Chapter 1

Access 2013 Basic Training

In This Chapter

- Deciding when to use Access
- Discovering what's new in Access 2013
- Unlocking the basics of working with Access
- Figuring out how to get started

Access 2013, the most recent version of the Microsoft Office database application, continues to be a very powerful program. You probably already know that, and perhaps that power — or your perceptions of all that Access can do — is what made you reach for this book. We congratulate you on your wise choice!

For all of its power, Access is also very — pardon the expression — *accessible*. It's pretty easy to use at the edges, where a new user will be; you don't have to venture all the way in to its core to get quite a lot out of the software. In fact, with just the basic functionality that you'll discover in this book, you'll be able to put Access through many of its most important paces, yet you'll be working with wizards and other onscreen tools that keep you at a comfortable arm's distance from the software's inner workings, the things that programmers and serious developers play with. There. Don't you feel better now?

You don't have to use every feature and tool and push the edges of the Access envelope. In fact, you can use very little of everything Access has to offer and still create quite a significant solution to your needs for storing and accessing data — all because Access can really "do it all" — enabling you to set up a database quickly, build records into that database, and then use that data in several useful ways. Later on, who knows? You may become an Access guru.

In this chapter, you'll discover what Access does best (and when you might want to use another tool instead), and you'll get a look at what's new and improved in Access 2013 (compared to Access 2010). You'll see how it does what it does, and hopefully you'll begin to understand and absorb some basic terminology.

Now, don't panic; nobody's expecting you to memorize tons of complex vocabulary or anything scary like that. The goal here (and in the next two chapters) with regard to terms is to introduce you to some basic words and general concepts intended to help you make better use of Access — as well as better understand later chapters in this book, if you choose to follow us all the way to its stunning, life-altering conclusion.

What Is Access Good For, Anyway?

What *is* Access good for? That's a good question. Well, the list of what you can do with it is a lot longer than the list of what you *can't* do with it — of course, especially if you leave things like "wash your car" and "put away the dishes" off the "can't do" list. When it comes to data organization, storage, and retrieval, Access is at the head of the class.

Building big databases

Okay, what do I mean by *big* database? Any database with a lot of records — and by *a lot,* I mean hundreds. At least. And certainly if you have *thousands* of records, you need a tool like Access to manage them. Although you can use Microsoft Excel to store lists of records, it limits how many you can store (no more than the number of rows in a single worksheet). In addition, you can't use Excel to set up anything beyond a simple list that can be sorted and filtered. So anything with a lot of records and complex data is best done in Access.

Some reasons why Access handles big databases well:

- Typically, a big database has big data-entry needs. Access offers not only forms but also features that can create a quick form through which someone can enter all those records. This can make data entry easier and faster and can reduce the margin of error significantly. (Check out Chapter 7 for more about building forms.)
- When you have lots and lots of records, you also have lots of opportunities for errors to creep — duplicate records, records with misspellings, records with missing information — and that's just for openers. So you need an application such as Access to ferret out those errors and fix them. (Chapter 9 lays out how you can use Access to find and replace errors and search for duplicate entries.)
- Big databases mean big needs for accurate, insightful reporting. Access has powerful reporting tools you can use to create printed and onscreen reports — and those can include as few or as many pieces of your data as you need, drawn from more than one table if need be. You can tailor

your reports to your audience, from what's shown on the reports pages to the colors and fonts used.

- Big databases are hard to wade through when you want to find something. Access provides several tools for sorting, searching, and creating your own specialized tools (known as *queries*) for finding the elusive single record or group of records you need.
- Access saves time by giving you new uses for existing tools you may have used to import data from other sources — such as Excel worksheets (if you started in Excel and maxed out its usefulness as a data-storage device) and Word tables. This saves you from reentering all your data and allows you to keep multiple data sources consistent.

Building apps

There are several ways to build *apps* — a term that's come to mean an application that runs on a smartphone or other hand-held device — but that also applies to SharePoint, with Access 2013.

You can build an app using the Access 2013 Web App template or build a custom web app, starting from scratch. You can also download an app from the Office Store and then customize it. You can also build a standard database, just like you always have in Access, and publish that via the web.

Now, that said, this is not a book about apps or building them. The goal of this book is to show you how to use Access to build databases for use on a computer (a desktop or laptop/notebook). If you need to create a database app for use on a smartphone or tablet, you can check out any of the following publications or explore instructions available online by Googling *How do I create a database app with Access 2013?*.

You can also take a look at `Dummies.com` or check out *iOS 6 Application Development For Dummies*.

Creating databases with multiple tables

Whether your database holds 100 records or 100,000 records (or more), if you need to keep separate tables and relate them for maximum use of the information, you need a *relational* database — and that's Access. How do you know whether your data needs to be in separate tables? Think about your data — is it very compartmentalized? Does it go off on tangents? Consider the following example and apply the concepts to your data and see if you need multiple tables for your database.

The Big Organization database

A large company has data on their customers and their orders, the products the company sells, its suppliers, and its employees. For a complex database like this one, you need multiple tables, as follows:

- One table houses the customer data — names, addresses, phone numbers, and e-mail addresses.
- A second table contains the customers' orders, including the name of the customer who placed the order, the salesperson who handled the sale, shipping information, and the date of the order.
- A third table contains information on the products the company sells, including product numbers, supplier names, prices, and the number of items in stock.
- A fourth table contains supplier data — about the companies from which the main organization obtains its inventory of products to resell to customers. The table contains the company names, their contact person, and the address, e-mail, and phone number information to reach them.
- A fifth table contains employee data — from the date they were hired to their contact information to their job title — and also contains notes about them, sort of a summary of their resumes for reference.

Other tables exist, too — to keep a list of shipping companies and their contact information (for shipping customer orders), an expense table (for the expenses incurred in running the business), and other tables that are used with the main four tables. The need for and ways to use the main tables and these additional tables are covered later in this book, as you find out how to set up tools for data entry, look up records, and create reports that provide varying levels of detail on all the data you've stored.

