

Microsoft Access Database

How to Import/Link Data



Firstly, I would like to thank you for your interest in this Access database eBook guide; a useful reference guide on how to import/link data into an Access database.

Please keep this as a reference and a reminder when importing and/or linking data into Microsoft Access database which can be applied to any version though some of the screenshots will vary and therefore will be different in some places.

In this guide, I talk about three key areas:

1. Overview of Importing data
2. How to Import Data
3. How to Link Data

FREE DOWNLOAD

If you require some sample data to test the techniques and illustrations in this document, you can go and download my sample Access database file consisting of six potentially related tables which these examples are all based on.

[Sample Data Files - Zip File](#)

(<http://tinyurl.com/hrwhlh4>)

"Importing data or linking data to an external data source is a straight forward process...make the connection!"

The most desirable way of using external data is by linking or Importing Data into an Access table object. Once the data has been linked or imported, you treat it like any other data table and build your queries, forms and reports utilising the powerful features of Access.

The main question that needs to be answered before importing or linking data is **which method; link or import?** You need to know the *pros* and *cons* of linking and importing data from an external database source.

There are two methods of gaining access to data outside of its own application:

1. **Importing Data**
2. **Linking Data**

Use the *importing* method to physically store data in a table which is a far more efficient way of copying data across applications rather than using the *Copy/Paste* approach.

Use the *linking* method to create a connection to an external database/data source without physically bringing data across. This creates a pointer to the external file and can be viewed as if it were a *table*.

In Access, there are various import or link formats available some of which are listed below:

1. Any database created with Microsoft Jet engine (*Access database*)
2. ODBC (*Object Database Connectivity*) databases such as Microsoft SQL Server, Oracle and bespoke database applications.
3. Excel spreadsheets (*any version*).
4. Lotus spreadsheets (*most versions*).
5. Delimited and fixed length text files (*in a tabular format*).
6. Tabular data in HTML (*Hypertext-Markup Language*) file including XML.

Note: There are other formats that can be used for importing data into Access and can be downloaded (via the web) and you will need to seek other online references for more information.

The following example will show the steps of importing data followed by an example of linking data into a new table from an Excel spreadsheet which in this case is going to be a list of employees (*Employees.xls/.xlsx*).

First, let's take a look at the data as it appears in Excel to understand several rules:

Top row = field heading Row 2 onwards = record per row

Employee ID	Last Name	First Name	Title	Birth Date	Hire Date	Address
1	DeVolo	Nancy	Sales Representative	08/12/1948	01/04/1987	507 - 20th Ave. E. Apt. c
2	Fuller	Andrew	Vice President Sales	13/02/1942	15/07/1987	908 W. Capital Way
3	Leverling	Janice	Sales Representative	30/08/1963	01/03/1988	722 Moss Bay Blvd.
4	Peacock	Phyllis	Sales Representative	19/09/1937	01/04/1988	4110 Old Redmond Rd
5	Buchanan	B. L.	Sales Manager	04/03/1955	15/09/1989	14 Garrett Hill
6	Suyama	Michael	Sales Representative	02/07/1963	15/09/1989	Coventry House Miner
7	King	Jonathan	Sales Representative	29/05/1960	01/12/1989	Edgeham Hollow Wind
8	Callehan	Linda	Inside Sales Coordinator	09/01/1958	01/02/1990	4726 - 11th Ave. N.E.
9	Dodsworth	Annabella	Sales Representative	27/01/1966	15/10/1991	7 Houndstooth Rd.

