Introduction

The real power of a relational database lies in its ability to quickly **retrieve** and **analyze** your data by running a query. **Queries** allow you to **pull information** from one or more tables based on a set of search conditions you define. In this lesson, you will learn how to create a simple **one-table query**.

Throughout this course, we will be using a sample database. If you would like to follow along, you'll need to download our **"Query.accdb"**. You will need to have Access 2013 installed on your computer in order to open the example.

What are queries?

Queries are a way of **searching** for and **compiling** data from one or more tables. Running a query is like asking a **detailed question** of your database. When you build a query in Access, you are **defining specific search conditions** to find exactly the data you want.

How are queries used?

Queries are far more powerful than the simple searches or filters you might use to find data within a table. This is because queries can draw their information from **multiple** tables. For example, while you could use a **search** in the customers table to find the name of one customer at your business or a **filter** on the orders table to view only orders placed within the past week, neither would let you view both customers and orders at once. However, you could easily run a **query** to find the name and phone number of every customer who's made a purchase within the past week. A well-designed query can give information you might not be able to find out just by examining the data in your tables.

When you run a query, the results are presented to you in a table, but when you design one you use a different view. This is called **Query Design view**, and it lets you see how your query is put together.

Click the buttons in the interactive below to learn how to navigate the **Query Design view**.

| | FILE | HOME | CREATE | EXTERNAL DATA | DATABASE TOOLS | DESIGN | Javier Flores |

View   Run   Select   Make Table   Append

! Update   ⊕ Union
⊞ Crosstab   ⊕ Pass-Through
✗ Delete   Data Definition

Query Setup   Show/Hide

Results   Query Type

» Query1

Customers

*
🔑 ID
First Name
Last Name
Street Address
State
Zip Code
Email
Phone Number
City
Add to Mailing List?
Other Notes

Navigation Pane

| Field:	First Name	Last Name	Street Address	City	Zip Code	State
Table:	Customers	Customers	Customers	Customers	Customers	Custom
Sort:		Ascending				
Show:	☑	☑	☐	☑	☑	
Criteria:				"Raleigh"		
or:					Not In ("27610")	

One-table queries

Let's familiarize ourselves with the query-building process by building the **simplest** query possible: a one-table query.

We will run a query on the **Customers** table of our bakery database. Let's say our bakery is having a special event, and we want to invite our customers who live nearby because they are the most likely to come. This means we need to see a list of all customers who live close by, and **only** those customers.

If you think this sounds a little like applying a filter, you're right. A one-table query is actually just an **advanced filter** applied to a table.

To create a simple one-table query:

1. Select the **Create** tab on the Ribbon, and locate the **Queries** group.
2. Click the **Query Design** command.
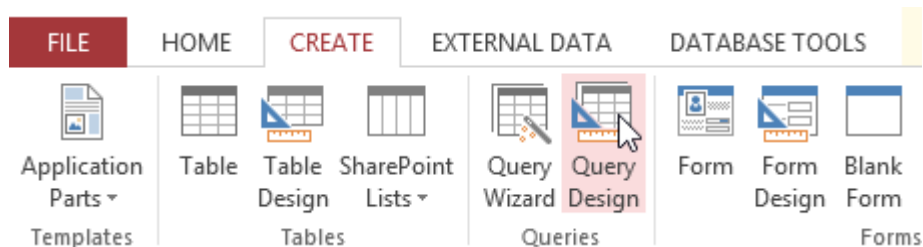
3. Access will switch to **Query Design view**. In the **Show Table** dialog box that appears, select the table you want to run a query on. We are running a query about our customers, so we'll select the **Customers** table.
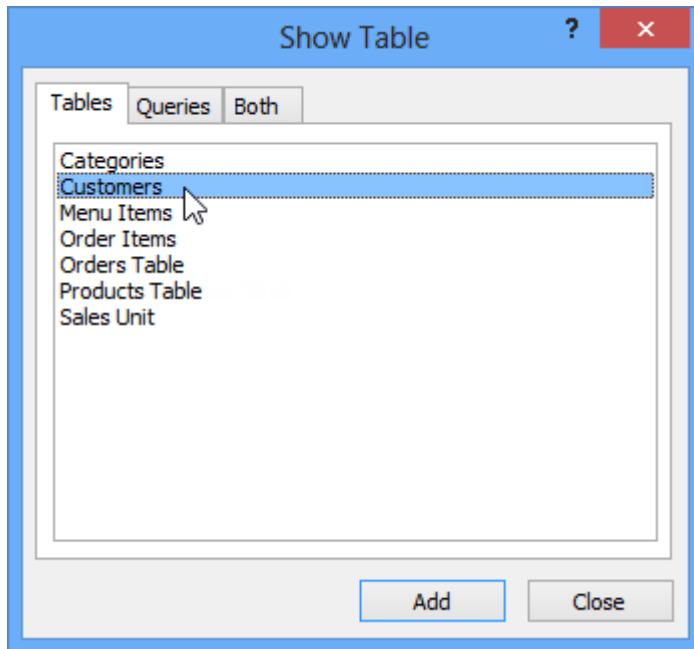
4. Click **Add**, then click **Close**.