Because you don't have to fill in every field for each record — in any table in the database — if you don't have a phone number or don't know an e-mail address, for example, it's okay to leave those fields blank until you've obtained that information.

Fail to plan? Plan to fail

If you think carefully about your database, how you use your data, and what you need to know about your employees, customers, volunteers, donors, products, or projects — whatever you're storing information about — you can plan

- How many tables you'll need
- Which data will go into which table
- How you'll use the tables together to get the reports you need

Of course, everyone forgets something, and plans change after a system has already been implemented. But don't worry — Access isn't so rigid that chaos will ensue if you begin building your tables and forget something (a field or two, an entire table). You can always add a field that you forgot (or that some bright spark just told you is needed) or add a new table after the fact. But planning ahead as thoroughly as possible is still essential.

As part of thorough planning, sketch your planned database on paper, drawing a kind of flow chart with boxes for each table and lists of fields that you'll have in each one. Draw arrows to show how they might be related — it's sort of like drawing a simple family tree — and you're well on your way to a well-planned, useful database.

Here's a handy procedure to follow if you're new to the process of planning a database:

1. **On paper or in a word-processing document, whichever is more comfortable, type the following:**
   - A tentative name for your database
   - A list of the pieces of information you plan on getting from that database on a daily or regular basis
2. **Now, based on that information, create a new list of the actual details you could store:**

   List every piece of information you can possibly think of about your customers, products, ideas, cases, books, works of art, students — whatever your database pertains to. Don't be afraid to go overboard — you can always skip some of the items in the list if they don't turn out to be things you really need to know (or can possibly find out) about each item in your database.
3. **Take the list of *fields* — that's what all those pieces of information are — and start breaking them up into logical groups.**

   How? Think about the fields and how they work together:
   - For example, if the database keeps track of a library of books, perhaps the title, publication date, publisher, ISBN (*I*nternational *S*tandard *B*ook *N*umber, which is unique for each book), price, and page count can be stored in one group, whereas author information, reviews, and lists of other titles by the same author or books on the same topic can be stored in another group. These groups become individual tables, creating your relational database of books.
   - Figure out what's unique about each record. As stated in the previous point, you need a field that's unique for each record. Although Access can create a unique value for you if no unique data exists for each record in your database, it's often best to have such a field already in place, or to create such a field yourself. Customer numbers, student numbers, Social Security numbers, book ISBNs,

catalog numbers, serial numbers — anything that isn't the same for any two records will do.

With a big list of fields and some tentative groupings of those fields at the ready, and with an idea of which field is unique for each record, you can begin figuring out how to *use* the data.

4. **Make a list of ways you might use the data, including**
   - Reports you'd like to create, including a list of which fields should be included for each report
   - Other ways you can use the data — labels for mailings, product labels, catalogue data, price lists, contact lists, and so on
5. **List all the places your data currently resides — on slips of paper in your pocket, on cards in a box, in another program (such as Excel), or maybe through a company that sells data for marketing purposes.**

With this planning done, you're ready to start building your database. The particulars of that process come later in this chapter and in subsequent chapters, so don't jump in yet. Do pat yourself on the back, though, because if you've read this procedure and applied even some of it to your potential database, you're way ahead of the game, and we're confident you'll make good use of all that Access has to offer.

Databases with user forms

When you're planning your database, consider how the data will be entered:

- If you'll be doing the data entry yourself, perhaps you're comfortable working in a spreadsheet-like environment (known in Access as *Datasheet view*), where the table is a big grid. You fill it in row by row, and each row is a record.

  Figure 1-1 shows a table of customers in progress in Datasheet view. You decide: Is it easy to use, or can you picture yourself forgetting to move down a row and entering the wrong stuff in the wrong columns as you enter each record? As you can see, there are more fields than show in the window, so you'd be doing a lot of scrolling to the left and right to use this view.

- You may want to use a *form* (shown in Figure 1-2) instead. A form is a specialized interface for data entry, editing, and for viewing your database one record at a time, if
  - Someone else will be handling data entry
  - Typing row after row of data into a big grid seems mind-numbing

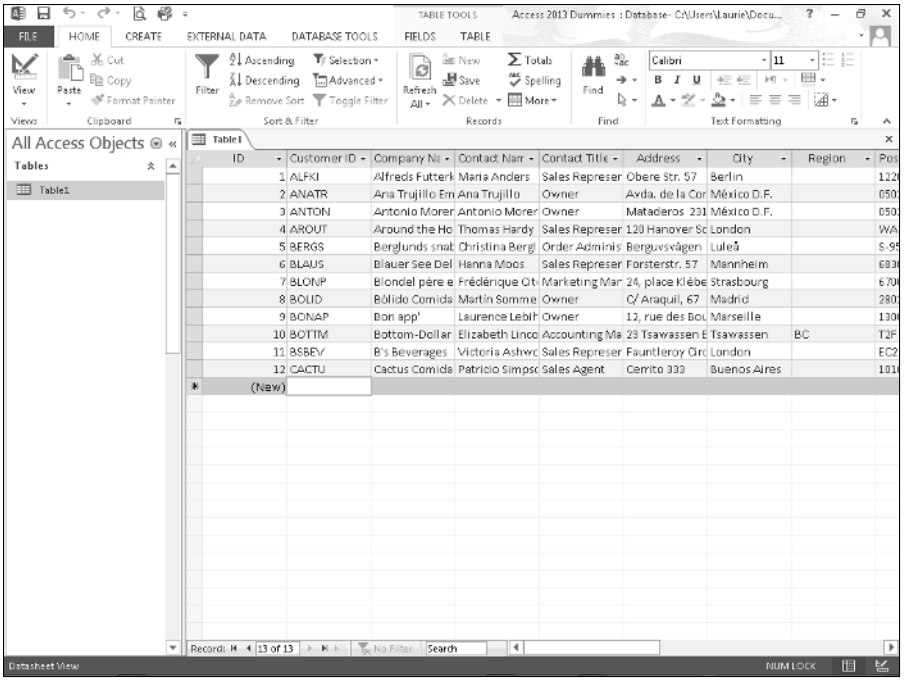

Figure 1-1: Datasheet view can be an easy environment for data entry. Or not.

