# Getting Started

# Microsoft Access®

## Relational Database Management System for Windows™
## Version 2.0

Microsoft Corporation

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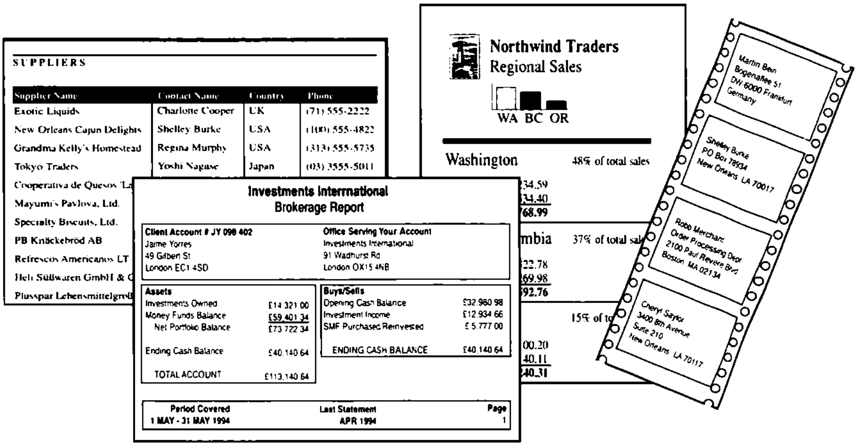
# Welcome to Microsoft Access

Welcome to Microsoft® Access, an interactive relational database management system for Microsoft Windows™. Microsoft Access puts the power to organize, find, and present information in your hands.



SUPPLIERS

| Supplier Name | Contact Name | Country | Phone |
|---|---|---|---|
| Exotic Liquids | Charlotte Cooper | UK | (71) 555-2222 |
| New Orleans Cajun Delights | Shelley Burke | USA | (100) 555-4822 |
| Grandma Kelly's Homestead | Regina Murphy | USA | (313) 555-5735 |
| Tokyo Traders | Yoshi Nagase | Japan | (03) 3555-5011 |
| Cooperativa de Quesos 'L | | | |
| Mayumi's Pavlova, Ltd. | | | |
| Specialty Biscuits, Ltd. | | | |
| PB Knäckebröd AB | | | |
| Refrescos Americanos LT | | | |
| Heli Süßwaren GmbH & C | | | |
| Plusspar Lebensmittelgroß | | | |

**Investments International**
**Brokerage Report**

**Client Account # JY 098 402**
Jaime Yorres
49 Gilbert St
London EC1 4SD

**Office Serving Your Account**
Investments International
91 Wadhurst Rd
London OX15 4NB

| **Assets** | |
|---|---|
| Investments Owned | £14 321 00 |
| Money Funds Balance | £59 401 34 |
| Net Portfolio Balance | £73 722 34 |
| Ending Cash Balance | £40 140 64 |
| TOTAL ACCOUNT | £113,140 64 |

| **Buys/Sells** | |
|---|---|
| Opening Cash Balance | £32 980 98 |
| Investment Income | £12 934 66 |
| SMF Purchased Reinvested | £ 5 777 00 |
| ENDING CASH BALANCE | £40 140 64 |

| Period Covered | Last Statement | Page |
|---|---|---|
| 1 MAY - 31 MAY 1994 | APR 1994 | 1 |

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**Microsoft Access is graphical** Microsoft Access takes full advantage of the graphical power in Windows, giving you visual access to data and simple, direct ways to view and work with your information.

**Microsoft Access is for data navigation** Its powerful querying and connective capabilities help you find the information you want quickly, regardless of format or location. You can use one query to work with data stored in different database formats and network locations. You can change your query at any time and see different layouts of data with the click of a button.

**Microsoft Access is for data publishing** WYSIWYG (what you see is what you get) design tools help you produce sophisticated, effective forms and reports to meet your exact specifications. You can plot data, combine different forms and reports in one document, and present your results with publication-quality style.

**Microsoft Access is a serious productivity tool** Using Microsoft Access Wizards and macros, you can automate most tasks easily without the need for programming. For highly specialized data management needs, Microsoft Access comes with Access Basic, a powerful database programming language.

# Where Do I Start?

This book is the best place to start. It's your basic flight instruction for learning to pilot Microsoft Access. By the time you finish *Microsoft Access Getting Started*, you'll be ready to solo—to work on your own and explore the advanced techniques that will make you even more productive.

This book doesn't just tell you about Microsoft Access; it helps you do productive work while you learn. It guides you through a series of brief, hands-on sessions that use real-life examples to show you how to organize and work with data. You're not just going along for the ride—you're going to enjoy the flying.

You decide how to use this book. You can consult it for the steps you need to build and use your own Microsoft Access database, using your own data. For a more structured learning experience, you can follow the step-by-step scenarios, using the Northwind Traders sample database provided with Microsoft Access.

This book has four self-contained parts:

- **Part 1: Introducing Microsoft Access** Learn the basic concepts, terms, and techniques you need to work with Microsoft Access. Use easy-to-follow instructions to set up and run Microsoft Access.
- **Part 2: Building a Database** Build and use the basic elements of a Microsoft Access database: tables and forms.
- **Part 3: Working with Data** Create a query, find and sort data, and combine data from two tables into a form.
- **Part 4: Presenting Your Data** Create a report and mailing labels. Also learn how to use a Microsoft Access Wizard to add a button to a form.

Before you begin using this book, you need to know the fundamentals of using Microsoft Windows. This book and all Microsoft Access documentation is written with the assumption that you know how to use a mouse, open a menu, and select options from a menu or a dialog box. If you need to review these techniques, consult the documentation that comes with Microsoft Windows.

**Note** The examples in this book and in all the Microsoft Access manuals are based on the fictional Northwind Traders import/export company. Northwind Traders specializes in gourmet foods from around the world. For details about the contents of the Northwind Traders database, see the "Introduction" in the *Microsoft Access User's Guide.*

PART 1

# Introducing Microsoft Access

Here's where you begin your exploration of Microsoft Access. Part 1 introduces you to what Microsoft Access is all about, shows you how to set up Microsoft Access on your computer, and provides a quick introduction to working in Microsoft Access.

- Chapter 1, "Concepts and Terms," introduces the basic concepts and terms you'll need while you work with Microsoft Access.
- Chapter 2, "Microsoft Access Basics," explains how to set up Microsoft Access and open a database. It introduces the basic techniques for creating and using Microsoft Access objects.

"I've never used a database program, but I've used a spreadsheet and a word processor. What can I do with Microsoft Access that I couldn't do before?"

"How do I set up Microsoft Access on my computer? Once it's set up, how do I learn how to use it?"

"Now that I've switched to Microsoft Access from my old database program, I just want the big picture — a quick tour of how Microsoft Access gets things done. Then I can jump in, play around, and figure out how it works myself."

# Concepts and Terms

This chapter introduces the basic concepts and terms you'll find useful while you work with Microsoft Access.

## Chapter Contents

What Is a Microsoft Access Database?
Tables, Queries, and Dynasets
Forms and Reports
Macros and Modules
What's Next?

**The Challenge** Before you take off, have a look around. Get to know the main parts of the Microsoft Access database that you'll be working with.

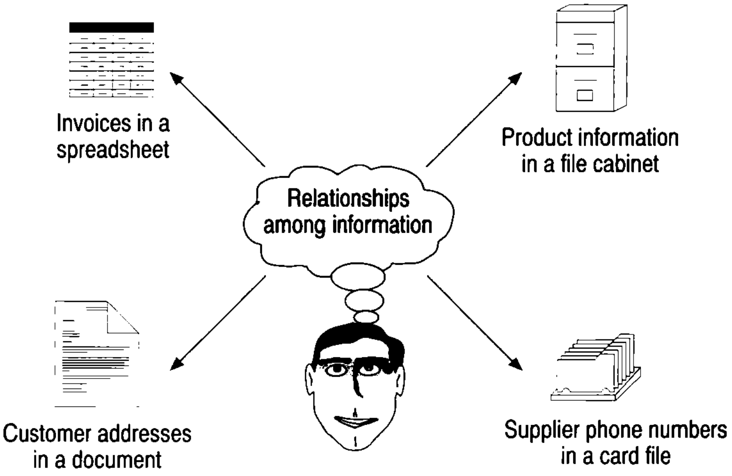
**The Approach** A quick review of concepts and terms will help you get oriented and keep you from getting slowed down later.

# What Is a Microsoft Access Database?

A *database* is a collection of data that's related to a particular topic or purpose. Employee records in a file cabinet, a stamp collection in an album, a collection of sales leads in a notebook — each of these collections of data is a database.

A *database management system (DBMS)* is a system that stores and retrieves information in a database: It's the file cabinet, the album, or the notebook. A computerized DBMS is a program you can use to store and retrieve data on your computer. Microsoft Access is a *relational database management system (RDBMS)*, which stores and retrieves information according to relationships you define. Using Microsoft Access, you can organize your data according to subject so that the data is easy to track and verify, and you can store information about how different subjects are related so that it's easy to bring related data together.

To see the power behind this approach, consider a relational database that's not stored in a computer—one in which the relationships among the data are stored in your head. For example, you might keep information about products and suppliers in several places in your office. You might have a mailing list in a word processor file, a list of invoices in a spreadsheet file, information about products in a file cabinet, and supplier phone numbers in a card file next to the telephone.

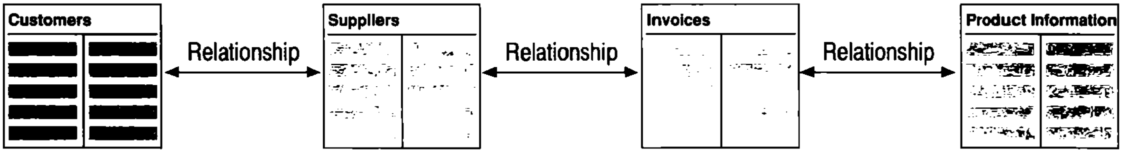

Invoices in a spreadsheet
Product information in a file cabinet
Relationships among information
Customer addresses in a document
Supplier phone numbers in a card file

Together, these containers of data form a relational database. Each container serves a particular purpose, and you can combine information from two or more of them to meet your special needs. The key element that makes the system work is *your* knowledge of how the information in the containers is related.

Suppose that you decide to use a computer to manage your data. With a nonrelational DBMS program, you might create one large table in your database that holds all of your information—telephone numbers, product information, invoices, everything.

With this database, you'd end up storing a lot of duplicate data. Each time you add a new product, for example, you might want to include the supplier's phone number so that you can easily find it when you need it. If you bought 10 products from the same supplier, you'd store the supplier's phone number 10 times. Your table would get very large and require a lot of extra disk space. If any information changed, you'd have to change it everywhere it appeared—maybe hundreds of places. That would take a great deal of time, and you could easily make an error in the process. Finally, when you want to change the structure of your data—add fax numbers, for example, or group products into categories—you would be in for a lot of tedious, error-prone work to revise the structure of your database table.

In contrast, a Microsoft Access database can have several small tables, much like the containers in your office. You can design your database so that it also stores information about how the tables are related.



Microsoft Access relational database

Each piece of information is stored in only one place. That saves storage space by eliminating duplication. It makes updating information faster and more accurate, because you make a change in only one place. You can restructure a small table in a relational database much more easily than you can a large table in a nonrelational database. Also, you can add tables for new topics of information without changing the existing tables.

The rest of this chapter introduces you to the main parts of a Microsoft Access database and shows you how they fit together.

# Key Terms

**database** A collection of data that's related to a particular topic or purpose.

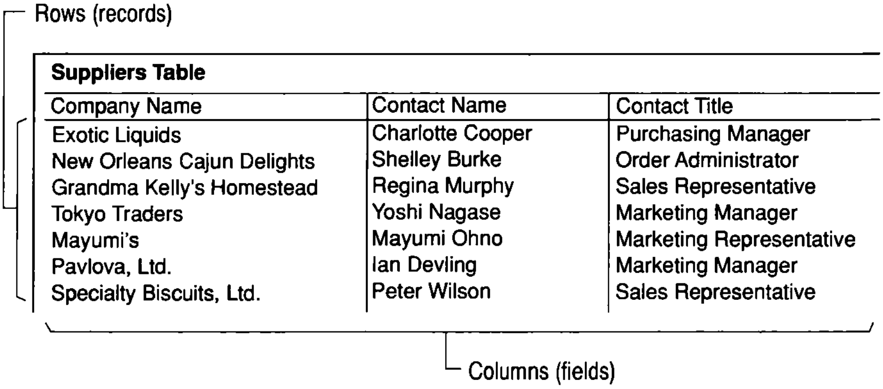
**RDBMS** Relational database management system; software, such as Microsoft Access, that enables you to organize and analyze data stored in tables in a database.

# Tables, Queries, and Dynasets

You use data in a wide variety of formats —for example, in mailing labels, lists, forms, reports, and graphs. You can use Microsoft Access to create the labels, lists, forms, reports, and graphs you need to present your data just the way you want, but you store the data itself in tables.

## A Table—Data with a Subject

A *table* is a collection of data about a particular subject. The data in a table is presented in columns (called fields) and rows (called records). All data in a table describes the subject of the table. For example, one table might store data about the products you sell, another about customers, and a third about suppliers.



**Suppliers Table**

| Company Name | Contact Name | Contact Title |
|---|---|---|
| Exotic Liquids | Charlotte Cooper | Purchasing Manager |
| New Orleans Cajun Delights | Shelley Burke | Order Administrator |
| Grandma Kelly's Homestead | Regina Murphy | Sales Representative |
| Tokyo Traders | Yoshi Nagase | Marketing Manager |
| Mayumi's | Mayumi Ohno | Marketing Representative |
| Pavlova, Ltd. | Ian Devling | Marketing Manager |
| Specialty Biscuits, Ltd. | Peter Wilson | Sales Representative |

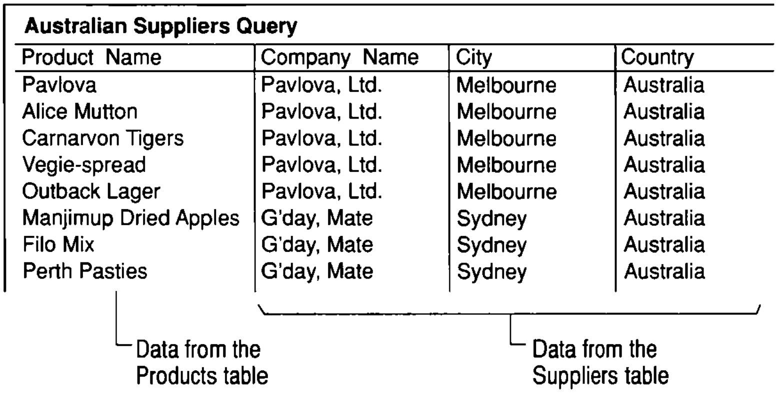
In a table, a *field* is a category of information. It could be company names, employee hire dates, or product prices. A *record* is a collection of information about one person, thing, or event. It could be all the information about a product, a transaction, or a supplier.

Each record in a table contains the same set of fields, and each field contains the same type of information for each record. You use values in fields to pinpoint the records you want to see. For example, suppose that you want to print mailing labels for suppliers located in Paris. You can tell Microsoft Access to retrieve only the records that have the value "Paris" in the City field. Microsoft Access prints the labels you want and no others.

**More Information** For tips on designing the tables in your database and deciding what fields belong in each table, see Chapter 2, "Designing a Database," in the *Microsoft Access User's Guide.*

## A Query and Its Dynaset—A Question and an Answer

A *query* is a question you ask about the data in your database, such as, "Which products have Australian suppliers?" The data that answers the question can be from a single table or several—the query brings the information together. The set of records that a query describes is called a *dynaset*. A dynaset is an updatable type of *recordset*, which is any set of records defined by a table or query.



**Australian Suppliers Query**

| Product Name | Company Name | City | Country |
|---|---|---|---|
| Pavlova | Pavlova, Ltd. | Melbourne | Australia |
| Alice Mutton | Pavlova, Ltd. | Melbourne | Australia |
| Carnarvon Tigers | Pavlova, Ltd. | Melbourne | Australia |
| Vegie-spread | Pavlova, Ltd. | Melbourne | Australia |
| Outback Lager | Pavlova, Ltd. | Melbourne | Australia |
| Manjimup Dried Apples | G'day, Mate | Sydney | Australia |
| Filo Mix | G'day, Mate | Sydney | Australia |
| Perth Pasties | G'day, Mate | Sydney | Australia |

Data from the Products table

Data from the Suppliers table

You create a query that describes the set of records you want. When you use the query to access data, you automatically get current data from the tables. If you change the data in a dynaset, Microsoft Access updates the data in the underlying tables. In a multiuser environment, you can see changes that others make to records in a dynaset right away.

Because the data in a dynaset is always current, you can use queries and their dynasets with the confidence that the data you're viewing is up to date and that the changes you make are saved. In terms of accessing data, you'll find that there's not much difference in the way you use tables and the way you use dynasets. The main difference between them is that data is stored in tables but not in dynasets.

## Key Terms

**dynaset** A dynamic, updatable type of recordset, which is any set of records defined by a table or query.

**query** A Microsoft Access object that asks a question or defines a set of criteria about data from your tables.

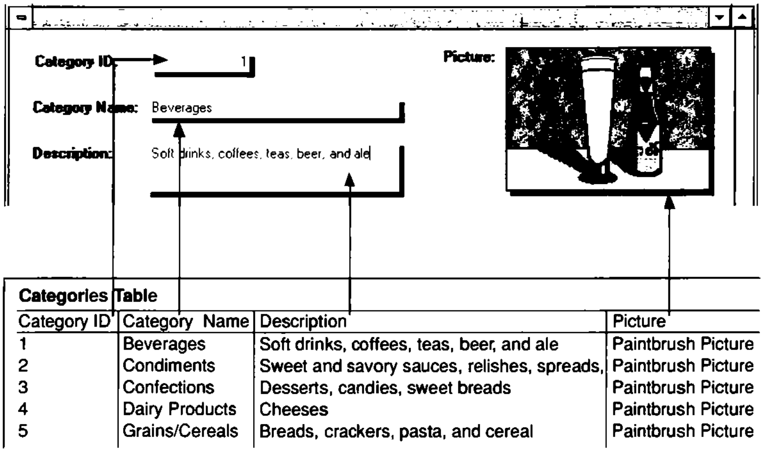
**table** A Microsoft Access object that stores data in rows (records) and columns (fields). The data is usually about a particular subject, such as employees or sales.

# Forms and Reports

A tabular arrangement of data is convenient for viewing many records at the same time. To focus on individual records or to present your data using a custom layout, you can use a form or a report. As you'll see later in this book, with the help of Access Wizards you're only a few mouse clicks away from a variety of stylish presentations of your data.

# A Form—Information on the Screen or in Print

A *form* is often the most convenient layout for entering, changing, and viewing records in your database. You specify how data is displayed when you design your form. When you open a form, Microsoft Access retrieves the data you want from your tables and displays it according to your design, on the screen or in print.



**Category ID:** 1

**Category Name:** Beverages

**Description:** Soft drinks, coffees, teas, beer, and ale

**Picture:**

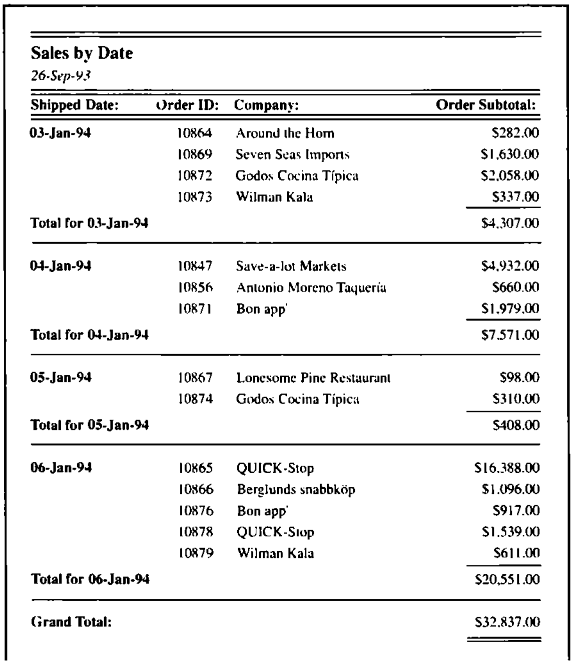
**Categories Table**

| Category ID | Category Name | Description | Picture |
|---|---|---|---|
| 1 | Beverages | Soft drinks, coffees, teas, beer, and ale | Paintbrush Picture |
| 2 | Condiments | Sweet and savory sauces, relishes, spreads, | Paintbrush Picture |
| 3 | Confections | Desserts, candies, sweet breads | Paintbrush Picture |
| 4 | Dairy Products | Cheeses | Paintbrush Picture |
| 5 | Grains/Cereals | Breads, crackers, pasta, and cereal | Paintbrush Picture |

With a Microsoft Access form, you can include lists of values to choose from, use colors to highlight important data, and display messages to indicate when an incorrect value is entered. Also, you can have Microsoft Access automatically fill in data for you and display the results of calculations. With one click, you can switch from Form view to Datasheet view, which is a tabular view of the same set of records.

# A Report—Polished Results in Print

You use a *report* to present your data on the printed page and to show totals and grand totals across an entire set of records. With the power and control a report provides, you can get presentation-quality reports with minimum effort.



**Sales by Date**
*26-Sep-93*

| Shipped Date: | Order ID: | Company: | Order Subtotal: |
|---|---|---|---|
| **03-Jan-94** | 10864 | Around the Horn | $282.00 |
| | 10869 | Seven Seas Imports | $1,630.00 |
| | 10872 | Godos Cocina Típica | $2,058.00 |
| | 10873 | Wilman Kala | $337.00 |
| **Total for 03-Jan-94** | | | $4.307.00 |
| **04-Jan-94** | 10847 | Save-a-lot Markets | $4.932.00 |
| | 10856 | Antonio Moreno Taquería | $660.00 |
| | 10871 | Bon app' | $1.979.00 |
| **Total for 04-Jan-94** | | | $7.571.00 |
| **05-Jan-94** | 10867 | Lonesome Pine Restaurant | $98.00 |
| | 10874 | Godos Cocina Típica | $310.00 |
| **Total for 05-Jan-94** | | | $408.00 |
| **06-Jan-94** | 10865 | QUICK-Stop | $16.388.00 |
| | 10866 | Berglunds snabbköp | $1.096.00 |
| | 10876 | Bon app' | $917.00 |
| | 10878 | QUICK-Stop | $1.539.00 |
| | 10879 | Wilman Kala | $611.00 |
| **Total for 06-Jan-94** | | | $20,551.00 |
| **Grand Total:** | | | $32.837.00 |

The items on a form or report that display or print data are called *controls*. With a control, you can display data from a field; the results of a calculation; words for a title or message; or a graph, picture, or other object—even another form or report.

# Key Terms

**control** An item on a form or report that displays data from a field; the results of a calculation; words for a title or message; or a graph, picture, or other object.

**form** An object you can use to enter, change, and view records of data in a custom layout. You can use a form to display records on the screen or in print.

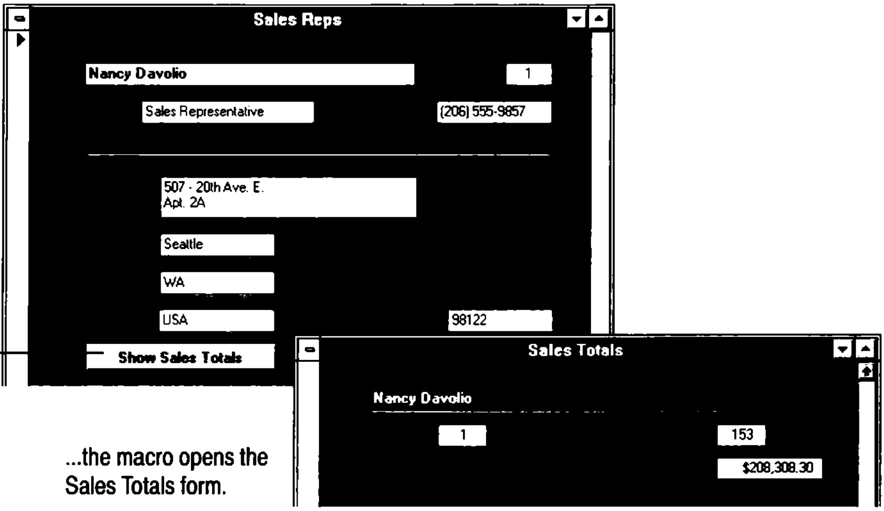
**report** An object you can use to print records in a custom layout. You can use a report to group records and show totals for groups or for an entire report.

# Macros and Modules

Microsoft Access provides a variety of objects that you can use to display and manage information. Your Microsoft Access database can be an even more powerful productivity tool when these objects work together. You can use macros and modules to combine objects in your database into a data management system that works for you.

## A Macro—Automation Without Programming

To automate basic actions and get objects to work together without programming, you can use macros. A *macro* is a list of actions you want Microsoft Access to carry out for you. For example, you might want Microsoft Access to automatically open a set of forms when you open your database. Or, you might want to click a button to print monthly reports or to open another form.



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$208,308.30

In the Sales Reps form, a macro is attached to this button. When you press the button...

...the macro opens the Sales Totals form.

You can use macros in a wide variety of places. For example, you can attach a macro to a form, report, control, keystroke combination, or menu command.

## A Module—The Power of Programming

For the greatest possible control over your database operations, Microsoft Access provides a powerful, built-in database programming language, Access Basic. You can use procedures written in Access Basic for operations that require more complex, automated processing than what macros can provide. A *module* is a Microsoft Access object that contains your Access Basic procedures.

For example, suppose that you intend to use the same long, complicated calculation in several queries or reports. Rather than type the expression everywhere you need it, you can write a function in Access Basic that performs the calculation and then run the function whenever you want to use the expression. You can also use Access Basic to repeat a certain operation until a condition you set is true.

This book explains how to create every Microsoft Access object introduced in this chapter except for macros and modules. For information about creating macros, see Chapter 24, "Macro Basics," in the *Microsoft Access User's Guide*. For information about creating modules, see *Microsoft Access Building Applications*.

---

**Tip** You can use an Access Wizard to automate forms without writing macros or modules. An Access Wizard is like a database expert who prompts you with questions about the object you want and then builds it based on your answers. To automate a form, you can use the Command Button Wizard, which creates a kind of control called a *command button* and prompts you to choose an action for the button to perform (such as opening another form). You'll see how the Command Button Wizard works in Chapter 10, "Customizing and Automating." Other Access Wizards are mentioned throughout this book.

---

## An Object—Something You Can Select

This chapter introduced you to some of the objects that you can create and use in Microsoft Access: tables, queries, forms, reports, controls, macros, and modules. In Microsoft Access, you'll see the word "object" used for other items as well, including pictures, graphs, dialog boxes, documents created by other applications, or even the Clipboard. In general, an *object* is something that you can select and manipulate as a unit.

## Key Terms

**Access Basic** The Microsoft Access built-in database programming language.

**macro** A list of actions you want Microsoft Access to carry out for you. When you run a macro, Microsoft Access carries out the actions in the macro.

**module** A collection of one or more Access Basic procedures.

**object** An item such as a table, form, or control that you can select and manipulate as a unit.

# What's Next?

Now that you know the basic concepts and terms, you're ready to start working with Microsoft Access. In Chapter 2, you'll set up Microsoft Access, learn how to create a new database, and find out how to create and use Microsoft Access objects.

## CHAPTER 2

# Microsoft Access Basics

In this chapter, you'll set up and start Microsoft Access. Then, in a quick tour of Microsoft Access, you'll find out how to open a database and gain access to data. You'll also learn how to create a database and database objects. Finally, you'll get an introduction to Microsoft Access documentation and learn how to find the information you need to carry out your tasks.

### Chapter Contents

Setting Up, Starting, and Quitting Microsoft Access
Opening a Database
The Database Window
Viewing Data and Closing a Database
Creating a Microsoft Access Database
Creating Objects
Using Microsoft Access Documentation
What's Next?

**The Challenge** Now that you know the main features of a Microsoft Access database, it's time to jump into the cockpit and start the engine.

**The Approach** You're ready to set up Microsoft Access, start it, and begin to use Microsoft Access objects.

# Setting Up, Starting, and Quitting Microsoft Access

Before you set up Microsoft Access, take a few minutes to make sure your computer meets the minimum requirements needed to run Microsoft Access.

## Microsoft Access Requirements

To use Microsoft Access, you need the following:

- An IBM-compatible personal computer with an 80386sx, 80386, or higher processor (386/20 is recommended).
- A hard disk with 21.5 megabytes of free space (typical installation).
- A Microsoft Mouse® or other compatible pointing device.
- An EGA, VGA, or compatible display (VGA or higher is recommended).
- Six megabytes of random-access memory (8 megabytes are recommended).
- MS-DOS® operating system version 3.1 or later.
- Microsoft Windows™, Windows for Workgroups™, or Windows NT™ operating system version 3.1 or later.

## Setting Up Microsoft Access

Use the Setup program (SETUP.EXE) to set up Microsoft Access on your computer.

**Note** If you're upgrading from an earlier version of Microsoft Access, you may want to keep the earlier version on your computer until you've converted your database to version 2.0 format. For more information on upgrading to version 2.0, and for complete details about installing Microsoft Access, see Chapter 1, "Setting Up Microsoft Access," in the *Microsoft Access User's Guide.*

### ▶ To set up Microsoft Access

1. Insert Disk 1 in drive A.
2. Start Windows.
3. In the Windows Program Manager, choose Run from the File menu.

   Windows displays the Run dialog box.
4. Type **a:setup** in the Command Line box.
5. Choose OK.
6. Follow the setup instructions on the screen.

