makes it easy to browse and sort records by this field. However, you may use any field that you like for it. You can use an



AutoNumber field to allow Access to assign numbering for you, or you can use a Number or Text field. The only limitation is that the field must contain a unique value for each record. The primary key field cannot be left blank, and it cannot duplicate the value of another record.

Composite Keys

In rare cases, a single field may not uniquely identify each record. For example, suppose you have a table that records which students have taken which classes. It contains two fields: StudentID and ClassID.

View View	v rs	Primary Builder T Key	est Validation Rules Tools	= Insert Rows ≺ Delete Rows ₹ Modify Lookups	Property Sheet Show/I	Indexes Hide	Create Data Macros * Field, Record	Rename/ Delete Macro & Table Events	Re
	2	Field	Vame	Data Typ)e			Descripti	ion
	P	ClassID		Number		The cla	ass number.		
	P	StudentID		Number		The stu	udent numb	er	
		ClassName		Short Text		The na	me of the d	ass.	

Neither of those fields is unique for each record, but the combination of the two is unique for each record. In those situations, you may need to set a multifield primary key (also called a *composite key*), in which each record must have a unique combination of entries in those fields.

CHAPTER

Set the Primary or Composite Key

If you try to save a new table without a primary key, Access displays a dialog box asking whether you want to create a primary key now. If you click **Yes**, Access either adds an AutoNumber field as the primary key or sets an existing AutoNumber field as the primary key.

If you click **No** and later decide that your table should have either a primary key or a composite key, you can set it yourself in the Design view. Remember that although having a primary or composite key is not required for every table, it is highly recommended.

Set the Primary or Composite Key

Set a Primary Key

- In the Design view, click in the row for the field that you want to set as the primary key.
- **2** Click the **Design** tab.
- 3 Click Primary Key.
- A The Primary Key symbol () appears to the left of the field.

Note: The Primary Key symbol is an on/off toggle; you can click it to remove it.

Set a Composite Key

- In the Design view, click to the left of the first field that you want to include.
- Hold down Cirl and then click to the left of additional fields that you want to include.
- **3** Click the **Design** tab.
- 4 Click Primary Key.
- B ? appears to the left of each of the chosen fields.



Rename a Table

When you save a new table, Access prompts you to provide a name for the table. If you later decide that the name you chose is inappropriate or does not reflect the content of the table, you can rename it. Access automatically updates all references to the table throughout the database, so any forms, reports, or queries based on that table continue to work.

Note, however, that you cannot rename a table when it is open in either the Datasheet view or Design view. The table must be closed before you can rename it.

Rename a Table In the Navigation pane, All Access Obje... 🖻 « right-click the table. Search... ρ Tables \$ 2 Click Rename. Classes-1 Contal 🚮 Open Orders 🔛 Design View Import . Table1 Export Þ 🗐 Rena<u>m</u>e Hide in this Group Delete 🗶 Cut De Copy B Paste 👼 Linked Table Manager Convert to Local Table 📰 Table Properties The table name appears in All Access Obje... 🖻 « Edit mode. Search... Q Edit the name as needed. Tables \$ Courses You can use the Backspace Contacts and **Delete** keys to delete Orders one character to the left or 🛄 Table1 right of the insertion point, respectively. 4 Press Enter or click away from the table name to accept the new name. The new name appears on the table.

Delete a Table

Tables normally store important or useful information, so the person responsible for the database takes steps to keep that data safe. For example, you learn how to back up a database in Chapter 16, "Maintaining a Database." However, some tables become expendable over time because the data is now out-of-date, inaccurate, or redundant. In such cases, you can delete any table from your database — even tables that contain records.

Be careful not to delete anything that you need to keep because it is not possible to undo a table deletion.

Delete a Table

- In the Navigation pane, right-click the table name.
- 2 Click Delete.



Access asks you to confirm the deletion.

3 Click Yes.

Access deletes the table.



Copy a Table

One of the secrets of Access productivity is to not reinvent the wheel when it comes to your tables. For example, you might have a Contacts table that has fields to store first names, last names, addresses, and so on. If you then decide to create a Customers table, it will likely have many of the same fields. Rather than create the new table from scratch, you can save time by making a copy of the existing table. After creating the copy, you can make any minor changes needed to differentiate it from the original.

Copy a Table

- In the Navigation pane, right-click the original table.
- 2 Click Copy.

- 3 Right-click an empty area of the Navigation pane.
- 4 Click Paste.

The Paste Table As dialog box opens.

- **5** Type a name for the copy**.**
- 6 Choose how you want the original data pasted:
- ▲ If you want to include only the fields from the original table, click Structure Only (○ changes to ●).
- If you want to include the fields and the records from the original table, click Structure and Data (O changes to).
- 7) Click OK.

Access creates the new table based on the paste options that you selected.



CHAPTER 3

Entering and Editing Data

Entering text, numbers, dates, and other information into a database is one of the most common activities that you will perform when using Access. This chapter explains how to enter data into existing database tables and how to edit, sort, and view the data that you have entered.

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Enter New Records
Navigate between Records
Edit Records
Attach Files to a Record
Open, Save, and Remove File Attachments 50
Insert an OLE Object
Open, Edit, and Remove OLE Objects
Enter Data in a Multivalued Field
Select Records
Delete Records
Sort Records
Resize Datasheet Columns and Rows 60
Print a Datasheet or Form

Enter New Records

To populate a table within your database, you add a new record to the table, fill that record's fields with data, and then repeat as needed.

You can enter records into a table either by using a datasheet or a form. A *datasheet* — which offers a row-and-column grid format with the records as the rows and the fields as the columns — enables you to see records that have already been entered. A *form* — which is a window that shows only the fields for a single record — enables you to concentrate on one record at a time.

Enter New Records

Enter a Record into a Datasheet

1 In the Navigation pane, double-click the table.

The table opens in the Datasheet view.

2 If there is already data in the table, click the New Record button ().

> The insertion point moves to the first field in the new row.

3 If the first field contains (New), press Tab to move past it.

Note: A field that contains (New) is an AutoNumber field, which means that Access will fill it in automatically.

- 4 Type an entry in the selected field.
- 5 Press 📧 to move to the next field.
- Some fields have special selectors that you can use to make an entry, such as a calendar.
- 6 Repeat steps 4 and 5 until all fields have been filled in for that record.

Note: The next row in the datasheet becomes active when you press at the last (rightmost) field in a row.

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Entering and Editing Data



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- 4 Type an entry in the selected field.
- 5 Press Tab to move to the next field.
- 6 Repeat steps 4 and 5 until all fields have been filled in for that record.

The form clears, and a new record begins when you press Tab at the last field on the form.

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TIPS

Can I skip certain fields?

Yes. Just press **Tab** to move past a field without entering anything in it. If the field is set up to require an entry, however, Access does not let you continue past it without typing something. In Chapter 4, "Working with Fields," you learn how to specify whether a field is required.

Do I have to complete the fields in the given order?

No. You can click to move the insertion point to any field. You may want to do that to skip several fields. You can also start a new record early, without moving through all the fields, by clicking **ESS**. In a datasheet, you can also press **C** to move down to the next row to start a new record.

Navigate between Records

A fter you have entered two or more records into a table, you need to know how to navigate between the records. For example, you may want to revisit a record to make changes to the data, to add data to any fields you skipped previously, or to review the data that you have entered.

Note that although this section points out the table navigation controls using a datasheet, the same controls also appear when you add and enter data using a form.

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Chop-suey Chinese

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Consolidated Holdings

Comércio Mineiro

Bólido Comidas preparadas

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Centro comercial Moctezuma

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Antonio Moreno Taquería

Contact Name

Maria Anders

Antonio Moreno

Christina Berglund

Erédérique Citeaux

Martín Sommer

Laurence Lebihan

Elizabeth Lincoln

Victoria Ashworth

Patricio Simpson

Francisco Chang

Yang Wang

Pedro Afonso

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Ann Devon

Elizabeth Brown

Janine Labrune

Thomas Hardy

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Click the First Record button (14) to jump to the first record.

Click the Previous Record button (1) to go to the previous record or press once.

C Type a record number here to jump to that record.

Click the Next Record button () to go to the next record or press once.

Click the Last Record button () to jump to the last record.

Click the New Record button () to start a new record.

Contact Title

Sales Representative

Sales Representative

Order Administrator

Sales Representative

Marketing Manager

Accounting Manage

Sales Representative

Marketing Manager

Sales Representative

Order Administrator

Sales Associate

Owner

Owner

Owner

Owner

Owner

Owner

Sales Agent

Sales Agent

Address

G

Avda, de la Constitución 2222

Obere Str. 57

Mataderos 2312

120 Hanover Sq.

Berguvsvägen 8

24, place Kléber

C/Araquil. 67

12, rue des Bouchers

23 Tsawassen Blvd.

Av. dos Lusíadas, 23

Berkeley Garde Valserweg 21

35 King George

Sierras de Granada 9993

7. rue des Cinquante Otages

Fauntleroy Circus

Cerrito 333

Hauptstr. 29

Forsterstr. 57

G Use the scroll bars to see other fields or records.

Edit Records

A fter you add a record to a database, the information you entered is not set in stone. For example, A if you missed entering a field because you lacked the data, you can edit the record to add data to that field. Similarly, if you made an error when entering the original data, you can edit the record to correct the error.

You can edit database records from either a datasheet or a form. After redisplaying the record that you want, you can move the insertion point to the field to be edited and make a change or delete the field entry entirely.

Edit Records



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Attach Files to a Record

I you have content that is related to a particular record but exists as a file from another program, you do not need to enter that content directly into your table. Instead, you can associate — that is, *attach* — the file to the record.

In Access, you use a special type of field called an *attachment field* to attach files from other programs to individual records. For example, you may store an employee's résumé with his or her personnel record. A single record can have multiple attached files.

Attach Files to a Record

- Navigate to the record to which you want to attach a file.
- 2 Double-click an attachment field.

Note: Attachments can be placed only in attachment fields. To learn how to set a field's type to Attachment, see Chapter 4.

A In a datasheet, an attachment field is indicated by a paper clip (@(0)). The number in parentheses is the current number of attachments that the field holds.

The Attachments dialog box opens.



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	÷	3355	EmpID3.bmp		Janet has a BS degree in chemistry from Bostor	Fuller, Andrew		1)	
	÷	5176	EmpID4.bmp		Margaret holds a BA in English literature from	Fuller, Andrew		A.)	
	÷	3453	EmpID5.bmp		Steven Buchanan graduated from St. Andrews	Fuller, Andrew		0(0)	
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	٠	465	EmpID7.bmp		Robert King served in the Peace Corps and trav	Buchanan, Steven		Ū(0)	
	÷	2344	EmpID8.bmp		Laura received a BA in psychology from the Un	Fuller, Andrew		U(0)	
	÷	452	EmpID9.bmp		Anne has a BA degree in English from St. Lawre	Buchanan, Steven		0(0)	
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*								0(0)	
Re	cor	d: I4 → 1 of	10 🕨 🖬 🛤 📡	No	Filter Search				2



2

CHAPTER

Entering and Editing Data

The Choose File dialog box opens.

4 Navigate to the folder or drive where the file is stored.

Note: Windows 8 is shown here, and Windows 7 and Vista look very similar. If you have Windows XP, the dialog box uses Windows XP-style navigation controls instead.

5 Click the name of the file that you want to attach.

6 Click Open.

B The file is added to the list of files in the Attachments dialog box.

C You can repeat steps 3 to 6 to attach more files if necessary.

7) Click OK.

The file is attached to the record, and a (1) appears on the attachment icon.

TIP

Can I attach files using a form instead of a datasheet?

Yes. In the form, navigate to the record to which you want to add an attachment, click the attachment field, and then click the Manage Attachments icon (A)

to open the Attachments dialog box. You can also double-click the attachment field. Then follow steps 4 to 7 in this section to attach a file to the record.







Open, Save, and Remove File Attachments

The purpose of attaching a file to a record is to avoid having to enter all the data contained in the attachment. However, you will still need to work with that information, so after you have attached a file to a record, you can open that file and review and work with its contents at any time.

Access also gives you several other tools for working with attached files. For example, you can save an attached file as a separate file outside of Access, which is useful if you no longer have the original file. You can also remove an attached file from a record.

Open, Save, and Remove File Attachments

Open an Attached File in Its Native Program

 Double-click the attachment field that contains the attachment.

The Attachments dialog box opens.

Double-click the attachment.

The attachment opens in its native program.

Alternatively, you can click the attachment and then click **Open**.

Save an Attachment Outside Access

 Double-click the attachment field that contains the attachment.

The Attachments dialog box opens.

2 Click the attachment.

3 Click Save As.



Entering and Editing Data

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Are there any disadvantages to using attachments?

Yes. An attachment is embedded in the Access database, so each one increases the size of the Access file. Access compresses attachment files when possible, but they still greatly add to the file size.

What are my options if I do not want to use attachments?

4

Instead of attaching related documents, you can hyperlink to them. Set up a field's type as Hyperlink (see Chapter 4) and then create a link to the original file rather than embed the whole file into the database. The main disadvantage of this method is that if the original file is moved, you must update the link in Access. In addition, if you send the Access database to someone else, you must also make sure that you send the hyperlinked files.

Insert an OLE Object

You can use the object linking and embedding (OLE) field type to store data files of various types. An OLE field has one advantage over an attachment field: It can maintain a dynamic link to the original file so that the version in Access updates automatically whenever the original file changes.

To insert an object into a database field, you must set up the field to use the OLE Object data type; you learn how to do this in Chapter 4.

Insert an OLE Object

- 1 Right-click the field that has the OLE data type.
- 2 Click Insert Object.

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A dialog box opens.

- Click Create from File
 (O changes to).
- 4 Click Browse.

	Microsoft Access	? ×
Create New Create from File	File: C:\Users\Paul\Documents\ Browse	OK Cancel Display as Icon
Result Ins obj may whi	erts the contents of the file as an ect into your document so that you / activate it using the application ch created it.	

Entering and Editing Data

The Browse dialog box opens.

- 5 Navigate to the folder or drive containing the file that you want to embed.
- Click the file.
- Click OK.

The Browse dialog box closes.

If you want to create a link, click **Link** (changes to 🗹).

Note: If you create a link, the copy in Access is updated when the original updates; otherwise, no link is maintained between the copies.

		-
8)	Click	0
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)K.

The field shows the type of file that you chose.





TIPS

What does the Create New option do?

Create New lets you create a new embedded object by using virtually any program on your computer. After you click **Create New** (\bigcirc changes to \bigcirc), a list of object types appears. Click the type that you want and then click **OK**.

Why would I want to use the Display As Icon option?

That option is primarily for use in other programs, not Access. In Access, in the Datasheet view, the OLE content appears with the text name of the file type, regardless of whether this check box is selected.

Open, Edit, and Remove OLE Objects

A fter inserting a file into an OLE field, you can open it for viewing or editing. If you inserted the original file as a linked object, the original file opens; otherwise, Access opens the copy that is embedded in the database. You can then view and edit the file.

If you no longer require the embedded OLE object, you can also remove the object from the OLE field. This deletes the embedded copy in Access but does not delete the original file.

Open, Edit, and Remove OLE Objects

Open and Edit a File in an OLE Field

- 1 Double-click the field containing the OLE object.
- The object opens in the application that is associated with its type.
- 2 Make any changes needed to the file.
- 3 Click the Save button ().
- 4 Click the Close button in the OLE object's application window to close it.

The object closes.

Remove an OLE Object from a Field

- 1 Click the field containing the object.
- 2 Click the Home tab.
- 3 Click Delete.

You can also press the Delete key on the keyboard.

Access removes the OLE object from the record.



Enter Data in a Multivalued Field

CHAPTER

Although most table fields require just a single value, there may be situations in which a field requires Atwo or more values. For example, a company might accept multiple payment types, such as cash, check, and credit cards. In such cases, you can store multiple values in a single field. Instead of typing in the field, you open a list and then click a check box next to each value that you want to include.

To enter multiple values, the field must be set up with the Lookup Wizard to accept multiple values; you learn how to do this in Chapter 5, "Working with Relationships."

Enter Data in a Multivalued Field

- 1 Click in the field that supports multiple values.
- Click the that appears in the field.

Access displays a list of check boxes for each possible value.

- 3 Click the check box next to each value that you want to select (□ changes to ☑).
- 4 Click OK.

Access displays the selected items in the field.

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+	3	Federal Shipping	(503) 555-9931				
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Select Records

When you are working with a table, you will come across situations in which you will need to work with an entire record. For example, you might need to copy a record's data, so before that you must select the record. Similarly, if you need to delete a record (see the section "Delete Records" on the facing page), Access requires that you select the entire record in advance.

Whatever the situation, Access offers techniques that enable you to select a single record or to select multiple adjacent records.

Select Records

Select a Single Record

- Move ▷ over the record selector box of the record that you want to select.
 - \triangleright changes to \blacksquare .
- **2** Click the record selector box.
- Access selects the entire record.

Select Multiple Records

- Move ▷ over the record selector box of the first record that you want to select.
 - \triangleright changes to \blacksquare .
- 2 Drag over the record selector box of each record that you want to select.
- B As you drag, Access selects each record.

Note: You can also select the first record, hold the **Shift** key, and then click the record selector box of the last record that you want to include in the selection.

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	÷	1 Chai	Exotic Liquids	Beverages	10 boxes x 20 bags
	+	2 Chang	Exotic Liquids	Beverages	24 - 12 oz bottles
		3 Aniseed Syrup	Exotic Liquids	Condiments	12 - 550 ml bottles
	×	4 Chef Anton's Cajun Seasoning	New Orleans Cajun Delights	Condiments	48 - 6 oz jars
ğ	Ŧ	5 Chef Anton's Gumbo Mix	New Orleans Cajun Delights	Condiments	36 boxes
Par	÷	6 Grandma's Boysenberry Spread	Grandma Kelly's Homestead	Condiments	12 - 8 oz jars
5		7 Uncle Bob's Organic Dried Pears	Grandma Kelly's Homestead	Produce	12 - 1 lb pk 🕵 🗛
gati		8 Northwoods Cranberry Sauce	Grandma Kelly's Homestead	Condiments	12 - 12 oz jars
iž.		9 Mishi Kobe Niku	Tokyo Traders	Meat/Poultry	18 - 500 g pkgs.
ž		10 Ikura	Tokyo Traders	Seafood	12 - 200 ml jars
	Ŧ	11 Queso Cabrales	Cooperativa de Quesos 'Las Cabras'	Dairy Products	1 kg pkg.
	÷	12 Queso Manchego La Pastora	Cooperativa de Quesos 'Las Cabras'	Dairy Products	10 - 500 g pkgs.
	Ŧ	13 Konbu	Mayumi's	Seafood	2 kg box
	÷	14 Tofu	Mayumi's	Produce	40 - 100 g pkgs.
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Delete Records



A table is only as useful as it is accurate and up to date. You can ensure both the correctness A and the timeliness of your data by being vigilant about editing your records and by adding new records as needed, but also by removing records that are no longer useful or relevant. In an Access database, you rid a table of unneeded records by deleting them.

You can delete records either individually or in groups. Either way, it is important to note that deleted records are gone permanently; there is no retrieving them, so delete with care.

Delete Records

1 Select the record or records that you want to delete.

Note: See the section "Select Records" to learn how to select one or more records.

2 Click the **Home** tab.

3 Click 🗙.

You can also press **Delete** on the keyboard.

Access displays a dialog box asking you to confirm the deletion.

4 Click Yes.

Access deletes the record or records.

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Sort Records

You can make a table easier to navigate and records within that table easier to find by sorting the data based on the values in a particular field. If that field contains many duplicate items, you can specify additional sort fields.

You can sort the data in either ascending or descending order. An ascending sort arranges the values alphabetically from A to Z, or numerically from 0 to 9; a descending sort arranges the values alphabetically from Z to A, or numerically from 9 to 0.

Sort Records

By a Single Field Using the Ribbon Method

- Click anywhere in the field by which you want to sort.
- Click the Home tab.
- 3 Click **Ascending** ([≜]↓) to sort in ascending order.
- Alternatively, you can sort in descending order by clicking Descending (¾).

Access sorts the table records.

By a Single Field Using the Right-Click Method

- Right-click anywhere in the field by which you want to sort.
- 2 Click Sort A to Z to sort in ascending order.
- B Alternatively, you can sort in descending order by clicking Sort Z to A.

Access sorts the table records.

Note: Depending on the field type, the sort options may be different. For example, for a Date/Time field, the commands are Sort Oldest to Newest and Sort Newest to Oldest.

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Entering and Editing Data



- By Multiple Fields

 Click the Home tab.
 - 2 Click Advanced (🔚).
 - 3 Click Advanced Filter/Sort.

A query grid appears.

- 4 Double-click the field that you want to use for the sort.
- C Access adds the field to the grid.
- 5 Click the field's Sort and then click Ascending or Descending.
- 6 Repeat steps 4 and 5 to add more fields, in the order by which you want to apply them.



Access sorts the table by the fields that you specified.

TIPS

How do I sort records in a form?

All the same techniques for sorting a datasheet also work in a form, even though most forms show only one record at a time. The sort affects the order in which records appear when you move among them by using the Next Record and Previous Record buttons. The record number for each record stays the same.



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How do I remove a sort?

If the sort was the most recent action that you performed on the table, click the Undo button () or press **Ctrl** + **Z** to undo it. If you have performed other actions since the sort, it is not possible to remove the sort without also losing this work. If you have not saved the table since the sort and you do not mind losing any work you have performed since the sort, close the table without saving your changes.

Resize Datasheet Columns and Rows

When you create a table, Access provides each field with a standard width. This often means that when you display the table in the Datasheet view, some of the fields might have names or data that appear truncated because the columns are not wide enough to display the data. In such cases, you can adjust the widths of the columns in the datasheet to better display the data.

Similarly, if a particular record contains data that does not fit within the displayed fields, you can adjust the row height to create more space to display the data.

Resize Datasheet Columns and Rows

Change a Column's Width

- Position
 in the heading area, to the right of the column that you want to adjust.
- 2 Drag to the left or right to adjust the width of the column.
- A vertical line appears, showing what the new width will be.
- 3 Release the mouse button when the column is at the width that you want.

Change the Height for All Rows

 Position ▷ to the left of the records — on the divider between any two rows.

Note: All rows will be changed equally; you cannot adjust one row separately from the others.

- 2 Drag up or down to adjust the row height.
- A horizontal line appears, showing what the new height will be.
- 3 Release the mouse button when the row is at the height that you want.

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	+	1	Beverages	Soft drinks, coffees, teas, beers, and ales	Bitmap Image	
	+	2	Condimer 1	Sweet and savory sauces, relishes, spreads	Bitmap Image	
	+	3	Confections	Desserts, candies, and sweet breads	Bitmap Image	
	+	4	Dairy Product	Cheeses	Bitmap Image	
	+	5	Grains/Cereal	Breads, 🔥 kers, pasta, and cereal	Bitmap Image	
	+	6	Meat/Poultry	Preparecilieats	Bitmap Image	
	+	7	Produce	Dried fruit and bean curd	Bitmap Image	
	+	8	Seafood	Seaweed and fish	Bitmap Image	
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Print a Datasheet or Form



When you need a hard copy of a datasheet or form, either for your files or to distribute to someone else, you can send the data to your printer. This section assumes that you have a printer connected to your computer and that the printer is turned on. Also, before printing, you should check that your printer has enough paper to complete the print job.

Printed datasheets and forms are not formatted for printing. They are useful for examining data, but you will probably want to create reports for more attractive printouts to distribute to others.

Print a Datasheet or Form

 To print only certain records, select them.

Note: See the section "Select Records" to learn how to select one or more records.

2 Press Ctrl + P.

The Print dialog box opens.

- You can click here to select a different printer.
- You can click here to enter a page range to print only certain pages (Composed changes to Omega).
- You can click here to print only the selected record(s) (changes to).
- You can type a number here to print multiple copies.

3 Click OK.

Access prints the datasheet or form.

	Products					×
	Product I 👻	Product Name 👻	Supplier 👻	Category 🚽	Quantity Per Unit	
	8 39	Chartreuse verte	Aux joyeux ecclésiastiques	Beverages	750 cc per bottle	
B	8 2	Chang	Exotic Liquids	Beverages	24 - 12 oz bottles	
8	24	Guaraná Fantástica	Refrescos Americanas LTDA	Beverages	12 - 355 ml cans	
I	8 34	Sasquatch Ale	Bigfoot Breweries	Beverages	24 - 12 oz bottles	
1	35	Steeleye Stout	Bigfoot Breweries	Beverages	24 - 12 oz bottles	
	1	Chai	Exotic Liquids	Beverages	10 boxes x 20 bags	
B	8 38	Côte de Blaye	Aux joyeux ecclésiastiques	Beverages	12 - 75 cl bottles	
E	8 43	Ipoh Coffee	Leka Trading	Beverages	16 - 500 g tins	
	67	Laughing Lumberjack Lager	Bigfoot Breweries	Beverages	24 - 12 oz bottles	
	8 76	Lakkalikööri	Karkki Oy	Beverages	500 ml	
	8 70	Outback Lager	Pavlova, Ltd.	Beverages	24 - 355 ml bottles	
	5 75	Rhönbräu Klosterbier	Plutzer Lebensmittelgroßmärkte AG	Beverages	24 - 0.5 l bottles	
B	5	Chef Anton's Gumbo Mix	New Orleans Cajun Delights	Condiments	36 boxes	-
	E 44	Gula Malacca	Leka Trading	Condiments	20 - 2 kg bags	Ŧ
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CHAPTER 4

Working with Fields

Each table consists of one or more fields. In this chapter, you learn about field properties and how to set properties such as the field size, caption, format, and default value. You also learn how to create input masks and validation rules to help reduce data-entry errors.

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	CustomerID		Short Text		ID of c	ustomer wh	o placed the	order.	Selection type: Table	Properties	
	EmployeeID		Number		ID of e	mployee wh	no took the o	rder.	General		
	OrderDate		Date/Time		The da	ate the order	was placed.		Subdatasheet Expand	led No	
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Understanding Field Properties
Understanding Field Sizes
Change a Field Size
Set a Field Caption
Set a Field's Format
Set a Default Value
Make a Field Required
Index a Field
Align Data within a Field
Create an Input Mask
Create a Validation Rule
Create a Record-Level Validation Rule

Understanding Field Properties

When you create a table, you define each field with data such as the field name, data type, and an optional description. These are examples of the field's *properties*, which are a collection of data that defines the field and controls how it works. Each field has several other properties, including its size, the caption that appears as the field's datasheet heading, and the format that the field uses to display its data. Other properties define rules for making entries, such as specifying whether an entry is required or restricting an entry to certain values.

A Properties pane

When a field is selected in the Design view, its properties appear in the lower pane.

B General tab

The General tab contains most of the properties that you will work with.

G Lookup tab

The Lookup tab is primarily for setting up lookup lists.

D Drop-down lists

Some properties have drop-down lists from which you can make a selection; click v to open the list. Other fields have builder buttons (....), which open a dialog box that guides you through the process of building an entry.

	Orders				×
	Field Nam	ie	Data Type	Description (Optional)	
P	OrderID		AutoNumber	Unique order number.	
	CustomerID		Short Text	ID of customer who placed the order.	
	EmployeeID		Number	ID of employee who took the order.	
	OrderDate		Date/Time	The date the order was placed.	
	RequiredDate		Date/Time	The date the customer requires the order.	
	ShippedDate		Date/Time	The date the order was shipped.	
	Shin\/ia		Number	The ID of the shipping company.	
	Freight		Currency	The shipping cost	
	Notes		Long Text	Notes about the order	
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N	/alidation Text			defined format or enter a custom format. Press	
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A	Allow Zero Length	Yes			
1	ndexed	Yes (Duplica	tes OK)		
l	Jnicode Compression	Yes			
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Property information

When the insertion point is in a property's box, information about that property appears here.

() Yes/No properties

Some properties represent yes/no questions; these are typically already filled in with default values.

Understanding Field Sizes

Each field has a size that limits the amount of data you can store in it. There are different ways of expressing the field size depending on the type of field.

The following table lists the specifications for the data types for which Field Size is a configurable setting. Many field types do not allow you to set a field size. For a numeric field, the advantage of choosing a field size that takes up fewer bytes is that it results in a smaller database file. The file size difference becomes more apparent the more records the table contains.

Field Type	Default Size	Notes
Text	255 characters	You can specify any number of characters from 0 to 255. Each character occupies 1 byte of disk space.
Number	Long Integer	The choice of number format determines the number of bytes used to store it:
		Byte: Integers from 0 to 255 (1 byte).
		Integer: Integers from -32,767 to +32,767 (2 bytes).
		Long Integer: Integers from -2,147,483,648 to +2,147,483,647 (4 bytes).
		Single: Integers from -3.4×10^{38} to $+3.4 \times 10^{38}$ and up to 7 significant digits (4 bytes).
		Double: Floating-point numbers from -1.797×10^{308} to $+1.797 \times 10^{308}$ and up to 15 significant digits (8 bytes).
		Replication ID: A globally unique identifier (GUID), such as a randomly generated ID number (16 bytes).
		Decimal: Integers with a defined decimal precision with values between -10^{28} and $+10^{28}$. The default precision is zero, and the default number of decimal places displayed is 18.
AutoNumber	Long Integer	The same as Number, except there are only two choices: Long Integer or Replication ID.

Change a Field Size

If you are working with a field that offers a configurable field size, it is best to set the field's size to as small a value as possible, while still being large enough to accommodate all possible entries. This is the most efficient course because it keeps the database file size to a minimum.

If your table will contain just a few entries, its field sizes will not make that much difference. However, the difference in file size becomes more pronounced as more records are stored in the table.

Change a Field Size

For the Text Data Type

 In the Design view, click in the field that you want to change.

The properties for that field appear.

Click in the Field Size row on the General tab.

3 Type a new field size.

Note: The field size for a text field is expressed as a number of characters.

Access changes the field size.

For the Number Data Type

1 In the Design view, click in the field that you want to change.

The properties for that field appear.

- **2** Click in the **Field Size** row.
- 3 Click the **Field Size** *→* and then click the field size that you want.

Note: For a numeric field, size is expressed as a number type. See the section "Understanding Field Properties" for details.

Access changes the field size.

Orders				
Field N:	ame	Data Type	Des	cription (Optional)
OrderID		AutoNumber	Unique order number.	
CustomerID		1 d	ID of customer who placed	the order.
EmployeeID		Number	ID of employee who took th	ne order.
OrderDate		Date/Time	The date the order was place	æd.
RequiredDate		Date/Time	The date the customer requ	iires the order.
ShippedDate		Date/Time	The date the order was ship	oped.
Ship∨ia		Number	The ID of the shipping com	bany.
Freight		Currency	The shipping cost.	
Notes		Long Text	Notes about the order.	
			Field Properties	
eneral Lookun				
Field Size	10	2	- 2	1
ormat	10			-
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Set a Field Caption

A field's *caption* is the text that appears as the field's heading in the Datasheet view, and the default caption is the field name. For example, if you name a field OrderDate, the text "OrderDate" appears as the field's datasheet heading. You can specify captions for fields that are different from their actual names.

For example, if you have a field called LastName, you can set up its caption to appear as "Last Name" with a space between the words, which is easier to read. Captions appear not only in datasheet headings, but also on labels in forms and reports.

Set a Field Caption

 In the Design view, click in the field for which you want to set a caption.

The properties for that field appear.

2 Click here and type a caption.

Note: The caption can include spaces and symbols and can have up to 255 characters.

When you display the table's datasheet, the field's caption appears as its column heading.

Note: To check the caption in a datasheet, click the Save button () to save it and then switch to the Datasheet view.

Orders			
Field Na	ame Data Type	Descrip	tion (Optional)
OrderID	AutoNumber	Unique order number.	
CustomerID	Short Text	Same entry as in Customers ta	ble.
EmployeeID	Number	Same entry as in Employees ta	able.
OrderDate	1 Date/Time		
Description	Date/Time		
Requireubate	- Date/Time		
ShippedDate	Date/Time		
		riciarroperaco	
Seneral Lookup			
ormat	dd-mmm-yyyy		
nput Mask			
aption	Order Date < 2		
)efault Value			
/alidation Rule			
/alidation Text		Α	field name can be up to 64 characters long,
Required	No		including spaces. Press F1 for help on field
ndexed	Yes (Duplicates OK)		names.
ME Mode	No Control		
ME Sentence Mode	None		
	General		
Text Align	Paul datas		

er I • 10248 10249 10250 10251 10252 10253	Customer - Wilman Kala Tradição Hipermercados Hanari Carnes Victuailles en stock	Employee - Buchanan, Steven Suyama, Michael Peacock, Margaret	Order Date Oder Date	Required Dat - 01-Aug-2011	Shipped Dat - 16-Nov-2011	Ship V Federal Sh
L0248 L0249 L0250 L0251 L0252 L0253	Wilman Kala Tradição Hipermercados Hanari Carnes Victuailles en stock	Buchanan, Steven Suyama, Michael Peacock, Margaret	04-Nov-2011 05-Jul-2011	01-Aug-2011	16-Nov-2011	Federal Sh
10249 10250 10251 10252	Tradição Hipermercados Hanari Carnes Victuailles en stock	Suyama, Michael Peacock, Margaret	05-Jul-2011			
L0250 L0251 L0252 L0253	Hanari Carnes Victuailles en stock	Peacock, Margaret		16-Aug-2011	10-Jul-2011	Speedy E>
L0251 L0252 L0253	Victuailles en stock	r cases on an an Baree	08-Jul-2011	05-Aug-2011	12-Jul-2011	United Pa
10252		Leverling, Janet	08-Jul-2011	05-Aug-2011	15-Jul-2011	Speedy E>
10253	Suprêmes délices	Peacock, Margaret	09-Jul-2011	06-Aug-2011	11-Jul-2011	United Pa
	Hanari Carnes	Leverling, Janet	10-Jul-2011	24-Jul-2011	16-Jul-2011	United Pa
10254	Chop-suey Chinese	Buchanan, Steven	11-Jul-2011	08-Aug-2011	23-Jul-2011	United Pa
10255	Richter Supermarkt	Dodsworth, Anne	12-Jul-2011	09-Aug-2011	15-Jul-2011	Federal Sh
10256	Wellington Importadora	Leverling, Janet	15-Jul-2011	12-Aug-2011	17-Jul-2011	United Pa
10257	HILARIÓN-Abastos	Peacock, Margaret	16-Jul-2011	13-Aug-2011	22-Jul-2011	Federal Sh
10258	Ernst Handel	Davolio, Nancy	17-Jul-2011	14-Aug-2011	23-Jul-2011	Speedy E>
10259	Centro comercial Moctezuma	Peacock, Margaret	18-Jul-2011	15-Aug-2011	25-Jul-2011	Federal Sh
10260	Old World Delicatessen	Peacock, Margaret	19-Jul-2011	16-Aug-2011	29-Jul-2011	Speedy E>
LO261	Que Delícia	Peacock, Margaret	19-Jul-2011	16-Aug-2011	30-Jul-2011	United Pa
L0262	Rattlesnake Canyon Grocery	Callahan, Laura	22-Jul-2011	19-Aug-2011	25-Jul-2011	Federal Sh
10263	Ernst Handel	Dodsworth, Anne	23-Jul-2011	20-Aug-2011	31-Jul-2011	Federal Sh
10264	Folk och fä HB	Suyama, Michael	24-Jul-2011	21-Aug-2011	23-Aug-2011	Federal Sh
10265	Blondel père et fils	Fuller, Andrew	25-Jul-2011	22-Aug-2011	12-Aug-2011	Speedy E>
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Set a Field's Format

A field's format determines how Access displays the field's data. In a field that contains dates, for example, you could display the dates using the format 12/25/2013, 25-Dec-13, or Wednesday, December 25, 2013. You can change a field's format to update its appearance in datasheets, forms, and reports.

The field format is most significant for fields that store data numerically, such as Number, Currency, and Yes/No. For example, if you have a field that contains sales tax values, you might prefer to display those numbers as percentages, such as 5%, rather than decimal values, such as 0.05.

IME Sentence Mode

Show Date Picker

Text Align

None

Genera

For dates

Set a Field's Format

1 In the Design view, click in the field that you want to change.

The properties for that field appear.

- 2 Click the Format and then click the format that you want to apply to the field.
- For a Number or AutoNumber field, the choices represent different number types, such as General, Currency, and Percent.
- B For Date/Time data types, the choices appear as date/ time formats.

Field Name CustomerID EmployeeID OrderDate RequiredDate ShippedDate ShippedDate ShipPdDate OrderSubtotal Freight OrderTotal eneral Lookup eld Size Integer ormat edis Stender General Lookup eld Size Curreny sption Euro efault Value Fixed alidation Rule Percent alidation Text Percent	Uata type Short Text Number Date/Time Date/Time Date/Time Date/Time Currency Currency Calculated All Number 3456.789 vg \$3,456.79 •	De D of customer who placer ID of employee who took: The date the order was pli The date the order was sh. The lo of the shipping com The cost of the items befo The shipping cost. The total cost of the order Field Properties	scription (Uptional) d the order. aced. quires the order. ipped. ipped. ipany. ire shipping. (items plus shipping) The display layout for the field. Select a pre fi for help on format. Pre fi for help on format.
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Field Name	Data Type	De	d the order
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orking with Fields

CHAPTER

• For Yes/No fields, the choices appear as ways of expressing yes or no.

For a Calculated field, all the choices from all the other field types are available because Access cannot automatically determine what type of data it

will hold.

Orders								×		
Field Name	2		Data Type			Descr	iption (Optional)			
mployeeID		Numbe	⊇r	1	ID of	employee who took the	order.			
rderDate		Date/T	ïme	-	The c	late the order was place	d.			
equiredDate		Date/T	ïme	-	The c	late the customer requir	es the order.			
hippedDate		Date/T	ïme	-	The c	ate the order was shipp	ed.			
hip∨ia		Numbe	≥r		The ID of the shipping company.					
rderSubtotal		Curren	Currency			The cost of the items before shipping.				
reight		Curren	urrency T			hinning cost				
rderTotal		Calcula	rrency I			otal cost of the order (its	ams plus shipping)			
lotor		Long Te	Tated			s about the order	enis plus shipping)			
nsurance Yes/			ext		73	s about the order.	d the order			
surance			J	~	~ je	ner the customer insure	u trie order	-		
eral Lookup mat tition ault Value idation Rule didation Text exed t Align	<mark>(es/No</mark> True/False Yes/No On/Off No General	Tru Yes On	e				The display layout for the field. Select a pre- defined format or enter a custom format. Press FI for help on formats.			
Orders						1		×		
FI	eld Name		Data Ti	me		De	scription (Optional)			
Employeel	בוס ויס ויס ר		Number	100		ID of employee who took t	the order.			
OrderDate			Date/Time			The date the order was pla	aced.			
RequiredDa	ate		Date/Time			The date the customer requires the order.				
ShippedDat	te		Date/Time			The date the order was sh	pped.	-		
Ship∨ia			Number			The ID of the shipping company.				
OrderSubto	otal		Currency		The cost of the items befor		re shipping.			
Freight			Currency		The shipping cost.					
OrderTotal			Calculated		~	The total cost of the order	(items plus shipping)			
Notes	-	General Dat	e 11/12/2015 5	5:34:23 F	РМ	,				
Insurance		Long Date Medium Dat	Thursday, No 12 Nov 15	ovember	r 12, 2	015	red the order			
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General Looku	p	Standard Percent Scientific								
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			No				×			
							*			
Text Align	0	Seneral								
Result Type Yes/No Format Caption Text Align General							The state of the s			

TIP

Why is the Format list blank for some fields?

Many of the Access data types have no preset formats, so the Format list for those fields is blank. Data types that show a blank Format list are Short Text, Long Text, and Hyperlink. Other data types have no data format at all, so those fields do not even display the Format list. Data types that do not display the Format list are OLE Object and Attachment.

Set a Default Value

You can speed up data entry for fields that usually contain the same value by making that value the default. For example, suppose that you have a table that includes a PaymentType field, which can take values such as Cash, Check, and Credit Card. If most of your clients pay by credit card, you can make Credit Card the default value in the PaymentType field.

When you have specified a default value for a field, each time you start a new record, Access automatically fills in the field with that value.

Set a Default Value

 In the Design view, click in the field for which you want to set a default value.

The properties for that field appear.

2 Click here and type a default value.

Note: When you move away from the text box, Access automatically adds quotation marks around what you typed if the field type is Text.

When you display the table's datasheet, the default value appears in new records.

Note: The default value does not automatically populate existing records.

ELEIG	Nomo	Dot- Tu			Description (Arti	(opol)		
rielui	Name	Data iy	pe		Description (Opt	ionai)		
mployeeID		Number	ID of	employee who to	ok the order.			
OrderDate		Date/Time	The	date the order was	placed.			
RequiredDate		Date/Time	The	date the customer	requires the orde	r.		
ShippedDate		Date/Time	The	date the order was	shipped.			
aymentType	<1	Short Text	The	type of payment u	sed: Cash, Check,	or Credit Card		
ShipVia		Number	The	ID of the shipping of	ompany.			
OrderSubtotal		Currency	The	rost of the items h	efore shinning			
Froight		Currency	The	chipping cost	crore surpping.			
neight Sud-statel		Calculated	The	shipping cost.		in min mà		
JrderTotal		Calculated	The	total cost of the on	aer (items plus sn	ipping)		
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Make a Field Required



Description (Optional)

Unique five-character code based on customer name.

Street or post-office box.

Field Properties

Tn many tables, one or more fields must be filled in for each record. For example, in a Customers Ltable, the CompanyName field should be filled in for each record. To ensure that a particular field is always filled in with data, you can configure the table to make the field required. When a field is required, Access does not enable users to skip it during data entry.

The primary key field is always required for each record in a database, but you can also make other fields required without changing the primary key setting.

Customers

CustomerID

CompanyName

ContactName

ContactTitle

Address

General Lookup Field Size

City

Field Nam

40

Make a Field Required

1 In the Design view, click in the field that you want to make required.

> The properties for that field appear.

