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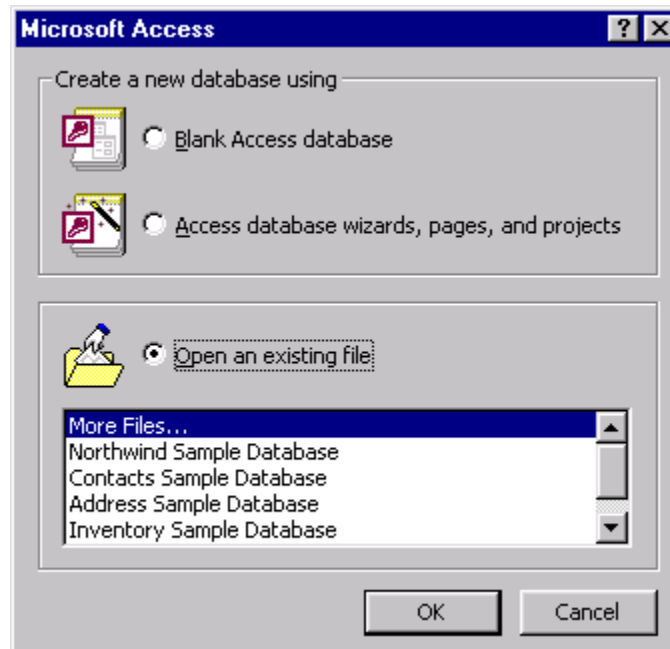
Access 2000 Basics

Databases can be used to keep track of a variety of things such as customer orders, your favorite recipes, or your Christmas card list. This article will walk you through the basics of creating a simple database with Microsoft's Access 2000.

Start with a blank database

When starting Microsoft Access 2000, you are given the option to create a blank database, use a database wizard, or open an existing database (see **Figure A**). By not using the wizard, you will learn more and can customize the database to better suit your needs. Select Blank Access database and click OK. You will then be prompted to create and save your database. You can name your database whatever you like, but for this article, our database will be named "database_sample_1.mdb." Once you've entered the file name, click Create.

Figure A



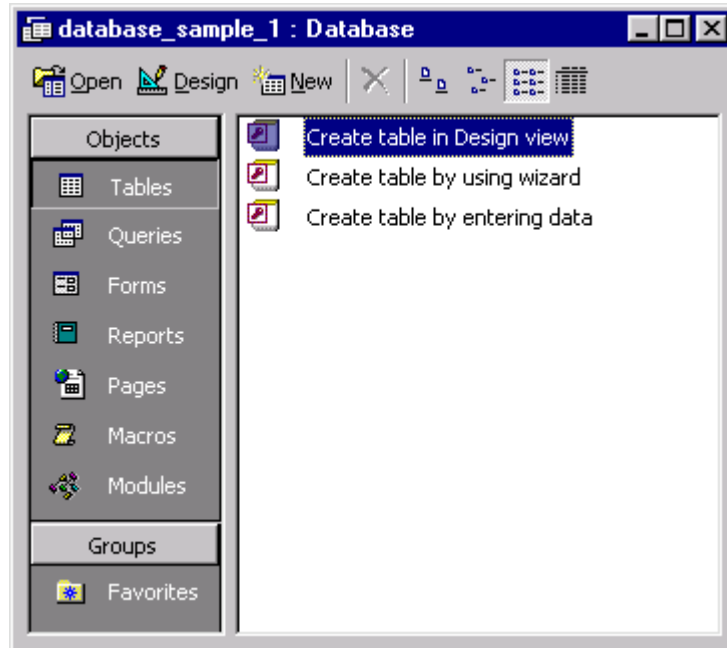
Select Blank Access database.

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You should now see a screen that looks like **Figure B**.