When you set up Microsoft Access, you can conserve hard disk space by choosing the Complete/Custom installation option and selecting only the components you want to install. If you do this, be sure to select the Northwind Traders sample database so that you can follow the examples in this book.

If you're setting up Microsoft Access on a network, the Setup program will prompt you with questions about the kind of network you have. If you'll be using Microsoft Access to use data that's stored in SQL databases on your network, you must choose the Complete/Custom installation option and install ODBC Support.

After installing the files you need, the Setup program places the Microsoft Access icon in the Microsoft Office program group (or the program group you specified).

Microsoft
Access

Microsoft Access icon

# Starting and Quitting Microsoft Access

You start and quit Microsoft Access in the same way as you do other Windows-based applications.

▶ **To start Microsoft Access**

1. In the Windows Program Manager, open the program group that contains the Microsoft Access icon.
2. Double-click the Microsoft Access icon.

   Microsoft Access starts and displays the Microsoft Access startup window. From here, you can create or open a database, or you can do basic database administration tasks.

You can customize how Microsoft Access starts by using options in the command line for Microsoft Access. For example, you can have Microsoft Access automatically open a database or run a macro that you specify.

### ▶ To add options to the Microsoft Access command line

1. In the Windows Program Manager, click the Microsoft Access icon.
2. From the File menu, choose Properties.

   Windows displays the Program Item Properties dialog box.
3. Add the options you want to the command line.

   For example, to have Microsoft Access automatically open the Northwind Traders database file, NWIND.MDB, enter the following command line in the Command Line box:

   **C:\ACCESS\SAMPAPPS\NWIND.MDB**

   If you installed the Microsoft Access sample databases in a different directory, substitute that directory for SAMPAPPS in the command line.
4. Choose OK.

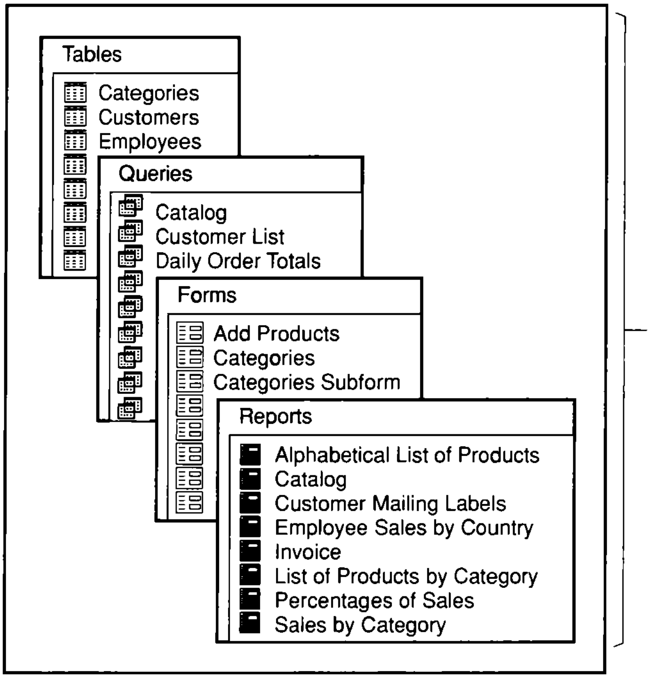
**More Information** For details about other startup options, choose Search from the Microsoft Access Help menu and search for "starting Microsoft Access."

### ▶ To quit Microsoft Access

- From the File menu. choose Exit.

# Opening a Database

A Microsoft Access database is a collection of objects, not just a single table of data. One database file contains the tables as well as queries, forms, reports, and other objects that help you use the information in the database.


Tables
Categories
Customers
Employees
Queries
Catalog
Customer List
Daily Order Totals
Forms
Add Products
Categories
Categories Subform
Reports
Alphabetical List of Products
Catalog
Customer Mailing Labels
Employee Sales by Country
Invoice
List of Products by Category
Percentages of Sales
Sales by Category

**All these objects are contained in one database file, NWIND.MDB.**

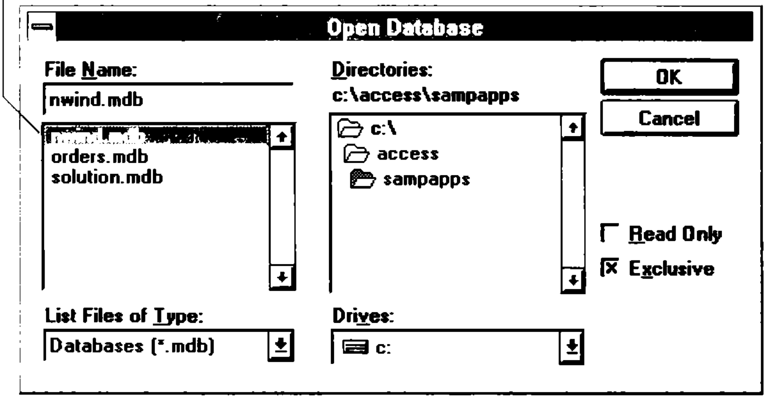
To see how to work with objects in a database, follow the steps given here to open the Northwind sample database provided with Microsoft Access. (You can have only one Microsoft Access database open at a time; however, you can have many tables open in a database at the same time.)

▶ **To open a database**

1. If necessary, start Microsoft Access.
2. From the File menu, choose Open Database (or click the Open Database button on the toolbar).

   Microsoft Access displays the Open Database dialog box.
3. In the File Name list box, select NWIND.MDB.

When you set up Microsoft Access, the Setup program copied NWIND.MDB into the directory that contains your Microsoft Access sample applications. If necessary, use the Directories list box to change to that directory. For help about the Open Database dialog box, press the F1 key.



Northwind database

**Open Database**

File Name: nwind.mdb

orders.mdb
solution.mdb

Directories: c:\access\sampapps

c:\
access
sampapps

List Files of Type: Databases (*.mdb)

Drives: c:

☐ Read Only
☒ Exclusive

4. Choose OK.

   Microsoft Access displays the NWIND Database window.

---

**Note** In version 2.0 of Microsoft Access, you can open and use database files created in version 1.0 or 1.1 and you can save changes to the data in those files, but you cannot save changes to objects such as queries, forms, and reports. To do this, you must convert the database to version 2.0. After you convert the database, you can use it only with version 2.0. For more information, see Chapter 1, "Setting Up Microsoft Access," in the *Microsoft Access User's Guide.*

---

The Database window displays a list of the tables in the database. The Northwind database contains tables that store information about the operations of the Northwind Traders import/export company.

Next, you'll see how you can use the Database window for quick access to any object in your database.

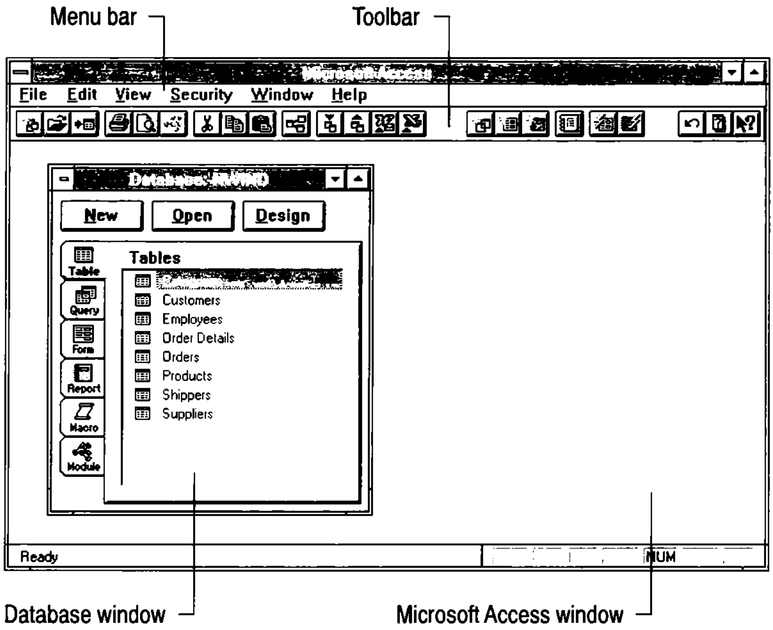
---

**Note** You can use the same keyboard and mouse techniques to navigate through Microsoft Access dialog boxes that you use for any other application for Windows. For more information on using dialog boxes, see your Windows documentation.

---

# The Database Window

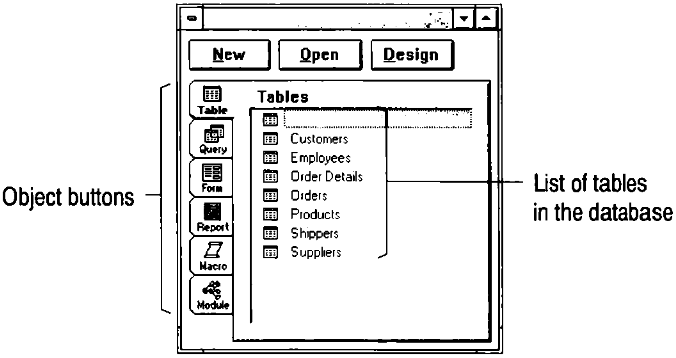
When you create or open a database, Microsoft Access displays its Database window in the Microsoft Access window. The Database window is your command center. From here, you can create and use any object in your database.


Menu bar
Toolbar
Microsoft Access
File Edit View Security Window Help
Database: NWIND
New
Open
Design
Table
Query
Form
Report
Macro
Module
Tables
Customers
Employees
Order Details
Orders
Products
Shippers
Suppliers
Ready
NUM
Database window
Microsoft Access window

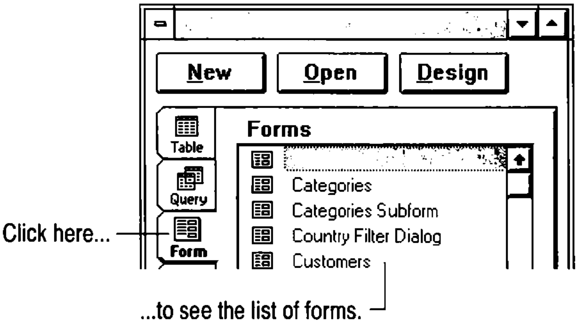
The *menu bar* includes menus and commands you can use to create and use objects in your database. The *toolbar* contains options you use to do common operations and get help on your current task.

As you create objects and open new windows in Microsoft Access, the menu bar and toolbar change to display commands and options that are applicable for working in each window. In the next section, you'll see how you can use buttons on the toolbar to see different views of your data.

The object buttons in the Database window provide direct access to every object in your database.


New
Open
Design
Table
Query
Form
Report
Macro
Module
Tables
Customers
Employees
Order Details
Orders
Products
Shippers
Suppliers
Object buttons
List of tables in the database

For example, to see a list of forms in the database, click the Form button.


New
Open
Design
Table
Query
Form
Forms
Categories
Categories Subform
Country Filter Dialog
Customers
Click here...
...to see the list of forms.

Microsoft Access displays the list of forms stored in the database. To return to the list of tables, click the Table button. In the next section, you'll see how you can open a table, form, or other object directly from the Database window.

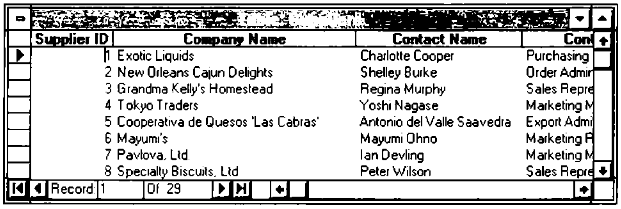
# Viewing Data and Closing a Database

With Microsoft Access, viewing your data is only one or two mouse clicks away. With another click of the mouse button, you can switch to a different view of your data.

### ▶ To view data in a table

1. In the Database window, click the Table button to display the list of tables in the database.
2. Double-click the name of the table you want to see. For example, in the Northwind database, double-click the Suppliers table.

   Microsoft Access displays the table in Datasheet view.



| Supplier ID | Company Name | Contact Name | Con |
|---|---|---|---|
| 1 | Exotic Liquids | Charlotte Cooper | Purchasing |
| 2 | New Orleans Cajun Delights | Shelley Burke | Order Admi |
| 3 | Grandma Kelly's Homestead | Regina Murphy | Sales Repre |
| 4 | Tokyo Traders | Yoshi Nagase | Marketing M |
| 5 | Cooperativa de Quesos 'Las Cabras' | Antonio del Valle Saavedra | Export Admi |
| 6 | Mayumi's | Mayumi Ohno | Marketing R |
| 7 | Pavlova, Ltd. | Ian Devling | Marketing M |
| 8 | Specialty Biscuits, Ltd. | Peter Wilson | Sales Repre |

Record 1 Of 29

   Datasheet view displays data from the table in columns and rows, similar to a spreadsheet. In a datasheet, you can resize and rearrange the columns (fields) and resize the rows (records). You can scroll vertically to see more records and horizontally to see more fields.

3. When you're ready to return to the Database window, click the window (or click the Database Window button on the toolbar).

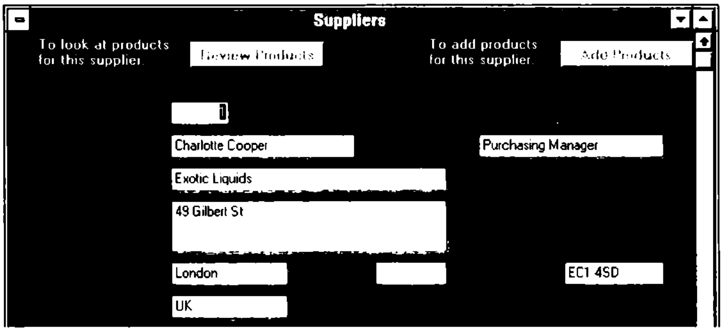
It's just as easy to see a query's dynaset as it is to see a table. Click the Query button in the Database window, and then double-click the query you want to view. Microsoft Access displays the dynaset in Datasheet view.

You use the same technique to view a form.

### ▶ To view data using a form

1. In the Database window, click the Form button to display the list of forms.
2. Double-click the name of the form you want to view. For example, in the Northwind database, double-click the Suppliers form.

   Microsoft Access opens the form and displays the first record of data.


Suppliers
To look at products for this supplier
Review Products
To add products for this supplier
Add Products

1

Charlotte Cooper

Purchasing Manager

Exotic Liquids

49 Gilbert St

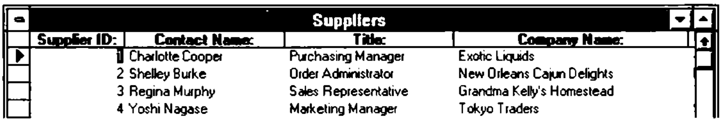
London

EC1 4SD

UK

You can also display a form in Datasheet view. To switch from Form view to Datasheet view, click the Datasheet View button on the toolbar.

Microsoft Access displays the records in a datasheet.



| Supplier ID: | Contact Name: | Title: | Company Name: |
|---|---|---|---|
| 1 | Charlotte Cooper | Purchasing Manager | Exotic Liquids |
| 2 | Shelley Burke | Order Administrator | New Orleans Cajun Delights |
| 3 | Regina Murphy | Sales Representative | Grandma Kelly's Homestead |
| 4 | Yoshi Nagase | Marketing Manager | Tokyo Traders |

When you finish looking at the Suppliers form, close the Northwind database.

### ▶ To close a database

1. Switch to the Database window if it isn't active. (Click the Database window, or click the Database Window button on the toolbar.)
2. From the File menu, choose Close Database.

# Creating a Microsoft Access Database

When you create a Microsoft Access database, you create one file that contains all the tables in your database as well as the queries, forms, reports, and other objects that help you use the information in the database.

---

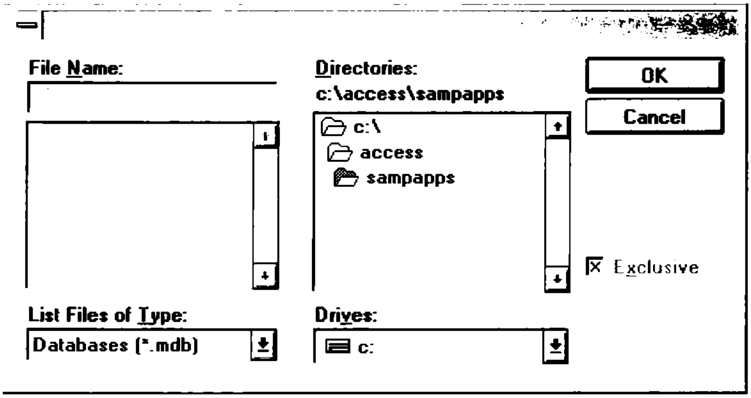
**Note** These steps explain how to create a database. The remaining chapters in this manual use NWIND.MDB, the Northwind sample database provided with Microsoft Access, to explain how to create and use Microsoft Access database objects. If you'd rather experiment with the sample database before creating your own database, read "Using Microsoft Access Documentation" later in this chapter, and then see Chapter 3, "Creating a Table." If you want to create your own database now, follow the steps given here.

---

### ▶ To create a Microsoft Access database

1. In the Microsoft Access startup window, choose New Database from the File menu (or click the New Database button on the toolbar).

   Microsoft Access displays the New Database dialog box. It gives your new database a default name, which you can replace with the name of your choice.



File Name:

Directories: c:\access\sampapps

List Files of Type: Databases (*.mdb)

Drives: c:

☒ Exclusive

2. In the File Name box, type the name of your database.

   A database name can contain up to eight characters but cannot contain spaces. Microsoft Access automatically appends an .MDB extension to your database filename if you do not add an extension.

3. To store the database in a different directory, select the directory you want in the Directories list.

   If you need to change drives, select the drive you want in the Drives list.

4. Choose OK.

   Microsoft Access creates an empty database file and opens the Database window.

# Creating Objects

Your first step in building a database is to create tables. Whatever kind of data you have, you need one or more tables in the database to store it. After you have your tables, you can create queries, forms, reports, and other objects that help you use your data. You can also change the way an object appears or works by changing its properties, and you can use Access Wizards and tools to create and change objects.

---

**Note** These are the basic steps for creating a table as well as for creating any other Microsoft Access object. If you want, you can experiment with Microsoft Access by trying these steps now. For details about creating each type of object, see the remaining chapters in this book.

---

## Create or Modify an Object

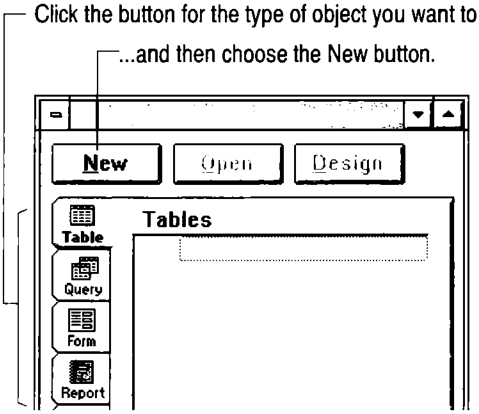
You can create or modify an object of any type from the Database window.

### ▶ To create a Microsoft Access object

1. In the Database window, click the object button for the type of object you want to create.

   For example, to create a new table, click the Table button.

2. Choose the New button. (Or, from the File menu, choose New, and then choose the type of object you want to create.)


Click the button for the type of object you want to create...

...and then choose the New button.

For some types of objects, such as forms and reports, Microsoft Access displays a dialog box where you can select tables on which to base the form or report. For tables, queries, forms, and reports, you can choose whether to use an Access Wizard to help you create the object.

▶ **To modify the design of an object**

1. In the Database window, click the button for the type of object you want to modify.
2. In the list that's displayed, select the object you want to modify.
3. Choose the Design button.

   Microsoft Access opens a window for the object and displays it in Design view.

## The Role of Properties

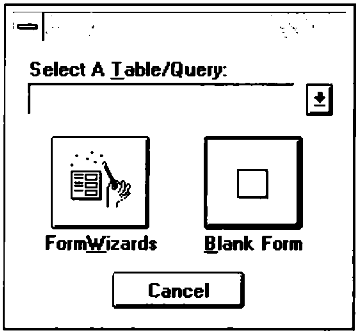
A *property* is a characteristic of an object, such as its name, size, or color. All Microsoft Access objects have properties that you can set to determine how the object appears or works.

For example, one field property is called the Format property. This property tells Microsoft Access which format to use when displaying data from the field. If you set the Format property of a field that contains dates to the Medium Date format, for example, Microsoft Access displays the dates in this format: 17-Apr-94. When you view data from the field in a datasheet or form, Microsoft Access automatically displays the data in the format set for that field. To show the dates in a different format, change the setting of the field's Format property.

Later in this book, you'll see how to set properties for tables, fields, forms, controls, and other Microsoft Access objects.

# Use Access Wizards to Create Objects

When you create a new table, query, form, or report, Microsoft Access displays a dialog box where you can choose whether to start with a blank object and build it yourself or use an Access Wizard to help you build it.



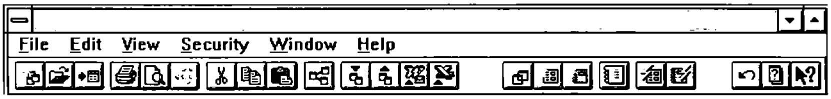
An Access Wizard is like a database expert who prompts you with questions about the object you want and then builds the object based on your answers. You can see how this works in Chapter 3, "Creating a Table." Other Access Wizards help you with other tasks and are described throughout this book.

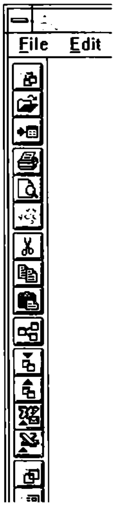
# Arrange Tools to Suit Your Working Style

Microsoft Access provides a wide variety of graphical tools you can use to create and modify objects in your database. Tools appear when you're likely to use them. For example, when you first start Microsoft Access, the toolbar at the top of the Microsoft Access window displays tools for opening a database, creating a new database, and getting help. After you open a database, the toolbar gains tools for creating and working with database objects. When you open a form in Design view, the toolbar displays tools for adding and modifying controls and for switching between Design view, Form view, and Datasheet view.

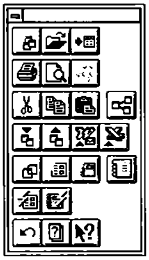
Initially, the toolbar appears at the top of the Microsoft Access window, and tools are arranged in a single long row. However, you can pull the toolbar into the middle of the window, change its shape, and even change the tools it contains. For example, you might assemble the tools you use most often or remove tools you don't use so that they don't get in your way. Microsoft Access saves your arrangements and keeps tools where you put them.

Initially, the toolbar appears at the top of the screen.





You can dock the toolbar vertically at the side of the screen...



...or pull it into the center.

**More Information** For details about arranging and changing the toolbar, see Appendix B, "Working with Toolbars," in the *Microsoft Access User's Guide.*

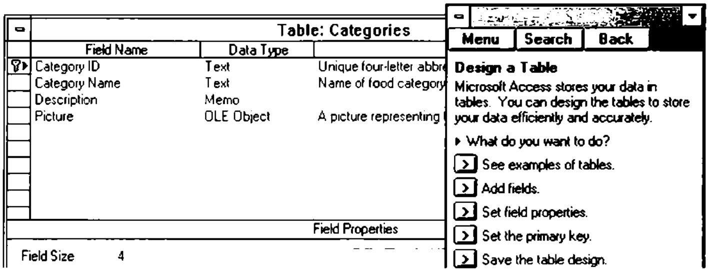
# Using Microsoft Access Documentation

Microsoft Access comes with a complete set of printed and online learning and reference tools.

## Learning Microsoft Access

There are two ways to learn Microsoft Access:

- ***Microsoft Access Getting Started*** This book uses real-life examples to show you how to create and use a Microsoft Access database. Use it as a source of ideas as well as a quick way to learn the basics of Microsoft Access.
- ***Cue Cards*** Cue Cards provides step-by-step instructions to help you learn Microsoft Access as you build and use your own database. Cue Cards can walk you through your tasks from start to finish with graphical examples, guidance, and cross-references to online reference material.



| Field Name | Data Type | |
|---|---|---|
| Category ID | Text | Unique four-letter abbr |
| Category Name | Text | Name of food category |
| Description | Memo | |
| Picture | OLE Object | A picture representing |

Field Properties

Field Size 4

**Design a Table**

Microsoft Access stores your data in tables. You can design the tables to store your data efficiently and accurately.

▸ What do you want to do?

- See examples of tables.
- Add fields.
- Set field properties.
- Set the primary key.
- Save the table design.

### ▶ To open Cue Cards

- From the Help menu, choose Cue Cards (or click the Cue Cards button on the toolbar).

## Microsoft Access Manuals

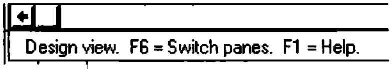
Microsoft Access comes with these manuals:

- ***Microsoft Access Getting Started*** Use this book to set up and learn how to use Microsoft Access.
- ***Microsoft Access User's Guide*** This book provides in-depth information and examples for building and using your database.
- ***Microsoft Access Building Applications*** This book describes how you can create custom applications with Microsoft Access, and it provides an introduction to Access Basic, the Microsoft Access programming language.

# Getting Help

Check the status bar for hints as you use Microsoft Access.

When you point to an item in the Microsoft Access window, the status bar displays useful information.



Design view. F6 = Switch panes. F1 = Help.

Status bar

If you need more help, it's just a keystroke away.

### ▸ To get help

- Press F1 (or click the Help button on the toolbar and then click the item about which you want help).

Help provides both "how-to" and reference information for all Microsoft Access tasks.

Microsoft Access manuals include cross-references to specific Help topics. When a manual tells you to "search Help," use the Search command in Help to search for a given word or phrase.

### ▸ To search for a Help topic

1. From the Help menu, choose Search (or choose the Search button in the Help window).

   Microsoft Access displays the Search dialog box.
2. Type the first few letters of the subject you want to search for.

   When you type, Help changes the keywords in the list box.
3. Double-click a keyword related to your subject (or select a keyword and press ENTER).

   Help displays the relevant topics for that subject.
4. Double-click your topic (or select the topic you want and press ENTER).

**More Information** For more information about using Help, press F1 from the Help window.

# What's Next?

Now that you know the basics, you're ready to start working with Microsoft Access.

The rest of this book consists of three self-contained parts:

- **Part 2: Building a Database** Build and use the basic elements of a Microsoft Access database: tables and forms.
- **Part 3: Working with Data** Create a query, find and sort data, and combine data from two tables into one form.
- **Part 4: Presenting Your Data** Create a report and mailing labels. Learn how to use a Wizard to add a command button to a form.

You can start with any of the three parts, depending on what you want to do first. You'll probably want to start by building a database, in which case Part 2 is the best choice. If you're using a Microsoft Access database that is already built, start with either Part 3 or Part 4.

PART 2

# Building a Database

In Part 2 of *Microsoft Access Getting Started,* you'll learn how to build the basic elements of a Microsoft Access database: tables and forms.

- Chapter 3, "Creating a Table," shows you how to use the Table Wizard to create a Microsoft Access table and how to start entering data in the table. In addition, you'll import data from a dBASE IV file.
- Chapter 4, "Creating a Form," explains how to use a Form Wizard to create a form for viewing and modifying data.
- Chapter 5, "Customizing Your Form," explains how to improve your form's appearance, add controls, and customize your form so that it works for you.

"I keep employee information in file folders. My customer information is in a card file on my desk. How do I get it all into a Microsoft Access database?"

"I have plenty of data in my computer already. Some of it's in spreadsheet files and some of it's in dBASE files. Can I use Microsoft Access to put it all together?"

"Sometimes I want to see my data in columns and rows, like in a spreadsheet. Other times I want a layout like the paper form we use. Oh, and when I enter data, I want to be sure my data's correct. Is that hard to do?"

## CHAPTER 3

# Creating a Table

In this chapter, you'll learn how to use the Table Wizard to create a Microsoft Access table, define its fields, and add data to it. In addition, you'll learn how to import data that's stored in a different file format.

## Chapter Contents

Design a Table from a Paper Form
Create a Table with the Table Wizard
Plan Fields and Data Types
Add Fields to the Table
Set Field Properties
Add and Save Records
Edit Records and Close a Table
Delete, Insert, and Rearrange Fields in a Table
Resize Columns and Rows and Move Columns in a Datasheet
Print, Minimize, Restore, and Close a Table
Import Data
What's Next?

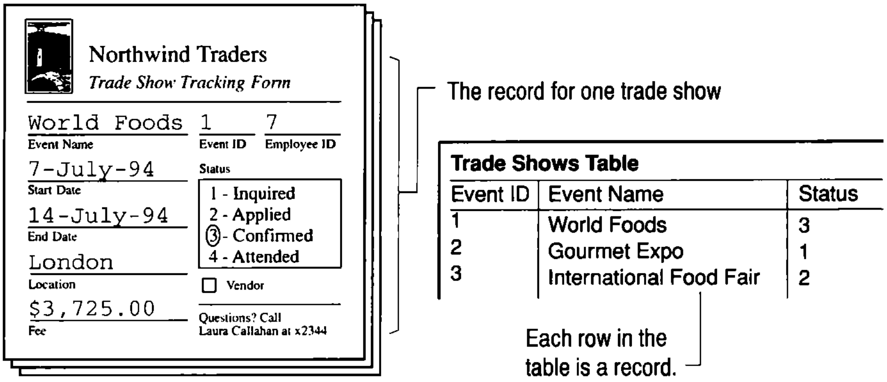
**The Challenge** Each year, Northwind Traders attends trade shows around the world. Sometimes the company participates as a vendor; other times it sends an employee to meet with suppliers, investigate new products, and see what competitors are doing. You need to track information about trade shows and coordinate the employee representative for the show.