5. The selected table will appear as a small window in the **Object Relationship pane**. In the table window, double-click the **field names** you want to include in your query. They will be added to the **design grid** in the bottom part of the screen.

   In our example, we want to mail invitations to customers who live in a certain area, so we'll include the **First Name**, **Last Name**, **Street Address**, **City**, and **Zip Code** fields. We aren't planning on calling or emailing our customers, so we don't have to include the **Phone Number** or **Email** fields.
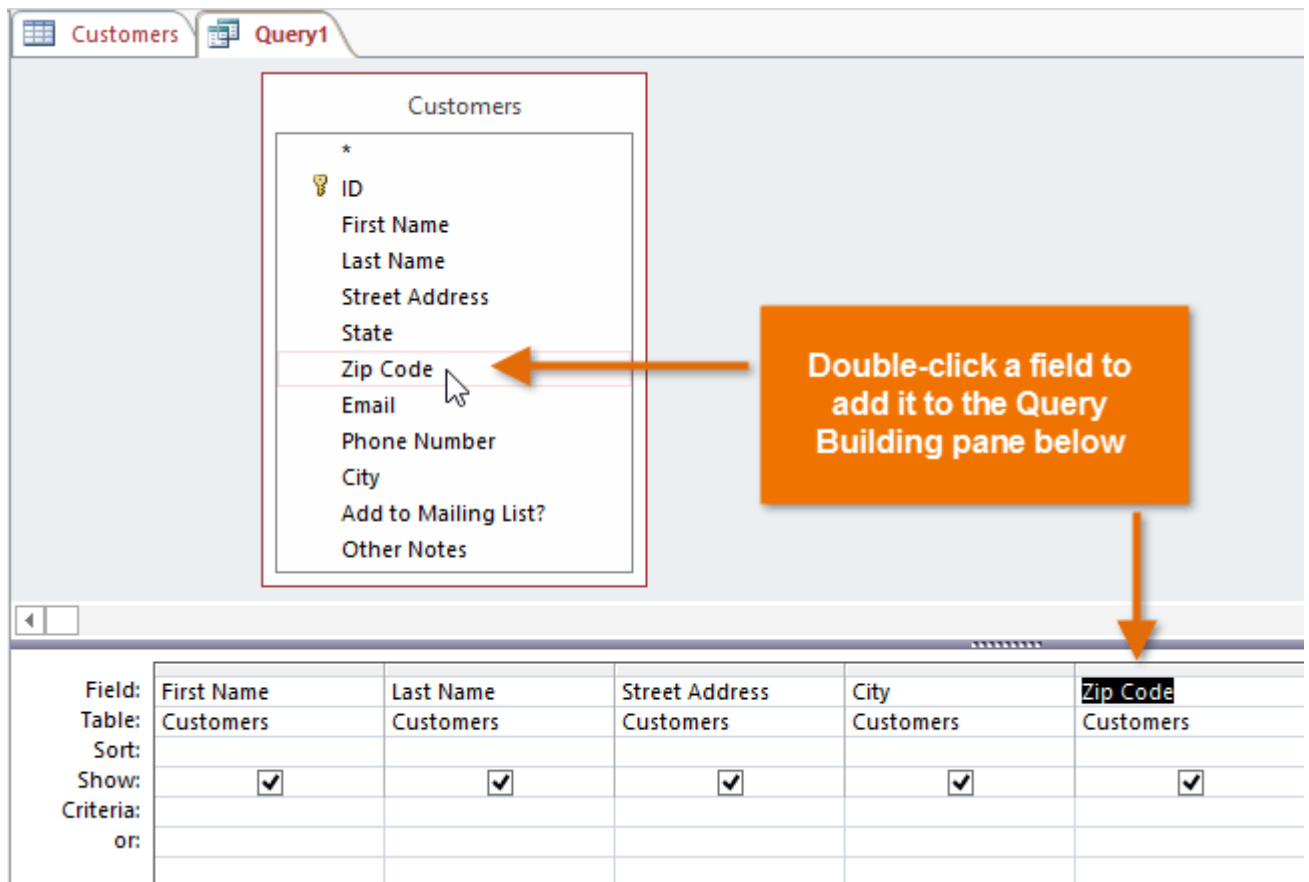
6. Set the **search criteria** by clicking the cell in the **Criteria:** row of each field you want to filter. Typing criteria into more than one field in the Criteria: row will set your query to include only results that meet all criteria. If you want to set multiple criteria but don't need the records shown in your results to meet all of them, type the first criteria in the Criteria: row and additional criteria in the **or:** row and the rows beneath it.
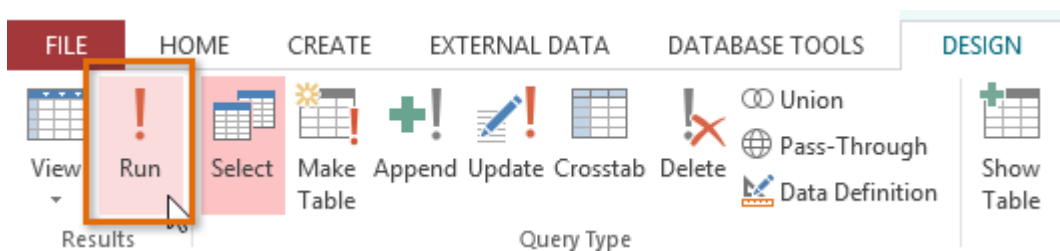
For this one-table query, we'll use simple search criteria.

