



MICROSOFT ACCESS

Tutorial and Manual

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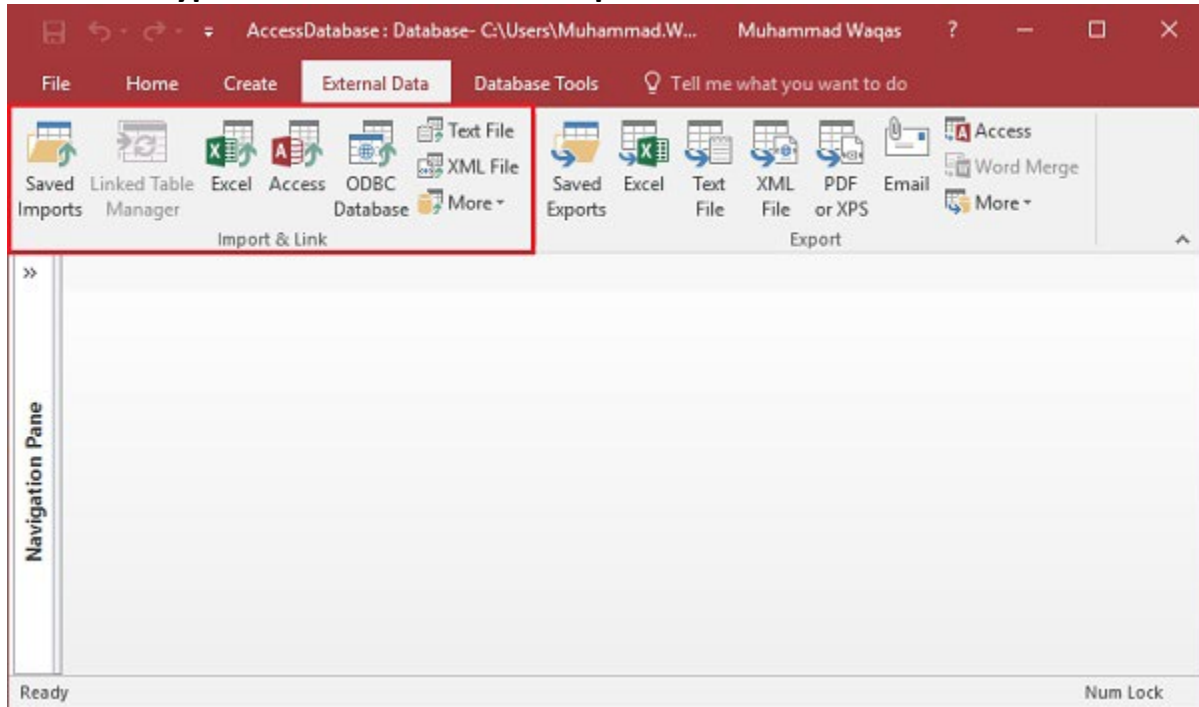
Chapter 2 – Import and Export Data

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MS Access - Data Import

In this chapter, we will be talking about importing data in Access. If you have data in a spreadsheet, a SharePoint list, or some other format, you can import it into an Access database with just a few steps, making it much more, easily available in Access.