2 Click the **Required** 🔽 and then click Yes.

ronnac	
Input Mask	
Caption	Company Name
Default Value	
Validation Rule	
Validation Text	Require data entry in this f
Required	Yes 2
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General
Text Align	Northwind - Microsoft Access

Data Type

Short Text

Short Text

Short Text

Short Text

Short Text

Short Text

When you enter a new record in the table, a warning appears if you do not enter a value in that field.

\Lambda Click **OK** to clear the error and then type a value in the required field.

×

Index a Field

When you perform searches on a database that contains many records, a delay can occur as Access searches. To minimize searching delays, you can set a field to be automatically *indexed*, which means that Access gathers extra data about the field that enables it to locate data in the field extremely fast. Searches based on that field will take place more quickly.

The two types of indexing are Yes (Duplicates OK) and Yes (No Duplicates). The latter has the side effect of forcing each record to have a unique value for that field, as with the primary key field.

Index a Field

 In the Design view, click in the field that you want to index.

The properties for that field appear.

2 Click the Indexed **→** and then click Yes (Duplicates OK).

This sets the field to be indexed without forcing entries in it to be unique.

You can choose Yes (No Duplicates) if you prefer that records have unique entries for that field.

If you chose **Yes (No Duplicates)** and you then try to enter an identical value for two records, an error message appears.

Click OK to clear the message and then correct the error.

Orders					×			
/ Field Nar	ne	Data Type	De	scription (Optional)				
Ship∨ia		Number	Same as Shipper ID in Ship	operstable.				
Freight	_	Currency						
ShinNamo	1	Short Text	Name of person or company to receive the chinmont					
Chip & dalage		Short Text	Character address and the second	any corrective the shipment.	_			
shipAddress		Short Text	street address only no p	post-office box allowed.				
snipcity		short lext						
ShipRegion		Short Text	State or province.		-			
General Lookup Field Size Format Input Mask Caption Default Value Validation Rule Validation Rule Validation Text Required Allow Zero Length Indexed Unicode Compression Unicode Compression IME Mode IME Sentence Mode Text Align	40 Ship Name No No Yes (Duplic No Yes (Duplic Yes (No Du General	ates OK ates OK plicates)	v	An index speeds up searches and sorting on the field, but may slow updates. Selecting 'Yes - No Duplicates' prohibits duplicate values in the field. Press F1 for help on indexed fields.				
The cha the ind remove	anges you lex, priman e the index	N requested to the table / key, or relationship. (, or redefine the index	ficrosoft Access were not successful because change the data in the field o to permit duplicate entries a	they would create duplicate values in or fields that contain duplicate data, nd try again.				
			OK <u>H</u> elp					

Align Data within a Field



You can make your tables easier to read by aligning text and numbers within a field. By default, Access uses the General alignment, which means that it aligns numbers with the right side of the field and text with the left side of the field. For any field, you can choose the Left or Right alignment, or you can choose Center, which aligns data with the center of the field.

Excel also offers a Distribute alignment, which adds space between each character so that the field data is aligned with both the left and right side of the field.

Align Data within a Field

 In the Design view, click in the field whose data you want to align.

The properties for that field appear.

2 Click the Text Align and then click the alignment that you want.

	Products			:	×
	Field Nam	e	Data Type	Description (Optional)	
8	ProductID		AutoNumber	Number automatically assigned to new product.	
	ProductName		Short Text		
	SupplierID		Number	Same entry as in Suppliers table.	
	CategoryID		Number	Same entry as in Categories table.	
	QuantityPerUnit		Short Text	(e.g., 24-count case, 1-liter bottle).	
	UnitPrice		Currency		
	UnitsInStock	1	Number		
	UnitsOnOrder		Number		
	ReorderLevel		Number	Minimum units to maintain in stock.	-
G F C C V V R II T	eneral Lookup eled Size ormat edmal Places aption efault Value alidation Text equired dexed ext Align	Integer General Nun Auto Units In Stor General Left Center Right Distribute Center	nber ck	Alignment of text in control	
T	ext Align 🏾 🌮	Center		~ 2	

A The next time that you display the datasheet, Access applies the selected alignment to the field.

	Pro	oducts					×	5
		Supplier 👻	Category 👻	Quantity Per Unit 👻	Unit Price 👻	Units In Stock 👻	Units Or	
	ΞE	xotic Liquids	Beverages	10 boxes x 20 bags	\$18.00	39		
	±Ε	xotic Liquids	Beverages	24 - 12 oz bottles	\$19.00	17		
	±Ε	xotic Liquids	Condiments	12 - 550 ml bottles	\$10.00	13		
	±Ν	lew Orleans Cajun Delights	Condiments	48 - 6 oz jars	\$22.00	53		
	±Ν	lew Orleans Cajun Delights	Condiments	36 boxes	\$21.35	0		
	± c	Grandma Kelly's Homestead	Condiments	12 - 8 oz jars	\$25.00	120		
	± c	Grandma Kelly's Homestead	Produce	12 - 1 lb pkgs.	\$30.00	15		
	± c	Grandma Kelly's Homestead	Condiments	12 - 12 oz jars	\$40.00	6		
	±Τ	okyo Traders	Meat/Poultry	18 - 500 g pkgs.	\$97.00	29		
	±Τ	okyo Traders	Seafood	12 - 200 ml jars	\$31.00	31		
	ΞC	Cooperativa de Quesos 'Las Cabras'	Dairy Products	1 kg pkg.	\$21.00	22		
	ΞC	Cooperativa de Quesos 'Las Cabras'	Dairy Products	10 - 500 g pkgs.	\$38.00	86		
	±Ν	/layumi's	Seafood	2 kg box	\$6.00	24		
	±Λ	/layumi's	Produce	40 - 100 g pkgs.	\$23.25	35		
	ΞΛ	/layumi's	Condiments	24 - 250 ml bottles	\$15.50	39		
	±Ρ	Pavlova, Ltd.	Confections	32 - 500 g boxes	\$17.45	29		
	±Ρ	Pavlova, Ltd.	Meat/Poultry	20 - 1 kg tins	\$39.00	0		
	±Ρ	Pavlova, Ltd.	Seafood	16 kg pkg.	\$62.50	42		
	±S	ipecialty Biscuits, Ltd.		10 boxes x 12 pieces	\$9.20	25		
	±S	ipecialty Biscuits, Ltd.	Confections	30 gift boxes	\$81.00	40		
	÷ς	inecialty Biscuits. Ltd.	Confections	24 nkgs. x 4 nieces	\$10.00	3		<i>r</i>
Ke	cord:	: M 🖣 1 of // 🔰 M 🍋 🍢 No Filter 🛛 Sear	ich 📕			-	•	i l

Create an Input Mask

A major database problem is data entered inconsistently, such as phone numbers entered as (123)555-6783 and 123-555-6783. You can help prevent such inconsistencies by applying an input mask to the field. An *input mask* is a kind of template that shows users how to enter the data and prevents them from entering incorrect characters, such as a letter where a number is required.

For example, here is an input mask for a phone number: (____)___-. Each underscore (_) acts as a placeholder for (in this case) a digit, and the parentheses and dash appear automatically as the user enters the number.

Create an Input Mask Customers × 1 Click in the field for which you Field Name Data Type Description (Optional) want to create an input mask. ContactTitle Short Text Address Short Text Street or post-office box City Short Text The properties for that field Region Short Text State or province Postal Code Short Text appear. Country Short Text Phone 🚽 Phone number includes country code or area code. Short Text Click in the Input Mask row. Fax Short Text Phone number includes country code or area code. Field Properties Click the Build icon (....). General Lookup Field Size Format Input Mask 2 Caption Default Value Validation Rule A pattern for all data to be entered in this field Validation Text Required No Allow Zero Length Indexed No No Unicode Compression Yes IME Mode No Control IME Sentence Mode None Text Align Genera The Input Mask Wizard opens. Input Mask Wizard

- 4 Click the type of input mask that you want.
- To try the mask, you can click in the **Try It** box and then type a sample entry.
- 5 Click **Next** to customize the mask.
- If you do not want to customize the mask, click Finish.

Which input mask matches how you want data to look? To see how a selected mask works, use the Try It box. To change the In A ask list, click the Edit List button Input Mask: Data Look: Phone Number (206) 555-1212 Social Security Number 831-86-7180 Zip Code 98052-6399 Extension 63215 Password 1:12:00 PM Long Time Try It: А 5 Edit List Cancel Next > Finish



6 Modify the input mask's code if you want to.

- Click the Placeholder character v to select a different placeholder character if necessary.
- G To try the mask, you can click in the **Try It** box and then type a sample entry.
- 8 Click Next.

With the symbols in the mask: The extra symbols (such as the parentheses and dash in a phone number mask) are stored along with the data.

Without the symbols in the mask: The extra symbols are not stored with the data.

10 Click Finish.

The input mask code appears in the Input Mask row in the field's properties.

TIP

What do the input mask characters mean?

Input masks use characters to represent the types of data that they will accept. The following table shows the most commonly used characters. For more characters, look up "Input Mask Character Reference" in Access Help.

Character	Use	Character	Use
0	Single digit, required	А	Single letter or number, required
9	Single digit, optional	а	Single letter or number, optional
#	A digit, space, plus sign, or minus sign	&	Any character or a space, required
L	Single letter, required	С	Any character or a space, optional
?	Single letter, optional		

	input mast mizard	
Do you want to chan	ge the input mask?	
Input Mask Name:	Phone Number	
Input Mask:	!(999) 000-0000 🧹 6	
What placeholder cha	aracter do you want the field to display?	
Placeholders are repl	laced as you enter data into the field.	
Placeholder characte		
Try It: ()	: < () 8	
C	ancel < <u>B</u> ack <u>N</u> ext > E	inish
C	ancel < <u>B</u> ack <u>N</u> ext > E	inish
	ancel < gack Next > E	inish
C How do you want to	ancel < gack Next > E Input Mask Wizard store the data?	inish
C How do you want to With the symbols	ancel < Back Next > E Input Mask Wizard store the data? in the mask, like this:	inish
C How do you want to With the symbols (264) 316-8517	ancel < Back Next > E Input Mask Wizard store the data? in the mask, like this:	inish
How do you want to With the symbols (264) 316-8517 Without the symb	ancel < Back Next > E Input Mask Wizard store the data? in the mask, like this:	inish
How do you want to With the symbols (264) 316-8517 Without the symt 4442315281	ancel < Back Next > E Input Mask Wizard store the data? in the mask, like this:	inish
How do you want to With the symbols (264) 316-8517 Without the symt 4442315281	ancel < Back Next > E Input Mask Wizard store the data? in the mask, like this: ools in the mask, like this:	inish
How do you want to With the symbols (264) 316-8517 Without the symt 4442315281	ancel < Back Next > E Input Mask Wizard store the data? in the mask, like this: ools in the mask, like this:	inish
C How do you want to With the symbols (264) 316-8517 Without the symb 4442315281	ancel < Back Next > E Input Mask Wizard store the data? in the mask, like this: ools in the mask, like this:	inish
C How do you want to With the symbols (264) 316-8517 Without the symb 4442315281	ancel < Back Next > E	inish
How do you want to With the symbols (264) 316-8517 Without the symb 4442315281	ancel < Back Next > E	inish

< <u>B</u>ack

Next >

Einish

Cancel

Create a Validation Rule

A lthough an input mask helps a user enter data into a field using the proper number and type of characters, it cannot restrict the field to certain entries based on logic. A better solution for preventing data-entry errors is the data validation feature. With data validation, you create *validation rules* that specify exactly what kind of data can be entered in a field and in what range that data can fall. You can also specify an error message that appears when a user enters data that does not satisfy a validation rule.

Create a Validation Rule

Create the Rule

 In the Design view, click in the field for which you want to create a validation rule.

The properties for that field appear.

2 Click in the Validation Rule row.

3 Click 🗔.

The Expression Builder dialog box opens.

 Enter the expression that represents the criteria you want to specify.

5 Click OK.

Note: You could have simply typed the validation rule into the row and skipped steps **3** to **5**, but the Expression Builder's tools can be useful for complex expressions.





orking with Fields

CHAPTER 4

- A The validation rule appears in the Validation Rule row.
- 6 Type the text for the error message in the Validation Text row.

	Order Details			×		
	Field Name	Data Type	Description (Optional)			
P	OrderID	Number	Same as Order ID in Orders table.			
Ŷ	ProductID	Number	Same as Product ID in Products table.			
	UnitPrice	Currency	The price per unit			
	Ouantity	Number	The number of units ordered			
	Discount	Number	The customer's discount rate			
				-		
_			Field Pronerties			
G F F L I I V V F II T	eneral Lookup leid Size Int comat Ge edmal Places edmal Places aption alidation Rule >0 alidation Rule >0 alidation Text Ou equired Yes udexed No ext Align Ge	eger neral Number antity must be greater than O neral	The error message that appears when you enter a value prohibited by the validation rule. Press F1 for help on validation text.			
-						
	Urder Details			~		

Test the Rule

- When the rule is violated, a custom error message appears, containing the text that you specified in the Validation Text row.
- 1 Click **OK** and then retype the field entry.

	Order Det	ails									
	Order I 👻	Product	• Unit Pric •	Quantit	y 👻	Discoul 🗸	Click to Ac	id 👻			
Ø	10248	Queso Cabrales	\$14.00	R	0	0%					
	10248	Singaporean Hokkien Fried Mee	\$9.80		10	0%					
	10248	Mozzarella di Giovanni	\$34.80		5	n%.					
	10249	Tofu	\$18.60			Northy	vind - Mic	rosof	Access	×	
	10249	Manjimup Dried Apples	\$42.40								
	10250	Jack's New England Clam Chowder	\$7.70			Quanti	ty must be g	reater f	han O 🔫	B	
	10250	Manjimup Dried Apples	\$42.40								
	10250	Louisiana Fiery Hot Pepper Sauce	\$16.80			1 >	ОК	<u>H</u> e	р		
	10251	Gustaf's Knäckebröd	\$16.80								

TIP

How do I use the Expression Builder?

The Expression Builder can guide you in determining the correct syntax for an expression. There are many types of expression content available, including functions, constants, and operators. For example, to enter the expression from the steps in this section (>0) ,you would do the following:

- 1 Click Operators.
- 2 Click Comparison.



- The > character appears in the expression at the top of the dialog box.
- **4** Type **0**.
- 5 Click OK.



Create a Record-Level Validation Rule

Although most validation rules involve a single field in the table, you can create rules that involve two or more fields. For example, a rule might compare the value of one field with another. This is called a *record-level validation rule* because it involves multiple fields in each record.

For example, in an Orders table, you could set up a record-level validation rule that checks to make sure that the Order date is before (or the same as) the Shipped date because an order cannot be shipped before it is placed.

Create a Record-Level Validation Rule

- 1 In the Design view, click the **Design** tab.
- Click Property Sheet.

The Property Sheet for the entire table appears.

- 3 Click in the Validation Rule box and type the expression.
- 4 Click here and type the error message text.
- 6 Click Test Validation Rules.

If the table contains data already, a warning appears that the data must be checked.

6 Click Yes.

5-0				TABLE TOOLS	My Dati	abase :	: Database- C:\Users\	Paul\Doc	uments\Mv Database ? — 🗆 🗙
HOME CREAT	TE EXTERNAL	DATA DAT	TABASE TOOLS	DESIGN		1			Paul McFedries 👻 🎆 🙂
Primary Bunder Test Key	Validation Rules	lete R. odify Lookups	Property Indexes	Create Data Macros *	Rename Delete Ma	/ cro	Relationships Ob Depen	ject dencies	
Orders	10015		Show/Hide	Field, Record	at lable Ev	ents	Relationships		
Field Nar OrderID CustomerID EmployeeID OrderDate RequiredDate ShippedDate	me Au Sh Nu Da Da Da Da	Data Typ utoNumber ort Text umber ute/Time ute/Time ute/Time	e Descri Uniqu ID of c ID of e The da The da The da	iption (Optio e order num ustomer whi mployee wh ate the order ate the custo ate the custo	mal) ▲ ber. opla ioto was mer was	Pro Selec Gene Subo Subo Orie Desc	operty Sheet tion type: Table Prop eral datasheet Expanded datasheet Height ntation ziption	No O" Left-t	Right 3 4
PaymentType	Sh	ort Text Field Properties	The ty	pe of payme	nt us 👻	Defa Valic Valic Filte	ult View Sation Rule Sation Text r	Datas [Orde The C	heet rDate]<=[ShippedDate] irder Date must be less than the Shipped Date
				Micros	oft A	cce	SS		×
This operation will test the table's record and field validation rules, as well as the Required and AllowZeroLength properties, for all data in the table. This process may take a long time. Do you want to continue anyway?									
			6	Yes		N	0		

Working with Fields



If the table has not been saved, a prompt appears to save it.

Click Yes.

If existing data violates the new rule, another warning appears. You can either keep the new rule or change it if this happens.

- 8 Click **Yes** to keep the new rule, even if some existing data violates it.
- (A) You can also click No to go back to the previous rule (if any).

A confirmation dialog box opens.



The check is complete.



TIPS

How do I construct a validation rule that contains field names? You can either use the Expression Builder or type field names directly into the expression. To use the Expression Builder, click in the Validation Rule box and click — to open the Expression Builder. Click the table name in the Expression Elements list. Double-click each field to which you want to add to the expression in the Expression Categories list. Click OK. To enter field names directly into the Validation Rule box, enclose each one in square brackets: [OrderDate].

What happens to existing data that violates the validation rule?

Nothing happens to it; it is allowed to continue to exist. However, new records will not be permitted to violate the rule, and if you ever edit the record that violates the rule, you will not be able to save changes to it until you fix the violation.

CHAPTER 5

Working with Relationships

Relational databases are powerful because they can contain multiple related tables. You can create relationships between tables directly in the Relationships window, or you can create relationships by building lookups that populate a field in one table with values from another table.



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Understanding Relationships

M ost databases store information in multiple tables. Although most of these tables have nothing to do with each other (for example, tables of customer information and employee payroll data), it is likely that at least some of the tables do contain related information (such as tables of customer information and customer orders). You can connect such tables by creating *relationships* between them based on a common field that they share. These relationships make it possible to create forms, queries, and reports that include fields from multiple tables.

Common Fields

For a relationship to exist between two tables, they must have a common field. For example, the Customers table may have a CustomerID field, and the Orders table may also have a CustomerID field. The two tables could be joined, or *related*, by that field. The field type must be the same in both tables for a relationship to exist. One exception is that an AutoNumber field can be related to a Number field.



The Primary Key and Foreign Key

In most relationships, the primary key field in one table is related to a field in the other table that is *not* its primary key. In one table, the field contains unique values, whereas in the other table, it does not. The related field in the other table is called the *foreign key*. For example, in the Customers table, each record has a unique CustomerID field, but in the Orders table, two different orders may have the same CustomerID.



orking with Relationships



Referential Integrity

Relationships can optionally be set to *enforce referential integrity*. This prevents the foreign key field from containing values that do not appear in the primary key field. For example, in the Orders table, a CustomerID value could not be entered that had no valid corresponding entry in the Customers table. This would prevent users from entering orders for nonexistent customers.

		Edit Relationships	5	? ×
Table/Query: Customers	~	Related Table/Query: Orders	~	ОК
CustomerID	¥	CustomerID	< >	Cancel Join Type
Enforce Referential Integrity Cascade Update Related Fields Cascade Delete Related Records			Create New	
Relationship Type:		One-To-Many		

Cascade Update

When referential integrity is enabled, you can also enable Cascade Update and Cascade Delete. With Cascade Update, when a primary key entry changes, the foreign key entry in the related table also changes. For example, if a customer's CustomerID changes in the Customers table, all the orders in the Orders table will reflect the new ID number.

		Edit Relationship	S	? ×
Table/Query: Customers CustomerID	* *	Related Table/Query: Orders CustomerID	~	OK Cancel
Cascoline ind C			Join Type Create New	
Relationship Type:	e ke	One-To-Many		

Cascade Delete

With Cascade Delete, when a record is deleted from the table containing the primary key part of the relationship, all corresponding records in the table containing the foreign key are deleted. For example, if a customer's record is deleted from the Customers table, then all that customer's orders are deleted from the Orders table. Use this feature with caution.

		Edit Relationship	DS	? ×
Table/Query: Customers	~	Related Table/Query: Orders	~	ОК
CustomerID	~	CustomerID	^	Cancel Join Type
Cascade Delet	entia te R e Re	al Integrity elated Fields elated Records		Create New
Relationship Type:		One-To-Many		

Create a Relationship between Two Tables

Before you can combine fields from two tables for use in queries, forms, and reports, you must first define a relationship between the two tables. You create and manage relationships using the Relationships window, which enables you to define a relationship by dragging a field from one table onto a field from another.

You can also specify the *join type*, which dictates what happens when there are records in one table that do not have a corresponding entry in the other table. The default join type is to include only records where the joined fields from both tables are equal.

Create a Relationship between Two Tables

Open the Relationships View

- Click the Database Tools tab.
- 2 Click Relationships.

The Relationships window opens. If there are not any relationships yet in the database, the Show Table dialog box also opens.

Add Tables to the Relationships Window

- 1 If the Show Table dialog box is not already open, click Show Table.
- 2 Click a table that you want to add to the Relationships window.
- 3 Click Add.

Note: You can double-click the table instead of following steps 2 and 3.

- A The table appears in the Relationships window.
- 4 Repeat steps 2 and 3 as needed to add more tables.





Working with Relationships

Create a Relationship

- Click the primary key field to be associated with a field in another table.
- 2 Drag the primary key field onto the associated field in the other table.
- 3 Click Enforce Referential Integrity if needed.
- With referential integrity enabled, you can also click Cascade Update Related Fields and/or Cascade Delete Related Records.

4 Click Create.

A connector appears between the two fields.

- On the "1" side, each record contains a unique entry for the joined field.
- On the "Many" () side, multiple records can have the same value for the joined field.

Note: If you did not enforce referential integrity, a plain line appears with no symbols on it.

TIP

How do I change the join type?

1 Click Join Type in the Edit Relationships dialog box.

The Join Properties dialog box appears.

- 2 Click a join type radio button (O changes to).
- 3 Click **OK**.
 - Click **OK** in the Edit Relationships dialog box.





Edit a Relationship

A fter you have created a relationship between two tables, that relationship is not set in stone, Awhich means that you can edit the relationship as needed. For example, if you realize later that you associated an incorrect field in one of the tables, you can fix that problem. Similarly, you might change your mind about the nature of a relationship after creating it. For example, you may choose to change the referential integrity options or the join type.

Edit a Relationship

 In the Relationships window, double-click the connector between two tables.

Note: Be sure to double-click the connector directly. If you miss it, you will see an empty Edit Relationships dialog box.



The Edit Relationships dialog box opens.

- If you need to change the associated field in the related table, click and then click the new field.
- 3 Click to select or deselect Enforce Referential Integrity.
- 4 If the referential integrity is enabled, you can do either or both of the following:
- Click to select or deselect Cascade Update Related Fields.
- Click to select or deselect Cascade Delete Related Records.
- 5 Click OK.

The relationship is changed according to the options that you chose.



Remove a Relationship

If you no longer require a particular relationship between two tables, you can remove that relationship. For example, if you want to change the data type of one of the fields, Access will not allow you to do that as long as the field is part of a relationship. You must remove the relationship before you can change the field's data type.

Before you proceed, bear in mind that you cannot undo a relationship deletion. After you have deleted a relationship, the only way to restore it is to re-create the relationship from scratch.

4

Remove a Relationship

 In the Relationships window, right-click the line between the two tables.

2 Click Delete.

A confirmation dialog box opens.

3 Click Yes.

The relationship, and its indicator line, is removed.

Customeri CompanyName ContactName ContactTitle Address City	1 ♥ OrderB ▼ Edit <u>Relationship</u> ▼ <u>Delete</u> 2 OrderDate RequiredDate ShippedDate ▼					
1	Northwind - Microsoft Access					
Are you sure you want to permanently delete the selected relationship from your database?						

Relationships

Arrange the Relationships Window

You are free to create relationships between as many tables as your needs require and as the structure of your data dictates. This means that it is quite common to end up with a number of tables in the Relationships window, each with its own set of connector lines showing the relationships. As you create more relationships and larger databases, the connector lines between tables may be difficult to see because of overlap. You can move the tables around in the Relationships window, and you can also resize the window for each table.

Arrange the Relationships Window

Move a Table in the Relationships Window

1 Click and drag a table's title bar to a new location.

The relationship lines stay connected.

A If you need more room, you can use the scroll bars to scroll down or across.

Resize a Table's Field List

You can also click and drag a field list's side border to expand the box horizontally or drag the lower-right corner to expand in both directions.





Print a Relationship Report

A s you work on your database, you might find that as you add tables, the number of relationships between them increases to the point where it is difficult to remember and keep track of them all. Rather than constantly having to open or switch to the Relationships window, you might prefer to have a printed copy of the relationships as a reference. You can get a hard copy by creating and printing a relationship report.

Print a Relationship Report



View Object Dependencies

In Access, a table's *dependencies* are those database objects that rely on data from the table. For example, an Orders table might depend on data from a Customers table because you have set up a relationship between them. Similarly, there might also be queries or forms that depend on the table.

You can view an object's dependencies from the Object Dependencies task pane. This is easier than trying to decipher the relationships in the Relationships window in a very complex database. The Relationships window does not need to be open for you to view object dependencies.

View Object Dependencies



CHAPTER

The Object Dependencies task pane opens.

- 8 Click a type of dependency to view (\bigcirc changes to \bigcirc):
- Click here to see objects that depend on the chosen object.
- Click here to see objects that the chosen object depends on.
- 9 Click > next to an object type to view the table's dependencies (\triangleright changes to \blacksquare).
- C The table's dependencies for that object type appear.
- 10 Click 🕨 next to an object to view its own dependencies(> changes to 🔳).
- The object's dependencies appear.
- 11 Click 💥 to close the task pane when finished.

Object Dependencies Table: Customers Objects that depend on me Objects that I depend on Tables Orders Queries Forms 9 Reports P Ignored Objects	× Refresh
Object Dependencies Table: Customers Objects that depend on me Ophiects that I depend on	Refresh
 Tables ▷ □□ Orders ▲ Queries 	
Customer Orders By Category Customers Mail Merge Query Customers Mail Merge Query Customers With Orders and Order Details Customers Without Matching Orders	
Form Parameter Test Invoices Guery: Invoices Filter Guery: Customer Invoice	
▷ 🔚 Report: Invoice	

TIPS

Why would I need to view object dependencies?

In a complex database, almost every object depends on some other object. Very rarely would a table, for example, stand alone. Therefore, you should not delete an object until you understand what other objects will be affected by that deletion. For example, if you delete a table, a form that depends on it will be orphaned.

Is there a way to see all the dependencies for all the objects at once?

Yes. Access offers the Database Documenter feature. which among other things provides you with a list of all the object dependencies in your database. To learn how to use the Database Documenter, see the following section, "Document the Database."

Document the Database

A s your database grows, it becomes increasingly difficult to keep track of all the objects that it A contains as well as their relationships and dependencies. To help you get a handle on a large database, you can use the Database Documenter feature to generate a full report about the database, including all the details about each object and its relationships and dependencies.

This report is also useful to provide to another database designer to help him or her understand the structure of the database.

Document the Database

- 1 Click the **Database Tools** tab.
- 2 Click Database Documenter.

The Documenter dialog box opens.

- 3 Click the All Object Types tab.
- 4 Click the check boxes for each object that you want to include (□ changes to ☑).
- You can click Select All to select all the objects.
- To include the database's properties, click here.
- C To include the Relationships diagram, click here.
- 5 Click OK.



Working with Relationships

CHAPTER 5



TIP

Can I export the report to another program instead of printing it?

Yes, Access offers several export options in the Print Preview tab's Data group. For example, you can export the report to an Excel workbook by clicking **Excel**. If you prefer to export the report to a PDF file, click **PDF or XPS** and then, in the Publish as PDF or XPS dialog box, make sure that **PDF** is selected in the **Save as type** list. To export the report as a plain text file, click **Text File**. Finally, you can also click **More** to see a list of other export formats, including Word and HTML Document.

Understanding Lookups

If a user has to type a customer name or product name from memory, that is a sure recipe for inconsistent and error-filled data. Fortunately, in many cases, you can avoid freeform text entry. If there are only a finite number of possible values for a field, you can eliminate this weak link in your data chain by giving users a list of items to choose from. This is called a *lookup*.

Access offers two methods for defining lookups: You can take the unique values for a field in an existing table or query, or you can type the list values yourself.

Relationships Based on Codes

Relationships between tables are often based on code values. For example, the CustomerID in the Customers table may be a code based on the customer name, so the related Customer field in the Orders table would also need to use the same codes. But when a user is entering a new order, he or she probably does not know the customer's ID code without looking it up.

Customers					
	Customer ID 👻	Company Name 🗸			
+	ALFKI	Alfreds Futterkiste			
+	ANATR	Ana Trujillo Emparedados y helados			
+	ANTON	Antonio Moreno Taquería			
+	AROUT	Around the Horn			
+	BERGS	Berglunds snabbköp			
+	BLAUS	Blauer See Delikatessen			
+	BLONP	Blondel père et fils			
+	BOLID	Bólido Comidas preparadas			
+	BONAP	Bon app'			

Lookups Match Numbers to Names

A lookup cross-references the related table and displays "friendly" fields that help users find the right record. For example, you could set up a lookup for the Customer field in the Orders table so that users could choose from a list of customer first and last names and be shielded from the customer ID numbers.

Customer		*
	Alfreds Futterkiste	23
	Ana Trujillo Emparedados y helados	
	Antonio Moreno Taquería	
	Around the Horn	
	Berglunds snabbköp	
	Blauer See Delikatessen	
	Blondel père et fils	
	Bólido Comidas preparadas	\sim
Working with Relationships

Lookups Based on Tables

To set up a table lookup, change the data type for the field to Lookup and then use the Lookup Wizard to specify the source table. You do not need to set up the relationship between the tables beforehand.

Lookup Wizard
Which table or query should provide the values for your lookup field? Table: Categories Table: Coustomers Table: Orders Table: Orders Table: Orders Table: Orders Table: Products Table: Products For Update Table: Products For Update Table: Products For Update Tables Queries Bgth
 Cancel < <u>B</u> ack <u>N</u> ext > Einish

CHAPTER

Lookups Based on Existing Relationships

If you have an existing relationship established between the table containing the field and

the table containing the lookup list, you may encounter an error in creating the lookup if the Lookup Wizard wants to create a different kind of relationship than what exists already. The quickest way to solve this problem is to delete the existing relationship and then allow the Lookup Wizard to re-create it.

Lookups Based on Lists That You Type

If the number of entries to appear in the drop-down list is small or if it will never or seldom change, it may be unnecessary to put the entries in a separate table. In such cases, you may prefer to create a lookup based on entries that you set up yourself. The Lookup Wizard can also create this type of lookup and can prompt you for the entries to use.

Lookup Wizard							
What values do you want to see in your lookup field? Enter the number of columns you want in the list, and then type the values you want in each cell.							
fo adjust the width of ight edge of the colum	a column, drag its rig n heading to get the	ht edge to the wid best fit.	th you want, or d	ouble-click the			
Number of <u>c</u> olumns:	1						
🖉 Col1							
Cash							
Check							
Money Order							
Credit Card							
PayPal							
*							
	Cancel	< <u>B</u> ack	<u>N</u> ext >	Einish			



Create a Table for Use As a Field Lookup

If you think the lookup values will change over time — either by adding new items or by editing or deleting existing items — you will find it easier to maintain the lookup by storing the values in a table. If the lookup values you want to use already exist in another table, you can use that table. If they do not, you need to construct a new table for the values. Lookup tables are typically very simple, consisting of only one or two fields.

Follow the steps in this section only if the data for the lookup does not exist already in another table.

Create a Table for Use As a Field Lookup

- 1 Click the **Create** tab.
- 2 Click Table Design.

A new table opens in the Design view.

3 Type a name that describes the list.

Note: The name does not need to exactly match the field in the other table that will be looking up from it.

4 Set the data type.

Note: Short Text is usually an appropriate data type.

6 Click Primary Key.

▲ A key () appears next to the field, indicating that it is the primary key.



Working with Relationships



The Save As dialog box opens.

7 Type a name for the lookup table.

8 Click **0K**.

The Save As dialog box closes.

9 Click View.

The view switches to the Datasheet view.

10 Type the records into the table.

Note: It does not matter what order you enter them in because you can specify a sort order when you set up the lookup.

11 Click 🗙.

Access closes the table.

A 🗄	Northwind - Microsoft Access							? –	×
FI	E HOIVIE CREATE	EXTERN	IAL DATA DA	TABASE TOOLS	DESIGN		Paul	McFedries 🔻	S. 🙂
	9 1	F	Insert Rows Delete Rows	F		-			
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				Save As	? >	<			
			_	Bareris					
	General Lookup		Table Name:			_			
e E	Field Size	255	Shipping Op	tions					
Pa	Format					_			
- E	Input Mask Cantion	Chinning Oni		UK	Cancel				
gat	Default Value	snipping op	uons						
avić	Validation Rule					A field n	ame can be up to	64 character:	s long,
Ž	Validation Text					includir	ng spaces. Press F	1 for help on	n field
	Required	Yes Kor					fidilie:		
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Viev	vs Clipboard 🗔	Sort & Filter		Records	Find	Tex	t Formatting		^
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	Shipping Options	 Click 	to Add 👻						
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	Next Day (Afternoon	n)							
	Two Days								
	Super Saver								
	International Expedi	ted							
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Nay									

TIPS

Why go to the trouble of creating a table?

A table makes editing the lookup list later much more convenient. With a lookup that consists of manually entered values, the only way to edit the values is through the field's properties in the Design view, which can be inconvenient. A lookup table can also be reused for multiple lookups in different tables.

Does the lookup table have to have a primary key defined?

No. That is not necessary. However, assigning a primary key for every table is considered a good housekeeping practice in a database. In addition, setting a field as a primary key is a good way to ensure that it contains no duplicate values.

Create a Field Lookup Based on a Table

You can create a lookup for a field whose values come from items stored in another table. When the user navigates to that field for data entry, Access does not display the standard text box. Instead, it displays a drop-down list containing the values from the lookup table.

One of the main advantages of using a lookup based on a table is that the lookup is easier to maintain. If you or another user changes the values in the other table, the values in the lookup also change.

Create a Field Lookup Based on a Table

In the Design view, click the Data Type v for the field for which you want to use the lookup and then click Lookup Wizard.

Note: Make sure that you are working in the table and field that should use the lookup, not the table containing the lookup values.

Order Details			
Z Field Nam	e	Data Type	Descri
UnitPrice		Currency	The price per unit
Quantity		Number	The number of units ordered
Discount		Number	The customer's discount rate
ShippingMethod		Short Text	😎 customer's preferred ship
		Short Text	
		Long Text	Field Properties
Caparal Laster		Number	
	255	Date/Time	
Field Size	255	Currency	
Input Mask		AutoNumber	
Caption		Vac/Na	
Default Value		res/No	
Validation Rule		OLE Object	
Validation Text		Hyperlink	
Required	No	Attachment	
Allow Zero Length	Yes	Calculated	
Indexed	No	Calculated	
Unicode Compression	Yes	Lookup Wizard	
IME Mode	No Control		-
IME Sentence Mode	None		
Text Align	General		



The Lookup Wizard opens.

2 Click I want the lookup field to get the values from another table or query (changes to).

3 Click Next.

Working with Relationships

The table or query page of the wizard appears.

4 Click the table that contains the lookup values.



The select fields page appears.



7 Click the Add Field button (>>).

The field moves to the Selected Fields list.

8 If there are other fields in the table that you want to appear in the lookup list, repeat steps 6 and 7 to add them.

Note: Access adds the primary key field automatically.

9 Click Next.

TIPS

Can I use a query instead of a table?

Yes. A *query* is a sorted or filtered version of a table or a combination of tables. When two or more tables have relationships between them, you can create queries that join the data from them into a single datasheet. That way, you can use data from multiple tables as if the data resided together in a single object. To select a query, click **Queries** (A) on the table or query page of the wizard (\bigcirc changes to $\textcircled{\bullet}$).



	Lookup Wizard
4	Which table or query should provide the values for your lookup field? Table: Orders Table: Products Table: Products for Update Table: Shipping Options Table: Shipping Options Table: Sapplers Table: Table 1
	Iables Queries Bgth Cancel < Back Next > Enish



Can I create a lookup field without using the wizard?

Yes. You can use the Lookup tab in the field's Properties, placing a SQL (structured query language) statement in the Row Source box (B). You will probably not want to create lookups that way, but you might use the boxes on the Lookup tab to make minor changes to a lookup without having to completely re-create it.

General Lookup	
Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [Shipping Options]. [ShippingOption] [Shipping Options] ORDER BY [ShippingOptions]
Bound Column	1 < 6
Column Count	1
Column Heads	No
Column Widths	1.3021

Create a Field Lookup Based on a Table (continued)

When you are creating a lookup field, you can specify a sort order for the lookup values. It is almost always easier for users to locate values in a list that is sorted alphabetically or numerically. This can also be useful if you want the list items to appear in a different order in one usage than in another.

As part of the lookup field specification, you can also set the field width and type a label that serves as the name of the field.

Create a Field Lookup Based on a Table (continued)

The sort order page appears.

If you want to sort the list, click the 1 v and then click the field name.

Note: The default sort order is Ascending.

- If you want to toggle the default sort order to Descending, click Ascending.
- 12 If there are other fields that you want to sort by, repeat steps 10 and 11.

13 Click Next.

The column width page appears.

14 To change the column width for the lookup field, drag the right edge (changes to ₩).

> You can also double-click the right edge to automatically fit the column to the current contents.

15 Click Next.

L	ookup Wizard								
What sort order do you want for the items in your list box?									
You can sort records by up to four fields, in either ascending or descending order.									
1 ShippingOptions 10	Ascending 11								
2	Ascending								
3	Ascending								
	Ascending								
4	According								
· · · · · ·	Ascending								
	ß								
	Y								
Cano	el < Back Next > Finish								
L	ookup Wizard								
How wide would you like the columns in	your lookup field?								
To adjust the width of a column, drag it	s right edge to the width you want, or double-click the								
right edge of the column heading to get	t the best fit.								
∠ Shipping Options ↔ <1	4								
International Expedited	-								
International Standard									
Next Day (Arternoon)									
Super Saver									
Super Saver Two Days									
Super Saver Two Days									

< Back

Next >

Finish

Cancel

Working with Relationships



The label page appears.

Modify the label assigned to the field, if you want something different than the default label.

By default, the wizard uses the field name as the label.

17 Click Finish.



18 Click Yes.

The lookup is created. You can examine the lookup settings on the Lookup tab of the field's properties.

A prompt appears, asking

you to save the table.

TIP

Can I make changes to the lookup?

Yes, although this depends on how extensive those changes are. To make small changes, click anywhere in the field using the Design view and then use the Lookup tab in the field's properties. If you need to re-create the lookup, Access at first does not allow you to do this because it has already set up a relationship between your data table and the table that contains the lookup values.

Before you can re-create the lookup field, you must first delete the relationship that the Lookup Wizard created. See the section "Remove a Relationship" to learn how to delete an existing relationship. Note that you will likely have to add the lookup table to the Relationships window. On the Design tab, click **Show Table**, click the lookup table, and then click **Add**.

Create a Field Lookup with Values That You Specify

If the list from which you want users to choose for a field lookup is fairly short and you do not expect that the values in the list will change frequently, you may prefer to create the lookup based on values that you type into the Lookup Wizard. This creates a makeshift lookup table that exists only in the Lookup properties for the field. If you need to edit the list, you can make the changes using the Lookup tab of the field's properties.

Create a Field Lookup with Values That You Specify

 In the Design view, click the Data Type → and then click Lookup Wizard.

Note: Make sure that you are working in the table and field that should use the lookup, not the table containing the lookup values.

Orders						
Z Field Name		Data Ty	Data Type		Descr	
ShippedDate		Date/Time	_		The date the order was shippe	
PaymentType		Short Text	1 > 1	~	The type of payment used.	
ShipVia		Short Text			The shipping method.	
General Lookup		Long Text Number			Field Properties	
Field Size Format	255	Currency				
Input Mask Caption Default Value Validation Rule Validation Text Required	No	AutoNumber Yes/No OLE Object Hyperlink Attachment				
Allow Zero Length Indexed	Yes No	Calculated	4.			
Unicode Compression IME Mode	Yes No Control					
IME Sentence Mode Text Align	None General					

The Lookup Wizard opens.

- 2 Click I will type in the values that I want (Comes changes to Comes).
- 3 Click Next.



The values page of the wizard appears.

4 Type the values that you want to display in the lookup list.

Note: It is common to use a single column. Use multiple columns only if a single column cannot adequately represent the values.



The label page appears.

6 Modify the label assigned to the field, if needed.

By default, the wizard uses the field name as the label.



Access completes the lookup field. You can examine the lookup settings on the Lookup tab of the field's properties.

TIPS

How can I change the values on the list?

On the Lookup tab of the field's properties, the Row Source box contains the values that you specified for the list, each one in quotation marks, separated by semicolons.

If you need to modify the list, type your changes directly into the Row Source text box, making sure that you keep the correct syntax with the quotation marks and semicolons.

General Lookup	
Display Control	List Box A
Row Source Type	Value List
Row Source	"Cash";"Check";"Credit Card";"Money Order";"PayPal"

Are users limited to only the values on my list?

No. The default display control is a combo box, which also enables users to enter their own values.

If you want to restrict users to your values only, click the Display Control property's and then click List Box.

What values do you wi in the list, and then typ To adjust the width of right edge of the colum	ant to see in your loo be the values you war a column, drag its rig in heading to get the	kup field? Enter th nt in each cell. ht edge to the wi best fit.	ne number of colur dth you want, or c	nns you want louble-click the
Number of golumns: Cash Check Credit Card Money Order PayPal	4		5	
	Cancel	< ĝadk	Next >	Enish
	Look	up Wizard		
	What label would PaymentType	you like for your	lookup field?	