Example of an Excel spreadsheet (*Employees*)

Follow the basic rules below to help prepare to import data as smoothly as possible:

1. Decide if you want to have any field (*column*) headings and if so, allocate the top row (*normally row 1*) for your field names. Do not have two or more rows as a representation for field headings; keep it in one row only.
2. For each field name, make sure it is unique and that you do not have any duplicates. Also, make sure that you do head a field with a name (*as text*) and not leave it blank.
3. From row 2 onwards, each row represents a single record and you must ensure that a record sits entirely in one row and not across two or more rows.
4. Each field (*column*) must be of the same data type (*excluding the field name itself*). If you have a field which is to hold *Date* data types, then do not mix the values with text or any other data type. Keep to one data type only. Blank values can be left in and will be transposed as either an *Empty* or *Null* value.
5. Optionally, you could format the field headings slightly differently to the rest of the rows (*which are the records*) so that the system uses the format attribute to clearly distinguish the top row from the rest. A simple bold will do but this is optional (*more for the user's benefit*) and it will handle top rows if there are different from the rest!
6. Make sure all the records are as compact as possible and in one region. This means having no entire blank rows or columns in between the records and fields.

Follow the above rules and importing data will run very smoothly indeed into an Access table.

Note: Different screens will appear for different versions starting with Access 2003 below. Scroll down this page for an Access 2007 method.

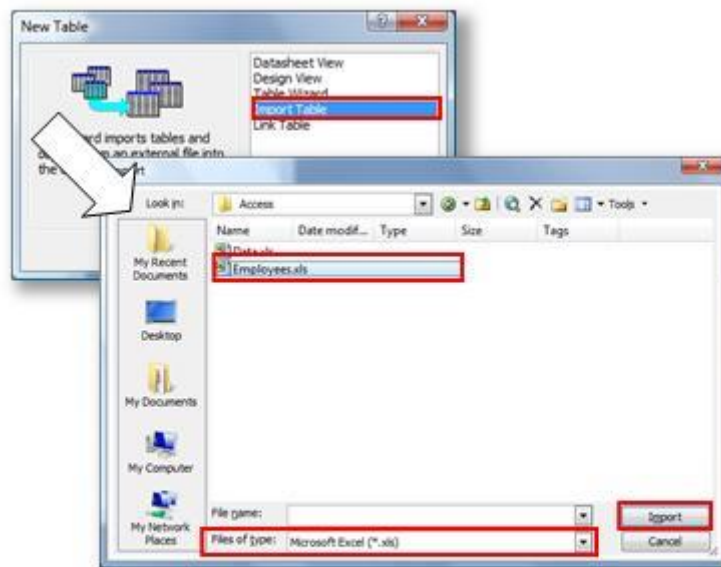
Importing Data/Linking Data (Access 2003 or earlier)

Step 1: In the Database Window, make sure you are in the **Tables** category and click the **New** button to reveal a pop-up screen called *New Table* and select the option **Import Table** and click the OK button.

Alternatively, from the Database Window, right-mouse click anywhere in the blank (*white space*) area and choose the **Import...** command from the pop-up menu.

Step 2: Will now see an *Import* pop-up screen where you navigate to the folder of the Excel spreadsheet and change file type option to *Microsoft Excel (.xls)* at the bottom of this screen.

Select the file required and click the **Import** button or double-click the file directly.



Import Table from the **New Table** pop-up screen and choose the required file to import

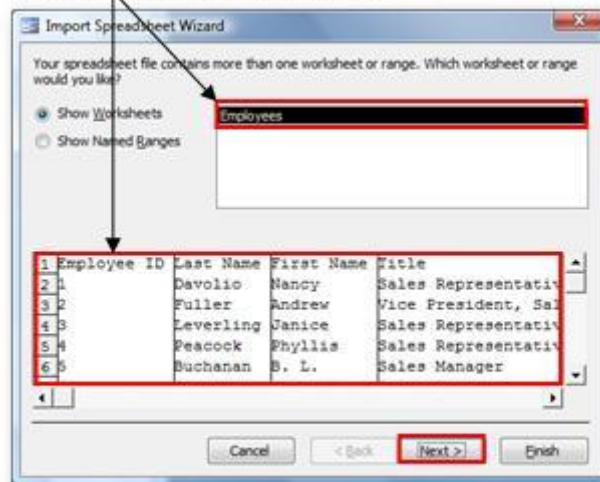
Step 3: You see the first of six screens of the **Import Spreadsheet Wizard** feature and users pick and set the options required.