Different Types of Data Access Can Import



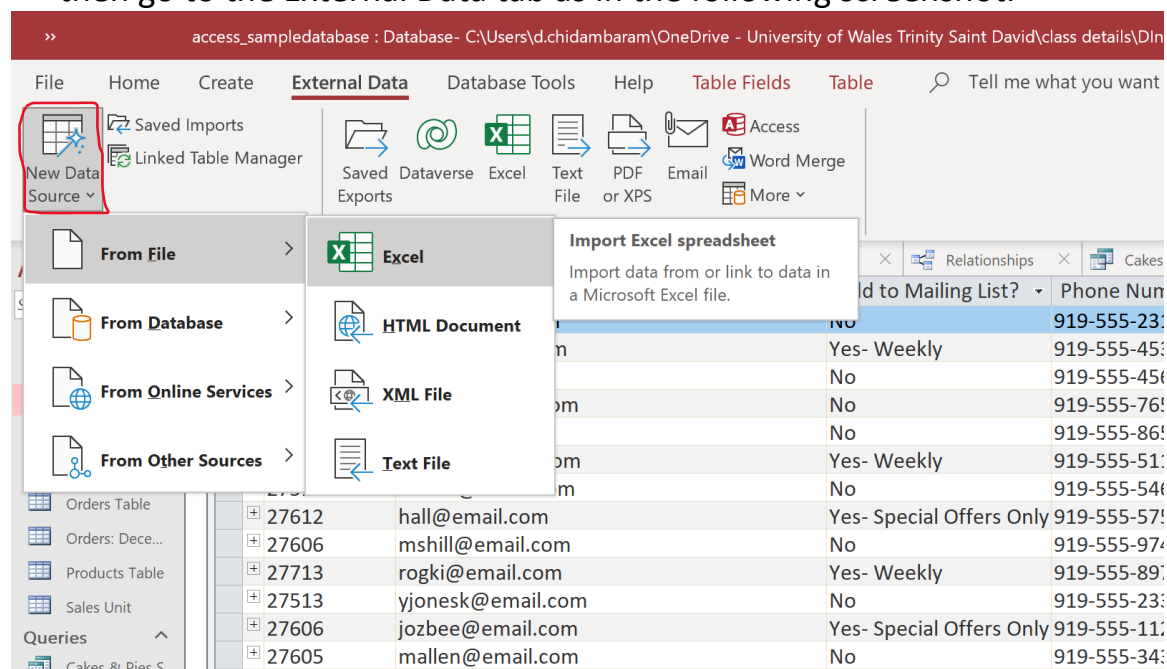
Following are the most commonly used data import formats.

- Microsoft Office Excel
- Microsoft Office Access
- ODBC Databases (For example, SQL Server)
- Text files (delimited or fixed-width)
- XML Files

Example: Import Microsoft excel worksheet (Customers. xlsx)

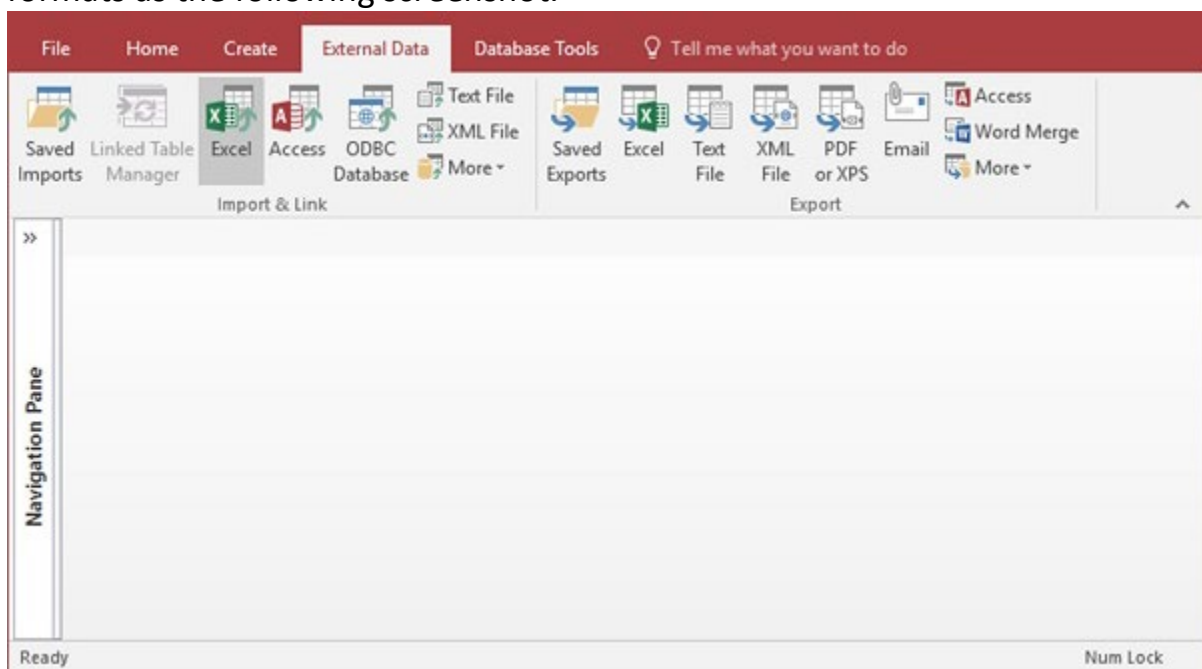
ID	First Name	Last Name	Street Address
1	Tracey	Beckham	7 East Walker Dr.
2	Lucinda	George	789 Brewer St.
3	Jerrold	Smith	211 St. George Ave.
4	Brett	Newkirk	47 Hillsborough St.
5	Chloe	Jones	23 Solo Ln.
6	Quinton	Boyd	4 Cypress Cr.
7	Alex	Hinton	1011 Hodge Ln.
8	Nisha	Hall	123 Huntington St.
9	Hillary	Clayton	2516 Newman
10	Kiara	Williams	9014 Miller Ln.
11	Katy	Jones	456 Denver Rd.
12	Beatrice	Joslin	85 North West St.
13	Mariah	Allen	12 Jupe

1. To import the data in Access, we first need to open the Access database and then go to the External Data tab as in the following screenshot.