The mind-numbing effect (and inherent increased margin for error) is especially likely when you have lots of fields in a database, and the user, if working in Datasheet view, has to move horizontally through the fields. A form like the one in Figure 1-2 puts the fields in a more pleasing format, making it easier to enter data into the fields and to see all the fields at once (or only those you want data entered into).

You find out all about forms in Chapter 7. If your database is large enough that you require help doing the data entry, or if it's going to grow over time, making an ongoing data-entry process likely, Access is the tool for you. The fact that it offers simple forms of data entry/editing is reason enough to make it your database application of choice.

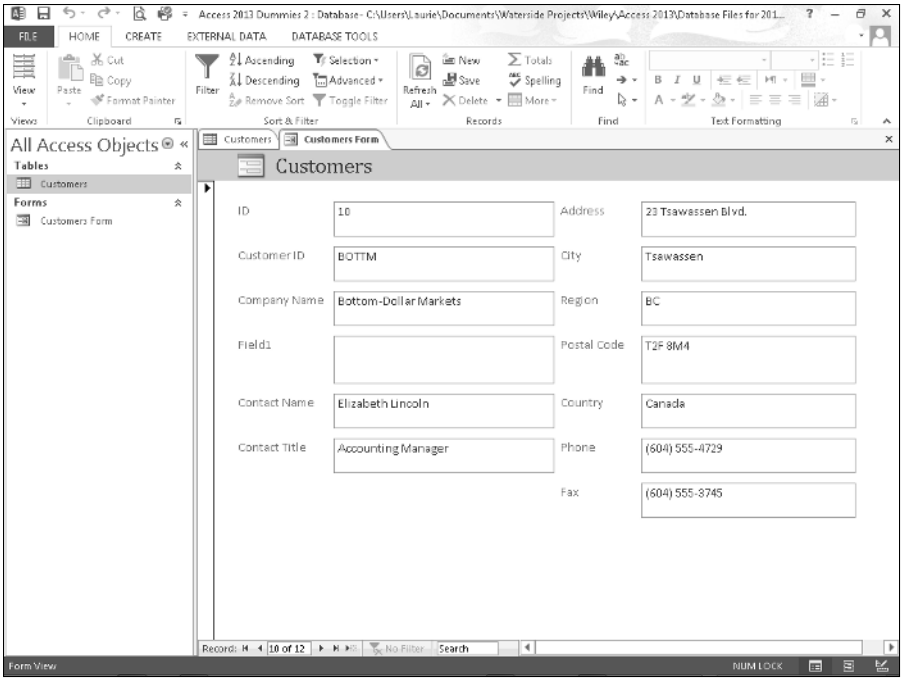

Figure 1-2: Here's a simple form for entering new records or reviewing existing ones.

Databases that require special reporting

Yet another reason to use Access is the ability it gives you to create customized reports quickly and easily. Some database programs, especially those designed for single-table databases (known as *flat-file* databases), have some canned reports built in, and that's all you can do — just select a report from the list and run the same report that every other user of that software runs.

If you're an Excel user, your reporting capabilities are far from easy or simple, and they're not designed for use with large databases — they're meant for spreadsheets and small, one-table lists. Furthermore, you have to dig much deeper into Excel's tools to get at these reports. Access, on the other hand, is a database application, so reporting is a major, up-front feature.

An example? In Excel, to get a report that groups your data by one or more of the fields in your list, you have to sort the database first, using the field(s) to sort the data, and then you can create what's known as a *subtotal report*. To create it, you use a dialog box that asks you about calculations you want to perform, where to place the results, and whether you're basing a sort and/or a subtotal on more than one field. The resulting report is not designed for

printing, and you have to tinker with your spreadsheet pagination (through a specialized view of the spreadsheet) to control how the report prints out.

In Access? Just fire up the Report Wizard, and you can sort your data, choose how to group it, decide which pieces of data to include in the report, and pick a visual layout and color scheme, all in one simple, streamlined process. Without you doing anything, the report is ready for printing. Access is built for reporting — after all, it is a database application — and reports are one of the most (if not *the* most) important ways you'll use and share your data.

Because reports are such an important part of Access, you can not only create them with minimum fuss but also customize them to create powerful documentation of your most important data:

- Build a quick, simple report that just spits out whatever is in your table in a tidy, easy-to-read format. (See Figure 1-3 for an example.)
- Create a customized report that you design step-by-step with the help of the Report Wizard. (See Figure 1-4.) The report shown in the figure has the customers sorted by their company name. These options were easily put to work with just a few clicks.