**The Approach** You need a table in the Northwind Traders company database to keep track of the trade shows. You'll use the Table Wizard to create a table, add a few fields to the table, and then add records for the first two trade shows.

# Design a Table from a Paper Form

All data in Microsoft Access databases is stored in tables. The table you create in this example keeps track of trade shows that Northwind Traders attends. Each record in the Trade Shows table contains information about one trade show.

Until now, Northwind Traders used a paper tracking sheet to record information about trade shows. The fields in the new Trade Shows table will correspond to the blanks on the existing tracking sheet.



Northwind Traders
*Trade Show Tracking Form*

World Foods
Event Name

1
Event ID

7
Employee ID

7-July-94
Start Date

14-July-94
End Date

London
Location

$3,725.00
Fee

Status
1 - Inquired
2 - Applied
[✓ 3 - Confirmed]
4 - Attended

☐ Vendor

Questions? Call
Laura Callahan at x2344

The record for one trade show

**Trade Shows Table**

| Event ID | Event Name | Status |
|---|---|---|
| 1 | World Foods | 3 |
| 2 | Gourmet Expo | 1 |
| 3 | International Food Fair | 2 |

Each row in the table is a record.

## In My Case: What Tables Belong in My Database?

By looking at the tables in the Northwind database, you can probably guess the purpose that the database serves. The Customers, Employees, Orders, and Order Details tables are used to record sales. The Products, Categories, and Suppliers tables are used to record inventory. Each of these tables represents a particular subject in the Northwind database. Together, the tables contain related information about the Northwind Traders import/export company.

Your first step in designing a database is to talk to the people who'll use the database. Determine what information they'll need to get from the database, and then group this information into subjects for your tables. Sketch out possibilities for your tables on paper. Each table in your database should store facts about a single subject—about customers, for example, or products. Once you decide on your tables, you can create them in Microsoft Access, add a few records of data to them, and test the database to see if your tables provide the information you want.

**More Information** For a more complete discussion of the database design process, see Chapter 2, "Designing a Database," in the *Microsoft Access User's Guide.*

# Create a Table with the Table Wizard

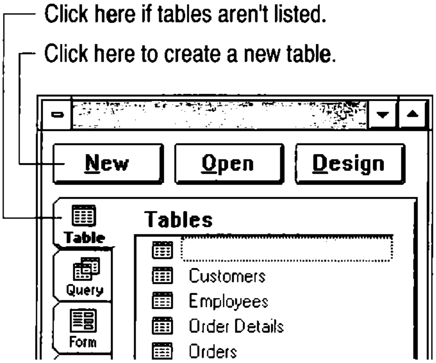
You'll create the Trade Shows table and define five of its fields by using the Table Wizard. Later, you'll add four more fields in Design view to complete the table.

### ▶ To create a table using the Table Wizard

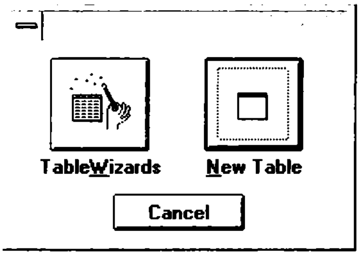
1. Start Microsoft Access, and open the NWIND.MDB database.

   For detailed steps on starting Microsoft Access and opening a database, see Chapter 2, "Microsoft Access Basics."

2. In the Database window, click the Table button, and then choose the New button.


Click here if tables aren't listed.
Click here to create a new table.
New
Open
Design
Table
Query
Form
Tables
Customers
Employees
Order Details
Orders

   Microsoft Access displays the New Table dialog box.


TableWizards
New Table
Cancel

3. Choose the Table Wizards button.

   Microsoft Access displays the first Table Wizard dialog box.

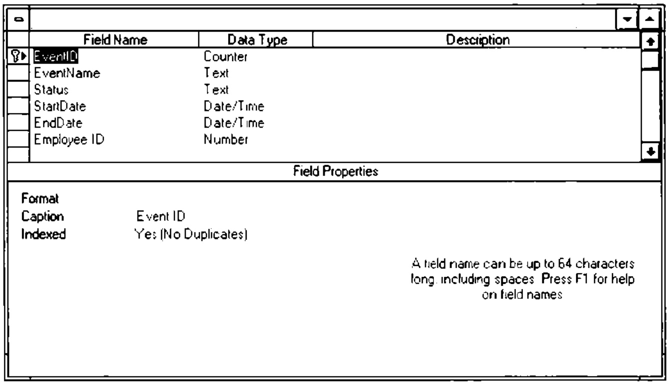
4. Make the following choices as you go through the dialog boxes. To display the next Table Wizard dialog box, choose the Next button.

   - Select Business to display the list of business-related tables (the default).

- Select Events as the sample table, and add the following fields from the Sample Fields list to the Fields In My New Table box: EventID, EventName, Status, StartDate, and EndDate.
- In the next dialog box, give your table the name **Trade Shows**.
- Let Microsoft Access set the primary key field.

  For maximum efficiency, Microsoft Access needs a way to tell one record in your table from the next—to uniquely identify each record. A table's *primary key* is a field or set of fields that serves this purpose.
- In the next dialog box, select the row that says your table is not related to the Employees table, and then choose the Change button. Define the relationship so that *one* record in the Employees table will match *many* records in the Trade Shows table.

  While you're looking at records from the Trade Shows table, there might be times when you'd like to see the employee representatives' names and phone numbers as well. In the Northwind database, this data is stored in the Employees table. One employee could be assigned to more than one trade show, so one record in the Employees table could have more than one matching record in the Trade Shows table. In Part 3, "Working with Data," you'll see how Microsoft Access uses relationships to make it easier to view data from more than one table at the same time.
- In the next dialog box, choose to modify the table design, and then choose the Finish button.



| Field Name | Data Type | Description |
|---|---|---|
| EventID | Counter | |
| EventName | Text | |
| Status | Text | |
| StartDate | Date/Time | |
| EndDate | Date/Time | |
| Employee ID | Number | |

| | |
|---|---|
| Format | |
| Caption | Event ID |
| Indexed | Yes (No Duplicates) |

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

**More Information** For guidelines on choosing a table's primary key and a detailed explanation of the types of relationships you can create between tables, see Chapter 2, "Designing a Database," in the *Microsoft Access User's Guide.* For instructions on setting primary keys and creating relationships between tables, see Chapter 7, "Table Basics," also in the *Microsoft Access User's Guide.*

# Plan Fields and Data Types

Now you're ready to add the remaining fields to your table. To add a field, you'll enter a field name and choose a data type:

- The *field name* identifies the data stored in a field. A field name can contain up to 64 characters, including spaces. (That's true of all object names in Microsoft Access. For a list of characters that can't be used in object names, choose Search from the Help menu and search for "naming conventions.")
- The *data type* tells Microsoft Access what kind of data goes in the field, such as text, numbers, dates, or currency.

**Note** You'll create the rest of the fields for the Trade Shows table by adding them to the table in Design view. However, you can use the Table Wizard to create all the fields you need when you create a table, by changing the names of sample fields. To change a field's name in the Table Wizard, add any field from the Sample Fields list, select that field in the Fields In My Table list, and then edit its name in the text box below the list. Later, if necessary, you can change the field's data type and other properties in Design view.

When you add a field to your table, the most important question to ask yourself is what data type to give the field. Microsoft Access uses the data type to decide how much storage space to give the field and to ensure that the right kind of data is entered in the field. For example, Microsoft Access doesn't accept text, such as a name, in a Currency field.

It's important to choose the right data type for a field before you start entering data in the table. You can change a data type of a field that already contains data, but if the data types aren't compatible, you may lose data.

So far, the Trade Shows table has fields with these data types:

- The EventID field has the Counter data type, which stores sequential numbers created by Microsoft Access. Use the Counter data type to create a unique identifier for each record in a table.
- The EventName and Status fields have the Text data type, which is used for words (such as names), for combinations of words and numbers (such as addresses), and for numbers that aren't used in mathematical calculations (such as telephone numbers).
- The StartDate and EndDate fields have a Date/Time data type, which is used for dates and times.

- The Employee ID field has the Number data type, which is used for numbers that can be used in mathematical calculations, and also for fields that are related to other Number fields or to Counter fields. In this case, the Employee ID field is related to the Employee ID field in the Employees table, which is a Counter field.

To complete the Trade Shows table, you'll add fields with these data types:

- The Fee field has the Currency data type, which is used for currency values such as francs, dollars, or yen.
- The Vendor field has the Yes/No data type, which is used for yes or no, true or false values.
- The Location field has the Text data type, as do EventName and Status.

**More Information** For details about data types, click in the Data Type column and press F1.

### In My Case: What Fields Belong in My Table?

You can think of fields as characteristics or attributes of the subject that the table represents. Sometimes an existing form, such as the trade show tracking sheet, can help you decide which fields you need. But often a form contains information about different subjects. For example, an order form might contain information about the order, about the customer who placed the order, and about the products that the customer ordered. Information about different subjects belongs in different tables. Here are two good questions to ask yourself when deciding what fields belong in your table:

- Is the information a characteristic of the table's subject or of something else? If it's really a characteristic of something else, it doesn't belong in the table.
- Is it information that's already stored in another table? If so, don't repeat it. In Part 3, "Working with Data," you'll see how easy it is to bring together data that's stored in different tables so that you can view it in the same place.

# Add Fields to the Table

The first field you'll add to the Trade Shows table contains the amount of the fee for participating as a vendor in the show. You need this information so that you can track the cost of attending various shows.

### ▶ To add a field

1. Type **Fee** in the first empty box under Field Name.

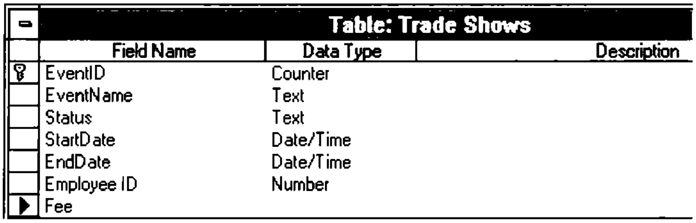


Table: Trade Shows

| Field Name | Data Type | Description |
|---|---|---|
| EventID | Counter | |
| EventName | Text | |
| Status | Text | |
| StartDate | Date/Time | |
| EndDate | Date/Time | |
| Employee ID | Number | |
| Fee | | |

2. Press TAB to move to the Data Type box.

   Microsoft Access gives the field a Text data type. However, the Fee field will contain currency values, so you need to select the Currency data type.

3. In the Data Type box, select Currency. (To open the list, click the arrow or press ALT+DOWN ARROW.)
4. Press TAB to move to the Description box.

   A short description for each field helps you remember the purpose of the field. A field's description appears in the status bar in Datasheet view when the field is selected. Later, when you create a form for entering data in the table, you'll see how field descriptions can also help you enter your data in forms.

5. Type **Registration fee** in the Description box.

   That's it. You've added the seventh field to your table.

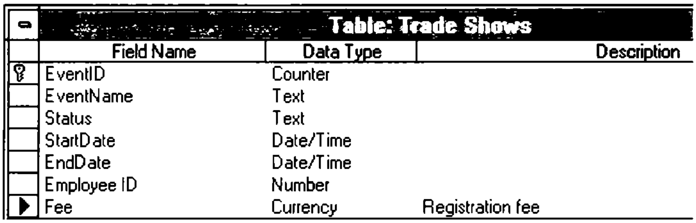


Table: Trade Shows

| Field Name | Data Type | Description |
|---|---|---|
| EventID | Counter | |
| EventName | Text | |
| Status | Text | |
| StartDate | Date/Time | |
| EndDate | Date/Time | |
| Employee ID | Number | |
| Fee | Currency | Registration fee |

Use the information in the following table to add the Vendor field.

| Field name | Data type | Description |
|---|---|---|
| Vendor | Yes/No | Is Northwind Traders a vendor? |

---

**Tip** To choose a data type quickly, type the first letter of the data type you want in the Data Type box. Microsoft Access fills in the rest of the data type for you. You need to type "co" for the Counter data type because both the Currency and Counter data types begin with "c."

---

You'll let the Field Builder add the last field for you.

6. Using the *right* mouse button, click in the next empty box under Field Name.

   Microsoft Access displays a shortcut menu that contains commands appropriate for designing tables.

7. Choose Build from the shortcut menu.

   Microsoft Access displays the Field Builder.

8. In the Sample Tables list, choose Events, and then double-click the Location field in the Sample Fields list.

   Microsoft Access adds the Location field to your table.

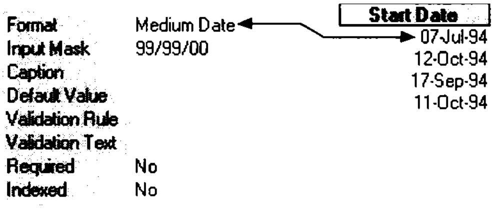
9. Type **City where the show is to be held** in the Description box for the Location field.

Notice that the Employee ID field name contains a space, but the other field names provided by the Table Wizard don't contain spaces. Field names in the Northwind database contain spaces so that the names are easier to read in examples. The Employee ID field that the Table Wizard added contains a space to match the name of the Employee ID field in the Employees table. It's good practice to use identical field names for corresponding fields in a database, because doing so allows Microsoft Access to join tables in a query automatically.

The Table Wizard provides field names without spaces for three reasons: First, not all database systems permit spaces in names, so your Microsoft Access database is more portable if its field names don't include spaces. Second, field names without spaces are more convenient to type in expressions and Access Basic procedures, because you don't need to enclose the names in brackets. Finally, some database designers prefer not to include spaces in field names, as a design convention.

# Set Field Properties

Each field in a table has a set of properties. By changing a field's properties, you can control how Microsoft Access stores, handles, and displays data in the field. For example, you might want your data displayed in a particular format — numbers in scientific notation, perhaps, or dates with the month's name abbreviated. The Format property controls how data is displayed in datasheets, forms, and reports.



| | |
|---|---|
| **Format** | Medium Date |
| **Input Mask** | 99/99/00 |
| **Caption** | |
| **Default Value** | |
| **Validation Rule** | |
| **Validation Text** | |
| **Required** | No |
| **Indexed** | No |

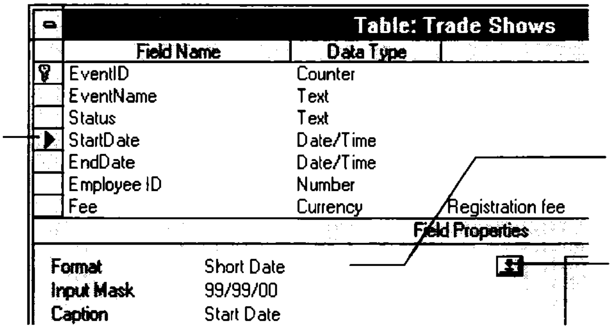
| **Start Date** |
|---|
| 07-Jul-94 |
| 12-Oct-94 |
| 17-Sep-94 |
| 11-Oct-94 |

Changing a field's Format property doesn't change how the data is stored in the database. It affects how Microsoft Access displays the data in a datasheet, form, or report.

Set the Format property for the StartDate and EndDate fields so that they display dates in the Medium Date format: 07-Jul-94.

### ▶ To set the Format property

1. Click any box in the row that defines the StartDate field.



| Field Name | Data Type | |
|---|---|---|
| EventID | Counter | |
| EventName | Text | |
| Status | Text | |
| StartDate | Date/Time | |
| EndDate | Date/Time | |
| Employee ID | Number | |
| Fee | Currency | Registration fee |

| | |
|---|---|
| **Format** | Short Date |
| **Input Mask** | 99/99/00 |
| **Caption** | Start Date |

Click this row...

...click the Format property box...

...and then click the arrow to set the property.

2. Click the Format property box, and then select Medium Date. (Click the arrow to open the list.) Or, from the StartDate field, press F6 to go to the property sheet, and then press ALT+DOWN ARROW to open the list.
3. Repeat steps 1 and 2 for the EndDate field.

The Table Wizard set the Input Mask property of the StartDate and EndDate fields to a date format based on the Country setting in your Windows Control Panel. An input mask makes it easy to enter data using a specific format. You'll delete the Input Mask property setting in this case, so you can enter dates using any format.

▶ **To delete a property setting**

- Select the setting for the Input Mask property of the StartDate field, and then press the Delete key. Follow the same steps to delete the Input Mask property setting for the EndDate field.

Now your table is complete. Save your work before you go on.

▶ **To save a table**

- From the File menu, choose Save (or click the Save button on the toolbar).

  Microsoft Access saves your table in the database.

### In My Case: Why Would I Want to Set Field Properties?

Setting field properties can be a big time-saver in the later stages of building a database because the forms and reports you create for viewing or changing data from the table inherit many of the properties. Your forms and reports work the way you want them to automatically, requiring less work from you. The field data type you select determines the properties that a field can have. By changing a field's properties, you can:

- Change the maximum size of the field.
- Control how Microsoft Access displays data from the field.
- Give the field your own default caption.
- Give the field an input mask that provides a pattern for data entry.
- Give the field a default value.
- Set rules for the values Microsoft Access will accept in the field.
- Speed up data searches on the field.

**More Information** For more information about an individual field property, click the property and press F1. For more examples, see Chapter 8, "Changing and Customizing Tables," in the *Microsoft Access User's Guide.*

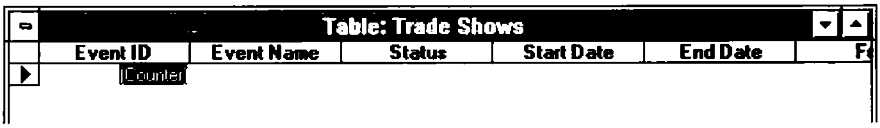
# Add and Save Records

Each table in your database has two views: Design view and Datasheet view. So far, you've been looking at the Trade Shows table in Design view. You add records to the table in Datasheet view, which presents the table in columns and rows, like a spreadsheet.

▶ **To switch to Datasheet view**

- From the View menu, choose Datasheet (or click the Datasheet View button on the toolbar).

  Microsoft Access displays your table in Datasheet view, where you can add records of data. The insertion point is in the first field of the first record.



| | Event ID | Event Name | Status | Start Date | End Date | F |
|---|---|---|---|---|---|---|
| ▶ | Counter | | | | | |

▶ **To add a record of data**

1. Press TAB to move to the Event Name field.

   After you begin typing in a record, Microsoft Access fills in a Counter field for you, so you don't need to type anything in the Event ID field.
2. In the Event Name field of the first row, type **World Foods**
3. Press TAB to move to the Status field.
4. In the Status field, type **3**

   The Status field contains a code that represents Northwind Traders' status with respect to the Trade show (1 for Inquired, 2 for Applied, 3 for Confirmed, and 4 for Attended). In Chapter 5, "Customizing Your Form," you'll create a list box control with these four choices.
5. In the Start Date field, type **July 7, 1994**

   You're not limited to one format in the way you enter a date; Microsoft Access recognizes a number of ways to enter dates.
6. Press TAB.

   Note that when you leave the field, Microsoft Access formats the date as 07-Jul-94 to conform to the Medium Date format you set in the Format property for the Start Date field.
7. In the End Date field, type **July 14, 1994**

8. Press TAB to move to the Employee ID field, and type **7**
9. Press TAB to move to the Fee field, and type **3725**

   Microsoft Access is just as flexible in accepting different currency formats as in accepting different date formats. For example, when you type a Currency value, Microsoft Access accepts it whether or not you include the currency sign (such as $ for dollars or £ for pounds).
10. Press TAB to move to the Vendor field, and type **Yes**

    The Vendor field indicates whether Northwind Traders will attend the trade show as a vendor (which usually involves hosting a trade show booth) or as an attendee.
11. Press TAB to move to the Location field, and type **London**

    You're finished adding your first record.

▶ **To save a record of data**

- Press TAB to move to the first field in the second row.

  You don't need to do anything else to save your data. When you leave a record, either by moving to another record or by closing the table, Microsoft Access automatically saves the data.

# Edit Records and Close a Table

While adding the first record to the Trade Shows table, you may have noticed that Microsoft Access put a pencil symbol in the record selector of the current record and an asterisk in the record selector of the empty record.

Record selectors

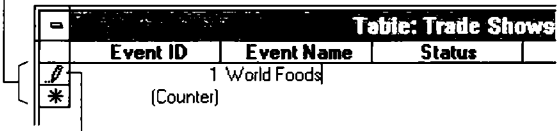


Table: Trade Shows

| | Event ID | Event Name | Status |
|---|---|---|---|
| ✎ | 1 | World Foods | |
| * | (Counter) | | |

The current record (changes not yet saved)

The pencil is called a *record selector symbol.* Microsoft Access displays it next to the current record if you've changed the data in the record but your changes aren't yet saved. If you haven't changed the data in the current record, Microsoft Access uses a triangle as the record selector symbol.

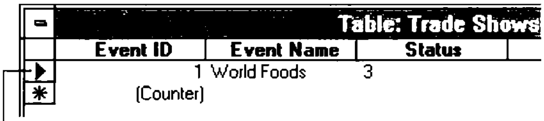


Table: Trade Shows

| | Event ID | Event Name | Status |
|---|---|---|---|
| ▶ | 1 | World Foods | 3 |
| * | (Counter) | | |

The current record (no pending changes)

The asterisk marks the empty record at the end of the table. As soon as you start typing this record, Microsoft Access moves the asterisk to the next empty record. To see how this works, add another record to the Trade Shows table.

▶ **To add a second record**

- Add this record to the table:

| | |
|---|---|
| Event Name: | **Gourmet Expo** |
| Status: | **1** |
| Start Date: | **October 12, 1994** |
| End Date: | **October 17, 1994** |
| Employee ID: | **6** |
| Fee: | **125** |
| Vendor: | **No** |
| Location: | **Paris** |

If you want, after you finish adding the second record, you can experiment with adding and editing more records. Here are some editing tips:

- To move to the next or previous field, press TAB or SHIFT+TAB.
- To select the current field or remove the selection from the current field, press F2.
- To undo changes to the current field or record, press ESC.
- To replace the value in a field with the value of the same field in the previous record, press CTRL+'.

After you finish experimenting, you can close the table.

### ▶ To close a table

- From the File menu, choose Close.

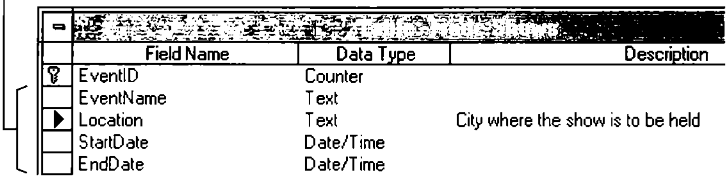
  Microsoft Access closes the table.

**More Information** For more techniques for adding and editing data in a datasheet, choose Search from the Help menu and search for "datasheets: adding records" or "datasheets: editing data." Or see Chapter 4, "Adding and Editing Data," in the *Microsoft Access User's Guide.*

# Delete, Insert, and Rearrange Fields in a Table

In a table's Design view, you can easily review and edit all the fields in the table. You can delete fields or insert new fields wherever you want them. You can also rearrange fields to whatever order you want. Rearranging the fields in Design view rearranges the order of columns, or fields, in Datasheet view.

You can delete, insert, and rearrange fields in Design view.



| Field Name | Data Type | Description |
|---|---|---|
| EventID | Counter | |
| EventName | Text | |
| Location | Text | City where the show is to be held |
| StartDate | Date/Time | |
| EndDate | Date/Time | |

Use the Design View and Datasheet View buttons on the toolbar to switch between Design view and Datasheet view.

Suppose the paper form you use to enter data in the Trade Shows table shows the Employee ID last instead of in the middle of the fields. You'll move the Employee ID field to the end of the fields in the table.

### ▶ To rearrange fields

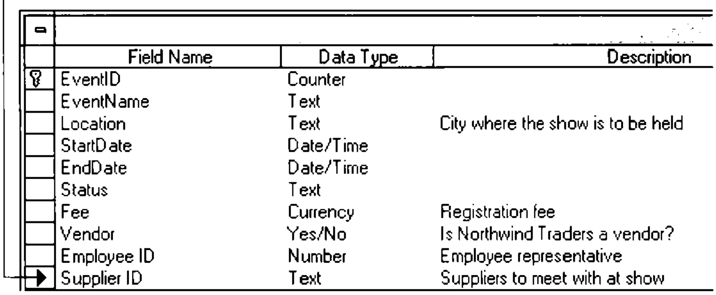
1. Open the Trade Shows table in Design view and then select the row for the Employee ID field by clicking its row selector.
2. Click the row selector again, hold the mouse button down, and then drag the row down to the end of the list.
3. When the pointer is where you want the row placed, release the mouse button.

   Microsoft Access moves the field.

As it is, you don't need to delete or insert fields for the Trade Shows table. But you can delete or insert fields in a table at any time.

### ▶ To delete a field

1. Open the table in Design view.
2. Select the row that defines the field you want to delete by clicking its row selector. (Or use the arrow keys to move to the row you want to delete, and then press SHIFT+SPACEBAR.)



Row selector (Click here to select the row.)

| Field Name | Data Type | Description |
|---|---|---|
| EventID | Counter | |
| EventName | Text | |
| Location | Text | City where the show is to be held |
| StartDate | Date/Time | |
| EndDate | Date/Time | |
| Status | Text | |
| Fee | Currency | Registration fee |
| Vendor | Yes/No | Is Northwind Traders a vendor? |
| Employee ID | Number | Employee representative |
| Supplier ID | Text | Suppliers to meet with at show |

3. From the Edit menu, choose Delete Row (or press the Delete Row button on the toolbar).

   Microsoft Access deletes the field and all its data from your table.

### ▶ To insert a new field above an existing field

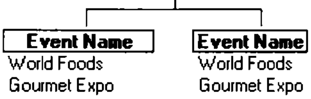
1. Click the row above which you want the new row to appear (or use the arrow keys to move to the row).
2. From the Edit menu, choose Insert Row (or press the Insert Row button on the toolbar).

   Microsoft Access inserts an empty row above the current row.
3. Define your new field in the empty row.

**More Information** For instructions on rearranging fields by using the keyboard instead of the mouse, choose Search from the Help menu and search for "tables: keyboard guide."

# Resize Columns and Rows and Move Columns in a Datasheet

In Datasheet view, you can resize columns and rows and move columns to fit your immediate needs, similar to the way you can edit a spreadsheet. In addition, you can save your layout so that Microsoft Access always displays the datasheet the way you want it. For example, the event names in the table are shorter than the space provided in the EventName column. You decide to save space by resizing the EventName column in the datasheet to fit the event names in the table.



You can resize any column.

If you later get an event with a longer name, you can always widen the column again.

▶ **To resize a column to fit the data it contains**

1. Open the Trade Shows table in Datasheet view.
2. Double-click the right edge of the fields selector (column heading) of the Event Name column.

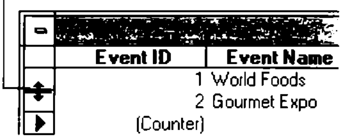
   Microsoft Access resizes the column to fit the data.

▶ **To resize rows in a datasheet**

1. Position the pointer on the border of any record selector.

   The pointer changes to ↕ to show that the border can be moved up or down.
2. Drag the border down to make all the rows taller. Drag it up to make all the rows narrower.

When the pointer changes shape, drag the border to resize the row.



| Event ID | Event Name |
|---|---|
| 1 | World Foods |
| 2 | Gourmet Expo |
| (Counter) | |

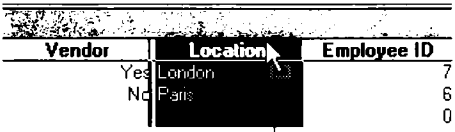
3. When the row is the size you want, release the mouse button. Microsoft Access resizes all the rows.

You can change the order of columns in the datasheet just as easily. For example, suppose that you want to position the Location column before the Status column.

### ▶ To reorder columns

1. Position the pointer on the field selector (column heading) of the Location column.

   The pointer changes to ↓ to show that you can select the column.
2. Click the field selector to select the column.
3. Click the field selector again, hold the mouse button down, and drag the column to the left, over the Status column.



When the pointer changes shape, drag the column to its new position.

4. When the pointer is where you want the column placed, release the mouse button.

   Microsoft Access reorders the columns.

### ▶ To save your datasheet layout

- From the File menu, choose Save Table.

  Microsoft Access displays the datasheet in this layout the next time you open it.

**More Information** For information about how to use the keyboard instead of the mouse to move columns and to resize columns and rows, choose Search from the Help menu and search for “columns: datasheets.”

# Print, Minimize, Restore, and Close a Table

You use the same techniques to print, minimize, restore, and close a table that you'd use in any standard application for Windows. Use these techniques for any Microsoft Access object.

### ▶ To print a table

1. With the table open in Datasheet view, choose Print from the File menu (or click the Print button on the toolbar).

   Microsoft Access displays the Print dialog box.
2. Choose OK.

   Microsoft Access prints the table.

**More Information** For more information about printing tables, choose Search from the Help menu and search for "printing."

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**Tip** You don't have to open a table in order to print it. In the Database window, select the table you want to print, and then choose Print from the File menu.