The first screen shows a preview of the data and allows the function to either choose a worksheet (*if more than one*) or choose the *Named Range* which is an Excel feature.

As you make your choice, the preview pane dynamically changes which is why it's a good idea to know your data prior to importing data into Access (*view it first in Excel!*).

Note: Different file types will display different wizards. The above example demonstrates the spreadsheet wizard tool.

Data preview of the selected item



Select the worksheet/Range and click **Next >**

Step 4: The next screen confirms if the top row is to become the field headings or not and act as the record instead. It should automatically select this option for you but can be manually chosen by ticking *First Row Contains Column Headings*.

If you do not choose correctly, it will cause importing data errors later on. Use the preview to confirm and click the *Next* button to continue.

Step 5: This screen asks you to choose if the data will be imported into a new or an existing table.

The more popular option is to choose *In a New Table* as it will create fields, data types and populate the records line by line. The last step of the importing data wizard tool asks you to name the table.

If however you nominate to choose *In an Existing Table*, then you must ensure that the imported file's fields layout fits with the table's field layout otherwise errors will occur. Make sure:

1. The order of the fields from a left to right direction matches the order of the table layout itself.
2. Each field is the same data type and where applicable same or minimum size of the table field's data type (*and size*).
3. The name of the fields does not have to be the same but it may help the user if this is the same or similar to identify and map the field correctly.

When importing data to an existing table, the data will always append (*add to the end of the existing recordset*) records and therefore any *primary* or *foreign* keys present in the existing table is accounted for so that when data is imported to the structure of the Access table, there are no violations of the rules. This is especially important for the primary key field as values cannot be duplicated.

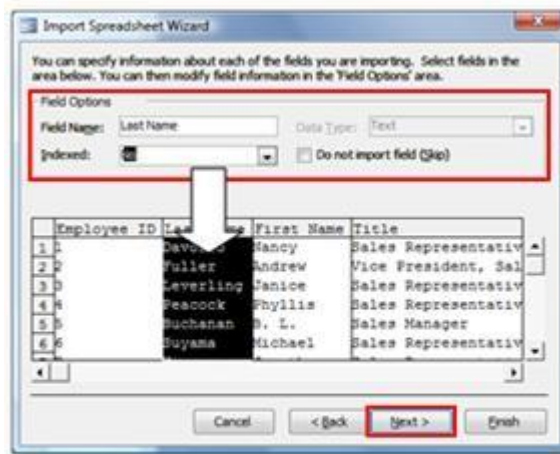
Choose your option and click the *Next* button to continue. This example will follow the *New Table* option.

Step 6: This screen handles options for each field (*as seen in the preview pane below*) where you can choose to rename fields, set keys and index or choose not to import a field.

The upper half option is sensitive to where you click in the preview pane in the lower half. Make sure you first click on a field in the preview pane and then proceed to make your changes.

Repeat this for each field where required before clicking the *Next* button.

Note: For the Import Spreadsheet Wizard feature, you cannot set the data type hence why it is dimmed in grey and been disabled. This option is available for a text file import wizard routine.



Property Field control and settings screen is sensitive to the lower half field (as selected in black)

Step 7: This screen asks you to optionally choose a primary key or let Access choose one for you or not bother here (*for now and set it later!*).

Make sure you click in the correct field in the lower half preview pane before choosing your option as it is again sensitive to which column is selected (*as highlighted in black*).

Make your choice and click the *Next* button to proceed to the final step.

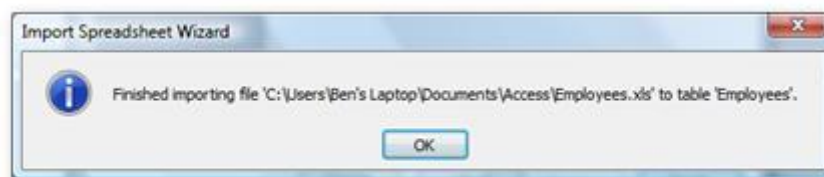
Note: Primary keys are an important property in Access and should be applied where possible. To get a better insight to this property, please review [how primary keys work so you know your options](http://AccessDatabaseTutorial.com).