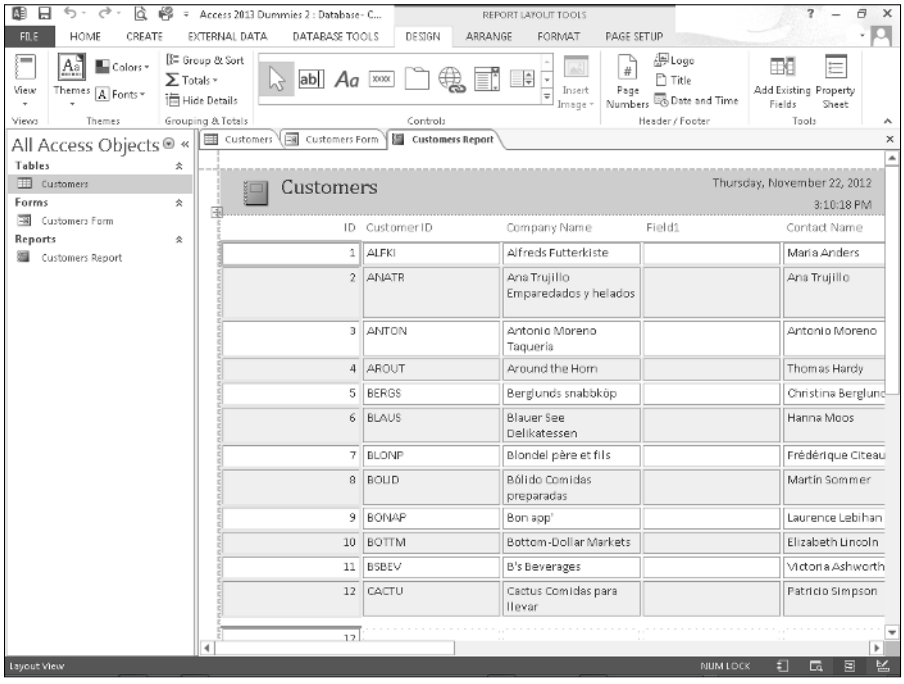

Figure 1-3: Ah, simplicity. A quick report is just one click away.

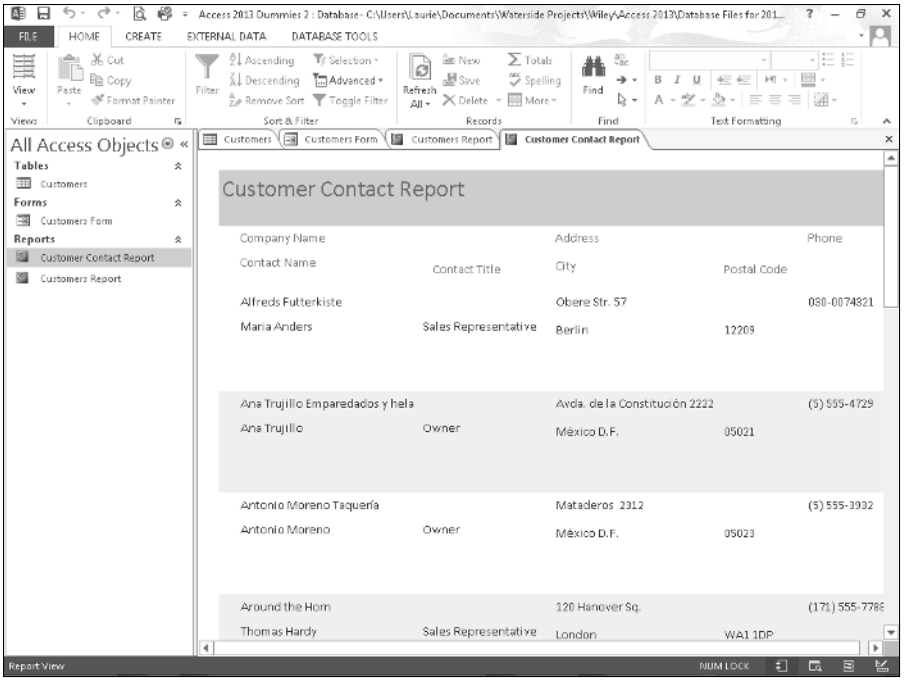

Figure 1-4: The Report Wizard creates more elaborate (but simple) reports, like this one.

- You can really roll up your sleeves and design a new report, or play with an existing one, adding all sorts of bells and whistles. Figure 1-5 shows this happening in Design view. Note that the report's title (Customer Contact Report) is selected: It has a box around it and tiny handles on the corners and sides of the box, which means you can reformat the title, change the font, size, or color of the text, or even edit the words if a new title is needed.

So, you can create any kind of custom report in Access, using any or all of your database tables and any of the fields from those tables, and you can group fields and place them in any order you want:

- With the Report Wizard, you can choose from several preset layouts for your report, and you can customize all of it row by row, column by column.
- You can easily add and remove fields after creating the report, should you change your mind about what's included in the report. If you want to place your personal stamp on every aspect of your report, you can use Design view to do the following:
- Add titles, instructional or descriptive text boxes, and graphics.
- Set up customized headers and footers to include any information you want to appear on all the report's pages.

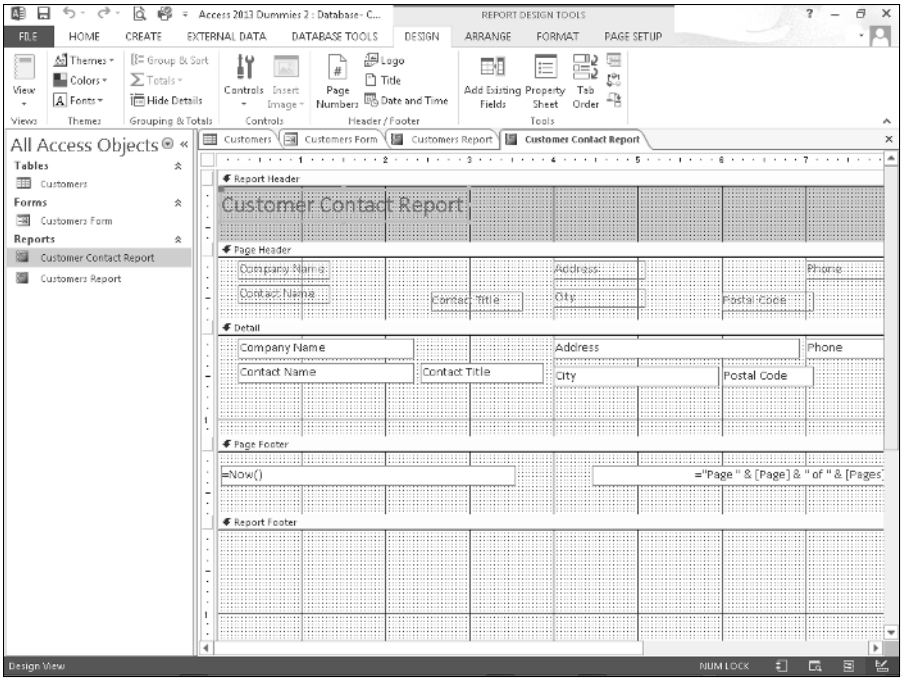

Figure 1-5: Design view might look a little intimidating, but to really customize things, you'll need it — and you might even enjoy it!