Figure B

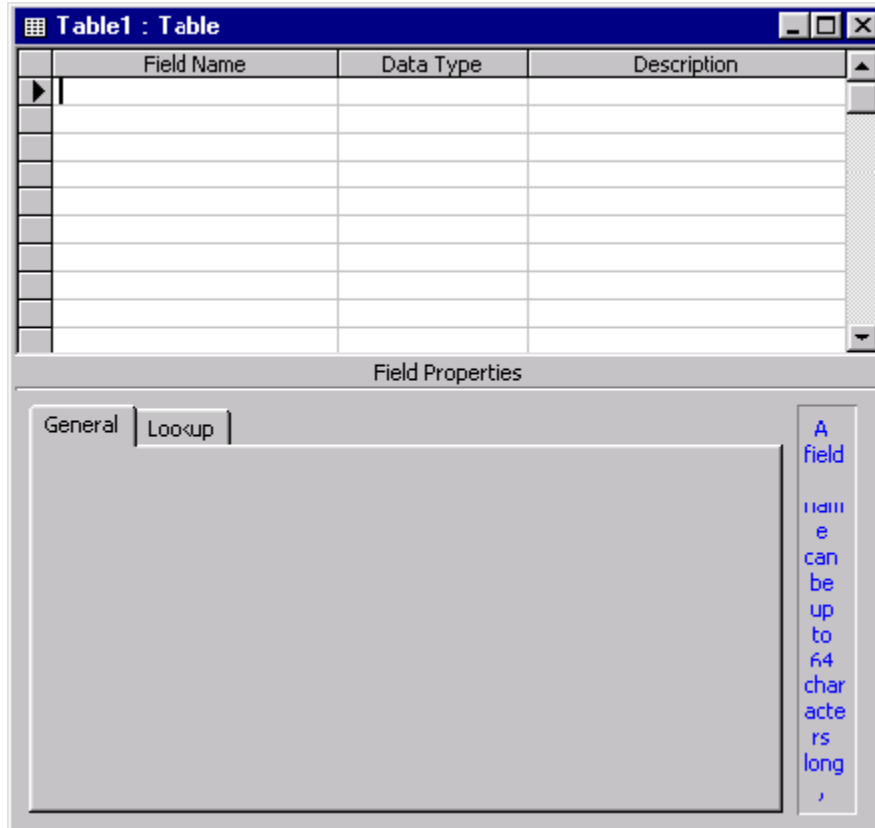


From here, you can see the various parts of an Access 2000 database.

Create your table

The next thing you have to do is create your table. Think of a table as a spreadsheet of information. You are going to have columns and rows, just like in Microsoft Excel. Each row will only contain data pertaining to one entity (in the case of this sample—a single person). After deciding to create a new table, you will be presented with more options including creating the table with a wizard. Again, we're going to stay away from the wizards. Double-click **Create table in Design view**, and the table window, shown in **Figure C**, will appear. Here you will be able to name the column headings and decide what type of information the table will hold.

Figure C



The Microsoft Access 2000 table window

Labeling your fields

Type your desired field names in the Field Name column. Create a field for everything you think you will need to complete a person's address. Next to each field name you enter, you will be required to select a data type. There are several from which to choose. Use "text" for the fields titled "first name," "last name," "street," "city," "state," and "zip code." You could make the zip code a number data type, but that is usually reserved for numbers you plan to perform calculations upon.

Changing the field length

Each field automatically defaults to a length of fifty characters. That means you