2. Browse the Excel file from which you want to import data and then we have different options to store data. Let us select the first option and click Ok.
3. Here you will see the preview of your data. Now, click Next.
4. You will now see a dialog box where you can set the data type for each column/field.
5. Let us now go through all the fields and then, click Next.

6. Here are the different options for primary key. select the appropriate option and click Next.
7. In the last dialog box, you can enter the table name of your choice and click Finish.
8. If you want to save all these steps, then check the checkbox and close the dialog box.
9. Let us now go to the Navigation pane. You will see a new table is added here and when you open the newly added table you will see all of your data in Access.
10. Likewise we can also export Access data to an Excel file or various other data formats as the following screenshot.



Navigating within tables

1. The bar at the bottom of the table contains several commands to help you search or scroll through records:
2. To navigate through records in a table, you can use the **up and down arrow keys, scroll up and down**, or use the arrows in the **Record Navigation bar** located at the bottom of your table.

Customers				
	ID	First Name	Last Name	Street Address
+	1	Tracey	Beckham	7 East Walker Dr.
+	2	Lucinda	George	789 Brewer St.
+	3	Jerrold	Smith	211 St. George Ave.
+	4	Brett	Newkirk	47 Hillsborough St.
+	5	Chloe	Jones	23 Solo Ln.
+	6	Quinton	Boyd	4 Cypress Cr.
+	7	Alex	Hinton	1011 Hodge Ln.
+	8	Nisha	Hall	123 Huntington St.
+	9	Hillary	Clayton	2516 Newman
+	10	Kiara	Williams	9014 Miller Ln.
+	11	Katy	Jones	456 Denver Rd.
+	12	Beatrix	Joslin	85 North West St.
+	13	Mariah	Allen	12 Jupe

Record: 1 of 199 No Filter Search

3. You can create a new record with the **new (blank) record** command on the **Record Navigation bar**.

Customers				
	ID	First Name	Last Name	Street Address
+	1	Tracey	Beckham	7 East Walker Dr.
+	2	Lucinda	George	789 Brewer St.
+	3	Jerrold	Smith	211 St. George Ave.
+	4	Brett	Newkirk	47 Hillsborough St.
+	5	Chloe	Jones	23 Solo Ln.
+	6	Quinton	Boyd	4 Cypress Cr.
+	7	Alex	Hinton	1011 Hodge Ln.
+	8	Nisha	Hall	123 Huntington St.
+	9	Hillary	Clayton	2516 Newman
+	10	Kiara	Williams	9014 Miller Ln.
+	11	Katy	Jones	456 Denver Rd.
+	12	Beatrix	Joslin	85 North West St.
+	13	Mariah	Allen	12 Jupe

Record: 1 of 199 No Filter Search

4. You can find any record in the currently open table by searching for it using the record search box. Place your cursor in the search box, type any word that appears in the record you want to find, and press the Enter key.
5. To navigate between fields, you can use the **left and right arrow keys** or **scroll left and right**.

Once you have completed the Exercise, continue using the **Employees.accdb** database for this Exercise.

1. Add a field named Evaluation to the Employees table and use the Lookup Wizard data type to create a drop-down list of the following values: Excellent, Very Good, Good, Average, Below Average, Poor.
2. Using the drop-down list you just created, assign sample Evaluation data for every data record in the Employees table.
3. Add a Validation Rule and appropriate Validation Text to the HireDate field in the Employees table. This rule should allow only hire dates on or before today's date. Hint: Part of the solution is to use the Date() function in the Validation Rule. Date() will always return the current date.
4. Change your HireDate to today's date.
5. Add a field named Resume to the Employees table that can store your resume in the table. Do not use the OLE Object data type.
6. Add your resume to the database table in your record.
7. Add a field named Employee Code to the Employees table. Assign this field as a Short Text data type.
8. Create a custom Input Mask for the Employee Code field that requires the entry of three letters, then a dash, then three numbers (e.g., ABC-123). The input mask should also display all of the letters in uppercase.
9. Add sample Employee Code data for each record in the table.