If all this sounds exciting, or at least interesting, then you're really on the right track with Access. The need to create custom reports is a major reason to use Access; you can find out about all these reporting options in Chapters 17 through 19. That's right: This chapter plus three more — that's four whole chapters — are devoted to reporting. It *must* be a big feature in Access!

What's New in Access 2013?

For users of Access 2010, the upgrade to 2013 won't seem like a big deal, other than the changes to the fonts used on the ribbons, the change to a white background for the ribbons, database tabs, and the All Access Objects panel on the left side of the workspace — but these are purely cosmetic changes.

There are some great new features, but you're not gonna run smack into the learning curve that users of Access 2003 encountered upon upgrading to 2007 or 2010.

If you're coming from 2003, the biggest changes are found in the interface. Gone are the familiar menus and toolbars of 2003 and prior versions, now replaced by a ribbon bar divided into tabs that take you to different versions of those old standbys. It's a big change, and it takes some getting used to.

In this book, however, we're going to assume you already got your feet wet with 2007 or 2010 and aren't thrown by the interface anymore. We're figuring you upgraded to 2007 or 2010 or have played with one or both of them enough to feel comfortable diving into 2013.

New features

So what's new in Access 2013? In the order you're most likely to encounter them, here goes:

- The File tab and its dark red panel look very different; they replace the Office button and resulting menu in Access 2007, and the panel looks different than the one you may be used to from Access 2010.

  Using the panel on the left (shown in Figure 1-6), you make your choices for opening new files, accessing recently used files, saving files, printing, and exiting the application (among other momentous decisions). It's a lot like the File menu from Access 2003 in terms of what's available; the File panel makes the commands and features that used to live on the File menu easily accessible. To get to it, just click the File tab.

  

  To go back to the Home tab (or whichever tab you were on before clicking the File tab), use the big left-pointing arrow at the top of the File panel.

- The biggest visible change, as we mentioned, is a new look and feel for the Access workspace. It's a change seen throughout the whole Office 2013 suite, of course, but we're concerned only with Access in this book. How is the workspace different? It's white, mostly. There's no gray background to your menus or ribbons, and there are no gray bars separating the groups of tables, forms, and what not on the All Access Objects panel. In comparison to previous versions of Access, it's a very flat-looking environment.

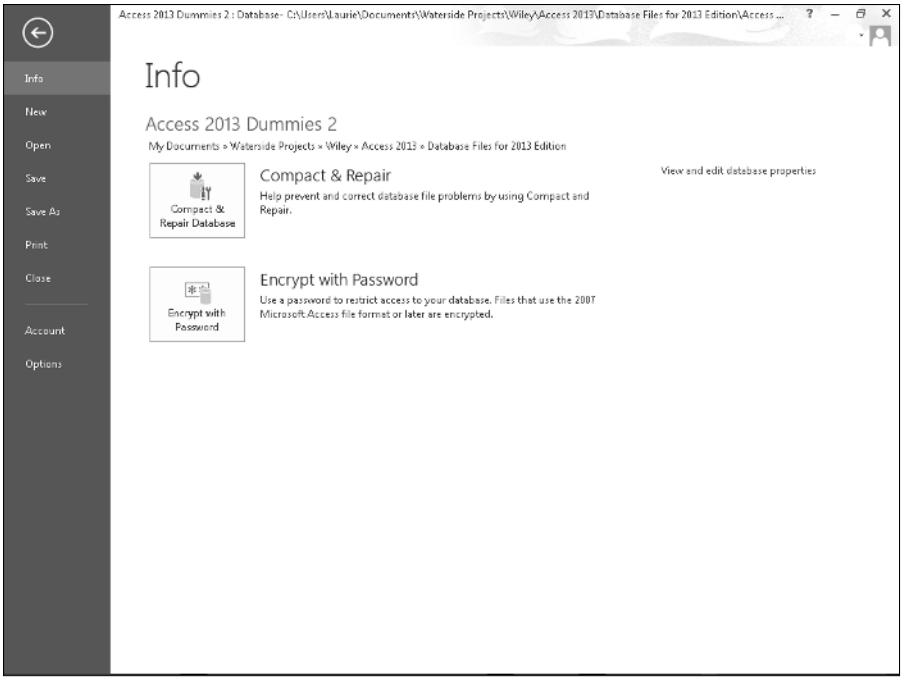

Figure 1-6: The File tab and panel — hauntingly familiar to those who remember the File menu, and somewhat changed from Access 2010.

Reach out with SharePoint

What the heck is SharePoint? You may be asking that, along with lots of other people who've been seeing the product name and hearing how it provides the ability to see and use your Access data from anywhere — using desktop applications, a web browser, or even your phone. Well, it's a Microsoft software product that does all that and more, helping you manage your documents and collaborate with coworkers via the company network. Simply click the Save and Publish command in the File tab's panel (see Figure 1-7), and you're on your way to publishing your database to SharePoint, which means you can access it from pretty much everywhere, including that beach in Maui. Of course, if you or your company don't have a SharePoint server, you won't be able to make use of this, and you don't need to concern yourself with this section.

