

MICROSOFT ACCESS



Designing a Simple Query

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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**.

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.

How are queries used?

- ▶ 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.

7 How are queries used?

The image shows a screenshot of the Microsoft Access interface with several red callout boxes pointing to specific features. The interface includes a ribbon with tabs like File, Home, Create, External Data, Database Tools, and Design. The main window displays a query named 'Query1' in Design View, showing a table named 'Customers' with fields: ID, First Name, Last Name, Street Address, State, Zip Code, Email, Phone Number, City, Add to Mailing List?, and Other Notes. Below the table is a design grid with columns for Field, Table, Sort, Show, and Criteria. The grid shows 'First Name' and 'Last Name' from the 'Customers' table. 'Last Name' is sorted 'Ascending'. 'City' has a criteria of 'Raleigh*'. 'Zip Code' has a criteria of '*27513*'. The 'Show' column has checkboxes for 'First Name' and 'Zip Code'.

View Options (points to the View button in the ribbon)

Run Query Command (points to the Run button in the ribbon)

Object Relationship Pane (points to the left-hand pane)

The Design Grid (points to the design grid area)

Fields and Table Names (points to the table and field names in the design grid)

Sorting (points to the Sort dropdown menu in the design grid)

Show/Hide Fields (points to the Show checkboxes in the design grid)

Query Criteria (points to the Criteria text boxes in the design grid)

One-table queries

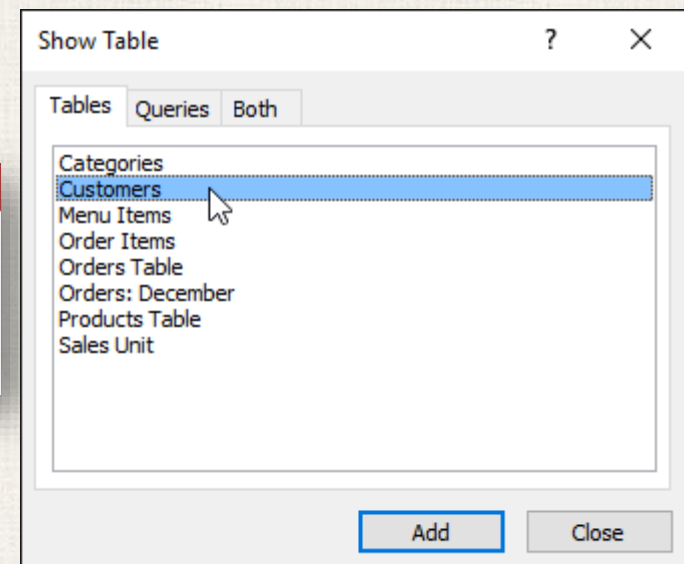
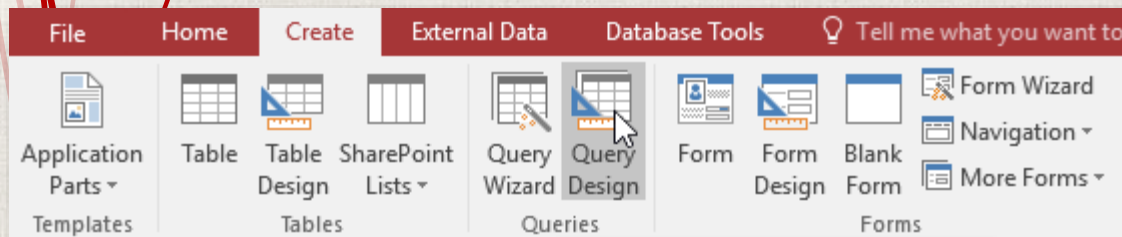
- ▶ Let's familiarize ourselves with the query-building process by building the **simplest** query possible: a one-table query.
- ▶ We will run a query on the **Customers** table of our bakery database. Let's say our bakery is having a special event, and we want to invite our customers who live nearby 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.

One-table queries

- We want to find our customers who live in the city of **Raleigh**, so we'll search 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.
- 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.

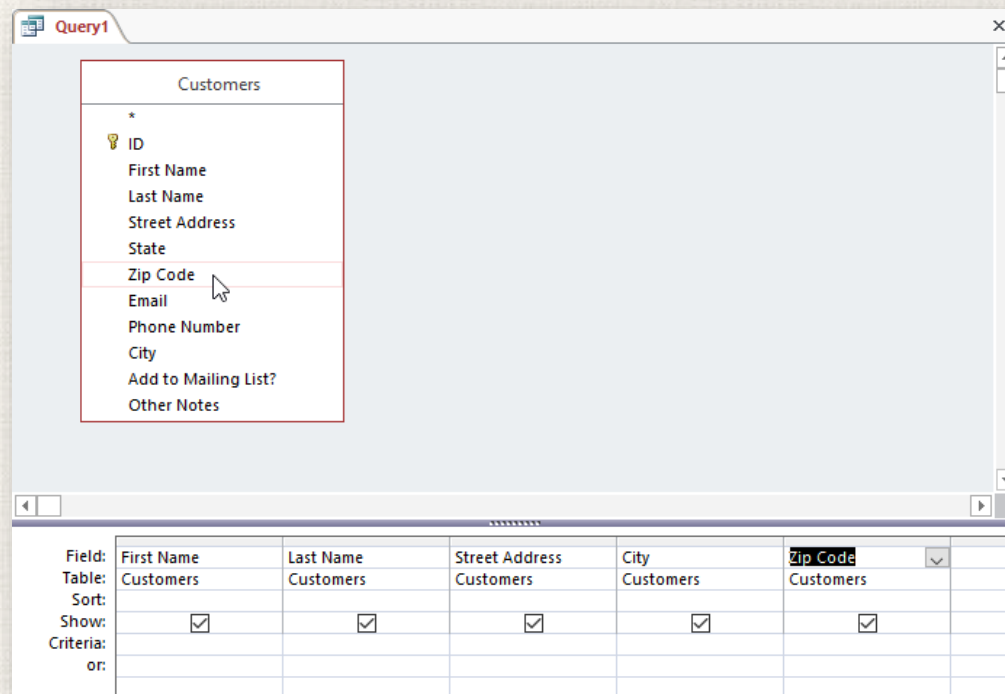
Create a simple one-table query

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 on our customers, so we'll select the **Customers** table.
4. Click **Add**, then click **Close**.