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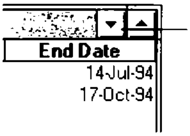
If you want to move a table window out of the way without closing it, you can minimize it.

### ▶ To minimize a table

- Click the Minimize button in the upper-right corner of the table window.



Click here.

Microsoft Access minimizes the table to an icon and places the icon at the bottom of the Microsoft Access window.

### ▶ To restore a table

- Double-click the table icon in the Microsoft Access window.

Double-click here.

When you finish using the Trade Shows table, close it.

### ▶ To close a table

- From the File menu, choose Close (or double-click the Control-menu box in the upper-left corner of the table window).

  If you've made changes to the table design or layout since last saving it, Microsoft Access prompts you to save the changes. Choose the Yes button.

# Import Data

In the past, you may have found it challenging to bring data stored in various files and file formats—such as spreadsheet files, text files, or other database files—together in one place. This can be especially true when your data is stored in different locations, such as PCs, networks, minicomputers, and mainframe computers. Microsoft Access provides two convenient methods for using data that's stored outside your Microsoft Access database:

- **Attaching an external table** You can use Microsoft Access to view and update data in a different Microsoft Access database or in a different database file format—such as dBASE, Paradox, Btrieve, or SQL Server—without copying or moving the data from its source. To do that, you attach the external table to your Microsoft Access database. Microsoft Access uses special icons in the Database window for external tables.

  You can use Microsoft Access to view data in an external table just as you would in a Microsoft Access table; the difference is that the data is stored outside your Microsoft Access database. This is convenient because you can use Microsoft Access to view, change, and combine information from many sources. In addition, at the same time you're using Microsoft Access to work with data in an attached Paradox file, someone else could be using Paradox to work with the same data. For more information on attaching external tables, see Chapter 9, "Importing, Exporting, and Attaching," in the *Microsoft Access User's Guide.*
- **Importing data** You can also import data from a wide variety of file formats into a Microsoft Access table, including spreadsheet files, text files, and other database files. When you import data, you copy the data from its source into a new Microsoft Access table.

For example, suppose that the Northwind Traders sales manager receives a dBASE IV file that contains possibilities for new customers for Australian products. You want to use Microsoft Access to view the data in the file. You can attach the external dBASE file to your Microsoft Access database, in which case the data stays in the dBASE file. If you choose to import the data instead, Microsoft Access copies the data into a new Microsoft Access table.

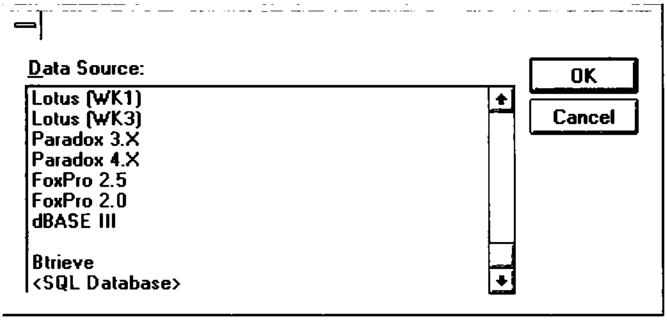
Attaching and importing involve similar steps. In the following procedure, you'll import the dBASE file into a new Microsoft Access table. When you set up Microsoft Access, the Microsoft Access Setup program copied a sample dBASE IV file to the Microsoft Access directory for you to use.

### ▶ To import a table

1. In the Database window, choose Import from the File menu.

   Microsoft Access displays the Import dialog box.

2. From the Data Source list, select dBASE IV.



   If dBASE IV doesn't appear in the list, then the dBASE IV driver wasn't set up when Microsoft Access was set up on your computer. To set up the driver, run Setup, and choose Add/Remove. Click ISAM Options, and then choose the Change Option button. Select the dBASE and FoxPro ISAM.

3. Choose OK.

   Microsoft Access displays the Select File dialog box, where you select the dBASE file you want to import.

4. In the File Name list, select NEWCUST.DBF.
5. Choose the Import button.

   Microsoft Access creates a table, names it Newcust, and adds the dBASE data to it.

6. Choose OK when Microsoft Access tells you that the table has been successfully imported, and then choose the Close button to close the dialog box.

   Microsoft Access displays the new table in your Tables list.

You can view the data in the new table and change it the same way as in other tables in your database. Because you imported this data, your changes will have no effect on the original dBASE IV file.

# What's Next?

Congratulations! You've created a table, defined its fields, and added two records of data. In addition, you've imported data from a dBASE IV file into your Microsoft Access database.

In the next chapter, you'll learn how to create a form and use it to add more data to your table.

CHAPTER 4

# Creating a Form

In this chapter, you'll learn how to create a form, how to use it to view data and add new records, and how to print it.

## Chapter Contents

Create a Form with a Form Wizard
Use a Form to View Records
Add and Save Records with a Form
Print, Save, and Close a Form
What's Next?

**The Challenge** You've created a table and added a couple of rows of data using the datasheet, but now you'd like a more convenient layout for viewing and editing data.

**The Approach** You'll create a form based on the Trade Shows table that shows all the fields in a column. After you create the form, you'll use it to add more records to the table, and then you'll print the form to show your records.

# Create a Form with a Form Wizard

Suppose that you'd like to see the fields from the Trade Shows table arranged more like the printed tracking sheet than like a spreadsheet. To view and change your data in a layout other than the datasheet, you can use a form.

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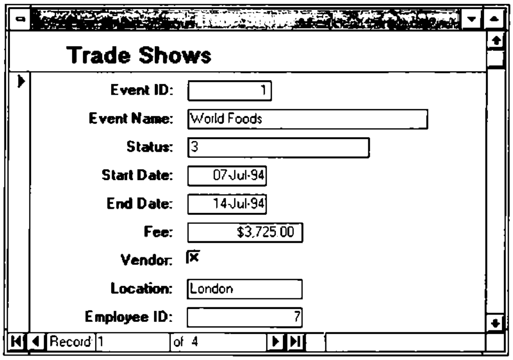
**Note** If you haven't created the Trade Shows table described in Chapter 3, select another table such as Products or Suppliers to practice creating a form and entering data.

---

It's easy to create a Microsoft Access form. In fact, with a few instructions from you, a Form Wizard can create it for you. To create the Trade Shows form, you'll use AutoForm, which builds a simple form automatically.



**Trade Shows**

Event ID: 1
Event Name: World Foods
Status: 3
Start Date: 07-Jul-94
End Date: 14-Jul-94
Fee: $3,725.00
Vendor: ☒
Location: London
Employee ID: 7

Record: 1 of 4

Other Form Wizards provide a variety of layouts and styles for you to choose from. They prompt you with questions about the form you want and then build the form based on your answers. After using a Form Wizard to create your form, you can modify it if you like.

### ▶ To create a form by using a Form Wizard

1. In the Database window, click the Form button.

Click here.

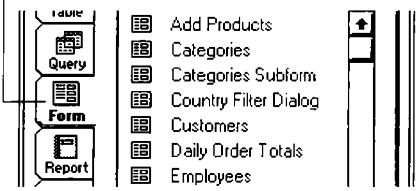
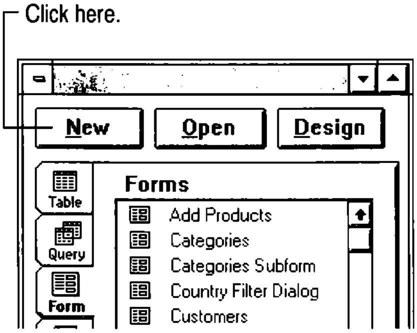


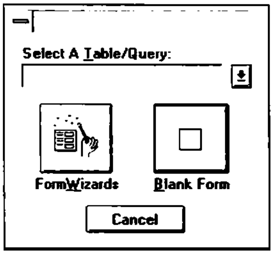
Table
Query
Form
Report
Add Products
Categories
Categories Subform
Country Filter Dialog
Customers
Daily Order Totals
Employees

Microsoft Access displays the list of forms in the Northwind Traders database.

2. Choose the New button (or choose New from the File menu, and then choose Form).


Click here.
New
Open
Design
Table
Query
Form
Forms
Add Products
Categories
Categories Subform
Country Filter Dialog
Customers

Microsoft Access displays the New Form dialog box.


Select A Table/Query:
FormWizards
Blank Form
Cancel

3. Under Select A Table/Query, select Trade Shows.
4. Choose the Form Wizards button.

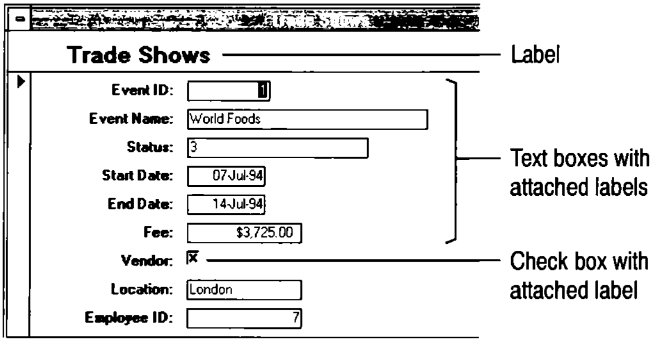
   Microsoft Access displays the first Form Wizard dialog box.
5. Select AutoForm.
6. Choose OK.

   AutoForm creates the form and opens it for you. The form shows the first record in your table.

**Tip** You can also create a form by selecting a table in the Database window and then clicking the AutoForm button on the toolbar.

# Use a Form to View Records

Now you have a form that you can use to view, change, add, and delete records in the Trade Shows table. Take a minute to look at the way Microsoft Access displays information on a form.



**Trade Shows**

Event ID: 1
Event Name: World Foods
Status: 3
Start Date: 07-Jul-94
End Date: 14-Jul-94
Fee: $3,725.00
Vendor: ☒
Location: London
Employee ID: 7

Label
Text boxes with attached labels
Check box with attached label

The objects on the form are called *controls*. In some ways, you use them like the controls and screen on a television set. But, instead of changing a channel or watching a show, you use Microsoft Access controls to change and view your data. Microsoft Access places three kinds of controls on your form:

- A *label* displays text such as a title, caption, or message.
- A *text box* provides an area where you can display or type text or numbers that are stored in your database. Fields such as EventID, EventName, Status, and StartDate are displayed in text boxes.
- A *check box* indicates a condition—either checked (selected) or unchecked (cleared). The Vendor field is a check box. Form Wizards automatically create check boxes for fields with the Yes/No data type.

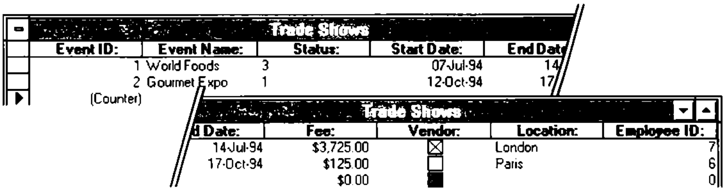
There are a variety of other controls you can add to Microsoft Access forms as well, including controls that display lists, contain pictures, or carry out actions. In the next chapter, "Customizing Your Form," you'll learn how to add various controls to your forms.

Microsoft Access forms provide two views of your data: Form view and Datasheet view. Form view is often the best way to see all the fields in a single record at the same time, without scrolling. On the other hand, Datasheet view is a convenient way to view many records in your table at once. You can use the toolbar to switch between the two views.

### ▶ To switch to Datasheet view

- From the View menu, choose Datasheet (or click the Datasheet View button on the toolbar).

  Microsoft Access displays the form's data in Datasheet view. Note that the Vendor column has check boxes in it, like the check box on the form. (Scroll the datasheet horizontally to see all of its fields.)



Trade Shows

| Event ID: | Event Name: | Status: | Start Date: | End Dat |
|---|---|---|---|---|
| 1 | World Foods | 3 | 07-Jul-94 | 14 |
| 2 | Gourmet Expo | 1 | 12-Oct-94 | 17 |
| (Counter) | | | | |

Trade Shows

| d Date: | Fee: | Vendor: | Location: | Employee ID: |
|---|---|---|---|---|
| 14-Jul-94 | $3,725.00 | ☒ | London | 7 |
| 17-Oct-94 | $125.00 | ☐ | Paris | 6 |
| | $0.00 | ■ | | 0 |

### ▶ To switch to Form view

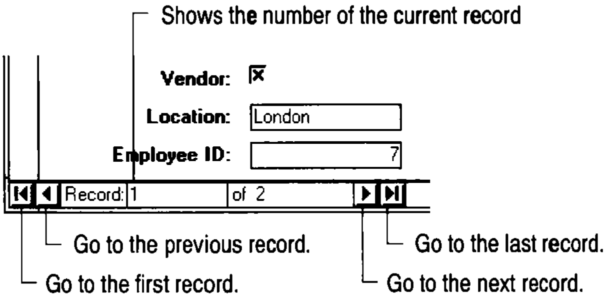
- From the View menu, choose Form (or click the Form View button on the toolbar).

  Microsoft Access returns to Form view.

You view a record in Form view by moving to the record you want to see.

### ▶ To move from record to record on a form

- Use the navigation buttons in the lower-left corner of the window to go to the first, last, previous, or next record.



Shows the number of the current record

Vendor: ☒

Location: London

Employee ID: 7

Record: 1 of 2

Go to the previous record.

Go to the first record.

Go to the last record.

Go to the next record.

You can also use the Go To command on the Records menu to move from record to record on a form.

**More Information** To see keyboard techniques for navigating through records, choose Search from the Help menu and search for "forms: navigating."

# Add and Save Records with a Form

There are two new trade shows to add to the database. You'll type the data for the records in blank forms.

### ▶ To add a new record

▶*

1. From the Records menu, choose Go To, and then choose New (or click the New Record button on the toolbar).

   Microsoft Access displays the blank form at the end of the records and highlights Counter in the first text box, Event ID. Because Event ID has a Counter data type, Microsoft Access will fill it in for you automatically.
2. Press TAB to move to the Event Name text box.
3. In the Event Name text box, type **International Food Fair**
4. In the Status text box, type **2**

   Use the TAB and SHIFT+TAB keys to move forward and backward through the fields. (Or you can move directly to a field by clicking it.)
5. In the Start Date text box, type **September 17, 1994**

   Notice that when you move out of the Start Date text box, Microsoft Access displays the date in the Medium Date format you set for the field in Chapter 3.
6. Fill in the rest of the record with the following information:

| | |
|---|---|
| End Date: | **September 22, 1994** |
| Fee: | **225** |
| Vendor: | **Checked** (press the SPACEBAR or click the Vendor text box to check it) |
| Location: | **Sydney** |
| Employee ID: | **1** |

As you move to the Fee, Vendor, and Location fields, note that Microsoft Access displays the description you wrote for each field in the status bar.

### ▶ To save a record

- Press TAB to move to the next record.

  As soon as you leave the record, Microsoft Access saves it in the Trade Shows table. *You don't need to do anything else to save the data.* If you want to save a record without leaving it, choose the Save Record command from the File menu.

### ▶ To add another record

- Use the form to add this record to the Trade Shows table:

  Event Name: **Internationale Lebensmittelmesse**
  Status: **3**
  Start Date: **October 11, 1994**
  End Date: **October 18, 1994**
  Fee: **200**
  Vendor: **Cleared** (not checked)
  Location: **Hamburg**
  Employee ID: **1**

If you make a mistake or change your mind while adding or editing data, Microsoft Access makes it easy to undo your changes.

### ▶ To undo your most recent change in a field before you leave the field

- From the Edit menu, choose Undo Typing (or click the Undo button on the toolbar).

Microsoft Access undoes your most recent change in the field. You can undo all changes in a field before you leave it by choosing the Undo Current Field command from the Edit menu, or by clicking the Undo Current Field/Record button on the toolbar.

**More Information** For details on how the Undo button and Undo command work, choose Search from the Help menu and search for "undo changes." For more techniques for adding and editing data on a form, see Chapter 4, "Adding and Editing Data," in the *Microsoft Access User's Guide.*

# Print, Save, and Close a Form

Before closing your form, you'd like to print the records in the Trade Shows table as they appear on the form.

You can use Print Preview to see how your form will look in print before you print it.

**More Information** For information about setting up Microsoft Access for printing, choose Search from the Help menu and search for "printing."

▶ **To preview how a form and its data will look on a page**

1. Click the Print Preview button on the toolbar (or choose Print Preview from the File menu).

   Microsoft Access displays your form and its data as it will look in print.

2. To zoom in on the page, position the pointer over the page so that it turns into a picture of a magnifying glass, and then click (or click the Zoom button on the toolbar).

   To return to a view of the entire page, click the form again (or click the Zoom button again).

You can print your form from Print Preview or Form view.

▶ **To print a form**

1. From the File menu, choose Print (or click the Print button on the toolbar).

   Microsoft Access displays the Print dialog box.

2. Choose OK.

   Microsoft Access prints the form along with its data.

3. From the View menu, choose Form (or click the Close button on the toolbar) to return to Form view.

Now you can save and close the form.

### ▶ To save a form

1. From the File menu, choose Save Form.

   Microsoft Access displays the Save As dialog box.

2. Type **Trade Shows** and then choose OK.

   Microsoft Access saves your form.

### ▶ To close a form

- From the File menu, choose Close (or double-click the Control-menu box in the upper-left corner of the Form window).

  Microsoft Access closes the form. Note that your new form is now listed in the Northwind Database window.

Now your form is part of the Northwind database. You can open it, revise it, and use it anytime you want.

# What's Next?

You've created a form, used it to view and add records to your table, and printed records as they appear on the form.

In the next chapter, you'll modify and improve the appearance of your form. In addition, you'll customize the form so that you can enter new records easily and without errors.

CHAPTER 5

# Customizing Your Form

In this chapter, you'll learn how to place, move, and resize controls on forms and how to display values in a list. In addition, you'll learn how to show a default value in a control so that the field has that value automatically for each new record.

## Chapter Contents

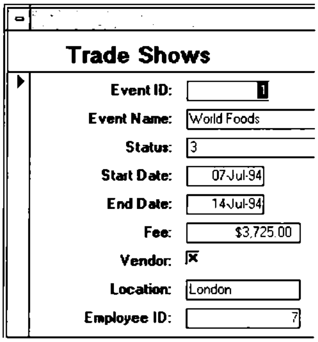
Change a Form's Design
Select and Resize Controls
Move Controls
Move Controls and Attached Labels Separately
Add a Label and Edit Label Text
Change the Appearance of Text
Display Values in a List
Set Control, Section, or Form Properties
Display a Description in the Status Bar
Make Your Form Work for You
What's Next?

**The Challenge** You've used your form to enter new records and to print records. Now you'd like to change its appearance so that it looks more like the original trade show tracking sheet.

**The Approach** You use the form's Design view to move controls and adjust how the form looks and works. By the time you finish, you'll be able to use your form both to add new records and to send information about trade shows to employees.

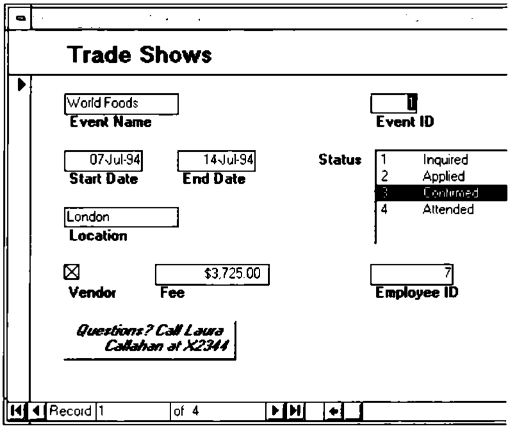
# Change a Form's Design

Now that you've used your form to add a few records, you'll find that you can use your form for yet another purpose. You can send a printed copy of the form to the employee who will be attending the show. You decide to make the form look more like the original trade show tracking sheet.



Event ID: 1
Event Name: World Foods
Status: 3
Start Date: 07-Jul-94
End Date: 14-Jul-94
Fee: $3,725.00
Vendor: ☒
Location: London
Employee ID: 7

You will change this form...



Event Name: World Foods
Event ID: 1
Start Date: 07-Jul-94
End Date: 14-Jul-94
Status: 1 Inquired, 2 Applied, 3 Confirmed, 4 Attended
Location: London
Vendor: ☒
Fee: $3,725.00
Employee ID: 7

*Questions? Call Laura Callahan at X2344*

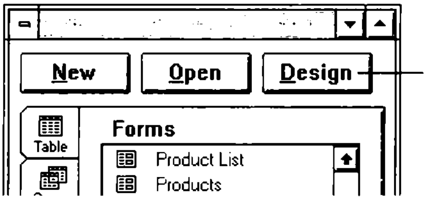
Record 1 of 4

...to look like this.

You change the appearance of a form in the form's Design view. You can open your form in Design view from the Database window.

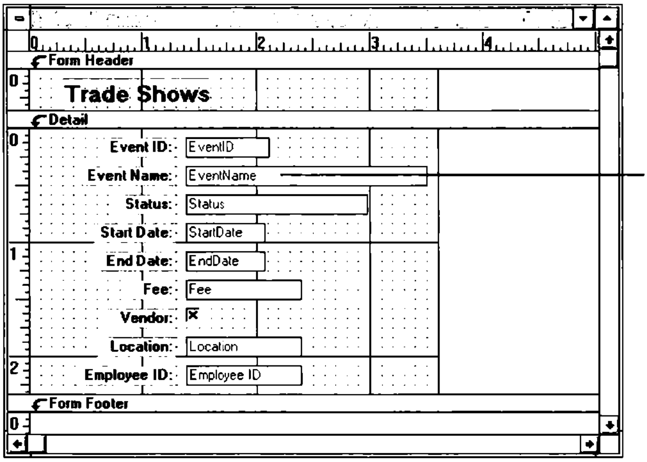
**▶ To open a form in Design view**

1. In the Database window, select the Trade Shows form. (If necessary, click the Form button to display the list of forms.)
2. Choose the Design button.



Click here.

Microsoft Access opens the form in Design view.


Form Header
Trade Shows
Detail
Event ID: EventID
Event Name: EventName
Status: Status
Start Date: StartDate
End Date: EndDate
Fee: Fee
Vendor: ☒
Location: Location
Employee ID: Employee ID
Form Footer

In Design view, Microsoft Access displays the field name in the text box.

Note that Microsoft Access divides the form into three sections in Design view:

- The *form header* contains the label "Trade Shows." When you're viewing data, the form header appears once at the top of the window.
- The *detail* section contains the fields from the Trade Shows table. When you're viewing data, the detail section is repeated for each record. When you print the form, the detail section shows as many records as will fit on a page.
- The *form footer* is currently blank. When you're viewing data, the footer appears once at the bottom of the window.

All forms have a detail section, but not all forms have a form header and footer. To add these sections to a form, choose the Form Header/Footer command from the Format menu.

---

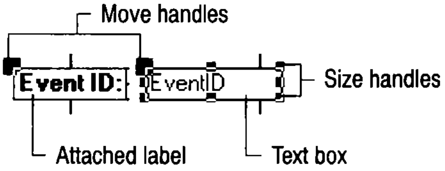
**Note** A form can have two additional sections—a page header and a page footer. These sections appear only on the printed form and not when you're viewing data on the screen. Use the Page Header/Footer command on the Format menu to add these sections.

# Select and Resize Controls

*Controls* are the objects on your form that display data from a field or words in a title. In Design view, you can select, resize, move, and otherwise manipulate the controls on a form.

▶ **To select a control**

- Click the EventID text box. (Make sure to click the text box and not its attached label.)



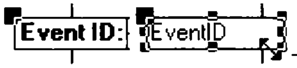
When you select a control, Microsoft Access displays size and move handles around the control:

- Drag the handles on the top and bottom to size the text box vertically.
- Drag the handles on the left and right sides to size the text box horizontally.
- Drag the handles in the corners to size the text box both vertically and horizontally.
- In controls with attached labels, use the move handles to move each part separately.

The value in the EventID field will never be longer than three digits, so the text box doesn't need to be as large as it is. You can change it to a more appropriate size.

### ▶ To resize a control

1. Position the pointer as shown in the following illustration.



When the pointer looks like this, you can resize a control.

2. Drag the border to shorten the text box. When the box is the size you want, release the mouse button.

You can also select more than one control at a time. This is a convenient method for moving or aligning a group of controls.

### ▶ To select more than one control

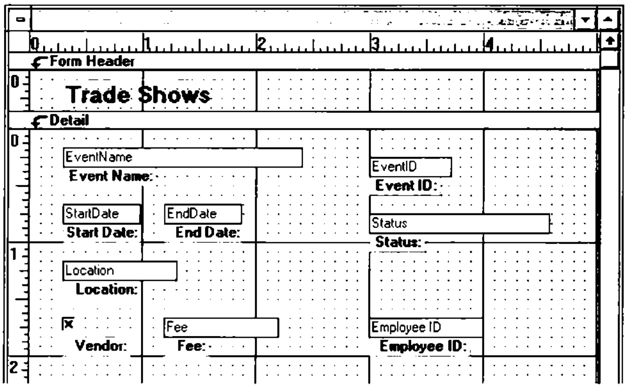
- Position the pointer beside (not on) one of the controls you want to select, and then drag diagonally through all the controls you want to select.

  While you drag, Microsoft Access draws a rectangle around the controls. When you release the mouse button, all the controls in or touching the rectangle are selected. (You can also select a group of controls by holding down the SHIFT key while you click each control.)

**More Information** For more information about selecting multiple controls, choose Search from the Help menu and search for "selecting controls." For information about aligning controls, search for "alignment: controls."

# Move Controls

All the text box controls on your form have attached labels. You can move a control and its attached label together, or you can move them separately. You'll rearrange the controls on the Trade Shows form so that they're positioned with the labels below the controls, more like the items on the trade show tracking sheet.

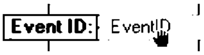

Form Header
Trade Shows
Detail
EventName
Event Name:
EventID
Event ID:
StartDate
Start Date:
EndDate
End Date:
Status
Status:
Location
Location:
Vendor:
Fee
Fee:
Employee ID
Employee ID:

Start by moving the EventID control next to the EventName control.

## ▶ To move a control

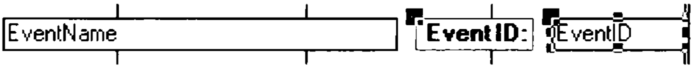
1. If the EventID control is selected, click *outside* the control to cancel the selection.
2. Position the pointer anywhere on the EventID control, and hold down the mouse button.

   The pointer changes to ✋.


Event ID:
EventID

3. Drag the control so that it's next to the EventName text box.

   Note that Microsoft Access moves the text box and its attached label together.
4. When the control is positioned where you want it, release the mouse button.

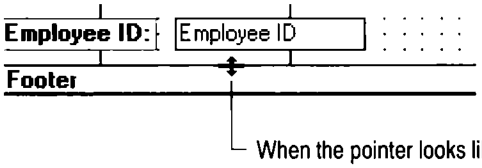

EventName
Event ID:
EventID

**Tip** You can also move a control that's already selected without canceling the selection. Position the pointer on the border of the selected control but *not* over a size handle or move handle. The pointer turns into a hand. While the pointer is this shape, you can drag the control where you want it.

Next, lengthen the detail section, and move the controls farther apart.

### ▶ To lengthen a section

1. Position the pointer on the border between the detail section and the form footer.



When the pointer looks like this, drag the border down.

2. Drag the border down to lengthen the section.

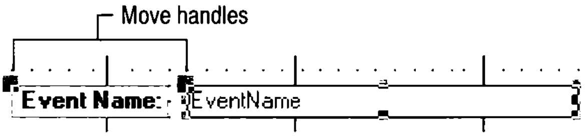
### ▶ To move controls

- Drag the remaining controls farther apart on the form.

In the next section, you'll move the EventName label so that it appears below the text box.

# Move Controls and Attached Labels Separately

When you move a text box, its attached label moves with it. You can also move a control or its attached label separately. To do that, you use the move handles.

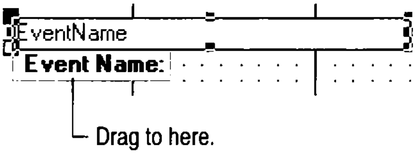


Now you'll move the attached labels so that they're positioned below the text boxes instead of beside them.

### ▶ To move the attached label separately

1. Select the EventName control.
2. Position the pointer over the label's move handle.

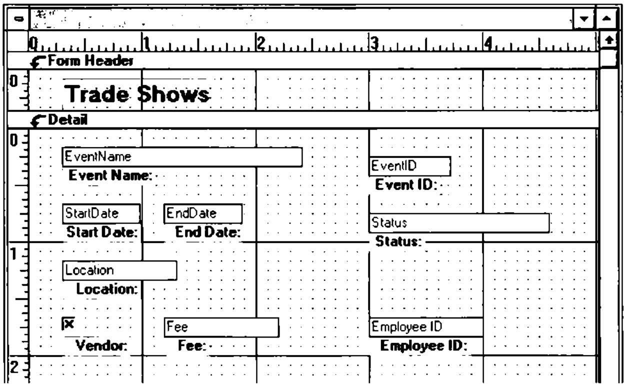
   When the pointer is over the handle, it changes to ☝.
3. Drag the move handle to position the label below the text box.



4. When the label is where you want it, release the mouse button.

### ▶ To practice moving controls

- Rearrange the controls on the Trade Shows form so that they're positioned as they appear in the following illustration.