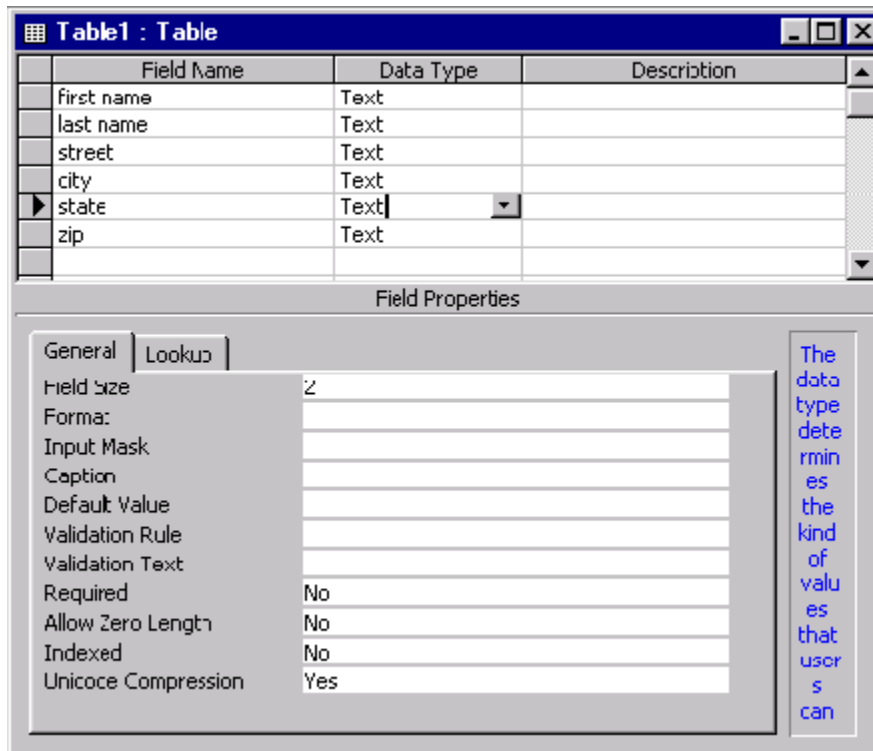


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have fifty spaces allotted for each first name, last name, street, city, state, and zip code. However, you really only need two spaces for the state. To change the field length, click on the word "Text" next to the state field. You will now see some information at the bottom of the screen. Change the field size from 50 to 2 (see Figure D). Now repeat the process to change the number of spaces allotted for the zip code to 5 (unless you plan to use a zip plus four format, in which case you can set the zip code field length to 10).

Figure D



The field size for "state" has been shortened to two characters.

Setting a field's default value

To save yourself some typing when entering data, you can set a default value for each field. Enter the name of your city in the Default Value field at the bottom of the screen. Now, when you enter a person's city, the default value will automatically appear. You can, of course, enter a different city during data entry, but if most of your people are from one city, this step can save you time. Set the table's primary key

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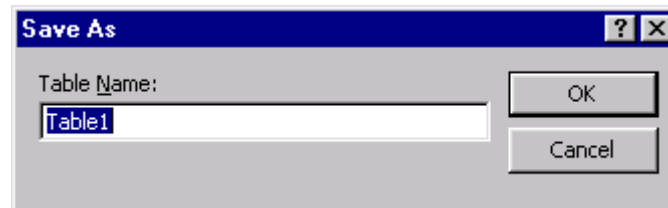
Every table must have what is known as a primary key—something that will uniquely identify each row of the table. In this address book example, the primary key could be the person's first name. However, you may have more than one Jason in the table, and this will cause problems. It's often customary to have an ID number associated with each row (or person) that serves as the primary key. For this example, we will use what is known as a combination key (i.e., the primary key will be made up of the person's first and last name).

Click on the small empty box to the left of the first name field (it's usually gray in color) and hold the Ctrl key while clicking the empty box next to the last name field. Both fields will be highlighted. Now, click on Edit | Primary Key. A little key should appear in those empty boxes next to both the first and last name fields.

Saving your table

Now that the fields are created, you need to save your table. Click on the X in the corner of the window. You will be prompted to save your new table. Click Yes, enter a name for the table (see **Figure E**), and click OK. If you forgot to choose the primary key, Access will let you know.

Figure E



Name your table here, then save it.