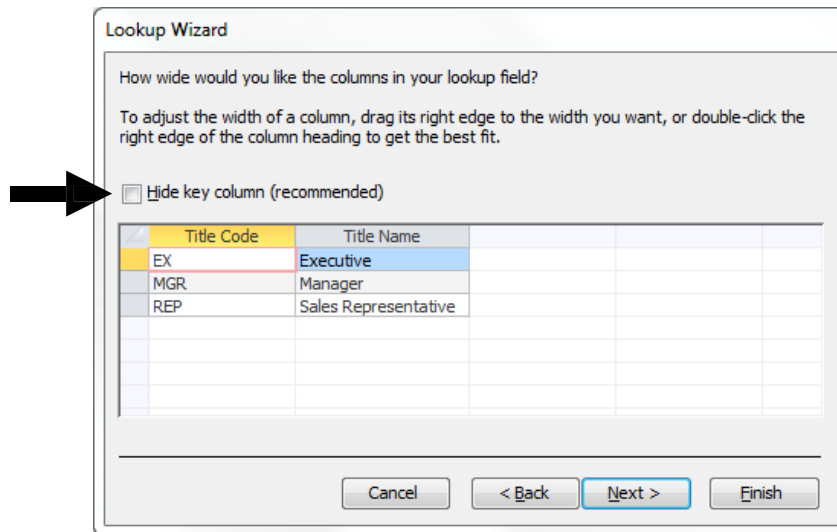
MS Access - Create Relationships

In this chapter, we will understand the need to create relationships between related tables

1. Create a new table named Titles; it should contain the fields TitleCode and TitleName. Both fields should be assigned Short Text data types. Enter the following three records of data as indicated in the table below.
2. To create a new table, select the Create ribbon and click the Table icon. The default field named ID should be deleted so your final table looks like this.

TitleCode	TitleName
MGR	Manager
REP	Sales Representative
EX	Executive

3. Assign appropriate Captions and Field Sizes for the two fields. Assign TitleCode as the primary key.
4. Add a field named TitleCode to the Employees table and use the Lookup Wizard data type to create a drop-down list based on the values in the Titles table. Do not select the option "I will type in the values that I want." The drop-down list should display both the TitleCode and TitleName in the drop-down list. To do this, make sure you uncheck the option for Hide Key Column as shown in the following screenshot.



- Adjust the properties of the TitleCode field in the Employees table so that the end user can enter only data items from the drop-down list.
- Using the drop-down list you just created, assign TitleCodes for each record in the Employees table.

Simplify Data Entry with Forms

This chapter begins a detailed look at the next database object: **forms**

What Can You Do with Forms?

Forms are mainly used for three things: editing data, viewing data, and creating a menu system. Without forms, you would have to enter data directly into tables, which is usually more difficult. Any change you make to data on the form is actually modifying the table data at the same time.

Designing Forms

Because the end users of your database will likely use forms to do most of their work in the database, it is important that they be well designed. Here are some basic user interface design principles to keep in mind when designing and building forms.

- Forms should have a consistent look and feel.
- Text on forms should be easy to read.
- Forms should be pleasant to look at and easy on the eyes.
- Functionally, forms should display all relevant information in a logical fashion.

- Forms should employ intuitive and consistent navigation.
- The layout and design of forms should reflect the way the end user works with the form data.

While considering how the end user will be working with the data, you also have to decide what type of form to create.

There are two basic types of forms –

Bound Forms

- Bound forms are connected to some underlying data source such as a table, query, or SQL statement.
- Bound forms are what people typically think of when they think of the purpose of a form.
- Forms are to be filled out or used to enter or edit data in a database.
- Examples of bound forms will typically be what users use to enter, view or edit data in a database.