Form Header
Trade Shows
Detail
EventName
Event Name:
EventID
Event ID:
StartDate
Start Date:
EndDate
End Date:
Status
Status:
Location
Location:
Vendor:
Fee
Fee:
Employee ID
Employee ID:

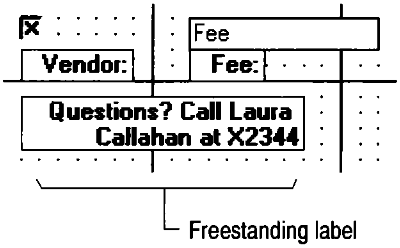
When you move a control, note that the rulers display marks that indicate the position of the top, bottom, left, and right edges of the control. These marks help you to position the control.

**More Information** For more information about moving and positioning objects on forms and using the grid to align objects, see Chapter 14, "Form Basics," in the *Microsoft Access User's Guide*.

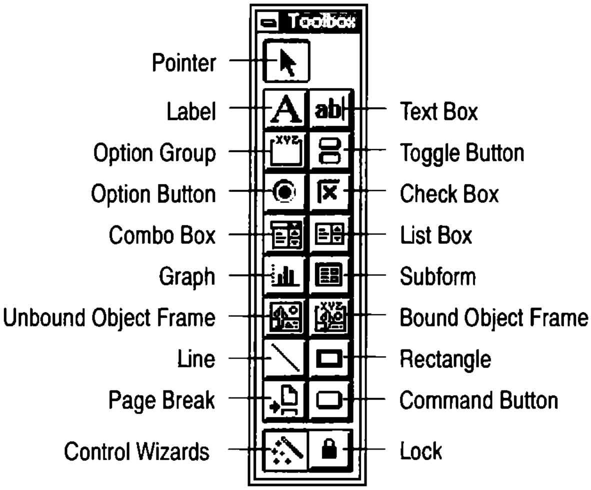
# Add a Label and Edit Label Text

A *label* is a type of control you can place on your form to add information. By adding a freestanding label to the Trade Shows form, for example, you can tell employees who to call if they have questions about a specific trade show.

A freestanding label is not bound to a field (like a text box) or attached to a control (like a text box's label).


Fee
Vendor:
Fee:
Questions? Call Laura Callahan at X2344
Freestanding label

The first time you open a form in Design view, Microsoft Access displays the toolbox in the lower-left corner of your screen. You use the toolbox to place new controls on your form.


Toolbox
Pointer
Label
Option Group
Option Button
Combo Box
Graph
Unbound Object Frame
Line
Page Break
Control Wizards
Text Box
Toggle Button
Check Box
List Box
Subform
Bound Object Frame
Rectangle
Command Button
Lock

You can close or open the toolbox by choosing Toolbox from the View menu. You can also move the toolbox on your screen by dragging its title bar.

**More Information** For details about each type of control, click the respective tool in the toolbox and press F1.

### ▶ To draw a freestanding label

1. Click the Label tool in the toolbox.
2. Click where you want to place the label.
3. Type **Questions? Call Laura Callahan at X2344** in the label.

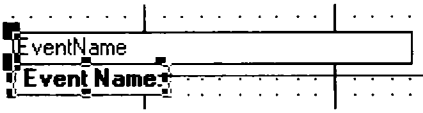
   As you type, Microsoft Access sizes the label to fit your text.

Now the label displays your text. Check to see how the label looks in Form view, and then switch back to Design view.

Now that the labels are positioned below the text boxes, the colons are no longer necessary.

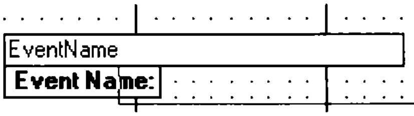
### ▶ To edit text in a label

1. Click the label attached to the EventName text box.

   Click here.

   Microsoft Access selects the label.
2. Click the label again.

   Insertion point

   Microsoft Access places an insertion point in the text of the label. Now you can edit the text.
3. Select the colon at the end of the text, and then press the DEL key.
4. Follow the same steps to edit the other labels.

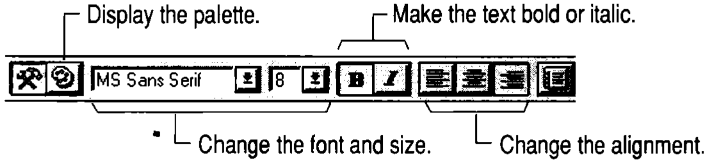
# Change the Appearance of Text

Visual style in text can add important functional impact or aesthetic appeal to your form. To work on the visual style of the text, start by changing the text in your freestanding label to italic.

### ▶ To make text italic

1. Select the Questions? label.

   When you select a label or a control that includes text, the toolbar enables additional tools for changing the appearance of the text.


Display the palette.
Make the text bold or italic.
MS Sans Serif
8
Change the font and size.
Change the alignment.

2. Click the Italic button on the toolbar.

   Microsoft Access changes the text in the label to italic.

3. From the Format menu, choose Size, and then choose To Fit.

   Microsoft Access resizes the label to fit the new text.

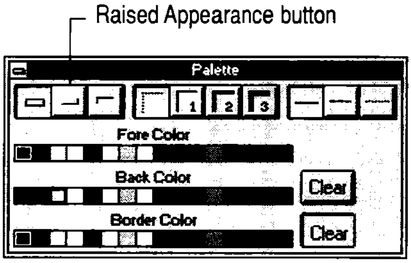
You can make the label stand out on your form by giving it a three-dimensional appearance.

### ▶ To change the visual style of a control

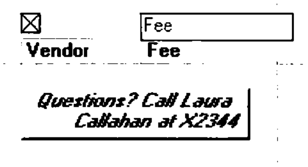
1. Select the label (if it isn't already selected).
2. Click the Palette button on the toolbar.

   Microsoft Access displays the palette.

3. In the palette, click the Raised Appearance button.


Raised Appearance button
Palette
Fore Color
Back Color
Clear
Border Color
Clear

Microsoft Access gives the label a three-dimensional appearance.



Questions? Call Laura Callahan at X2344

You can also use the palette to change a control's fill color or its border weight and color.

4. To close the palette, click the Palette button on the toolbar (or click the palette's Control-menu box).

To see how your new label looks, switch to Form view. When you finish viewing the form, return to Design view. Take time to experiment with different fonts, sizes, colors, and alignments for the text. Use the buttons on the toolbar or the options in the palette to make your changes. For example, now that the attached labels are under the controls instead of beside them, they'd look better with their text aligned left instead of aligned right. You can select all the attached labels on the form, and then click the Text-Align Left button on the toolbar to align their text to the left.

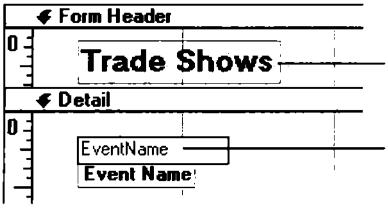
### In My Case: How Do I Give My Form the Look I Want?

Because Microsoft Access provides so many choices for the appearance of controls on forms, you can give your form a personal and distinctive design. But it might take some experimenting to discover the look that works for you. It's a good idea to start by trying out all the options—to find out everything you can do—and then focus on just a few choices. That's because a form that uses 16 colors, 5 fonts, and a random mix of raised and sunken controls will turn out to be a mess!

Form Wizards offer a variety of styles, each with a distinctive, professional look. You might start by choosing a different style for each new form, just to see which you like. From these you can modify a style to suit your needs. Once you've changed a control to look the way you like, you can make its appearance the default so that each new control you create uses the same design automatically. For details on how to set defaults for controls, choose Search from the Help menu and search for "controls: properties."

# Display Values in a List

The controls that you use to enter, update, and display data from a table or query are bound to fields in the table or query. Most of the controls on the Trade Shows form are bound to fields in the Trade Shows table.



Freestanding labels aren't bound to fields.

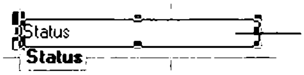
This text box is bound to the EventName field in the Trade Shows table.

The Status text box on your form displays the number for the trade show's status level: 1 for Inquired, 2 for Applied, 3 for Confirmed, and 4 for Attended. You can, however, use a list box that shows both the number and the descriptive text for each level. That way, you can simply select the correct level from the list.

Your list box will replace the Status text box, so you can start by deleting that control. Then you'll use the List Box Wizard to create the new list box control.

### ▶ To delete a control

1. Click the Status text box to select it.



Click here.

2. Press the DEL key.

   Microsoft Access deletes the text box and its label. To delete a label without deleting the text box, select the label and press the DEL key.

Your list box will be bound to the Status field in the Trade Shows table. When you add a bound control to a form, your first step is to select the tool from the toolbox for the type of control you want.

### ▶ To add a list box control to a form

1. From the View menu, choose Control Wizards (if the Control Wizards command does not display a check mark). Or click the Control Wizards tool in the toolbox so the tool appears sunken.
2. Click the List Box tool in the toolbox.

3. Click the form where you want to draw the list box.

   Microsoft Access displays the first List Box Wizard dialog box.

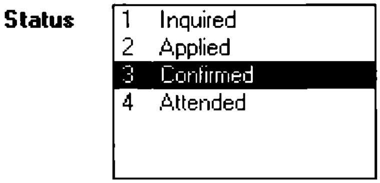
4. Make the following choices as you go through the dialog boxes:
   - Choose to type in the values for the list box.
   - Enter **2** as the number of columns, and, in the grid, enter the list box data shown below:

     | | |
     |---|---|
     | **1** | **Inquired** |
     | **2** | **Applied** |
     | **3** | **Confirmed** |
     | **4** | **Attended** |

   - Make Column 1 narrower, leaving room for only one or two digits.
   - Select Column 1 as the column that contains the value to store in your database.
   - Select Status as the field in which to store the list box's value.
   - Give your list box the label **Status**.

5. Click the Finish button to create the list box control.

   Microsoft Access displays the Trade Shows form with the new list box control selected. Switch to Form view to see the finished list box control, and then return to Design view.



**Status**

1 Inquired
2 Applied
3 Confirmed
4 Attended

---

**Note** Some database designers prefer to always use a table or query as the source of values for a list box or combo box, because a table or query can be used more than once and is easier to maintain. For more details, see Chapter 16, "Customizing Forms," in the *Microsoft Access User's Guide.*

# Set Control, Section, or Form Properties

Each control on a form has a set of properties. Properties determine a control's appearance and behavior. When you gave your freestanding label italic lettering and a three-dimensional look, you were setting properties for the label. To see and set control properties, you open the property sheet. The property sheet shows the properties of the selected object.

A form and each of the sections and controls it contains has its own set of properties. In the following procedure, you'll display the properties for the Status list box.

▶ **To display the property sheet**

- From the View menu, choose Properties (or click the Properties button on the toolbar).

  Microsoft Access displays the property sheet.

▶ **To see the properties of an object**

- With the property sheet open, click the Status list box. (Make sure to click the list box and not its attached label.)

Microsoft Access displays the properties of the Status list box in the property sheet. Try selecting different objects on your form:

- To see the properties of an attached label, click the label.
- To see the properties of a form section, click the background of the section or the section header.
- To see the properties of the form, click the gray background of the form design window, outside the form sections (or choose Select Form from the Edit menu).

When you finish experimenting, click the Status list box again to display its properties.

You can leave the property sheet open while you work on your form. That way, you can simply select an object to view its properties.

## In My Case: What Can I Do with Properties in Forms?

By setting properties for your form, form sections, and controls, you can customize your form to look and behave just the way you want it to. When you combine settings for different properties, the possibilities become almost endless. For example, you can:

- Choose to display some sections of your form only on the screen or only in print. In addition, you can choose to have a section shrink or grow to fit its data when it's printed.
- Print one record per page, or display one record at a time on the screen, instead of a continuous series of records.
- Have Microsoft Access check the values you enter in a control and display a message if they aren't valid.
- Define a default value for a control that Microsoft Access fills in automatically for each new record.
- Display the result of a calculation in a control.

**More Information** For examples of how to do these and other things with your forms, see Part 4, "Forms," in the *Microsoft Access User's Guide.* For more information about any property, click the property in the property sheet and press F1.

# Display a Description in the Status Bar

In Form view, the status bar displays the descriptions you entered for each field when you originally created the Trade Shows table. Because the Status list box is a new control, it doesn't have a description to display. You can define a description by setting the StatusBarText property for the list box.

Take a moment to look at a few of the other properties for the list box. The List Box Wizard set these properties when you created the list box:

- The RowSourceType property tells Microsoft Access what type of source provides the values in the list: a table or query, a list of values you provide, or a list of fields.
- The RowSource property identifies the source of the list. For example, if the RowSourceType property is set to Table/Query, you set the RowSource property to the name of the table or query that contains the values for the list.
- The ColumnCount property determines how many columns are in the list box.
- The ColumnWidths property determines the width of the columns.

Now set the StatusBarText property to the text you want to display in the status bar when the list box is selected in Form view.

▶ **To set the StatusBarText property**

1. While viewing the properties of the Status list box, select the StatusBarText property box.

   Microsoft Access displays the insertion point in the box, indicating that you can enter a value.
2. In the StatusBarText property box, type **Select the status of this trade show**

That's all it takes to set the property.

When you created the list box, you adjusted the width of the first column so that it was narrower than the second column. If you want to adjust the column again, set the ColumnWidths property.

### ▶ To adjust column widths in a list box

- In the ColumnWidths property box, type this value for the Status control:

  **.25;.75**

  This sets the width of the first column to 0.25 inch and the width of the second column to 0.75 inch. (If your ruler measurement is set to centimeters, set the property to .5;2.)

That's it. You've set properties for the list box.

Note that the BoundColumn property is set to 1. The first column in the list—the one that contains the numbers—is bound to the Status field in the Trade Shows table. The values displayed in the first column are those stored in the field.

Close the property sheet, and then check the appearance of your list in Form view. Scroll through the records in the table. In each record, the list shows the current value of the field. When you add a new record, you select the value from the list.

When you finish viewing the list box in Form view, return to Design view. If you want, you can resize the list box so that it fits the items in your list.

# Make Your Form Work for You

When you create a form that you or someone else will use to add, change, or view records, think about how you might want that form to work for you. Would you like to have Microsoft Access automatically fill in some of the values for each new record? Would you like to show the results of calculations in some controls? Would you like your form to display a message if you make a data entry error? You can do all this and more with Microsoft Access forms.

This chapter gives you a small sample of the possibilities in Microsoft Access forms. You've already seen how arranging controls can improve a form's usability and how different types of controls can make your data easier to read and understand. Here are a few of the other things you can do with Microsoft Access forms. If you like, experiment with these features on the Trade Shows form.

## Setting a Default Value

In some cases, one value might show up in a field more often than any other. For example, Nancy Davolio might be responsible for attending most of the trade shows.

When you add a new trade show, you can have Microsoft Access automatically fill in the Employee ID field with Nancy's employee ID number. Just set the DefaultValue property for the control to 1.

You can also set the default value of a field when you design your table. Then Microsoft Access will automatically apply that value to any control you create that's bound to the field.

## Showing Calculations

A control that's bound to a field in a table or query displays data from the field. You can also use a control to display data that's not in your tables. For example, you might want to display the current date in a text box on the Trade Shows form. The text box would not be bound to any field; instead, it would display the result of this expression: **=Date( )**. The **Date** function returns the current date as reported by the system clock in your computer. A control that displays the result of an expression is called a *calculated control.*

To create a calculated control, select the tool in the toolbox for the control you want, and then click your form where you want the control to appear. Microsoft Access creates the unbound control. Now type the expression that you want in the control, or set the control's ControlSource property to the expression.

## Creating Validation Rules

Validation rules help you ensure that information entered into a form is correct before Microsoft Access stores it in your tables. For example, Northwind Traders intends to hold a company-wide planning retreat during August, 1994, and no employees will be available to attend trade shows during that month. The values in the StartDate and EndDate fields should fall outside of that month; a date in that month is a mistake. You want Microsoft Access to catch errors like this and display a message that helps you fix the problem. Just as you use expressions to show calculations on a form, you can also use expressions to set rules for validating data.

To create the rule, set the ValidationRule property of the StartDate control to the following expression:

**< #8/1/94# Or > #8/31/94#**

The Date format you use in the expression is determined by the setting in the International section of the Windows Control Panel for each country. In the preceding expression, the dates appear in the format for the United States. In the United Kingdom, you would use 1/8/94 and 31/8/94; in Sweden, you would use 8-1-94 and 8-31-94.

Set the ValidationText property to a message that you want Microsoft Access to display if the date entered in the text box falls within the defined range:

**That trade show conflicts with the company planning retreat.**

If you enter an invalid date, Microsoft Access won't accept it. Instead, it displays your message so that you can correct the error.

You can also set a validation rule for a field when you design your table. Then Microsoft Access will apply that validation rule automatically to any control you create that's bound to the field. If necessary, you can set a separate, more restrictive validation rule for that control on the form.

**More Information** For more information about creating expressions, see Chapter 18, "Using Expressions in Forms," in the *Microsoft Access User's Guide*. For more information about setting default values and validation rules for fields in tables, see Chapter 8, "Changing and Customizing Tables," also in the *Microsoft Access User's Guide*.

When you finish working with the Trade Shows form, save it and then close it.

# What's Next?

Now you know how to create two of the basic elements of a Microsoft Access database: tables and forms.

In Part 3, "Working with Data," you'll learn how to create and use the third basic element of a Microsoft Access database—queries. In addition, you'll find out how to find and sort records and how to combine data from two tables into a single form.

In Part 3 of *Microsoft Access Getting Started*, you'll learn how to find, combine, change, and work with your data.

- Chapter 6, "Creating a Query," shows you how to use a query to bring data from different tables together in the same datasheet.
- Chapter 7, "Finding the Data You Want," shows you how to find the data you want to see.
- Chapter 8, "Showing Data from More Than One Table on a Form," shows you how to combine data from different tables on a single form.

"I want to see supplier information along with product information in the same window. How do I show data from different tables in the same datasheet?"

"We have hundreds of customers, but I just work with the ones in my region. How do I limit the records I see?"

"I need a form that shows the product category on top and every product in that category below so I can scroll through the list and make changes. Is there a quick way to make that form?"

## CHAPTER 6

# Creating a Query

In this chapter, you'll learn how to create a query that brings related data from different tables together in the same datasheet.

### Chapter Contents

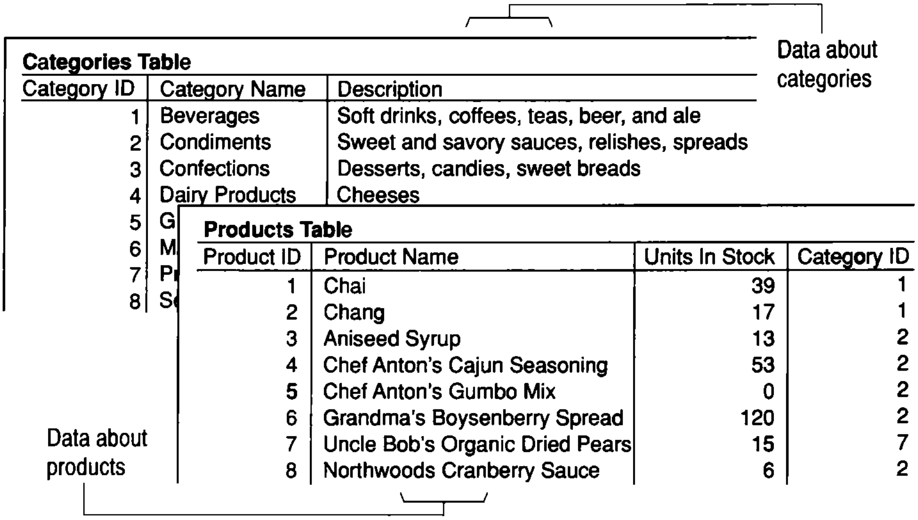
Create a Query
The Query Window
Join Tables
Select Fields
Specify Criteria
Specify Additional Criteria
Sort Records
Calculate Totals
Modify a Query
Save a Query and Print a Dynaset
What's Next?

**The Challenge** It's time to decide which category of products to use for your upcoming "product of the month" mailing. You've narrowed the choice down to two categories: confections and beverages. Your final decision is based on how many units you have in stock for each category.

**The Approach** To gather information for this decision, you'll create a query that retrieves data from both the Categories table and the Products table.

# Create a Query

Before deciding between beverages and confections as your next featured category of products, you want to review how many units you have in stock for each category. You'd like to see the category names as well as the product names and units in stock. The information is in two tables: The Categories table contains category names; the Products table contains product names and units in stock.



Data about categories

**Categories Table**

| Category ID | Category Name | Description |
|---|---|---|
| 1 | Beverages | Soft drinks, coffees, teas, beer, and ale |
| 2 | Condiments | Sweet and savory sauces, relishes, spreads |
| 3 | Confections | Desserts, candies, sweet breads |
| 4 | Dairy Products | Cheeses |
| 5 | G | |
| 6 | M | |
| 7 | P | |
| 8 | S | |

**Products Table**

| Product ID | Product Name | Units In Stock | Category ID |
|---|---|---|---|
| 1 | Chai | 39 | 1 |
| 2 | Chang | 17 | 1 |
| 3 | Aniseed Syrup | 13 | 2 |
| 4 | Chef Anton's Cajun Seasoning | 53 | 2 |
| 5 | Chef Anton's Gumbo Mix | 0 | 2 |
| 6 | Grandma's Boysenberry Spread | 120 | 2 |
| 7 | Uncle Bob's Organic Dried Pears | 15 | 7 |
| 8 | Northwoods Cranberry Sauce | 6 | 2 |

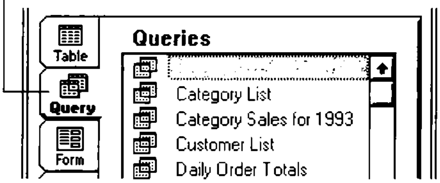
Data about products

To bring together the data you need from the two tables, you'll create a *select* query. A select query retrieves a set of records that match the criteria you specify.

### ▶ To create a select query

1. Start Microsoft Access, and open the Northwind database (NWIND.MDB).
2. In the Database window, click the Query button.

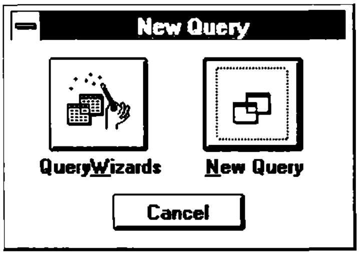
Click here.



Category List
Category Sales for 1993
Customer List
Daily Order Totals

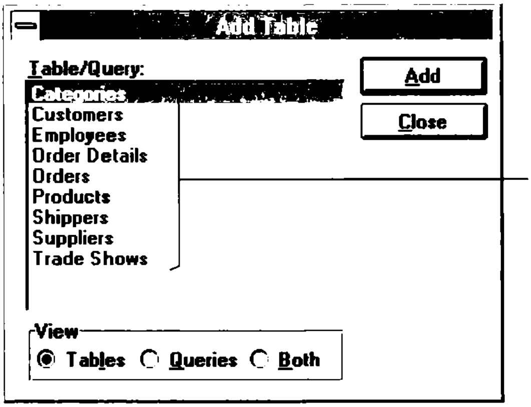
3. Choose the New button.

Microsoft Access displays the New Query dialog box.


New Query
QueryWizards
New Query
Cancel

4. Click the New Query button.

   Microsoft Access opens a Query window and displays the Add Table dialog box so that you can select the tables to use for your query.


Add Table
Table/Query:
Categories
Customers
Employees
Order Details
Orders
Products
Shippers
Suppliers
Trade Shows
Add
Close
View
● Tables ○ Queries ○ Both

Tables in the database.

5. Select the Categories table, and then choose the Add button.

   Microsoft Access adds the Categories table to your query.
6. Select the Products table, and then choose the Add button.

   Microsoft Access adds the Products table to your query.
7. Choose the Close button.

   Microsoft Access closes the Add Table dialog box.

---

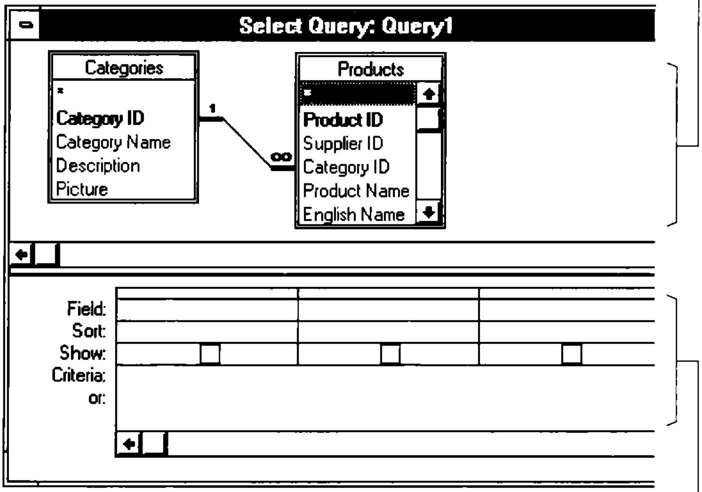
**Tip** To add a table to your query after you close the Add Table dialog box, you can drag the table from the table list in the Database window and drop it in the upper portion of the Query window. Or choose the Add Table command from the Query menu, and select the table you want in the Add Table dialog box.

# The Query Window

A *query* is a question you ask about the data in your database, such as, "Which customers placed orders last month?" or "How many products do we have in each category?" To create a query, you specify the fields and records you want to see in the Query window.

The Query window is a graphical query-by-example (QBE) tool. Because of its graphical features, you can use a mouse to select, drag, and otherwise manipulate objects in the window to define an example of the records you want to see.

You add tables to the query here.


Select Query: Query1
Categories
*
Category ID
Category Name
Description
Picture
1
∞
Products
*
Product ID
Supplier ID
Category ID
Product Name
English Name
Field:
Sort:
Show:
Criteria:
or:

You specify the fields and records you want to include in the query in the QBE grid.

Note that the Categories and Products tables are joined by a line that connects the two Category ID fields. (To see the join line more clearly, drag the tables farther apart.) The join line tells Microsoft Access how the data in the two tables is related. Microsoft Access uses this information to associate products and categories correctly. Here's how it works: Suppose you tell Microsoft Access that you want to see the category names from the Categories table and the product names and units in stock from the Products table. Microsoft Access uses the Category ID fields to connect the correct category information to each product.

Microsoft Access uses the Category ID fields to match values in the two tables...

**Categories Table**

| Category Name | Category ID |
|---|---|
| Beverages | 1 |
| Condiments | 2 |
| Confections | 3 |

**Products Table**

| Category ID | Product Name | Units In Stock |
|---|---|---|
| 1 | Chai | 39 |
| 2 | Aniseed Syrup | 13 |
| 2 | Chef Anton's Cajun Seasoning | 53 |
| 1 | Chang | 17 |

...and show you the data in one query.

**Query's Dynaset**

| Category Name | Product Name | Units In Stock |
|---|---|---|
| Beverages | Chai | 39 |
| Beverages | Chang | 17 |
| Condiments | Aniseed Syrup | 13 |
| Condiments | Chef Anton's Cajun Seasoning | 53 |

Microsoft Access can determine how to use the Category ID field to join the Categories and Products tables because the designer of the Northwind database created a relationship between the two tables at the time the tables were built. In that relationship, the designer specified that the two tables were related through their Category ID fields.

It's a good idea to create relationships between your tables, because then Microsoft Access can join the tables in a query automatically in many cases. Even if you do not create relationships between tables, Microsoft Access will join them automatically when the tables are added to a query, as long as each table has a field with the same name and a compatible data type and one of those fields is a primary key.

---

**Note** In the Query window, Microsoft Access displays a table's primary key field or fields in bold. Note in your query, for example, that the Category ID field in the Categories table is in bold, indicating that the Category ID field is the primary key of the Categories table. A primary key is indexed by Microsoft Access automatically, which helps speed up queries and other operations. For example, Microsoft Access can process a join in which one of the joined fields is indexed faster than it can process a join in which no indexed field is included. For that reason, it's best to use primary key fields in joins.

---

**More Information** For more information about creating relationships between tables, see Chapter 7, "Table Basics," in the *Microsoft Access User's Guide*. For tips on designing a relational database, see Chapter 2, "Designing a Database," also in the *Microsoft Access User's Guide*.

# Join Tables

If Microsoft Access has not joined your tables automatically or if you haven't created a relationship between the tables yourself, the tables won't be connected by join lines in the Query window. You can still use related data from the two tables, however, by joining the tables in the Query window when you create the query.

Before you can join two tables in a query, the related fields must be present in both tables. For the join to work, the two fields must contain matching data in related records. For example, if you join the Category ID field from the Categories table to a field *other* than Category ID in the Products table, Microsoft Access won't be able to relate records in the two tables because the joined fields won't have matching data.

If you'd like to try joining tables now, delete the join line between the Categories and Products tables and then draw it again.

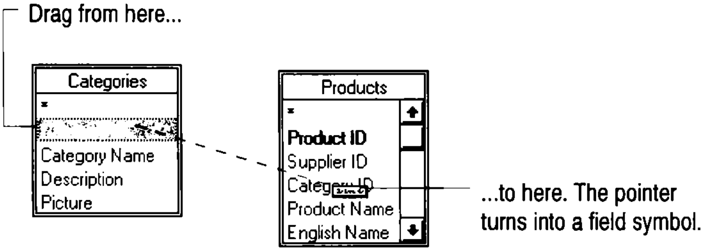
### ▶ To delete a join line

- Click the join line to select it, and then press the DEL key.

  Microsoft Access deletes the join. This doesn't change the data in your tables, but if you create a query now that includes fields from both tables, you might be surprised at the result. When it cannot determine how to associate the data, Microsoft Access creates a record for every possible combination of data between the tables.