Lookup Wizard

	PaymentType 6 Do you want to limit entries to the choices?
	Do you want to store multiple values for this lookup? Allow Multiple Values Those are all the answers the wizard needs to create your lookup field.
0////28	Cancel < Back Next > Enish

Set Up a Multivalued Field

Most table fields are configured to store a single value. However, you might come across a situation in which you require a field to store multiple values. For example, if your company offers customers several different newsletters, each customer might want to subscribe to two or more of those publications. You can handle this in your table by creating a *multivalued* lookup field that can store multiple items from a lookup.

Creating a multivalued field is the same as creating any other lookup, except for the last option in the wizard.

Set Up a Multivalued Field

 Follow steps 1 to 16 in the section "Create a Field Lookup Based on a Table."

Alternatively, you can follow steps **1** to **6** in the section "Create a Field Lookup with Values That You Specify."

Click Allow Multiple Values (□ changes to ☑).

3 Click Finish.

If the field already contains data, a warning appears about changing the field to store multiple values.



Click Yes.

Norking with Relationships

If you created a table-based lookup, a prompt appears, asking you to save the table.

5 Click Yes.

6 Click **View** to switch to the Datasheet view.

A The lookup is created and is displayed with multiple values allowed in the chosen field.

Note: See Chapter 3, "Entering and Editing Data," for more on entering values into a multivalued field.

	-	S - C - ∓ My	Database :	Databas	e- C:\Users	\Paul\D	ocu	me	TABLE TOOLS	5	
View	v Pr	imary Builder Test Val Key	idation es	Insert R Delete I Modify	ows Rows Lookups	Prope	rty I	ndexes	Create Data Macros *	a Rename/ Delete Macro	■ K Relatio
»		Contacts Ord	\			511	5 00/1	nac	Thera, necon		
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	0	rderID		Numb	er						
	N	ewsletters		Short 7	Text		v	Field Dec			
						Lool	kup	Wizar	d		×
Field Size Format Input Mask Caption Default Value Yes No					nships can be	created. Save n	ow?				
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								Partne	er Info		
								Produ	ct News		
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								rips a			
								OK	Cancel		

TIP

What are the drawbacks to using a multivalued field?

Multivalued fields are incompatible with Access versions 2003 and earlier. You cannot save a database in an earlier format if it includes multivalued fields, which may be an issue if you later need to share your data file with someone who only has the earlier version. Furthermore, you cannot convert a field from multivalue to single value; you have to delete it completely to make the database compatible, and you lose all the data that was stored in that field for the entire table.

Finding and Filtering Data

Access provides many ways of locating individual data records within your database. In Chapter 3, you learn about sorting a datasheet one of the simplest methods of looking something up. In this chapter, you learn about two other ways to search for data: using the Find feature to find a text string and using the Filter feature to show only records that match criteria you specify.

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2	Customer ID	- Compa	any Name	*	Conta	ct Name	- Cont	actiit	ie .		Address	
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	± LONEP	Lonesome Pine Restaurant			Fran Wils	on	Sales Manag	jer		89 Chiaroscu	uro Rd.	
	± MAGAA	Magazzini Alim	iti	Giovanni	Rovelli	MarketingN	lanage	r	Via Ludovico	o Il Moro 22		
	± MAISD	Màre Paillarde			Catherine	2 Dewey	Sales Agent			Rue Joseph-	Bens 532	
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	REGGC	Reggiani Caseif	ici		Maurizio	Moroni	Sales Associ	ate		Strada Provi	nciale 124	
	H RICAR	Ricardo Adocic	ados		Janete Lii	neira	Assistant Sa	les Ag	ent	Av. Copacab	iana, 267	
	H RICSU	Richter Superm	larkt		Michael H	lolz	Sales Manag	er		Grenzacher	weg 237	
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	Record: 14 4 65 of 91	No 🗎 🕨 No	Filter Sean	:h								Þ

Understanding Find and Replace	108
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Find and Replace is a single feature with two parts: one that enables you to locate text and another that enables you to replace found text with other text. Both features can save you tremendous amounts of time, particularly in large tables.

You use the Find tab to locate text within records. You can search for numbers, partial words, entire words, or phrases. You use the Replace tab to also locate text within a table, except that you can also replace the found text with some other text that you specify.

A Find What

You can specify a text string or numeric value that you want to find.

B Look In

You can limit the search to a certain field.

C Match

You can look for exact matches of the whole field or partial matches.

D Search

You can search above or below the currently selected record.

Match Case

You can choose whether the search is case-sensitive.

Found text

The found text is highlighted in the datasheet.

G Replace With

The Replace tab has a Replace With text field, in which you can enter the replacement string.

Replace

You can click **Replace** to replace one instance of what you are searching for and move to the next instance.

Replace All

You can click **Replace All** to do a global replace. Be cautious about doing so; it might replace more than you intended.



Find and Replace	? ×
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Match Case V Search Fields As Formatted	

Find Data

If you are working with a table that has only a few records, it is usually easy to locate the record you want fairly quickly. However, if your table contains hundreds or even thousands of records, finding the data you need can be extremely time-consuming. To save time and effort, you can use the Find feature to quickly locate a text string or numeric value within a datasheet.

You can search in one particular field, or you can expand the search to include all the fields in the datasheet. You can also tell Access to match part or all of the field value.

Find Data

- If you plan to limit the search to only one field, click in that field's column — in any row.
- 2 Click the Home tab.
- 3 Click Find (🊻).
- 4 Type the text to find.
- 5 Click the Look In and click either Current field or Current document.
- 6 Click the **Match ∨** and click what you want to match.

Note: The choices are Any Part of Field, Start of Field, and Whole Field.

- Click the Search is and click Up or Down if you want to limit the search to one direction.
- 8 You can click Match Case (□ changes to ☑) to make the search case-sensitive.
- 9 Click Find Next.
- A The Datasheet view jumps to the first instance and highlights it.
- Continue clicking Find Next until the instance that you want is found.



Replace Data

If you find that you need to replace one bit of text with another in a datasheet, this is not difficult or time-consuming if you have only a few instances to replace. However, if you have dozens or even hundreds of instances to replace, doing so by hand can take an extremely long time. To save time, you can take the Find operation one step further by replacing the found value with other text that you specify. For example, if you want to change "Grocery" to "Market," a replace operation can easily make the change throughout a table.

Replace Data

- To limit the replacement to only one field, click in that field's column — in any row.
- 2 Click the Home tab.
- 3 Click the Replace button (🎎).
- 4 Type the text to find.
- 5 Type the text that you want to substitute for the found text.
- 6 Click the Look In v and click either Current field or Current document.
- Click the Match and click what you want to match.

Note: The choices are Any Part of Field, Start of Field, and Whole Field.

- 8 Click the **Search** → and click **Up** or **Down** if you want to limit the search to one direction.
- 9 You can click Match Case (□ changes to ☑) to make the search case-sensitive.

10 Click Find Next.

Access jumps to the first instance and highlights it.





Finding and Filtering Data



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Av. del Libertador 900

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12 Continue clicking Replace or Find Next until a message appears that says Access can find no more matches.

13 Click OK.



TIPS

How can I replace all instances at once?

Instead of clicking **Replace**, click **Replace All**. Be careful, however, that you do not make any unintentional replacements. For example, if you have a customer named Robert who prefers to be called Bob, you probably would not want to replace all instances of "Robert" with "Bob." His e-mail address might still call him "Robert," and a global replace operation would change the e-mail address and make it incorrect.

What is the Search Fields As Formatted check box, and why is it unavailable?

If a field's Text Format property is set to Rich Text (in the Design view), the field can hold formatting as well as text. For such fields, you can search for strings formatted a certain way. By default, most fields are plain text, so this check box is not available.

Filter to Show Only Blank or Nonblank Entries

*F*iltering means that instead of displaying all the records, you display only a subset of the records based on some condition that you specify. One of the most common filter operations is to display only those records that are either blank or nonblank for a particular field. For example, if you want to look for records that have no entry in a particular field, you would set up a filter to show the blank entries for that field. Similarly, you may want to find all customers for whom the E-mail Address field is nonblank so that you can send an e-mail announcement.

Filter to Show Only Blank or Nonblank Entries

Apply the Filter

- Click in the column for the field that you want to search — in a row where that field is blank.
- 2 Click the Home tab.
- 3 Click the Selection button (🏹).
- Click Equals Blank to show only blank entries.
- Alternatively, click Does Not Equal Blank to show only nonblank entries.
- Records that do not match the specification are temporarily hidden.

Remove the Filter

 Click the Toggle Filter button (T).

The filter is removed.

Note: To reapply the same filter, click **Y** again.



Filter by Selection

You can filter not only for blank versus nonblank entries but also for any specific value in any field. This means that Access looks for those records that have the value in the field and then displays just those matching records. For example, suppose that you want to display all the customer records where the person is an owner of their company. If you have a Contact Title field and such customers have Owner in that field, you could filter the records to show only those that have Owner in the Contact Title field.

Filter by Selection

Apply the Filter

 Click in a field that contains the value for which you want to filter.

Note: For example, to filter for Owner in the Contact Title field, you would click any instance of **Owner**.

- 2 Click the Home tab.
- 3 Click 🔻.

4 Click the option that you want.

Note: The Equals options look only for entries matching the entire field. The Contains options look for the specified entry as any part of the field.

Only records that match the filter are displayed.

Remove the Filter

 Click T to remove the filter when finished.

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Filter for Multiple Values

Filtering by selection works well, but it finds only one value. For example, you cannot set it to find people with job titles of either "Owner" or "CEO."

To filter for multiple values, you can use the Filter button on the Datasheet tab. It opens a floating pane that contains check boxes for each value in a field, and you can select multiple values to use as the filter. For example, if your table has a Contact Title field and you want to see which contacts are owners or CEOs, you would select only the Owner and the CEO check boxes.

Filter for Multiple Values

Apply the Filter

 Click in the column for the field that you want to filter.

Note: You can click in any row; it need not be a row containing a value that you want to include.

- 2 Click the Home tab.
- 3 Click Filter (T).

A Filter pane appears below the selected field.

- 4 Deselect the check box next to any value that you do not want to include (changes to □).
- B You can click Select All (changes to □) to quickly deselect every check box.
- 5 Click OK.
- C The list is filtered to show only the values that you chose.

Remove the Filter

 Click T to remove the filter when finished.



Using Text Filters

A ccess provides a special set of filters for working with text values. These filters take into account Athat text strings often contain more than just the searched-for value.

For example, if different people entered the records, the same company may be listed as "ACME," "The ACME Corporation," or "ACME Corp." You could set up a text filter to look for all records in which the field begins with "ACME." You can also set up text filters to match field items that contain or end with the text you specify.

Using Text Filters

1 Click in the column for the field that you want to filter.

Note: You can click in any row; it need not be a row containing a value that you want to include.

- 2 Click the Home tab.
- 3 Click Filter (🍸).

A Filter pane appears below the selected field.

4 Click Text Filters.

5 Click the text filter that you want to apply.

Note: For example, to find all records that contain a certain text string, you can choose **Contains**.

The Custom Filter dialog box opens.

6 Type the text for the filter.

7) Click OK.

Access applies the filter.

You can remove the filter by clicking , the same as with any other filter.





Filter by Form

Filtering by form enables you to filter by multiple fields and specify criteria for as many fields as you like. When you filter by form, you can combine the criteria by using AND, OR, or a combination of the two.

With an AND filter, you choose two or more values, and Access filters the table to include only those records that contain all the chosen values. With an OR filter, you choose two or more values, and the table is filtered to include only those records that contain at least one of the chosen values.

Filter by Form

Using AND

Click the Home tab.

- 2 Click the Advanced Filter Options button (¹).
- 3 Click Filter By Form.

A Filter by Form sheet opens.

Note: If you previously performed a filter operation, the existing filter specification may appear. Delete any unwanted criteria.

- 4 Click v to open the list for a field and choose the value that you want.
- 5 Repeat step 4 for other fields as needed.

6 Click 🝸.

Access filters the data.



Finding and Filtering Data

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Click Filter By Form.

A Filter by Form sheet opens.

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- 4 Click 🔽 to open the list for a field and choose the value that vou want.
- 5 Click the **Or** tab.

A blank Filter by Form page opens.

6 Repeat step 4 to select another criterion.

Note: Each page represents a separate criterion. Records are included that match the criteria on any page.



The filter is applied.

TIPS

Why is there already criteria in the form?

If you previously performed a filter operation, the last filter that you ran appears in the form — for your convenience. Delete it from the form if you do not want it.

Is there an easier way to set up OR conditions for the same field? Yes. You can use the Filter by Form page to manually type in a specification for a field. For example, if you want records where the Company field is either "ACME Corporation" or "Colvin Enterprises," you could click in the Company box and type "ACME Corporation" **OR "Colvin Enterprises"**. Make sure that you include the quotation marks and the word OR. You can string together many OR statements for a single field. The Or tab is needed only if the Or condition involves multiple fields.

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Save a Filter As a Query

Some Filter by Form operations that consist of multiple fields and combinations of AND and OR filters can take quite a bit of time and effort to set up. If you have created such a filter and you think that you might use it again in the future, you can save it as a query so that you can rerun it later without having to set it up again. When you save a filter, a new query is created as a new object in the database. It works just like the queries you learn to create and modify in upcoming chapters.

Save a Filter As a Query



Save the Filter

 Create a filter and then display it in a Filter by Form sheet.

Note: See the section "Filter by Form" for help if needed. Do not apply the filter yet.

2 Click the Home tab.

- 3 Click 🔚.
- 4 Click Save As Query.

The Save As Query dialog box opens.

5 Type a name for the query.

6 Click OK.



Finding and Filtering Data

CHAPTER

Findi

You are returned to the Filter	
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- 7 Right-click the Filter by Form tab.
- 8 Click Close.

The Filter by Form sheet closes.

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Run the Saved Filter

 In the All Access Objects list, double-click the query (filter) that you saved.

The results open in a new datasheet.



TIP

What is the difference between a filter and a query?

Filters are fine for quick-and-dirty table operations, but they are not very powerful. To really get at the data, you need to use queries, which are much more sophisticated tools. For example, unlike filters, queries are not simply a different view of the table data. A *query* is a separate database object that actually *extracts* records from a table and places them in a datasheet that you can manipulate.

The other major difference between a query and a filter is that you can save queries and then rerun them any time you like. Filters, on the other hand, are ephemeral: When you close the table, any filters that you have defined vanish into thin air.

See Chapters 7 and 8 to learn how to create and work with queries.

Creating Simple Queries

Queries enable you to save specifications for sort/filter operations as reusable objects. They are the backbone of any data retrieval system and enable users to quickly pull the needed information from large tables. In this chapter, you will learn how to create simple, effective queries that sort and filter the data from one or more tables.

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Understanding Queries

If you have a large amount of data in a table, you will not usually want or need to work directly with the raw data. Instead, it is better to work with data that has been sorted and filtered in some way, two operations that you can quickly combine by creating a query. Although the name implies that queries are a sort of question, it is more useful to think of them as *requests*. In the simplest case, a *query* is a request to see a particular subset of your data in a particular order.

A Tables

A query can pull fields from more than one table, provided that they have a relationship between them.

B Field lists

Each table's complete field list appears in a separate window.

C View button

To run the query, click **View**.

D QBE grid

This grid, called the *Query By Example (QBE) grid,* contains the fields chosen to be in the query —one field per column.

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vigation Pane ×	B Query 1	Products - * ProductD ProductName SupplierID CategoryID QuantityPerUnit UnitPrice UnitsInStock		Suppliers SupplierID Combat/Name ContactTitle Address City Region	0				×
Nav							,		<u> </u>
	Field: Table: Sort:	ProductName Products Ascending v	CategoryID Products "Beverages"	CompanyName Suppliers	UnitsInStock Products				
		•							•
Read	y Y						NUM LOCK	🖽 sór	M

Add a field

To add a field to the QBE grid, double-click it in the field list or drag it to the grid.

Select a field

To select a column in the grid, click the thin bar above the field.

A Field

The Field row shows the field name.

B Table

The Table row shows what table the field came from.

C Sort

The Sort row indicates the field(s) by which the results should be sorted.

Show

A field can be omitted from the results by deselecting the **Show** check box.



Criteria

The Criteria rows hold any filters that you want to apply.

F Or Additional criteria can be entered

in one or more Or rows.

Create a Query with the Simple Query Wizard

The most basic type of query is one that simply pulls certain fields from two or more related tables and displays the fields in a datasheet. For example, if you have a Products table and a Suppliers table, a basic query could show the ProductName field from the Products table and the CompanyName field from the Suppliers table.

To create these kinds of queries, you can use the Simple Query Wizard, which takes you step-by-step through the process of building the query. Note, however, that you cannot use this wizard to set up any sorting or filtering.



Creating Simple Queries

CHAPTER

If you selected at least one numeric field, a prompt appears for a detail or summary query.

- Leave Detail selected for a query that includes all records.
- ▲ Alternatively, you can click Summary to summarize the data rather than show every record (○ changes to ●).

Note: This screen does not appear if you did not select any numeric fields in step 6. You will learn about summary queries in Chapter 8, "Creating Complex Queries."



The title page of the wizard appears.

- 13 Type a name for the query, replacing the default name.
- 14 Click Finish.

The query results appear in a datasheet.



TIPS

Can I use fields from any combination of tables?

No. The tables that you use in a query must be directly related — that is, related with a connecting line between them, not related via some other table that they both connect to individually. If they are related only via another table, you must also include at least one field from the connector table to help Access find the relationship.

What are the other queries in the New Query dialog box used for?

They are for several types of special-purpose queries that are difficult to set up manually:

- A Crosstab query summarizes and groups data in a twodimensional grid.
- A Find Duplicates query locates records that have the same value in a specified field or fields.
- A Find Unmatched query locates records in one table that have no corresponding entry in a related table. For example, you could find customers who have no orders.

Start a New Query in the Query Design View

0 - ÷

The Simple Query Wizard makes it easy to build a basic query, but it does not enable you to add sorting or filtering to your query. Sorting and filtering are essential if you want to create powerful and useful queries, but to include them in a query, you must work in the Query Design view. As with the Table Design view, the Query Design view gives you full access to all the guery tools and features.

In this section, you learn how to start a new query in the Query Design view and how to add tables and fields to your query.

Start a New Query in the Query Design View

- Click the Create tab.
- Click Query Design.

A new Query Design window opens, and the Show Table dialog box appears.

- 3 Click a table that you want to include in the query.
- Nou can also click the Queries tab to choose a query to use as a table — to base one query on another.
- Click Add.
- Repeat steps 3 and 4 to add more tables.
- Click Close. 6
- In the selected tables (or queries) appear as field lists in the top part of the window.
- 7 Drag a field into the first empty column in the guery grid.

If you need to add another table, you can drag it into the top part of the query window from the Objects list.

You can also click Show Table on the Design tab to reopen the Show Table dialog box to add 126 another table or query.



DESIGN

Creating Simple Queries

8 Drag more fields into the grid as needed.

Note: The fields can come from different tables as long as the tables are related.

9 Click View to check the query results in the Datasheet view.



The results appear in a datasheet.

10 Click 目.

The Save As dialog box opens.

Type a name for the query, replacing the placeholder name.

12 Click OK.

The query is saved.

TIPS

What is the Run button used for?

Some types of queries perform permanent actions on the data in the table. In such queries, there is a difference between previewing the results in the Datasheet view and actually running the query. That is why there are two buttons: View and Run. For the type of query that you create in this section, though, the two buttons do the same thing.

What if the query results are not what I want?

Rather than save your work, as shown in steps 10 to 12, click the **View** button on the Home tab to return to the Query Design view. Make any changes as needed and then click **View** to preview your work in the datasheet again.

Insert, Arrange, and Remove Query Fields

The order that the fields appear in the datasheet when you run the query is determined by the order that they appear in the query grid. When you double-click a field to add it to a query, Access places the field in the query grid to the right of the existing columns. If you want to insert the field in a different position, you must use a different technique.

You can also rearrange fields after placing them in the grid and remove any fields that you added by mistake.

Insert, Arrange, and Remove Query Fields

Insert a Field in a Specific Position

- Move ▷ to the top of the column that the new column should appear to the left of (▷ changes to ➡) and then click to select the column.
- **2** Click the **Design** tab.
- 3 Click Insert Columns ("1").



A new blank column appears.

Click the new column's and click the field that you want to appear in the column.

Note: As a shortcut, instead of inserting the column, you can drag the new field on top of an existing one; Access creates a new column to the left of the existing column.



Creating Simple Queries

Remove a Field

 Click the top of a field's column to select it.

Click the Design tab.

3 Click Delete Columns (¥).

Alternatively, you can press Delete.



1

JnitsInStock

✓

Products

ategoryID

roducts

The field is removed from the grid.

Move a Field

- 1 Click the top of a field's column to select it.
- 2 Drag the bar above the field left or right to move it (\triangleright changes to \bigtriangledown).
- A black line shows where the field is being dragged.

When you release the mouse button, the field moves to the new location.

TIPS

How do I remove a table's field list from the Query **Design view?**

To remove a table's field list:

1 Right-click the title of the field list.



2 Click Remove Table.



Products

ProductName

SupplierID

CategoryID

UnitPrice

ProductName Products

C

4

Field: Table:

Sort

Show

Criteria:

UnitsInStock

Unitronord

2

uppliers

•

QuantityPerUnit

ProductID

Suppliers

CompanyName

ContactName ContactTitle

💡 SupplierID

Address

Region

PostalCode

ContactNam

-

Suppliers

City

15

What happens if I remove a table that has fields in use in the query grid?

Those fields are deleted from the grid. Adding the table back again does not automatically restore them in the grid; you must manually add the fields.

B

Set Field Sorting

You can set a query to sort the results by a certain field, either in ascending or descending order. An *ascending sort* means that a text field is sorted from A to Z, a numeric field is sorted from 0 to 9, and a date field is sorted from earliest to latest. For the opposite sort order, choose a descending sort.

You can specify sorting for more than one field. Access prioritizes the fields from left to right in the grid. The leftmost field that has a sort order set will take precedence; other sorts will operate only in the event of a tie.

Set Field Sorting

- For the field that you want to use for sorting, click the Sort .
- Click Ascending for an A to Z sort.
- You can also click Descending for a Z to A sort.
- B To turn off field sorting, click (not sorted).



Σ

Tota

3



- 3 Repeat steps 1 and 2 for other fields if needed.
- 4 Click View to check your work.

The results appear sorted by the chosen field(s).

• You can return to the Query Design view by clicking **View** again.
Add an Alias to a Query Field

When you display a query in the Datasheet view, Access displays the field names at the top of each column. However, field names do not have to appear in the query results as their actual names. For example, perhaps you want the Product Name field to appear simply as "Product," or you want the Quantity field to appear as "Qty."

To change the wording of the column heading in the query results, you can create a text alternative called the field's *alias*. Note, however, that you cannot create an alias for a field that already has a defined caption.

Add an Alias to a Query Field

- Position the insertion point at the beginning of the Field box for the field that you want to work with.
- 2 Type the alias, followed by a colon (:).
- 3 Repeat steps 1 and 2 for other fields if needed.
- 4 Click View to preview the change in a datasheet.
- A The datasheet column(s) appear with the alias(es).

Field: Table:	Categ Produ	orylD cts	1	Produc Produc	t: Pr ts	oductNam	ie	CompanyName Suppliers	2	Co Su	ntactName ppliers		In Stock: Unit Poducts	sInStock	¥
Sort: Show: Criteria:	Ascending		2 🗸			v		✓			3				
Ur.	4														
	ن ب	Ì		N	lortł	wind - M	icrosof	tAccess		QU	ERY TOOLS				
FILE	ном	E	CREATE	E EXT	ERN	IAL DATA	D	ATABASE TOO	DLS	(DESIGN				
View Ru	4 n S	Selec	t Make	4 Append	≥! □ !×	Update Crosstab Delete	💿 Ui 🎯 Pa 🔛 Di	nion ass-Through ata Definition	Sho) wv	≩= Insert ∃× Delet	: Rows e Rows er	"¶" Insert Co ¥ Delete C ₩ Return:	olumns olumns All	+
Results			Tuble		Que	ry Type			102			Query	Setup		
Product	ts and S	upp	liers												
Categ	gory	v		Prod	luct		Α.	Comp	any N	lam	2 -	Conta	act Name 📼	In Stop	k -
Bevera	ges	~	Rhönbrä	u Kloste	erbi	er		Plutzer Leb	ensm	itte	lgroßmäi	Martir	n Bein		12
Beverages Sasquatch Ale				Bigfoot Breweries			Chery	lSaylor	Δ	11					
Beverages Chartreuse verte				Aux joyeux ecclésiastiques			Guylène Nodier		e						
Beverag	ges		∟akkalikċ	3öri				Karkki Oy 🛛			Anne	Heikkonen		5	
Beverag	ges	1	Laughing	gLumbe	rjad	k Lager		Bigfoot Breweries Cherry			Chery	l Saylor		5	
Beverag	ges	1	Chai					Exotic Liqui	Exotic Liquids Charlotte Cooper			otte Cooper		3	
Beverag	zes	1	Guaraná	Fantást	ica			Refrescos Americanas LTDA Carlos Diaz				2			

CHAPTER

Understanding Criteria

The heart of any query is its *criteria*, a set of expressions that determines the records that appear in the results. Criteria is composed of *expressions* that combine operators, functions, and field names with literal values. Access applies the result of the expression to the field in which it was entered in the query design grid, and only those records that match the result are included in the results.

For example, you may include only customers in a certain range of zip codes or only people who have placed orders in the last 12 months.

Numeric Criteria			
You can specify a fixed numeric value as a	Field:	Quantity	OrderDate
criterion for a number field. Type the	Table:	Order Details	Orders
number directly into the Criteria row	Sort:		
in the grid. You do not need quotation	Show:	✓	✓
marks or any special formatting. Access	Criteria:	100	#8/23/2013#
interprets dates as numbers, too. When	or:		
using a date, enter hash symbols around			
it: #08/23/2013# . If you forget the hash			
marks, Access usually adds them for you.			

Text Criteria

You can specify a text string as a criterion. It can contain multiple words, including punctuation and spacing, but you must enclose it in quotation marks. For example, to set a CompanyName field's criterion to ACME, type **"ACME"** in the **Criteria** row. If you forget the quotation marks, Access usually adds them for you.

Field:	CompanyName	Country
Table:	Customers	Customers
Sort:		
Show:	✓	✓
Criteria:	"ACME"	"USA"
or:		

CHAPTER

Criteria Ranges

It is often useful to specify a range of values for a criterion instead of one specific value. You can accomplish this with comparison operators and special keywords, as shown in the following table:

Field:	Quantity	UnitPrice
Table:	Order Details	Order Details
Sort:		
Show:	✓	<
Criteria:	> = 100	< 20
or:		

Use	Description	Example
<	Less than	<30
<=	Less than or equal to	<=#1/1/14#
>	Greater than	>100
>=	Greater than or equal to	>=50
<>	Not equal to	<>"Denver"
Like	Matches a pattern of characters	Like "Denver"
And	Matches two or more conditions	>5 And <10
Or	Matches any condition	"CO" Or "CA"
Between And	Matches values in a range	Between #1/1/14# And #1/15/14#
In	Selects from a list of values	In ("NM", "NY", "NJ")
Is Null	Includes the record only if the field is empty	Is Null
Is Not Null	Includes the record only if the field is not empty	Is Not Null
*	Wildcard, substituting for any characters	462*
?	Wildcard, substituting for a single character	462??

Filter a Query for a Specific Value

The simplest criterion is one in which you specify a single value for a field. Only records containing that value in that field are included in the query results.

For example, if you have a Products table in your query and that table has a UnitsInStock field, you can display all the out-of-stock products by filtering the query to show those records where the UnitsInStock field value is 0. Similarly, if you just want to see the beverages in the Products table, you could filter the query to show those records where the Category field is "Beverages."

Filter a Query for a Specific Value

Filter a Query for a Numeric Value

 For the field that you want to filter, type the numeric filter value in the Criteria box.

Note: If the value is a date, enclose it in hash marks: **#10/27/2013#**.

Note: If you enter criteria for more than one field, only records that match both criteria are included in the results. Multiple criteria queries are covered later in this chapter.



For the field that you want to filter, type the text string filter value, enclosed in quotation marks, in the Criteria box.

Note: If you forget the quotation marks, Access usually adds them for you.

Note: If you are not sure of the entire text string, use a wildcard, as in the table in the preceding section. For example, "ACME*" finds ACME, ACME Corp., and Acme Corporation.



Specify a Range of Values

Vou can specify a range of values in your criteria by using comparison operators. For example, if your query includes a Products table with a UnitsInStock field, you might want to see which products are low in stock by looking for records where the UnitsInStock field is less than 10. Similarly, in a guery that includes an Orders table with an OrderDate field, you might want to see just those orders placed between January 1, 2013 and January 31, 2013.

Comparison operators work with all kinds of criteria (text, dates, numbers, and so on). A table of available operators appears in the section "Understanding Criteria."

Specify a Range of Values

Using a Greater-Than or Less-Than Range

- **1** For the field that you want to filter, type the comparison operator that you want to use in the Criteria box: >, <, >=, or =.
- 2 Type the value to which you want to compare it.

Note: The value can be a number, date, or text string. Remember to enclose text strings in quotation marks.

Using a Between Range

- In the Criteria row, type Between and add a space.
- 2 Type the lower value in the range and add a space.



3 Type And and add a space.

4) Type the higher value in the range.



Field:	CustomerID	OrderDate	ProductID
Table:	Customers	Orders	Order Details
Sort:		2 4	
Show:	✓		✓
Criteria:		Between #1/1/2013# And #1/31/2013#	
or:			

CHAPTER

Specify a List of Values

You can create a list of values to use for a criterion to apply to a specified field. Access will include in the query results only those records in which the field value matches any one of the values in the list. For example, if you have an Order Details table with a Discount field, you might want to see those orders where the discount was 15%, 20%, or 25%.

There are two ways to create a list of values. You can separate each value with the word *Or*, or you can use the *In* keyword and then place the values in parentheses as a group.

Specify a List of Values

Create a List by Using Or

1 For the field that you want to filter, type the first value in the **Criteria** box and then add a space.

Note: Enclose the value in quotation marks if it is a text string.

- 2 Type the word **Or** and add a space.
- **3** Type the next value and add a space.
- Repeat steps 2 and 3 to include as many items for the list as needed.

Create a List by Using In

- For the field that you want to filter, type In (in the Criteria box.
- 2 Type the list of values, separated by commas.

Note: If the values are text strings, enclose each one in separate quotation marks. Make sure that the commas are outside the quotation marks.



Field: Table: Sort: Show: Criteria:	OrderID Orders V	CustomerID Orders	Discount Order Details 2 -0.15 Or 0.2 Or 0.25
Ur:			
Field:	OrderID	CustomerID	Discount
Table:	Orders	Orders	Order Details
Sort:			2
Show:	✓	✓	✓
Criteria:			In (0.15,0.2,0.25)
or:			
			1

Hide a Field in the Query Results

You can hide a field without removing it from the query grid. This is useful when you need to include a field in a query in order to use it for sorting or as part of your criteria but you do not want that field to show up in the results.

For example, suppose that you are creating a query called *Orders in Washington*. You would need the State field to be included so that you can show only Washington orders, but it would be redundant to have "WA" appear in a column for every record.

Hide a Field in the Query Results

- Click the Show check box for the field that you want to hide (changes to □).
- 2 Click View to check your work.

The datasheet opens, showing the query results. Only the records that match the criteria appear.

The field providing the criteria does not appear.



CHAPTER

Create Compound Criteria

In many situations, using a single criterion does not show you the data that you want to work with. For example, in a Products table, you might want to see those records in which the UnitsInStock field is low (say, less than 10) *and* the UnitsOnOrder field is 0. For queries like these, you need to set up *compound criteria*, where you enter either multiple expressions for the same field or multiple expressions for different fields.

You use *And* criteria when you want to select records that satisfy two or more different expressions. You use *Or* criteria when you want to display records that satisfy one expression or another.

Create Compound Criteria

Combine Exclusive Criteria (Using And)

1 Create a criterion for a field.

Note: See the preceding sections for help if needed.

In the same Criteria row, create a criterion for another field.

Combine Nonexclusive Criteria (Using Or)

1 Create a criterion for a field.

2 On the first empty **Or** row, create a criterion for another field.

Note: You can also create a criterion for the same field in step 2, but if working with the same field, it would be easier to use the word Or in the **Criteria** line, as you learned earlier in this chapter.

Field:	CompanyName	UnitsInStock	UnitsOnOrder
Table:	Suppliers	Products	Products
Sort:			
Show:	✓	✓	<
Criteria:	1	< 10	=0-2
or:	_		
	_		
	•		



CHAPTER

Limit the Records Returned

y default, a query's results contain all the records that match the criteria that you specified. However, there are situations in which you do not want or need to see all the records. For example, in a guery that includes an Order Details table with a Quantity field, you might only want to see the biggest orders.

Access enables you to do this by limiting the number of records that a query returns. You can limit it either by a number or by a percentage. For example, you could show only the top 25 records, or you could show the top 5%.

Limit the Records Returned

1 For the field on which you want to impose a limit, click the **Sort** and then click Ascending or Descending.

Note: Access applies the limit to the first field on which the query is sorted, if any. If there is no sorting specified, Access applies the limit to the leftmost field.



5%

25%

All

Order Details

*

Ŧ

*

💡 OrderlD 💡 ProductID UnitPrice Quantity

Discount

00



Click the **Return** 🔽 and click the limit that you want.

CHAPTER 8

Creating Complex Queries

Queries can do much more than just sort and filter data from a table. They can summarize and calculate data, append data from one table to another, identify duplicate data, prompt the user for parameters at runtime, and much more. In this chapter, you learn how to take advantage of the powerful tools for special-purpose queries in Access 2013.

FIL	E HOM	IE CREATE EX CREATE EX Select Make Apper Table	xTERNAL DA	ATA D	ATABASE TOOLS O Union Pass-Thro elete	UERY TOOLS DESIGN ugh ition Show Table	≩= Insert Rows ∋× Delete Rows _▲ Builder	[™] Insert Columns ♥ Delete Columns ■ Return: ▼	P Totals Parameters	aul McFedries -
R	esults		Que	ry Type			Queŋ	/ Setup	Shov	v/Hide
		Products SupplierID CategoryID QuantityPerUnit UnitPrice UnitsInStock								
ation Pane	Field: Table: Update To: Criteria: or:	UnitPrice Products [UnitPrice]*1.05		Â	No You are about to Once you dick Yes Are you sure you y	orthwind - Mi update 77 row(s ;, you can't use t want to update Yes	crosoft Access). he Undo command these records?	×		
Navig										

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Create a Calculated Field
Understanding Action Queries
Run a Make Table Query
Run a Delete Query
Run an Append Query
Run an Update Query
Prompt the User for a Parameter
Understanding Parameter Syntax

Understanding Summary Queries

A summary query includes a column that performs a mathematical operation — such as summing A or averaging — on the values of a particular field. A summary query derives either a single value for the entire query or several values for the records that have been grouped within the results. This means that you can use a summary query to distill a large quantity of data down to useful information. You can use summary queries whenever you do not care about the individual records but want to understand the big picture.

(A) No individual records

Individual records do not appear in the results of a summary query. Each row in the query datasheet represents a summary of a group of records. It is possible but not typical for a group to consist of a single record.

B Group By

A summary query typically contains only a few fields. It needs only the field(s) by which you want to group the data and the field(s) by which you want to calculate. There is typically one field by which the data is grouped. In this example, each row represents a different month.

Orders Quantities By Month								
OrderDate By Month 👻	Sum Of Quantity 👻	Avg Of UnitPrice 👻						
June 2012	1635	\$25.59						
July 2012	2054	\$27.15						
August 2012 🛛 🗛	1861	\$26.14						
September 2012	2343	\$26.66						
October 2012	2679	\$26.81						
November 2012	1856	\$25.40						
December 2012	2682	\$30.94						

C Sum

The Quantity field has been set up to use the Sum function to sum the Quantity values for the month as a whole. Access automatically generated the column title Sum Of Quantity.

D Average

The UnitPrice field has been set up to use the Average function to average the unit price values for the month as a whole. Access automatically generated the column title Avg Of UnitPrice.

Aggregate Functions

Summary queries summarize data using *aggregate functions* built in to Access. These are math operations that calculate statistics about the data. Some of the aggregate functions require the data to be numeric, such as Sum; others, such as Count, work on any data type.

The following are the available aggregate functions:

Function	Purpose
Sum	Totals numeric values.
Avg	Totals numeric values and divides by the number of records in the group.
Min	Finds the lowest value (smallest number, first text alphabetically, earliest date).
Max	Finds the highest value (largest number, last text alphabetically, latest date).

Function	Purnose
Count	Finds the number of records in the group.
StDev	Calculates the standard deviation. This is used to see how close the values are to the average.
Var	Calculates the variance. This is another way of measuring how close the values are to the average.
First	Finds the first record's entry in the group.
Last	Finds the last record's entry in the group.
Expression	Allows a custom formula to be entered.
Where	Refers the query to the Criteria row. This enables you to include fields in the query purely for criteria purposes without grouping or calculating by that field.

Simple Query Wizard Summaries Summary Options

When you choose a summary query with the Simple Query Wizard, a Summary Options button becomes available in the wizard.



B Select the calculations

You can click check boxes for each calculation that you want (\Box changes to \blacksquare). Each check box that you click translates into a column in the query results, so choose carefully to avoid information overload.



C Query Design view summaries

In the Query Design view, you can display a Total row in the grid. For each field included, the Total row must be set either to Group By or to one of the functions shown in the previous table.

C	OrderDate By Month: I	Sum Of Quantity: Quantity		Ava Of UnitPrice: UnitPrice
Tal le:		Order Details		Order Details
Total:	Group By	Sum	Avg	
Sort:		Group By		_
Show:	✓	Sum		~
Criteria:				
or:		Min		
		Max		
		Count		
		StDev		
		Var		
		First		
		Last		
		Expression		
		Where		

Create a Summary Query with the Simple Query Wizard

The easiest way to create a summary query is to use the Simple Query Wizard, as you learn in Chapter 7, "Creating Simple Queries." You follow the same procedure for adding fields from one or more tables or queries. After you have done that, the Simple Query Wizard gives you the opportunity to specify that you want to create a summary query. From there, you set up the calculations that you want to use and decide if you want your results grouped on a field's values.

Create a Summary Query with the Simple Query Wizard



Creating Complex Queries



The detail or summary page of the wizard appears.

 Click Summary (○ changes to ●).

12 Click Summary Options.

Simple Query Wizard
Would you like a detail or summary query? Detail (shows every field of every record) Detail (shows every every record) Detail (shows every every every every every record) Detail (shows every e
Cancel < <u>B</u> ack <u>N</u> ext > <u>F</u> inish

The Summary Options dialog box opens.

- Click the check box for each calculation that you want to perform (□ changes to ☑).
- If you want a record count, click
 Count records in table name
 (□ changes to ☑).

Note: *Table name* will be replaced by the name of the table or query from which that field is being taken. It is Order Details in this example.



15 Click OK.

TIPS

Which fields should I use?

A summary query is clearest and most concise when it uses very few fields. Include one field by which to group and then only the fields by which you want calculations to appear for those groups. If you use more fields than that, the datasheet becomes so complex that it defeats the purpose of a summary query — to summarize a large collection of data in a concise format.

Can I choose fields from different tables?

Yes. The same rules apply as with a detail query. Fields can come from different tables as long as those tables are related. Consult the Relationships window (click the **Database Tools** tab and then click **Relationships**) if you are not sure about the relationships.

Create a Summary Query with the Simple Query Wizard (continued)

When you create a summary query that includes a field that uses the Date/Time data type, the Simple Query Wizard enables you to group the results according to the values in that field. You do this by selecting a grouping interval for the field's date values, and that interval can be by day, month, quarter, or year.

This option alone makes the wizard very valuable. It is easy to set up such intervals in the wizard, but it is very complicated and difficult to set them up manually in the Query Design view.

Create a Summary Query with the Simple Query Wizard (continued)

You are returned to the Simple Query Wizard.

16 Click Next.

Simple C	Query Wizard
Would you li Detail (si Detail (si Summary C 1 C 2 C 2 C 9 C 9 C 9 C 9 C 9 C 9 C 9 C 9	te a detail or summary query? hows every field of every record) , ary Options
Cancel	< <u>B</u> ack <u>N</u> ext > <u>F</u> inish

If the Group By field is a Date data type, you are prompted for an interval.

 Click the grouping interval that you want (
 changes to
).

18 Click Next.

	Simple Query Wizard
1 1000 1000 100 2 1000 1000 100 2 1000 1000 100 2 1000 1000 100 2 1000 1000 100 4 1000 1000 100 1000	How would you like to group dates in your query?
	Cancel < <u>B</u> ack <u>N</u> ext > <u>F</u> inish

Creating Complex Queries



The title page of the wizard appears.

19 Type a name for the query, replacing the default name.

20 Click Finish.



The query results appear in a datasheet.

2 Widen the columns if needed to display the column headings.

Note: To automatically size a column to its content, double-click between the column headings. To manually size it, drag the right border of a column heading.

2 Click 🔛.

Access saves the summary query.

TIPS

Can I make changes to a summary query after creating it with the wizard?

Yes. You can edit it in the Query Design view. In most respects, a summary query is just like any other query. However, it has a Total row in the grid that detail queries do not have. You will learn more about summary queries in the Query Design view in the next section.

When I view the query in the Query Design view, why is there a weird extra field that starts with "Year"?

When you specify grouping by a date range, the Simple Query Wizard adds a formula that represents the interval. Its syntax can be quite complex; that is why it is best to create such fields with the wizard. Widen its column in the grid to see the entire formula at once.