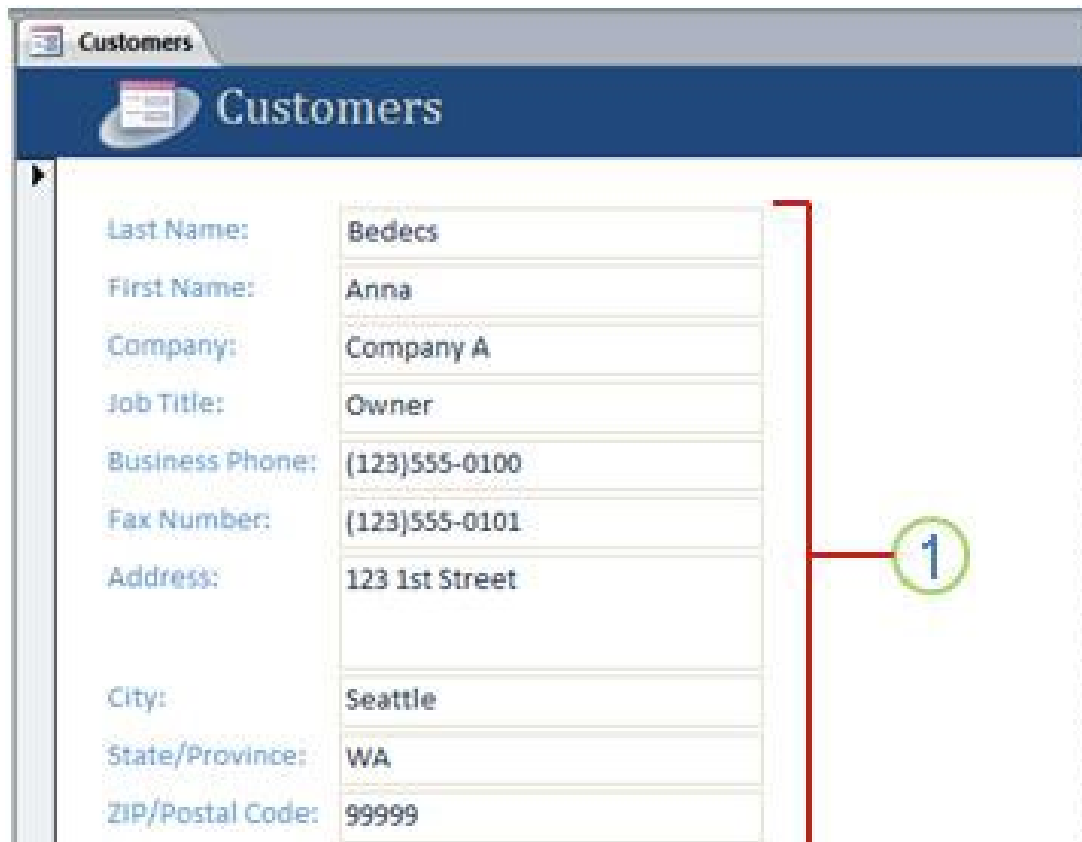
Unbound Forms

- These forms are not connected to an underlying record or data source.
- Unbound forms could be dialog boxes, switch boards, or navigation forms.
- In other words, unbound forms are typically used to navigate or interact with the database at large, as opposed to the data itself.

Types of Bound Forms

Single Item Form

This is the most popular one and this is where the records are displayed — one record at a time.



The screenshot shows a web application window titled 'Customers'. Below the title bar is a dark blue header with a 'Customers' icon and the word 'Customers'. The main content area displays a form for a single customer record. The form fields are arranged in two columns. A red L-shaped line highlights the right side of the form, and a green circle with the number '1' points to the right edge of the form, indicating the record's position in a list.

Last Name:	Bedecs
First Name:	Anna
Company:	Company A
Job Title:	Owner
Business Phone:	(123)555-0100
Fax Number:	(123)555-0101
Address:	123 1st Street
City:	Seattle
State/Province:	WA
ZIP/Postal Code:	99999

Multiple Item Form

This displays multiple records at a time from that bound data source. The data is arranged in rows and columns (similar to a datasheet), and multiple records are displayed at a time.



The screenshot shows a software interface for a 'Customers' form. At the top, there is a blue header bar with a 'Customers' label and a small icon. Below this, the title 'Customers' is displayed in a large, bold font. The main area of the form contains a table with five columns: 'ID', 'Company', 'Last Name', 'First Name', and 'Job Title'. The table lists 10 customer records, each with a unique ID, company name, last name, first name, and job title. The table is bordered by a dashed line on the right and bottom.