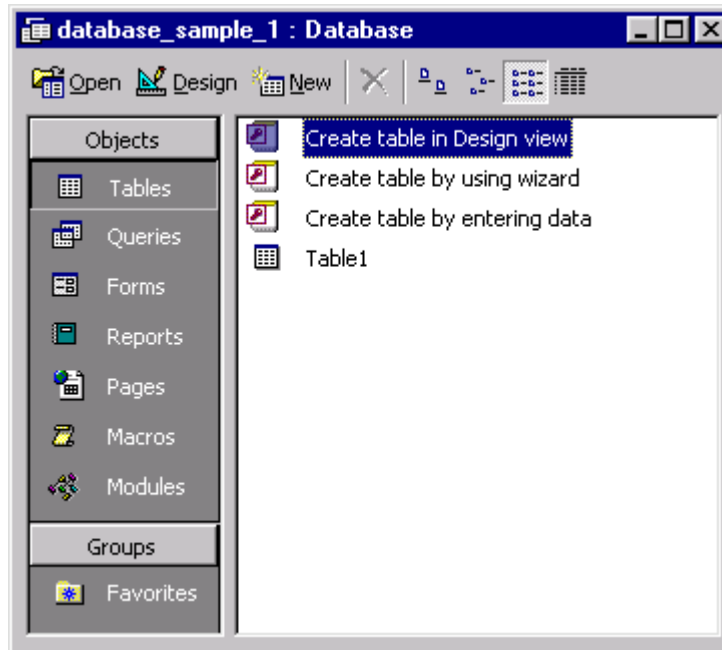
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Entering your data

You should now see your table listed in the main database screen shown in **Figure F**.

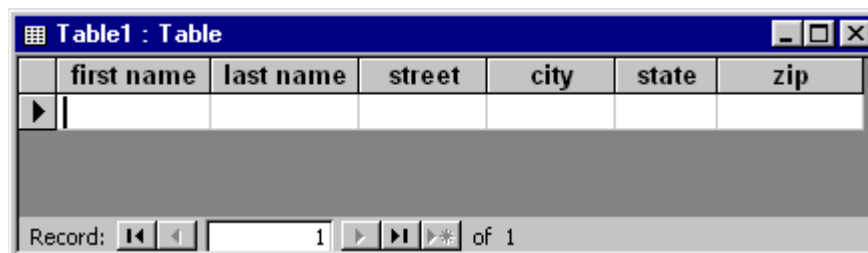
Figure F



Your new table is now listed in the main database screen.

Double-click on the table you just created, and the Table window will appear on your screen (see **Figure G**). All you have to do is enter the data you want stored in the table.

Figure G



You can enter your data directly from the Table window.

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When you are finished with one row, press Enter, and a new row will appear (notice that the name of the city is already typed for you). You must have some data in both the first name and last name fields or you will not be able to continue entering data into the table. This is because the primary key fields that you selected cannot contain null, or empty, values. When you are finished entering your data, just click the X in the corner of the Table window, and your work will automatically be saved.

Creating a phone number table

You'll probably want each person's phone number listed in your address book. In my sample database, I have included home phone, work phone, cell phone, and pager number (See **Figure A**).

Figure A

	first	last	home	work	cell	pager
+	Aaron	Galockowitz	555-5869	555-9686		
+	Adam	Adamson		555-1258		555-3658
+	Al	Williams	555-1258			
+	Beth	Adams	555-1235		555-8622	
+	Bill	Jones	555-9633			
+	Chris	Nalley		555-9712		555-8222
+	Corey	James	555-1239	555-7896	555-5245	555-8888
+	Emily	Burks	555-8522	555-5222		
+	Hal	Smith	555-1111		555-8886	
+	Hollie	Patricks	555-8561			
+	Jane	Doe	555-0096		555-8502	
+	Joan	Dennison	555-0268			555-0254
+	Joe	Jenkins	555-8205			
+	John	Doe	555-8900			
+	Kathy	McLeon	555-8600			
+	Mel	Donner	555-8502			
+	Nan	Tucker	555-8521		555-2001	
+	Pam	Smith	555-1979	555-8500	555-0000	555-5002
+	Steve	Matthews	555-8500	555-4653		555-0056
+	Willie	Hammers	555-5200	555-5201	555-2201	

Record: 1 of 20

A simple table listing phone numbers

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Follow the same steps we used to create the Address table in the first part of this series to create your Phone table.