### ▶ To draw a join line

- Drag the Category ID field from the Categories table to the Category ID field in the Products table. (Select the field in the Categories table, and then hold down the mouse button while you move the mouse. When the pointer is over the Category ID field in the Products table, release the mouse button.)


Categories
*
Category Name
Description
Picture
Products
*
Product ID
Supplier ID
Category ID
Product Name
English Name

Drag from here...

...to here. The pointer turns into a field symbol.

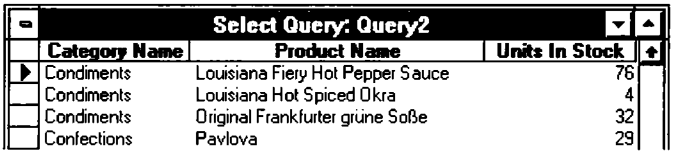
Microsoft Access joins the tables.

When you draw a join line between two tables in the Query window, the join applies to that query only. If you use the same two tables in another query, you'll need to join them again.

**Note** Join lines have properties you can set and change. To see the properties of a join line, double-click the line (or click the line and choose Join Properties from the View menu). For more information about join properties, press F1 from the Join Properties dialog box or see Chapter 11, "Designing Select Queries," in the *Microsoft Access User's Guide.*

# Select Fields

Now that you have the tables you want for your query, you're ready to define the records you want. Start by selecting the fields from each table that you want. For this example, you'll select the Category Name field from the Categories table and the Product Name and Units In Stock fields from the Products table. The result of your query will look like the following illustration.

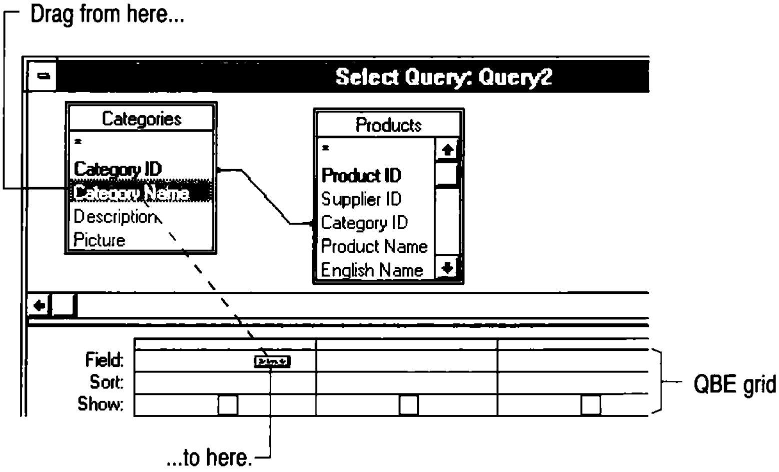

Select Query: Query2

| Category Name | Product Name | Units In Stock |
|---|---|---|
| Condiments | Louisiana Fiery Hot Pepper Sauce | 76 |
| Condiments | Louisiana Hot Spiced Okra | 4 |
| Condiments | Original Frankfurter grüne Soße | 32 |
| Confections | Pavlova | 29 |

To add a field to a query, you drag it into a cell in the Field row of the QBE grid. First, you'll add the Category Name field to your query.

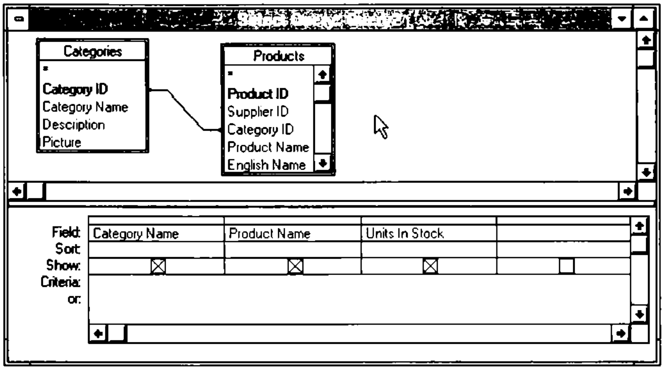
### ▶ To add fields to a query

1. Drag the Category Name field from the Categories field list to the first cell in the Field row of the QBE grid.


Drag from here...
Select Query: Query2
Categories
*
Category ID
Category Name
Description
Picture
Products
*
Product ID
Supplier ID
Category ID
Product Name
English Name
Field:
Sort:
Show:
QBE grid
...to here.

2. When the pointer is over the cell, release the mouse button.
3. Use the same method to add the Product Name and Units In Stock fields from the Products field list.

When you finish, the QBE grid contains three fields. The check boxes in the Show cells for those fields are checked, which means the data in the fields will be displayed in the query's datasheet.


Categories
*
Category ID
Category Name
Description
Picture
Products
*
Product ID
Supplier ID
Category ID
Product Name
English Name

| | | | | |
|---|---|---|---|---|
| Field: | Category Name | Product Name | Units In Stock | |
| Sort: | | | | |
| Show: | ☒ | ☒ | ☒ | ☐ |
| Criteria: | | | | |
| or: | | | | |

**Note** Microsoft Access provides four methods that you can use to add a field to a query. You can drag the field from the field list to a cell in the QBE grid, as you did here. You can also type the field name in the cell. You can click the cell and select the field you want from its drop-down list. Or you can double-click the field you want to add in the field list. Use the method that's easiest for you.

Now you can take a look at the records this query defines.

### ▶ To see the results of a query

- From the View menu, choose Datasheet (or click the Datasheet View button on the toolbar).

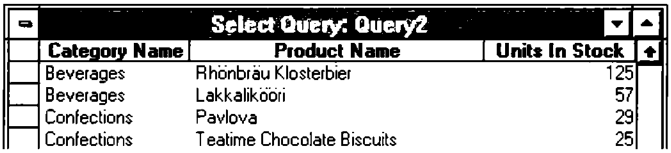
  Microsoft Access displays the records you defined in your query.

# Specify Criteria

You define the query, which describes the set of records you want. The answer to a query—the updateable set of records that a query defines—is called a *dynaset*. When you use a query to access data, its dynaset consists of the current data from the tables where the data is stored. In a multiuser environment, you can see changes that others make to records in a dynaset right away. If you change data in a dynaset, Microsoft Access updates the data in the underlying tables.

You can use queries and dynasets in the same way you use tables to access data. For example, you can base a form or report on a query that displays data from two or more tables. Because the data in the dynaset is always current, you know that the data you're viewing on the form or report reflects the latest changes in your database. Any changes you make to the data using the form are saved.

Currently, your dynaset includes all the products in the Products table. But in this case, you're only interested in seeing products in the beverages and confections categories. To tell Microsoft Access which records you want to see, you specify *criteria*. You use values in fields to pinpoint the records you want to see.



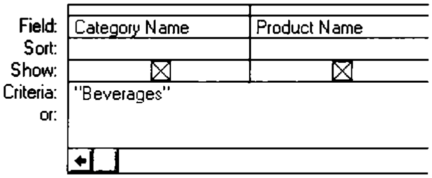
| Category Name | Product Name | Units In Stock |
|---|---|---|
| Beverages | Rhönbräu Klosterbier | 125 |
| Beverages | Lakkalikööri | 57 |
| Confections | Pavlova | 29 |
| Confections | Teatime Chocolate Biscuits | 25 |

You want to see records with Beverages or Confections in the Category Name field.

Microsoft Access uses the criteria to select the records you want to include in the dynaset—and no others.

### ▶ To specify criteria for a query

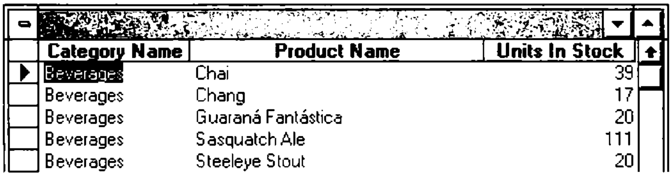
1. To return to Design view, choose Query Design from the View menu or click the Design View button on the toolbar.
2. In the lower portion of the Design window, move to the Criteria cell for the Category Name field.
3. Type **Beverages** in the cell, and then press ENTER.



| | | |
|---|---|---|
| Field: | Category Name | Product Name |
| Sort: | | |
| Show: | ☒ | ☒ |
| Criteria: | "Beverages" | |
| or: | | |

Note that Microsoft Access places quotation marks around Beverages after you press ENTER. If you type a text value that contains spaces or commas, Microsoft Access usually encloses that value in quotation marks as well. For example, if you type **New York** in a Criteria cell and press ENTER, Microsoft Access displays "New York" in the cell.

4. To see your dynaset, choose Datasheet from the View menu or click the Datasheet View button on the toolbar.



| Category Name | Product Name | Units In Stock |
|---|---|---|
| Beverages | Chai | 39 |
| Beverages | Chang | 17 |
| Beverages | Guaraná Fantástica | 20 |
| Beverages | Sasquatch Ale | 111 |
| Beverages | Steeleye Stout | 20 |

Microsoft Access limits the dynaset to the records that match your criteria.

## In My Case: Can I Update My Tables from a Query?

In most cases, you can update data in a query and have Microsoft Access save your changes to the table where the data is stored. For example, you can change any of the fields in the query you just created, even if your change affects many records in the dynaset. If you change "Beverages" to "Drinks" and then move to the next record, Microsoft Access will automatically change each "Beverages" category name to "Drinks."

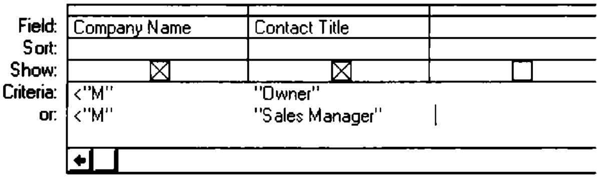
If your query calculates totals over many records, Microsoft Access doesn't accept updates. For more information about when you can update data in a query, see "Designing Queries for Updating Records" in Chapter 11 in the *Microsoft Access User's Guide.*

# Specify Additional Criteria

By adding and combining criteria in the Query window, you can create powerful queries that meet a variety of exacting conditions.

When one field (or column) in your query has multiple criteria, Microsoft Access includes a record in your dynaset if it meets any one of the criteria. Multiple criteria for one field tells Microsoft Access, "Include the record if it has this value *or* that value in the field."

On the other hand, when you have criteria for more than one field in the same Criteria row, Microsoft Access assumes that the record must meet all of the criteria before it can be included. Criteria for more than one field in the same Criteria row tells Microsoft Access, "Include the record if it has the specified values in this field *and* in that field."



| | | | |
|---|---|---|---|
| Field: | Company Name | Contact Title | |
| Sort: | | | |
| Show: | ☒ | ☒ | ☐ |
| Criteria: | <"M" | "Owner" | |
| or: | <"M" | "Sales Manager" | |

In the preceding illustration, if the Company Name starts with a letter from A through L *and* the Contact Title is either Owner or Sales Manager, Microsoft Access includes the record in the dynaset.

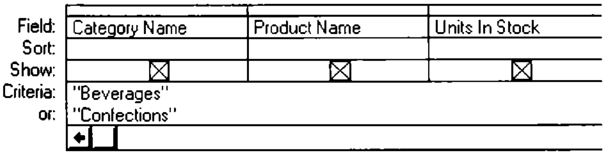
By specifying additional criteria (you must repeat the **<M** criterion on both lines), you can create powerful queries that set multiple conditions for the data you want. For more examples and details about creating complex queries, see Chapter 11, "Designing Select Queries," in the *Microsoft Access User's Guide.*

In the following procedure, you'll add confections to the criteria for the Category Name field in your query.

### ▶ To add criteria to a query

1. Switch your query to Design view. (Choose Query Design from the View menu or click the Design View button on the toolbar.)
2. In the Category Name column, type **Confections** in the cell below the cell that contains Beverages, and then press ENTER.

   This tells Microsoft Access to include records that contain either Beverages *OR* Confections in the Category Name field.



| | | | |
|---|---|---|---|
| Field: | Category Name | Product Name | Units In Stock |
| Sort: | | | |
| Show: | ☒ | ☒ | ☒ |
| Criteria: | "Beverages" | | |
| or: | "Confections" | | |

▶ **To check your results**

- From the View menu, choose Datasheet (or click the Datasheet View button).

  Now Microsoft Access includes both beverages and confections.

## In My Case: What Kinds of Criteria Can I Specify?

To specify criteria, you enter a phrase or expression, in the Criteria cell for a field. Microsoft Access evaluates the expression and then looks in the field for values that match the result of the expression. Microsoft Access includes all the records with matching values in the field.

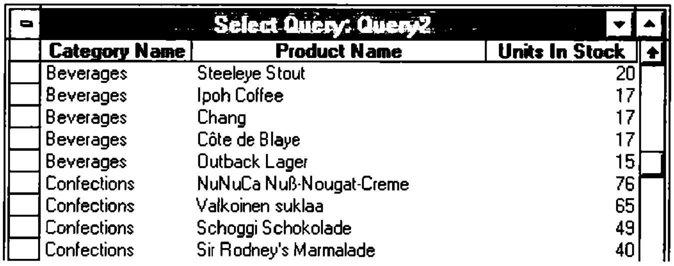
Here's a list of common types of criteria that you can specify:

- **The value in a field is equal to the value you specify** Just enter the value in the field's Criteria cell. For example, to see all suppliers located in Canada, enter **Canada** in the Criteria cell for the Country field.
- **The value falls within a range of values** Enter an expression that defines the range you want. For example, to see all products with more than 10 units in stock, enter **>10** in the Units In Stock cell. To see products with 10 to 20 units in stock, enter **Between 10 and 20**
- **The value begins with the value you set** Use the asterisk (*) wildcard. For example, to see all employees whose last name begins with M, enter **M*** in the Criteria cell for the Last Name field. Text fields in Microsoft Access are not case sensitive, so your dynaset will include all values that start with M or m.
- **The value is one in a list of values** Use the **In( )** function. For example, to see the records of all suppliers located in Sweden, Denmark, Norway, or Finland, type the following in the Criteria cell for the Region field: **In(Sweden, Denmark, Norway, Finland)**

**More Information** For more information about expressions in Microsoft Access, choose Search from the Help menu and search for "expressions: examples."

# Sort Records

You have the set of records you want, but suppose you'd rather see them sorted by category name so that each category's products are grouped together in alphabetic order. Then, suppose you also want products within a category sorted by how many units you have in stock so that you can see the products with the most units first.



| Category Name | Product Name | Units In Stock |
|---|---|---|
| Beverages | Steeleye Stout | 20 |
| Beverages | Ipoh Coffee | 17 |
| Beverages | Chang | 17 |
| Beverages | Côte de Blaye | 17 |
| Beverages | Outback Lager | 15 |
| Confections | NuNuCa Nuß-Nougat-Creme | 76 |
| Confections | Valkoinen suklaa | 65 |
| Confections | Schoggi Schokolade | 49 |
| Confections | Sir Rodney's Marmalade | 40 |

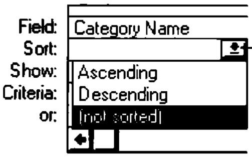
Ascending order goes from A–Z or 1–100.

Descending order goes from Z–A or 100–1.

Just as you can sort records in a table or form, you can sort records in a query by one or more fields. Microsoft Access uses the order of the fields specified in the query to determine the order in which to sort the fields.

▶ **To sort records in ascending order**

1. Switch to Design view.
2. Click the Sort cell for the Category Name field (or use the arrow keys to move to the Sort cell).
3. Select Ascending from the Sort list.


Field: Category Name
Sort:
Show:
Criteria:
or:

Click here to open the list.

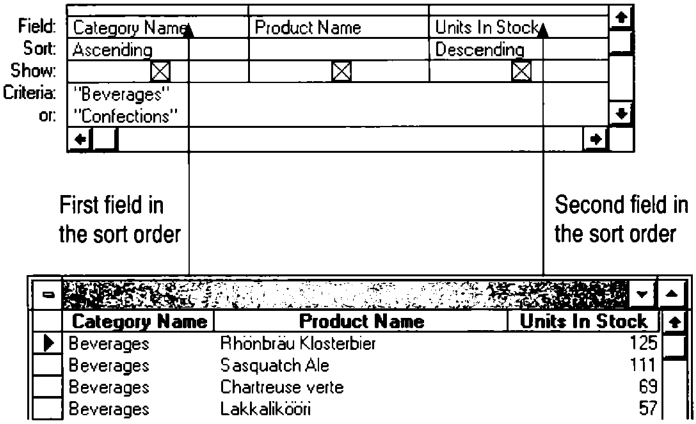
4. Switch to Datasheet view to see the sorted records.

   Microsoft Access sorts the records so that all the beverages come first and the confections follow. Now you'll set the sort order for the Units In Stock field to see the products with the largest inventory first.

### ▶ To sort records in descending order

1. Switch to Design view.
2. Set the sort order for the Units In Stock field to Descending (select Descending from the Sort list).
3. Switch to Datasheet view to see the sorted records.

   Because the column for the Category Name field comes before the column for the Units In Stock field in your query's Design view, Microsoft Access sorts the records first by Category Name and then by Units In Stock.



| Field: | Category Name | Product Name | Units In Stock |
|---|---|---|---|
| Sort: | Ascending | | Descending |
| Show: | ☒ | ☒ | ☒ |
| Criteria: | "Beverages" | | |
| or: | "Confections" | | |

First field in the sort order

Second field in the sort order

| Category Name | Product Name | Units In Stock |
|---|---|---|
| Beverages | Rhönbräu Klosterbier | 125 |
| Beverages | Sasquatch Ale | 111 |
| Beverages | Chartreuse verte | 69 |
| Beverages | Lakkalikööri | 57 |

   When you sort by more than one field in a query, you can change the sort order of the fields by rearranging the columns in Design view. For details about moving columns in a query, see "Modify a Query" later in this chapter.

4. Return to Design view.

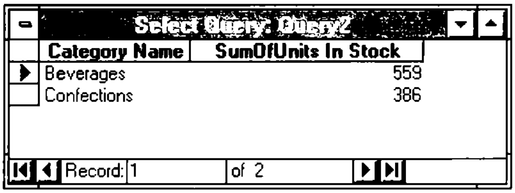
---

**Tip** A query that sorts data can be useful as the data source for a form or report or for a combo box or list box on a form.

# Calculate Totals

Often, the most interesting information you can see is a total, average, or some other type of tally over a set of records. For example, the average salary of all your managers can be more informative than a simple list of individual salaries.

Your query now shows the units in stock for each product in the beverages and confections categories. But, to decide which category to feature, you need to group the products in each category to see the total inventory you have in beverages and in confections.



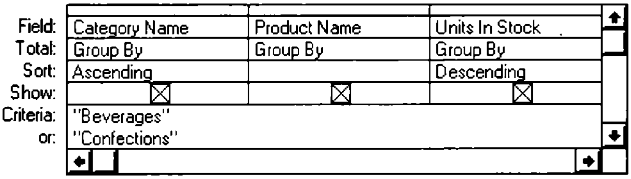
| Category Name | SumOfUnits In Stock |
|---|---|
| Beverages | 559 |
| Confections | 386 |

### ▶ To calculate totals in your query

Σ

1. From the View menu, choose Totals or click the Totals button on the toolbar.

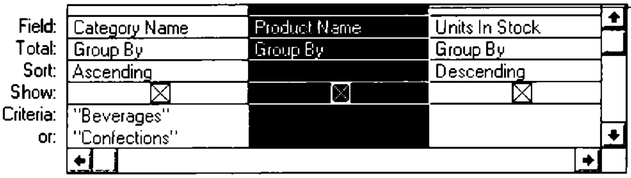
   Microsoft Access displays the Total row in the QBE grid.



| | | | |
|---|---|---|---|
| Field: | Category Name | Product Name | Units In Stock |
| Total: | Group By | Group By | Group By |
| Sort: | Ascending | | Descending |
| Show: | ☒ | ☒ | ☒ |
| Criteria: | "Beverages" | | |
| or: | "Confections" | | |

   Note that Microsoft Access automatically fills in each box with "Group By." Currently, the dynaset for this query displays the total units in stock for each *product*. But you want to see the total units in stock for each *category*. To group your records by Category Name, you need to delete the Product Name field from your query.

2. In the QBE grid, select the column for the Product Name field.



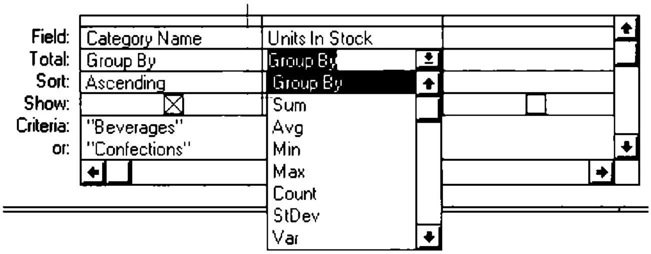
| | | | |
|---|---|---|---|
| Field: | Category Name | Product Name | Units In Stock |
| Total: | Group By | Group By | Group By |
| Sort: | Ascending | | Descending |
| Show: | ☒ | ☒ | ☒ |
| Criteria: | "Beverages" | | |
| or: | "Confections" | | |

Click here to select the column.

3. Press the DEL key (or choose Delete Column from the Edit menu).

   Microsoft Access deletes the field from the query.

4. In the Total cell for the Units In Stock field, select Sum.



Click here.

| | | | |
|---|---|---|---|
| Field: | Category Name | Units In Stock | |
| Total: | Group By | Group By | |
| Sort: | Ascending | | |
| Show: | ☒ | | ☐ |
| Criteria: | "Beverages" | | |
| or: | "Confections" | | |

   Microsoft Access displays the type of total you select in the cell.

5. To see the results, switch to Datasheet view.

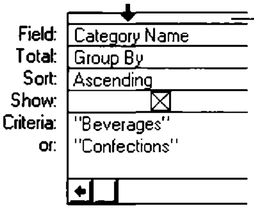
   Microsoft Access displays the total units in stock for each category.

# Modify a Query

The Query window is designed for flexibility and ease of use. Because of the window's graphical features, you can easily move, insert, drag, and otherwise manipulate the fields and columns in your query.

### ▶ To move a column in a query

1. In Design view, click the field selector (column heading) of the column you want to move.



| | |
|---|---|
| Field: | Category Name |
| Total: | Group By |
| Sort: | Ascending |
| Show: | ☒ |
| Criteria: | "Beverages" |
| or: | "Confections" |

Click here to select the column.

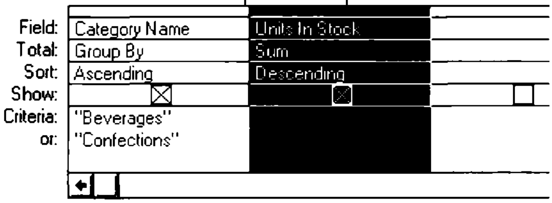
2. Click the field selector again, hold down the mouse button, and drag the column to its new location.

### ▶ To insert a column in a query

1. Select the column to the right of where you want the new column inserted.

To insert a column here...

...select this column.



| | | | |
|---|---|---|---|
| Field: | Category Name | Units In Stock | |
| Total: | Group By | Sum | |
| Sort: | Ascending | Descending | |
| Show: | ☒ | ☒ | ☐ |
| Criteria: | "Beverages" | | |
| or: | "Confections" | | |

2. From the Edit menu, choose Insert Column.

   Microsoft Access inserts a blank column.

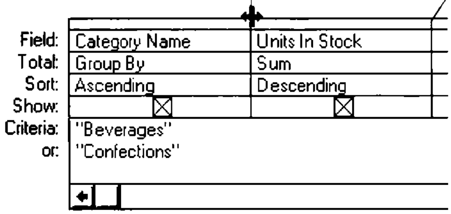
### ▶ To make a column wider or narrower

- Drag the right border of the field selector.

### ▶ To adjust a column's width for the best fit

- Double-click the right border of the field selector.

Microsoft Access adjusts the column width to accommodate the longest cell entry in the column.



When the pointer looks like this, you can drag the border.

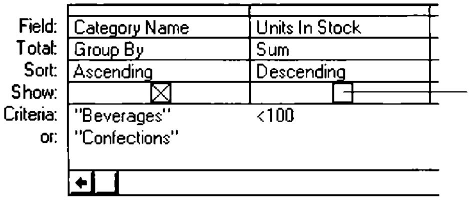
Or you can double-click here to adjust the column width for the best fit.

| | | |
|---|---|---|
| Field: | Category Name | Units In Stock |
| Total: | Group By | Sum |
| Sort: | Ascending | Descending |
| Show: | ☒ | ☒ |
| Criteria: | "Beverages" | |
| or: | "Confections" | |

You can also include a field in your query without having it appear in the datasheet. This is convenient if you want to use the field to specify criteria for the dynaset but don't want the field in your datasheet.

### ▶ To exclude a field from the query's datasheet

- Clear the field's Show box by clicking it.



Click here.

| | | |
|---|---|---|
| Field: | Category Name | Units In Stock |
| Total: | Group By | Sum |
| Sort: | Ascending | Descending |
| Show: | ☒ | ☐ |
| Criteria: | "Beverages" | <100 |
| or: | "Confections" | |

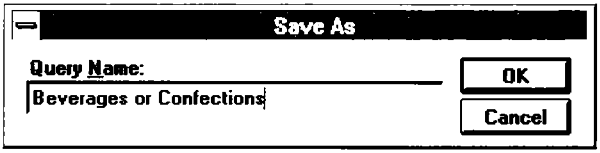
Microsoft Access uses the criteria you've specified for the field to create the dynaset but doesn't show the field in the datasheet.

# Save a Query and Print a Dynaset

Now that you have the results you want, you can save your query.

### ▶ To save a query

1. From the File menu, choose Save (or click the Save button on the toolbar).
2. Type **Beverages or Confections** in the Query Name box.



Query Name: Beverages or Confections

3. Choose OK.

   Microsoft Access saves your query in the database. Any modifications you have made to fields and columns are saved with the query so that your query will look the same the next time you open it.

You can print a dynaset just as you print records from a table.

### ▶ To print a dynaset

1. Open the query in Datasheet view, or select it in the Database window.
2. From the File menu, choose Print (or click the Print button on the toolbar).

   Microsoft Access displays the Print dialog box.
3. Choose OK.

   Microsoft Access prints the dynaset.

**More Information** For more information about printing a dynaset, choose Search from the Help menu and search for "printing."

## In My Case: What Else Can I Do with Queries?

The query you created in this chapter is a select query, the most common type. With Microsoft Access, you can create other types of queries:

- *Action* queries make changes to many records in just one operation. For example, suppose you want to raise all the salaries in one department by 10 percent. Because the change affects all the records by the same percentage, you can have Microsoft Access do the calculations and make the updates for you. You can also use an action query to make a new table, delete records from a table, or append records to a table.
- *Crosstab* queries present your data in a more compact format. With crosstab queries, you can summarize large amounts of information in an easy-to-read format.
- *Union* queries combine matching fields from more than one table.
- *Pass-through* queries send commands to ODBC servers such as Microsoft SQL Server, Sybase SQL Server, or ORACLE.
- *Data-definition* queries use SQL statements to create, change, or delete tables and other objects in Microsoft Access databases.

**More Information** For information about creating and using queries, see Chapter 10, "Query Basics," in the *Microsoft Access User's Guide.*

# What's Next?

You've used the Query window to combine data from different tables, to specify criteria for the records you want to use, to sort records, and to display totals.

In the next chapter, you'll learn more methods for finding the data you need to answer questions and make decisions.

## CHAPTER 7

# Finding the Data You Want

In this chapter, you'll learn how to find a specific value in a set of records. In addition, you'll learn how to use filters to interactively refine the set of records you're viewing.

### Chapter Contents

Find a Value
Sort Records
Create a Filter
Specify Criteria and Apply a Filter
What's Next?

**The Challenge** Sales of Pavlova—Northwind Traders' new tropical dessert from Australia—are good in Great Britain, but in North America they could be better. You plan a special mailing to promote this new product, but you need to determine which North American customers are most likely to respond so that you can get the best results from your mailing.

**The Approach** First, you'll find the record for a contact who can give you tips on new markets for Australian products. With that information, you can define the criteria to select customers who will receive your mailing.

# Find a Value

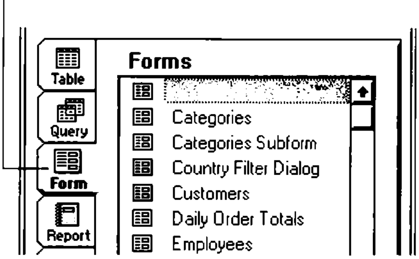
Suppose that you're looking for the phone number of a customer contact named Victoria. You want to call Victoria because she can give you tips on finding new markets for Australian products, but you're not sure of her last name or the company she works for. When you're looking for a specific value such as "Victoria," the Find command on the Edit menu of a form or datasheet provides the quickest path to the record you want.

You can tell Microsoft Access the exact value you want to find, or you can use these wildcard characters: the question mark (?), asterisk (*), or number sign (#). For example, you can use L?s to find Los, Las, or L6s; you can use L*s to find Los or Louis; or you can use A#X to find A2X or A9X.

To look for Victoria's record in the Customers table, you'll use the Customers form in the Northwind Traders database because the customer's name and telephone number are conveniently displayed on the form.

### ▶ To open a form

1. In the Database window, click the Form button.



Click here.

Microsoft Access lists the forms in the Northwind database.

2. Double-click the Customers form.

   Microsoft Access opens the form and displays the first record.