ID	Company	Last Name	First Name	Job Title
1	Company A	Bedecs	Anna	Owner
2	Company B	Gratacos Solsona	Antonio	Owner
3	Company C	Axen	Thomas	Purchasing Rep
4	Company D	Lee	Christina	Purchasing Mar
5	Company E	O'Donnell	Martin	Owner
6	Company F	Pérez-Olaeta	Francisco	Purchasing Man
7	Company G	Xie	Ming-Yang	Owner
8	Company H	Andersen	Elizabeth	Purchasing Rep
9	Company I	Mortensen	Sven	Purchasing Mar
10	Company J	Wacker	Roland	Purchasing Mar

Split Form

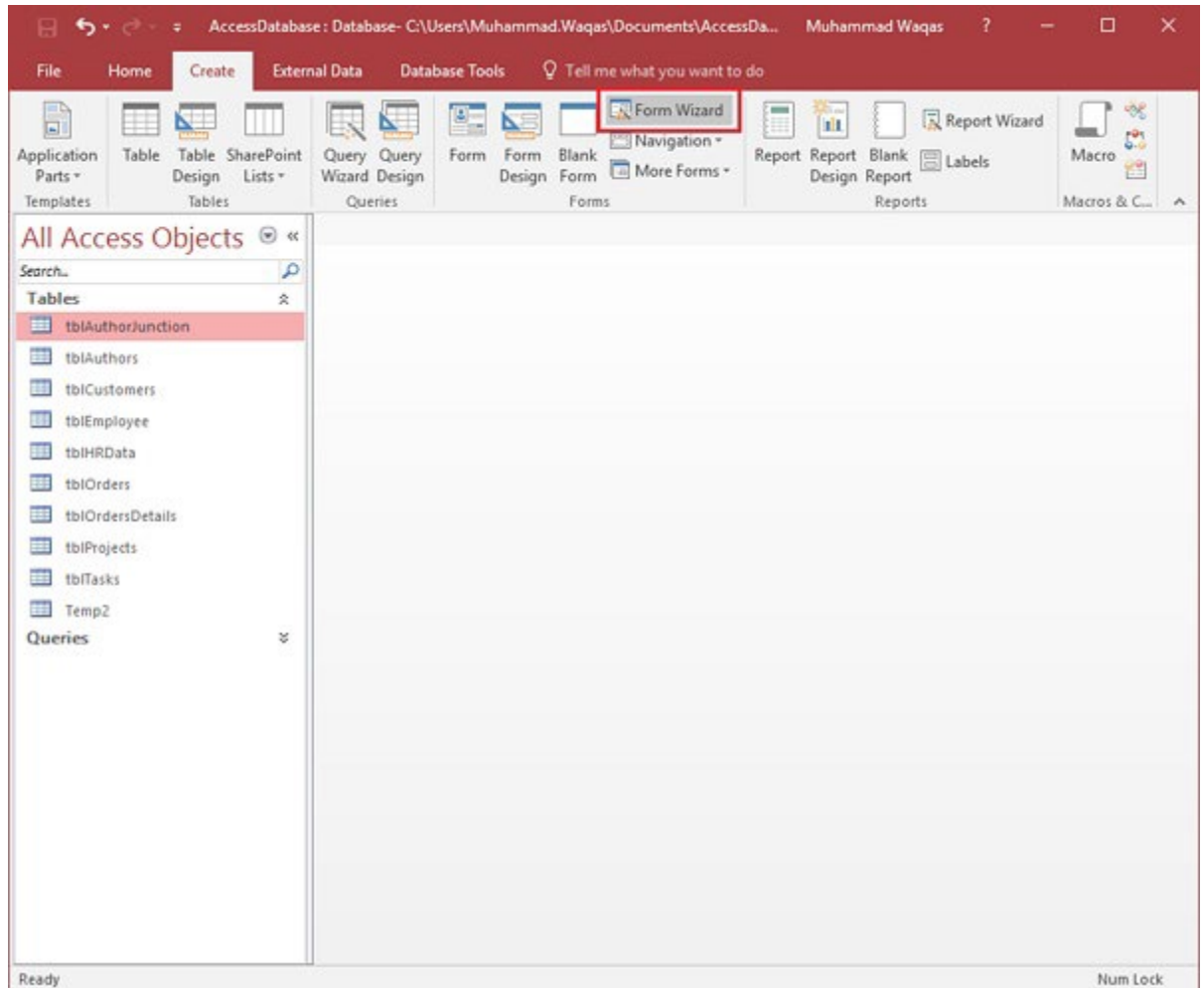
The form is divided into halves, either vertically or horizontally. A split form gives you two views of your data at the same time — a Form view and a Datasheet view. The two views are connected to the same data source and are synchronized with each other at all times.