Be sure to include all the different phone numbers a person might have (as well as the person's first and last name). It's a good idea to restrict the field length of the phone number fields to eight (or 12 if you are using area codes). Reducing the length of these fields reduces the overall size of the database.

Adding a birthday table <<<>>>

Another bit of useful information to have on hand is someone's birthday. All this table needs is the person's first name, last name, and his or her birthday (see **Figure B**). I will be using this table again in the next part of this series to create forms.

Figure B

	first	last	birthday
▶ ⊕	Aaron	Galockowitz	Oct. 29
⊕	Adam	Adamson	Feb. 12
⊕	Al	Williams	June 16
⊕	Beth	Adams	Dec. 23
⊕	Bill	Jones	Aug. 4
⊕	Chris	Nalley	July 13
⊕	Corey	James	Feb. 7
⊕	Emily	Burks	March 23
⊕	Hal	Smith	May 30
⊕	Hollie	Patricks	Sept. 4
⊕	Jane	Doe	Nov. 26
⊕	Joan	Dennison	Oct. 9
⊕	Joe	Jenkins	Jan. 17
⊕	John	Doe	Nov. 2
⊕	Kathy	McLeon	Dec. 27
⊕	Mel	Donner	Jan. 5
⊕	Nan	Tucker	Feb. 7
⊕	Pam	Smith	July 19
⊕	Steve	Matthews	May 2
⊕	Willie	Hammers	June 15

Record: 1 of 20

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Now you won't forget anyone's birthday.

Forming relationships

Before you start entering data into the tables, you need to set up relationships between them. This will come in handy later when you create your forms.

To form a relationship between two tables, click on the Relationships button shown in **Figure C**.

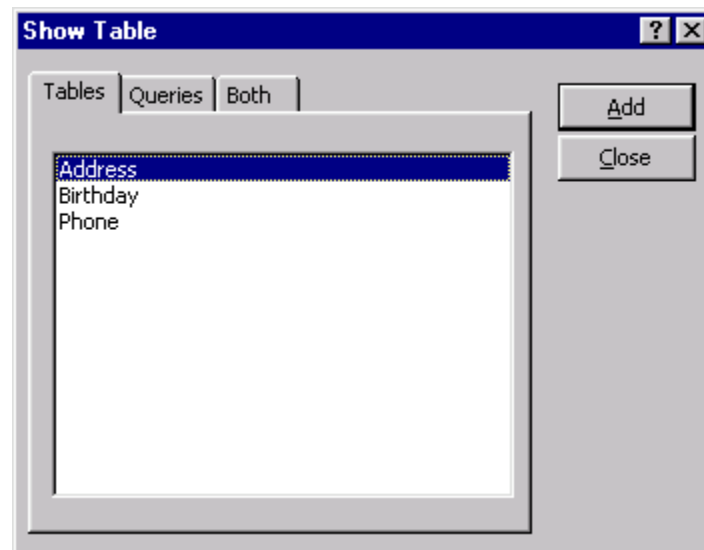
Figure C



The Relationships button

A window will appear that is used to select which tables you want to add to the relationship (see **Figure D**). Select each table and then click Add. When all tables have been added, click Close.

Figure D



Be sure to add all tables.

