



# Microsoft Office Training Series

# Access Introduction



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## Welcome to Your Access Introduction Training Course

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- Gain a good knowledge of the basics of Access
- Be able to create a database from scratch
- Understand and use tables, records and fields
- Enter data and apply rules for data entry
- Be able to create and use queries
- Create simple forms and reports
- Import from and export data to Excel and Access



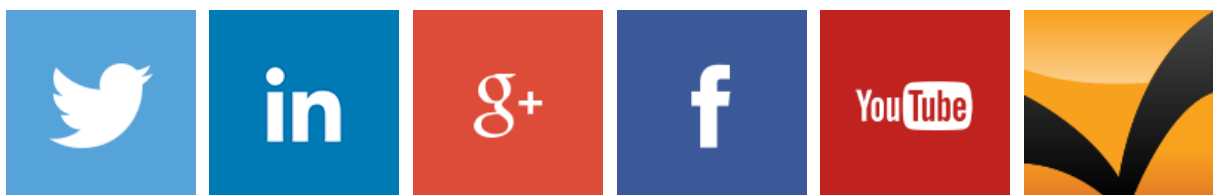
### Microsoft Office Training Series



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# Unit 1: Database concepts and terminology

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## In this unit you will learn how to:

- Use database concepts and terminology
- Explore the Access environment
- Plan and design a database

## Database terminology and concepts

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### Concepts

What is a database and why do we need to use it?



### When to use Access versus Excel?

There are a number of considerations when choosing between storing your data in Access versus Excel.

#### Size of data

Excel now allows for over a million rows of data. Access is not limited by the number of records but is by the overall file size which cannot exceed 2Gbytes.

#### Linking Tables

With Access you can create a database with several linked tables called a 'relational database'.

Excel requires functions that lookup the data values or using add ins to build relationships.

## Queries

Access allow tables to be interrogated or queried and the results saved for later use. With Excel you can filter list but not so easily create queries.

## Forms

Access allows forms to be created for data entry and display. Forms can be created with Excel but to do so requires macro programming.

## Reports

With Access you can create many reports from one table, query or from multiple linked tables. Excel would require linking multiple worksheets.

## **Terminology**

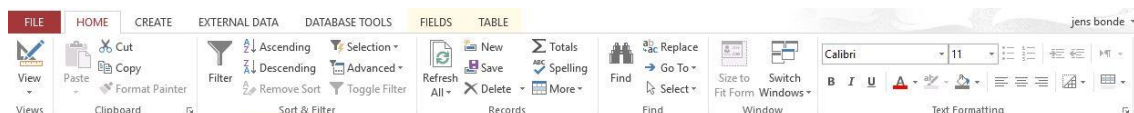
When first using Access you will come across several new object names such as tables, queries, forms, and reports. There is also terminology specifically used when working with databases such as field, records and datasheets. Here is a summary of some terms used:

- **Field**  
A field is a single piece of data such as name, date of birth or telephone number.
- **Record**  
A record is a complete set of fields, for example a client name, company and email address.
- **Table**  
A table is comprised of one or more records. Each table also has a unique name.
- **Form**  
A form is a window or screen that containing fields organized in a logical manner for easy access and manipulation.

- **Report**  
A report is the formatted result of a database query and contains useful data for decision-making and analysis
- **Query**  
A Query searches a subset of data stored in a table. Access queries can be saved, reused and automatically updated.
- **Relationships**  
A relationship in Microsoft Access connects information between tables. It helps prevent redundant information and ensures that information is consistent.
- **Primary and foreign keys**  
The primary key uniquely identifies each record in a table. The table is automatically sorted in ascending primary key order.  
A foreign key is a field that matches the primary key column of a different table.

## Exploring the Access environment

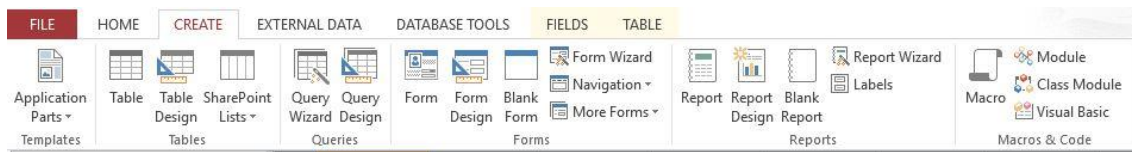
### Home ribbon



### File tab



### Create tab



## Planning and designing databases

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When designing a new database ensure that you know exactly what you want. Interview all involved to make sure that you know what they expect from the database. Plan ahead and anticipate changes that might be needed to help avoid huge time consuming work on the database in the future.

It helps to start from a piece of paper. Make a list of all the fields you need. Draw the tables and relate them on the drawing. With a drawing like this it is much easier to see an overview of the project.

### Designing Tables

When creating a database there are some design practices that help manage the database and improve its performance.

Break fields down to their smallest parts

Use an Employee Code rather than the employee full name if there are related tables.

Remove repeating fields

Rather than have fields such as

Employee\_Code      Project\_No\_1 Project\_No\_2 Project\_No\_3 etc

Have one field making the data easy to filter and query.

Employee\_Code      Project\_Number

E01                      SL-99-01

E01                      SL-99-02



E01 SL-99-03

E02 SL-99-01

E02 SL-99-01

## Normalization

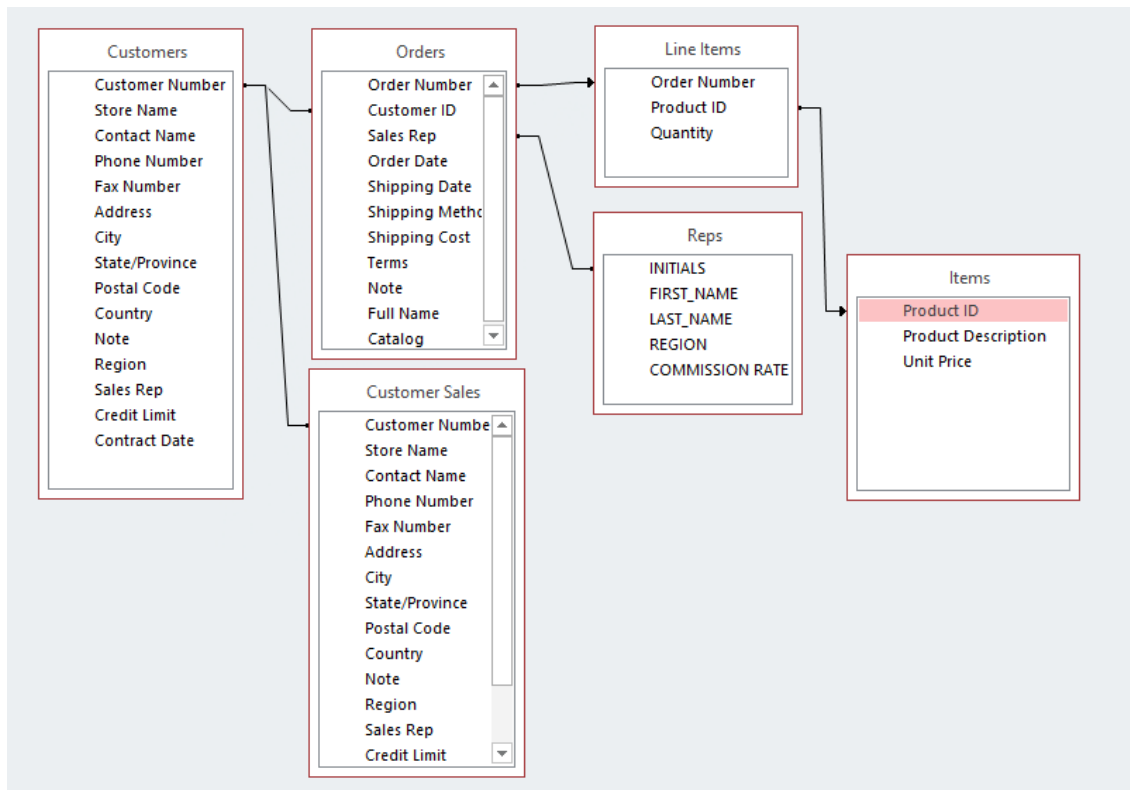
This process is called normalization. The following table has been normalized.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Customer	Store Name	Contact Name	Address	Order Number	Sales Representative	Order Date	Shipping Date	Shipping Method	Shipping Terms	Note	Product ID	Product Description	Quantity	Unit Price	Total	
2	5111	Coastal Athletic Supply House	Lee Chin	19003 Sep	1105	FLW	14/08/2012	18/08/2012	UPS	12	FOB	10-6025	shoes, tennis	5	59.39	296.95	
3	5111	Coastal Athletic Supply House	Lee Chin	19003 Sep	1105	FLW	14/08/2012	18/08/2012	UPS	12	FOB	10-9106	shoes, aerobic	10	41.93	419.30	
4	5111	Coastal Athletic Supply House	Lee Chin	19003 Sep	1105	FLW	14/08/2012	18/08/2012	UPS	12	FOB	13-9672	steps, aerobic	15	42.87	643.05	
5	5111	Coastal Athletic Supply House	Lee Chin	19003 Sep	1105	FLW	14/08/2012	18/08/2012	UPS	12	FOB	13-9910	tapes, aerobic music	30	2.94	88.20	
6	5111	Coastal Athletic Supply House	Lee Chin	19003 Sep	1105	FLW	14/08/2012	18/08/2012	UPS	12	FOB	14-8378	in-line skates	10	102.15	1021.50	
7	5111	Coastal Athletic Supply House	Lee Chin	19003 Sep	1360	FLW	22/11/2014	03/12/2014	US Mail	12	FOB	13-8261	racquet, squash	12	17.92	215.04	
8	5111	Coastal Athletic Supply House	Lee Chin	19003 Sep	1360	FLW	22/11/2014	03/12/2014	US Mail	12	FOB	14-7321	tees, golf	22	1.99	43.78	
9	5111	Coastal Athletic Supply House	Lee Chin	19003 Sep	1360	FLW	22/11/2014	03/12/2014	US Mail	12	FOB	14-8772	rods, fishing	5	41.19	205.95	
10	5111	Coastal Athletic Supply House	Lee Chin	19003 Sep	1360	FLW	22/11/2014	03/12/2014	US Mail	12	FOB	14-8819	nets, fishing	15	3.82	57.30	
11	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1027	FLW	02/08/2011	09/08/2011	UPS	12	Net 30	10-6025	shoes, tennis	8	59.39	475.12	
12	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1027	FLW	02/08/2011	09/08/2011	UPS	12	Net 30	12-7864	golf balls (can of 3)	20	9.22	184.40	
13	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1027	FLW	02/08/2011	09/08/2011	UPS	12	Net 30	12-8478	volleyball	10	7.35	73.50	
14	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1027	FLW	02/08/2011	09/08/2011	UPS	12	Net 30	13-8261	racquet, squash	10	17.92	179.20	
15	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1027	FLW	02/08/2011	09/08/2011	UPS	12	Net 30	14-8378	in-line skates	10	102.15	1021.50	
16	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1027	FLW	02/08/2011	09/08/2011	UPS	12	Net 30	14-8587	bicycle, womens	5	213.71	1068.55	
17	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1405	FLW	15/04/2015	15/04/2015	UPS	12	FOB	12-6032	balls, tennis (can of 3)	20	1.75	35.00	
18	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1405	FLW	15/04/2015	15/04/2015	UPS	12	FOB	12-7864	golf balls (can of 3)	20	9.22	184.40	
19	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1405	FLW	15/04/2015	15/04/2015	UPS	12	FOB	12-8390	ball, racquet	20	1.64	32.80	
20	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1405	FLW	15/04/2015	15/04/2015	UPS	12	FOB	12-8521	softball	15	3.07	46.05	
21	5125	Leisure Time Sporting Goods	Kim Howa	97311 Han	1405	FLW	15/04/2015	15/04/2015	UPS	12	FOB	14-7328	golf clubs	5	154.63	773.15	
22	5414	Sportsland	Ted Conn	467 Lone	51178	FLW	26/08/2013	03/09/2013	DHL	12	FOB	10-8142	boots, hiking	5	76.73	383.65	
23	5414	Sportsland	Ted Conn	467 Lone	51178	FLW	26/08/2013	03/09/2013	DHL	12	FOB	11-8771	helmet, biking/skatin	10	26.17	261.70	
24	5414	Sportsland	Ted Conn	467 Lone	51178	FLW	26/08/2013	03/09/2013	DHL	12	FOB	13-8467	tent	5	154.71	773.55	
25	5414	Sportsland	Ted Conn	467 Lone	51178	FLW	26/08/2013	03/09/2013	DHL	12	FOB	13-8713	backpack	10	16.29	162.90	