The screenshot shows a split form titled "Customers" with a tab labeled "FormCustomers". The form view is at the top, and the datasheet view is at the bottom. The form view contains fields for Last Name, First Name, Address, City, Job Title, State/Province, and Business Phone. The datasheet view is a table with columns for First Name, Last Name, Address, City, Job Title, and State/Province. The row for Christina Lee is highlighted in blue.

First Name	Last Name	Address	City	Job Title	State/Province
Anna	Bedecs	123 1st Street	Seattle	Owner	WA
Antonio	Gratacos Solso	123 2nd Street	Boston	Owner	MA
Thomas	Axen	123 3rd Street	Los Angeles	Purchasing Representative	CA
Christina	Lee	123 4th Street	Boston	Purchasing Manager	MA
Martin	O'Donnell	123 5th Street	Minneapolis	Owner	MN
Francisco	Pérez-Olaeta	123 6th Street	Milwaukee	Purchasing Manager	WI
Ming-Yang	Xie	123 7th Street	Boise	Owner	ID
Elizabeth	Andersen	123 8th Street	Portland	Purchasing Representative	OR

Creating Forms

1. For this, open your Database and go to the Create tab. In the Forms group, in the upper right-hand corner you will see the Form Wizard button.



2. Click on that button to launch the Form Wizard.
3. On this first screen in the wizard, you can select fields that you want to display on your form, and you can choose from fields from more than one table or a query.
4. Let us assume we want to simply have a quick form that we are going to use for data entry for our employee information.
5. From **Tables/Queries** drop-down list, select **tblEmployees** table. Click on the double arrow to move all the fields at once.

Form Wizard

Which fields do you want on your form?
You can choose from more than one table or query.

Tables/Queries
Table: tblEmployee

Available Fields:
EmployeeID
FirstName
LastName
Address1
Address2
City
State
Zip

Selected Fields:

Cancel < Back Next > Finish

Exercise

Creating a Form

1. Click the *Forms* tab in the database window.
2. Click *New*.
3. The New Form Window appears.
4. Select *Form Wizard* and click *OK*.
5. Click the two right pointing arrows button to move all the fields over to the right side of the window.
6. Select *Address ID* and click the left pointing arrow button to move it back over to the Available Field side of the window.
7. Click *Next*.
8. Select *Columnar*; Click *Next*. Select *Standard style*; Click *Next*.
9. The wizard offers “Addresses” for the form title, which is fine.
10. Click *Finish* and view the form.
11. Click the right pointing arrow button at the bottom of the form window (next to the Record: box). Click this arrow two more times and notice the entries. The form should be empty on the fourth record.
12. Click *Save* and close the form.

1. Basic Data Entry:

- Task: Enter employee information into the form for a few employees (e.g., employee IDs, names, addresses, contact details, salary).

2. Validation and Error Handling:

- Task: Try entering invalid data (such as text in a numeric field, incomplete information).
- Objective: Understand how Access handles validation rules and error messages when incorrect data is entered. Define and apply validation rules (e.g., required fields, data type validation) to fields.

3. Navigation and Record Editing:

- Task: Navigate through records using navigation buttons (first, last, next, previous), edit existing records, and add new records.
- Objective: Learn how to navigate between records, edit data, and add new entries using the form interface

4. Form Customization:

- Task: Customize the form design (change colors, fonts, layout) and rearrange fields.
- Objective: Explore the form design tools and understand how to customize the appearance of forms to suit specific preferences.

5. Using Combo Boxes or Dropdowns:

- Task: Replace simple text fields with combo boxes or dropdown lists for fields like "Country" or "Phone Type."
- Objective: Practice using lookup fields or dropdown lists to standardize data entry and prevent input errors.

6. Calculations or Expressions:

- Task: Add a calculated field to the form that displays a value derived from other fields (e.g., a calculated total).
- Objective: Learn how to create calculated fields and expressions within forms.

Activity in Calculations:

Include a calculated field that shows a 10% increase in salary as a "Projected Salary."

- Task Details:
- Form Design:
- Design the form to include a field for entering employee salaries.
- Calculated Field Addition:
- Add a textbox field labelled "Projected Salary" to the form.
- Set the Control Source property of the "Projected Salary" field to an expression that calculates a 10% increase in the entered salary.

- Testing:
- Enter different salary amounts in the designated field.
- Observe how the "Projected Salary" field updates automatically to display the salary with a 10% increase.