Create a Summary Query in the Query Design View

If you want more control over the creation of a summary query, you can create it in the Query Design view by specifying the fields manually. For example, the Simple Query Wizard gives you a choice of only four summary values: Sum, Average, Maximum, and Minimum. If you want to use summary values such as Count or Standard Deviation, you need to use the Design view.

Also, if you know exactly what you want and if the syntax that you need is not complicated, it can be faster to use this method than the wizard.

Create a Summary Query in the Query Design View

- 1 Click the **Create** tab.
- 2 Click Query Design.

A new Query Design window opens, and the Show Table dialog box appears.

- 3 Double-click the tables that you want to include in the query.
- A You can also click a table and then click **Add**.
- You can also click the Queries tab and add an existing query, just as you would a table.

4 Click Close.

The selected tables (or queries) appear as field lists in the top part of the window.

- 5 Drag the fields that you want on to the grid.
- 6 Click the **Design** tab.

7 Click Totals.



Creating Complex Queries



The Total row appears on the grid.

- 8 For each field, click the Total and click the calculation to perform.
- C Leave one field set to Group By; these groups will form the rows of the results.

9 Click View.

The query results appear in a	
datasheet.	

1 Click 🔛.

The Save As dialog box opens.

 Type a name for the query, replacing the default name.

12 Click **OK**.

The query is saved.

🛃 Update ₹= Insert Rows OD Union ₽٧ 🛅 Crosstab Pass-Through EX Delete Rows Select Make Append Run Show View 😓 Delete 🕍 Data Definition 🔊 Builder Table Table Results Query Typ Query Se 🗗 Query 1 9 Order Details Customers Order: 💡 CustomerID 💡 OrderlD 00 💡 OrderlD CompanyName CustomerID 💡 ProductID ContactName EmployeeID UnitPrice ContactTitle OrderDate Quantity Address RequiredDate Discount • Navigation Pane CompanyName Field: OrderID Quantity Table: Customers Orders Order Details Total: 8 Group By Count Sum Sort: Group By Show: --Sum Criteria: Ava Min or: Max Count StDev Var First Last Expression • Where A 10 CREATE EXTERNAL DATA DATABASE TOOLS ∮↓ Ascending **T**/ -Σ X New New đ Z↓ Descending ABC Ē -Save В View Paste Filter Refresh Find 1 A ₽ Remove Sort 🗙 Delete 🕞 📰 🗸 \triangleright Α All -Sort & Filter Records Views Clipboard 🖬 Find >> Ouerv 1 🗸 CountOfOrderID 👻 SumOfQuantity 👻 Company Name Alfreds Futterkiste 12 174 Ana Trujillo Emparedados y helados 10 63 Antonio Moreno Taquería 17 359 Around the Horn 30 650 Berglunds snabbköp 1001 52 Blauer See Delikatessen ? × 140 Save As Blondel père et fils 666 Pane Bólido Comidas preparadas Query Name: 190 Order Summari 11 980 Bon app' Vavigation Bottom-Dollar Markets 956 ОК Cancel B's Beverages 293 Cactus Comidas para llevar 115 Centro comercial Moctezuma 2 11 Chop-suey Chinese 465 133 Comércio Mineiro 10 Consolidated Holdings 7 87

TIPS

How can I rename the column headings?

Use an alias, as you learn to do in Chapter 7. In the

Sum of (Quantity: Quantity
Order D	etails
Sum	

<

Query Design view, type an alias and a colon in front of the field name in the **Field** row.

Can I sort and use filter criteria in a summary query?

Die Wandernde Kuh

Yes. A summary query is just like a detail query in most respects. You



26

can even include a field in the query that does not appear in the query results just for filtering.

492

Understanding Calculated Fields

You often need to perform some kind of analysis on the query results. To do that, you need to introduce calculations into your query by creating what is called a *calculated field*. This is a column where the "field" is a calculation and the field values are the results of the calculation for each record. The calculation can be any combination of operator, field, and literal values.

For example, if you have a table of orders with a UnitPrice field and a Quantity field, you could create a calculated field named *Total* that multiples these two values.

with a colon. Show: Criteria: Or:	Assign a Column Name Use the same technique for naming the new column that you did with aliasing in Chapter 7, but do it in a blank column. Type the new name at the beginning of the Field box and then follow it with a colon.	Field: Table: Sort: Show: Criteria: or:	Total:	¥
-----------------------------------	--	--	--------	---

Write the Expression After the colon, write the expression — that is, the math formula — by using standard math operators, with field names enclosed in square brackets. For example, to multiply the UnitPrice by	Field: Table: Sort: Show: Criteria: or:	Total: [UnitPrice]*[Quantity]	
the quantity, type the follow			

Here are the math operators that Access recognizes:

Addition	+	
Subtraction	-	
Multiplication	*	
Division	/	
Exponentiation	۸	

Create a Calculated Field



Calculated fields enable you to create powerful queries that use the full power of Access's expression-building features. For example, suppose that you have a Products table with a UnitPrice field and you want to display the unit price for each product plus a 5% increase. You can do that by creating a calculated field based on the following expression: **[UnitPrice] * 1.05**.

Similarly, suppose that you have a table of employees with FirstName and LastName fields and you want to see the names combined. You can do that by creating a calculated field that uses the following expression: [FirstName] & " " & [LastName].

Create a Calculated Field

Create a Calculated Field

- In the Field row for a blank column, type a title for the new column, followed by a colon (:).
- 2 Type the formula to calculate.

Note: Remember to enclose field names in square brackets.

Set a Number Format for the Calculated Field

1 Right-click the calculated field.

2 Click **Properties**.

The Property Sheet opens.

3 Click the **Format** *→* and click the number format that you want.

4 Click 🗙.

The Property Sheet closes.

Field: Table: Sort: Show: Criteria: or:	Prod Prod	uctName ucts ✔	Uni [†] Proc	tPrice ducts]	New F	Price: [UnitPrice]*1.05
(Field: Table: Sort: Show: riteria: or:	ProductName Products	2	UnitPric Pr X B A C A A	e Tota <u>l</u> s Table <u>N</u> am Cu <u>t</u> Copy Paste Build Zoom Properties.	nes	/ Price: [UnitPrice]*1.(

Property Shee Selection type: Field Pro	et perties	×
General Lookup		4
Description		
Format	Currency	3 🗸 🗸
Input Mask	Long Date	Thursday, N 🔥
Caption	Medium Date	12-Nov-15
Text Format	Short Date	11/12/2015
	Long Time	5:34:23 PM
	Medium Time	5:34 PM
	Short Time	17:34
	General Number	3456.789
	Currency	\$3,456.79
	Euro 🗟	€3,456.79

Understanding Action Queries

All the queries that you have worked with to date have been select queries. A *select query* is one Ain which Access uses the query criteria to select the matching rows from one or more tables. However, Access has several other query types that are designed to perform actions on the data, such as changing values, adding records, deleting records, and writing records to a new table. These are the so-called *action queries*. Unlike a select query, an action query makes permanent changes to the table.



- Make Table: This creates a new table; it is a way of copying records from an existing table to a new one.
- **Append:** This adds records to the end of an existing table. This is a way of copying records from an existing table to another existing table.
- **Update:** This changes values across the entire table based on criteria that you specify. For example, you can increase prices by a certain percentage.
- Delete: This deletes records from the table based on criteria that you specify.

Be Careful!

Because an action query makes permanent changes to a table, you should back up the table before running one on it. One way is to copy the table by selecting it in the Objects list, pressing Ctrl + C, and then pasting it by pressing Ctrl + V. In the Paste Table As dialog box, specify a name for the copy, click **Structure and Data** (\bigcirc changes to \bigcirc), and click **OK**.
 Paste Table As
 ?
 ×

 Table Name:
 OK

 Copy Of Products
 Cancel

 Paste Options
 Cancel

 ○ Structure Only
 Structure and Data

 ○ Append Data to Existing Table
 Here

To avoid accidentally rerunning an action query later, either delete it from the Objects

list when you are finished with it or hide it there by right-clicking it and clicking Hide in This Group.

To unhide hidden objects, right-click the bar at the top of the navigation pane and click **Navigation Options.** In the Navigation Options dialog box, click **Show Hidden Objects** and then click **OK**.

Run a Make Table Query

A Make Table query creates a new table. You can use this query to archive old records, for example, or to split a table into two separate tables based on the status of a certain field.

For example, at the end of the fiscal year, you might want some of your tables to be "frozen" while you tie things up for year-end. (This applies particularly to tables that track invoices.) Instead of letting the new work pile up until the table can be released, you can run a Make Table query to create a new table from the existing one.

Run a Make Table Query

 Create a select query as you would any other query in the Query Design view.

Note: Make sure that you include all the fields that the new table should contain. Also, make sure that your criteria captures the needed records.

- 2 To check your work before running the guery, click View.
- 3 Click **View** again to return to the Query Design view.
- 4 Click the **Design** tab.
- 5 Click Make Table.

The Make Table dialog box opens.

6 Type a name for the new table.

- 7 Click OK.
- 8 Click Run.

Access creates the new table.



Run a Delete Query

If you need to delete one or two records from a table, just select each record and choose the Home tab's **Delete** command. But what if you have a large number of records to delete? For example, you might want to clean out an Orders table by deleting any old orders that were placed before a certain date. Or you might want to delete records for products that have been discontinued. For these and similar examples, you can set up a Delete query that uses criteria to identify which records to delete. When you run the query, Access deletes the matching records.

Run a Delete Query

- Create a select query as you would any other query in the Query Design view.
- Include criteria that identifies the records to be deleted.

Note: This query acts on entire records, regardless of the fields that you include. Therefore, you need to include only those fields required to set up the criteria.

- 2 To check your work before running the query, click View.
- 3 Click **View** again to return to the Query Design view.
- 4 Click the **Design** tab.
- 5 Click Delete.
- B The rows in the grid change. The Sort and Show rows disappear, and a Delete row appears.
- 6 Click Run.

A warning dialog box opens.

7 Click Yes.

Access deletes the records that match your criteria.



Run an Append Query

Instead of creating a new table using a Make Table query, you might prefer to add records from one table to an existing table. You can accomplish this using an Append query, which takes the records that match some criteria from one table and copies them to another table. Appending records does not remove them from the original source.

Note that for an Append query to work, the corresponding fields in the receiving table must use the same data type as the fields that you specify in your query.

Run an Append Query

- 1 Create a select query.
- Add the fields that you want to include in the appended records.
- Include criteria that identifies the records to be appended to another table.
- 2 To check your work before running the query, click View.
- 3 Click **View** again to return to the Query Design view.
- 4 Click the Design tab.
- 5 Click Append.

The Append dialog box opens.

- 6 Click the Table Name → and click the table to which you want the records appended.
- 7 Click OK.
- 8 Click Run.

A warning dialog box opens.

9 Click Yes.

The records are appended.

Note: The records are not appended where it would violate data integrity rules, such as duplicate records not being allowed for a certain field.



Run an Update Query

What if you want to replace the contents of a field with a new value, but only for records that meet certain criteria? You can do this by creating an Update query. Unlike a select query, which displays only a subset of the table, an Update query actually makes changes to the table data. You select a field, specify the new field value, set up some criteria (optionally), and then run the query. Access runs through the table and changes the field entries to the new value. If you enter criteria, only records that match the criteria are updated.

Run an Update Query

- 1 Click the **Design** tab.
- 2 Click Update.
- An Update To row appears in the grid.



B The field is placed in the grid.



	CHAPTER
omplex Oueries	



Note: A 5% increase in the unit price is shown here.

5 Click Run.

5-0-= Northwind - Microsoft Access OLIERY HOME CREATE EXTERNAL DATA DATABASE TOOLS DESI 🕨 Union 🎑 Pass-Through Run Select Make Append Update Crosstab Delete View 🕍 Data Definition Table Resu Query Type 5 1 >> Products ٠ SupplierID CategoryID QuantityPerUnit UnitPrice UnitsInStock 4 Field: UnitPrice Table: Products Update To: [UnitPrice]*1.05 4 Criteria: ane or: Northwind - Microsoft Access

Creating (

A warning dialog box opens.

6 Click Yes.

The query runs and updates the values.

You are about to update 77 row(s).
Once you click Yes, you can't use the Undo command to reverse the changes.
 Are you sure you want to update these records?

TIPS

What is the correct syntax for an Update To formula? Enclose field names in square brackets and use standard math operators:

- + (addition)
- - (subtraction)
- * (multiplication)
- / (division)
- ^ (exponentiation)

Do not use any currency symbols and express numbers as plain digits.

What are some examples of formulas? Some examples include the following:

- To increase Price by \$2: [Price]+2
- To decrease Price by 5%: [Price]*0.95
- To decrease Price by one-third: [Price]*0.67
- To multiply Price by itself: [Price]*[Price] or [Price]^2

Prompt the User for a Parameter

A fter you have a query running properly, you usually do not have to worry about the query design A any longer. However, in certain situations, the query itself undergoes regular change. For example, if your query filters customer orders using a State field, you might find yourself constantly changing the State criterion.

Instead of constantly editing the query, you can configure the query to prompt the user for a value to use as a variable. In the customer orders example, you could create a parameter that asks for the state each time the query is run.

Prompt the User for a Parameter

Create the Prompt

- Create the query as you normally would in the Query Design view.
- 2 In the **Criteria** row, type the prompt message in square brackets.

Test the Parameter

1 Click Run.

Note: Because this is a select query, there is no difference between Run and View. You can use either one.

The prompt for the parameter appears.

- 2 Type the variable in the text box.
- 3 Click OK.

The datasheet opens with just the records that match the variable.

A If you want to rerun the prompt from the Datasheet view without returning to the Design view, click the Home tab and then click Refresh All.



Understanding Parameter Syntax

One of the difficulties in creating a parameter prompt is making it easy for users to enter the values that they want without generating an error or unwanted results. To help with this, you can modify the basic prompt and combine it with other criteria to permit a variety of responses.

Here are some examples that use the simple prompt [Which State?] as their basis:

Entry in Criteria	Permissible Responses
[Which State?]	Entire state abbreviation.
Like [Which State?]	Entire state abbreviation.
	OR
	Any portion of field contents with a wildcard. For example, use C* to see CA, CO, and CT or *A to see CA, IA, PA, and WA.
Like [Which State?] or Is Null	Entire state abbreviation.
	OR
	Any portion of field contents with a wildcard.
	OR
	Press Enter or click OK without entering anything to display all records.
Like [Which State?] & "*"	Entire state abbreviation.
	OR
	Any portion of field contents with a wildcard, where the wildcard applies to the value in any position. For example, *A displays all values with A anywhere in their name.
	UK Drace Fater or click OK without entering anything to display all records
	riess rener of click OK without entering anything to display all fecolds.

CHAPTER 9

Creating Forms

Forms provide an easy-to-use interface for data entry and editing. Forms are especially helpful for databases that will have lessexperienced users assisting you because on-screen forms can mimic familiar paper forms. In this chapter, you learn how to create forms, group and arrange fields on them, and define their tab order.

	E-mail Create Outlook Contact	Save and New		Close
eneral Orders				
ordero				
First Name	Jan	E-mail	jan@northwindtraders.com	
Last Name	Kotas	Web Page	http://northwindtraders.com	
Company	Northwind Traders			
Job Title	Sales Representative			
Phone Numbers		Notes		
Business Phone	(123)456-7890			
Home Phone	(123)456-7890	was nired as a sales asso	clate and was promoted to sales representative.	
Mobile Phone		-		
Fax Number	(123)456-7890			
Address				
Street	123 Any Street			
City	Any City	_		
State/Province	WA			
Zip/Postal Code	99999			
Country/Region	USA			

Understanding Forms	2
Create and Save a Form	-
Create a Form with the Form Wizard	5
Create a Form in the Layout View)
Create a Form in the Design View	2
Delete a Field from the Design View	8
Arrange Fields on a Form	-
Group Fields Together	5
Define the Tab Order on a Form	7

Understanding Forms

The datasheet is a reasonable tool if you are only entering one or two records, but if you are entering a dozen records or even a hundred, you need to leave the datasheet behind and use the Access data-entry tool of choice: the form. A *form* is a collection of controls — usually labels and text boxes, but also lists, check boxes, and option buttons — each of which represents either a field or the name of a field. Forms make data entry easier and more efficient.

One record at a time

The default form shows the fields as fill-in boxes for one record at a time. This makes it easier for users to enter a new record without becoming confused by the multiple rows and columns of a datasheet.

B Object display

In the Datasheet view, imported objects such as graphics appear as text names, but on a form, depending on the data type, Access might be able to display them as they actually appear. For example, pictures of employees can be displayed with each employee record.

G Form header

A form can have a running header that appears the same no matter which record is displayed. You can put anything that you want in this header. In this example, hyperlinks to other forms appear, making it easy for the user to navigate between forms.

-9	E	mployee Details	_ □	×
🦛 Jan Ko	otas			
<u>G</u> o to	E-mail Create Qutlook Contact	Save and New C	<u></u> los	:e
General Orders	A			
First Name	Jan	E-mail	jan@northwindtraders.com	
Last Name	Kotas	Web Page	http://northwindtraders.com	
Company	Northwind Traders			
Job Title	Sales Representative			
Phone Numbers		Notes		
Business Phone	(123)456-7890	Was hired as a sales associ	ate and was promoted to sales	
Home Phone	(123)456-7890	representative.		
Mobile Phone				
Fax Number	(123)456-7890			
Address				
Street	123 Any Street			
City	Any City			
State/Province	WA WA			
Zip/Postal Code	99999	-		
Country/Region	USA	-		
Ģ				
Record: IN IS OF 9	No ritter Search			

D Search

To search for a particular record, the user can type a word or phrase in the Search box and then press Enter. The records are filtered so that only records that contain the word or phrase appear when the user scrolls through them with the record navigation controls. The user can click **No Filter** to remove the filter.

Record navigation

To move between records, users can use the Record navigation buttons. These are the same as in a datasheet, but they are more useful here because you cannot see other records without them.

() Tabbed or pop-up forms

A form can appear on a tab, as shown here, or as a pop-up window, as shown on the preceding page. This is controlled by the pop-up setting in the form's properties.

G Multitabbed forms

A form can consist of multiple tabbed pages, with different form controls on each tab.

Datasheet-style forms

There are several design styles for forms besides the standard one shown on the preceding page. For example, a form can resemble a datasheet and can show multiple records at once.

Customer	Company Z	~	Salesperso	Anne He	llung-Larsen	¥	1
E-mail Address			Order Date			4/5/2006	
der Details Shipp	ing Information Payment Informatio	n	G				_
·	Product -	Qty -	Unit Price 🔻	Discount 👻	Total Price 👻	Status 👻	1
Northwind Tr	aders Olive Oil 🗸 🗸	25	\$21.35	0.00%	\$533.75	Invoiced	H
Northwind Tr	aders Clam Chowder	30	\$9.65	0.00%	\$289.50	Invoiced	Ť.
Northwind Tr	aders Crab Meat	30	\$18.40	0.00%	\$552.00	Invoiced	
	Total	85			\$1,375.25		
-							

O Subforms

A *subform* shows the records from a different table or query that are related to the main record shown. In this example, the orders for a particular customer are being pulled from the Orders table depending on which customer is chosen in the main form.

O Navigation buttons

This subform does not have navigation buttons at the bottom. That is because having two sets of buttons (one for the main form and one for the subform) would be confusing. Navigation buttons are turned off with the Navigation Buttons property for the subform.

Create and Save a Form

The easiest way to create a form is to use a predefined form layout. Access has several of these layouts, but the basic, split, and multiple-items forms are the ones that you will use most often.

A *basic* form layout shows just the data from one record at a time. A *split* form displays a datasheet on top and a form below, and when you click a record in the datasheet, the record data appears in the form. A *multiple-items* form is a tabular layout that shows the field names at the top and the records in rows.

Create and Save a Form

Create a Basic Form

- 1 In the Objects list, click the table or query for which you want to create a form.
- 2 Click the Create tab.

Click Form.

The form appears.

Note: You might also see a subform showing a related table, if any usable relationships exist.

Create a Split Form

- In the Objects pane, click the table or query for which you want to create a form.
- 2 Click the **Create** tab.
- 3 Click More Forms.
- 4 Click Split Form.
- A The form appears in the upper part of the screen.
- B The datasheet for the table or query appears in the lower part of the screen.



Creating Forms

CHAPTER

Create a Multiple-Items Form

 In the Objects pane, click the table or query for which you want to create a form.

2 Click the **Create** tab.

- 3 Click More Forms.
- 4 Click Multiple Items.

A form appears with multiple records visible at the same time.

Save a Form

1 Click 🔛.

The Save As dialog box opens.

2 Type a name for the form.

3 Click OK.

The form is saved.

• You can right-click the form tab and then click **Close** on the shortcut menu to close the form.



TIPS

What other form types can I create?

Click the **Home** tab, click the **More Forms** button, and then click one of the following:

- **Datasheet:** This looks just like a regular datasheet, but it is actually a form. This is useful when you want to show a datasheet on a subform, for example.
- Modal Dialog: This looks just like a dialog box, but it is actually a form. This is useful for creating navigational menu systems.

What if I do not want a subform on a form created with the Form button?

If you do not require the subform, you can delete it from the form. First click any border of the subform to select it. You will know that it is selected when you see a thick border around the subform. Click the **Home** tab and then click **Delete** (alternatively, press **Delete**).

Create a Form with the Form Wizard

The basic, split, and multiple-items forms are fine for very simple form needs, but it is likely that in most cases the resulting form will not suit your needs exactly. For a bit more control over your forms, you need to use the Form Wizard, which takes you step-by-step through the entire formcreation process.

The Form Wizard enables you to create a form based on more than one table or query, not necessarily using all the available fields from them. With the Form Wizard, you gain some flexibility without having to do all the form design work yourself.

Create a Form with the Form Wizard Click the **Create** tab. 2 HC 1 CREATE EXTERNAL DATA DATABASE TOOLS Click Form Wizard. 🔜 Form Wizard 📇 Navigation 🔻 Table Table SharePoint Query Query Form Form Blank 📧 More Forms 🕶 Design Form Design Lists 🔻 Wizard Design Tables Queries Forms The Form Wizard appears. Form Wizard 3 Click the Tables/Queries 🔽 Which fields do you want on your form? and click the table or query You can choose from more than one table or query. from which you want to select fields.


Creating Forms

4 Click a field.

5 Click > to move the field to the Selected Fields list.

Note: Add fields in the order in which you want them to appear on the form.

▲ If you make a mistake, you can remove a field by clicking <.</p>

6 Repeat steps 4 and 5 to add more fields from the chosen table or query.

7 Repeat steps 3 to 6 for other tables or queries if needed.

Note: If you choose fields from more than one table or query, they must be related.

8 Click Next.



TIPS

Can I use fields from more than two tables or queries?

Yes. But you are not prompted for subform information. Instead, all the fields appear on a single form. It is possible to create subforms within subforms using the Form Design view but not using the wizard.

Is it okay to not use all the fields from the table or tables?

Yes. But keep in mind that users filling out that form will have no way of entering values in the fields that do not appear on the form. With an AutoNumber field, that is not a problem because the user cannot enter data into that field anyway, but any other field will be blank if it is not included on the form.

Create a Form with the Form Wizard (continued)

The Form Wizard is useful not only for selecting the exact fields to include but also for choosing a format and appearance for the form. You can also change the fields and format later in the Form Design view, but it is often easier to specify upfront what you want via the wizard.

In particular, you can use the Form Wizard to determine the form layout to use when you choose fields from two related tables. For example, if your form includes fields from the Customers and Order Details tables, you can choose one table for the main form and the other for the subform.

Create a Form with the Form Wizard (continued)

If you chose fields from two different tables or queries, you are asked which one should be the subform.

- 9 Click the option that best represents the layout that you want.
- If you would rather have a linked form than a subform, click Linked forms (
 Changes to
).

Note: A *linked form* means that Access creates a second form instead of a subform. The main form includes a button that, when clicked, displays the second form.



The layout page of the wizard appears.

12 Click the layout that you want for the form (O changes to).

Note: If you are creating a form with a subform, this screen asks you to choose the layout for the subform rather than for the main form. For a form/subform layout, the main form is always columnar when constructed by the wizard.







Creating Forms

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16

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\$45.60 \$18.00

\$12.00

\$43.90 ¢10.00

Search

The title page appears. Form Wizard 14 Type a name for the form, What titles do you want for your forms? replacing the default name. Form: Customers 🔫 14 Subform: 15 If you created a subform, type a Order Details Subform 🚽 name for the subform, replacing the default name. That's all the information the wizard needs to create your form. 16 Click Finish. Do you want to open the form or modify the form's design? Open the form to view or enter information. Modify the form's design. Cancel < Back Next > The form appears in the Form view. 🔳 Customers Customers If some of the labels appear truncated, you can fix this problem • in the Form Design view. Customer ID ALFKI Company Name Alfreds Futterkiste Note: See the section "Arrange Fields Phone 030-0074321 on a Form" for more on fixing truncated Address Obere Str. 57 City Berlin Region Postal Code 12209 Country Germany Order Details Order ID 🚽 Quantity 🚽 Unit Price 10643 15 10643 21 10643 2 10692 20 10702 ← 1 of 12 No Filter

TIPS

fields.

Do I need to save the form before I close it?

No. When you specify a name in step 14 and optionally in step 15, you are supplying the object names to be used. Access automatically saves the form and subform, if applicable, with those names.

I made a mistake; how do I delete the form that I just created? Delete the form as you would any other object:

Record: I4

Locate the form in the Objects list.

Record: H 🔸 1 of 91 🕨 H 🛤 🍢 No Filter Search

- Right-click the form name.
- Click **Delete**. 3
- 4 In the warning dialog box that appears, click **Yes**.

Create a Form in the Layout View

The Form Wizard offers the easiest path to creating a form, but it does not give you much flexibility in terms of the form layout. The Form Design view, which you learn about in the "Create a Form in the Design View" section, gives you complete flexibility but is more complex to learn and use. In between these extremes is the Form Layout view, which lets you create a form by dragging and dropping fields on to a blank page. It is not as powerful as the Design view, but it is much easier to use.

Create a Form in the Layout View

Create the Form

- Click the Create tab.
- 2 Click Blank Form.

A blank form appears, along with a Field List pane.

- 3 Click Show all tables.
- A list of all the tables appears; each table's field list is collapsed.
- 4 Click 표 next to a table.

A list of the fields in the table appears (\oplus changes to \square).

5 Drag a field from the Field List on to the form.

You can also double-click a field to add it to the form.

6 Repeat step 5 to add more fields.



Creating Forms



Adjust the Spacing between Labels and Fields

- This is the field label.
- C This is the field.
- Click any label to select it. 1
- 2 Position 🔈 between the field and its label (\triangleright changes to ++).
- 3 Click and drag to the left or right to change the spacing.

The change affects all the fields.

Adjust Label Alignment

- Click any label to select it.
- Position 🔉 above the top label so that a black arrow appears and then click.

Access selects the entire column.

3 Click the **Format** tab.

Yes. Follow these steps:

(\triangleright changes to $\overline{\mathbb{R}}$).

select it.

Click the Align Right button (\equiv).

Access aligns the labels on the right.

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EI	LE HOME	CREATE EXTERNAL DATA DATABASE TOOLS DESIGN ARE	ANGE FORMAT				



TIP



2

Create a Form in the Design View

A lthough the Layout view is a step up from the Form Wizard in terms of control, the resulting form Astill might not satisfy your needs. For maximum form flexibility, you need to use the Form Design view, which gives you total control over the form, including the positioning of the controls, the formatting of the text, and the colors.

This section shows you how to create a basic form layout using the Design view. The rest of the sections in this chapter and in Chapter 10, "Editing Forms," show you how to customize your form using the Design view tools.

Create a Form in the Design View

- 1 Click the **Create** tab.
- 2 Click Form Design.

A new form appears in the Form Design view.

- A The Field List appears.
- If the Field List does not appear, click the Design tab and then click Add Existing Fields.

 \boxdot changes to \square , and the list of fields appears.

4 Click and drag a field on to the design grid.

Both the field and its associated label appear.

- C This is the field label.
- D This is the field.
- 5 Drag and drop more fields on to the form.

Note: You can drag more than one field at a time by selecting multiple fields in the Field List before dragging. Hold down Ctrl and then click the fields that you want.



Delete a Field from the Design View

If you no longer need a form object, you can either remove an entire field, including its label, or remove only the label. When you remove the label, this enables the field to remain on the form but without a label. This can be useful, for example, when you want a single label, such as Name, followed by two different fields, such as FirstName and LastName. It can also be useful when fields

on the form are obvious and do not need labels to name them, such as Notes or Memo.

Delete a Field from the Design View

more information.



CHAPTER

Arrange Fields on a Form

One advantage of working in the Form Design view, as opposed to the Layout view, is the flexibility it offers in arranging fields. You can freely drag a field around on the grid or make a field align or conform in size with other fields.

An invisible rectangular frame surrounds each label and field. When you select an item, Access displays a selection box on this frame, which includes selection handles at the frame's corners and midpoints. You can use this frame to resize any label or field to change its shape or dimensions, as well as to move the label or field.



When you move a field, its label travels with it. To move a field, position \triangleright over the border of the selected field or label — but *not* over a selection handle — so \triangleright changes to $\overline{\ast}$. Then click and drag the field to its new location.

Move Only the Field or Only the Label

Each field and each field label has a larger selection handle in its upper-left corner. If you drag the box by that selection handle, it moves separately from its associated objects. So, for example, you can move a label independently of its field or vice





versa. This can be useful if you want to place the label closer to the field or above the field.

Creating Forms

Align Fields and Labels

It is often useful to right-align or left-align a series of fields or field labels. You can select several fields and then click one of the alignment buttons to make the fields align neatly with one another. Click the **Arrange** tab, click **Align** (, and then choose an alignment from the menu that appears.

Note that Access aligns the selected controls with a single *base control*, which is the control that is the farthest positioned in whatever direction you are aligning the controls. For example, if you want to align the controls on their right edges, the base control is the one that is farthest to the right.

Make Field Sizes Consistent

Sometimes, a form looks best when all the fields are the same size. Access enables you to select multiple items and then automatically size them horizontally to either the widest item in the selection or the narrowest. You can also size the selected items vertically to the tallest or shortest item in the selection.

Select the fields and/or labels that you want to size consistently, click the **Arrange** tab, click the **Size/Space** button (\square), and then click a sizing command.

Align Fields in a Grid

Access gives you an easy way to arrange your form controls: the control layout. This simple layout acts as a kind of table, and your controls are slotted neatly into the layout's rows and columns. In a *stacked* layout, the controls are arranged vertically in two columns, with field names in the left column and fields in the right

column. In a *tabular* layout, the controls are arranged horizontally in two rows, with field labels in the top row and fields in the bottom row.

Select the items that you want to align, click the **Arrange** tab, and then click either **Stacked** () or **Tabular** ().



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CHAPTER

Group Fields Together

When working with fields, it can be easier to work with multiple fields together than to select and move each one individually. You can do this by creating a *group*, which is a collection of fields you can format, size, and move together, similarly to the way you format, size, and move a single control.

Access treats a group as a single item with its own frame. To select an entire group, you just need to select one item from the group.

Group Fields Together

1 Drag a marquee around a group of fields to select them.

Note: To create a marquee, click and drag an imaginary box from a spot above and to the left of the fields to a spot below and to the right of the fields. You can also press and hold **Shift** and then click each field that you want to select.

- **2** Click the **Arrange** tab.
- 3 Click Size/Space (👯).
- 4 Click Group.

The fields are grouped together.

A To ungroup the fields, click any item in the group to select it, click the Arrange tab, click ²⁰², and then click Ungroup.

Note: Grouping works only with fields that are not part of a layout grid (stacked or tabular). If the Group command is unavailable, select the fields, click the **Arrange** tab, and then click **Remove Layout** to remove them from the grid.



Define the Tab Order on a Form

You can navigate a form by pressing the Tab key. As you press Tab, the order in which Access selects the controls is called the *tab order*. Access sets the tab order according to the order that you added the controls to the form. You will often find that this order does not correspond to the "natural" order of the controls, so pressing Tab causes the selection to jump haphazardly around the form. To fix this, Access lets you control the tab order yourself.

Define the Tab Order on a Form

1 Click the **Design** tab.

2 Click Tab Order (🔡).



CHAPTER

The Tab Order dialog box opens.

- 3 Click to the left of a field name to select it.
- Orag the selected field name up or down in the list.
- Alternatively, you can click Auto Order to set the tab order based on the positions on the form.

Note: Auto Order orders fields from top to bottom. If two fields have the same vertical position, it orders them from left to right.

5 Click OK.

The dialog box closes, and Access puts the new tab order into effect.



CHAPTER 10

Editing Forms

The basic forms that you create in Chapter 9 can be improved by applying formatting and by using special sections, such as headers and footers. In this chapter, you will learn how to use formatting and design features to make forms easier to use and more attractive.

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Display the Header and Footer
Resize Sections of a Form
Select Sections of a Form
Add a Form Title
Apply a Theme
Browse for a Theme to Apply
Apply a Font Theme or Color Theme
Create a Custom Font Theme
Create a Custom Color Theme
Create a Custom Theme
Adjust Internal Margins and Padding
Add a Label
Format Label Text
Change the Background Color
Add a Background Image
Add a Hyperlink
Add a Tabbed Section
Insert a Logo or an Image
Set Conditional Formatting

Display the Header and Footer

The Detail section of a form should be a data-only area. If you want to display a form title or the current date or some other information not related to the data, you can take advantage of the form's header and footer.

The *form header* appears above the Detail area, so it is a good choice for the form title, a company logo, or any other items that you want displayed separately from the form data. The *form footer* appears below the Detail area. It is a good place to add nondata items such as the current date or instructions on how to fill in the form.

Display the Header and Footer

1 In the Design view, rightclick one of the section bars (such as **Detail**).

2 Click Form Header/Footer.

Note: The command is a toggle; click it again to turn the header/ footer display off.

- You can also click Page Header/Footer, which creates separate Page Header and Page Footer sections, both of which appear only when you print the form.
- B The form header appears at the top of the form, with its own title bar.
- C The form footer appears at the bottom.

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Resize Sections of a Form



eader and footer sections start out with a relatively small height, but you can enlarge them as much as is needed to hold the content that you want to place there. You can also resize the main section of the form — the Detail section — to accommodate the fields there.

It is also sometimes helpful to temporarily enlarge a section so that you have more room to work and then tighten the spacing up again when its content is finalized.

== Form1

Resize Sections of a Form

- In the Design view, position at the bottom edge of a section of the form (changes to the).
- Form Header -. Ø Detail ---Customer ID CustomerID -..... -Company:Name: CompanyName 1 Contact Name: ContactName --..... -Contact Title ContactTitle -..... . Address Address --City City 2 Region Region

- 2 Click and drag up or down to change the height of that section of the form.
- A horizontal bar denotes the new position of the bottom edge of the section.
- The form footer does not have a divider below it. To enlarge the form footer, drag its bottom border down.

Note: If you want only the header but not the footer, or vice versa, resize the unwanted section so that it takes up no space at all.

Note: If you do not want the header and footer at all, turn them off, as described in the section "Display the Header and Footer."



Select Sections of a Form

A fter turning on headers and footers, you will have a multisection form that consists of at least A three sections: Form Header, Detail, and Form Footer. You can select and work with each of these sections individually. For example, you could add a label to just the Form Header section. (See "Add a Label," later in this chapter.) Similarly, you could add a background image to just the Detail section. (See "Add a Background Image," later in this chapter.)

To make sure that formatting applies to the correct sections, you must learn how to select a section and how to select an entire form.

Select Sections of a Form

Select an Individual Section

- In the Design view, click the title bar of the section that you want to select.
- A The title bar turns black, indicating that the section beneath it is active.

Select an Entire Form

- In the Design view, click the square in the upper-left corner of the form.
- A small black square appears within the square, indicating that the form is selected.

Note: Any individual section title bars that were previously selected become unselected.



Add a Form Title



A form title appears in the form header and provides a name for the form. Adding a title to your form is usually a good idea so that users have some idea what the form is used for. If the form header does not already appear when you insert a form title, Access turns on the form header.

You can manually create a form title by adding a label text box to the form header area, but Access makes it easy by providing a button on the Design tab specifically for this purpose.

Add a Form Title

- 1 In the Design or Layout view, click the **Design** tab.
- 2 Click **Title**.
- If the form header was not already visible, it now appears, containing a box with dummy text, such as "Form1."

3 Type the text for the title.

Note: Because the dummy text was already selected, typing new text replaces it.

Click outside the box when finished.

The title is added to the form.

	S • ♂ • • ▼ Northwind - Microsoft Access	FORM DESIGN TOOLS				
FILE	HOME CREATE EXTERNAL DATA DATABASE TO 1	DESIGN ARRANGE FORMAT				
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Apply a Theme

A theme is a preset collection of formatting that you can apply to your form. Themes are used consistently across all Office 2013 applications to apply formatting, allowing you to standardize color and font choices for everything you create, regardless of which application you create it in.

Generally speaking, themes define three formatting elements for the object to which they are applied: fonts, colors, and object effects. However, in Access, only colors and fonts are affected.

Apply a Theme

- 1 In the Design or Layout view, click the **Design** tab.
- 2 Click Themes.

A gallery of themes appears.

- **3** Click the theme that you want.
- You can point to a theme without clicking it to see a preview of it on the form.

The theme is applied to the form.



Browse for a Theme to Apply



The list of themes that appears when you click the Themes button is compiled from two specific locations on your hard disk. The built-in themes are taken from C:\Program Files\Microsoft Office\Document Themes 15, and any custom themes that you have created are taken from C:\Users*username*\AppData\Roaming\Microsoft\Templates\Document Themes (where *username* is the name you use to log into Windows). If you want to apply a theme that is stored in some other location, such as on a network or on a CD, you must browse for it.

Browse for a Theme to Apply

- 1 In the Design or Layout view, click the **Design** tab.
- 2 Click Themes.
- 3 Click Browse for Themes.



The Choose Theme or Themed Document dialog box opens.

- 4 Select the location of the theme.
- 5 Click the theme or other file from which you want to apply font and color settings.
- 6 Click Open.

The theme is applied.

Apply a Font Theme or Color Theme

A pplying a theme changes both the fonts and the colors used. If you want to change only the fonts or the colors, you should apply a font theme or a color theme instead. Each has its own separate gallery that you can access from the Design tab.

Like regular themes, font and color themes are consistent across all Office applications and can be shared among them to create consistency among all the business documents, spreadsheets, databases, and presentations that you create.

Apply a Font Theme or Color Theme

Apply a Font Theme

- 1 In the Design or Layout view, click the **Design** tab.
- 2 Click Fonts.

A gallery of font themes appears.

3 Click the font theme that you want.

The new fonts are applied to the form.

Apply a Color Theme

1 In the Design or Layout view, click the **Design** tab.

2 Click Colors.

A gallery of color themes appears.

3 Click the color theme that you want.

The new colors are applied to the form.



Create a Custom Font Theme



You can add visual appeal to your form by selecting a different font theme. Each font theme has two defined fonts: a *heading font* for text that appears in the Form Header (or Page Header) section, and a *body font* for text that appears in the Detail (or the Form Footer or Page Footer) section. Access offers more than 20 font themes, but if none of the predefined themes is suitable, you can create a custom font scheme.

Any custom font themes that you create are also accessible by other Office applications, such as Word and PowerPoint.

Create a Custom Font Theme

- 1 In the Design or Layout view, click the **Design** tab.
- Click Fonts.
- 3 Click Customize Fonts.



The Create New Theme Fonts dialog box opens.

- 4 Click the Heading font and click a heading typeface.
- 5 Click the Body font and click a body typeface.
- A The Sample preview box shows what the heading and body fonts look like.
- 6 Type a name for the new font theme.
- 7 Click Save.

The new font theme will be available in the Fonts gallery the next time you use it.



Create a Custom Color Theme

A color theme defines colors for 12 placeholders that Office applications use when formatting a document; however, not all these colors are used in Access forms. For example, the Hyperlink color placeholder defines the color of underlined hyperlinks in tables and forms. In addition, whenever you use a color picker — such as on the Font Color button's drop-down menu — the colors from the current theme are available for selection.

You can create your own custom color themes if none of the existing ones meet your needs. Just as with font themes, you can share color themes among all your Office applications.

Create a Custom Color Theme

- In the Design or Layout view, click the Design tab.
- 2 Click Colors.
- 3 Click Customize Colors.



4 Click the color button for one of the placeholders.

A palette of color choices opens.

- 5 Click the color that you want.
- 6 Repeat steps 4 and 5 for each placeholder that you want to change.
- The Sample preview box shows what the colors look like.



8 Click Save.

The new color theme will be available in the Colors gallery the next time you use it.





Create a Custom Theme



You can create a theme that combines your preferred fonts and colors so that you do not have to go through the two-step process of applying a certain color theme and a certain font theme each time you want to format a form or other object.

First, you define the form's colors and fonts the way you want them. You can do this by applying any of the preset color and font themes or by creating your own custom color and font themes, as you learn earlier in this chapter. Then, you use the following steps to save them as a new theme.

Create a Custom Theme

- In the Design or Layout view, apply the colors and fonts that you want to be used in the theme.
- 2 Click the Design tab.
- 3 Click Themes.
- 4 Click Save Current Theme.

The Save Current Theme dialog box opens.

5 Type a name for the theme.

6 Click Save.

The new theme will appear in the Themes list the next time you use it.



Adjust Internal Margins and Padding

Your forms will be more attractive and easier to use if the controls have some extra space within and around them. You can ensure this by adjusting the margins and the padding. The *margin* is the amount of space inside a field's box between the edge and the text. You can adjust the margins for individual fields, but forms look better if all the fields have the same margins.

In a stacked or tabular layout, *padding* refers to the amount of space outside the box. When you adjust the padding, you change the amount of space between fields and between a field and its label.

Adjust Internal Margins and Padding

Change the Margins

 In the Design view, select the field(s) for which you want to change the margins.