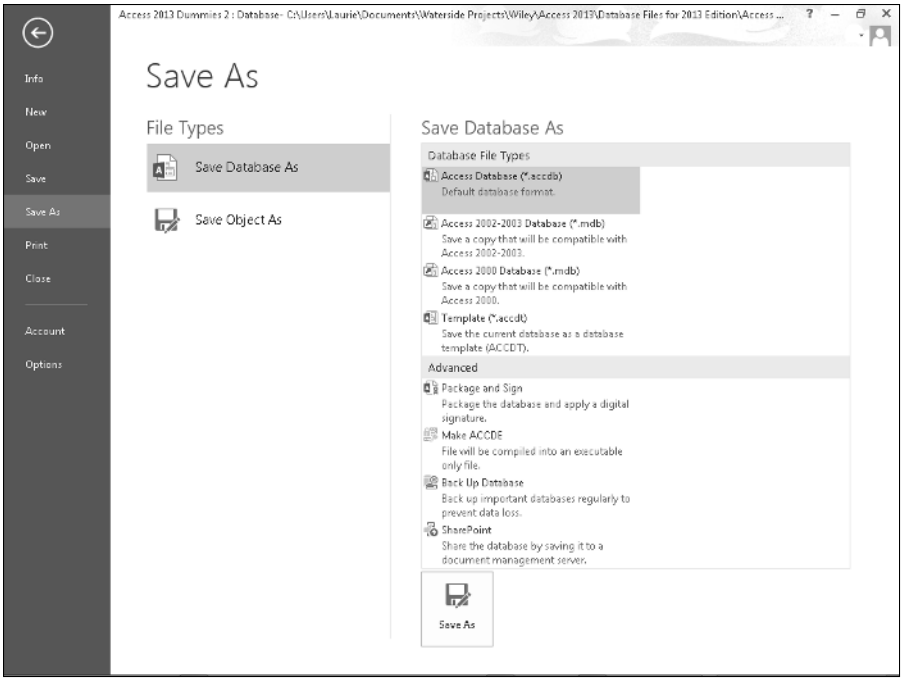

Figure 1-7: The Save As command offers choices for . . . you guessed it . . . saving your database.

As shown in Figure 1-7, the Save As options include regular old Save Database As, to save your existing database with a new name or in some format other than as an Access database; and Save Object As, to save a table, form, query, or report with a new name. You can also choose from several Advanced options to save the database as a package (to distribute your Access applications) or as an executable file (a single file that when run by the recipient, opens a database application), to back up the database, and to use the aforementioned SharePoint.

How Access Works and How You Work with It

When you look at all the applications in Microsoft Office — Word, Excel, PowerPoint, Outlook, and of course, Access — you'll see some features that are consistent throughout the suite. There are big differences, too, and that's where books like this one come in handy, helping you deal with what's different and not terribly obvious to a new user.

Access has several features in common with the rest of the applications in the Microsoft Office suite. You'll find the same buttons on several of the tabs, and the Quick Access toolbar (demonstrated in Chapter 2) appears in all the applications.

If you already know how to open, save, and print in, say, Word, you're probably ready to do the same things in Access without any difficulty.

To make sure you're totally Access-ready, here's a look at the basic procedures that can give you a solid foundation on which to build.

Opening Access

Access opens in any one of several ways. So, like a restaurant with a very comprehensive menu, some people will love all the choices, and others will say, "I can't decide! There are just too many options to choose from!"

Now, you'll run into situations in which one of the ways is the glaringly best choice — hands down, and that one will be the way to go. But what if you've never heard of it? You'll be trying to find my phone number (I'm unlisted — ha!) so you can give me a piece of your mind. So to acquaint you with *all* your choices (so you'll be ready for any situation), here are all the ways you can open Access:

- Windows 7 users can click the Start menu button (in the lower-left corner of the screen) and choose All Programs➪Microsoft Office 2013➪Microsoft Access 2013.
- Windows 8 users can utilize any of several methods to start an application — click the lower-left corner of the screen to display the Start icon, press the Windows key on the keyboard, or if you have a touchscreen, tap the Start button. Once the Start screen appears, tap the Access application tile.

  If you've recently used Access, you'll see it in the list on the left side of the Start menu. Just choose Start➪Microsoft Access 2013, and Access opens.

- Double-click any existing Access database file on your Desktop or in a folder (as shown in Figure 1-8). Access opens automatically.

  Good news: Access 2013 will open database files you created with previous versions of Access, and should support whatever features are employed within those database files. All your tables should open properly, and reports, forms, and queries should all work fine, too.

- If some helpful person has added Access to the Quick Launch toolbar (on the Windows 7 taskbar), you can click the Access 2013 icon (it looks like an A on the cover of a book), and there you go. Access opens for you right then and there.

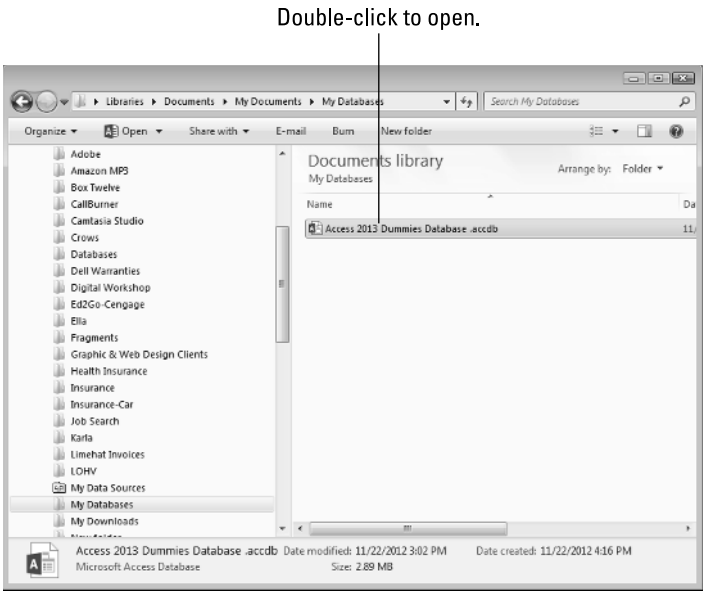

Figure 1-8: Double-click an Access database file, and Access opens right up.

Selecting a starting point

So Access is open, and (assuming you opened it from the Start menu or from the Quick Launch portion of the Taskbar) you're staring at the Access interface. You may see features whose purposes elude you or that you don't yet know how to use. Hey, don't worry; that's why you're reading this book!