Step 8: Pretty obvious really, the last step requires you to name the new table. Make sure the table name is unique and click the *Finish* button to start the importing data.

There are two other options which can be chosen to help analyse the new table for performance reasons and it checks for primary keys, indexes and determines the *Normalisation* of the new table. Please review [the process about Database Normalisation](#) to understand how this tool works.

The other option launches a help document to further assist in importing data.

If you were successful, you will see the following message box appear:



If all the data was imported successfully

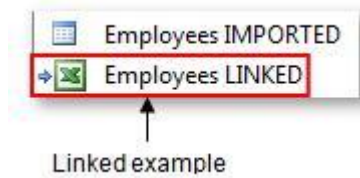
During the importing data routine, the system finds inconsistencies in the data one of two outcomes occur. If all data values are invalid, an error message box will appear to this effect. If some of the data is correct and others are not, then it will import what it could successfully into the named table and in addition generate a **Paste Errors** table which is a separate table and can be opened to investigate which records (*by row number*) caused offence.

You may need to correct the offending records back at the source file and try again. Make sure you also delete the main table too if you wish to use the same named table from scratch.

Access 2003 and earlier - Linking to the same example as above instead, will follow the same procedure but will give you fewer options (*three steps only*).

Start the same procedure but choose the **Link** option instead of **Import** from the menu pop-up or **New Table** screen.

Complete the three steps and that's it! **Job done!**



Treat this type of file as a normal table. The only element of this type of table link is that it is normally *one-way* where by you cannot save to this file (*update records*).

The design view is also read only even if you believe you can make changes to it and have successfully saved it. *When you re-open it, it hasn't saved anything!*

Importing Data/Linking Data (Access 2007 and later versions)

Step 1: From the Ribbon Bar, locate the **External Data** tab and click the desired icon from the **Import** section to start the import wizard screen.

Different icons appear for different file formats.

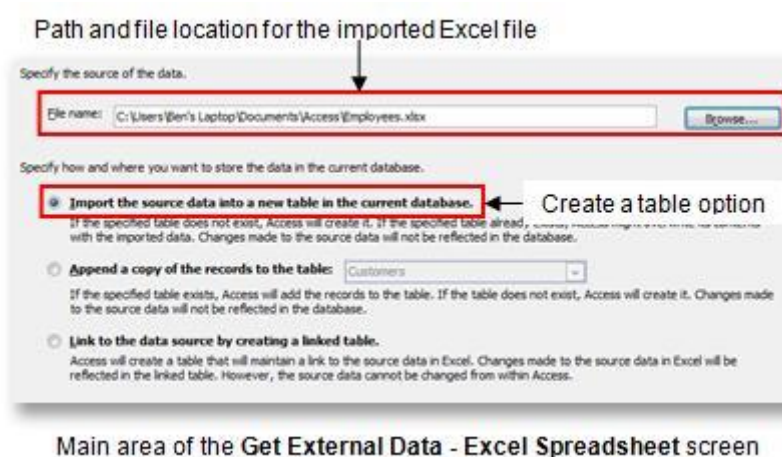


Step 2: You now see the *Get External Data - Excel Spreadsheet* pop-up screen where you specify the location of the Excel file by either typing or browsing for it and set the required action of either:

1. Importing the source data into a new table.
2. Append a copy of the records an existing table.
3. Link to the data source by creating a linked table.

For this example, we are going to create a new table and will keep to the default first option.

Confirm the file and location and then click the OK button to continue.