- We want to find our customers who live in the city of **Raleigh**, so in our **City** field we'll type **"Raleigh"**. Typing Raleigh in **quotation marks** will retrieve all records with an **exact match** for Raleigh in the City field.

- Some customers who live in the suburbs live fairly close by, and we'd like to invite them as well. We'll add their zip code, **27513**, as another criteria. Because we want to find customers who either live in Raleigh **or** in the 27513 zip

code, we'll type "27513" into the **or:**row of the **Zip Code** field.

Field:	City	Zip Code	
Table:	Customers	Customers	
Sort:			
Show:	✔	✔	☐
Criteria:	"Raleigh"		
or:		"27513"	

7. After you have set your criteria, **run** the query by clicking the **Run** command on the **Design** tab.

FILE	HOME	CREATE	EXTERNAL DATA	DATABASE TOOLS	DESIGN

View **Run** Select Make Table Append Update Crosstab Delete ⊕ Union ⊕ Pass-Through ∠ Data Definition Show Table

Results   Query Type

8. The query results will be displayed in the query's **Datasheet view**, which looks like a table. If you want, **save** your query by clicking the **Save** command in the Quick Access toolbar. When prompted to name it, type the desired name, then click **OK**.

First Name	Last Name	Street Address	City	Zip Code
Tracey	Beckham	7 East Walker Dr.	Raleigh	27612
Lucinda	George	789 Brewer St.	Cary	27513
Jerrod	Smith	211 St. George Ave.	Raleigh	27610
Brett			Raleigh	27608
Chloe			Raleigh	27609
Alex			Cary	27513
Nisha			Raleigh	27612
Hillary			Raleigh	27606
Katy			Cary	27513
Beatrix	Joslin	85 North West St.	Raleigh	27606
Mariah	Allen	12 Jupe	Raleigh	27605
Jennifer	Hill	2100 Field Ave.	Raleigh	27609
Cody	Hayes	65 North St.	Raleigh	27609
Amaya	Gibson	5 West St.	Raleigh	27612

Save As ? ✕

Query Name:

Nearby Customers

OK   Cancel

Now you know how to create the simplest type of query with only **one table**. In the next lesson, you'll learn how to create a query that uses **multiple tables**.

Challenge!

1. Open an **existing Access database**. If you want, you can use our "Query.accdb".
2. **Create** a new query.

3. Select the **Customers** table to include in your query.

4. **Add** the following **fields** from the **Customers** table to your query:

   o **First Name**

   o **Last Name**

   o **City**

   o **Zip Code**

5. Set the following criteria:

   o In the **City** field, type **"Durham"** to return only records with Durham in the City field.

   o In the **Zip Code** field, type **"27514"** in the **or:** row to return records that are either in Durham or zip code 27514.

6. **Run** the query. If you entered the query correctly, your results will include customers who live in Durham **OR** zip code 27514.

7. **Save** the query with the name **Customers who live in Durham**.