Note: To select fields, drag an imaginary box around them while holding down the left mouse button. When you release the mouse button, everything inside the area that you dragged across will be selected.

- **2** Click the **Arrange** tab.
- 3 Click Control Margins.

4 Click the margin setting that you want.

Access applies the margin setting to the selected fields.

Change the Padding

- In the Design view, select the field(s) for which you want to change the padding.
- **2** Click the **Arrange** tab.
- 3 Click Control Padding.

4 Click the padding setting that you want.

The new padding setting is applied to the selected fields.

Note: You can also change margins and padding in the Layout view.



Add a Label

A *label* is a text area that is not connected to a field or function. A label displays *static text*, which means the text that cannot be edited or copied by the user of the form. Labels are most often used to display the name of a field, but they have many other uses, as well. For example, they can be used as the form subtitle; this should go in the Form Header section, below the title. You can also use labels to add explanatory text to the form: instructions for filling out the form, data restrictions, and so on.

Add a Label

 In the Design view, click the Design tab.

2 Click the Label button (Aa).

- \triangleright changes to $\mathbf{A}.$
- 3 Drag a box where you want the label to be and then release the mouse button.

A label box appears, containing a flashing insertion point.

- 4 Type the label text.
- 5 Click outside the label when finished.



Format Label Text

You can apply some of the same types of formatting to a label as you would to text in Word or most other word-processing programs. For example, you can change the typeface, specify a font size, and applying formatting such as bold, italic, and underline.

The main difference is that in Access, text formatting is available only when the outer frame of the label is selected; you cannot select different formatting for certain characters within a single label box.

Format Label Text

 In the Design view, click the frame of the label that you want to format.

Note: You can select multiple labels at once by holding down **Shift** as you click each one.

Note: You can format labels you create yourself and labels that are associated with fields.

2 Click the Format tab.

Click the Font 🔽 and click a font.

Note: You can also use the Font list on the Home tab.

- Click the Font Size and click a size.
- 5 Click one or more of these buttons to apply formatting:
- \Lambda Bold (B)
- Italic (I)
- 🕒 Underline (🖳)



Editing Forms

CHAPTER



- 🕕 Left (三)
- Center (≡)
- \bigcirc Right (\equiv)

a color.

7 Click the Font Color and click a color.

8 To place a colored background

Background Color 🔽 and click

remove the colored background.

in the label box, click the

G You can click **Transparent** to



TIPS

Can I format the text in a field?

Yes. Just select a field instead of a label and then apply the formatting as you learn in this section. It works exactly the same way.

What is the paintbrush button on the Format tab?

This is the Format Painter button (\checkmark). It copies formatting from one place to another. To use it:

1 Select a label or field that has the formatting you want to copy.

2 Click ؇.

3 Click the label or field to which you want to apply the formatting.

If you want to click more than one field or label in step **3**, double-click ***** instead of single-clicking in step **2**. Click the button again to turn it off when finished.

Change the Background Color

You can set a background color for each section individually. For example, this would allow the form header to be in a contrasting color to the detail section. Alternatively, you can set all the sections in the same color for a uniform appearance.

When choosing a background color, make sure that it does not clash with the color of the field label text. For example, the default label text color is black, so any dark background will cause a problem. Either use a light color for the background or change the color of the label text.

Change the Background Color

- In the Design view, click the title bar of the section for which you want to change the background color.
- 2 Click the Format tab.
- Click the Background Color
 to display the available colors.

4 Click More Colors.



The Colors dialog box opens.

- 5 Select the color that you want:
- You can use the Standard tab to choose from basic colors.
- B You can use the Custom tab to define a color numerically.
- 6 Click OK.

The color is applied to the background.



Add a Background Image



A background image can add interest to a form. As the name implies, it sits behind the fields, providing a backdrop. For the best results, choose an abstract image rather than a photo of a person or building.

By default, the fields have a solid, filled background, so they will contrast nicely with a background image and stand out for easy viewing. If you prefer the fields to blend into the background image, set the fill for each field to **Transparent**, as you learn to do in the section "Format Label Text." Labels are already set to a transparent fill by default.

Add a Background Image

- 1 Click the **Format** tab.
- 2 Click Background Image.
- 3 Click Browse.



File name: Bahamas 071

The Insert Picture dialog box opens.

- Avigate to the folder containing the image that you want to use.
- 6 Click the image.
- 6 Click OK.

The image appears behind all sections of the form.

Note: To remove the background image from the form, on the Design tab, click **Property Sheet**. Choose **Form** from the drop-down menu on the Property Sheet. Click the **Format** tab and then delete the filename from the **Picture** property.

¥

Cancel

Web-Ready Image Files

OK

Tol 6

Add a Hyperlink

A hyperlink on a form is like a label, except that it is a live link to the destination it represents. That destination can be a web page, a file on your PC or network, an e-mail address, or another object in the database, such as a table, form, or report.

The hyperlinks you learn to create in this section exist only on the form; they are not stored in database fields. If you want to store hyperlinks in a table, you can use a Hyperlink field type. See "Change a Field's Data Type" in Chapter 2 to learn how to change a field type to Hyperlink.

Add a Hyperlink



Editing Forms





- You can also click Browsed Pages to choose a recently used URL.
- 5 Type the text that should appear on the form.
- 6 Click ScreenTip.

The Set Hyperlink ScreenTip dialog box opens.

Note: A *screen tip* is text that pops up when the user points at the hyperlink with the mouse pointer.

- 7 Type the screen tip text that you want to use.
- \rm 8 Click **OK**.

Access returns you to the Insert Hyperlink dialog box.

9 Click **OK**.

Access adds the hyperlink to the form.

Click the hyperlink's frame and then drag it to the location that you want.





TIPS

Can I hyperlink to other locations besides the Internet?

Yes. A hyperlink can link to any file in any location, including your own hard drive or network; it does not have to be on the Internet. By default, in the Insert Hyperlink dialog box, the current folder contents are displayed. You can browse your hard drive or network locations using this interface to choose any accessible file. You can also link to a database object by clicking **Object in This Database** and then clicking the object, such as a table, form, or report.

What does the E-mail Address type of hyperlink do?

It inserts a hyperlink that, when clicked, opens a new message window in your default e-mail program. To set up an e-mail address hyperlink, click the **E-mail Address** button in the Insert Hyperlink dialog box and then fill in the fields provided.

Add a Tabbed Section

When there are too many fields or labels to fit on a form at a usable size, you can use a tab control to create multiple tabs, or pages, on the form. Like the tabs on the Ribbon in Access, the tabs on the form can be clicked to switch to their associated set of fields and other controls.

A tab control is also useful when you need the form to show multiple sets of the same (or similar) data. For example, you might want the form to be capable of showing separate data for various company divisions.

Add a Tabbed Section

Add a Tab

- 1 Click the **Design** tab.
- 2 Click the Tab Control button (²).
- **3** Drag to create a rectangle representing the tab area and then release the mouse button.



A tab control appears on the form with two tabs.

- Click a tab.
- A frame appears, representing that tab's page.
- 5 Click Add Existing Fields.

The Field List pane appears.

The list expands to show that table's fields.

CHAPTER Editing Forms

Drag and drop fields from the Field List on to the frame.

Note: You can also add nonfield items, such as labels and hyperlinks.

8 Click the other tab to add fields to it.

Add Another Tab

- 1 Click the outer frame of the tab control.
- 2 Click the Design tab.

Access adds another tab to the tab control.

Rename a Tab

- 1 Click the tab that you want to rename.
- 2 Click Design.
- 3 Click Property Sheet.

The Property Sheet pane appears.

- 4 Click Format.
- 5 Type the tab text in the **Caption** box.

The tab is renamed.



TIPS

How do I delete a tab?

Right-click the tab that you want to remove and click **Delete Page** on the shortcut menu. Alternatively, click the tab that you want to remove and then press **Delete**.

Can I hide a tab without deleting it?

Yes, you can hide a tab by setting its **Visible** property to **No**. Click the tab to select it, click the **Design** tab, and then click **Property Sheet** to open the Property Sheet task pane. Click the **Format** tab, click the **Visible** , and then click **No**.

Insert a Logo or an Image

You can add visual appeal to a form by adding a logo to the form header. This will most often be a company logo, but you might also want to use different logos for different projects, teams, or departments. Just as the Title feature inserts a label in the form header, the Logo feature inserts a graphic in the form header.

If you want to insert a graphic anywhere else, you can use the Image feature. Images are like logos, except that you can choose where to put them and you can define the size of the frame.

Insert a Logo or an Image

Insert a Logo

- Click the Design tab.
- 2 Click Logo.

The Insert Picture dialog box opens.

- Select a location.
- 4 Click the picture to be inserted.
- 5 Click OK.

The picture is inserted in the Form Header section.

Depending on the resolution of the image file, it may cause the Form Header section to expand. The form header may also change its background color.

Resize a Logo

- 1 If needed, expand the Form Header section to make room for the image to be enlarged.
- Click the logo.
- 3 Drag a corner selection handle $(\rhd \text{ changes to } \checkmark).$

Note: If you do not maintain the proportions, extra blank space may appear on either the sides or the top and bottom, but the picture will not be distorted.

The logo is resized. **200**



diting Forms

CHAPTER



Drag the mouse pointer to create the picture frame size that you want and then release the mouse button.

The picture appears in the frame.







Set Conditional Formatting

You can make form data easier to analyze by applying a conditional format to a field. A *conditional format* is formatting that Access applies only when a field meets the condition you specify. For example, you could set up a Balance field to display its value in red if the balance is negative, or you could color the Order Total field green for customers whose order amount exceeds a certain value.

When you set up your conditional format, you can specify the font, border, and background pattern, which helps to ensure that when a field meets your criteria, it stands out from the other fields in the form.

Set Conditional Formatting

 In the Design view, click ? Northwind - Microsoft Access FORM DESIGN TOOLS ARI 2 Paul McFedries the field that you want to ATE EXTERNAL DATA DATABASE TOOLS DESIGN FORMAT format. - -\$#,###.00 ri (Detail) + 11 Background Alternate Quick Change Conditional - 🕭 -= = = \$ % €.0 .00 0.0 → 00. Note: Make sure that you select Image - Row Color -Styles - Shape - Formatting Font Number Background Control Formatting the field, not its label. Click the Format tab. Click Conditional ders By Category subform: 2 · · 4 · · · 1 · · · 5 · · · 1 · · · 6 · 🔺 Formatting. eader pany:Name:.... CompanyName HÐ OrderID CategoryName gory: Name: itity:: Quantity Tota Order Total ::::::llOrderDate ir Piater The Conditional Formatting ? × Conditional Formatting Rules Manager Rules Manager dialog box Show formatting rules for: Order Total v opens. 4 🛅 New Rule 🗊 Edit Rule 🗙 Delete Rule 4 Click New Rule. Rule (applied in order shown) Format The New Formatting Rule dialog box opens. ? New Formatting Rule Select a rule type: 5 Click a rule type. 5 Check values in the current record or use an expression Compare to other records 6 Click 🔽 and choose a Edit the rule description: condition. Format only cells where the: ---7) Click 🔽 and choose a Field Value Is greater than 1000 Preview: В comparison operator. ormat Set 8 Click here and type the value or text string. ОK Cancel 202
Editing Forms



- In the Preview area, define the formatting for records where the condition is met:
- 🔼 Bold (B)
- B Italic (I)
- 🕒 Underline (🖳)
- Background Color (2)
- Font Color (▲・)
- Enable/Disable (model) toggles the display of the formatting.
- 10 Click OK.
- G The new rule appears in the Conditional Formatting Rules Manager dialog box.
- 11 To add another rule, you can repeat steps 4 to 10.
- 12 Click **OK**.

The conditions are applied to the selected field.

Note: You can switch to the Form view and then scroll through a few records to check the conditional formatting.

		New Formattin	g Rule		? >
Select a rule type:					
Check values in the co Compare to other rec	urrent record or us ords	e an expression			
Edit the rule description	on:				
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Field Value Is 🗸 🗸	greater than	1000			
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TIPS

Why would I want to use the Enable/Disable button?

You can toggle off the conditional formatting with the Enable/Disable button for either default formatting or for any of your conditions in order to preserve your conditional settings without using them all the time. For example, perhaps you only want to use conditional formatting when a form is viewed on-screen, so you would turn it off before printing the form.

How do I delete one of the multiple conditions that I have set up?

To remove a rule, click the **Format** tab and then click **Conditional Formatting** to open the Conditional Formatting Rules Manager dialog box. Click the rule that you want to delete, click **Delete Rule**, and then click **OK**.

CHAPTER 11

Creating Reports

A *report* is a database object that organizes and formats your table or query data to make it presentable and meaningful to other people. With reports, you can organize data into groups; display subtotals and grand totals for appropriate fields; and add lines, graphics, and fonts to put your data in its best light. Best of all, as you see in this chapter, various Access tools and wizards make it easy to create basic reports.

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		Contact Name	Address	City	State/Prov	vince Zip/Postal Cod	e Country/Region
	Α						
		Elizabeth Andersen	123 Any Street	Any City	WA	99999	USA
		Catherine Autier Miconi	123 Any Street	Any City	WA	99999	USA
		Thomas Axen	123 Any Street	Any City	WA	99999	USA
	В						
		Jean Philippe Bagel	123 Any Street	Any City	WA	99999	USA
phis		Anna Bedecs	123 Any Street	Any City	WA	99999	USA
2	E						
		John Edwards	123 Any Street	Any City	WA	99999	USA
		Alexander Eggerer	123 Any Street	Any City	VVA	99999	USA
	G	Michael Entin	123 Any Street	Any City	VIA	99999	USA
	-	Daniel Goldschmidt	123 Any Street	Any City	WA	99999	USA
		Antonio Gratacos Solsona	123 Any Street	Any City	WA	99999	USA
		Carlos Grilo	123 Any Street	Any City	WA	99999	USA
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Understanding Report Views

You have seen in previous chapters that each type of Access object offers multiple views, such as the Datasheet and Design views for a table, and the Form, Layout, and Design views for a form. Reports come with the most views of just about any other object — four in all. Each view has a specific function for which it is best suited, so it pays to understand what each view offers you and when it is best to use it.

Layout View

The Layout view enables you to configure the overall formatting and layout of the report but not to change individual elements, such as text boxes. You can add grouping and sorting levels, totals, and other information as well as apply themes.

Cu	stomer Addres	ss Book			Friday, I	December 7, 2012
	Contact Name	Address	City	State/Province	Zip/Postal Code	Country/Region
Α						
	Elizabeth Andersen	123 Any Street	Any City	WA	99999	USA
	Catherine Autier Miconi	123 Any Street	Any City	AW	99999	USA
	Thomas Axen	123 Any Street	Any City	AW A	99999	USA
в						
	Jean Philippe Bagel	123 Any Street	Any City	WA	99999	USA
	Anna Bedecs	123 Any Street	Any City	WA	99999	USA
Е						
	John Edwards	123 Any Street	Any City	AW.	99999	USA
	Alexander Eggerer	123 Any Street	Any City	AW A	99999	USA
	Michael Entin	123 Any Street	Any City	WA	99999	USA
G						
	Daniel Goldschmidt	123 Any Street	Any City	AW A	99999	USA

Design View

The Design view is where you can fine-tune the fields and labels to be included on the report. Only in this view can you add nonfield controls, such as labels. A report in the Design view often bears little resemblance to the finished layout. For example, compare the Design and Layout views shown here; the Layout view shows approximately how the fields will appear in the actual printout. However, the Design view shows items according to section and does not always place everything where it will actually be. As

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you are learning to use the Design view, it is often best to begin the report by using the Report Wizard or another automated method to help you set up the fields.

Report View

The Report view shows the report approximately as it will be printed, but it does not simulate the edges of the paper on-screen, so you cannot see the actual margins that will be used. Even if the report is too wide to fit on the paper, it still appears on-screen as one whole page. You cannot edit the report in the Report view.

Cus	stomer Addres	s Book			Friday, I	December 7, 2012	1
	Contact Name	Address	City	State.Provinc	e Zip/Postal Code	Country:Region	
Α							
1	Elizabeth Andersen	123 Any Street	Any City	WA	99999	USA	
	Catherine Autier Miconi	123 Any Street	Any City	WA	99999	USA	
	Thomas Aven	123 Any Street	Any City	WA	99999	USA	
8							
	Jean Philippe Bagel	123 Any Street	Any City	WA	99999	USA	
	Anna Bedecs	123 Any Street	Any City	WA	99999	USA	
	John Edwards	123 Any Street	Any City	WA	99999	USA	
	Alexander Eggerer	123 Any Street	Any City	WA	99999	USA	
	Michael Entin	123 Any Street	Any City	WA	99999	USA	
G							
	Daniel Goldschmidt	123 Any Street	Any City	WA	99999	USA	

Print Preview

Print Preview shows the report exactly as it will be printed. It shows page margins by simulating the edges of the paper on-screen. If the report is too wide to fit on the paper, it is truncated where the page break would truncate it. You cannot edit the report in Print Preview.

Cu	stomer Addres	ss Book			Friday, December 7, 2012				
	Contact Name	Address	City	State/Provinc	e Zip/Postal Code	Country.Reg			
Α									
	Elizabeth Andersen	123 Any Street	Any City	WA	99999	USA			
	Catherine Autier Miconi	123 Any Street	Any City	WA	99999	USA			
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	Anna Bedecis	123 Any Street	Any City	WA	99999	USA			
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	John Edwards	123 Any Street	Any City	WA	99999	USA			
	Alexander Eggerer	123 Any Street	Any City	WA	99999	USA			
	Michael Entin	123 Any Street	Any City	WA	99999	USA			

Create a Simple Report

By far, the easiest way to create a report is to use the Report command. It lets you create no-frills reports with just a few clicks of the mouse. The Report command — which you can use only on existing tables or queries — is fast and requires no input from you. This is the way to go if, rather than print a form or datasheet, you prefer to generate a report. After you create a report, you can save it for later reuse or simply re-create it the next time you need it.

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Create a Simple Report

- 1 Click the table or query in the Objects list.
- 2 Click the Create tab.
- 3 Click Report.
- A The report appears in the Layout view.
- 4 To save the report, click the Save button (□).

The Save As dialog box opens.

- **5** Type a name for the report.
- 6 Click **OK**.

The report is saved.



REPORT LAYOUT TOOLS

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Apply a Theme to a Report



A theme is a preset collection of formatting that you can apply to your report. Throughout Office 2013, themes define three formatting elements for the object to which they are applied: fonts, colors, and object effects. However, in Access reports, only colors and fonts are affected. Office 2013 provides you with ten themes that you can use to quickly apply consistent formatting to a report so that it matches other reports or company specifications.

Themes work the same way for reports as for forms; for more details, see Chapter 10, "Editing Forms."

Apply a Theme to a Report

- 1 In the Layout view or Design view, click the **Design** tab.
- 2 Click Themes.

Access displays a gallery of themes.

- Nou can point to a theme to see a preview of it on the report.
- 3 Click the theme that you want.

The theme is applied.

Note: See Chapter 10 for information on creating your own custom themes. Chapter 10 also explains how you can apply color themes or font themes separately.

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ар в 1911 в	mployee Orders by Date	8	Northwoods Cranberry	Grandma Kelly's	Condiments	12 -
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Preview and Print a Report

A fter creating a report, you will probably want to print it — for example, if you need multiple copies for distribution to others. Access enables you to set a number of print options before printing the report, including choosing the printer, a page range, and the number of copies.

You can also check the report first in Print Preview to make sure that it looks the way you want it. If you are confident that the report is laid out properly, you can also print it directly from any other view.

Preview and Print a Report

Open a Report in Print Preview

 In the All Access Objects list, right-click the report.

2 Click Print Preview.

The report appears in Print Preview.

Switch an Open Report to Print Preview







The report appears in Print Preview.



reating Reports

CHAPTER

Print a Report from Print Preview

1 Click Print.

The Print dialog box opens.

- 2 Change any print settings, if necessary:
- Click the Name v to choose a different printer.
- B Click here to set a page range (○ changes to ●).
- Click here to specify a number of copies to print.
- 3 Click OK.

The report is printed.

Print a Report from Other Views

1 Click File.

The File options appear.

- 2 Click the Print category.
- 3 Click Print.

The Print dialog box opens.

4 Perform steps 2 and 3 in the subsection "Print a Report from Print Preview."

The report is printed.



TIPS

How can I see more of the report at once?

The Zoom group on the Print Preview tab contains buttons for One Page, Two Pages, and More Pages. If you click **More Pages**, you can choose a four- eight-

Q				22	XI
Zoom	One	Two	More	Refresh	Excel
-	Page	Pages	Pages 🕶	All	
	Zo	om	Ec	ur Pages	
			Ei	aht Pages	
			Ty	velve Page	s

can choose a four-, eight-, or twelve-page display.

How can I export the report?

The Data group on the Print Preview tab contains buttons for exporting to Microsoft Word (in rich text format), to a text file,



to an Excel file, and to several other formats.

Create a Report with the Report Wizard

he simple report is fine for very basic reporting, but it is likely that in most cases the resulting report will not suit your needs exactly. For more control over your reports, you need to use the Report Wizard, which takes you step-by-step through the entire report-creation process.

You can use the Report Wizard to create a report without having to manually design it while still having some control over its layout and formatting. After creating a report this way, you can then edit it in the Design view to fine-tune its appearance.

2

Create a Report with the Report Wizard 1 Click the **Create** tab. DATABASE TOOLS 1 AL DATA CREATE 2 Click Report Wizard. 🕱 Report Wizard 🐺 Form Wizard 6 🛅 Navigation * E Labels Table SharePoint Ouerv Ouerv Form Form Blank Report Report Blank 🔚 More Forms * The Report Wizard opens. Wizard Design Design Report Design Lists * Design Form Tables Oueries Forms Reports 3 Click the Tables/Queries 🔽 Report Wizard and click the table or query Which fields do you want on your report? on which to base the report. You can choose from more than one table or guery. Tables/Queries Query: Alphabetical List of Products Query: Alphabetical List of Products uery: Average Unit Price Query: Category Sales for 2012 Ouery: Current Product List Query: Customer Orders By Category Ouery: Customers and Suppliers by City Query: Customers Mail Merge Query Ouery: Customers Who Placed Orders in January Query: Customers With Orders and Order Details Query: Customers Without Matching Orders Cancel Next > Finish Click a field. Report Wizard 5 Click ᠵ to move the field Which fields do you want on your report? to the Selected Fields list. You can choose from more than one table or guery. 6 Repeat steps 4 and 5 for all the fields that you want to Tables/Queries Query: Alphabetical List of Products include. V Available Fields: Selected Fields: \Lambda If necessary, you can click ProductID ProductName to remove a field. ^ > SupplierID CategoryID >> Click Next. QuantityPerUnit UnitPrice < UnitsInStock UnitsOnOrder << ReorderLevel Einish $\underline{N}ext >$ Cancel

Creating Reports





How can I group by something other than unique values?

Click **Grouping Options** after step **9** to access the Grouping Intervals dialog box. From there, you can define a grouping interval. For text, you can group by the first letters of the entry. For numeric values, you can group by numbers (such as 10s or 100s).

Can I have fields from more than one table or query in the same report?

Yes. Repeat steps **3** to **6** to select another table or query before clicking **Next** in step **7**. As long as the tables or queries are related in some way, Access will pull data from them, just as it does when you create a query.

Create a Report with the Report Wizard (continued)

The Report Wizard is useful not only for selecting the exact fields that you want in your report, but also for making it easy to apply a grouping option to the records. The Report Wizard also allows you to choose the report layout, orientation, and formatting. You can change the fields, grouping, layout, and other options later in the Report Design view, but it is often easier to specify upfront what you want via the wizard. Finally, the Report Wizard also enables you to preview your report.

Create a Report with the Report Wizard (continued)

The layout page appears.

- ① Click the page orientation that you want (○ changes to ●).

16 Click Next.



The title page appears.

- Click here and type a name for the report, replacing the generic name that appears.
- 18 Click to choose how the report should be viewed after it is created (Contour changes to One).

19 Click Finish.



$\frac{\mathsf{CHAPTER}}{\texttt{ll}}$

ProductID ProductName

SupplierID

CategonyID QuantityPerUnit

UnitPrice UnitsInStock

UnitsOnOrder

ReorderLevel Discontinued

CategoryName

If you clicked the Preview the Report option in step 18, the report appears in Print Preview.

If you clicked the Modify the Report's Design option in step 18, the report appears in the Design view.

Alphabe	tical List of Pro	ducts Repo	rt			
пар	cicut Lise of 110	ducts ricpo	i c			
Category	ProductName	Supplier	Quantity Per	Unit Prices	nStock On	Ordert
Beverage	Chai	Exotic Liquids	10 boxes × 2	\$18.00	39	0
	Chang	Exotic Liquids	24 - 12 oz bo	\$19.00	17	40
	Chartreuse verte	Aux joyeux ecclési	750 cc per b	\$18.00	69	0i
	Côte de Blaye	Aux joyeux ecclési	12 - 75 cl bo	\$263.50	17	0
	lpoh Coffee	Leka Trading	16 - 500 g ti	\$46.00	17	10
	Lakkalikööri	Karkki Oy	500 ml	\$18.00	57	0
	Laughing Lumberjack Lag	Bigfoot Breweries	24 - 12 oz bo	\$14.00	52	0
	Outback Lager	Pavlova, Ltd.	24 - 355 ml	\$15.00	15	10
	Rhönbräu Klosterbier	Plutzer Lebensmitt	24 - 0.5 l bo	\$7.75	125	0
	Sasquatch Ale	Bigfoot Breweries	24 - 12 oz bo	\$14.00	111	0
	Steeleye Stout	Bigfoot Breweries	24 - 12 oz bo	\$18.00	20	0
Condimen	Aniseed Syrup	Exotic Liquids	12 - 550 ml	\$10.00	13	70
	Chef Anton's Cajun Seaso	New Orleans Cajun	48 - 6 oz jar	\$22.00	53	0)

TIPS

How can I change the name of a report after creating it with the Report Wizard?

First, close the report. Then, from the Objects list, right-click the report and choose **Rename** from the shortcut menu. Type a new name and then press **Enter**.

How can I make the report extend to multiple pages horizontally if the fields do not fit on a single page width?

Before step **16**, deselect **Adjust the field width so all fields fit on a page** (\checkmark changes to \square). The report will then expand horizontally to fill as many pages as needed for all the fields to be at their original sizes.

Create a Report in the Layout View

he Report Wizard offers the easiest path to creating a report, but it does not give you much flexibility in terms of the report layout. The Report Design view gives you complete flexibility but is more complex to learn and use. In between these extremes is the Report Layout view, which enables you to create a report by dragging and dropping fields on to a blank page.

Because you can easily switch between views, you can create the initial layout in the Layout view and then fine-tune it in the Design view.

Create a Report in the Layout View

AB 🔒 Click the **Create** tab. **1**)ATA FILE HOME CREATE DATABASE TOOLS DESIGN ARRANGE FORMAT PAGE SETUP 🗧 🔜 Form Wizard 2 2 Click Blank Report. 🛅 Navigation + Application Table Table SharePoint Query Query Form Form Blank Design Lists * Wizard Design Design Form @ More Forms * Report Report Blank Design Report Parts * Templates Tables Oueries Forms Report: A blank report window » E Report 1 appears in the Layout view. Field List 3 In the Field List, if a list of tables does not already appear, click Show all tables. E Report 1 Click **I** next to a table's d List 4 name. roductName Enc. A list of the fields in the table ProductID Aniseed Svrup ProductNan Chef Anton's 5 SupplierID appears (\pm changes to \Box). CategoryID Caiun QuantityPerUnit Seasoning UnitPrice Drag a field on to the report. Chof Anton's UnitsInStock Gumba Mix UnitsOnOrde Grandma's ReorderLevel Discontinued \Lambda The field name appears at the Boysenberry Spread top, and records from the Uncle Bob's I ⊂ategorie Order Details Organic Suppliers table appear beneath it. Dried Pears Northwoods Cranberry 6 Repeat step 5 to add other Sauce Mishi Kobe fields to the report as needed. Niku All Orders F Customer: Ikura Employee: Queso Inventory
 ■ Orders



Set the Page Size and Orientation



The default page size for a report is Letter size, which is 8.5×11 inches. If you will be printing your report on paper that uses a different size, Access offers 17 different page sizes, including Legal (8.5×14 inches) and US B (11×17 inches).

You can also switch the report layout between portrait and landscape. Portrait prints across the shorter dimension of the paper, so it is best for reports that have only a few fields. Landscape prints across the long dimension, so use it if your report has many fields.

Set the Page Size and Orientation Set the Page Size 🕼 🖯 🏷 🗟 🖓 Northwind - Microsoft Access REPORT LAVOUR TOOLS EXTERNAL DATA DATABASE TOOLS FILE HOME CREATE ARRANGE FORMAT DESIGN PAGE SETUP In the Design or Layout view, 🖌 Show Margins click the Page Setup tab. 2 Portrait Landscape Columns Page Size Print Data Only Setup Alout A4(210 x 297 mm) 2 Click Size. 8.27" × 11.69" Letter (8 1/2 x 11 in) 3 Click a paper size. 8.5" × 11' Quantity Per Un Unit Price UnitsInStock Jnits On Ordei Legal (8 1/2 x 14 in) 10 boxes x 20 \$18.00 Access adjusts the report to $8.5'' \times 14'$ bags 8 x 10 in 24 - 12 oz \$19.00 40 suit the new page size. 8" x 10" bottles 5 x 7 in (Photo Tray) 3 12 - 550 ml \$10.00 $5'' \times 7'$ bottles 4 x 6 in (Photo Trav) nts 48 - 6 oz jars \$22.00 0 $4'' \times 6''$ 3.5 x 5 in (Photo Tray) $3.5'' \times 5'$ 0 hts 36 boxes \$21.35 16:9 wide (4 x 7.11 in) (Photo Tray) $4" \times 7.11'$ Envelope #10 (4 1/8 x 9 1/2 in) \$25.00 nts 12 - 8 oz jars A6 4.1 x 5.8 in (105 x 148 mm) (Photo Trav) $4.13" \times 5.83"$ Set the Page Orientation Ĉ, 3 = REPORT LAYOUT TOOLS 1 HOME CREATE EXTERNAL DATA DATABASE TOOLS DESIGN ARRANGE FORMAT PAGE SETUP In the Design or Layout view, \square 🗹 Show Margins click the Page Setup tab. Portrait Landscape Columns Page Size Margins 🗌 Print Data Only Setup Page Size Page Lavout 2 Click Portrait or Landscape. Report 1 >> 2 æ Access adjusts the report ProductName Supplier Category **Ouantity Per Un** Linit Price UnitsInStock Units On Order Chai Exotic Liquids Beverages 10 boxes x 20 \$18.00 39 to accommodate the new bags orientation. 24 - 12 nz \$19.00 40 Chang Exotic Liquids Beverages bottles

Change the Report Layout Type

Access gives you an easy way to arrange your report fields: the control layout. This simple layout acts as a kind of table, and your fields are slotted neatly into the layout's rows and columns. In a *stacked* layout, the controls are arranged vertically in two columns, with field names in the left column and fields in the right column. In a *tabular* layout, the controls are arranged horizontally in two rows, with field labels in the top row and fields in the bottom row.

The default to use of your out	ris.	3 6 - 2	v =	Northering A	finneraft Örener	_	DEDODT!				7	- A X
M The default type of report	FILE	НОМЕ	CREATE	EXTERNAL DATA	A DATABASE TO	OLS DESIGN	ARRANGE	FORMAT	PAGE SETUP		Paul McFe	dries - 🎆 🙂
created in the Layout view is tabular.	Gridlin	es Stacked Tab	ular Above B	isert Insert In elow Left F	Select Layo Select Colu Select Colu Select Row	mn Merge Spli	t Split	Move N Up D	Tove Control Margins + P	Control adding *		
B A tabular layout places each	»	Report 1		ROWS &	columns	merg	ey spiic	Move	Positi	n		×
field name across the top row.		ProductNa	ame <	B	Supplier				Category	Qua	aritity Per Unit	Unit Price
		Chai			Exotic Liq	uids			Beverages	10	boxes × 20 bags	\$18.00
with the individual records		Chang			Exotic Liq	uids			Beverages	24	- 12 oz bottles	\$19.00
heneath		Aniseed S	yrup		Exotic Liq	uids			Condiments	12	- 550 ml battles	\$10.00
beneath.		Chef Anti	on's Cajun Se	asoning	New Orlea	ns Cajun Delight	s		Condiments	48	- 6 oz jars	\$22.00
		Chef Anti	on's Gumbo M	uix	New Orles	ns Cajun Delight	5		Condiments	36	b¢xes	\$21.35
		Grandma	s Boysenbern	y Spread	Grandma	(elly's Homestea	d .		Condiments	12	- 8 oz jars	\$25.00
		Uncle Bot	's Organic Dr	ied Pears	Grandma	(elly's Homestea	ł		Produce	12	- 1 lb pkgs.	\$30.00
	Pan	Northwoo	ids Cranberry	Sauce	Grandma	(elly's Homestea	ł		Condiments	12	- 12 oz jars	\$40.00
	tion	Mishi Kob	e Niku		Tokyo Tra	ders			Meat/Poultry	18	- 500 g pkgs.	\$97.00
	viga	Ikura			Tokyo Tra	ders			Seafood	12	- 200 ml jars	\$31.00
	ź	Queso Ca	brales		Cooperati	ra de Quesos "Las	Cabras'		Dairy Product	s 1 k	g pkg.	\$21.00
		Queso Ma	nchego La Pa	astora	Cooperati	ra de Quesos "Las	Cabras'		Dairy Product	s 10	- 500 g pkgs.	\$38.00
		Konbu			Mayumi's				Seafood	2 k	g box	\$6.00
		Tofu			Mayumi's				Produce	40	- 100 g pkgs.	\$23.25
		Genen Sh	ouyu		Mayumi's				Condiments	24	- 250 ml bottles	\$15.50
		Pavlova			Pavlova, L	td.			Confections	32	- 500 g boxes	\$17.45
		Alice Mut	ton		Pavlova, L	td.			Meat/Poultry	20	- 1 kg tins	\$39.00
		Carnarvo	n Tigers		Pavlova, L	td.			Seafood	16	kg pkg.	\$62.50
		Teatime	Chocolate Bis	cuits	Specialty B	iscuits, Ltd.			Confections	10	b¢xes x 12 piece	s \$9.20 💌
												•

• You can click here to change to a stacked layout.

• A stacked layout places each record in its own area, one on top of the other, with all its fields in one place.

When switching between stacked and tabular layouts, make sure that you click the Select All icon (→) to select the entire data grid before making the change. If you select only certain fields, only those fields will be changed. That enables you to create layouts in which some fields are arranged in a tabular layout and others are stacked.

	D • G • =	Northwind - Microsoft Access	REPO	RT LAYOUT TOOLS		? – 🗗 ×
FILE	HOME CREATE	EXTERNAL DATA DATABASE TOOLS	DESIGN ARRAN	E FORMAT P	AGE SETUP	Paul McFedries 👻 🌉 🙂
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3	Producting Supplier Category	Chai Exotic Liquids Beverages				× A
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	Unit Price	\$18.00				
	UnitsInStock	39				
Pane	ProductName	Chang				
io	Supplier	Exotic Liquids				_
lavigat	Category	Beverages				
-	Quantity Per Unit	24 - 12 oz bottles				
	Unit Price	\$19.00				
	UnitsInStock	17				
	ProductName	Aniseed Syrup				
	Supplier	Exotic Liquids				
	Category	Condiments				
	Ouantity Per Unit	12 - 550 ml bottlos				¥

Set Page Margins

You can get more space on the printed page to display your report data by using smaller page margins. The *margins* are the blank areas that surround the printed data. For example, if you find that Access is printing extra pages because your data is a bit too wide or a bit too long to fit on a single page, you can reduce either the left and right margins or the top and bottom margins.

If you or another person will be writing notes on the printouts, consider using wider margins to allow more room for the notes.

Set Page Margins

Use a Page Margin Default

- 1 In the Design or Layout view, click the **Page Setup** tab.
- 2 Click Margins.
- **3** Click a margin setting.

The margin setting is applied.

∧ By default, margins appear on-screen in Print Preview. If you do not want this to happen, deselect Show Margins (changes to).

Set Custom Page Margins

1 Click the **Page Setup** tab.

Click Page Setup.

The Page Setup dialog box opens.

- Click in a text field and type a margin setting for that side of the page.
- 4 Repeat step 3 as needed for the other sides.

5 Click OK.

The margin setting is applied.

	Northwind - Microsoft Access	REPORT LAYOUT TOOLS
FILE HOI CREATE D	XTERNAL DATA DATABASE TOOLS	DESIGN ARRANGE FORMAT PAGE SETUP
2 Show Margins Size Margins Print Data Only	Portrait Landscape Columns Page Setup	1
>> 10 Normal Top: 0.75" Left: 0.35"	e Layout Bottom: 0.75" Right: 0.35"	
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Narrow Top: 0.25" Left: 0.25"	Bottom: 0.25" Right: 0.25"	Exotic Liquids
	un Seasoning	New Orleans Cajun Delights
Chef	f Anton's Gumbo Mix	New Orleans Cajun Delights
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Que	eso Manchego La Pastora	Cuoperaciva de Quesos Las Cabras'

Set Control Margins and Padding



Ð

Vour reports will be more attractive and easier to read if the controls have some extra space within and around them. You can ensure this by adjusting the margins and the padding. The margin controls for individual items are for the text within the text boxes or label frames.

You can also set an amount of padding for one or more controls. *Padding* is like margins, but it refers to the space between fields — that is, the extra white space on the outside of a text box or another control.

Set Control Margins and Padding

5.0 Northwind - Microsoft Acces 2 Paul McFedries 👻 🎆 HOME CREATE EXTERNAL DATA DATABASE TOOLS DESIGN ARRANGE PAGE SETUR Select Layout 2 🔿 Α III Select Column Stacked Tabular Insert Insert Insert Insert Select Columnert Above Below Left Right Select Row Merge Split Split Vertically Horizontally Move Move Up Down Aargins + Padd Table Rows & Columns Merge / Split Move A None Report 1 A Narrow ategon 4 Chai Exotic Liquids A Medium Reverages Chang Exotic Liquids Beverages A <u>₩</u>ide Aniseed Syrup Exotic Liquids Condiments Chef Anton's Caiun Seasoning New Orleans Catun Delights Condiments Chef Anton's Gumbo Mix New Orleans Cajun Delights Condiments Grandma's Boysenberry Spread Grandma Kelly's Homestead Condiments Uncle Bob's Organic Dried Pears Grandma Kelly's Homestead Produce Northwoods Cranberry Sauce Grandma Kellv's Homestead Condiments Mishi Kobe Niku Tokyo Traders Meat/Poultry Π 5.0 Northwind - Microsoft Acces 2 Paul McFedries 👻 🎆 HOME CREATE EXTERNAL DATA DATABASE TOOLS ARRANGE PAGE SETUR DESIGN Select Layout 0100 M A -----Α Ð III Select Column 3 Insert Insert Insert Insert Select Colu Above Below Left Right Select Row ines Stacked Tabula Merge Control Control Margins * Padding * Vertically Horizontally Table Rows & Columns Merge / Split Move Pos None Report 1 Narrow ProductName Supplier 4 Medium Chai Exotic Liquids Chang Exotic Liquids everages <u>W</u>ide Aniseed Svrup Exotic Liquids ondiments Chef Anton's Cajun Seasoning New Orleans Cajun Delights Condiments Chef Anton's Gumbo Mix New Orleans Cajun Delights Condiments Grandma's Boysenberry Spread Grandma Kelly's Homestead Condiments Uncle Bob's Organic Dried Pears Grandma Kellv's Homestead Produce Northwoods Cranberry Sauce Grandma Kelly's Homestead Condiments Mishi Kobe Niku Tokyo Traders Meat/Poultry

Set Control Margins

 In the Design or Layout view, select the controls.

Note: Hold down Shift and then click multiple controls; you can also drag a lasso around them.

- Click the Arrange tab.
- Click Control Margins.
- 4 Click the setting that you want.

Access applies the control margin setting to the selected controls.

Set the Control Padding

 In the Design or Layout view, select the controls.

Note: Hold down Ctrl and then click multiple controls; you can also drag a lasso around them.

2 Click the Arrange tab.



4 Click the setting that you want.

Access applies the control padding setting to the selected controls.

Format Report Text

When you apply a theme to a report, the font formatting is applied automatically. You can modify this, applying some of the same types of formatting to report text as you would text in Word. For example, you can change the typeface, specify a font size and color, and apply formatting such as bold, italic, and underline. As with forms, font formatting on reports applies to entire boxes only, not to individual characters. Therefore, if you want characters formatted differently from others, they must be in separate controls or labels.

Format Report Text

Set the Font

 In the Design or Layout view, click the label or field that you want to format.

> To select more than one label or field, hold down Ctrl as you click them.

- 2 Click the Format tab.
- 3 Click the Font 🔽 and click the font that you want.

Access applies the font.

Set the Font Size

1 Click the label or field that you want to format.

To select more than one label or field, hold down Ctrl as you click them.

- **2** Click the **Format** tab.
- 3 Click the Font Size 🔽 and click the font size.

Note: If you choose a larger size, the text may appear truncated. Enlarge a field's box if needed, moving other boxes to make room.

Access changes the font to the new size.



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	N	ishi Kobe I	Viku			Tokyo Tra	ders			Meat/

$\frac{CHAPTER}{11}$

REPORT LAYOUT TOOLS

Set the Font Attributes

1 Click the label or field that you want to format.

E 5 0.

Northwind - Microsoft Access

To select more than one label or field, hold down **Ctrl** as you click them.

- 2 Click the Format tab.
- 3 Click the buttons for the attributes that you want:
- 🔼 Bold (B)
- Italic (I)
- 🜔 Underline (🖳)

Access applies the font attributes.

Set the Font Color

- Click the label or field that you want to format.
- 2 Click the **Format** tab.
- 3 Click the Font Color 🔽.

The Font Color palette appears.



Access	applies	the	color.