You can find out more about all the tabs and buttons, panels and menus, and all that fun stuff in Chapter 2. For now, just look at the ways Access offers you to get started with your database, be it an existing one that needs work or a new one you have all planned out and ready to go.

Opening an existing database

Well, this is the easy one. If a database already exists, you can open it by clicking the File tab (at the upper-left of the workspace) and choosing Open from the list of commands that appears. As shown in Figure 1-9, a panel opens, displaying the types of files you can open (just to the right of the long red File panel) and the databases you've most recently used. Click the word Recent in the list to the near left and then click the database in the Recent list, and it opens listing its current tables, queries, reports, and forms on the far-left side of the window.

When the database opens, you can open and view its various parts just by double-clicking them in that leftmost panel; whatever you open appears in the main, central part of the window. Figure 1-10 shows an example: a table, ready for editing.

Figure 1-9: Pick your recently used database from the Recent list on the right.

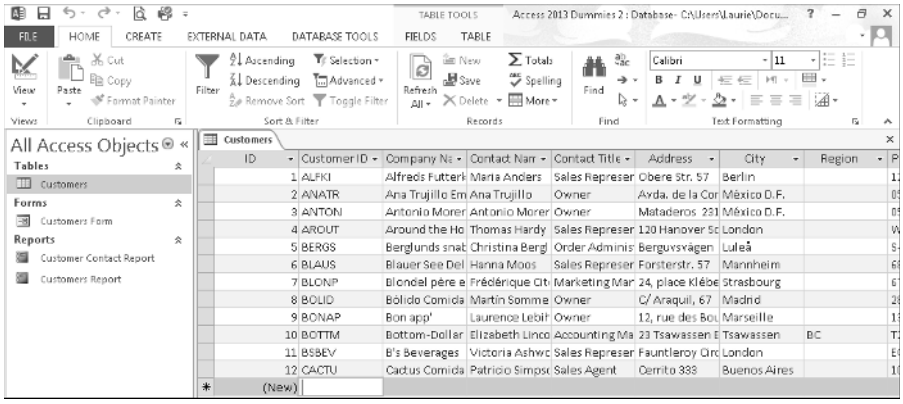

Figure 1-10: An existing table, ready for more records.

After you open a table, you can begin entering or editing records. You can read more about how that's done in Chapter 6, which demonstrates the different ways to edit your data and tweak your tables' setups. If you want to tinker with any existing queries, you can open these, too, just by clicking them in the list on the left side of the workspace. (For more information on queries, check out Chapters 11 and 12. You can do simple sorting and look for particular records with the skills you pick up in Chapters 9 and 11.)

Starting a new database from scratch

So you don't have a database to open, eh? Well, don't let that stop you. To start a new one, all you have to do is open Access, using any of the techniques listed earlier in this chapter (except the one that starts Access by opening an existing database file, which you don't have yet).

A database file holds *all* your database components. Everything associated with the data is part of the database, including

- All the tables that house your data
- Queries that help you search and use the data
- Reports that show what your data is and what it means
- Forms that allow people to view, enter, and edit data

After Access is open, click the New command in the File tab (if that's not already the active command). From the resulting display, you can click the Blank Desktop Database button (shown in Figure 1-11) to get started.

Next, give your database a name (see the dialog box that appears in Figure 1-12), and click the Create button.

The *X* in Figure 1-12's caption represents a number — Access assigns consecutive numbers to the default names, counting from any previously created databases. Figure 1-12 shows a 1 added to the filename.

If this is your absolute first database in a fresh installation of Access, the filename offered in this panel will be `Database1`. Note that you don't need to type a file extension here; Access will add the correct one for you.

Figure 1-11: Click the Blank Desktop Database button in the New group.

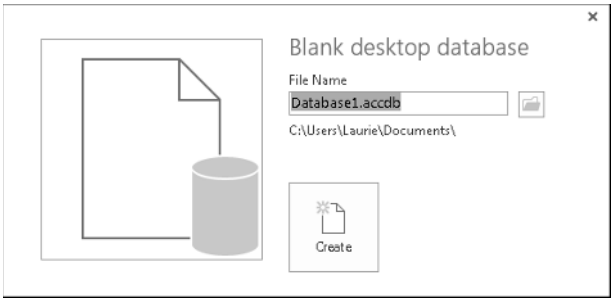

Figure 1-12: Name your database something that replaces the generic Database*X*.accdb.

What is that little yellow folder in the dialog box where you named your new database? It allows you to choose a folder (other than the default My Documents folder if you're a Windows 7 user, or the Documents folder in Windows 8) into which you can save your database. Click the folder icon after typing a name for your database, and then use the resulting File New Database dialog box to choose a location — an existing subfolder within My Documents, the Desktop, a network drive (if you're on a network, say at your office), or your Office 365 Skydrive. The dialog box looks very familiar to anyone who's used any Windows application, so this won't be new territory for you.

At this point, with your new database open, you can begin entering records into your first table or begin naming your fields and setting them up. The field names go in the topmost row (the `ID` field is already created, by default in the new table), and the label `Click to Add` is atop the column with the active cell. If you choose to save your table now (right-click the Table1 tab and choose Save), you can name your table something more useful than `Table1`.

Starting with a template

Access provides *templates* (prepared files that work sort of like database cookie cutters) for your new database needs. You'll find a set of template icons in the same New panel where we just chose a Blank Desktop Database. As shown in Figure 1-13, you can choose a template category by clicking any of the words under the Search for Online Templates search box, and search online for templates in that category.

Once the online search is complete (assuming you're online at the time), a series of big buttons, one for each template found that matches your search, appears. Note that a larger list of categories — to be used if you want to search again for another category of templates — appears on the right.