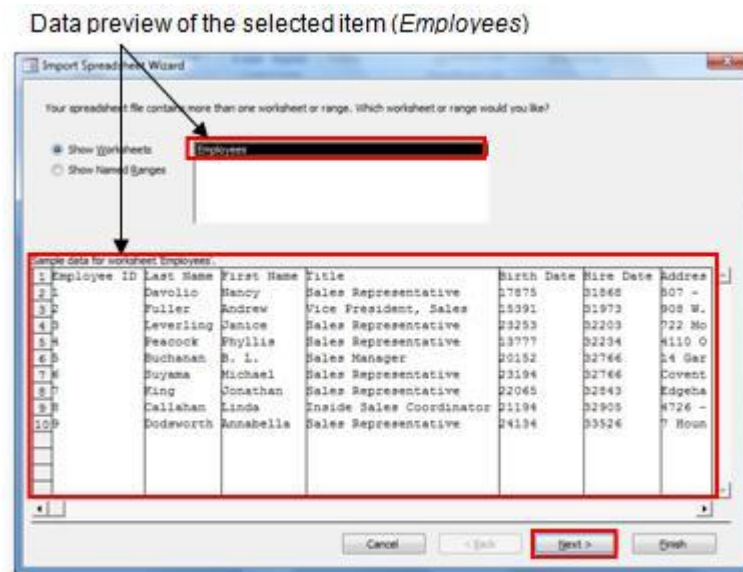


Step 3: You see the first of five screens of the **Import Spreadsheet Wizard** feature and users pick and set the options required.

The first screen shows a preview of the data and allows the function to either choose a worksheet (*if more than one*) or choose the *Named Range* which is an Excel feature.

As you make your choice, the preview will change which is why it's a good idea to know your data prior to importing data into Access (*view it first in Excel!*).

Note: Different file types will display different wizards. The above example demonstrates the Spreadsheet wizard tool.



Select the Worksheet/Range and click **Next >**

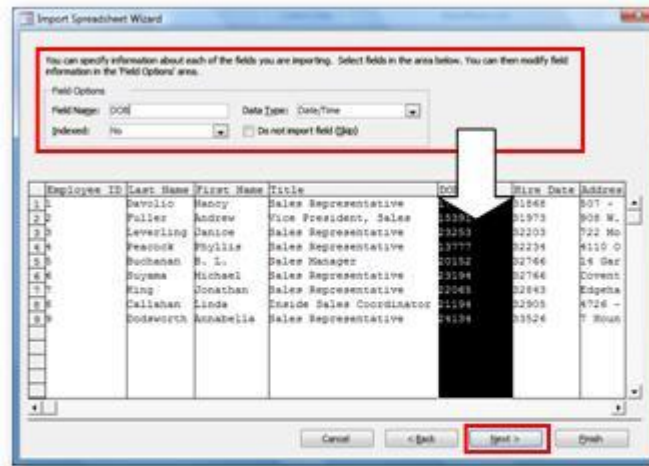
Step 4: The next screen confirms if the top row is to become the field headings or not and act as the record instead. It should automatically select this option for you but can be manually chosen by ticking *First Row Contains Column Headings*.

If you do not choose correctly, it will cause importing data errors later on. Use the preview to confirm and click the *Next* button to continue.

Step 5: This screen handles options for each field (*as seen in the preview pane below*) where you can choose to rename fields, set keys and index, Change the data type or choose not to import a field.

The upper half option is sensitive to where you click in the preview pane in the lower half. Make sure you first click on a field in the preview pane and then proceed to make your changes.

Repeat this for each field where required before clicking the *Next* button.



Property Field control and settings screen is sensitive to the lower half field (as selected in black)

Step 6: This screen asks you to optionally choose a primary key or let Access choose one for you or not bother here (*for now and set it later!*).

Make sure you click in the correct field in the lower half preview pane before choosing your option as it is again sensitive to which column is selected (*as highlighted in black*).

Make your choice and click the **Next** button to proceed to the final step.

Note: Primary keys are an important property in Access and should be applied where possible. To get a better insight to this property, please review [how primary keys work so you know your options](#).