Fields such as the Customer and StoreName contain lookups to a Customer table and a Stores table containing unique entries.

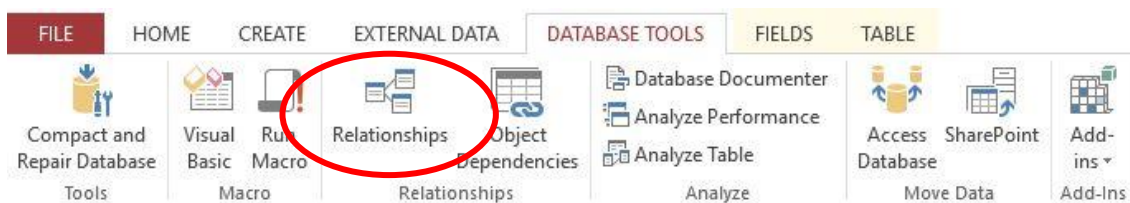
## Database Relationships

Here is an example of relationships between tables within a relational database. After transforming tables into smaller tables the Relationships can be identified and created between each table. For example Product ID in the Line Items table with Product ID in the Items table.



To create relationships select:

## Database Tools, Relationships



Add the tables you wish to relate and drag your mouse from the field in one table to a 'foreign' field of another table.

## Getting help

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Pressing **F1** when selecting a property or data type gives contextual help on that particular property.

The Help Screen in Access is similar in design to a web browsing program. It contains navigation buttons to browse through the different help pages, a search bar that lets you browse for a specific keyword or phrases.

You can also type questions into Google, watch YouTube videos and visit the Best STL Support Forum.



**Online support forum and knowledge base**

***[www.microsofttraining.net/forum](http://www.microsofttraining.net/forum)***

*Visit our forum to have your questions answered by our Microsoft qualified trainers.*

## Closing a database and Access

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When closing a table, database or Access itself the data you have just entered is automatically saved. Unlike other Office applications you are not prompted to save your work. It saves it anyway.

To close a table the x on the top right of the table datasheet.

To close a database select File, Close.

To close Access select the x and the very top right corner.

You are possibly very used to using the Undo button. While Undo (Ctrl+z shortcut) is fully available when designing tables, queries, forms and reports it is not when entering records.

As soon as you move to the next or previous record the changes made are saved to the database and can't be undone. For this reason it pays to take care when viewing data have a system of regularly backing up the database you are using.

## Unit 2: Access Basics

### In this unit you will learn how to:

- Explore tables, queries, forms and reports
- Examine design view for tables, queries and reports.

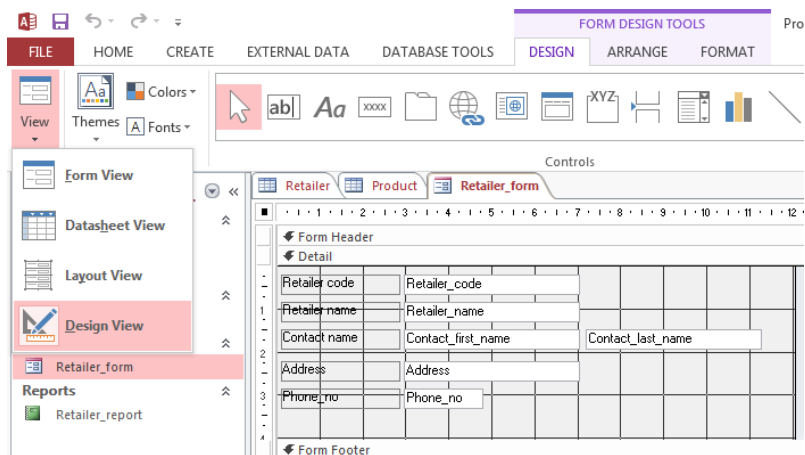
### Exploring Tables

To view a table double click the name from the navigation pane on the left of the screen.