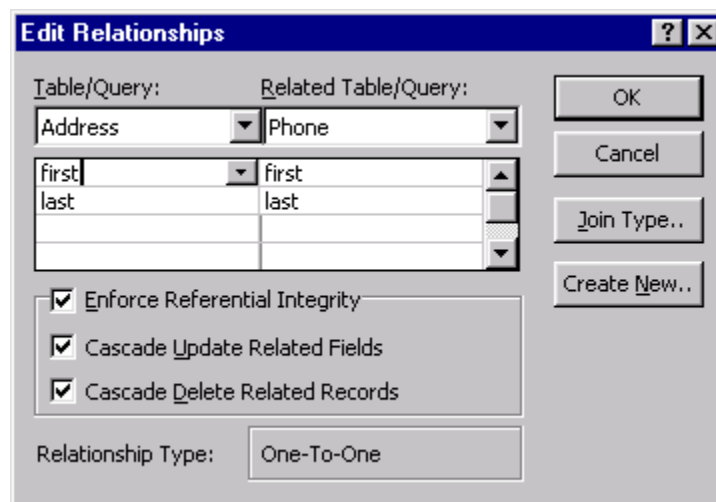
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You will notice that both the first name and last name fields in all of the tables are in a bold font, indicating that they are the primary keys.

Select both the first and last name fields in the Address table. (Click on the first name field and shift-click on the last name field.) Now that both fields are highlighted, drag and drop those onto the first name field in the Phone table (you can rearrange the tables on the layout screen by clicking the title portion of the table and dragging it around the screen). Another window, shown in **Figure E**, will appear asking you to match up the fields in the two tables.

Figure E



This window allows you to set properties for each relationship.

The first name and the last name fields should already be listed under the Address table (this will serve as the main table for this database). Match up the first name and the last name fields under the Phone table (the related table, in my sample).

Referential integrity

You will also notice a check box that states Enforce Referential Integrity. To someone with little to no experience with databases, this phrase can be fairly confusing. To enforce referential integrity means to create a rule that forces the data entered into the related table to appear in the main table. For example, say you have already entered the data for your Address table before you enter the

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data for your Phone table (like you should have done if you have followed my examples). When entering the data into the Phone table, if referential integrity is enforced, you will not be allowed to add a person's name and phone numbers if that person's name is not in the Address table. Basically, if the person does not exist in the Address table, they cannot exist in the Phone table.

If you want to set up your database so that you are allowed to enter a person's name and phone numbers into the Phone table without their name appearing in the Address table, then do not enforce referential integrity.

There are some other choices to be made if you do indeed decide to enforce referential integrity.

Update related fields

To Cascade Update Related Fields means that data updated in the main table will automatically be updated in the related table. Using our example again, if you change someone's name in the Address table, his or her name is automatically changed in the Phone table.

Warning!

With Cascade Delete Related Records turned on, Access will delete records in the related table that are deleted from the main table.

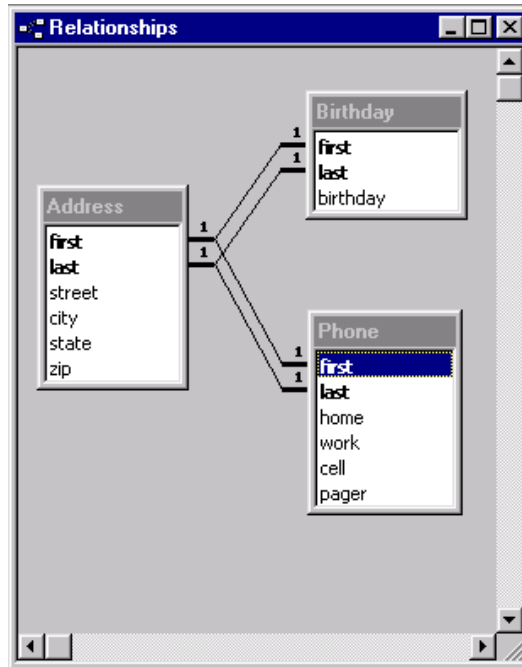
Follow the same procedure with the Birthday table. Use the Address as the main table and the Birthday table as the related table. The layout might look a little confusing, but you can move the table boxes around the screen to at least make it more pleasing to the eye (see **Figure F**).



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Figure F



Each relationship is shown as a line between the tables.

Until next time...

That's all for this lesson. Now that the relationships are formed to your standards, you can begin to enter the data into the Phone and Birthday tables.

If you require additional information or assistance with this item, please give us a call.