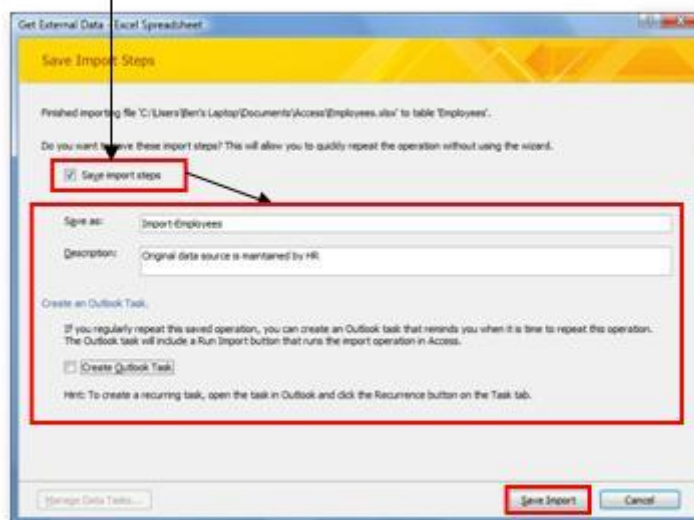
Step 7: Pretty obvious really, the last step requires you to name the new table. Make sure the table name is unique and click the **Finish** button to start importing data.

There is one other option which can be chosen to help analyse the new table for performance reasons and it checks for primary keys, indexes and determines the *Normalisation* of the new table. Please review [the process about Database Normalisation](#) to understand how this tool works.

The following screen appears to allow you to save changes for repeating this action at a later date.

It's not enabled by default and will import the data as a new table. If you enable this feature, you need to complete a label name for the routine import and optionally fill in the description box.

Enable this option to save the routine's import settings



Optional feature to save the wizard routine for a repeat action

There is an additional option which interacts with Microsoft Outlook (*if you have this application installed*) which if you are familiar with this application, allows you to create a *Task* as a reminder for a re-run and even provides a button for you too.

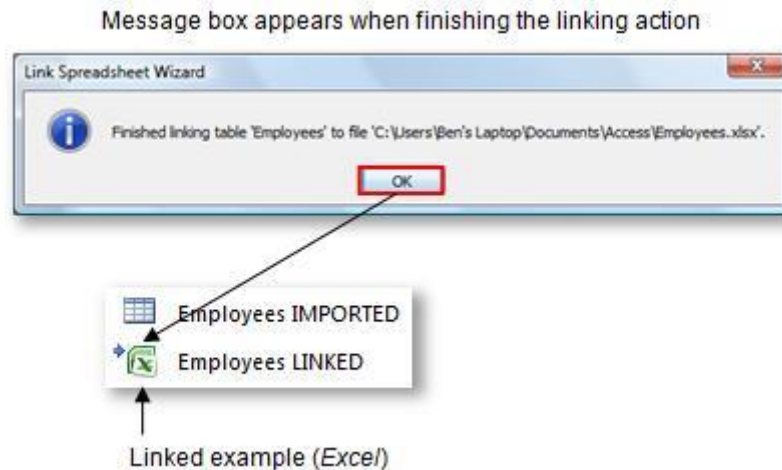
Click the *Save Import* button or *Close* button if not saving this feature.

The table will now appear in the Navigation Pane ready for use.

Access 2007 and later - Linking to the same example as above instead, will follow the same procedure but will give you less options (*three steps only*).

Start the same procedure but choose the Link to the data source by creating a linked table option instead

Complete the three steps and that's it! **Job done!**



Treat this type of file as a normal table. The only element of this type of table link is that it is normally one-way where by you cannot save to this file (*update records*).