	Order Num	Customer IC	Sales Rep	Order Date	Shipping Da	Shipping Me	Shipping Co	Terms	Note	Full Name	Catalog	Click to
+	1001 4128	GEA		03/06/1997	05/06/1997	UPS		10 FOB		Henry Norris	<input checked="" type="checkbox"/>	
+	1002 2503	NTB		05/06/1997	15/06/1997	UPS		4 FOB	First order from	Nathan Brown	<input type="checkbox"/>	
+	1003 1014	SJS		12/06/1997	23/06/1997	UPS		2 FOB	Called 6/20 am	Stephanie Smi	<input checked="" type="checkbox"/>	
+	1004 6307	HDN		17/06/1997	28/06/1997	DHL		15 FOB	Delay in sendi	Henry Norris	<input type="checkbox"/>	
+	1005 1014	SJS		20/06/1997	29/06/1997	UPS		2 FOB	Called 6/28/97	Stephanie Smi	<input checked="" type="checkbox"/>	
+	1006 5995	FLW		27/06/1997	05/07/1997	Emery		12 FOB		Frances Wallac	<input checked="" type="checkbox"/>	
+	1007 4605	GEA		01/07/1997	12/07/1997	US Mail		10 FOB	Wanted their c	George Adams	<input checked="" type="checkbox"/>	
+	1023 2500	NTB		01/07/1997	05/07/1997	UPS		4 Net 30		Nathan Brown	<input type="checkbox"/>	
+	1027 5125	FLW		07/07/1997	14/07/1997	UPS		12 Net 30		Frances Wallac	<input type="checkbox"/>	
+	1033 4983	GEA		01/08/1997	01/08/1997	FedEx		10 FOB		George Adams	<input checked="" type="checkbox"/>	
+	1052 3598	TAS		06/01/1998	16/01/1998	FedEx		6 Net 30		Thomas Stever	<input checked="" type="checkbox"/>	
+	1055 6745	HDN		04/02/1998	04/02/1998	UPS		15 Net 30		Henry Norris	<input type="checkbox"/>	
+	1059 3032	TAS		24/02/1998	02/03/1998	US Mail		6 FOB		Thomas Stever	<input type="checkbox"/>	
+	1060 1776	SJS		28/02/1998	13/03/1998	US Mail		2 FOB		Stephanie Smi	<input type="checkbox"/>	
+	1067 1092	SJS		01/04/1998	09/04/1998	FedEx		2 FOB		Stephanie Smi	<input type="checkbox"/>	
+	1072 3853	TAS		11/04/1998	18/04/1998	US Mail		6 Net 30		Thomas Stever	<input checked="" type="checkbox"/>	
+	1073 4396	GEA		15/04/1998	27/04/1998	US Mail		10 Net 30		George Adams	<input checked="" type="checkbox"/>	
+	1075 6286	HDN		21/04/1998	27/04/1998	UPS		15 FOB		Henry Norris	<input type="checkbox"/>	
+	1076 1486	SJS		25/04/1998	27/04/1998	UPS		2 FOB		Stephanie Smi	<input checked="" type="checkbox"/>	
+	1079 2559	NTB		03/05/1998	05/05/1998	DHL		4 FOB		Nathan Brown	<input type="checkbox"/>	
+	1080 3885	TAS		05/05/1998	15/05/1998	UPS		6 Net 30		Thomas Stever	<input checked="" type="checkbox"/>	
+	1087 6014	HDN		20/05/1998	30/05/1998	DHL		15 Net 30		Henry Norris	<input type="checkbox"/>	
+	1100 1842	SJS		19/06/1998	20/06/1998	UPS		2 FOB		Stephanie Smi	<input type="checkbox"/>	
+	1102 2503	NTB		05/07/1998	14/07/1998	UPS		4 FOB		Nathan Brown	<input type="checkbox"/>	
+	1104 3285	TAS		17/07/1998	24/07/1998	DHL		6 FOB		Thomas Stever	<input type="checkbox"/>	
+	1105 5111	FLW		20/07/1998	24/07/1998	UPS		12 FOB		Frances Wallac	<input checked="" type="checkbox"/>	
+	1106 6008	HDN		27/07/1998	05/08/1998	Emery		15 FOB		Henry Norris	<input checked="" type="checkbox"/>	
+	1107 5994	FLW		01/08/1998	08/08/1998	US Mail		12 FOB		Frances Wallac	<input checked="" type="checkbox"/>	

Use the navigation buttons at the bottom of the window or the cursor key to move around the table. Click View, Design View to see the table design. The top window shows the field names for each column in the table and the Data Types indicates which type of data can be entered into that field. The bottom window displays further properties for the selected field.

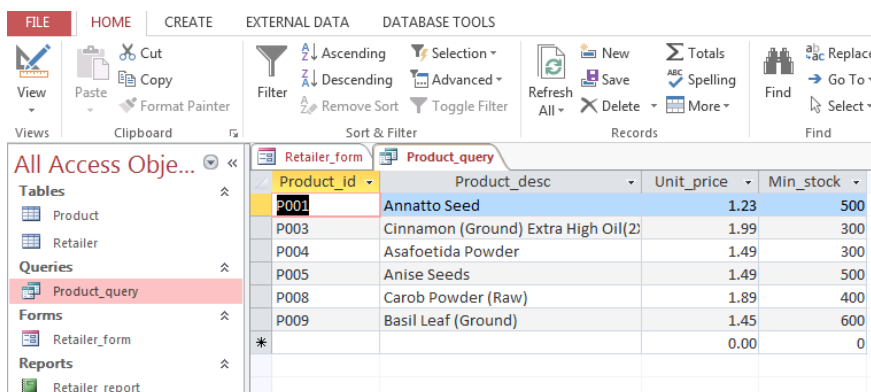




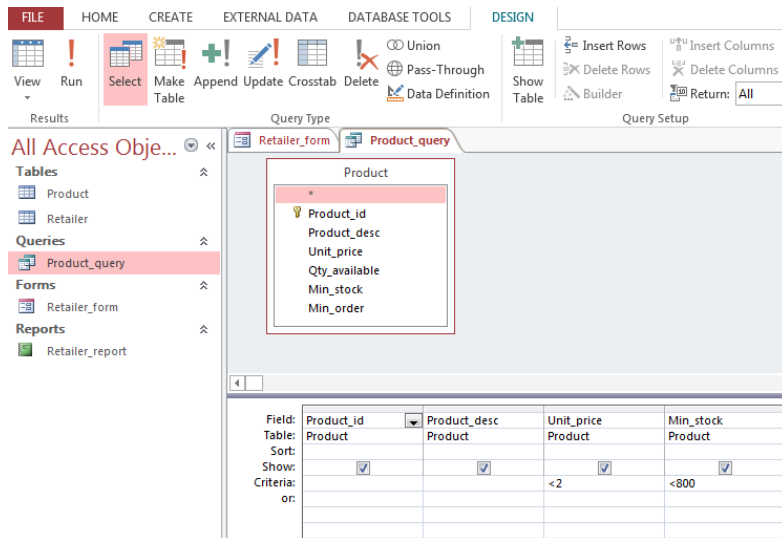
Note that in design view the field names are displayed within the fields rather than the record data. In design view you can rearrange fields and format the look of the form. Deleting a field does not delete it from the source table. However in form view changes made to the data are also made in the table. The form is just a different view of a table's data.

## Examining Queries

Queries are created to display a subset of the data from a table or from more than one table.



When you view a query it displays in a datasheet very much like a table. However they appear very different from a tables in design view.



In design view you will see a field list for the table or tables and a grid showing the fields and query criteria. In this example the criteria is Unit\_price >2 and Min\_Stock<800.

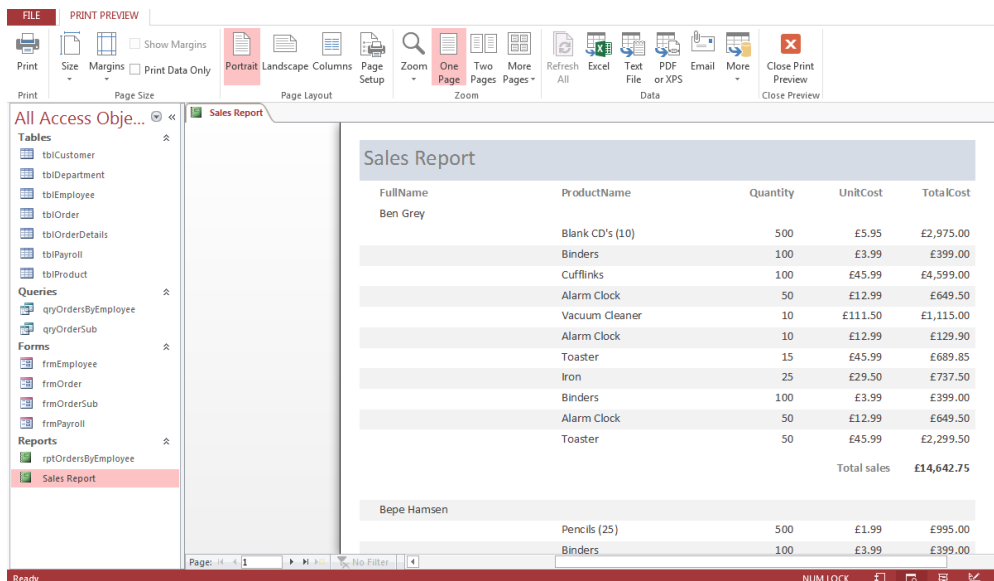
This type of query is called a Select Query.

## Exploring Reports

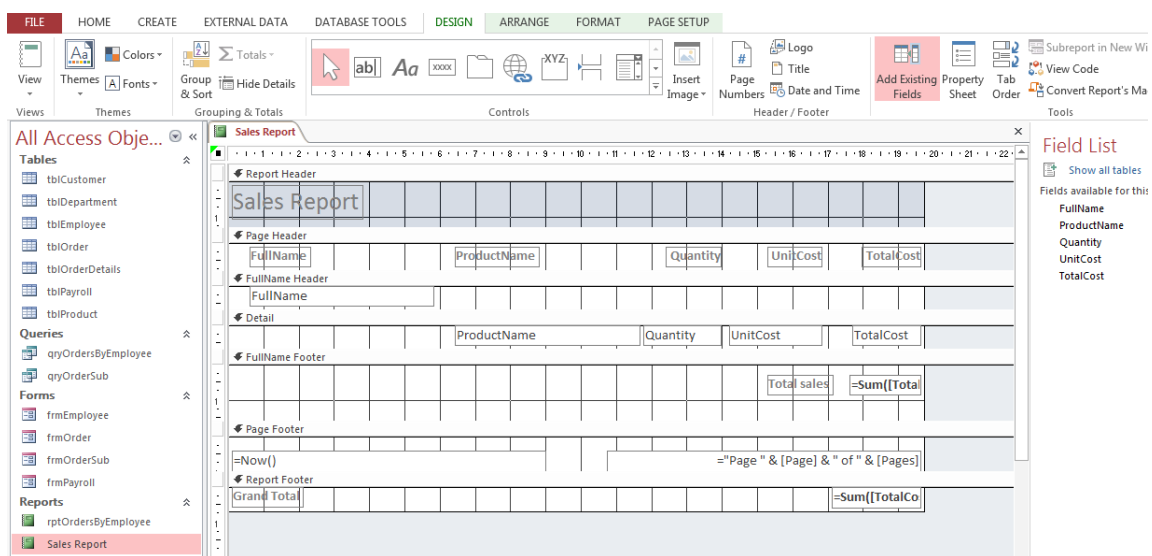
Reports are used to print tables and queries in a presentable format.