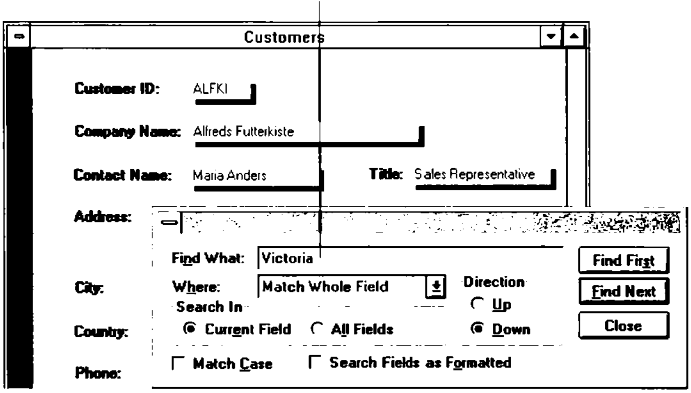
### ▶ To find a value

1. Move to the Contact Name field. (You can click the field, or press the TAB key until the field is selected.)
2. From the Edit menu, choose Find (or click the Find button on the toolbar).

   Microsoft Access displays the Find dialog box.

3. Type **Victoria** in the Find What box.

Find this value in the Contact Name field.



Customer ID: ALFKI

Company Name: Alfreds Futterkiste

Contact Name: Maria Anders

Title: Sales Representative

Find What: Victoria

Where: Match Whole Field

Search In: ● Current Field ○ All Fields

Direction: ○ Up ● Down

☐ Match Case ☐ Search Fields as Formatted

4. In the Where box, select Start Of Field.

   Because the field contains both first and last names, you want Microsoft Access to search for the value at the start of the field.

5. Choose the Find First button.

   Microsoft Access moves to the first customer in the table with "Victoria" in the Contact Name field. (If the dialog box blocks your view of the form, you can move it out of the way by dragging its title bar.)

6. Choose the Find Next button.

   Microsoft Access doesn't find another "Victoria" in the records that come after the current record. It asks if you want to continue the search from the beginning of the set of records.

7. Choose the No button.

   You've already searched those records. Now you know that you have only one "Victoria" in your database.

8. Choose the Close button to close the Find dialog box.

---

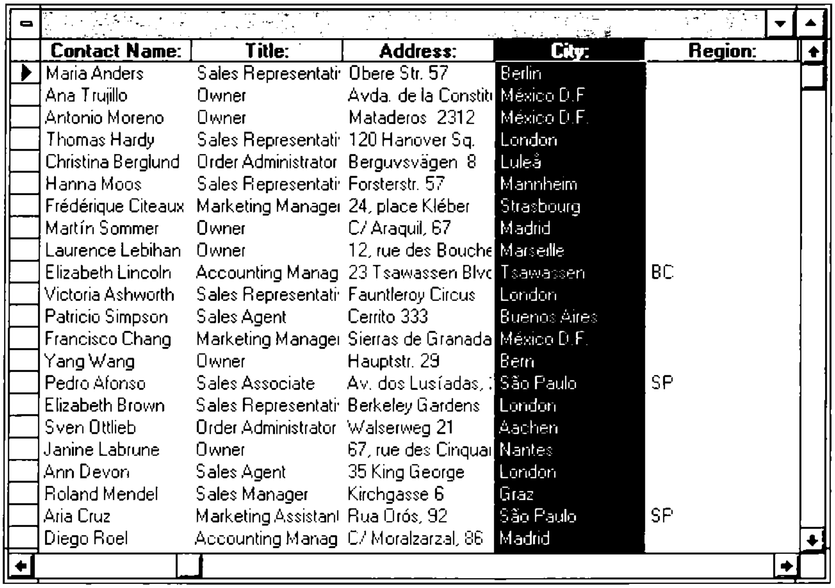
**Tip** When Microsoft Access is finding a value in a set of records, it can search all fields in all records or just a particular field in all records. It takes Microsoft Access longer to search all fields, so your search will go faster if you confine it to one field—especially if the field is indexed. For more information about options in the Find dialog box, press F1 from the dialog box. For information about indexing fields, choose Search from the Help menu and search for "index."

# Sort Records

Victoria reports that many new Australian immigrants reside in Seattle and Portland in the United States and in Vancouver, Canada. Rather than trying to go through the entire Customers table record by record to look for those residents, you can group records quickly by sorting the records. In this case, you'll group the records of customers in these three cities by sorting the City field in ascending order.

### To sort records

1. To see more records in the window, switch to Datasheet view. (From the View menu, choose Datasheet, or click the Datasheet View button on the toolbar.)
2. In the datasheet, select the City column (or click any field in the column).

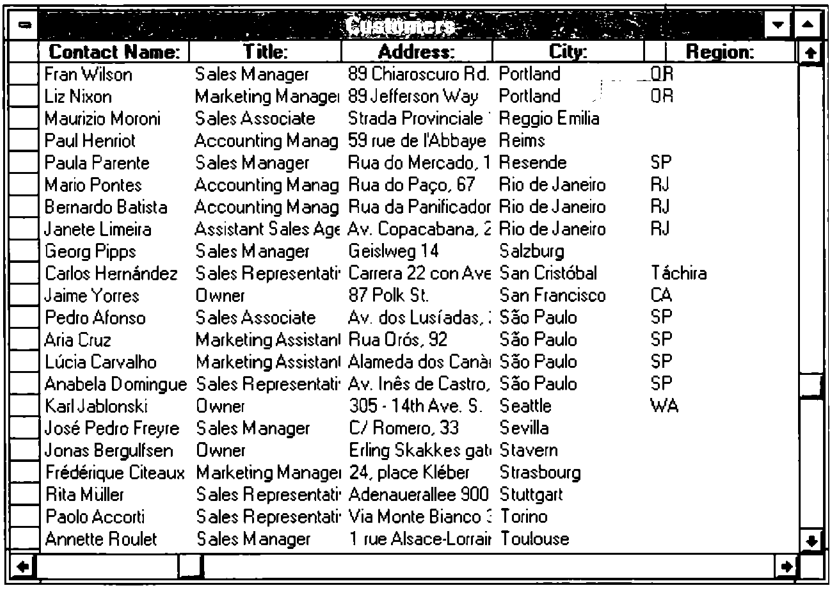


| Contact Name: | Title: | Address: | City: | Region: |
|---|---|---|---|---|
| Maria Anders | Sales Representati | Obere Str. 57 | Berlin | |
| Ana Trujillo | Owner | Avda. de la Constit | México D.F | |
| Antonio Moreno | Owner | Mataderos 2312 | México D.F. | |
| Thomas Hardy | Sales Representati | 120 Hanover Sq. | London | |
| Christina Berglund | Order Administrator | Berguvsvägen 8 | Luleå | |
| Hanna Moos | Sales Representati | Forsterstr. 57 | Mannheim | |
| Frédérique Citeaux | Marketing Manage | 24, place Kléber | Strasbourg | |
| Martín Sommer | Owner | C/ Araquil, 67 | Madrid | |
| Laurence Lebihan | Owner | 12, rue des Bouche | Marseille | |
| Elizabeth Lincoln | Accounting Manag | 23 Tsawassen Blv | Tsawassen | BC |
| Victoria Ashworth | Sales Representati | Fauntleroy Circus | London | |
| Patricio Simpson | Sales Agent | Cerrito 333 | Buenos Aires | |
| Francisco Chang | Marketing Manage | Sierras de Granada | México D.F. | |
| Yang Wang | Owner | Hauptstr. 29 | Bern | |
| Pedro Afonso | Sales Associate | Av. dos Lusíadas, | São Paulo | SP |
| Elizabeth Brown | Sales Representati | Berkeley Gardens | London | |
| Sven Ottlieb | Order Administrator | Walserweg 21 | Aachen | |
| Janine Labrune | Owner | 67, rue des Cinqua | Nantes | |
| Ann Devon | Sales Agent | 35 King George | London | |
| Roland Mendel | Sales Manager | Kirchgasse 6 | Graz | |
| Aria Cruz | Marketing Assistan | Rua Orós, 92 | São Paulo | SP |
| Diego Roel | Accounting Manag | C/ Moralzarzal, 86 | Madrid | |

3. Click the Sort Ascending button on the toolbar.

   Microsoft Access sorts the records.

4. Scroll through the records to display the records with “Portland” in the City field.

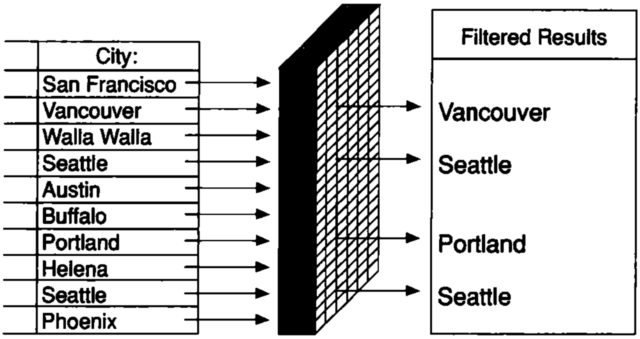


You can sort records to group them together quickly.

| Contact Name: | Title: | Address: | City: | Region: |
|---|---|---|---|---|
| Fran Wilson | Sales Manager | 89 Chiaroscuro Rd. | Portland | OR |
| Liz Nixon | Marketing Manage | 89 Jefferson Way | Portland | OR |
| Maurizio Moroni | Sales Associate | Strada Provinciale | Reggio Emilia | |
| Paul Henriot | Accounting Manag | 59 rue de l'Abbaye | Reims | |
| Paula Parente | Sales Manager | Rua do Mercado, 1 | Resende | SP |
| Mario Pontes | Accounting Manag | Rua do Paço, 67 | Rio de Janeiro | RJ |
| Bernardo Batista | Accounting Manag | Rua da Panificador | Rio de Janeiro | RJ |
| Janete Limeira | Assistant Sales Age | Av. Copacabana, | Rio de Janeiro | RJ |
| Georg Pipps | Sales Manager | Geislweg 14 | Salzburg | |
| Carlos Hernández | Sales Representati | Carrera 22 con Ave | San Cristóbal | Táchira |
| Jaime Yorres | Owner | 87 Polk St. | San Francisco | CA |
| Pedro Afonso | Sales Associate | Av. dos Lusíadas, | São Paulo | SP |
| Aria Cruz | Marketing Assistan | Rua Orós, 92 | São Paulo | SP |
| Lúcia Carvalho | Marketing Assistan | Alameda dos Canà | São Paulo | SP |
| Anabela Domingue | Sales Representati | Av. Inês de Castro, | São Paulo | SP |
| Karl Jablonski | Owner | 305 - 14th Ave. S. | Seattle | WA |
| José Pedro Freyre | Sales Manager | C/ Romero, 33 | Sevilla | |
| Jonas Bergulfsen | Owner | Erling Skakkes gat | Stavern | |
| Frédérique Citeaux | Marketing Manage | 24, place Kléber | Strasbourg | |
| Rita Müller | Sales Representati | Adenauerallee 900 | Stuttgart | |
| Paolo Accorti | Sales Representati | Via Monte Bianco | Torino | |
| Annette Roulet | Sales Manager | 1 rue Alsace-Lorrai | Toulouse | |

# Create a Filter

It's helpful to see records grouped by city, but it would be even more convenient to see only the records for those cities that you need. By creating a *filter*, you can have Microsoft Access select from the table only the customers in Portland, Seattle, and Vancouver.


City:
San Francisco
Vancouver
Walla Walla
Seattle
Austin
Buffalo
Portland
Helena
Seattle
Phoenix
Filtered Results
Vancouver
Seattle
Portland
Seattle

When you create a filter, you give Microsoft Access a set of criteria that describe the records you want to see. Microsoft Access uses these criteria to select the records you want from the table or dynaset on which the form is based. (If you want to see all of the records in the table or dynaset again, you can choose the Show All Records command from the Records menu or click the Show All Records button on the toolbar.)

First, you create the filter; then you apply the filter to your current set of records.

---

**Tip** You can create a filter while you're using a table or a form. If you're using a query, specify criteria until you get the dynaset you want.

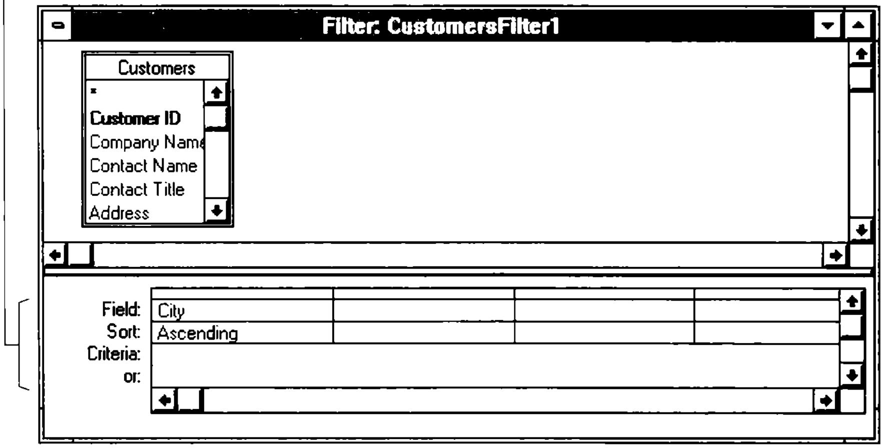
---

### ▶ To create a filter

- From the Records menu, choose Edit Filter/Sort (or click the Edit Filter/Sort button on the toolbar).

  Microsoft Access opens the Filter window, where you define the records you want to see.

Define the records you want here.



Field: City
Sort: Ascending
Criteria:
or:

As you can see, the Filter window looks a lot like a Query window. In the Filter window, however, you can't add tables or compute values the way you can with a query; you can only specify criteria and sort order.

## In My Case: Do I Want to Use Find or a Filter?

In some cases, it's more efficient to use the Find command to get to the information you want. In other cases, it's better to use a filter. To decide which method will work better in your case, ask these questions:

- Are you looking for one record that contains a particular value? If so, it's probably more efficient to use the Find command.
- Are you looking for a set of records that meets certain criteria? In that case, use a filter. With a filter, you can continue to refine your set of records, asking new questions and getting different answers. In addition, you can use a filter to specify different criteria for different fields.

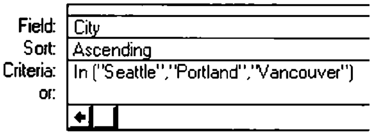
# Specify Criteria and Apply a Filter

When you specify criteria in a filter, you use values in fields to pinpoint the records you want to see, as you do in a query. In this case, you want to see records in which the value in the City field is Seattle, Portland, or Vancouver. The **In** operator provides a convenient way to view records in which a field contains one of a list of values.

You created the filter immediately after sorting the City field in the Customers table, so that field is already in the grid in the Filter window. You need only specify the criteria you want for the field.

### ▶ To specify the criteria for the City field

- Type **In(Seattle, Portland, Vancouver)** in the Criteria cell for the City field, and then press ENTER.



| | |
|---|---|
| Field: | City |
| Sort: | Ascending |
| Criteria: | In ("Seattle","Portland","Vancouver") |
| or: | |

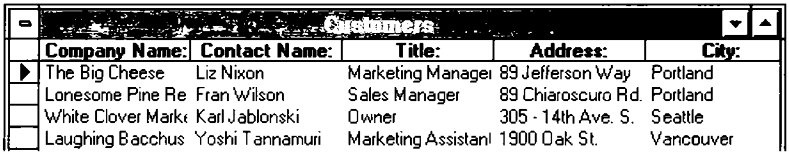
Note that Microsoft Access puts quotation marks around the values in the list after you press ENTER.

Now you can apply the filter and see your results.

### ▶ To apply a filter

- From the Records menu, choose Apply Filter/Sort or click the Apply Filter/Sort button on the toolbar.

  Microsoft Access searches for customers located in Seattle, Portland, or Vancouver and displays these records in the Customers form. This is the set of records you need for the special mailing.



Customers

| | Company Name: | Contact Name: | Title: | Address: | City: |
|---|---|---|---|---|---|
| ▶ | The Big Cheese | Liz Nixon | Marketing Managei | 89 Jefferson Way | Portland |
| | Lonesome Pine Re | Fran Wilson | Sales Manager | 89 Chiaroscuro Rd. | Portland |
| | White Clover Mark | Karl Jablonski | Owner | 305 - 14th Ave. S. | Seattle |
| | Laughing Bacchus | Yoshi Tannamuri | Marketing Assistant | 1900 Oak St. | Vancouver |

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**Tip** To add a field to a filter, drag the field from the field list in the upper portion of the Filter window to the grid in the lower portion of the window. Microsoft Access adds the field to the filter.

---

Filters are great for quick, ad hoc searches because you can continue to adjust and refine your filter while you view the results. A filter can be as simple as the one you just created, searching for all the records that contain a set of values in one field, or it can be quite complex, searching for records that fall within a range of values or combine criteria from more than one field.

**More Information** For more details on the kinds of criteria you can specify, see "Specify Additional Criteria" in Chapter 6, "Creating a Query."

### In My Case: What's the Best View of My Data?

Microsoft Access provides many options for viewing data. For a quick, convenient look at all the records in a table, you can just open the table from the Database window. Or, if your table has hundreds of records and you want to view only a subset of them, you can filter the table.

Sometimes, however, you'll find a form or a query to be a more powerful tool for viewing records. With a form, you can arrange fields to see more of them at one time (though you may see fewer records at once). With a form or a query, you can look at just a subset of records. But perhaps the most powerful advantage of forms and queries is that you can use them to show related data from different tables together at the same time. In Chapter 6, "Creating a Query," you created a query that included data from two tables. In Chapter 8, "Showing Data from More Than One Table on a Form," you'll see how to combine data from different tables on one form.

# What's Next?

Now that you're using Microsoft Access to get some answers, it's time to broaden your horizons. Suppose you want to group data from different tables on a form—to show all the orders placed by one customer under the customer's name, for example, or all the products grouped under one category.

In the next chapter, you'll create a *subform* that groups records from one table that correspond to a particular record from another table. You'll learn other methods, as well, for showing data from more than one table on a form.

## CHAPTER 8

# Showing Data from More Than One Table on a Form

In this chapter, you'll learn how to create a subform that shows the set of records associated with a single record on the main form. You'll also learn how to combine data from different tables into a single form by basing the form on a query.

### Chapter Contents

Create a Form That Contains a Subform
Use a Query to Include Fields from More Than One Table
What's Next?

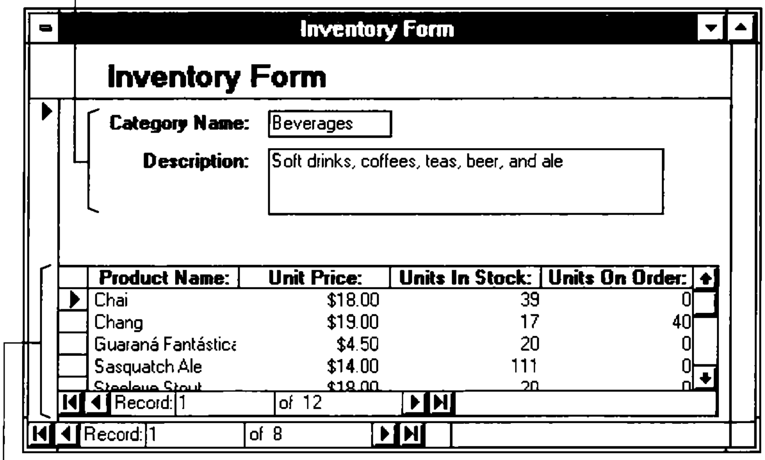
**The Challenge** Suppose you're looking for a more convenient way to review the status of your inventory. What you'd like is a form that displays a category of products at the top and then lists all the products in that category below. You'd use the form to review your inventory and to update the Products table when your inventory changes.

**The Approach** Using a Form Wizard, you'll create a form that displays a group of records from the Products table for each category in the Categories table. Your form will be based on the Categories table, and it will contain a subform that's based on the Products table.

# Create a Form That Contains a Subform

When you work with data, it's often convenient to see records combined in meaningful groups. For example, you might want to see all the products in each category grouped under the category name. To do that, you create a form that contains a *subform*. A subform can display a set of records that is associated with the record on the main form.

Main form



**Inventory Form**

**Category Name:** Beverages

**Description:** Soft drinks, coffees, teas, beer, and ale

| Product Name: | Unit Price: | Units In Stock: | Units On Order: |
|---|---|---|---|
| Chai | $18.00 | 39 | 0 |
| Chang | $19.00 | 17 | 40 |
| Guaraná Fantástic | $4.50 | 20 | 0 |
| Sasquatch Ale | $14.00 | 111 | 0 |
| Steeleye Stout | $18.00 | 20 | 0 |

Record: 1 of 12

Record: 1 of 8

The subform shows more than one product for each category.

The inventory form that you build in this chapter is actually two forms in one. The *main form* displays one record for one category of products. At the same time, the subform displays many records—all the products for the category displayed on the main form. This type of data is said to have a "one-to-many" relationship—one category has many products.

A form with a subform has advantages over a query for viewing this type of data. Because a query displays its result in a datasheet, each field on the "one" side of the relationship must be repeated for each record on the "many" side. But a form with a subform can show the data on the "one" side of the one-to-many relationship once at the top of the form and show all the records on the "many" side of the relationship grouped below it.

### ▶ To create a form that contains a subform

1. In the Database window, click the Form button.
2. Choose the New button.

   Microsoft Access displays the New Form dialog box.
3. Select the Categories table from the list of tables and queries.

   Base the form on the table or query that contains the data you want to appear on the main form—the data on the "one" side of the one-to-many relationship. In this case, you'll show category information on the main form and group product information on the subform.
4. Click the Form Wizards button.

   Microsoft Access displays the first Form Wizard dialog box.
5. Make these choices as you go through the Form Wizard dialog boxes:
   - Select the Main/Subform Form Wizard, and choose OK.
   - Select the Products table as the source for the subform.
   - For the main form, add the Category Name and Description fields.
   - For the subform, add the Product Name, Unit Price, Units In Stock, and Units On Order fields.
   - Select any style for your form.
   - Give your form the title **Inventory Form**.
   - Choose the Finish button.
   - Save the subform, and name it **Inventory Subform**.

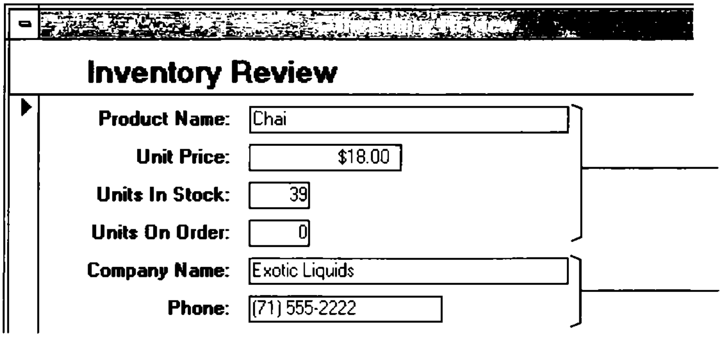
   The Form Wizard creates your form and opens it for you. Scroll through the records to see how the form works. For each record in the Categories table, the subform displays the corresponding products from the Products table. If necessary, scroll through the subform to see all of its records.

   When you finish looking at the form, close it. You won't use this form again in *Microsoft Access Getting Started*, so you don't need to save it.

Microsoft Access knows which products to group under which categories in your form because a relationship has been defined in the database between the Categories and Products tables. For more information about creating relationships between tables, see Chapter 3, "Creating a Table."

# Use a Query to Include Fields from More Than One Table

Suppose that you want to review your products one by one to decide which products to reorder. You'd like to use a form rather than a datasheet because a form has a more convenient layout for viewing individual records. Also, it would be convenient to have the supplier's name and phone number appear on the form along with the product name.



Inventory Review

Product Name: Chai
Unit Price: $18.00
Units In Stock: 39
Units On Order: 0
Company Name: Exotic Liquids
Phone: (71) 555-2222

Product information

Supplier information

In this case, you don't need to group the data from either table. You just need to combine data from different tables in the same record on a form. To do that, you create a query that includes the fields you want and then base the form on the query.

### ▶ To create a query

1. From the Database window, create a new query (click the Query button, choose the New button, and then choose the New Query button in the New Query dialog box).
2. Add the Products table and the Suppliers table to the query, and then close the Add Table dialog box.

   Microsoft Access displays the Query window, showing the tables you added. Note that the two tables are connected with a join line.
3. From the tables, drag the following fields to the Field row of the QBE grid:
   - From the Products table: Product Name, Unit Price, Units In Stock, and Units On Order
   - From the Suppliers table: Company Name and Phone
4. Save the query, and name it **Products and Supplier Phone Numbers**.
5. Close the query.

**More Information** For detailed steps on creating a query, see Chapter 6, "Creating a Query."

▶ **To base a form on a query**

1. In the Database window, select the Products and Supplier Phone Numbers query you just created.
2. Click the AutoForm button on the toolbar.

   Microsoft Access creates a form based on the query. AutoForm includes all the fields in the query on the form. Now you have a form that shows data from both the Suppliers and the Products tables in the same record. For each record in the Products table, the form displays the corresponding values from the Supplier table. Scroll through the records to see how the form works.

   When you finish looking at the form, close it. You won't use this form again in *Microsoft Access Getting Started*, so you don't need to save it.

## In My Case: When Would I Want to Base a Form or Report on a Query?

You can base any kind of form or report on a query. Queries are a convenient way to see fields from more than one table in the same record. For example, suppose that you want a form or report that lists each sale your company made during a month. You want to show the order number, the name of the customer who placed the order, the name of the employee who took the order, and the amount of the order—all on one record. The easiest approach is to create a query that includes the fields you want from the Customers, Employees, and Orders tables. Then base your form or report on the query. When the Wizard prompts you to select fields to include on the form or report, you will have all the fields in the query to choose from. Because the data in a dynaset is always current, you know that the data displayed in your form or printed in your report is completely up to date.

# What's Next?

Congratulations! In Part 3, you learned how to find the data you want and how to combine data from different tables in a single query or form.

In Part 4, "Presenting Your Data," you'll learn how to create reports and mailing labels. You'll also learn how to use the Command Button Wizard to add a button to a form.

PART 4

# Presenting Your Data

Part 4 of *Microsoft Access Getting Started* shows you how to create professional reports, print mailing labels, and make your forms work together.

- Chapter 9, "Creating Reports and Mailing Labels," explains how to group data on reports with subtotals and totals. You also learn how to use Microsoft Access to create and print mailing labels.
- Chapter 10, "Customizing and Automating," shows you how to add a button to a form that you can use to open another form.

"My report is for the directors, so it has to look great. How do I pull it all together?"

"I print mailing labels on three sizes of labels. Can Microsoft Access help me do that?"

"I want to be able to press a button on my order form to see detailed information about a product that's been ordered. How do I mae that button work?"

CHAPTER 9

# Creating Reports and Mailing Labels

In this chapter, you'll learn how to create a report that groups data and shows totals across groups. You'll also learn how to create and print mailing labels.

## Chapter Contents

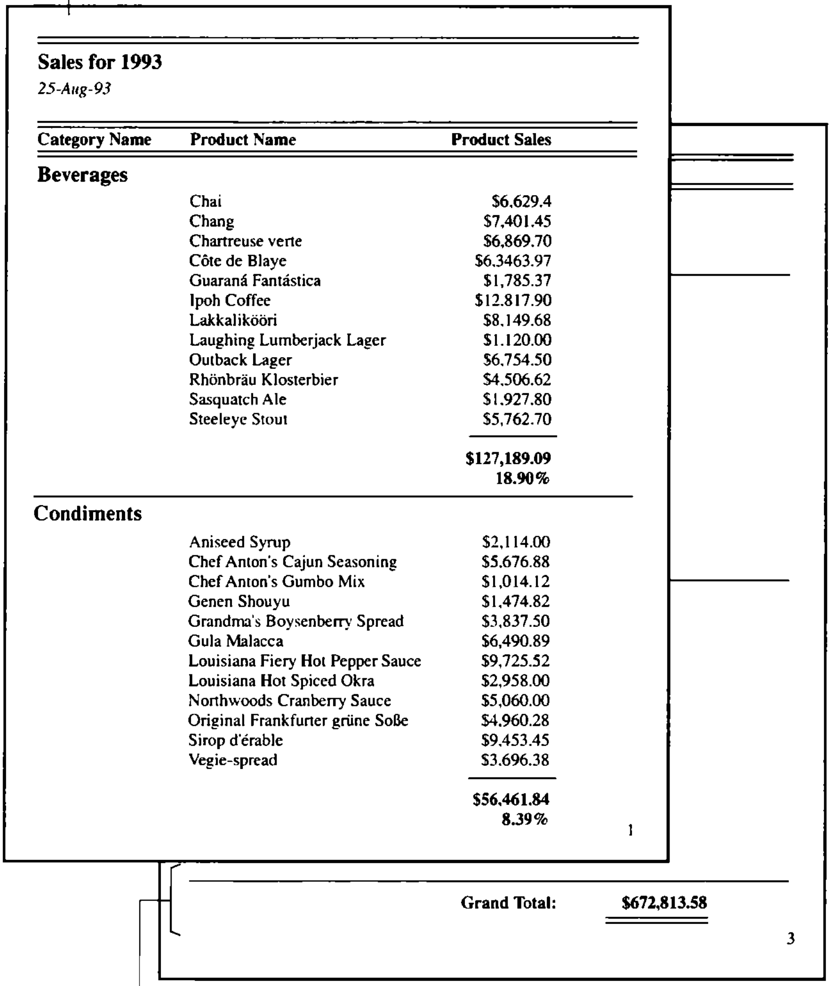
How to Use Reports to Present Data
Create a Report with Grouped Data
Preview, Print, and Save a Report
A Report in Design View
Create and Print Mailing Labels
What's Next?