The design view is also read only even if you believe you can make changes to it and have successfully saved it. *When you re-open it, it hasn't saved anything!*

To recall a previously saved import (*or export*) routine, click the **Saved Imports** icon from the same Ribbon Bar section and follow the easy intuitive screen - *it's a single screen action!*

Other Types of objects to import

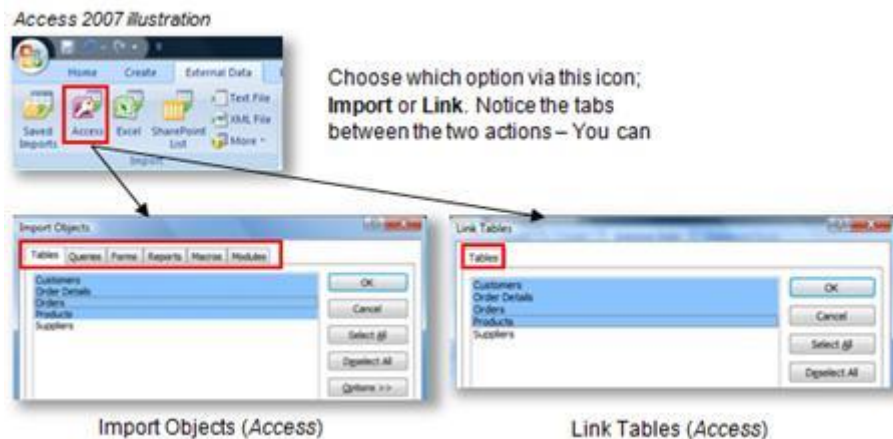
As discussed before, importing data can come from various formats and in some cases not even just the data but other objects too.

For example, you use the same action (*Import*) to copy over other Access objects including queries, forms, reports, macros and modules which do not contain any data at all just the structure of the document (*the template only*).

You cannot copy and paste in the normal manner to achieve this type of task, you must use the import routine. You will see an **Import Objects** pop-up screen which is a mini Database Window of all the objects from the calling Access database file.

Additionally, you can also **link** an Access table to another Access database file so that the actual data (*stored in a table*) remains independent and external. The advantages of linking data in this way prevents better security, more flexibility of sharing an Access database file (*multi-users*) and better database administration.

Note: You cannot link any other type of Access object other than a table.

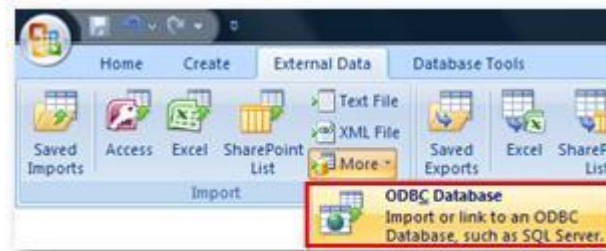


Linking or importing data via **ODBC** (*Object Database Connectivity*) creates a relationship between your Access database file containing all the objects to manage and run reports to the data source database which can be any external data application (*providing there is an ODBC driver*).

The *ODBC* driver is a gateway or bridge between the host (*Access database file*) and the database source file (*back-end*). If linking via *ODBC*, then it is *read only* and records cannot be updated.

You can always import the data into a real table which has no link and therefore data can be updated including changes the design of the new table.

Note: This method of ODBC to an external database application is used to connect to bespoke applications namely an accounting system or contact management system which is typically based on a larger database engine including SQL Server or Oracle. Access acts as a great reporting tool for these applications as they often can be weak in this department.



Accessing the ODBC command (version 2007)

You now should have the confidence to import or link data (*or objects*) into Access. Remember to prepare data layouts carefully prior to importing data by following simple guidelines as mentioned in the beginning of this article.

You may wish to review my other eBooks which cover the essential objects including Tables, Queries, Forms and Reports to fully extend your database.

<http://AccessDatabaseTutorial.com/eBooks>

Thank you

Ben Beitler – **“Your Access Database Expert”**

P.S. We’d love to hear your comments about this guide, so if you would rather email us rather than blogging, send your comments to ben@AccessDatabaseTutorial.com – and don’t forget that my website has lots more articles and free videos to help you plan, build and implement an Access database.