They can be used to group records and perform calculations.

To view a report right click its name from the Navigation pane and choose Print Preview.



Use the navigation buttons at the bottom of the window to view other pages.  
Click the Close Print Preview button then select Design View for the report.



In Report Design view for a tabular report the fields are located within the Detail band and as with Form Design they contain the field names. Field headings or captions in the Page Header band will be printed on every page. Items in the Report header (or footer) print only on the first or last page of the report.

When creating reports it is often easier to start with the Report Wizard where you can choose a field to group the report by. In the above example a sales report is grouped by the employee full name field and bases on a query.

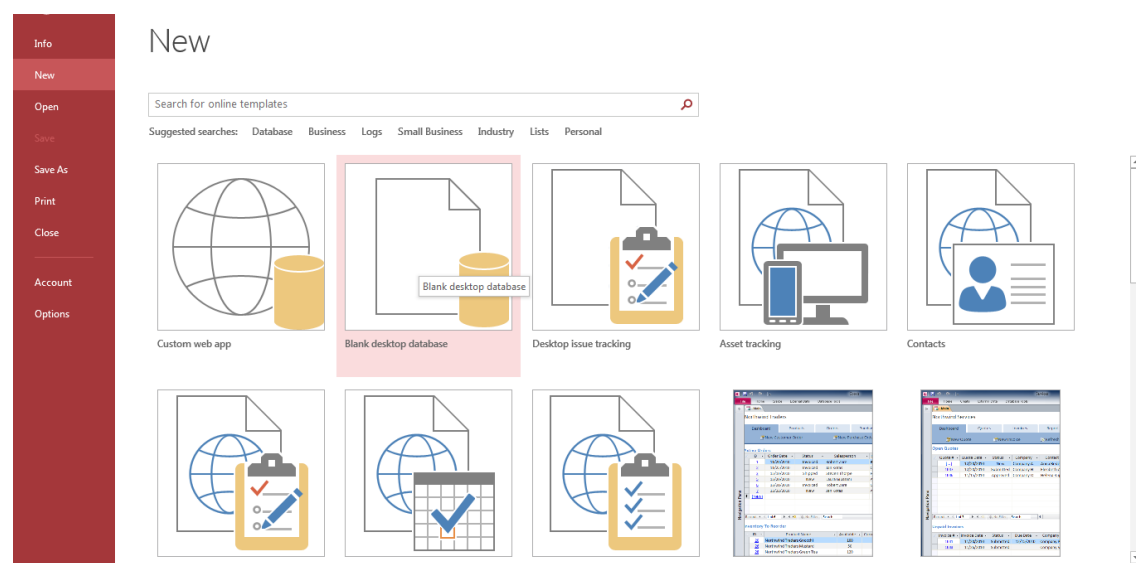


## Unit 3: Creating a Database

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**In this unit you will learn how to:**

- Create and save a new desktop database file
- Create a Table from Table Design
- Add a Primary Key
- Enter records into a table



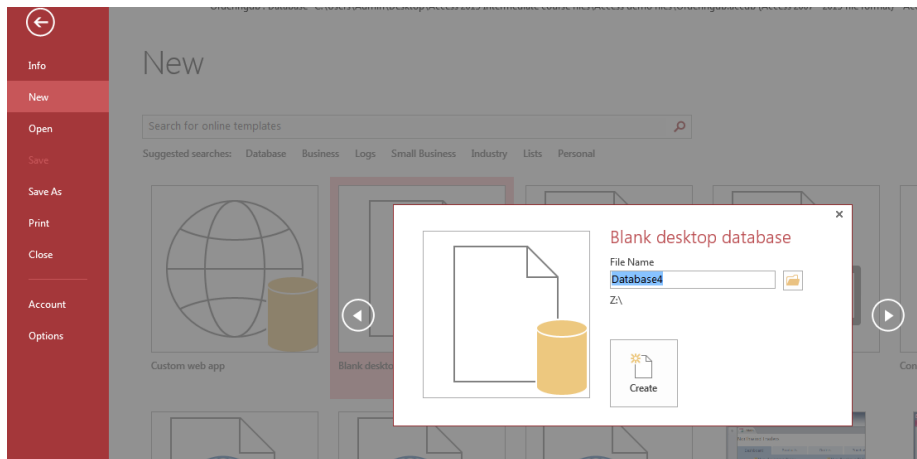
### Create a new Database

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To create a new database select:

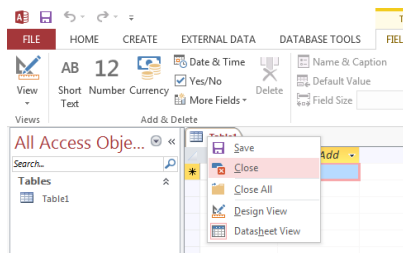
File, New and select Blank desktop database

Enter a file name, click the yellow folder to choose a location for the database then click **Create**.

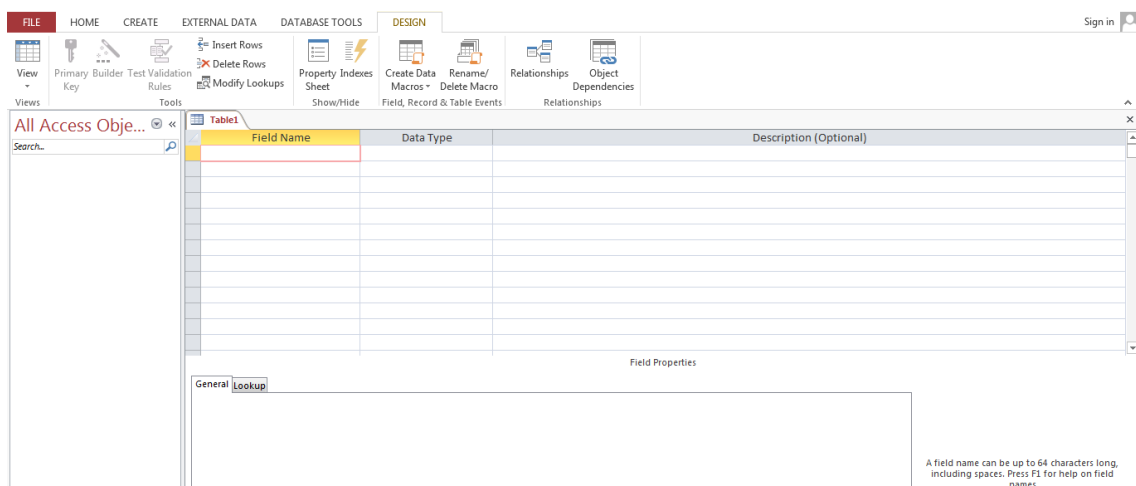


## Creating a Table

When you create a blank database Access offers you a blank table to use called Table1. As you won't be using this table Right click the tab for Table1 and choose Close.



To create a new table select the **Create** tab then **Table Design**.

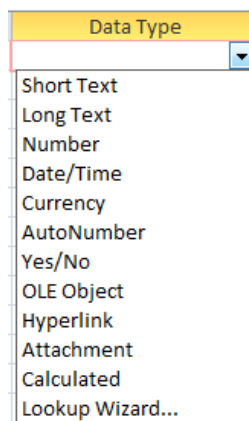


## Entering Field Names and Data Types

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Each column of a table has a Field Name and Data Type. The field names are often typed without spaces and must be unique within the table.

You may find it easier to type the field names in the first column then choose the data type for each field.



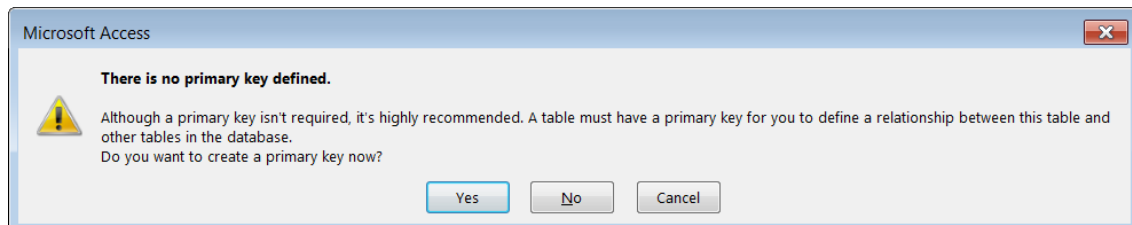
The table below describes the data types available.