Create a simple one-table query

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.



Create a simple one-table query

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.

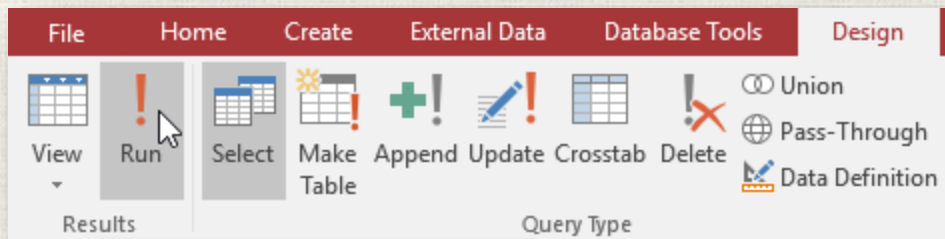
If you want to set multiple criteria but don't need the records shown in your results to meet all of them, type the first criteria in the Criteria: row and additional criteria in the **or:** row and the rows beneath it.

Because we want to find customers who either live in Raleigh **or** in the 27513 zip code, we'll type "Raleigh" in the **City** field and "27513" into the **or:** row of the **Zip Code** field. The **quotation marks** will search these fields for an **exact match**.

Field:	City	Zip Code	
Table:	Customers	Customers	
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:	"Raleigh"		
or:		"27513"	

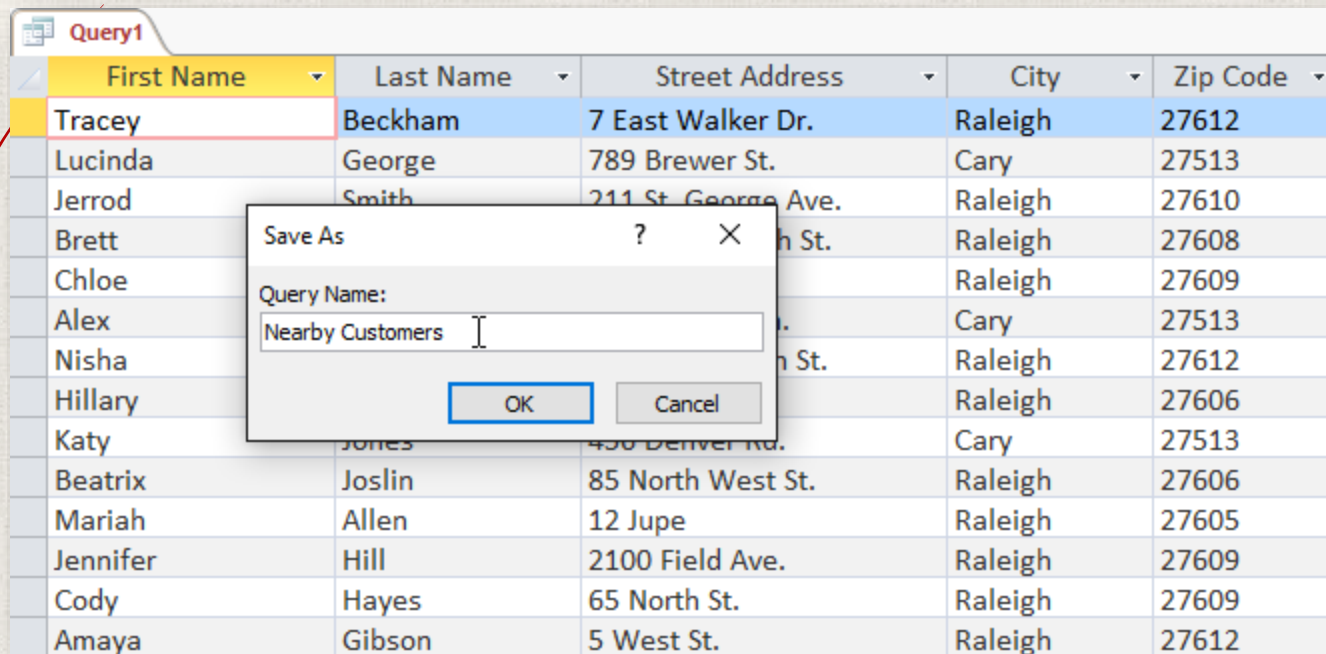
Create a simple one-table query

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



Create a simple one-table query

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	Jones	456 Denver Rd.	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

Practice

- Open **practice database**.
- **Create** a new query.
- Select the **Customers** table to include in your query.
- **Add** the following **fields** from the **Customers** table to your query:
 - First Name**
 - Last Name**
 - City**
 - Zip Code**
- Set the following **criteria**:
 - In the **City** field, type "**Durham**" to return only records with Durham in the City field.
 - In the **Zip Code** field, type "**27514**" in the **or:** row to return records that are either in Durham or zip code 27514.
- **Run** the query. If you entered the query correctly, your results will include **15 records** of customers who live in Durham **OR** in zip code 27514.
- **Save** the query with the name **Customers who live in Durham**.



THE END

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