TIPS



- **Theme Colors** refers to the color themes that you can apply throughout Office applications in Office 2013. These colors shift when you apply a different theme.
- **Standard Colors** are fixed colors that do not change with the color theme.
- **Recent Colors** are colors that you have already applied in this database. Using one of these colors ensures consistency across objects.

What does the Background Color button do?

The Background Color button (\supseteq) applies a background fill to controls. For example, you may want to use a colored background for certain labels. Keep in mind that if you use a dark fill color, you should set the text color to white (or a light color).

• Treb	u net MS (Header, * 14 v v Formatting v I ⊔ 3 ■ = = \$ % * 100 %	A Shape Fill ▼ A Shape Outline ▼ A Shape Outline ▼ A Shape Effects ▼
Selection	Font Number Background Control	Formatting
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1	ProductName Supplier	Cate
	Chai Exotic Liquids	Bever
	Chang Exotic Liquids	Bever
	Aniseed Syrup Exotic Liquids	Condi
	Chef Anton's Cajun Seasoning New Orleans Cajun Delights	Condi
	Chef Anton's Gumbo Mix New Orleans Cajun Delights	Condi
	Grandma's Boysenberry Spread Grandma Kelly's Homestead	Condi
	Uncle Bob's Organic Dried Pears Grandma Kelly's Homestead	Produ
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Size and Align Report Fields

A s you design your report, you may need to adjust the sizing and alignment of the fields and their Alabels. When you change the width of a field, its label also changes automatically, and the fields to its right shift to make room or to reduce the space.

When you create a report in the Layout view, the fields are usually properly aligned with one another, but if you create or modify the report in the Design view, some of the fields may not be quite aligned with one another. You can easily align multiple fields by selecting them and then choosing an alignment type.

Size and Align Report Fields

Size a Field

- In the Design or Layout view, click the label or field.

The field is resized, and any fields to its right are moved.

Align Fields with One Another

1 In the Design view, select the fields.

Note: Hold down **Shift** as you click each field.





Click the alignment that you want.

The selected fields align with one another.



Insert a Page-Numbering Code



Because reports are designed to be printed, they should include page-numbering codes. Reports generated with the Report Wizard or other quick methods contain a page-numbering function in the Page Footer section. In reports that you generate from blanks, you must insert your own page-numbering codes. Page numbering can be placed in either the report header or footer. The *report header* appears above the Detail area, whereas the *report footer* appears below the Detail area.

Note: The following steps are for reports that do not already contain page numbering.

Insert a Page-Numbering Code

- 1 In the Design view, click the **Design** tab.
- 2 Click Page Numbers.

The Page Numbers dialog box opens.

Click a page number format (O changes to O).

Note: Page N displays "Page" along with the number, like this: "Page 2." Page N of M displays "Page" along with the current page number, "of," and the total page count, like this: "Page 2 of 4."

- 4 Choose a position for the page numbers (○ changes to ●).
- 5 Click the Alignment and click an alignment for the page numbers.
- ∧ You can deselect Show Number on First Page (changes to) to omit the page number from the first page.

6 Click OK.

The page numbering code is inserted in either the header or the footer, depending on your selection.

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Grouping & Totals		Controls			Header	/ Footer
ProductName	•	Supplier				Category
Chai		Exotic Liqui	ds			Beverages
Chang		Exotic Liqui	ds			Beverages
Aniseed Syrup		Exotic Liqui	ds			Condiments
Chef Anton's Caji	un Seasoning	New Orleans	: Cajun Delig	hts		Condiments
Chef Anton's Gun	nbo Mix	New Orleans	: Cajun Delig	hts		Condiments

	Page Numbers	? ×	
roductName	Format	OK	Category
nai 3	Page N		Beverages
hang	O Page N of M	Cancel	Beverages
hiseed Syrup	Position		Condiments
nef Anton's Cajun Sea. 4	Top of Page [Header] O Bottom of Page [Footer]		Condiments
hef Anton's Gumbo Mix	Alignment:		Condiments
randma's Boysenberry Sprea	Center	-5	Condiments
ncle Bob's Organic Dr. A Pe	Show Number on First Page		Produce

CHAPTER 12

Grouping and Sorting Data

The reports you learn about in Chapter 11 provide a complete listing of the records in the data set. In this chapter, you learn how to create reports that group and sort data, distilling down a large amount of information into a manageable, meaningful report.

	1 21 61 4	Northw	nd - Microsoft Access		f —	
FILE	HOME CREATE	EXTERNAL DATA DATABASE TOOLS			Paul McFedries	20
	Product Inventory By Ca	itegory				
1						
	Draduatin	venter (By Cate serv				
	Froduct in	iveniory by Calegory				
	Category	Product	Supplier U	Jnits In Stock		
	Beverages					
		Chai	Exotic Liquids	39		
		Chang	Exotic Liquids	17		
		Chartreuse verte	Aux joyeux ecclésiastiques	69		
		Côte de Blaye	Aux joyeux ecclésiastiques	17		
		Guaraná Fantástica	Refrescos Americanas LTDA	20		
		Ipoh Cottee	Leka Irading	17		
		Lakkalikoori Lauabina lumbariaak Lagar	Karkki Uy Riafaat Brawariaa	57		
		Outback Lager	Bigloor breweries Raylova, Itd	15		
		Phöphräu Klosterbier	Plutzer Lebensmittelaroßmärkte 6	10 125		
		Sasquatch Ale	Biafoot Breweries	111		
		Steeleye Stout	Bigfoot Breweries	20		
			тот	AL 559		
	Condiments					
		Aniseed Syrup	Exotic Liquids	13		
1		Chef Anton's Cajun Seasoning	New Orleans Cajun Delights	53		
1		Chef Anton's Gumbo Mix	New Orleans Cajun Delights	0		
		Genen Shouyu	Mayumi's	39		
1		Grandma's Boysenberry Spread	Grandma Kelly's Homestead	120		
1		Guia Malacca	Leka irading Naw Odanas Catus Dalist t	2/		
		Louisiana Hery Hot Pepper Sauce	New Orleans Cajun Delights	/6		
		Northwoods Crapherny Sauce	Grandma Kelly's Homestoard	4		
		Original Frankfurter grüne Soße	Plutzer Lebensmittelaroßmärkte 4			
				-10 -32		_

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Remove a Grouping or Sorting				243

Understanding Grouping and Summarizing

When you have a lot of data, it can be difficult to discern its overall meaning. As you learn in the previous chapter, the Report Wizard gives you options for grouping the records based on the values in one or more fields, as well as summarizing the report records. If you need to fine-tune the grouping and summarizing options set up through the wizard or if you are building your report from scratch, you can specify the report's sorting and grouping from the Design view. Access provides several ways of grouping and summarizing data to make it easier to understand.

Drachenblut Delikatesse

Grouping

You can group a report by a field, such as by category. In this example, each category has its own section of the report.

B Aggregate functions

You can summarize each group with one or more aggregate functions, such as Sum (shown here), Average, or Count.

Product In	ventory By Category			
Category	Product	Supplier	Units In Sto	ck
Beverages <	A			
	Chai	Exotic Liquids		39
	Chang	Exotic Liquids		17
	Chartreuse verte	Aux joyeux ecclésiastiques		69
	Côte de Blaye	Aux joyeux ecclésiastiques		17
	Guaraná Fantástica	Refrescos Americanas LTDA		20
	Ipoh Coffee	Leka Trading		17
	Lakkalikööri	Karkki Oy		57
	Laughing Lumberjack Lager	Bigfoot Breweries		52
	Outback Lager	Pavlova, Ltd.		15
	Rhönbräu Klosterbier	Plutzer Lebensmittelgroßmärkt	e AG 1	125
	Sasquatch Ale	Bigfoot Breweries	1	111
	Steeleye Stout	Bigfoot Breweries		20
		т	IOTAL 5	559
Condiments				
	Aniseed Syrup	Exotic Liquids		
	Chef Anton's Cajun Seasoning	New Orleans Cajun Delights		вЛ
	Chef Anton's Gumbo Mix	New Orleans Cajun Delights		0
	Genen Shouyu	Mayumi's		39
	Grandma's Boysenberry Spread	Grandma Kelly's Homestead	1	120
	Gula Malacca	Leka Trading		27
	Louisiana Fiery Hot Pepper Sauce	New Orleans Cajun Delights		76

C Reports based on summary queries

As you learn in Chapter 8, "Creating Complex Queries," you can create summary queries that distill table data into aggregate functions. You can then create reports based on one of those queries.

Order Summaries By (Customer	
Customer	Total Units Ordered	Total Value of Orders
Alfreds Futterkiste	174	\$4,273.00 C
Ana Trujillo Emparedados y he	63	\$1,402.95
Antonio Moreno Taquería	359	\$7,023.98
Around the Horn	650	\$13,390.65
Berglunds snabbköp	1001	\$24,927.58
Blauer See Delikatessen	140	\$3,239,80
Blondel père et fils	666	\$18,534.08
Bólido Comidas preparadas	190	\$4,232.85
Bon app'	980	\$21,963.25
Bottom-Dollar Markets	956	\$20,801.60
B's Beverages	293	\$6,089.90
Cactus Comidas para llevar	115	\$1,814.80
Centro comercial Moctezum	11	\$100.80
Chop-suey Chinese	465	\$12,348.88
Comércio Mineiro	133	\$3,810.75
Consolidated Holdings	87	\$1,719.10

\$2.742.01

D Sorting

If you want your report data sorted without worrying whether the data in the report's table or query was sorted, you can specify a sort field from within the Report Design view.

• Sorting levels

Access supports multiple sorting levels, which means that you can sort your report based on two or more fields. For example, if you sort your Product Inventory report based on the Category field, you can also add a second sort level that sorts within each category by the Product Name field.

6 Sorting text

For a text field, you can sort the values from A to Z (an ascending sort) or Z to A (descending).

G Sorting dates

For a date field, you can sort the values from oldest to newest (ascending) or newest to oldest (descending).

() Sorting numbers

For a numeric field, you can sort the values from 0 to 9 (ascending) or 9 to 0 (descending).

Product Inventory By	Category		
Pro Doct	Invente By Category	4	
Category	Product Name	Supplier Un	its In Stock
Beverages	Chai	Exotic Liquids	39
Beverages	Chang	Exotic Liquids	17
Beverages	Chartreuse verte	Aux joyeux ecclésiastiques	69
Beverages	Côte de Blaye	Aux joyeux ecclésiastiques	17
Beverages	Guaraná Fantástica	Refrescos Americanas LTDA	20
Beverages	Ipoh Coffee	Leka Trading	17
Beverages	Lakkalikööri	Karkki Oy	57
Beverages	Laughing Lumberjack Lager	Bigfoot Breweries	52
Beverages	Outback Lager	Pavlova, Ltd.	15
Beverages	Rhönbräu Klosterbier	Plutzer Lebensmittelgroßmärkte A	G 125
Beverages	Sasquatch Ale	Bigfoot Breweries	111
Beverages	Steeleye Stout	Bigfoot Breweries	20
Condiments	Aniseed Syrup	Exotic Liquids	13
Condiments	Chef Anton's Cajun Seasoning	New Orleans Cajun Delights	53
Condiments	Chef Anton's Gumbo Mix	New Orleans Cajun Delights	0
Condiments	Genen Shouyu	Mayumi's	39

Customer Orders for 2012				
Cust Fier C	Orders for 2012	G		W
Customer	Employee	Order Date	Product	Quantity
Alfreds Futterkiste	Nancy Davolio	15-Jan-2012	Original Frankfurter grüne Sol	2
Alfreds Futterkiste	Nancy Davolio	15-Jan-2012	Raclette Courdavault	15
Alfreds Futterkiste	Nancy Davolio	16-Mar-2012	Rössle Sauerkraut	2
Alfreds Futterkiste	Nancy Davolio	16-Mar-2012	Grandma's Boysenberry Spre	16
Alfreds Futterkiste	Janet Leverling	09-Apr-2012	Fløtemysost	20
Alfreds Futterkiste	Janet Leverling	09-Apr-2012	Escargots de Bourgogne	40
Alfreds Futterkiste	Michael Suyama	25-Aug-2012	Spegesild	2
Alfreds Futterkiste	Michael Suyama	25-Aug-2012	Rössle Sauerkraut	15
Alfreds Futterkiste	Michael Suyama	25-Aug-2012	Chartreuse verte	21
Alfreds Futterkiste	Margaret Peaco	03-Oct-2012	Vegie-spread	20
Alfreds Futterkiste	Margaret Peaco	13-Oct-2012	Aniseed Syrup	6
Alfreds Futterkiste	Margaret Peaco	13-Oct-2012	Lakkalikööri	15
Ana Trujillo Empare	edac Margaret Peacc	04-Mar-2012	Queso Cabrales	2
Ana Trujillo Empare	edac Margaret Peaco	04-Mar-2012	Teatime Chocolate Biscuits	7
Ana Trujillo Empare	edac Margaret Peacc	04-Mar-2012	Konbu	10
Ana Trujillo Empare	edac Margaret Peaco	04-Mar-2012	Mozzarella di Giovanni	10

Group Report Results

If you use the Report Wizard to create a report, as detailed in Chapter 11, you have the opportunity to specify grouping in the wizard.

You can also set up grouping in the Layout or Design view afterward or change the grouping. If you arrange the grouping in the Layout view, the grouping field is moved automatically into the newly created group header. If you arrange it in the Design view, you must manually cut and paste the field.

Group Report Results

Group from the Layout View

- 1 In the Layout view, click the **Design** tab.
- 2 Click Group & Sort ([]]).

The Group, Sort, and Total pane appears.

3 Click Add a group.

A shortcut menu appears, showing the available fields by which you can group your data.

- Click the field by which you want to group.
- A Group On line appears.
- An additional set of buttons appears for creating another level of grouping, if needed.

thwind - Microsoft Access		F	EPORT LAYOUT TOC	LS
E EXTRINAL DATA DATABASE	TOOLS	DESIGN	ANGE FORMA	T PAGE SETUP
I≡ Group & Sort ∑ Totals ~ i≣ Hide Details	a xxx			ert Page ঊ Da ge ▼ Numbers ঊ Da
Group, Sort, and Total				
		3	[🗄 Add a grou	p _ੈ↓ Add a sort
Meat/Poultry Group, Sort, and Total Group on select field	ategoryID oductName ompanyName nitsInStock	Niku		Tokyo Traders
Layout View exp	pression			
Group, Sort, and Total				
,,				
Group on Category D	from sma	illest to largest	🔨 / More 🕨 🔫	A
🛄 🕼 🕻 🖾 🕻	Bidd	a sort		

Grouping and Sorting Data

CHAPTER

Group from the Design View

- In the Design view, perform the steps in the subsection "Group from the Layout View" to create a grouping.
- 2 On the design grid, click the field on which you have grouped and then press Ctrl + X to cut it to the Clipboard.
- 3 Click the header for the field on which you have grouped.
- 4 Press Ctrl + ♥ to paste the field into that header section.

Access will now display the field in the report's grouping header.

	Product Inventory			
	1 1 1 2 1 3	$(1,1) \times (1,2) \times (4,2) \times (1,1)$	5 6	7 8 .
-	Product Inventory			
	✓ Page Header			
:	Category		Company Name	IsInStock
:				
	✓ Detail			
:	CategoryID 🗸 🙀 Z Name		CompanyName	UnitsInSt
•				
:	=Now()		="Page " &	[Page] & " of " & [Pages]
	\$			
5	Product Inventory			
		4	5 6	1 7 1 8
	Report Header	• 1 • • • 4 • • • 1	5 6	•••••
-	Report Header		• • • 5 • • • 1 • • • 6	· · · I · · · 7 · · · I · · · 8
	Report Header Procuc t Inventory Page 3			· · · · · · · · · · · · · · · · · · 8
	Report Header Procluct Inventory Page 3 Cale pory ProductMame		5 6	sinštack
	Report Header Procuto Finventory Page 3 r Cdta gory FroductName CategoryD Header	· · · · · · · · · · · ·		
	Report Header Procluct Inventory Page 3 r Cath sory Category Header CategoryID Y 4		5 6	sinštock
	Report Header Procluc 1 Inventory Page 3 r Cate pory CategoryID Header CategoryID Detail		Company Name	sinStock
	Report Header Procluct Inventory Page 3 r Cate gory/D Header Category/D Header Category/D Detail ProductName P		CompanyName	kinstock
	Report Header Procluc 1 Inventory Page 3 Cate goryD Header CategoryID Detail ProductName Page Footer		CompanyName	VinitsInSt
	Report Header Procluce T invenion onv Page 3 r Cate porty CategoryID Header CategoryID Header CategoryID ProductName Page Footer		CompanyName	UnitsInSt
	Report Header Procluct Inventory Page 3 r CategoryID Fielder CategoryID Page Footer PAge Footer Now()		CompanyName	UnitsInSt (Page) & " of " & [Pages]

TIPS

Can I have multiple levels of groupings?

Yes. After you create a grouping, a fresh set of Add a Group and Add a Sort buttons appears below it. Click **Add a group** to create a group subordinate to your original one.



How can I set grouping options?

Click **More** on the group's bar. Additional drop-down lists appear for setting options. For example, you can choose grouping intervals, choose to have only a group header or footer, and choose whether to keep a group together on one page.

Group a Numeric Field by Intervals

By default, Access groups a field based on the entire value of each unique item in the grouping field. That is exactly what you want if you are using a text field, but it does not work well if you are using a numeric field. For example, if your report contains order data, it does not make sense to group the report based on the Quantity field because you will just end up with a huge number of groups. Instead, you can group a numeric field using intervals, such as 1-10, 11-20, and so on.

Group a Numeric Field by Intervals

1 Click the Design tab.			S • C • • Northwind - Microsoft Access
2 Click Group & Sort ([]=).	FI		HOME CREATE EXTERNAL DATA DATABASE TOOLS DESIGN INGE FORMAT PAGE SETUP
The Group, Sort, and Total pane appears.	Vie Vie	w/s	Colors Controls Insert Page Inte Add Existing Property Tab A Fonts ~ Image ~ Image ~ Numbers Bate and Time Add Existing Property Tab Themes Grouping & Totals Controls Header / Footer Tools
3 Click More.	Navigation Pane	G	Report Header Customers1 Company Norme Company Norme Company Norme Detail Product Name Unit Price Company Name Detail If or smallest to largest ▼, More ► 3 If = Add a group ♀ Add a sort
4 Click this 🔻 .			Group, Sort, and Total
Access displays the interval options for the grouping.	al		without a footer section ▼, do not keep group togetr 5 one f B Add a group 2↓ Add a sort C by 103 by 1003 by 1003
5 Click the interval that you want to use (○ changes	ļ		n View

 ▲ If you prefer to use some other interval, click Custom
 (○ changes to ●) and then type the interval value.

to 💽).

Access will now display the report grouped on the numeric field, using the interval that you selected.

Group a Date Field

As with a numeric field, grouping a report based on a date field usually presents problems because Ayour report ends up grouped by the individual dates in the grouping field. This might be what you want, but in most cases it creates too many groups for the report to be useful. A better way to go is to group the date field based on some larger interval, such as by week, month, quarter, or year. This will usually give you a more meaningful and more readable report.

I≡ Add a group 2↓ Add a sort

Group a Date Field

- 1 Click the **Design** tab.
- 2 Click Group & Sort (🔚).

The Group, Sort, and Total pane appears.

3 Click More.



by quarter

🔿 by year

O Custom: By: 1

А

Minutes

4 Click this 🔻 .

Access displays the date interval options for the grouping.

5 Click the interval that you want to use (○ changes to ●).

▲ If you prefer to use some other interval, click Custom (○ changes to ○), type the interval value, and then select an interval unit.

Access will now display the report grouped on the date field, using the interval that you selected.

Group Records Using an Expression

Ithough you will most often use a field to group a report, you can also define your own grouping expression, which is a collection of operators, operands, field names, and functions that returns some value for each record. You can then group the report based on the values returned by the expression.

For example, suppose that you have a product inventory report that includes UnitPrice and UnitsInStock fields. Multiplying these values together gives you an "inventory value" number. If you want to group the records based on inventory value, here is the expression to use: =[UnitPrice] * [UnitsInStock].

Paul N

Group Records Using an Expression AB 🔒 5- 0- -1 Click the **Design** tab. Northwind - Microsoft Access REPORT DESIGN TOOLS 1 FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS DESIGN FORMAT PAGE SETUP 2) Click Group & Sort (🔚). 🗲 [🗄 Group & Sort # İΥ / Logo Colors -∑ Totals -121 进 Title Controls Insert Page Add Existing Property Tab View Image Numbers Date and Time i 🛅 Hide Details Order 🖷 A Fonts * The Group, Sort, and Total Fields Sheet Themes Grouping & Totals Controls Header / Footer Tools Views pane appears. Product Inventory Click Add a group. Product Inventory 🗲 Page Header ProductName Category ie IslnStoc Pane 🗲 Detail Navigation ✓ UnitPrice ProductName CategoryID UnitsInSt € Page Footer Group, Sort, and Total 🟲 [🗄 Add a group 🛛 🗍 Add a sort Navigat Access adds a grouping. 🗣 Page Footer ProductID ProductName 4 • SupplierID Click this $extsf{T}$. Group, Sort, and Total CategoryID QuantityPerUnit Group on select field UnitPrice Click expression. UnitsInStock UnitsOnOrde ReorderLevel Discontinued 5 expression

Grouping and Sorting Data

The Expression Builder dialog box appears.

6 Type your expression.

the group header.

10 Click Number (C changes

Access will now display the

results grouped.

8 Click More.

to 💿).

9 Click this 🔻 .

Click OK.



using your expression. TIP

Can I also use an expression for sorting?

Yes. For example, in the product inventory report, you could use the expression =[UnitPrice] * [UnitsInStock] to sort the report based on the inventory value. Similarly, suppose that you have an invoices report that includes the fields Quantity, Price, and Discount. If you want to sort the report based on the total value of each invoice, you would use the following expression:

=[Quantity] * [Price] * (1 - [Discount])

To sort your report based on an expression, open the Group, Sort, and Total pane, click Add a sort, click expression, and then follow steps 6 to 11 in this section.

Sort Report Results

You can sort the results in a report, with or without grouping. If you have grouped your report, you can sort your report by sorting on the groups themselves. You can also sort the entries within each group. For example, if you have grouped a report based on product categories, you can sort within each category based on product supplier names.

If you have not grouped your report, you define the sorting separately. In this case, you can define your sort based on any field in the report.

Sort Report Results

Sort the Groups

Note: Begin these steps in the Design view, with a group already defined.

1 Click [🗄 .

The G	Group,	Sort,	and	Total
pane	appea	ars.		

- 2 Click to choose a sort order for the group.
- 3 To sort within the group based on another field, click Add a sort and then select the field.

Access will now display the report with the groups sorted.

Sort with No Grouping

1 Click [=.

The Group, Sort, and Total pane appears.

2 Click Add a sort.

A list of available fields appears on which you can sort your data.

3 Click the field on which you want to sort.

A sort bar appears.

Group, Sort, and Total

Group on Category D 🔻	from smallest to largest 🔨 2	Þ
🕒 🕼 Add a group	Ž↓ Add a sort -3	

Group, Sort, and Total		II= Add a group - Âl-Add a sort
		tie Add a group Z↓ Add a solt
Group, Sort, and Total	CategoryID ProductName CompanyName UnitsInStock	3
Sort by ProductName Y		Kare ►
n View	expression	

Count Records

You can use a Count function in a report to list the number of records. You can add record counts whether you have grouped or sorted the report.

Access gives you several count options. For example, you can display just the total number of records within the report, which is called the *grand total*. If your report is grouped, you can also display *subtotals*, which are the total number of records within each group. You can display these subtotals in the group header, group footer, or both. You can also display each subtotal as a percentage of the grand total.

Count Records

Note: Begin these steps in the Design view, with a group or sort specification already defined.

1 Click [🗄 .

The Group, Sort, and Total pane appears.

2 Click More.

The available options expand. The options may be different than shown here depending on the field type.

- 3 Click this **T** to open a menu of options.
- Click the Total On and click the field on which you want to total.
- 5 Click the Type → and click Count Values if it does not already appear.
- 6 Click the check boxes to indicate where and how the count should appear (□ changes to ☑).
- 7 Click away from the menu to close it.

Access will now include in the report the record counts that you selected.

Group, Sort, and Total Group on Category D ▼ from smallest to largest ▼ , More ► IE Add a group 2↓ Add a sort	
Group, Sort, and Total Group on CategoryD ▼ from smallest to largest ▼, by entire value ▼, with no totals without a footer section ▼, do not keep group together on one page ▼, Less ◀ I= Add a group 2↓ Add a sort	Totals Total On CategoryID V 4 Type Sur CategoryID Show (CompanyName Unitshock Unitshock Show subtotal in group header Show subtotal in group header
Group, Sort, and Total Group on Category D ▼ from smallest to largest ▼, by entire value ▼, with Category without a footer section ▼, do not keep group together on one page ▼, <i>Less</i> ◀ III Add a group 2↓ Add a sort 7	ID t Total On CategoryID V Type Count Values V Show Grand Total Show group subtotal as % of Grand Total V Show subtotal in group header
n View	Show subtotal in group footer

Add an Aggregate Function

Counting is only one of many math operations that you can perform on records in a report. You can Calso add other functions, including sum, average, minimum, maximum, and standard deviation. These are all referred to as *aggregate functions* because they summarize (aggregate) data.

For example, if you have a report that shows product inventory, you might want to know the total number of products that you have in stock. You can do that by adding a Sum function based on the field that holds the units in stock for each product.

Product Inventory

Add an Aggregate Function

Note: Begin these steps in the Design view, with a group or sort specification already defined.

Click [E].
 The Group, Sort, and Total

pane appears.

2 Click **More** if the extended options do not already appear.

Category Category Header	Product	Supplier	lainSte
€ Detail			
CategoryID	✓ ProductName	CompanyName	Unitsl
=Now()		="Paae" & [Paae]	& " of " & IPaa
	1		
up, Sort, and Total			
Group on Calegory D 🔻 fr	om smallest to largest 🔻 . More 🕨 📹	2	
A BE A LL AL	0 dd o oort		
	Add a sort		
Add a droup 4*			
📭 Add a group 🛛 2*	Add a solit		
M- Add a group 2*	Add a sort		
•- Add a group 2+			
M- Add a group 24	Add a soft		
K= Add a group 2*	Addatort		
n- Add a group 2*			
- Add a group 2*			
- Add a group 2+			
- Add a group 2+			
Product Inventory			
Product Inventory			
Product Inventory		4 1 5 1 6 1 .	7
Product Inventory		4 1 5 1 6 1 .	7 1 .
Product Inventory Frequent Header	··· 2 · · · 1 · · · 3 · · · 1 ·	4 1 5 1 6 1 .	7
Product hventory	··· 2 ···· 1 ··· 3 ···· 1	· · · 4 · · · · 1 · · · · 5 · · · · 1 · · · · 6 · · · · 1 ·	· · · 7 · · · · I ·
Product Inventory Report Header Product Inventory			· · · 7 · · · · · · · · · ·
Product hventory		· · • 4 · · · · 1 · · · · 5 · · · · 1 · · · · 6 · · · · 1 ·	• • 7 • • • 1 •
Product Inventory Report Header Procluct Inv/d Page Header			· · · 7 · · · · 1 ·
Product Inventory Product Inventory Procluct Inventor Procluct Inventor Procluct Inventor Procluct Inventor	entory	· · • • • · · · · · · · · · · · · · · ·	· · · 7 · · · · 1 ·
Add a group 2+ Product Inventory Report Header Product Invent Product Invent Product Invent Collegency	enfory	••••••••••••••••••••••••••••••••••••••	· · · · · · · · · · · · · · · · · · ·
Product Inventory Product Inventory Procluct Inventor Procluct Inventor Cotegory Category Fasterry	entory Product	· · • • · · · · · · · · · · · · · • 6 · · · ·	· · · · · · · · · · · ·
	enfory	••••••••••••••••••••••••••••••••••••••	· · · 7 · · · · 1
Product Inventory Product Inventory Procluct Inventor Procluct Inventor Category	Product		· · · · · · · · ·
	enfory		
Product Inventory Product Inventory Procluct Inventor Procluct Inventor Procluct Inventor Category/D Header Potenal Detail	Product		· · · 7 · · · · · ·
Add a group 2+ Product hventory Report Header Procluct I In V/s Page Header CategoryD Header CategoryID	ProductName	4	7 · · · · · ·
Product Inventory Product Inventory Procluct Inventor Procluct Inventor CategoryID Header Data	ProductName		7 · · · · · · · · · · · · · · · · · · ·
Add a group 2+ Product hventory Report Header Proceduce T In V/e CategoryID Header CategoryID Header CategoryID Page Footer	ProductName	CompanyName	7 · · · · · · · · · · · · · · · · · · ·
Product Inventory Product Inventory Procluct Inventor Procluct Inventor Procluct Inventor CategoryID Header Potesii CategoryID Header Page Footer	ProductName		7 · · · · · · · · · · · · · · · · · · ·
Add a group 2+ Product hventory Report Header Proceduce T In V/e CategoryID Header CategoryID Header CategoryID Page Footer ENow()	ProductName	CompanyName	v of * 8 IPcc
Product Inventory Product Inventory Procluct Inventor Procluct Inventor Procluct Inventor CategoryID Header CategoryID Header Page Footer Now()	ProductName		7
	ProductName	4	v 7 · · · · · · · · · · · · · · · · · ·
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Add a group 2+ Product hventory Report Header Proceuse 1 Inv/e Page Header CategoryID Header CategoryID Header CategoryID Page Footer =Now() Feport Footer	ProductName	CompanyName	
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3 Click this 🐨 to open a menu of total options.
Grouping and Sorting Data

- 4 Click the Total On → and click the field on which you want to total.
- 5 Click the **Type** $\[earrow]$ and click the function that you want.
- 6 Click the check boxes to indicate where and how the function should appear.
- 7 Click away from the menu to close it.
- A The function appears in the report design.

TIPS

How can I move a function between sections?

A function is in an unbound text box. You can move unbound text boxes between sections with a cut-and-paste operation but not with a drag-and-drop operation. Select the text box containing the function and press **Ctrl** + **X**. Click the bar for the section into which you want to insert the function and press **Ctrl** + **V**.

CategoryID ProductName UnitsInSt CompanyName =Now() ="Page " & [Page] & " of " & [Pages] 🗲 Report Foote =Sum([UI Group, Sort, and Tota Total Group on Category D 🔻 from smallest to largest 🔻 / by entire value 🔻 / with UnitsInStock Total On UnitsInStock with a header section 🔻 , without a footer section 🔻 , do not keep group together on Type Sum I Add a group 2↓ Add a sort Show Grand Total Show group subtotal nd Total 5 Show subtotal in grou Show subtotal in group footer 🗲 Detail CategoryID ProductName CompanyName UnitsInSt € Page Footer =Now() ="Page " & [Page] & " of " & [Pages] Report Footer =Sum([UnitsInStock])

Can I use other functions besides the ones on the list?

Yes. Add an unbound text box to the report and then manually type the function into it. Use the Help system to get the proper syntax.

- Click the Design tab.
- 2 Click **Controls**.
- 3 Click the Text Box button (ab).
- 4 Drag to create the text box.
- 5 Select the text box label and then press **Delete** to remove it.
- 6 Click inside the text box and type the function, starting with an equals sign (=).



Hide the Group Header and Footer

When you create a report grouping, Access creates two new report sections: a *group header* and a *group footer*. You can use the header to identify the group and the footer to print summary information about the group. For example, at the bottom of each group, you could print the sum of a particular field or the total number of records in the group. (See the section "Count Records," earlier in this chapter.)

However, if you do not use the group header or the group footer, you can hide these features to reduce clutter in the Report Design view.

Hide the Group Header and Footer

- 1 If the group header section contains controls that you want to save, move them to another section.
- 2 Click the **Design** tab.
- 3 Click Group & Sort (🔚).

The Group, Sort, and Total pane appears.

- 4 Click More.
- 5 Click this 🔫 .
- 6 Click without a header section.
- Access removes the group header section.
- 7 Click this 🔫 .

8 Click without a footer section.

Access removes the group footer section.

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CHAPTER **12**

Keep a Group Together on a Page

A ccess offers an option called *Keep Whole Group Together on One Page*. This option tells Access to print each group on a single page, if possible. If there is not enough room after one group ends to print the next group on the same page, Access starts a new page.

Another option is called *Keep Header and First Record Together on One Page,* and it tells Access to print the group header on the same page as the first group record. This prevents the group header from appearing by itself at the bottom of a page.

Keep a Group Together on a Page



Change the Grouping or Sorting Priority

If you have added two or more groupings to your report, Access maintains a priority for the grouping levels. The first grouping is given top priority, which means that Access groups the entire report based on that field. The second grouping is given the next priority, which means that Access only groups the records within the main grouping. To get a different look at the report, you can move a grouping level up or down in the priority list.

The same priority idea applies also to sorting, so if your report uses multiple sort levels, you can also move them up or down in the sort priority.

Change the Grouping or Sorting Priority

1 Click the **Design** tab.

2 Click Group & Sort ([=]).

The Group, Sort, and Total pane appears.

3 Click the grouping or sorting level that you want to change.

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- Change the item's priority:
- A Click the Move Up button (to move the item to a higher priority.
- B Click the Move Down button (*) to move the item to a lower priority.

Access adjusts the grouping or sorting priority.

Group, Sort, and Total	23
Group on CategoryName	
Group on CompanyName 👻 with A on top 🍷 / More 🕨	A > * * X
Group on UnitsInStock	
I≡ Add a group 2↓ Add a sort	В

Remove a Grouping or Sorting

chapter **12**

If you have added two or more groupings to your report, you might find that the extra grouping levels actually make your report harder to read because it is now broken down into too many groups within groups. In that case, you can simplify the report by deleting a grouping level.

If you have added one or more sorting levels to your report, you can also remove any sorting level that you no longer require.

Remove a Grouping or Sorting

1 If the group's header or footer section contains controls that you want to save, move them to another section.	Image: Source State Sta
2 Click the Design tab.	
3 Click Group & Sort (🔚).	Product Inventory By Category
The Group, Sort, and Total pane appears.	Page Header Category Product: Nome Supplier Units its Stock CategoryName Header
4 Click the grouping or sorting level that you want to remove.	CompanyName Header
	f: Group on CategoryName ▼ with A on top ▼, More ► Group on CompanyName Group on Units inStock ↓ 4 Group on Units inStock ↓ 4 Gt = Add a group 24 Add a sort
 Click X. Access deletes the grouping or sorting level. 	Group, Sort, and Total Group on CategoryName Group on CompanyName Group on UnitshStock ▼ from smallest to largest ▼ , More ► CI= Add a group 2↓ Add a sort

CHAPTER 13

Creating Mailing Labels

In addition to standard reports, Access can also create mailing labels. This enables you to print labels without first exporting the data into a word-processing program as well as set up reusable label definitions for recurring mailings.

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Create Labels

If you are working on your Christmas card list, a print newsletter, or a direct mail marketing campaign, you eventually have to mail out a number of pieces. You can make this tedious chore quite a bit easier by printing a mailing label for each recipient. If you have all your recipients in an Access table, you can generate the mailing labels directly from it. Labels are a special type of report. They print multiple records per page in a layout designed to correspond to self-stick labels that feed into your printer.

Create Labels

1 In the Objects list, click the 5-0--Northwind - Microsoft Access DATABASE TOOLS HOME 2 Paul McI CREATE -AL DATA table or guery containing the 🔣 Form Wizard 🖳 Report Wizard 8 fields that you want. 3 🛅 Navigation + 🗄 Labels Report Rep Application Table Table SharePoint Query Query Form Form Blank 🔚 More Forms 🕶 Design Report Parts * Design Lists 🔻 Wizard Design Design Form Click the Create tab. Tables Forms Reports Templates Oueries All Access Obiects 🖻 « Label Wizard 3 Click Labels (🗏). Tables This wizard creates standard labels or custom labels All Orders What label size would you like? The Label Wizard opens. Categories Product number: Dimensions: Number across: Customers 1 C2160 1 1/2" × 2 1/2" Employees 4 Click the Filter by C2163 1 1/2" x 3 9/10 1 1/4" × 7 31/50" C2241 2 Inventory C2242 2" × 2' **manufacturer** v and click 1 1/2" × 1 1/2" C2243 Order Details the label manufacturer. Unit of Measure Label Type Orders English Metric Sheet feed
 Continuous Payment Types Products Filter by manufacturer: Avery ¥ Products For Update Customize... Show custom label sizes Shippers Shipping Options Cancel < Back <u>N</u>ext > Suppliers 5 Click the unit of measure Label Wizard that you want to use This wizard creates standard labels or custom labels. $(\bigcirc$ changes to \bigcirc). What label size would you like? 6 Click the label type Product number: Dimensions: Number across: C2160 1 1/2" × 2 1/2" 13 $(\bigcirc$ changes to \bigcirc). ~ C2163 1 1/2" × 3 9/10" 2 1 1/4" x 7 31/50" C2241 2 Note: Continuous-feed labels are 2" × 2" C2242 3 C2243 1 1/2" × 1 1/2" 4 typically used only by dot matrix Unit of Measure Label Type printers. 5 🖲 English Metric Sheet feed Continuous 6 7 Click the label product Filter by manufacturer: Averv v number. Show custom label sizes Customize.. Note: If you do not know the product number, choose one that < B 8 Next > Cancel matches the dimensions and number of labels across that



you have.

Creating Mailing Labels





- 2 Click New to open the New Label dialog box.
- **3** Define the new label according to its size, type, and orientation.
- 4 Type a name for the new label definition.
- 5 Click OK.
- 6 Click **Close** in the New Label Size dialog box.



Create Labels (continued)

A fter choosing the size and formatting for the label, you set up the fields that should appear on A it. These come from the table or query that you selected before you started the wizard. In most cases, these will include the fields that hold the recipient names as well as the recipient address data, including the street address, state or province, country, and zip or postal code.

You can also configure your labels to appear sorted on one or more fields.

Create Labels (continued)

The available fields page of the wizard appears.

- 18 Click a field and click to move it to the Prototype Label list.
- You can click a line to move the insertion point into it.
- Type any spaces or other punctuation that should separate the fields within a line.
- 20 Repeat steps 18 and 19 as needed to create the complete label.

21 Click Next.

The sort page appears.

- Click a field by which you want to sort and click > to move it to the Sort By list.
- 23 Repeat step 22 to specify additional sorting if needed.

24 Click Next.



3	Available fields:	9	Sort by:	
22	CustomerID CompanyName ContactTitle Address City Region PostalCode Country	▲ > 22 < <	ContactName	
	Cancel	<∎24	<u>N</u> ext >	Einish

Creating Mailing Labels



The name page appears.

25 Type a name for the label report.

The report appears in Print

Preview, ready to print on

label paper.

26 Click Finish.



TIPS

How can I change the font after the report has been generated?

Right-click the report's tab and then choose **Layout View** from the shortcut menu. Click the **Format** tab and then select the text that you want to format. Use the controls in the Font group to format the text.



When I look at the labels in the Design view, the fields are enclosed in a = TRIM() function. Why?

The = TRIM() function removes extraneous spaces around entries. For example, if the City field's entry has several spaces after it and you do not use = TRIM(), those spaces will appear between the City and Region values on the label.



Add a Field to an Existing Line

As shown in the "Create Labels" section, you can configure a label to include multiple fields on A single line, such as a City field and a Region field. You can also separate such fields using commas and spaces. When you do this, the Label Wizard combines the fields and text into a single text box and encloses everything within a TRIM() function. If you want to add or remove a field within a line of the label, you must understand the syntax used to construct this function.

Syntax of the =TRIM() function							
Syntax	Explanation						
=Trim([City] & ", " & [Region])	This is an example of a complete =TRIM() function.						
=Trim()	The =TRIM() function trims off any excess blank spaces in the fields.						
[City]	Field names appear in square brackets.						
&	Fields are concatenated with an ampersand.						
н н ,	Literal text or space is enclosed in quotation marks.						

Additions to a =TRIM() function

To add another field within an existing =TRIM() function, you must make sure that the new field is enclosed in square brackets, separated from other fields by an ampersand (&) and separated from other fields with any literal text or punctuation marks in quotation marks.

So, to add the PostalCode field to the example shown here, you would change the function's code to Trim ([Citule "

ContactName	
Address	
=Trim([City] & ", " & [Region])	
=Trim([Country] & " " & [PostalCode])	

the function's code to =Trim([City]& ", "&[Region]& " "&[PostalCode]).

CHAPTER **13**

 \mathbf{I} n addition to adding a field to an existing =TRIM() function on a label, you can also add fields as separate text boxes on their own lines. For example, if you forgot to add an Address line, you could insert one in the Design view.

If the field will be by itself in its own text box, you do not have to use the =TRIM() function; you can simply add the field as you would on a form or on an ordinary report.

Add a Field to a Label As a Separate Line

 In the Design view, drag the existing fields to make room for the new line, if necessary.

Note: To move a field, click \triangleright on its border and then drag.

- 2 Click the Design tab.
- 3 Click Controls.
- 4 Click the Text Box button (🔤).
- 5 Click and drag to create a new text box where you want to place the field.

6 Type the field name in the new text box (if a single field).

Note: You can also type a **=Trim()** function to include multiple fields on the same line; see the section "Add a Field to an Existing Line" for more information.

The field name appears in the box.

Note: To delete a field, select it and then press **Delete**.



Color the Label Background

There are two ways to color a label background: You can color the overall background of the label, or you can color the individual text boxes in which the text appears.

When choosing a label background, make sure that the color does not clash with the color of the label text. For example, the default label text color is black, so any dark background will cause a problem. Either use a light color for the background or change the color of the label text, as described next in the "Color the Label Text" section.