Description of Data types	
<b>Short Text</b>	(Default) Text or combinations of text and numbers, as well as numbers that don't require calculations, such as phone numbers.
<b>Long Text</b>	Lengthy text or combinations of text and numbers. Useful for notes or comments.
<b>Number</b>	Numeric data used in mathematical calculations.
<b>Date/Time</b>	Date and time values for the years 100 through 9999.
<b>Currency</b>	Currency values and numeric data used in mathematical calculations involving data with one to four decimal places.
<b>AutoNumber</b>	A unique sequential (incremented by 1) number or random number assigned by Microsoft Access whenever a new record is added to a table. AutoNumber fields can't be updated

<b>Yes/No</b>	Yes and No values and fields that contain only one of two values (Yes/No, True/False, or On/Off).
<b>OLE Object</b>	An object (such as a Microsoft Excel spreadsheet, a Microsoft Word document, graphics or sounds file) linked to or embedded in a Microsoft Access table.
<b>Hyperlink</b>	<p>Text or combinations of text and numbers stored as text and used as a hyperlink address. A hyperlink address can have up to three parts:</p> <p><i>text to display</i> — the text that appears in a field or control.  <i>address</i> — the path to a file (UNC path) or page (URL).  <i>subaddress</i> — a location within the file or page.  <i>screentip</i> — the text displayed as a tool tip.</p> <p>The easiest way to insert a hyperlink address in a field or control is to click Hyperlink on the Insert menu.</p>
<b>Attachment</b>	Allows a document to be attached and stored with each record of the table.
<b>Calculated</b>	Allows designer to carry out calculations in a table. (Note using this data type will make your database unusable in earlier versions of Access).
<b>Lookup Wizard</b>	Creates a field that allows you to choose a value from another table or from a list of values by using a list box.

## Add a Primary Key

After entering the field names and data types you should save the table design. Access then displays a prompt recommending that you create a Primary Key.



If you click Yes then a Primary Key is created but what is a primary key?

A Primary Key is a field containing unique values sorted in ascending order. It is not imperative to have a primary key, but it makes the design of the database much easier and eliminates the possibility of duplicate data. It allows for links to be made between tables.

The following table has as its primary Key called OrderID.

tblOrder			
	Field Name	Data Type	Description
PK	OrderID	AutoNumber	This field contains the ID for an order, it is automatically generated.
	CustomerID	Number	Field to link to the Customer Data Table
	EmployeeID	Number	Field to link to the Employee Data Table
	OrderDate	Date/Time	Date order was placed, defaults to today's date (uses Date and Time)
	OrderComplete	Yes/No	Order completed or not.

tblOrder						
	OrderID	CustomerID	EmployeeID	OrderDate	OrderCompl	Click to Add
+	003	008	011	29-Dec-14	<input type="checkbox"/>	
+	005	004	003	09-Dec-14	<input type="checkbox"/>	
+	006	007	007	25-Jan-15	<input type="checkbox"/>	
+	007	006	008	25-Jan-15	<input type="checkbox"/>	
+	009	002	008	25-May-15	<input type="checkbox"/>	
+	010	006	001	27-May-15	<input type="checkbox"/>	
+	016	004	007	27-May-15	<input type="checkbox"/>	
+	017	006	003	28-May-15	<input type="checkbox"/>	
+	019	007	007	06-Nov-15	<input type="checkbox"/>	
+	020	001	003	03-Jun-15	<input type="checkbox"/>	
+	021	004	011	08-May-14	<input type="checkbox"/>	
+	022	007	002	02-Jun-14	<input type="checkbox"/>	
+	023	001	001	11-Jun-14	<input type="checkbox"/>	
+	024	002	011	03-Apr-15	<input type="checkbox"/>	
+	025	006	008	29-May-14	<input type="checkbox"/>	
+	026	001	003	05-Mar-15	<input type="checkbox"/>	
+	027	007	007	12-Jun-14	<input type="checkbox"/>	
+	028	002	011	03-Apr-15	<input type="checkbox"/>	
+	029	008	001	24-Jan-15	<input type="checkbox"/>	
+	030	008	002	16-Nov-14	<input type="checkbox"/>	
+	031	001	000	03-Dec-14	<input type="checkbox"/>	
+	032	004	001	15-Jan-15	<input type="checkbox"/>	
✱	(New)	000	000		<input type="checkbox"/>	

While some of the orders have been deleted the OrderID still contains unique values in ascending order.

## Enter Records into a Table

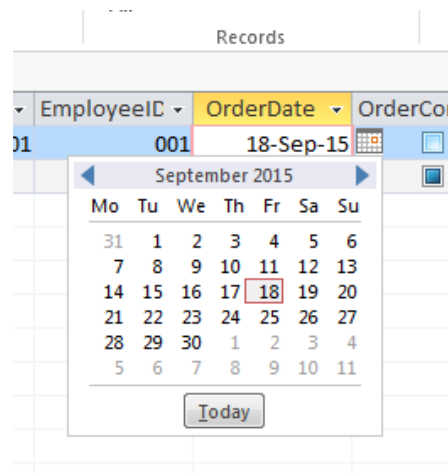
Once a table has been created with field names and data types it is ready for you to start entering data.

From Design View click Datasheet View.

In this table the first field called OrderID is set to an Autonumber data type so you can't and wouldn't want to type into the first column.

Either press **Enter** or the **Tab** key to move on to the next column. Now the remaining fields can be completed.

To enter dates you can type in day/month/year separated by the **/** key. You can also click the small calendar icon and choose a date from there. Click the Today button for the current date.



To tick a Yes/No field either click with the mouse or press the **Spacebar** key. Ticked means Yes.

At the end of a row just press Enter to start entering a new record.

When finished simply close the table. There is no option or prompt to save the data. Access automatically saves it for you.

Here is another table containing a primary key, a date field and an example of a Yes/No field.

### Exercise

Create the following table starting from Create, Table Design.

Customer_Order					
Order_No	Product_ID	Order_Date	Customer	Order_Quantity	Dispatched
1	P001	02/01/2001	Rebecca Austin	250	<input checked="" type="checkbox"/>
2	P002	02/02/2001	Annie Philips	367	<input checked="" type="checkbox"/>
3	P003	03/12/2001	Julie Stone	234	<input type="checkbox"/>
*(New)					<input type="checkbox"/>

## Unit 4: Working with Fields and Records

### In this unit you will learn how to:

- Modify a table design by changing field properties
- Find values in a table
- Filter records
- Sort data

### Modify a table design

Most people using a database will not want to modify the design of tables. This is something that is done when the database is being created. Some formatting properties can be changed without going to design view.

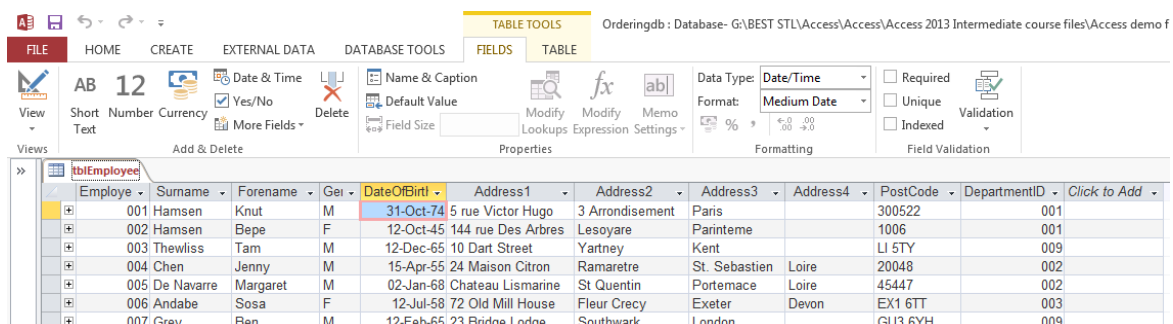
### Table Tools

To change formatting properties when viewing a table:

Select one value in a field you wish to format.

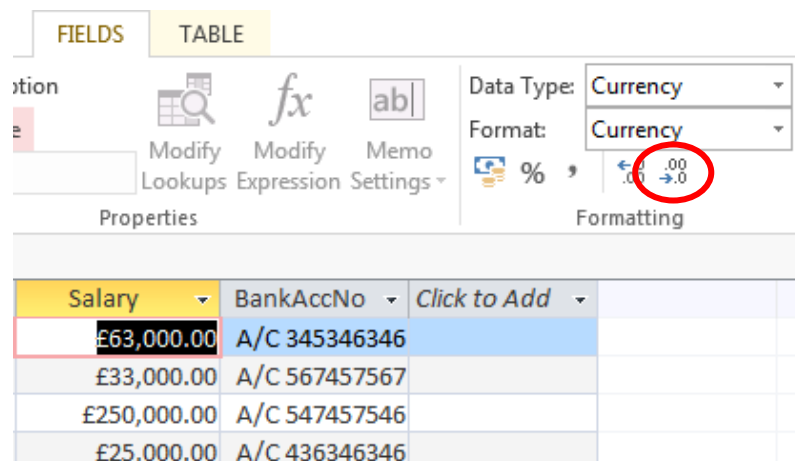
Then click Table Tools, Fields

For example a date field can be changed from Medium Date to General Date.



A Currency field can be formatted in a similar way to decrease decimal places





To remove a currency symbol select the comma style.

## Changing to Table Design

To change to the Design View for a table select  
View, Design View

While many of the field properties can be changed from Table Tools there are some which you can only change from Design View.