**The Challenge** Before the Northwind Traders annual meeting, you plan to mail a sales report to the sales staff. The report should include an overview of category sales as well as details about each product's sales.

**The Approach** First, you'll create a report that effectively organizes and presents the sales data. Then you'll create mailing labels to mail invitations to employees for the annual company meeting.

# How to Use Reports to Present Data

You can use a report to present your data in print. With a report, you have greater flexibility to present summary information than with a form. For instance, you can include totals across an entire set of records in a report. A report is much like a form, except that it gives you greater control over how data appears in print.



**Sales for 1993**

*25-Aug-93*

| Category Name | Product Name | Product Sales |
|---|---|---|
| **Beverages** | | |
| | Chai | $6.629.4 |
| | Chang | $7,401.45 |
| | Chartreuse verte | $6,869.70 |
| | Côte de Blaye | $6.3463.97 |
| | Guaraná Fantástica | $1,785.37 |
| | Ipoh Coffee | $12.817.90 |
| | Lakkalikööri | $8.149.68 |
| | Laughing Lumberjack Lager | $1.120.00 |
| | Outback Lager | $6.754.50 |
| | Rhönbräu Klosterbier | $4.506.62 |
| | Sasquatch Ale | $1.927.80 |
| | Steeleye Stout | $5,762.70 |
| | | **$127,189.09**<br>**18.90%** |
| **Condiments** | | |
| | Aniseed Syrup | $2,114.00 |
| | Chef Anton's Cajun Seasoning | $5.676.88 |
| | Chef Anton's Gumbo Mix | $1,014.12 |
| | Genen Shouyu | $1,474.82 |
| | Grandma's Boysenberry Spread | $3,837.50 |
| | Gula Malacca | $6,490.89 |
| | Louisiana Fiery Hot Pepper Sauce | $9,725.52 |
| | Louisiana Hot Spiced Okra | $2,958.00 |
| | Northwoods Cranberry Sauce | $5,060.00 |
| | Original Frankfurter grüne Soße | $4,960.28 |
| | Sirop d'érable | $9.453.45 |
| | Vegie-spread | $3.696.38 |
| | | **$56,461.84**<br>**8.39%** |

1

**Grand Total:** **$672,813.58**

3

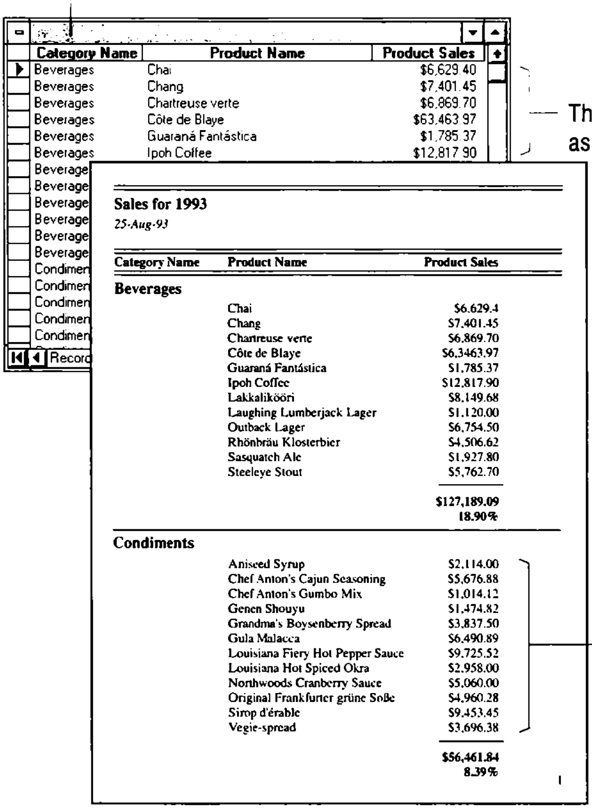
Use a report to show groups of data with subtotals and grand totals.

Reports can show grand totals across groups of records.

You can use graphics and a variety of controls on a report, just as you can on a form. All the methods you learned for creating forms in Part 2, "Building a Database," also work for creating reports.

One of the differences between forms and reports is how you group data. As you saw in Chapter 8, "Showing Data from More Than One Table on a Form," you group data on a form by creating a main form that contains a subform. The main form is based on a table or query, and the subform is based on a related table or query. In contrast, you can group data on a report from a *single* table or query. The table or query in Datasheet view and the report display the same set of data, but each presents the data differently.

The category name appears in every row in the datasheet.



| Category Name | Product Name | Product Sales |
|---|---|---|
| Beverages | Chai | $6,629.40 |
| Beverages | Chang | $7,401.45 |
| Beverages | Chartreuse verte | $6,869.70 |
| Beverages | Côte de Blaye | $63,463.97 |
| Beverages | Guaraná Fantástica | $1,785.37 |
| Beverages | Ipoh Coffee | $12,817.90 |
| Beverage | | |
| Beverage | | |
| Beverage | | |
| Beverage | | |
| Beverage | | |
| Beverage | | |
| Condimen | | |
| Condimen | | |
| Condimen | | |
| Condimen | | |
| Condimen | | |

The records appear as one large group.

**Sales for 1993**

*25-Aug-93*

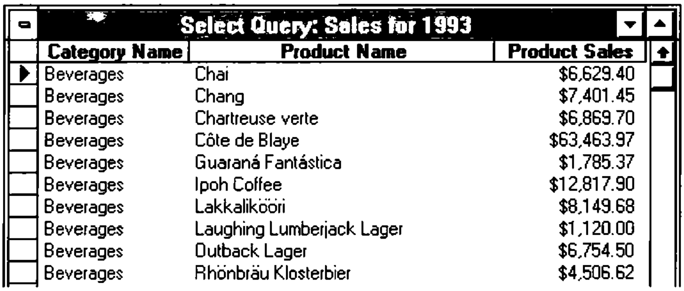
| Category Name | Product Name | Product Sales |
|---|---|---|
| **Beverages** | | |
| | Chai | $6,629.4 |
| | Chang | $7,401.45 |
| | Chartreuse verte | $6,869.70 |
| | Côte de Blaye | $6,3463.97 |
| | Guaraná Fantástica | $1,785.37 |
| | Ipoh Coffee | $12,817.90 |
| | Lakkalikööri | $8,149.68 |
| | Laughing Lumberjack Lager | $1,120.00 |
| | Outback Lager | $6,754.50 |
| | Rhönbräu Klosterbier | $4,506.62 |
| | Sasquatch Ale | $1,927.80 |
| | Steeleye Stout | $5,762.70 |
| | | **$127,189.09** |
| | | **18.90%** |
| **Condiments** | | |
| | Aniseed Syrup | $2,114.00 |
| | Chef Anton's Cajun Seasoning | $5,676.88 |
| | Chef Anton's Gumbo Mix | $1,014.12 |
| | Genen Shouyu | $1,474.82 |
| | Grandma's Boysenberry Spread | $3,837.50 |
| | Gula Malacca | $6,490.89 |
| | Louisiana Fiery Hot Pepper Sauce | $9,725.52 |
| | Louisiana Hot Spiced Okra | $2,958.00 |
| | Northwoods Cranberry Sauce | $5,060.00 |
| | Original Frankfurter grüne Soße | $4,960.28 |
| | Sirop d'érable | $9,453.45 |
| | Vegie-spread | $3,696.38 |
| | | **$56,461.84** |
| | | **8.39%** |

The records for each category appear as separate groups.

The Sales for 1993 report has one group level that groups the data by category name. You'll create this report in this chapter.

# Create a Report with Grouped Data

The report you'll create shows Northwind Traders sales for 1993. The Northwind Traders database already has a query named Sales for 1993 that brings together the data you want to present.



Select Query: Sales for 1993

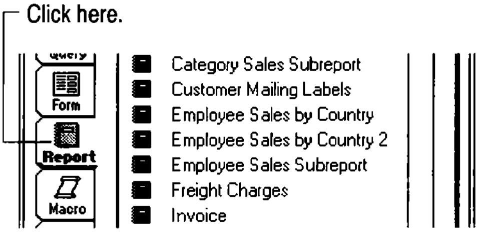
| Category Name | Product Name | Product Sales |
|---|---|---|
| Beverages | Chai | $6,629.40 |
| Beverages | Chang | $7,401.45 |
| Beverages | Chartreuse verte | $6,869.70 |
| Beverages | Côte de Blaye | $63,463.97 |
| Beverages | Guaraná Fantástica | $1,785.37 |
| Beverages | Ipoh Coffee | $12,817.90 |
| Beverages | Lakkalikööri | $8,149.68 |
| Beverages | Laughing Lumberjack Lager | $1,120.00 |
| Beverages | Outback Lager | $6,754.50 |
| Beverages | Rhönbräu Klosterbier | $4,506.62 |

Your report will group the product sales for each category under the category's heading and show total sales at the end.

**More Information** The Sales for 1993 query summarizes product sales for 1993. This type of query is often used as the basis of a report or graph. For an explanation of how to build queries that summarize data, see Chapter 11, "Designing Select Queries," in the *Microsoft Access User's Guide.*

### ▶ To create a report with grouped data

1. In the Database window, click the Report button.



Click here.

Category Sales Subreport
Customer Mailing Labels
Employee Sales by Country
Employee Sales by Country 2
Employee Sales Subreport
Freight Charges
Invoice

2. Choose the New button.

   Microsoft Access displays the New Report dialog box.

3. Select the Sales for 1993 query from the list of tables and queries.
4. Choose the Report Wizards button.

   Microsoft Access displays the first Report Wizard dialog box.

5. Make these choices as you go through the dialog boxes:
   - Select the Groups/Totals Wizard.
   - Add all the fields from the query to the report.
   - Group records by the Category Name field.
   - Group the Category Name field by selecting Normal (the default).
   - Sort records on the Product Name field. That way, your products will appear in alphabetic order in their respective categories.
   - Choose the Executive style for your report.
   - Give your report the default title **Sales for 1993**.
   - Choose the Finish button.

   Microsoft Access creates the report and opens it in Print Preview. In the next section, you'll examine the report more closely in Print Preview and learn how to print the report.

### In My Case: Which Should I Create—A Form or a Report?

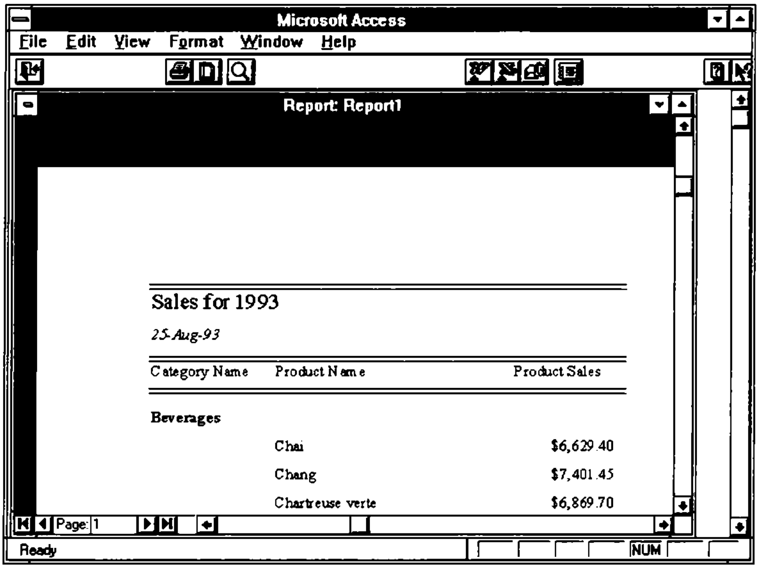
Data is useful when it *communicates*—when it gets a message across. You can use either forms or reports to communicate your message, depending on how you're presenting the data and how you want it arranged. Forms and reports each have their own advantages.

**Advantages of forms** You can use a form to view, edit, and print data. Because of their versatility, you might find that forms meet most of your needs.

**Advantages of reports** You can use a report to show the "big picture" by grouping data and showing grand totals as well as subtotals. You can also insert a report into another report (you can't insert a report into a form). You can control page layout more easily in a report and print your data with a polished design. However, you can't use a report to edit data on the screen; for that you need a form.

# Preview, Print, and Save a Report

After the Report Wizard creates your report, Microsoft Access displays your report as it would appear in print.



Sales for 1993

*25-Aug-93*

| Category Name | Product Name | Product Sales |
|---|---|---|
| **Beverages** | | |
| | Chai | $6,629.40 |
| | Chang | $7,401.45 |
| | Chartreuse verte | $6,869.70 |

You can zoom out on your report to see a whole page at once.

▶ **To see a whole page of the report**

1. In Print Preview, position the pointer over the report. The pointer changes to a magnifying glass.
2. Click the report.

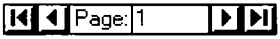
   Microsoft Access displays a view of the whole page. You can use this view to look at the report's layout before printing it.
3. To zoom back in and view the data, click the report again.

▶ **To scroll in one page of the report when it's zoomed in**

- Use the horizontal and vertical scroll bars.

▶ **To scroll through pages of the report**

- Use the Page buttons at the bottom of the window.



You can print a report from Print Preview, from Design view, or from the Database window. If your system is set up for printing, try printing your report now.

▶ **To print a report**

1. From the File menu, choose Print (or click the Print button on the toolbar).
2. Change the print settings if you need to, and then choose OK.
   Microsoft Access prints your report.

▶ **To save a report**

1. From the File menu, choose Save.
   Microsoft Access displays the Save As dialog box.
2. Type **Sales for 1993** in the Report Name box.
3. Choose OK.
   Microsoft Access saves the report.

---

**Tip** If you want to use the report output in another application, such as a spreadsheet or word-processing application, choose the Output To command from the File menu to save the report output in a file. (You can also output a table or query in Datasheet view or a form in Form view or Datasheet view to another file.) You can save a file in Microsoft Excel spreadsheet format (.XLS), rich-text format (.RTF), or MS-DOS Text (.TXT) format.

---

When you finish previewing a report, you can close the Print Preview window.

▶ **To close the Print Preview window**

- Click the Close button on the toolbar.

**More Information** For more information about printing reports and other Microsoft Access objects, choose Search from the Help menu and search for "printing."

# A Report in Design View

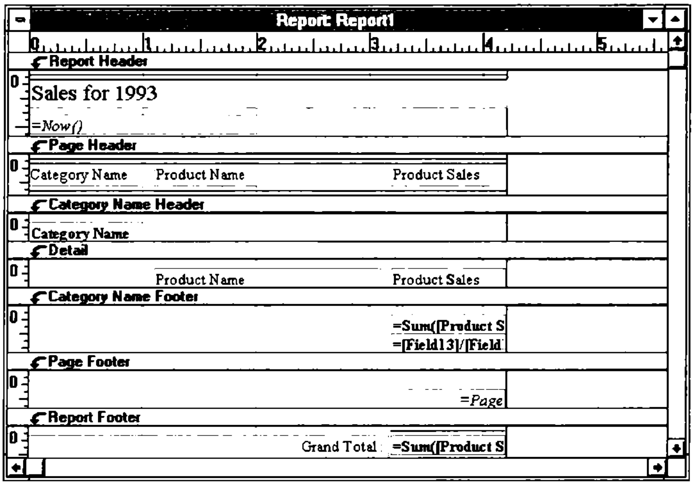
You use Design view to modify the design of your report. The Design view of a report is similar to the Design view of a form.

### ▶ To open a report in Design view

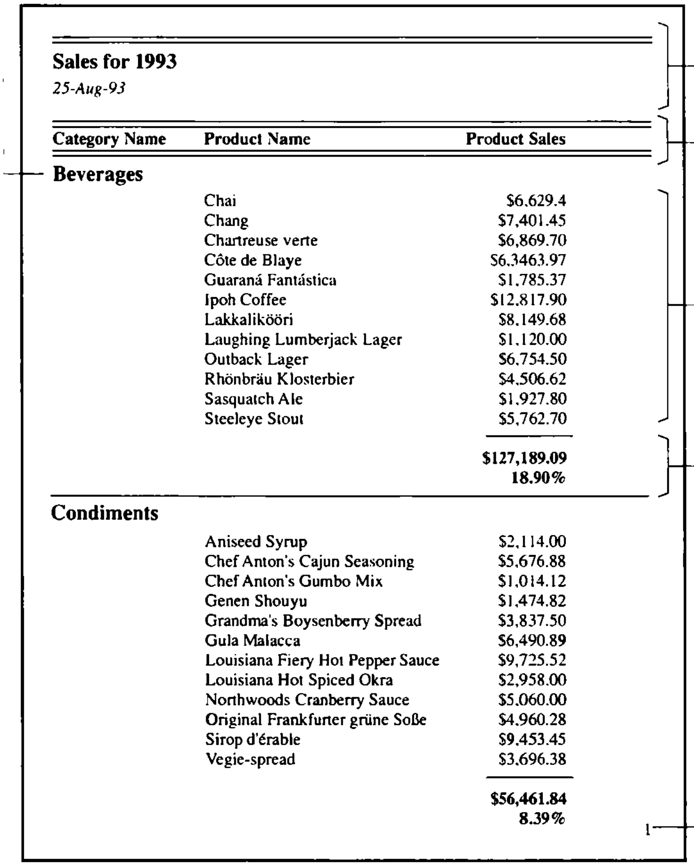
1. In the Database window, click the Report button to display the list of reports.
2. Select the Sales for 1993 report.
3. Choose the Design button.

   Microsoft Access displays the report in Design view.

Microsoft Access divides a report into *sections*. In Design view, each section of the report appears once.


Report: Report1
0
1
2
3
4
5
Report Header
Sales for 1993
=Now()
Page Header
Category Name
Product Name
Product Sales
Category Name Header
Category Name
Detail
Product Name
Product Sales
Category Name Footer
=Sum([Product S
=[Field13]/[Field
Page Footer
=Page
Report Footer
Grand Total
=Sum([Product S

When you print the report, sections are repeated, as appropriate, until all the data in the report is printed. The controls in each section tell Microsoft Access what data to print in the section. For example, the Category Name text box in the Category Name header (group header) is bound to the Category Name field in the Categories table. When you print the report, Microsoft Access prints the first category's name in a text box in a group header. The group header is followed by the products for that group in the detail section and the totals for the group in the group footer. Then Microsoft Access repeats the group header for the second category of products, and so on, until all the categories are printed.



The group header prints at the beginning of each group.

The report header prints at the beginning of the report.

The page header prints on every page.

The detail section prints for each record in the group.

The group footer prints at the end of each group.

The page footer prints on every page.

**Sales for 1993**

*25-Aug-93*

| Category Name | Product Name | Product Sales |
|---|---|---|
| **Beverages** | | |
| | Chai | $6.629.4 |
| | Chang | $7,401.45 |
| | Chartreuse verte | $6,869.70 |
| | Côte de Blaye | $6.3463.97 |
| | Guaraná Fantástica | $1.785.37 |
| | Ipoh Coffee | $12.817.90 |
| | Lakkalikööri | $8.149.68 |
| | Laughing Lumberjack Lager | $1.120.00 |
| | Outback Lager | $6.754.50 |
| | Rhönbräu Klosterbier | $4.506.62 |
| | Sasquatch Ale | $1.927.80 |
| | Steeleye Stout | $5.762.70 |
| | | **$127,189.09**<br>**18.90%** |
| **Condiments** | | |
| | Aniseed Syrup | $2.114.00 |
| | Chef Anton's Cajun Seasoning | $5.676.88 |
| | Chef Anton's Gumbo Mix | $1.014.12 |
| | Genen Shouyu | $1.474.82 |
| | Grandma's Boysenberry Spread | $3,837.50 |
| | Gula Malacca | $6,490.89 |
| | Louisiana Fiery Hot Pepper Sauce | $9,725.52 |
| | Louisiana Hot Spiced Okra | $2,958.00 |
| | Northwoods Cranberry Sauce | $5.060.00 |
| | Original Frankfurter grüne Soße | $4.960.28 |
| | Sirop d'érable | $9.453.45 |
| | Vegie-spread | $3.696.38 |
| | | **$56,461.84**<br>**8.39%** |

1

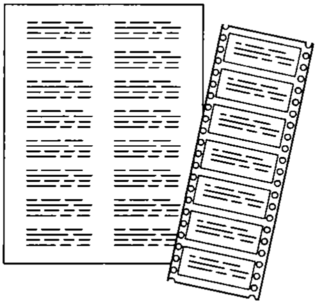
---

**Note** Not all reports have all the sections that this report includes. To add page or report headers and footers to a report, choose the Page Header/Footer or Report Header/Footer command from the Format menu. To add a group header and footer, choose Sorting And Grouping from the View menu. For more information about creating and modifying sections in reports, see Part 5, "Reports," in the *Microsoft Access User's Guide.*

---

# Create and Print Mailing Labels

A report designed to print names and addresses on standard mailing labels is a common part of most database applications. The only problem is, there's no true *standard* mailing label.



Many labels are designed for sprocket-feed printers, while others are designed in separate sheets for use with laser printers. Different countries have different standard sizes for labels. Some labels come in single columns; others come in two, three, or four columns. The Mailing Labels Report Wizard includes choices to match most common labels.

You'll create mailing labels to mail the invitations for the annual company meeting.

▶ **To create mailing labels**

1. In the Database window, create a report. (Click the Report button, and then choose the New button.)

   Microsoft Access displays the New Report dialog box.
2. Select the Employees table from the list of tables and queries.
3. Choose the Report Wizards button.

4. Make these choices as you go through the dialog boxes:
    - Select the Mailing Label Report Wizard.
    - When the Report Wizard asks what you want on your mailing label, make the following choices (use the buttons below the field list to add spaces and punctuation to your label and to start each new line):
        - First Name, a space, and Last Name for the first line
        - Address for the second line
        - City, Region, and Postal Code for the third line, providing punctuation and spaces as appropriate
        - Country for the fourth line
    - When the Report Wizard prompts you for the fields you want to sort by, select the Last Name field.
    - Select whatever label type and dimensions you want.
    - Select the font, size, weight, and color you want for the label text.
5. Choose the Finish button.

That's all there is to it—Microsoft Access creates your mailing labels.

▶ **To print mailing labels**

- Click the Print button on the toolbar (or choose Print from the File menu), and then choose OK in the Print dialog box.

  When you finish printing the labels, close your report. You won't use this report again in *Microsoft Access Getting Started,* so you don't need to save it.

**More Information** For more information about printing mailing labels, choose Search from the Help menu and search for "mailing labels."

# What's Next?

Now that you've learned how to present your data to its best advantage, it's time to find out how to automate some of your most common tasks and get Microsoft Access to do the work for you.

In Chapter 10, "Customizing and Automating," you'll learn how to add a button to a form that opens another form.

# Customizing and Automating

In this chapter, you'll learn how to use the Command Button Wizard to add a button to a form that opens another form.

## Chapter Contents

Create a Command Button That Opens a Form
What's Next?

**The Challenge** For the annual company meeting, you'll distribute a letter of congratulations to each sales representative. You plan to review sales records for each employee so you can write a personal note on each letter. If you could automate the process of looking up the sales records, your job would go much faster.

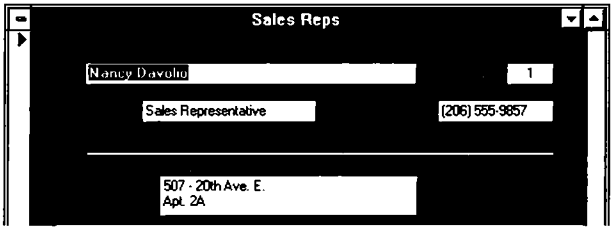
**The Approach** You have a Sales Reps form that you use to look up employee names and addresses. You'll add a command button to the form so you can open a second form to display the employee's sales record.

# Create a Command Button That Opens a Form

You probably have certain tasks that you do repeatedly. For example, you might produce a monthly report of sales totals. You probably print the same basic report each month, replacing old totals with new ones. Using Microsoft Access, you can automate tasks like these by creating command buttons with the Command Button Wizard.

A command button is a control on a form. Unlike most other controls, a command button does not display or accept data. Instead, when you press the button, it carries out an action. The Command Button Wizard can create command buttons that carry out a wide variety of actions, such as printing reports or opening forms.

Here's a common situation in which a command button can save both time and keystrokes. Suppose you use a Sales Reps form to look up the names and addresses of your sales staff.



Nancy Davolio

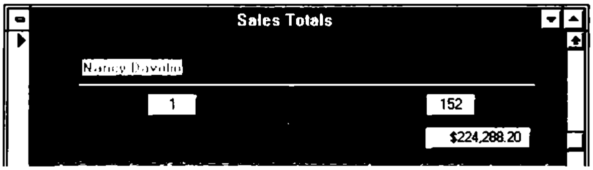
1

Sales Representative

(206) 555-9857

507 - 20th Ave. E.
Apt. 2A

To see an employee's sales record, you open the Sales Totals form and create a filter to see only the records for that employee.



Nancy Davolio

1

152

$224,288.20

# Use the Command Button Wizard to Create the Button

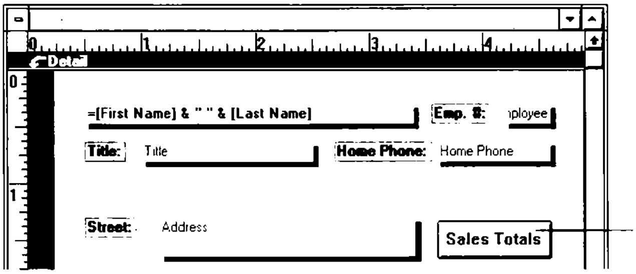
If you often use these two forms together, you can create a command button on the Sales Reps form that opens the Sales Totals form automatically.

**To create a button that opens a form**

1. Open the Sales Reps form in Design view.
2. From the View menu, choose Control Wizards (if the Control Wizards command does not display a check mark). Or click the Control Wizards tool in the toolbox so that the tool appears sunken.
3. Click the Command Button tool in the toolbox.
4. Click an empty area in the Sales Reps form. For example, click the area to the right of the Address field.

   Microsoft Access displays the first Command Button Wizard dialog box.
5. Make these choices as you go through the dialog boxes:
   - Under Categories, select Form Operations.
   - Under When button is pressed, select Open Form.
   - Select Sales Totals as the form to open.
   - Choose to open the form and find specific data on it.
   - Select Employee ID as the control on the Sales Reps form to associate with the Employee ID field on the Sales Totals form.
   - Select Text and give the button the caption **Sales Totals.**
   - Choose the Finish button to create your command button.

   Microsoft Access creates the command button and places it on the Sales Reps form.



Displays the Sales Totals form

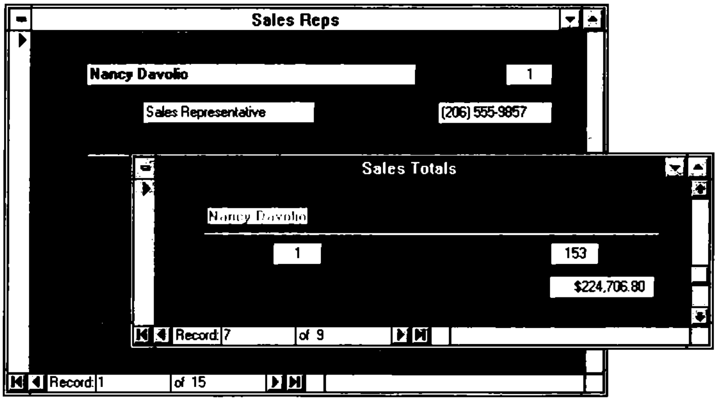
## Test the Command Button

Test the button to see how it works.

▶ **To test a command button**

1. Switch the Sales Reps form to Form view.
2. Click the command button.

   Microsoft Access displays the sales totals for the first employee in the Sales Totals form.



Nancy Davolio
1
Sales Representative
(206) 555-9857

Nancy Davolio
1
153
$224,706.80
Record: 7 of 9

Record: 1 of 15

---

**Note** The command button created by the Command Button Wizard filters the Sales Totals form so that the form displays only those records that are associated with the current record in the Sales Reps form. To display the sales total for a different sales representative, close the Sales Totals form, move to the record you want in the Sales Reps form, and then click the Sales Totals button again.

## In My Case: Should I Use the Command Button Wizard or Write a Macro?

The Command Button Wizard can create command buttons for many actions you'll want Microsoft Access to perform. The Command Button Wizard defines a button's action by creating an event procedure in Access Basic. If you want to change a command button's action, it's easiest to delete the button and use the Command Button Wizard to create a new one with a different action.

If you want a button to perform an action that isn't offered by the Command Button Wizard, you can write a macro and then create a button to run that macro. For details about creating and running macros, see Part 6, "Macros," in the *Microsoft Access User's Guide*.

If you're comfortable with programming, you can change a command button's action by changing its event procedure. For an introduction to creating and changing Access Basic procedures, see *Microsoft Access Building Applications*.

# What's Next?

Congratulations. Now you can use Microsoft Access to organize, retrieve, and present your data. What's next depends on what you want to do and how you want to do it.

| To | See |
|---|---|
| Delve farther into the Microsoft Access features you've learned so far | *Microsoft Access User's Guide* |
| Find quick help while you're working in Microsoft Access | Help and Cue Cards |
| Learn how to use Access Basic, the Microsoft Access programming language | *Microsoft Access Building Applications* |
| Read details on any Microsoft Access property, action, function, or statement | Help |

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