Color the Label Background

- 1 In the Design view, click **Detail** to select the entire Detail section.
- You can also click an individual text box to select it.
- 2 Click the Format tab.
- 3 Click the Background Color vand click a background color.
- You can click Automatic to revert to the default theme background color.
- C You can click **Transparent** to use no background color.
- You can click More Colors to create a custom background color.
- Access applies the chosen background color to either the entire label or the individual text box.
- Fields on the label remain white by default; you can set their colors to Transparent if you prefer.



Color the Label Text

You can change the color of a label's text. This is especially useful after changing the label background color so that the text continues to contrast with the background for good visibility. For more, see the preceding section, "Color the Label Background."

Note that Access does not allow you to apply a different color to only part of the text in a text box; you must apply the new color to the entire text box.

Color the Label Text

 In the Design view, select one or more text boxes containing the text that you want to color.

Note: You can select multiple text boxes by holding down **Shift** as you click each one. You can also drag a lasso around them.

- **2** Click the **Format** tab.
- 3 Click the Font Color and click a text color.
- You can click Automatic to revert to the default theme text color.
- B You can click More Colors to create a custom text color.
- Access applies the chosen color to the text in the text box(es) that you selected.





Apply Font Formatting to the Label Text

You can change the font formatting for the label text in the same way in the Design view that you can using the Label Wizard — changing the font and size and applying bold, italic, and underline. You can also set the horizontal alignment — left-aligned, centered, or right-aligned — of the label text.

If you have spent some time getting the formatting of a label text box just right, you might want to apply the same formatting to another text box. Rather than start from scratch, you can copy formatting between text boxes with the Format Painter tool.

Apply Font Formatting to the Label Text

Change the Font

- 1 In the Design view, click the **Format** tab.
- 2 Select one or more text boxes for which you want to change the font.
- 3 Click the Font 🔜 and click the font that you want.

Access applies the font to the text.

Change the Font Size and Attributes

- 1 Select one or more text boxes that you want to format.
- 2 Click the Font Size → and click the size that you want.

Access resizes the text.

- 3 You can click one or more of these buttons to apply more attributes:
- \Lambda Bold (B)
- B Italic (I)
- 🕒 Underline (🖳)

Access applies the font attributes.



Creating Mailing Labels



Change the Text Alignment

- Select one or more text boxes with text you want to align.
- 2 Click one of the alignment buttons:
- D Left (📃)
- 🕒 Center (📃)
- Bight (=)

Access applies the alignment to the text.

Copy Formatting to Another Text Box

- Select a text box that is already formatted the way you want.
- 2 Click the Format Painter button (*).
- 3 Click the text box that you want to format.

Access copies the formatting to the second text box.

TIPS

How can I format one field in a text box differently from the others?

You cannot. Font formatting is applied to the entire text box, not to individual characters. If you want a certain field to be formatted differently, place it in its own text box.



After I enlarged the font, the text appeared truncated. How can I fix this?

You may need to resize the text box to adjust for the larger font size. You can do this in one of the following ways: dragging a selection handle; double-clicking a selection handle; or right-clicking the text box, clicking **Size**, and then clicking **To Fit**. Keep in mind, however, that in the Design view, the text in the text boxes is the code to produce the label text, not the label text itself. Switch to the Layout view for a more realistic picture of whether the text on the labels will be truncated.

Export Labels to Word

You may prefer to print labels in Microsoft Word rather than Access because of the increased options that are available in Word for formatting. Also, Word has powerful tools for setting up printed pages, so by transferring your labels to Word you can take advantage of these tools.

You can use the Export Wizard to export the labels — or any other report — to a new Word document.

Export Labels to Word

- **1** Click the **External Data** tab.
- 2 In the Export group, click **More**.
- 3 Click Word.

The Export – RTF File Wizard opens.

- 4 Change the path and filename if needed.
- A You can click **Browse** to choose a location.
- 5 Click here to open the file in Word after the export (□ changes to ☑).
- 6 Click **OK**.
- 7 If you see a message about some data not being displayed, click **OK** to continue.



Creating Mailing Labels



The final screen of the Export Wizard appears with a confirmation.

8 Click Close.



The labels open in Word.

TIPS

Should I be worried about a message that warns that some data may not be displayed?

Not necessarily. In most cases, the results are fine when exported into Word. If needed, you can adjust margins, columns, and other formatting settings in Word after the export. For example, to adjust the margins in Word, click the **Page Layout** tab, click **Margins**, click **Custom Margins**, and then use the **Margins** tab of the Page Setup dialog box to set your new margins.

If I export the labels to Word frequently, do I have to repeat these steps each time?

No, you can save the export steps for easy recall later on. In the final screen of the Export Wizard, click **Save export steps** (□ changes to ☑). This enables you to rerun the export later from Saved Exports on the External Data tab. See the section "Using Saved Import or Export Specifications" in Chapter 15 for more information.

CHAPTER 14

Performing a Mail Merge

One common use for a database is to store names and addresses of people to whom you send written correspondence. You can combine the capabilities of Access with those of a word-processing program, such as Microsoft Word, to easily produce hundreds or even thousands of personalized copies of a letter with a few simple mouse clicks.

💶 🔂 🖘 🖑 👻 Document1 - Microsoft Word	d	? 🗵 – 8
FILE HOME INSERT DESIGN PAGE LAYOUT REFERENCES MAILINGS REV	VIEW VIEW	Paul McFedries 👻 🌉 🄇
rvelopes Labels Create	Rules → Match Fields Update Labels Verview Results	Finish & Merge ~ Finish
···· X ·······························	· · · · · 6 · · · · <u>·</u> · · · 7 · · ·	
Baldwin Museum of Science 456 121 st Street Indianapolis, IN 46294		Mail Merge * 3 Write your letter If you have not already done so, write your letter now.
«AddressBlock» «Phone»		To add recipient information to your letter, click a location in the document, and then click one of the items below.
«GreetingLine»		Greeting line
Thank you for renewing your single membership with the Baldwin M Science. In order to show our appreciation, we have some great new You now qualify for a special discount on a family membership. Sign your family for one year and the first two months are free for them. this special offer are explained in the enclosed brochure.	luseum of vs for you. up the rest of The details of	Electronic postage More items When you have finished writing your letter, click Next. Then you can preview and personalize each recipient's letter.
If you have any questions, give me a call.		
Sincerely,		
Paul McHammond		Step 4 of 6 → Next: Preview your letters
		 Previous: Select recipients
50 er		

Start a Mail Merge									260
Create the Main Document in	W	or	d						262
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Merge to a New Document .									271
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Start a Mail Merge

You can begin a mail merge either from Access or from Word. In this chapter, you will learn how to do it from Access. Either way, you will work primarily in Word because that is where you set up the main document. The Access database serves as a passive supplier of data when the actual merge occurs.

The Mail Merge Wizard gives you the choice of creating a new Word document to serve as the main document or using an existing one. This chapter assumes that you will create a new Word document as part of the mail merge process.

Start a Mail Merge

 Click the table that you want to use as a data source for the merge.

Note: Make sure that the table contains adequate fields to address a postal mailing. At the minimum, it should include the name, address, city, state, and zip code.

2 Click the **External Data** tab.

3 Click Word Merge.

The Microsoft Word Mail Merge Wizard opens.

- 4 Click Create a new document and then link the data to it (○ changes to ●).
- 5 Click OK.

Microsoft Word opens a new document and then opens the Mail Merge task pane.

- 6 Click Letters (○ changes to ●).
- You can click other document types if you prefer.
- 7 Click Next: Starting document.





You are prompted to select a starting document.

8 Make sure that Use the current document is selected (changes to).

Click Next: Select recipients.



You are prompted to select recipients.

 Leave the data source settings as they are.

Note: Because you started the merge from Access, the correct Access table is already selected.

11 Click Next: Write your letter.

The next set of options appears in the task pane.

Note: The rest of the sections in this chapter take you through the steps required to complete the mail merge.



TIPS

Do I need to do anything special in Access to prepare the table to be used for mail merge?

If you are going to use the mail merge results for postal mailings, the table should include all the fields you need for that purpose: full name, address, city, state, and zip code. Otherwise, you will not be able to construct complete, usable addresses.

Do I have to use the Mail Merge Wizard?

No. You can use the commands on the Mailings tab in Word to manually set up a mail merge. This chapter does not cover those methods, but you can learn about them by using Help in Word.

Create the Main Document in Word

The main document is the one that contains all the parts of the letter that stay the same for each copy. For example, if you are writing a letter to customers, the main document will contain your return address, the message to the customers, and your signature line.

You can create all the text for the main document at once, or you can insert fields in the letter. Inserting fields is covered later in this chapter.

Create the Main Document in Word 📲 🗄 🕤 · 🗇 -Document1 - Microsoft Word 300 1 Start the mail merge as FILE HOME INSERT DESIGN PAGE LAYOUT REFERENCES MAILINGS **BEVIEW** Paul McFedries 👻 🎆 described in the section 5 Đ **>** 3 Rules -**I** ◀ 1 ► H <(@) R Match Fields Find Recipient Envelopes Labels Start Mail Select Edit Highlight Address Greeting Insert Merge Merge * Recipients * Recipient List Merge Fields Block Line Field * Finish & Merge * "Start a Mail Merge." Check for Errors Start Mail Merge Create Write & Insert Fields Preview Results Finish 1 . - 4 In Word's Step 4 of 6 of the Mail Merge Baldwin Museum of Science Mail Merge Wizard, type all 456 121st Street Write your letter Indianapolis, IN 46294 If you have not already done so, write your letter now. the parts of the letter except To add recipient information to your letter, click a location in the document, and then click one of the items below. those that should be Address block. personalized. 🖹 Greeting line... 📑 Electronic postage. More items... \Lambda Leave blanks where you will Thank you for renewing your single membership with the Baldwin Museum of When you have finished writing your letter, click Next. Then you can preview and personalize each recipient's letter. put the fields, such as the Science. In order to show our appreciation, we have some great news for you. 2 You now qualify for a special discount on a family membership. Sign up the rest of address and the greeting. your family for one year and the first two months are free for them. The details of this special offer are explained in the enclosed brochure. The letter is now ready for If you have any questions, give me a call. you to insert merge fields, Step 4 of 6 Sincerely, Next: Preview your letters which you will learn to do in Previous: Select recipients the following sections.

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Insert an Address Block

Tf you have selected a table that contains all the elements needed to construct a mailing address Lblock (name, address, city, state, and zip code), you can use the Address Block field code to automatically insert all the fields needed for the address in a single step. Word is able to determine which fields to use in most cases.

If the Address Block field code does not deliver the results you expect, you can instead insert the individual field codes, as covered later in this chapter.

DESIGN

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PAGE LAYOUT

REFERENCES MAILINGS-

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Insert an Address Block

- Perform the steps in the previous two sections.
- 2 In the main document, put the insertion point where the address block should be placed.
- 3 In the task pane, click Address block.
- Alternatively, click the **Mailings** tab and then click Address Block.

The Insert Address Block dialog box opens.

- B You can choose a different format for the recipient's name.
- You can choose to include or omit the company name.
- You can see how the records from your database will appear in the letter.

Note: If the sample does not look right, see the later section "Match Fields" for help.



An <<AddressBlock>> field code appears in the document.

Note: Field names in a main document are surrounded by double arrow brackets.





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Insert a Greeting Line

A greeting line field code inserts a greeting, such as "Dear," along with one or more fields. If you want to greet the letter recipient with multiple fields, such as Prefix, First Name, and Last Name, using a greeting line field code is more efficient than inserting the individual fields one by one.

If the greeting line field code does not deliver the results you expect, you can instead insert the individual field codes, as covered later in this chapter.

Insert a Greeting Line

- 1 Perform the steps in the previous sections.
- 2 In the main document, put the insertion point where the greeting line should be placed.
- In the task pane, click Greeting line.
- Alternatively, click the Mailings tab and then click Greeting Line.

The Insert Greeting Line dialog box opens.

- Click this v to choose a prefix type for the greeting.
- 5 Click this 🔽 to choose how the name will appear.
- 6 Click this v to choose what punctuation will follow the greeting.
- Click this v to choose a greeting to use if the record lacks the fields needed to construct a regular greeting.
- B You can preview the greeting line here.
- 8 Click OK.
- C Access adds a <<GreetingLine>> field code.



Match Fields



If Word is not able to correctly match up the fields from the database table to the right spots in the address block when you are inserting a greeting line, you can manually match up the fields yourself.

For example, if your Access table uses a field named *Region* for the state or province, Word might not recognize that field as a match for the State portion of the address block. In that case, you can tell Word that your Region field matches the State field in the address block.

Match Fields

- 1 Perform the steps in the previous sections.
- In the Insert Address Block or Insert Greeting Line dialog box, click the Match Fields button.
- A If neither of those dialog boxes is open, you can click the Mailings tab and then click Match Fields (♣).



The Match Fields dialog box opens.

- Click v to open the drop-down menu for a field placeholder and then select the corresponding field in the data source.
- 4 Repeat step 3 for each field that you need to match.

5 Click OK.

6 If you have either the Insert Address Block or Insert Greeting Line dialog box open, click **OK** to close it.

The fields are now matched as you have indicated.



Insert Individual Fields

In addition to creating an address block, you may also want to insert other fields from the database table. For example, after the address block, you might want to insert the person's phone number.

You can also insert individual field codes to create your own version of the address block instead of using the <<AddressBlock>> code. For example, you might want to create a custom address block that includes not only the standard address fields, but also the person's e-mail address and phone number.

Insert Individual Fields

- 1 Perform the steps in the previous sections.
- Position the insertion point where you want the field code to be placed.
- 3 Click the Mailings tab.
- 4 Click the top half of the Insert Merge Field button.
- You can also click More items in the task pane.
- If you click the Insert Merge Field instead, a menu of available fields opens; you can click one of the fields there instead of using the dialog box.

The Insert Merge Field dialog box opens.

5 Click the field that you want to insert.

6 Click Insert.

- C Access inserts a field code.
- 7 Repeat steps 5 and 6 to insert other fields if needed.

Note: You may want to type some punctuation between steps **6** and **7** to separate the fields, such as a space between the first and last names.

8 Click Close.

Word returns you to the merge document.



Preview the Merge Results

CHAPTER 14

Before you print the mail merge, you might want to preview the merge on-screen to save paper in case there are problems that need correcting.

Word enables you to page through the records one at a time, examining each one to make sure that the addresses are valid and the fields are appropriately set up to display the right information. If you see a record that you do not want to include in the merge, you can exclude it.

Preview the Merge Results

- 1 Perform the steps in the previous sections.
- In the Mail Merge task pane, click Next: Preview your letters.
- A The document changes to show the first copy of the letter as it will appear when printed.
- Click >> to display the next record and then continue until you have checked all the records.
- B You can click Exclude this recipient to exclude a record that you did not intend to include.

«AddressBlock» «Phone»	To add recipient information to your letter, click a location in the document, and then click one of the items below.
	Address block
«GreetingLine»	🖹 Greeting line
	Electronic postage
Thank you for renewing your single membership with the Baldwin Museum of	More items
You now qualify for a special discount on a family membership. Sign up the rest of your family for one year and the first two months are free for them. The details of this special offer are explained in the enclosed brochure.	When you have finished writing your letter, click Next. Then you can preview and personalize each recipient's letter.
If you have any questions, give me a call.	0.446
Sincerely	Step 4 of 6
	 Next: Preview your letters Previous: Select recipients
Baldwin Museum of Science 456 121* Street Indianapolis, IN 46294 Alfreds Futterkiste	Mail Merge
Ohere Str. 57	Recipient: 1
12209 Berlin	Eindla recipient
Germany	Make changes
030-0074321	You can also change your recipient list:
Dear Sir or Madam,	Edit recipient list

Filter the Recipient List

Besides excluding individual records, you can filter the recipient list more broadly by examining the entire list in a dialog box and then deselecting the recipients that you do not want to include in the mail merge.

You can also apply a filtering rule that automatically deselects certain recipients. For example, if you have an international list of recipients, you might want to filter the list to include only those recipients from a particular country.

Filter the Recipient List

Filter the Recipient List to Document1 - Microsoft Word ? $[\Box]$ _ × Paul McFedries 👻 **Exclude Certain Records** DESIGN PAGE LAYOUT REFERENCES MAILINGS 2 VIEW .. 3 🕞 Rules 🕶 ((BQ)) 1 ₽ 8 1 Perform the steps in the Read and the second sec D Find Recipient Edit Highlight Address Greeting Insert Merge Finish & ect Preview Dpdate Labels Check for Errors previous sections. ents - Recipient List | Merge Fields | Block Merge -Line Field -Results Preview Results fail Merge Write & Insert Fields Finish 5 - 3 6 Click the Mailings tab. Mail Merge - X **Baldwin Museum of Science** Click Edit Recipient List. 456 121st Street **Preview your letters** Indianapolis, IN 46294 One of the merged letters is \Lambda You can also click **Edit** previewed here. To preview another letter, click one of the following: recipient list in the task << Recipient: 1 >> pane. 🝺 Find a recipient... Make changes You can also change your recipient list: 😨 Edit recipient list.. Exclude this recipient When you have finished The Mail Merge Recipients ? Mail Merge Recipients dialog box opens. This is the list of recipients that will be used in your merge. Use the options below to add to or change your list. Use the checkboxes to add or remove recipients from the merge. When your list is ready, click OK. + Address Deselect the check boxes for Data Source CompanyName City - Region **v** ^ 7 • Northwind.accdb ~ Alfreds Futterkiste Obere Str. 57 Berlin any records that you do not Northwind.accdb Ana Truiillo Empareda... Avda, de la Constitució... México D.F. want to include (v changes Northwind.accdb Antonio Moreno Tagu... Mataderos 2312 México D.F. Г $\mathbf{\mathbf{v}}$ Northwind.accdb Around the Horn 120 Hanover Sq. London to 🗌). Northwind.accdb Berglunds snabbköp Berguvsvägen 8 Luleå Northwind.accdb $\mathbf{\nabla}$ Blauer See Delikatessen Forsterstr. 57 Mannheim Click OK. Northwind.accdb Blondel père et fils 24, place Kléber Strasbourg Northwind.accdb ~ Bólido Comidas prepar... C/ Araquil, 67 Madrid Access removes the < 5 deselected recipients from Data Source Refine recipient list 4 Northwind.accdb A Sort... the mail merge. Filter... 🔄 Find duplicates... D Find recipient... 🕠 Validate addresses.. ОК

Performing a Mail Merge



Filter the Recipient List Based on Criteria

- 1 Perform the steps in the previous sections and then click **Edit Recipient List** on the **Mailings** tab.
- 2 In the Mail Merge Recipients dialog box, click **Filter**.

The Filter and Sort dialog box opens.

- **3** Click the **Filter Records** tab.
- Click the Field and click the field that you want to use.
- 5 Click the Comparison and click an operator.
- 6 Type a comparison value.
- B You can choose additional criteria on subsequent lines.
- C You can click this www. and click And to require all criteria for a record to be included; click Or to allow records that meet any of the criteria.

7) Click OK.

- The recipient list changes to show only records that match your criteria.
- 8 Click OK.

TIPS

How do I clear a filter? To clear the filter, click Filter

again in the Mail Merge Recipients dialog box (which reopens the Filter and Sort dialog box) and then click **Clear All**.





Can I filter based on whether a particular field is blank or nonblank?

Yes. In the Mail Merge Recipients dialog box, click the heading above the column by which you want to filter and then choose **(Blanks)** or **(Nonblanks)** from the menu that appears.



Sort the Recipient List

You might want the mail merge results to print in a certain order. For example, you might want them to be sorted by zip code, as is required for some mass-mailing services, or you might want them sorted by the recipient's last name to make it easier to file copies of the letters.

Whatever the reason, you can use the Mail Merge Recipients dialog box to sort the recipients based on any field in the table. You can sort the field in ascending or descending order.

Sort the Recipient List

- 1 Perform the steps in the previous sections.
- Click the Mailings tab.
- 3 Click Edit Recipient List.
- A You can also click Edit recipient list in the task pane.



ОК

The Mail Merge Recipients dialog box opens.

4 Click the heading of the field by which you want to sort.

Word sorts the list by that field.

If you want to sort in reverse order, click the column heading again.

Click **OK**.

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Merge to a New Document



Instead of merging directly to a printer, as described in the next section, you might prefer to merge to a new Word document. This means that instead of printing the letters, Word creates a new document and uses it to store all the letters.

This is useful if you do not have the printer available that you want to use. Similarly, you might need someone else to approve the letters before you send them. Either way, you can first merge them to a document and then print the letters later.

Merge to a New Document

- 1 Perform the steps in the previous sections.
- **2** Click the **Mailings** tab.
- 3 Click Finish & Merge.
- 4 Click Edit Individual Documents.

The Merge to New Document dialog box opens.

5 Click OK.

The letters appear in a new Word document. You can save it, print it, or discard it by closing it without saving your changes. You can also make changes to individual letters before printing.

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FILE HOME INSERT	DESIGN PAGE LAYOUT REFERENCES MAILINGS 2 VIEW Paul McFedries - 🌆 🙂
Envelopes Labels Start Mail Sele Create Start M	tet Edit highlight Address Greeting Insert Merge all Merge Fields Block Line Fields winte Siner Fields Merge Fields Slock Line Fields Winte Siner Fields Merge Fields Slock Line Fields Winte Siner Fields Merge Fields Slock Line Fields Merge Field
Alfreds Futterkiste Obere Str. 57 12209 Berlin Germany	2 3 4 5 6 Image: Second Seco
	Merge to New Document ? × Merge records

Merge Directly to a Printer

If you have entered your merge field codes, filtered the records as needed, and previewed the merge results, you can be confident that the results of your merge are complete and accurate. In that case, you might want to merge directly to your printer. This is the easiest and quickest way to perform a merge, especially for a previously created merge that you are simply reprinting.

Windows uses whatever printer you set as the default unless you specify a different printer.

Merge Directly to a Printer 1) Perform the steps in the ent1 - Microsoft Word ? Ð × previous sections. MAILINGS Paul McFedries 🔻 2 VIEW VIEW 🕞 Rules 🛪 K -1 Click the Mailings tab. R Match Fields 💯 Find Recipient ng Insert Merge Finish 8 Click Finish & Merge. 🗟 Check for Errors 🍰 Update Labels Merge * Field -Results Preview Results | 🖹 & Insert Fields Edit Individual Documents... Click Print Documents. 5 - I - - - 6 Print Documents... Send Email Messages... ce The Merge to Printer dialog ? Merge to Printer box opens. Print records Click OK. All Current record <u>T</u>o: OK Cancel The Print dialog box opens. ? Print 6 Change any print settings if Printer Name: EPSON3FECA7 (Artisan 837) ¥ Properties needed. Status: Idle Fin<u>d</u> Printer... EPSON Artisan 837 Series Tyne: A You can change the printer here. Print to file Where: WSD-355bce55-56a5-488c-9367-cd631c3b09e5.0069 Manual duplex Comment: Click OK. Copies Page range ال<u>م</u> (÷ Number of copies: 1 Word sends the letters to the Current page Selection printer. O Pages: Collate 6 Type page numbers and/or page ranges separated by commas counting from the start of the document or the section. For example, type 1, 3, 5–12 or p1s1, p1s2, p1s3-p8s3 Print what: Document Zoom 1 page v ¥ Pages per sheet: All pages in range Print: Scale to paper size: No Scaling ٧ Options... OK. Cancel

Save the Merge for Later Use



Saving the main document — that is, the merge document you have created in this chapter — is different from saving the results of a merge. When you save the main document, you can rerun the merge later. This might be useful if the records are likely to change. For example, you could have a mail merge for your Christmas letter and then rerun it every year based on your database of friends.

Save the Merge for Later Use 1 Perform the steps in the previous sections. 2 Click File. The File options appear.

3 Click Save As.

You can also click the Save button (III) on the Quick Access Toolbar or press Ctrl + S.

4 Click Computer.

5 Click Browse.

🗀 Compu Paul McFedries's SkyDrive Recent Folders Save Documents Computer Save As 3 🧀 Cloud Com \\PAULS-IMA Print Add a place 🧀 Author Rev \\PAULS-IMA Share 🧀 Desktop Export Close Browise Account

The Save As dialog box opens.



Edit the filename as needed.

8 Click Save.

Word saves the file.



CHAPTER 15

Working with External Data

Access offers many powerful features for working with outside data. You can import data into Access from a variety of sources, including Excel, Outlook, other Access databases, text files, web pages, and XML files. You can also export Access data to other formats, including an Excel worksheet, a web page, and a text file.

Saved Linked Table Excel A Imports Manager Import 8	Image: Struct File Image: St	
»		
	Get External Data - Excel Spreadsheet ? ×	
	Select the source and destination of the data	
	Specify the source of the definition of the objects.	
	Elle name: CAUsers/Pauli/Documents/ Browse	
Navigation Fane	Specify how and where you want to store the data in the current database. If the specified table does not exit, Access will reade it. If the specified table already exists, Access might overwrite its contents with the imposted data. Changes made to the source data will not be reflected in the database. Append a copy of the records to the table: Accounts Receivable Data If the specified table in data the records to the table. The database. Link to the data source by creating a linked table.	
	Access will create a table that will maintain a link to the source data in Excel. Unange made to the source data in excel will be reflected in the linked table. However, the source data cannot be changed from within Access.	
Import an Excel Worksheet		

Link to an Excel Worksheet		
Link to an Outlook Folder		
Manage Linked Tables		
Import a Table from Another Access Database 286		
Import Data from a Delimited Text File		
Import Data from a Web Page		
Import Data from an XML File		
Export Data to Excel		
Export Data As HTML		
Export Data to a Plain Text File		
Save Import or Export Specifications		
Using Saved Import or Export Specifications		
Analyze Access Data Using an Excel PivotTable 302		
Add Multiple Fields to a PivotTable Area		
Move a Field to a Different PivotTable Area		
Group PivotTable Values		
Apply a PivotTable Filter		

Import an Excel Worksheet

You can import data from an Excel worksheet into Access to create a new table. This new table becomes a part of the Access database; it does not retain any ties to Excel.

For the best results, the Excel data should be database-oriented. That is, the data should be in a rowand-column format, with headings at the top of each column and sets of related data in each row. When the data is imported into Access, the column headings become the field names in the new table, and the rows become the records. Excel data that includes formulas and functions does not import well.

Import an Excel Worksheet

- 1 Click the **External Data** tab.
- 2 In the Import & Link group, click **Excel**.

The Get External Data – Excel Spreadsheet dialog box opens.

- 3 In the **File name** field, type the path and filename for the Excel file.
- A You can click Browse to browse for the file if you prefer.
- 5 Click OK.

The Import Spreadsheet Wizard opens.

- 6 Click Show Worksheets (○ changes to ●).
- 7 Click the sheet that you want to import.
- B A preview of the data on that sheet appears.
- 8 Click Next.
- If Excel displays a warning about field names, click OK.



CHAPTER



TIPS

How should I prepare the Excel worksheet before importing it?

For Excel data to import correctly into Access, it must be set up to mimic a datasheet in Access. Follow these guidelines in Excel:

- Place the field names in row 1.
- Remove any blank rows or titles above the field names.
- Place each record in a separate row, starting immediately below the row containing the field names.
- Do not include any formulas or functions. Omit cells containing them from the range to import or convert them to values.

Can I import only part of a worksheet?

Yes. In step 6, you can alternatively click **Show Named Ranges** (changes to) and then click the named range that you want to import. However, you must set up the range in Excel first. To create a named range in Excel, follow these steps:

- 1 Select the range.
- 2 Click here and type a name for the range.

3 Press Enter.

D	VDInventory 2 × v fx	Title
	A	В
1	Title 🔽	Year 🔽
2	Alien	1979
3	An Anger 1 om Texas	1940
4	Big	1988

Import an Excel Worksheet (continued)

The Import Spreadsheet Wizard asks you about several setup options that you would ordinarily configure when creating a new table, such as whether fields should be indexed and whether duplicates are okay.

The Import Spreadsheet Wizard also gives you the opportunity to set a primary key and to name the table. In each case, you can proceed just as though you were creating an Access table from scratch.

Import an Excel Worksheet (continued)

- Click the Indexed should and then choose whether the field should be indexed and whether duplicates are okay.
- ▲ You can click Do not import field (Skip) (□ changes to ☑) to exclude a field from being imported.
- 15 Click the next column and then repeat steps 12 to 14.
- **16** When you have set up all the fields, click **Next**.

The primary key page appears.

- If the imported data contains a field that you want to use as the primary key, click Choose my own primary key, click , and choose that field.
- You can click Let Access add primary key to allow the wizard to create a new field to be used as a primary key.
- You can click **No primary key** to decline to use a primary key in the table.

18 Click Next.

Field Option	s —	-114				
Field Name:	Account Name	Data <u>T</u> ype:	Short Text	~		
Indexed:	No	Do not in	nport field (Skip)			
p.dontou.	No		(Edb)			
	Yes (Duplicates OK Yes (No Duplicates)					
Account	Name	Account	Invoice Number	Invoice Amount	Due Date	Date Pa:
1 Brimson	Furniture	10-0009	117321	\$2,144.55	19-Jan-13	
2 Brimson	Furniture	10-0009	117327	\$1,847.25	1-Feb-13	
3 Brimson	Furniture	10-0009	117339	\$1,234.69	19-Feb-13	17-Feb-1
4 Brimson	Furniture	10-0009	117344	\$875.50	5-Mar-13	28-Feb-1
5 Brimson	Furniture	10-0009	117353	\$898.54	20-Mar-13	15-Mar-1
6 Chimera	Illusions	02-0200	17318	\$3,005.14	14-Jan-13	19-Jan-1
7 Chimera	Illusions	02-0200	5 334	\$303.65	12-Feb-13	16-Feb-1
8 Chimera	Illusions	02-0200	117345	\$588.88	6-Mar-13	6-Mar-13
9 Chimera	Illusions	02-0200	117350	\$456.21	15-Mar-13	11-Mar-1
10 Door Sto	ppers Ltd.	01-0045	117319	\$78.85	16-Jan-13	16-Jan-1
11 Deer Sto	ppers Ltd.	01-0045	117324	\$101.01	26-Jan-13	
12 Door Sto	ppers Ltd.	01-0045	117328	\$58.50	2-Feb-13	
13 Door Sto	ppers Ltd.	01-0045	117333	\$1,685.74	11-Feb-13	9-Feb-13
14 Emily's	Sports Palace	08-2255	117316	\$1,584.20	12-Jan-13	
14 Builty S	Sports raface	00-2233	11/310	1,304.20	12-0an-15	



chapter 15

The table name page appears.

19 Type the name for the table.

Note: The default name is the name of the tab from the worksheet.

20 Click Finish.

You are returned to the Get External Data – Excel Spreadsheet dialog box.

D You can save the import steps by clicking Save import steps (□ changes to ♥).

Note: You will learn more about saving import steps later in this chapter.



Access imports the Excel data as a new table in the Objects list.



TIPS

Should I allow the wizard to create a primary key field?

It depends on whether you already have a field in the data that contains unique entries for each record and that will always contain unique entries. If you do, make that one the primary key. However, if you do not have any fields that fit that description, you should allow the wizard to create one for you.

Should I save the import specifications?

If you plan on doing this same import again later, then yes. For example, suppose that you have a table that a colleague maintains in Excel, and every month, you have to use it in Access. You could save the import settings to make it easier to import that file in the future. An even better approach, though, would be to link to the worksheet, as covered in the following section, "Link to an Excel Worksheet."

Link to an Excel Worksheet

If you frequently need to reimport the same data from Excel, you can save time and effort by linking to that worksheet instead of repeatedly reimporting it.

When you set up a link to an Excel worksheet, the data is always up to date. Each time that you use Access to open the linked worksheet, Access refreshes the link to the data. This means, however, that the Excel file must always be in its original location or an error will occur.

Link to an Excel Worksheet

- 1 Click the External Data tab.
- In the Import & Link group, click Excel.

The Get External Data – Excel Spreadsheet dialog box opens.

- 3 In the **File name** field, type the path and filename for the Excel file.
- A You can click Browse to browse for the file if you prefer.
- 5 Click OK.

The Link Spreadsheet Wizard opens.

- 6 Click Show Worksheets (○ changes to ●).
- 7 Click the sheet to which you want to link.
- B A preview of the data on that sheet appears.
- 8 Click Next.



CHAPTER

The column headings page of the wizard appears.

9 If the first row contains column headings, click First Row **Contains Column Headings** (\Box changes to \blacksquare).

10 Click Next.



The table name	page appears.
----------------	---------------





Note: This will be the name that appears in the list of tables.

12 Click Finish.

A confirmation dialog box appears.

13 Click OK.

The linked table appears in the Objects list in the Tables category.

	Link Spreadsheet Wizard	×
×	That's all the information the witzard needs to link to your data. Linked Table Name: Parts	
	Link Spreadsheet Wizard × Finished linking table 'Parts' to file 'CAUsers\PauRDocuments\Parts.doc'.	
	13 ок	
	Cancel < Back	sh

TIPS

What happens if I need to move the Excel sheet later?

Use the Linked Table Manager, as described in the section "Manage Linked Tables." If the table has moved and Access can no longer find it, prompts can help you locate it again.

How can I tell what tables are actually linked Excel sheets?

In the Navigation pane, open the All Access Objects list and then open the Tables category. Linked Excel sheets have an Excel icon (*) next to them.



Link to an Outlook Folder

If you use Microsoft Outlook as your main contact management program, there may be times when you want to use the Outlook Contacts list as a data source in Access. For example, if you store your customer information in Outlook, you may want to link certain orders or invoices to customers there. You can do this by using Access to set up a link to an Outlook folder. As when you create a link to an Excel worksheet, a link to an Outlook folder creates a new Access table that always contains up-to-date information from Outlook.

Link to an Outlook Folder

- 1 Click the External Data tab.
- 2 In the Import & Link group, click **More**.
- 3 Click Outlook Folder.





- 5 Click OK.



nport Exchange/Outlook Wiza

CHAPTER **15**

The Import Exchange/ Outlook Wizard opens.

6 Click
 to expand the available categories and then click the Outlook folder that you want.

7 Click Next.

The table name page appears.

8 If needed, change the default name for the linked table.

9 Click Finish.

A dialog box opens, saying that linking to the table is finished.

10 Click **OK**.

The link is complete, and the new linked table appears in the Tables category of the Objects list.

	 Moreover Brange/Moreover Outlook Address Books Boutlook Address Book Workbooks(Breacom Train /ul>	Cancel Liest
	Link Exchange/Outlook Wizard	×
That's all the inform Linked Table Name Contacts	nation the wizard needs to link to your data.	
	Link Exchange/Outlook Wizard	

Finished linking table 'Contacts' to file 'win8books@live.com\Contacts'

10

Select the source folder or address book

TIPS

Can I import the data from Outlook rather than linking it?

Yes. It works very much like importing data from Excel. In step 4, click **Import the source data into a new table in the current database** (changes to). Keep in mind, however, that if you import data, any future changes you make to the data in Outlook will not be reflected in Access.

What are the Address Books listed in the Outlook folders list in step 6?

Cancel

Outlook has an Address Book utility that interfaces with your Contacts list and also optionally interfaces with other data sources, such as an employee directory on a file server or a mobile address book from a handheld device. You can link to one of these sources instead of Contacts if you prefer. Be cautious, though, about linking to an address book stored on a mobile device that might not always be available.

Einish

Manage Linked Tables

One of the biggest advantages of setting up a table that is linked to an Excel worksheet or an Outlook folder is that Access automatically displays the most recent data when you open the linked table. That is fine if you just have one or two linked tables, but if your database has a large number of linked tables, it can be time-consuming to open each one just to make sure that you have the latest data. A better way to update multiple linked tables at once without having to open each one is to use the Linked Table Manager.

Manage Linked Tables

- **1** Click the **External Data** tab.
- In the Import & Link group, click Linked Table Manager.

The Linked Table Manager opens.

- 3 Click the check box for each linked table that you want to update (□ changes to ♥).
- (A) You can also click Select All.
- 4 Click OK.







TIPS

How can I change the location to which a link refers, even though the original location is still working?

Click Always prompt for new location in the Linked Table Manager (\Box changes

to \blacksquare). Access then prompts you for each table's location, even if the existing location is still working.

What if I get a #Num! error?

This error appears when a column contains mostly one type of value (text, date, or number) but a few entries of another type. Those other entries may not be imported correctly, and the #Num! error might appear. To minimize the instances of this error, try to clean up your data before importing, making sure that each column contains values of only one data type. Formatting the columns in the Excel file with a particular numeric type also helps.

Import a Table from Another Access Database

You may find that another Access database has data that you require in the current Access database. For example, the other database might have a table that contains information that would be useful in your current database. In that case, you can import the table from the other database into the current database.

You can also import other Access database objects, including queries, forms, and reports, but the destination database must have the needed tables and queries on which they are based.

Import a Table from Another Access Database

- Click the External Data tab.
- 2 In the Import & Link group, click Access.

The Get External Data – Access Database dialog box opens.

- 3 In the **File name** field, type the path and filename for the Access file.
- A You can click Browse to browse for the file if you prefer.
- 5 Click OK.

The Import Objects dialog box opens.

6 Click Options.

The Import options appear at the bottom of the dialog box.

- 7 Click the tables that you want to import.
- For each table or query, you can optionally click **Definition only** (changes to) to import only the table structure, not the data.



Import Objects

Import Tables

Definition and Data

O Definition Only

Queries Forms Reports Macros Modules

Common Tasks Append

Employees Extended

Open Projects

Open Tasks

Import

Relationships

Menus and Toolbars

Import/Export Specs Nav Pane Groups

All Images and Themes

Common Tasks Update Add Field Completed and Deferred Projects ?

OK

Cancel

Select All

Deselect All

Options >>

´10

Import Oueries

As Queries

🔾 As Tables 🚽



- 8 Click the Queries tab.
- 9 Click any gueries that you want to import.
- If you selected any queries, click how you want them to be imported.
- You can click other tabs and select any other objects that you want.

11 Click OK.

The Save Import Steps screen appears.

You can save the import steps by clicking Save **import steps** (changes to 🗹).

Note: You will learn more about saving import steps later in this chapter.



Access imports the objects into the database.



TIPS

What is the difference between importing a guery as a table and importing it as a guery?

Importing a guery as a table creates a new table with a datasheet that includes the query's results. Any records or fields the query definition excludes are excluded. Importing a query as a query imports just the guery definition. The database must have a table of the same name as the one the query uses, with compatible fields.

Can I link to content from another Access database?

Yes. In the Get External Data – Access Database dialog box, click Link to the data source by creating a linked table $(\bigcirc$ changes to \bigcirc).

Import Data from a Delimited Text File

Nowadays, most data resides in some kind of special format: database object, XML file, Excel workbook, and so on. However, it is still relatively common to find data stored in simple text files because text is a universal format that users can work with on any system and in a wide variety of programs. You can analyze the data contained in certain text files by importing the data into an Access table.

Note, however, that you cannot import just any text file into Access. Instead, you can only import *delimited* or *fixed-width* text files. See the first Tip in this section to learn more.

Import Data from a Delimited Text File Click the External Data tab. 1 FILE HOME CREATE EXTERNAL DATA Text File Swed Linked Table Excel Access ODBC XML File Swed Linked Table Excel Access ODBC XML File Swed Linked Table Excel Access ODBC CONTROL CONTROL SALE Swed Excel Text XML PDF Email G Moreų, 2 Click Text File. Manager Databa: Exports File File or XPS 2 Import & Link Export The Get External Data – Text File ? × Get External Data - Text File dialog box opens. Select the source and destination of the data 3 In the **File name** field, type the Specify the source of the definition of the objects path and filename of the text name: CALISERS/Pauß/Documents/StockPrices.cs Browse... 4 file. ow and where you want to store the data in the current database Import the source data into a new table in the current database. A You can click Browse to browse If the specified table does not exist, Access will create it. If the specified table already exists, Access might overwrite its contents with the imported data. Changes made to the source data will not be reflected in the database. for the file. O Append a copy of the records to the table: Accounts Receivable Data If the specified table exists, Access will add the records to the table. If the table does not exist, Access will create it. Changes made to the source data will not be reflected in the database. Click Import the source data C Link to the data source by creating a linked table Access will create a table that will maintain a link to the source data. You cannot change or delete data that is linked to a text file. However, you can add new records. into a new table in the current **database** (O changes to **(**). 5 Click OK. OK Cancel The Import Text Wizard opens. Import Text Wizard ata seems to be in a 'Delimited' format. If it isn't, choose the format that more correctly es your data. 6 Click Delimited (O changes 6 to 💽). Delimited - Characters such as comma or tab separate each field If you are importing a fixed-Fixed Width - Fields are aligned in columns with spaces between each field width text file, click Fixed Width $(\bigcirc$ changes to \bigcirc) instead. Lata from file: C:\USERS\PAUL\DOCUMENTS\STOCKPRICES.CSV 1 Date, Volume, High, Low, Close 2 20130802,18000,19,18.25,18.25 Note: Because fixed-width text files 3 20130803,47500,19,18.25,18.5 4 20130804,73900,20,18.25,19 are relatively rare, they are not 5 20130805,83300,20.5,19,19.75 covered in this section. 6 20130806,27200,20.25,19.5,19.5 7 20130809,8800,20.25,19.5,20 8 20130810,387900,20.5,19.5,20.5 9 20130811,256200,21.75,20.25,21.5 7 Click Next. 1020130812,40800,22.5,21.25,21.25 1120130813,47900,22,20.75,21 1220130816,33800,21.25,20.25,20.5 1320130817,27200,21,20.25,20.25 1420130818,12200,21,20.25,21

۷.

Ad<u>v</u>anced...