## Upper case

For example to ensure a field always displays in upper case:  
Select the Format property and type >

## Adding zeros

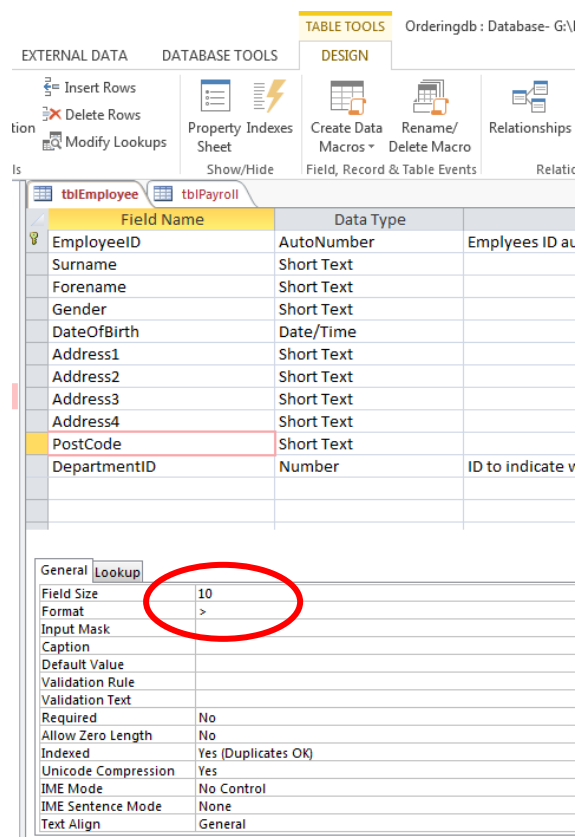
To add leading zeros to a number field:  
Select Format and type 000

This will display a DepartmentID 1 as 001

## Mandatory fields

To ensure a value is entered into a field:  
Select **Required** property and choose Yes

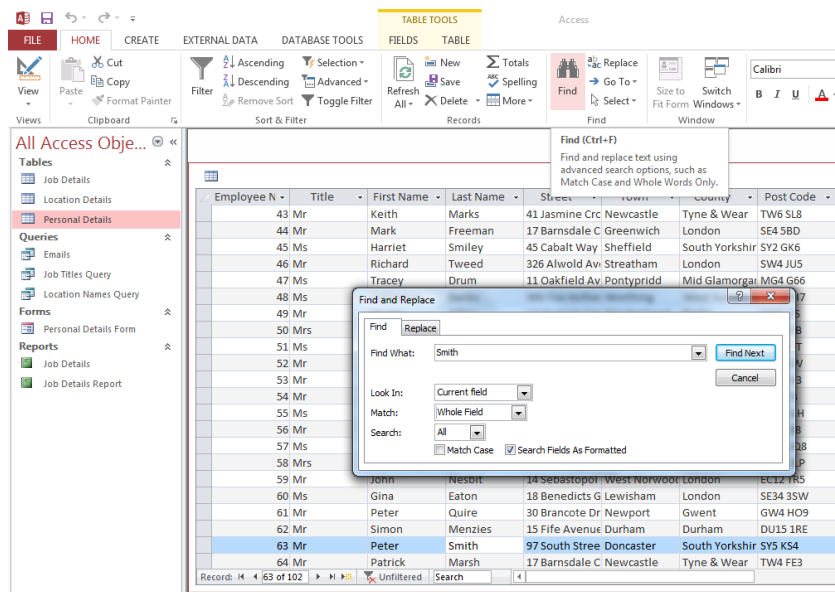
Any changes to the table design must be saved before they take effect.



## Find values in a table

With Access you can easily search for values in a table or form simply by pressing the Find button or pressing the shortcut **Ctrl+f**

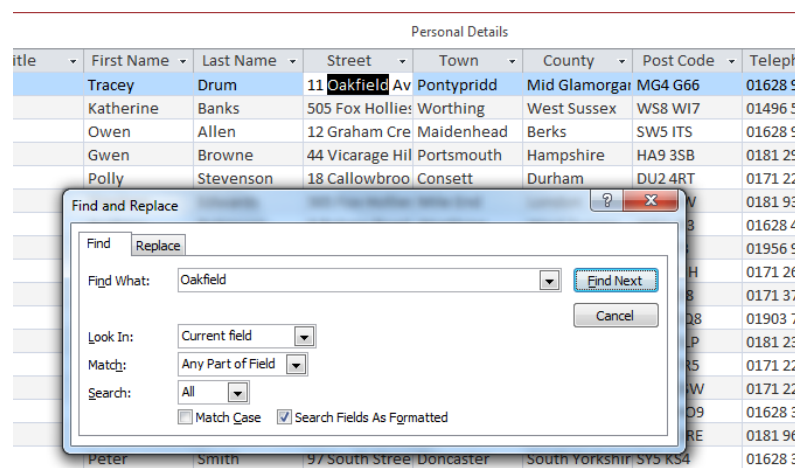




For example type a Last Name and then click inside the Last Name field then click **Find Next**.

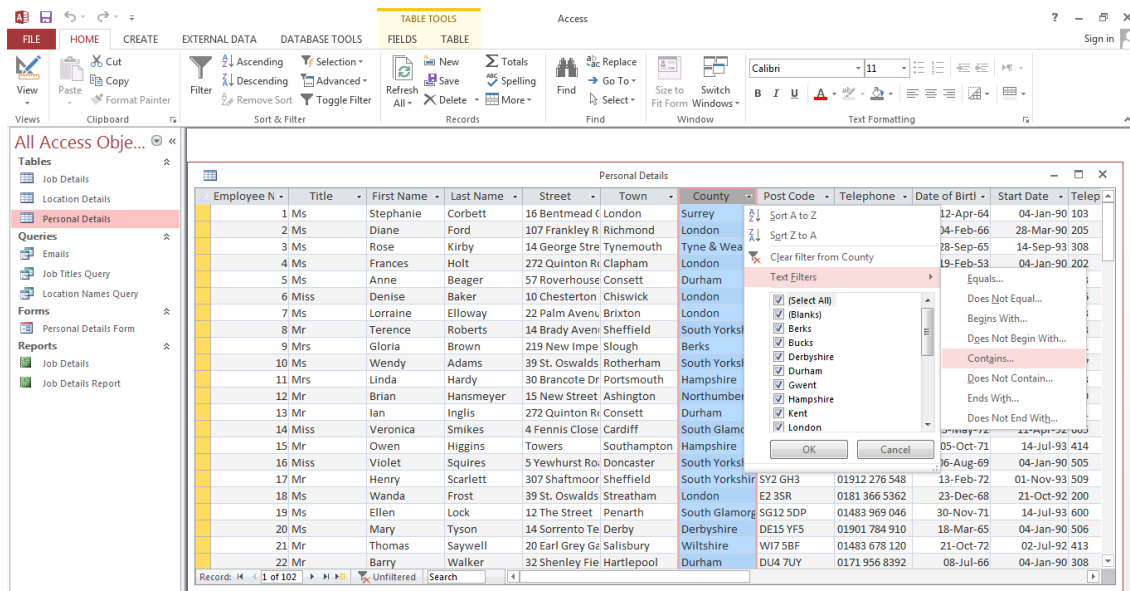
This will highlight the first record that matched. Clicking Find Next again finds the next match and so on.

If you want to find a word contained within a field choose the Match option:  
Select **Any Part of Field** before clicking Find Next.



## Filter Records

Filtering is like Find except all the records that match are displayed at once. There are several ways to filter records in a table. The easiest way is to use the filter button to the right of each column heading.



When filtering text untick Select All then tick the value or values to filter by and press OK.

### Text, Number and Date Filters

Depending on whether you are filtering a text, number or date field type you can be more selective with filtering. Choose between Text Filters, Number Filters or Date Filters.

Text Filters	Number Filters	Date Filters
Equals	Equals	Equals
Does not equal	Does Not Equal	Does Not Equal
Begins with	Less Than	Less Than
Does Not Begin With	Greater than	Greater than
Contains	Between	Between

Does Not Contain Ends with Does Not End With		Today Tomorrow Yesterday Next Week This Week Last Week Next Month This Month Last Month Next Quarter This Quarter Last Quarter Past Future Dates in Period
--	--	--

**Between** is used for greater or equal AND less than or equal

When using Between start with entering the lower number or earlier date then enter the higher number or later date.

**Dates in Period** allows you to choose specific years, quarters or months and tick multiple choices.

Once you have made you choice of filter press OK. Now the records that match your filter are displayed in the table. A small filter funnel indicates which column the filter was applied to. You can hover the mouse over the icon to display the filter criteria.

### **Filtering on more than one column**

If you continue to filter on other columns then the records that match both filter criteria are displayed. The more columns you filter on usually the fewer recordss display.

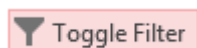
For example County London AND Title Mr.

Employee N	Title	First Name	Last Name	Street	Town	County	Post C
34	Mr	John	Takely	17 The Crescer	Hampstead	London	NW4 3'
37	Mr	Alan	French	54 Tiblands Ro	Streatham	London	SW4 4L
40	Mr	Frank	Griffin	15 New Street	Camberwell	London	SE15 4S
41	Mr	Colin	Barrett	5 Yewhurst Ro	Bow	London	EC4 2R'
44	Mr	Mark	Freeman	17 Barnsdale C	Greenwich	London	SE4 5BI
46	Mr	Richard	Tweed	326 Alwold Av	Streatham	London	SW4 JU
52	Mr	Stephen	Edwards	505 Fox Hollies	Mile End	London	E15 2SV
59	Mr	John	Nesbit	14 Sebastopol	West Norwood	London	EC12 TI
72	Mr	William	Oswald	17 Overbury Cl	Tottenham	London	WC2 6F
77	Mr	Cedric	King	307 Shaftmoor	Eltham	London	SE26 HI
89	Mr	Roger	Smith	107 Frankley R	Islington	London	N5 9PL
101	Mr	Peter	Griffith	34 Heavenly Pl	Gypsy Hill	London	SW16 7
* (New)							
Record: 1 of 12 Filtered Search							

Note that the Navigation bar at the bottom indicates there are 12 recods filtered.