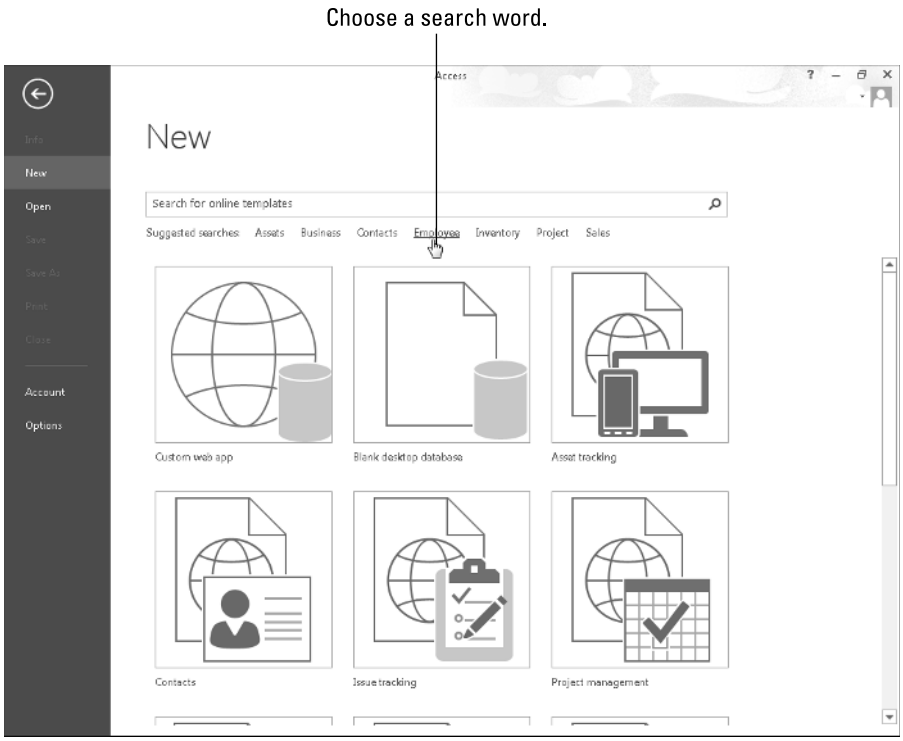

Figure 1-13: Click a template search word to search online for templates in that category.

As demonstrated in Figure 1-14, Employee category database templates are shown.

When you click any of the templates, the resulting display (shown in Figure 1-15) describes the template so you can decide if you really want to use it.

Now What?

So you've got a new database started. What do you do now? You can leaf on over to Chapter 2, where you can find out more about all the tools that Access offers — which tools are onscreen almost all the time and which ones are specific to the way you chose to dig in and start that database.

In Chapter 3, you actually begin building a database, setting up tables and the fields that give them structure. And you figure out which tables you need to set up, putting that great plan you built in this chapter to work!

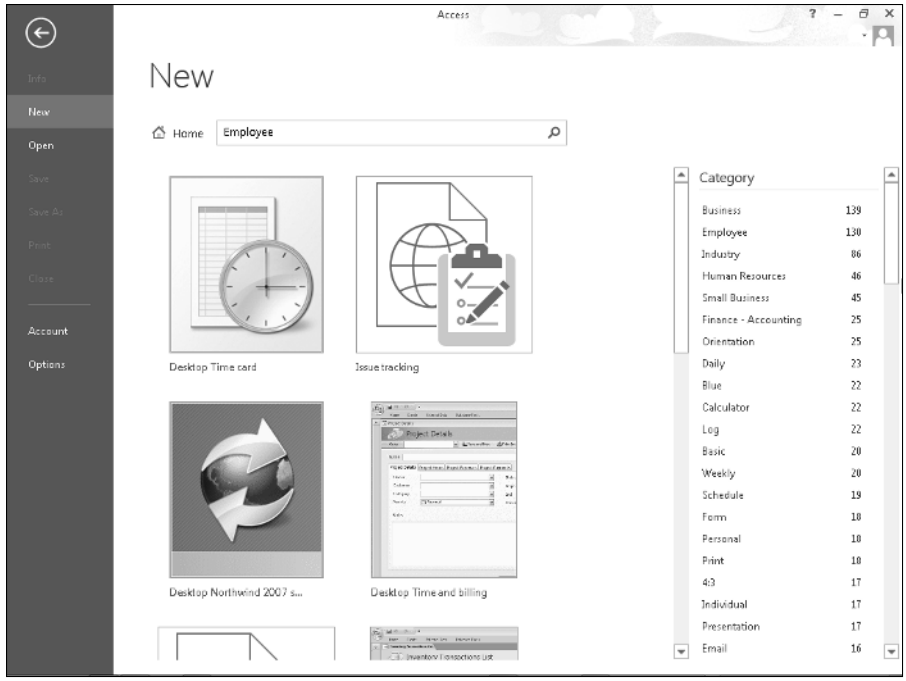

Figure 1-14: View the results of your search for online database templates.

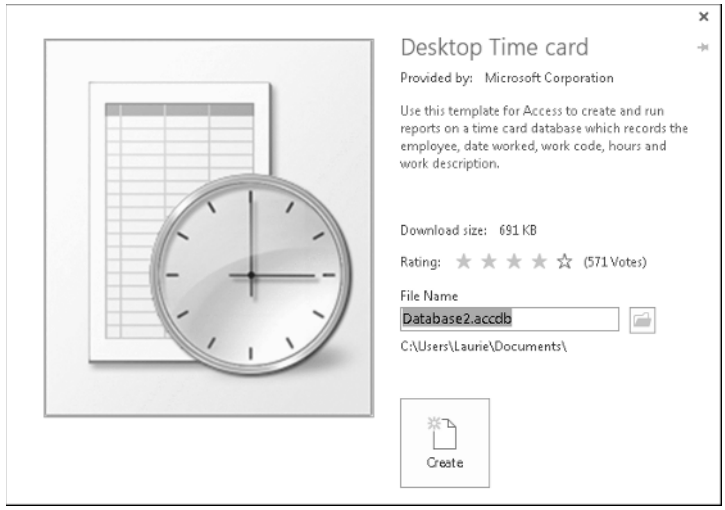

Figure 1-15: Is this database template right for you? If so, click Create and name it to get started.