>

Finish

7

Next >

Cancel



The delimiter character page of Import Text Wizard the wizard appears. What delimiter senarates your fields lect the appropriate delimiter and see how your text is affected in the preview below. 8 8 Click the delimiter used in the e the delimiter that senarate your fields: 0 file (\bigcirc changes to \bigcirc). Semicolor (o) <u>C</u>omma Space O Other: First Row Contains Field Names Text Qualifier: {none} 🗸 C You know that you have chosen the correct delimiter when the Date Volume High Low Close 20130802 18000 19 18.25 18.25 data appears in orderly rows 20130803 47500 18.25 19 18.5 20130804 73900 ko 18.25 19 and columns in the sample 20130805 83300 20.5 19 19.75 20130806 27200 20.25 19.5 19.5 area. 20130809 8800 20.25 20 19.5 20.5 \$87900 2810 19.5 20.5 0130811 256200 21.75 Olick First Row Contains Field 20.25 21.5 21.25 21.25 20130812 40800 22.5 20130813 47900 20.75 22 **Names** (changes to) 21 20130816 33800 21.25 20.25 20.5 20130817 27200 20.25 20.25 if the first row contains the 21 21 20130818 12200 21 20.25 20130819 17000 field names. 21.25 20.25 20.25 < 10 10 Click Next. Advanced... Cancel Next > Finish The field options page appears. Import Text Wizard 11 Click a field to select it. You can specify information about each of the fields you are importing. Select fields in the area below. You can then modify field information in the 'Field Options' area. -Field Options 12 Change the field name if Field Name: 12 Data Type: Date With Time 13 Date needed. Do not import field (Skip) Indexed: No Note: If the first row does not Date Volume High Low Close contain field names, field names are 20130802 18000 18.25 19 18.2520130803 47500 19 18.25 18.5 generic and should be changed in 20130804 73900 bn. 18.25 h g 20130805 83300 20 5 19 19 75 step 12. 20130806 27200 20.25 19.5 19.5 20130809 8800 20.25 19.5 kn. 38° 11 1 Click the Data Type 🔽 and 20130810 0.5 19.5 ko.5 20130811 1.75 20.25 k1.5 22.5 20130812 40800 21 25 b1 25 click the data type if needed. 22 20130813 47900 kn. 75 b 1 21.25 20130816 33800 kn.25 kn.5 14 Repeat steps 11 to 13 for each 20130817 27200 21 20.25 20.25 20130818 12200 21 20.25 kı. field that you want to change. 20130819 17000 21.25 20.25 20.25 < Advanced... < <u>B</u>ack Cancel Next > Finish

What are delimited and fixed-width text files?

TIP

A *delimited* text file uses a text structure in which each item on a line of text is separated by a character called a *delimiter*. The most common text delimiter is the comma (,). A delimited text file is imported into Access by treating each line of text as a record and each item between the delimiter as a field.

A fixed-width text file uses a text structure in which all the items on a line of text use a set amount of space — say, 10 characters or 20 characters — and these fixed widths are the same on every line of text. A fixed-width text file is imported into Access by treating each line of text as a record and each fixed-width item as a field.

Import Data from a Delimited Text File (continued)

Except for the beginning part of the process, the steps for importing data from a delimited text file are nearly identical to those for importing data from an Excel file, as described earlier in the "Import an Excel Worksheet" section. That is, you can choose which fields if any should be indexed; you can choose to skip certain fields that you do not need; and you can specify a primary key or let Access create one for you. In each case, you can proceed just as though you were creating an Access table from scratch.

Import Data from a Delimited Text File (continued)

- Click the Indexed view and click the indexing setting if needed.
- If you choose Yes (No Duplicates), make sure that each record has a unique entry for this field; otherwise, an error will occur at import.
- B You can click Do not import field (Skip) (□ changes to ☑) to skip a field.
- **16** Repeat step **15** for each field.
- 17 Click Next.

The primary key page appears.

- 18 Click Let Access add primary key (changes to).
- C Access adds an ID field as the primary key.
- You can also click Choose my own primary key (changes to) and then choose a field from the drop-down menu.
- You can also click No primary key (O changes to).

19 Click Next.



^{chapter}

The table name page appears.

20 Type the name to use for the imported table.



The Save Import Steps screen appears.

Fou can click Save import steps (□ changes to ☑) to save the import, as described later in this chapter.

22 Click Close.

Access imports the data into a new table with the name that you specified.





TIPS

My text file includes dates such as 20130823 (for August 23, 2013). Will this data import correctly?

Not unless you tell Access that the date field uses this specific date format. Before you click **Next** in step **17**, click **Advanced** to open the Import Specification dialog box. Click the **Date Order** and then click **YMD** for Year Month Day order. Delete the character in the **Date Delimited** text box and then click **OK**.

Do I have to specify field names in order to import data if the data file does not already have field names in the first row?

No. But generic field names will be used (Field1, Field2) in the imported table. You can then use the Table Design view to modify the field names. Make sure that you change the field names to names that are more meaningful before you start using the imported table as the basis for other objects such as queries, forms, and reports.

Import Data from a Web Page

Data is often available on web pages. Although this data is usually text, some web page data comes as either a table (a rectangular array of rows and columns) or as preformatted text (text that has been structured with a predefined spacing used to organize data into columns with fixed widths).

Both types are suitable for import into Access so that you can perform more extensive data analysis. To import web page data, the file must reside on your computer or on your network.

Import Data from a Web Page

- **1** Click the **External Data** tab.
- 2 In the Import & Link group, click **More**.
- 3 Click HTML Document.

5.0. = Northwind - Microsoft Access HOME CREATE EXTERNAL DATA 1 ASE TOOLS Text File Access Ç, x≞ x 5 5 5 5 🕅 XML File 🔚 Word Merge Saved Linked Table Excel Saved Excel XML PDE Email Work Text 😨 More 🕶 🖥 More 🕶 Imports Manager Exports File File or XPS Export Import & Link SharePoint List Import or Link to a SharePoint List Data Services Link to a Data Service **HTML Document** Import or link to an 3 HTML Document Outlook Folder Import or link to an Outlook folder

The Get External Data - HTML Document dialog box appears.

- In the File name field, type the path and filename of the web page file.
- You can click Browse to browse for the file.
- 5 Click Import the source data into a new table in the current database (Composed changes to Omega).

🗿 Click **OK**.





The Import HTML Wizard



How can I append records to an existing table from a web page?

On the initial Get External Data – HTML Document screen, click **Append a copy of the records to the table** (\bigcirc changes to \bigcirc) and then click the \checkmark to select the table to which you want the web page data

appended. For this to work, the table must have the same fields, with the same field types, as the data you are importing.

TIP



Import Data from an XML File

You can analyze data that currently resides in XML format by importing that data into Access and then manipulating and analyzing the resulting table.

XML (extensible markup language) is a standard that enables the management and sharing of structured data using simple text files. These XML files organize data using *tags*, among other elements, that specify the equivalent of a table name and field names. Because XML is just text, if you want to perform data analysis on the XML file, you must import the XML file into an Access table.

Import Data from an XML File

- 1 Click the **External Data** tab.
- 2 In the Import & Link group, click XML File.
 - The Get External Data XML File dialog box appears.
- In the File name field, type the path and filename of the XML file.
- You can click Browse to browse for the file.
- 4 Click OK.



The Import XML dialog box appears.

5 Click Structure and Data (O changes to).



The Save Import Steps screen appears.

B You can click Save import steps (☐ changes to ☑) to save the import, as described later in the chapter.

7 Click Close.

Access imports the XML data into a new table.



TIPS

What does an XML file look like?

An XML file is a text file that uses a specific structure. Here is a simple XML example that constitutes a single record in a table named *Products*:

<Products>

- <ProductName>Chai</ProductName>
- <CompanyName>Exotic Liquids</CompanyName>
- <ContactName>Charlotte Cooper</ContactName>
- </Products>

Can I add the XML data to an existing table rather than create a new table? Yes. To do so, in the Import XML dialog box, click **Append Data to Existing**

Table(s) (changes to).

Import Options

- Structure Only
- Structure and Data
- Append Data to Existing Table(s)

Export Data to Excel

The section "Import an Excel Worksheet," earlier in this chapter, shows how to import data from Excel to an Access table. You can also perform the opposite task: export data from Access to Excel.

When you export Access data to Excel, Access creates a new Excel workbook file. As part of the export process, you can choose the format of that file. This depends on whether you will be sharing the workbook with other people. In most cases, the Excel Workbook format is best. However, you can also choose a format that is compatible with Excel versions prior to Excel 2007.

Export Data to Excel

- Click the table that you want to export.
- 2 Click the External Data tab.
- **3** In the Export group, click **Excel**.

The Export – Excel Spreadsheet dialog box opens.

- In the File name field, type the destination path and filename for the file to be exported.
- You can click Browse to locate a file or folder if you prefer.
- 5 Click the **File format** \searrow and click the Excel format.
- B You can click Export data with formatting and layout (□ changes to ☑) to export formatting and layout as well as data.

6 Click OK.

The Save Export Steps page appears.

C You can optionally click Save export steps (□ changes to ☑) to save these export steps for later use.

7 Click Close.

Access completes the export.



Export Data As HTML

One way to share data with others is to export it to a web page — that is, to the HTML format. *HTML* is short for *hypertext markup language*, the standard language used to create web pages. You normally need to know the HTML code to create a web page from scratch, but Access makes it easy to export your data to an HTML file that is ready to share on the web.

There are more complex ways of making Access data available online, but for simple sharing in which the data is static, exporting to an HTML page is the easiest method.

Export Data As HTML



Export Data to a Plain Text File

You may come across situations in which exporting Access data to an Excel workbook or a web page is not possible because the person you want to share the data with cannot use those exported files. For example, the other person might be using a database program that does not accept Excel or any of the other formats available to you. In such cases, exporting your Access data to a plain text file may be your only option.

Plain text exports can be delimited by characters such as commas or tabs or, less frequently, set to be fixed-width.

Export Data to a Plain Text File



- 2 Click the External Data tab.
- 3 In the Export group, click **Text File**.

The Export – Text File dialog box opens.

- 4 In the File name field, type the destination path and filename for the file to be exported.
- You can click Browse to locate a file or folder if you prefer.

5 Click OK.

The Export Text Wizard opens.

6 Click Delimited (○ changes to ●).

Note: It is unusual to do a Fixed Width export; most database programs can import delimited data.

7 Click Next.





When should I use the Export Data with Formatting and Layout option?

Use this when you want to include helper characters in certain types of data, such as parentheses and dashes in phone numbers or dashes in a nine-digit zip code. If you choose this option, the rest of the steps in the process are different (just follow the prompts), and the result is a fixed-width file rather than a delimited one.

How can I change field names as I export? After step **5**, click **Advanced** to open the Export Specification dialog box. From there, you can change field names, change the delimiter character, and more. To change one of the field names, double-click it in the **Field Information** area and then type a new name.

Save Import or Export Specifications

The last step of every import or export process is a dialog box in which you can optionally click a check box to save the import or export steps. In this section, you see what happens when you do so.

If you often perform a particular import or export operation, it can be time-consuming to repeat those steps over and over. You can reduce time and effort by saving the steps. This enables you to perform the import or export operation in the future with just a few mouse clicks, as described in the next section, "Using Saved Import or Export Specifications."

Save Import or Export Specifications

- 1 Perform an import or export, as shown earlier in this chapter.
- 2 On the Save Export (or Import) Steps screen of the operation, click Save export steps (or Save import steps) (□ changes to ♥).

Additional text boxes appear in the dialog box.

- 3 Type a name for the saved settings.
- 4 Type a description.
- ▲ You can click Create Outlook Task (□ changes to ☑) to create an Outlook task to remind you of this activity.

5 Click Save Export (or Save Import).

Access saves the operation's steps.

If you chose to create an Outlook task, the task opens in Outlook.



Using Saved Import or Export Specifications

^{chapter}

A fter you have saved an import or export specification, as described in the previous section, "Save Import or Export Specifications," you can easily recall it. This enables you to run the entire import or export operation with just a few mouse clicks.

This saves you a great deal of time because saved settings perform an import or export by using the same source data and destination location that you specified when you originally ran the import or export. The saved steps also include all the same settings, file formats, and other specifications that you chose in the original import or export.

Using Saved Import or Export Specifications

- 1 Click the **External Data** tab.
- 2 Click Saved Exports.
- A For an import, you would click **Saved Imports**.

The Manage Data Tasks dialog box opens.

- **3** Click the export or import that you want to use.
- 4 Click Run.

The export or import is run.

If the file still exists from a previous export or import, a warning appears.

5 Click Yes to replace the previously exported or imported file.

A message appears, saying that the file has been exported or imported.





Note: The saved settings are saved in the Documents folder for the current user.





Analyze Access Data Using an Excel PivotTable

A ccess tables can contain thousands of records. Analyzing that much data can be a nightmare without the right kinds of tools. You have seen that Access offers some analysis tools such as grouping and sorting, but its selection of data analysis features is limited. However, Excel offers a powerful data analysis tool called a *PivotTable*. This tool enables you to summarize thousands of records in a concise tabular format. You can then manipulate the layout of — or *pivot* — the table to see different views of your data. If you have exported Access data to Excel, you can create a PivotTable from that data.

Analyze Access Data Using an Excel PivotTable

- 1 In Excel, open the workbook that contains the exported Access data.
- 2 Click a cell within the range that you want to use as the source data.
- 3 Click the Insert tab.

4 Click PivotTable.

x	l 🗄 🔊	- @- 🗌 =			Sales Promotio	n - Microsoft Excel	
F	ILE H	OME INSERT		FORMULA	S DATA	REVIEW VIEW	
Pivo	otTable Rec Pi T	ommended Table votTables ables	Illustrations App App App	is for ice • Ch	mended aarts Charts	PivotChart	Power View Reports
Bz		E - 2	$\langle \sqrt{f_x} = f_x$	5/3/2013			
	А	В	С	D	E	F	G
1	ID	Date	Product	Quantity	Net_\$	Promotion	Advertisement
2	(2)>	6/3/2013	Printer stand	10	\$119.70	1 Free with 10	Direct mail
з	2	6/3/2013	Glare filter	6	\$77.82	Extra Discount	Magazine
4	3	6/3/2013	Mouse pad	15	\$100.95	Extra Discount	Newspaper
5	4	6/3/2013	Glare filter	11	\$149.71	1 Free with 10	Magazine
6	5	6/4/2013	Mouse pad	22	\$155.40	1 Free with 10	Magazine
7	6	6/4/2013	Mouse pad	3	\$20.19	Extra Discount	Newspaper
8	7	6/4/2013	Copy holder	5	\$33.65	Extra Discount	Direct mail
9	8	6/4/2013	Printer stand	22	\$239.36	1 Free with 10	Newspaper
10	9	6/4/2013	Glare filter	10	\$129.70	Extra Discount	Magazine
11	10	6/5/2013	Mouse pad	22	\$155.40	1 Free with 10	Magazine
12	11	6/5/2013	Printer stand	8	\$82.96	Extra Discount	Direct mail
13	12	6/5/2013	Printer stand	22	\$239.40	1 Free with 10	Direct mail

? Create PivotTable Choose the data that you want to analyze Select a table or range (A >Table/Range: Sales_Promotion!\$B\$1:\$G\$122 16 Use an external data source Choose Connection... Connection name: 6 Choose where you want the PivotTable report to be placed New Worksheet Existing Worksheet - 6 Location: Choose whether you want to analyze multiple tables Add this data to the Data Model Cancel OK

The Create PivotTable dialog box appears.

- 5 Make sure that the displayed range address is correct.
- If the range address is incorrect, click here and then click and drag with your mouse to select the range.
- 6 Click **New Worksheet** (○ changes to ●).
- 7 Click OK.

- B Excel creates a blank PivotTable.
- C Excel displays the PivotTable Fields list.
- 8 Click and drag a field and drop it inside the ROWS box.

- Excel adds the field's unique values to the PivotTable's row area.
- Olick and drag a numeric field and drop it inside the VALUES box.
- Excel sums the numeric values based on the row values.
- Click and drag a field and drop it in the COLUMNS box.
- Excel adds the field's unique values to the PivotTable's column area.

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6	Glare filter	5653.94	10234.55	8097.39	23985.88		Vet \$
7	Mouse pad	5461.36	11579.44	7314.12	24354.92		Philotion
8	Printer stand	3750.75	6112.45	5063.02	14926.22		Adversement
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TIPS

Are there faster ways to build a PivotTable?

Yes. In the PivotTable Fields list, if you click a check box for a text or date field (\square changes to \blacksquare), Excel adds the field to the ROWS area; if you click a check box for a numeric field (\square changes to \blacksquare), Excel adds the field to the VALUES area. You can also right-click a field and then click the area that you want to use.

What is the FILTERS box used for?

You use it to add a filter field to the PivotTable, which enables you to display a subset of the data that consists of one or more unique values from the filter field. For more details, see the "Apply a PivotTable Filter" section later in this chapter.

Add Multiple Fields to a PivotTable Area

1

You can add multiple fields to any of the PivotTable areas. This is a powerful technique that enables you to perform further analysis of your data by viewing it differently.

For example, suppose that you are analyzing the results of a sales campaign that ran different promotions in several types of advertisements. A basic PivotTable might show you the sales for each Product (the row field) according to the Advertisement used (the column field). You might also be interested in seeing, for each product, the breakdown in sales for each promotion. You can do that by adding the Promotion field to the ROWS area.

Add Multiple Fields to a PivotTable Area

Add a Field to the ROWS Area

1 Click a cell within the PivotTable.

- 2 Click the check box of the text or date field that you want to add (□ changes to ☑).
- Excel adds the field to the ROWS box.
- Excel adds the field's unique values to the PivotTable's row area.

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PivotTable Fields

Add a Field to the ROWS or COLUMNS Area

1 Click a cell within the PivotTable.

In the PivotTable Fields list, click and drag the field that you want to add and drop the field in either the ROWS box or the COLUMNS box.

C Excel adds the field to the ROWS or COLUMNS box.

Excel adds the field's unique values to the PivotTable's row or column area.

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TIP

Can I add multiple fields to the data area?

Yes. Adding multiple fields to the data area enables you to see multiple summaries for enhancing your analysis. For example, suppose that you are analyzing the results of a sales campaign that ran different promotions in several types of advertisements. A basic PivotTable might show you the sum of the Quantity sold (the data field) for each Product (the row field) according to the Advertisement in which the customer reported seeing the campaign (the column field). You might also be interested in seeing, for each product and advertisement, the net dollar amount sold. You can do that by adding the Net_\$ field to the data area.

Move a Field to a Different PivotTable Area

A PivotTable is not a static collection of worksheet cells. You can move a PivotTable's fields from one area of the PivotTable to another. This enables you to view your data from different perspectives, which can greatly enhance the analysis of the data. Moving a field within a PivotTable is called *pivoting* the data.

The most common way to pivot the data is to move fields between the ROWS and COLUMNS areas. However, you can also pivot data by moving a row or column field to the FILTERS area.

Move a Field to a Different PivotTable Area

Move a Field between the ROWS and COLUMNS Areas

- 1 Click a cell within the PivotTable.
- Click and drag a COLUMNS field button and drop it within the ROWS box.

A Excel displays the field's values within the row area.

You can also drag a field button from the ROWS box area and drop it within the COLUMNS box.

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Move a Row or Column Field to the FILTERS Area

- 1 Click a cell within the PivotTable.
- Click and drag a field from the ROWS box and drop it within the FILTERS box.

B Excel moves the field button to the report filter.

You can also drag a field button from the COLUMNS box and drop it within the FILTERS box.

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TIP

Can I move a field to the PivotTable's data area?

Yes, you can move any row, column, or filter field to the PivotTable's data area. This may seem strange because row, column, and page fields are almost always text values, and the default data area calculation is Sum. How can you sum text values? You cannot, of course. Instead, Excel's default PivotTable summary calculation for text values is Count. So, for example, if you drag the Promotion field and drop it inside the data area, Excel creates a second data field named Count of Promotion.

Group PivotTable Values

To make a PivotTable with a large number of row or column items easier to work with, you can group the items together. For example, you could group months into quarters, thus reducing the number of items from twelve to four. Similarly, a report that lists dozens of countries could group those countries by continent, thus reducing the number of items to four or five, depending on where the countries are located. Finally, if you use a numeric field in the ROWS or COLUMNS area, you may have hundreds of items, one for each numeric value. You can improve the report by creating just a few numeric ranges.

Group PivotTable Values

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	8 \$82.96		8.00	8.00			Advertisement		
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The Grouping dialog box appears.

- 5 Type the starting numeric value.
- Click these check boxes (\Box changes to \checkmark) to have Excel extract the minimum and maximum values of the numeric items and place those values in the text boxes.



6 Type the ending numeric value.

- Type the size that you want to use for each grouping.
- 8 Click OK.
- B Excel groups the numeric values.

Grouping	? ×
A A <u>Starting at:</u>	0 -5
Ending at:	2200 -6
<u>B</u> y:	200 -7
8 ОК	Cancel

З	Sum of Quantity	Column Labels 💌		
4	Row Labels 💿 👻	1 Free with 10	Extra Discount	Grand Total
5	0-200	186.00	203.00	389.00
6	200-400	429.00	430.00	859.00
7	400-600	638.00	619.00	1257.00
8	600-800	363.00	286.00	649.00
9	800-1000	440.00	791.00	1231.00
10	1000-1200	473.00	632.00	1105.00
11	1200-1400	429.00	293.00	722.00
12	1400-1600	473.00	120.00	593.00
13	1600-1800	110.00	254.00	364.00
14	1800-2000	132.00	274.00	406.00
15	2000-2200	275.00		275.00
16	Grand Total	3948.00	3902.00	7850.00
17				

TIPS

How do I group date and time values?

Click any item in the date field that you want to group. Click the **Analyze** tab, click **Group**, and then click **Group Field**. In the Grouping dialog box, type the starting date or time and the ending date or time. In the **By** list, click the type of grouping that you want, such as Months or Quarters. Click OK.

How do I group text values?

You must create custom groups. For example, to group by continent, you could create custom groups named North America, South America, Europe, and so on. Begin by selecting the items that you want to include in a group. Click the Analyze tab, click Group, and then click Group **Selection**. Click the group label, type a new name for the group, and then press Enter. Repeat for each custom group that you want to create.

Apply a PivotTable Filter

By default, each PivotTable displays a summary for all the records in your source data. This is usually what you want to see. However, there may be situations in which you need to focus more closely on some aspect of the data. You can focus on a specific item from one of the source data fields by taking advantage of the PivotTable's filter field.

For example, suppose you are dealing with a PivotTable that summarizes data from a sales promotion by showing the net amount sold by product and promotion. To break down this summary by Advertisement, you could add that field to the filter area.

Apply a PivotTable Filter

Apply a Report filter

- 1 Add a field to the FILTERS box.
- 2 Click 💌 in the filter field.

-								
	А	В		D	E			
1	Advertisement	(All)	2				PivotTable Fi	olda 👻 🗙
2							I NOLTABLE II	eius
3	Sum of Net_\$	Column Labels 🕞					Choose fields to add to	o report: 👘 🔻
4	Row Labels 🕞	1 Free with 10	Extra Discount	Grand Total			Date	
5	Copy holder	6114.99	4354.31	10469.30			✓ Product	
6	Glare filter	12140.70	11845.18	23985.88			Quantity	
7	Mouse pad	13216.77	11138.15	24354.92			✓ Net_s ✓ Promotion	
8	Printer stand	7565.00	7361.22	14926.22			Advertisement	
9	Grand Total	39037.46	34698.86	73736.32			MORE TABLES	
10								
11							Drag fields between a	reas below:
12							T FILTERS	COLUMNS
13							Advertisement 🔻	Promotion -
14								
15								N
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17							Product +	Sum of Net_\$ *
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	< → Sheet	1 Sales_Promotion	÷ :	•		×	🗌 Defer Layout Upda	UPDATE
_								
		n .	-	0	F			

Excel displays a list of the report filter field values.

- 3 Click the item that you want to use as a filter.
- ▲ If you want to display data for two or more report filters, click Select Multiple Items (□ changes to ☑) and then repeat step 3 to select the other filters.

Click **OK**.

	Sheet1 Sales_Promotion	+	4	Þ				
	AB	С	D	E				
1	Advertisement (All) 🔍				PivotTabla Fields 🔹 🗙			
2	Search 🔎							
3	Su (All)				Choose fields to add to report:			
4	RC Magazine	Extra Discount	Grand Total		Date			
5	Cc Newspaper	4354.31	10469.30		✓ Product			
6	GI	11845.18	23985.88		Quantity			
7	M	11138.15	24354.92		✓ Promotion			
8	P. A	7361.22	14926.22		✓ Advertisement			
9	Gr	34698.86	73736.32		MORE TABLES			
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	Sheet1 Sales_Promotion	÷ :	4		Defer Layout Update UPDATE			
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Working with External Data

Excel filters the PivotTable to show only the data for the item that you selected.

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з	Sum of Net_\$ Colum	n Labels 🖃					Choose fields to add to	o report:
4	Row Labels 🔄 1 Free	with 10 Extra	a Discount	Grand Total			Date	
5	Copy holder	1196.58	1130.64	2327.22			Product	
6	Glare filter	3293.40	2360.54	5653.94			Quantity	
7	Mouse pad	2991.45	2469.91	5461.36			✓ Promotion	
8	Printer stand	2070.81	1679.94	3750.75			Advertisement	Ŧ
9	Grand Total	9552.24	7641.03	17193.27			MORE TABLES	
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7 8 9	GI M Pr Gr		1130.64 2360.54 2469.91 1679.94 7641.03	Grand Total 2327.22 5653.94 5461.36 3750.75 17193.27			Date Product Quantity Net_\$ Promotion Advertisement MORE TABLES	T
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Remove the Filter Click I in the report filter

field.

Excel displays a list of the report filter field values.

- 2 Click All.
- 3 Click OK.

Excel removes the filter from the PivotTable.

TIP

Can I add multiple fields to the filter area?

Yes. This enables you to apply multiple filters to the data. For example, suppose you have a PivotTable that summarizes sales promotion data by showing the total amount sold for each product, and that you have a filter field with Advertisement data that enables you to isolate the sales by product for a specific type of advertising used in the promotion. You could extend your analysis to look at the advertisement-specific sales by product for individual promotions.

To do this, add the Promotion field as a second field in the FILTERS area and then use the steps in this section to choose a specific advertisement and a specific promotion. It does not matter which order the fields appear in the filter because the filtering comes out the same in the end.

CHAPTER 16

Maintaining a Database

Access provides several tools for performing maintenance and administrative functions on a database. You can switch between file formats and back up, repair, and compact a database. You can also create an easy-to-use Switchboard system that makes your database more accessible to beginners.

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Info	Info				
New	Northwind				
Open	Documents				
Save	1Y	Compact & Repair	View and edit database properties		
Save As	Compact & Repair Database	Help prevent and correct database file problems by using Compact and Repair.			
Print					
Close	**	Encrypt with Password			
	Encrypt with Password	Use a password to restrict access to your database. Files that use the 2007 Microsoft Access file format or later are encrypted.			
Account					
Uptions					

Set a Trusted Location	14
Save in an Earlier Version Format	16
Convert to the Access 2007-2013 Format 3	17
Back Up a Database	18
Analyze Database Performance	19
Compact and Repair a Database	20
Password-Protect a Database	22
Create a Switchboard	24
Set Switchboard Startup Options	28

Set a Trusted Location

Macro security is quite stringent in Access 2013, which is not surprising given the number of macro-based viruses and other malware that have appeared in the past few years. A *trusted location* is a folder that Access assumes contains only trustworthy documents, so it automatically enables any macros contained in those documents. When you open a file from an untrusted location, security warnings appear. One way to avoid this problem is to save your Access database files in a trusted location. Before you can do this, you must set a trusted location.

Set a Trusted Location



Maintaining a Database

The Trust Center dialog box opens.

5 Click Trusted Locations.6 Click Add new location.

The Microsoft Office Trusted Location dialog box opens.

- 7 Type the path that you want to set to be trusted.
- (A) You can also click Browse to locate the path.
- B You can click Subfolders of this location are also trusted (□ changes to ♥) to also trust subfolders of this location.
- 8 Click OK.

The location is added to the Trusted Locations list.

🧿 Click **OK**.

10 Click **OK**.

Files from the location that you specified will now be trusted.

TIPS

Can I choose a network folder as a trusted location? Yes. On the Trust Center's Trusted Locations tab, click Allow Trusted Locations on my network (□ changes to ☑). You can then select a shared network folder as a trusted location. The check box includes the "(not recommended)" text because you probably do not have control over what files other users put in those folders.

Is there a quick way to turn off location-based trusting?

Yes. On the Trust Center's Trusted Locations tab, click **Disable all Trusted Locations** (\Box changes to \checkmark). This option temporarily turns off all location-based trusting. It is quicker and easier than removing each trusted location from the list and then adding it to the list again later.

Allow Trusted Locations on my network (not recommended)

] <u>D</u>isable all Trusted Locations



Save in an Earlier Version Format

The file format used in Access 2007 through Access 2013 is not backward-compatible with earlier versions of Access. This means that if someone is using an earlier version of Access, that person cannot open any of your Access database files that use the current file format. Therefore, if you need to share a database file with someone who uses an earlier version of Access, you must save the file in that earlier format.

If you will be sharing the file on an ongoing basis with others who use Access 2003 and earlier, you must continue using the database in that format.

Save in an Earlier Version Format

1 Click File.

The File menu appears.

- 2 Click Save As.
- 3 Click Save Database As.
- 4 Click the older format that you want to use.

Note: Certain database features make it impossible to save the file in an earlier version, such as multivalued fields. If you have any such features in your database, an error will appear letting you know. At that point, you can edit the database to remove those features, or you can decide not to save in the older format.

6 Click Save As.

The Save As dialog box opens.

- 6 If needed, choose a different save location.
- 7 Type a filename.
- 8 Click Save.

The file is saved in the older format to the location that you specified.



Convert to the Access 2007-2013 Format

^{chapter}

If you have databases created in early versions of Access, you can choose to update them to the Access 2007-2013 file format, which is called Access Database. (Access 2007, 2010, and 2013 use the same format.) Doing so offers several advantages, including the ability to use multivalued fields, calculated columns, and other features.

Note, however, that after you convert the database file to the latest format, you will not be able to use the file in earlier versions of Access.



Back Up a Database

Computer problems are an inevitable fact of life. One of these days, your system will crash, or your hard drive will become corrupted. These and similar glitches can cause problems for your database file, which could become unreadable. Therefore, it is a good idea to back up your database files periodically to ensure that your data is safe.

Backing up a database is similar to saving a copy of it; the main difference is that by default, the current date is appended to the filename.

Back Up a Database HOM CREATE EXTERNAL DATA DATABASE TOOLS Paul McFedries 👻 🎆 🙂 1 Click File. 1 New P ≜↓ Ascending $\overline{T}_{i}^{\prime} =$ ab. ^{ab}. Σ The File menu appears. Save Database As File Types Advanced Save Database As 2 Click Save As. A 🚺 Package and Sign Package the database and apply a digital signature. Save Object As 2 Click Save Database As. 3 💷 Make ACCDE File will be compiled into an executable only file. Click Back Up Database. [Back Up Database Back up important database regularly to prevent data los: 4 🚽 SharePoint Click Save As. Share the database by saving it to a document management 5 Save The Save As dialog box AR Save As 🛞 🌖 👻 🏫 📑 🕨 Libraries 🕨 Documents 🕨 🚄 6 ✓ C Search Documents Q opens. Organize 👻 New folder 8== -0 6 Change the save location if Downloads Name Date modified Size Туре Recent places 💼 My Data Sources 10/29/2012 3:40 PM File folder needed. le SkyDrive OneNote Notebooks 11/8/2012 6:01 AM File folder 🙊 Photo Stream 퉬 Résumés 11/6/2012 1:34 PM File folder 7 Click Save. 📔 Snagit 9/5/2012 3:55 PM File folder 🚞 Libraries 📔 Themes 12/5/2012 2:34 PM File folder Documents 10/29/2012 11:43 ... File folder Web Pages a Music Access saves the backup. \Lambda Assets 12/28/2012 10:58 ... Microsoft Access Database 1.152 KB E Pictures 🚮 Database1 12/28/2012 11:22 ... Microsoft Access Database 328 KB 😽 Videos 📾 Humonaous Insurance 12/21/2012 7:34 AM Microsoft Access Database 292 KB File name: Northwind 2012-12-28 Save as type: Microsoft Access Database Save Cancel 🔺 Hide Folder

Analyze Database Performance



A ccess databases generally perform queries, sorts, groupings, and other dynamic tasks quickly. However, as your tables grow larger, as the relationships between those tables grow more complex, and as your queries grow more sophisticated, you might notice that Access takes more time to perform certain tasks. In that case, you can run the Performance Analyzer tool, which analyzes your database objects and then offers suggestions to improve their performance.



Compact and Repair a Database

When you delete objects from an Access database, Access ensures that the deletion happens quickly by simply creating blank space in the file where the object used to reside. This leaves your database file the same size. Compacting a database reduces the file size by eliminating wasted blank space. You can optionally set up the database to compact itself automatically each time you close it.

Repairing a database checks it for storage errors and corrects any that it finds. Compacting and repairing are actually two separate functions, but they are performed by using the same command.

Compact and Repair a Database

Compact and Repair

1 Click File.

The File menu appears.

2 Click Info.

3 Click Compact & Repair Database.

> Access compacts and repairs the database. No additional prompts appear.



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TIPS

What does compacting do?

Compacting a database removes any blank space that it contains so that it takes up less space on disk. When you delete records, for example, the space that they occupied in the database remains as blank space until you compact the database.

What does repairing do?

Repairing fixes any logical or linkage problems in the database — anything that may cause the database not to open properly or any of its objects not to perform as expected. Periodic repairing of a database file can ensure that small problems do not escalate into large ones.

Password-Protect a Database

Most databases contain nonsensitive data that requires no extra security precautions. However, you might be dealing with a database that does contain sensitive, private, or secret data. In that case, you can assign a password to the database so that only authorized users can open it.

Before you can set or change a password for the database, however, you must open it for exclusive use. This prevents others from using the database at the same time you are trying to put a password on it.

Password-Protect a Database

Open a Database for Exclusive Use

1 Click File.

The File menu appears.

2 Click Close.

Access closes the database.

- 3 Click **Open Other Files** (not shown).
- 4 Click Computer.
- 5 Click Browse.

The Open dialog box opens.

- 6 Click the database that you want to open.
- 7 Click this and then click Open Exclusive.

Access opens the database for exclusive use.



Maintaining a Database





How does password protection actually work?

When you set the password, Access jumbles the database into an unreadable format using a process called *encryption* to ensure that it cannot be browsed from outside of Access. When you enter the password, Access *decrypts* the file to make it readable again.

How do I unset (remove) a password? Open the database for exclusive use. Click File. Click Decrypt Database. Type the password. Click OK. Note: You cannot unset the password if you do not know it.

Create a Switchboard

database with many objects can be intimidating for an end user to navigate. Many of the people who may use and benefit from your database may not have the same level of computer expertise as you and may find it easier to work with a simpler interface. You can create your own navigation forms one by one by creating and linking forms together, but there is an easier way: the Switchboard feature. A switchboard automatically creates and links the forms to provide an easy-to-navigate user interface.

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Create a Switchboard

Add the Switchboard Manager to the Quick Access Toolbar

- Click the Customize Quick Access Toolbar button (=).
- Click More Commands.



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The Access Options dialog box opens and displays the Quick Access Toolbar tab.

- Click the Choose commands **from** v and click **Commands** Not in the Ribbon.
- Click Switchboard Manager.
- 5 Click Add.
- 6 Click **OK**.

The Switchboard Manager button is added to the Quick Access Toolbar.



Maintaining a Database

CHAPTER

Start a New Switchboard

 Click the Switchboard Manager (
 (
) button on the Quick Access Toolbar.

A message appears that the Switchboard Manager was unable to find a valid switchboard and asks if you want to create one.



- The Switchboard Manager opens
- with a default switchboard page created.

You can now create additional switchboard pages and add items to each page.

TIP

Can I format the switchboard?

Yes. The switchboard is a form and can be formatted like other forms.

- After closing the Switchboard Manager, you can open the Switchboard form in the Design view and change the fonts, background, and other attributes. However, you should avoid making layout changes to the form or deleting the placeholders on it.
- B The Switchboard form pulls its data from a table called Switchboard Items, and if you

💼 Switchboard 🗲 Form Header Α Humongous Insurance 🗲 Detail ItemText Form Footer Switchboard Rems SwitchboardID 👻 ItemNumber 👻 ItemText Command Argument -0 Main Switchboard Default 1 Open Customers Form 2 Customers 2 0 Forms Page 0 0 Reports Page 3 n 0

delete the ItemText placeholder on the form, it loses its connection to the data it needs.

• You can open the Switchboard Items table in the Datasheet view, the same as other tables. Examining that table can provide a behind-the-scenes view of how the switchboard works.

continued **>**

Edit...

<u>D</u>elete



Create a Switchboard (continued)

The basic switchboard consists of a single page. You may want to create additional pages and link them to the main page rather than place all your commands on that single main page. For example, on the main page, you might have links for Forms and Reports, and then you might create two separate pages: Forms Page and Reports Page. On each of those pages, you would then create links that open various forms and reports, respectively.

Create a Switchboard (continued)

Add a Switchboard Page

 In the Switchboard Manager, click New.

The Create New dialog box opens.

- 2 Type the name for the new page.
- 3 Click **OK**.

Leave the Switchboard Manager open for further customization in the following subsection.

Add Commands to a Switchboard Page

- In the Switchboard Manager, click the page that you want to edit.
- 2 Click Edit.

The Edit Switchboard Page dialog box opens.

Click New.



Maintaining a Database

The Edit Switchboard Item dialog box opens.

- 4 Type the text that should appear for that item on the form.
- 5 Click the **Command** v and click an action for the item.
- 🚺 Click this 🔽 and click the item that the command will affect.

Note: The name of this command changes depending on what you chose in step 5.



8 Repeat steps 3 to 7 to create more commands as needed.

9 Click Close to close the Edit Switchboard Page dialog box.

Your edits to the page are saved.

You can close the Switchboard Manager window or leave it open for further editing.

TIPS

How do I create items that open forms or reports? Follow the steps in the subsection "Add Commands to a Switchboard Page." For a form, in step 5, choose either **Open Form in Add Mode** (opens the form with a new record started, for data entry) or **Open Form in** Edit Mode (opens the form with an existing record displayed). Then, choose the form name in step 6. For a report, in step 5, choose **Open Report** and then choose the report in step 6.

	Edit Switchboard Item	
<u>T</u> ext:	Open Customers Form	ОК
<u>⊂</u> ommand:	Open Form in Add Mode 🗸	Cancel
Eorm:	Customers	

	Edit Switchboard Item	
<u>T</u> ext: Command: Switchboard:	Go to Forms Page 4 7 Go to Switchboard 5 v Forms Page 6 v	Cancel
	Edit Switchboard Page	
	Switchboard Name: 9	⊆lose
	(tems on this Switchboard:	<u>N</u> ew
		<u>E</u> dit
		<u>D</u> elete
		Move <u>U</u> p
		Move Down

How do I return to the main switchboard from one of the other pages?

Create an item on each switchboard page called Go to Main Switchboard and set its command to **Go to Switchboard** (step **5**). Set the switchboard you want to go to as the Main Switchboard (step 6).

	Edit Switchboard Item	
<u>T</u> ext:	Go to Main Switchboard	ОК
<u>⊂</u> ommand:	Go to Switchboard	Cancel
<u>S</u> witchboard:	Main Switchboard 🗸	

Set Switchboard Startup Options

The switchboard is most useful when it is set to appear automatically every time the database opens. That way, the user does not need to understand how to open a form by using the Navigation pane; the form simply appears.

You may also want to make the switchboard a pop-up form in a window rather than a tabbed form (the default). Users are more likely to be familiar with windows than with tabbed pages, so the windowed style may make them feel more comfortable.

Set Switchboard Startup Options Set the Switchboard to A 5- 0- 🕼 ? – 🗆 × Humongous Insurance Paul McFedries 🝷 🎆 🙂 CREATE EXTERNAL DATA DATABASE TOOLS **Open Automatically at T**/ − 11 Σ ab Startup Removes the nassword from this database 1 Click File. Decrypt Database The File menu appears. 2 Click Options. Access Options ? The Access Options dialog Genera 2 Options for the current database. 3 Current Database box opens. Application Options Datasheet 3 Click Current Database. **Object Designers** Application Title: Humongous Insurance Proofing Application Icon: Browse... 4 Click the Display Form 🔽 Language Use as Form and Report Icon Display Form: Switchboard 🗸 and then click Switchboard. Client Settings Web Display Form: (none) 🗸 Customize Ribbon ✓ Display Status Bar 5 Click OK. Quick Access Toolbar Document Window Options Add-ins Overlapping Windows Tabbed Documents Trust Center 🗹 Display Document Tabs 5 OK Cancel

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A message appears that you must close and reopen the database for the change to take effect.

6 Click OK.

The Switchboard form is now set to display automatically the next time you open the database.

Set the Switchboard to Open As a Floating Pane

1 Right-click the Switchboard form and then click **Design View**.

The form opens in the Design view.

- **2** Click the **Design** tab.
- 3 Click Property Sheet.

The Property Sheet opens.

- 4 Click the All tab.
- 5 Set the **Pop Up** setting to **Yes**.

6 Click 🔜 to save the form.

7 Click **View** to preview the form.

The form appears as a pop-up window.

TIPS

The Switchboard window has a lot of empty space at the bottom. How can I make it appear smaller?

This happens because by default, the Switchboard form is set to display as continuous forms. On the Property Sheet in the Design view, set the **Default View** property to **Single Form**.

Selection type: Form	
Form	[

Format I	Data	Event	Other	All		
Record So	urce		SI	ELECT * FR	OM [Sv	
Caption			SI	Switchboard		
Pop Up			Ye	5		
Modal			N	0		
Default Vi	ew		S	ngle Forn		
Allow For	m Viev	v	S	ingle For	m	
Allow Dat	asheet	t View	0	ontinuou	ıs Form	
Allow Lay	out Vie	ew	0	atasheet		
Picture Typ	be		S	plit Form		

After I put the form in the pop-up mode, how can I get back to the Design view to edit it some more?

Right-click the Switchboard form in the Navigation pane and then choose **Design View** from the shortcut menu.



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Symbols and Numerics

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