Town	County	Post Code
Richmond	London	SW10 OP9
Clapham	London	SE4 7YR
Chiswick	London	W4 FR5
Brixton	London	EC4 6YT
Streatham	London	E2 3SR
Hampstead	London	NW4 3TR
Streatham	London	SW4 4LR
Ealing	London	W5 HY6
Camberwell	London	SE15 4SA
Bow	London	EC4 2RT
Greenwich	London	SE4 5BD
Streatham	London	SW4 JU5
Mile End	London	E15 2SW
Harrow	London	NW9 5LP
West Norwood	London	EC12 TR5
Lewisham	London	SE34 3SW
Tottenham	London	WC2 6RS

Select the Toggle Filter button to remove or reapply the last filter.



An orange button maked 'Filtered' indicates the data is filtered and can be pressed as with

Toggle filter to remove or reapply the filter.

Typing in the box marked Search allows you to further search the filtered list. This filter applies to text contained within the whole datasheet.

## Clearing Filters

A filter can permanently be cleared by selecting for example 'Clear filter for County' from the dropdown filter button. To clear all filters at once select:

Home tab, **Advanced**, **Clear All Filters**

## Filter by Selection

An alternative method of filtering is by selecting a value and choosing **Filter by Selection**.

This is useful when selecting parts of a post code or a date field.  
For example post codes starting with SW dates ending with 90.

## Filter by Form

For more complicated filters you can use Filter by Form. This allows you to combine several filters together as separate questions by using the OR tabs at the bottom of the window.

For example, you can find male employees from London OR all employees from Hampshire.

The screenshot shows a window titled "Personal Details: Filter by Form". It contains a table with the following columns: Employee Number, Title, First Name, Last Name, Street, Town, County, Post Code, Telephone, and Date of Birth. The "Title" column has a dropdown menu with "Mr" selected. The "County" column has a dropdown menu with "London" selected. At the bottom of the window, there are two "Look for" buttons and two "Or" buttons, indicating that the filters are combined using an OR logic.

The screenshot shows the same window titled "Personal Details: Filter by Form". In this instance, the "County" column has a dropdown menu with "Hampshire" selected. The other columns are empty. The "Look for" and "Or" buttons are still present at the bottom.

Click Toggle Filter to view the results of the filter

DATA DATABASE TOOLS FIELDS TABLE

Ascending Selection -> Descending Advanced -> Remove Sort Toggle Filter

Refresh All -> New Save -> Spelling -> More -> Records

Find Replace -> Go To -> Select -> Find

Size to Fit Form Window -> Switch Window

Calibri B I U

Employee N	Title	First Name	Last Name	Street	Town	County	Postcode
15	Mrs	Linda	Hardy	30 Brancote Dr	Portsmouth	Hampshire	HA1
24	Mrs	Orla	Cutler	18 Calowbrook	Portsmouth	Hampshire	HA1
30	Miss	Linda	Pike	54 Tiblands Ro	Winchester	Hampshire	HA1
31	Mrs	Veronica	Dewhurst	14 Mallards Re	Portsmouth	Hampshire	HA1
34	Mr	John	Takely	17 The Crescer	Hampstead	London	NW
37	Mr	Alan	French	54 Tiblands Ro	Streatham	London	SW
40	Mr	Frank	Griffin	15 New Street	Camberwell	London	SE1
41	Mr	Colin	Barrett	5 Yewhurst Ro	Bow	London	EC4
42	Mr	Richard	Lewis	38 Westbourne	Southampton	Hampshire	HA1
44	Mr	Mark	Freeman	17 Barnsdale C	Greenwich	London	SE4
46	Mr	Richard	Tweed	326 Alwold Av	Streatham	London	SW
50	Mrs	Gwen	Browne	44 Vicarage Hill	Portsmouth	Hampshire	HA1
52	Mr	Stephen	Edwards	505 Fox Hollies	Mile End	London	E15
55	Ms	Patricia	Griffiths	22 Dearmont R	Winchester	Hampshire	HA1
56	Mr	Rodney	Smithers	17 Overbury Cl	Portsmouth	Hampshire	HA1
59	Mr	John	Nesbit	14 Sebastopol	West Norwood	London	EC1
68	Miss	Nicola	Patel	33 Shenley Fie	Portsmouth	Hampshire	HA1
72	Mr	William	Oswald	17 Overbury Cl	Tottenham	London	WC
74	Mrs	Linda	Cross	18 Benedicts G	Southampton	Hampshire	HA1
77	Mr	Cedric	King	307 Shaftmoor	Eltham	London	SE2
83	Mr	Nicholas	Davis	34 Fir Tree Roa	Winchester	Hampshire	HA1

Records: 14 1 of 28 Filtered EC

The next time you use Filter by Form it remembers the previous criteria.

To start a blank filter remember to use Advanced, Clear All Filters.

You can also use Advanced, Clear Grid to clear one OR tab at a time.

## Filtering in Forms

When viewing data in a form there are no filter buttons on each field but you can press the filter button from the ribbon.



Alternatively you can right click within a field and choose either Text Filters or Number Filters.

Name: Ms Stephanie Corbett

Address: 16 Bentmead Grove  
London  
Surrey

Post Code: SE2 6T1

Telephone: 01923 987 546 Date of Birth: 12

Start Date: 04-Jan-90 Telephone Ext.: Telephone Site Name: London Training

Job Title: Training Manager Salary: £22,000.00

Record: 14 1 of 101 Unfiltered Search

Filter menu options:

- Sort Smallest to Largest
- Sort Largest to Smallest
- Clear filter from Salary:
- Number Filters
  - Equals...
  - Does Not Equal...
  - Less Than...
  - Greater Than...
  - Between...
- Equals £22,000.00
- Does Not Equal £22,000.00
- Less Than or Equal To £22,000.00
- Greater Than or Equal To £22,000.00
- Delete
- Change To
- Form Properties



## **Saving a Filter**

Filters that you may use regularly can be saved for future use. When you do this the filter is saved as a query.

To save a filter choose from Home tab, Sort & Filter group

### **Advanced, SaveAs Query**

Also if you are designing a Filter by Form clicking the Save button in the Quick Access Toolbar saves the filter as a query.

## **Sort Records**

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Access allows you to sort records very easily. It is also safe as it is not possible to sort only one column without the related records moving correctly. You can also sort by multiple levels and there is an option to remove a sort.

To sort by one column only in Datasheet view simply click inside a column and then click the Sort button from the Home tab.

 Ascending

 Descending

Ascending order is alphabetical for text, lowest to highest for numbers and earliest to latest for dates.

Descending order is reverse alphabetical for text, highest to lowest for numbers and latest to earliest for dates.

To sort by a different column click in that column and click the sort button.

## **Clearing a Sort**

Unlike Excel, Access does allow you to remove a sort.

Select Home, Remove Sort

## Sorting by Multiple Columns

There is a quick way to sort more multiple columns

Suppose you wish to sort employee records by County and then by Post Code.

In this case County is the primary sort column and Post Code is the secondary sort column.

To sort by multiple columns

Sort the secondary sort column (click AZ button)

Then sort the primary sort column

County	Post Code	Telephone	Date of Birth
Berks	BE15 6S4	01931 233 598	27-Nov-67
Berks	BE4 YP5	01912 787 343	07-Feb-72
Berks	NW7 5DY	01628 657 839	17-Mar-66
Berks	SL3 RF5	01392 345 694	31-Mar-72
Berks	SW5 ITS	01628 967 234	25-Jan-74
Bucks	N15 JU3	01908 328 674	28-Apr-59
Bucks	W4 HU3	01628 435 756	18-Nov-70
Derbyshire	DE15 YF5	01901 784 910	18-Mar-65
Durham	DU1 9NB	0171 994 5437	16-Aug-70
Durham	DU12 3WE	0171 774 6724	14-Mar-61
Durham	DU12 FW3	01428 236 549	01-Apr-70
Durham	DU15 1RE	0181 967 3563	07-Nov-71
Durham	DU16 4PW	0171 456 5673	25-Dec-68
Durham	DU2 4RT	0171 224 5674	22-Sep-68
Durham	DU4 7UY	0171 956 8392	08-Jul-66
Durham	DU4 GE6	0181 677 5438	15-Jun-71
Durham	DU5 HU7	01276 654 839	11-Apr-68
Durham	DU8 9DD	0171 198 7865	08-Dec-70
Gwent	GW4 HO9	01628 324 247	12-Oct-72
Hampshire	HA1 5GH	0171 263 7853	14-May-70
Hampshire	HA12 JK4	01428 346 732	05-May-70

The data is now sorted by County and then by Post Code.

Note there is a up arrow icon indicating Ascending order.

## Sorting from the Filter button

Rather than using the sort button from the Home ribbon you can also sort from the filter selectors.

Employee N	Title	First Name	Last Name	Street	Town	County	Post Code
48	Ms	Katherine	Banks			Sussex	WS8 W17
53	Mr	Andrew	Robinson			Sussex	WS3 JR3
90	Mr	Richard	Jones			Sussex	WS16 6GH
21	Mr	Thomas	Saywell			hire	W17 5BF
72	Mr	William	Oswald			on	WC2 6RS
29	Miss	Rosalyn	Hutchins			W	W6 HU6
38	Ms	Penny	Moore			on	W5 HY6
92	Mr	Ian	Kerfoot				W4 HU3
6	Miss	Denise	Baker			on	W4 FR5
57	Ms	Miranda	Collins			& Wear	TW8 GQ8
71	Mr	Peter	Berger			& Wear	TW8 IHB
43	Mr	Keith	Marks			& Wear	TW6 SL8
97	Mr	Michael	Challis			& Wear	TW6 GY3
64	Mr	Patrick	Marsh			& Wear	TW4 FE3
23	Mr	James	Lawton			& Wear	TW3 9TT
81	Mr	Reginald	Van Heusen			& Wear	TW2 7EY
35	Miss	Patricia	Gardner	14 Sebastopol	Newcastle	Tyne & Wear	TW18 3RE
28	Ms	Ursula	Higgins	14 Mallards Re	Newcastle	Tyne & Wear	TW13 FT5

Both methods work in exactly the same way.

To clear a sort use the Home ribbon, Remove Sort as before.

## Unit 5: Querying Tables

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### **In this unit you will learn how to:**

- Create, run, sort and save queries
- Modify query results
- Use comparison operators AND, OR, NOT, BETWEEN
- Find record with empty fields
- Create queries from more than one table

Queries are similar to filters except you can select particular fields and the query result displays in a separate view or record set. The data displayed is dynamically linked back to the table so that changes are made to the record set update the table automatically. For this reason a query result is sometimes referred to as a Dynamset.

Queries can easily be sorted as with tables and modified through the query design view.

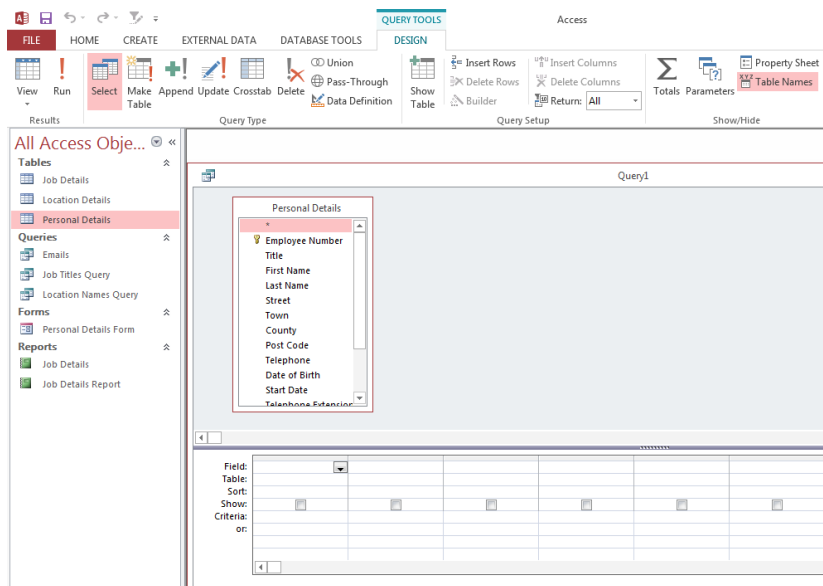
In design view there is a field list and query grid where the criteria for the query is entered.

Queries can refer to more than one table by linking the tables and even to previously saved queries.

### Create, run, sort and save queries

To create a query select the Create tab then Query Design.

Select the table to query and click Add.



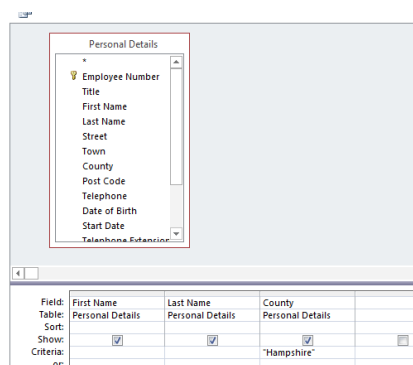
## Add fields

In the query design view you will see a field list for the added table and a query grid. To add fields drag and drop them onto the query grid. Alternatively double click a field from the field list adds it a field to the right without dragging.

## Add Criteria

Click into row of the grid marked criteria

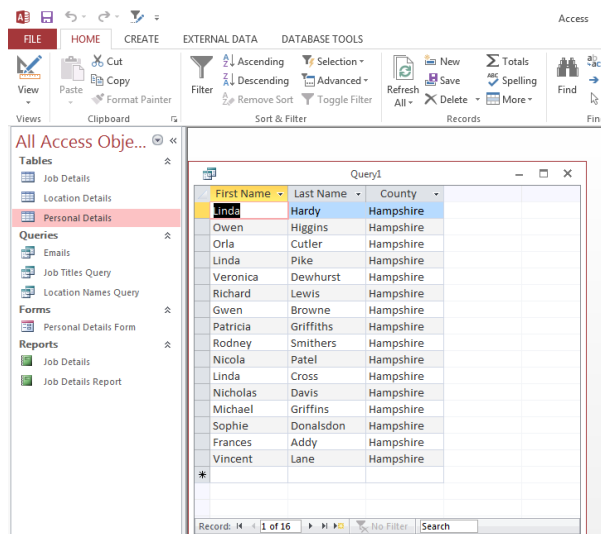
Type your criteria



In this example the criteria for the Count field is Hampshire.

## Run the query

To run or view the result of the query select Design tab, Datasheet View from View button.

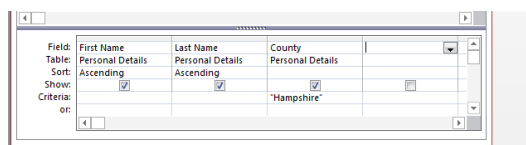


## Sort a query

When sorting a query first display the query design view.

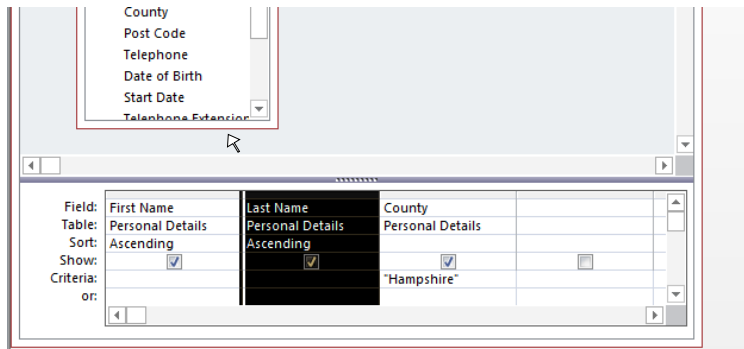
Now in the grid row marked Sort choose either Ascending or Descending for the column to sort by.

If you sort on more than one column the leftmost column takes priority and becomes the primary sort column.



First Name	Last Name	County
Frances	Addy	Hampshire
Gwen	Browne	Hampshire
Linda	Cross	Hampshire
Linda	Hardy	Hampshire
Linda	Pike	Hampshire
Michael	Griffins	Hampshire
Nicholas	Davis	Hampshire
Nicola	Patel	Hampshire
Orla	Cutler	Hampshire
Owen	Higgins	Hampshire
Patricia	Griffiths	Hampshire
Richard	Lewis	Hampshire
Rodney	Smithers	Hampshire
Sophie	Donalsdon	Hampshire
Veronica	Dewhurst	Hampshire
Vincent	Lane	Hampshire

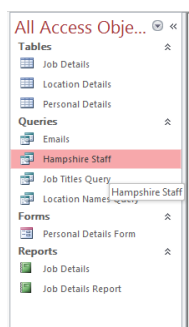
To sort by Last Name you could move the column to the first column of the grid. Click near the top of the column and when you see a white arrow drag and drop to the left.



## Save a query

To save a query click the Save icon in the Quick Access toolbar and enter a name for the query. For example, Hampshire Staff.

After closing the query you will see the saved query in the Query section of the Navigation Pane.



If your queries are not displayed in the Navigation Pane select the option All Access Objects.

## Modify query results

To modify a saved query, from the Navigation Pane right click the query and select Design View

You may wish for example not to show a column but not delete it.

To hide a column in a query untick the Show button.

## Use Comparison Operators AND, OR, NOT, BETWEEN

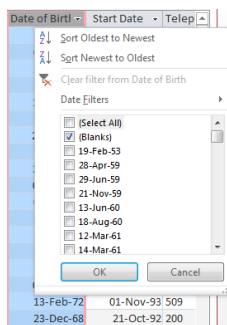
When typing a criteria Access uses queries 'by example'. You simply type what you are looking for. But when you want to see a range of results you can use Comparison Operators.

Comparison Operators	Using conditions in queries
> Greater than	<b>OR</b> Enter for example "London" OR "Hampshire"
< Less Than	Enter in 2 separate OR rows
= Equal to	<b>AND</b> Enter for example > 20000 AND < 30000
<= Less than or equal to	<b>BETWEEN</b> For example BETWEEN #1/1/15# AND #31/12/15#
>= Greater than or equal to	<b>NOT</b> For example NOT "Mr" Alternatively <> "Mr"
<> Not Equal to	

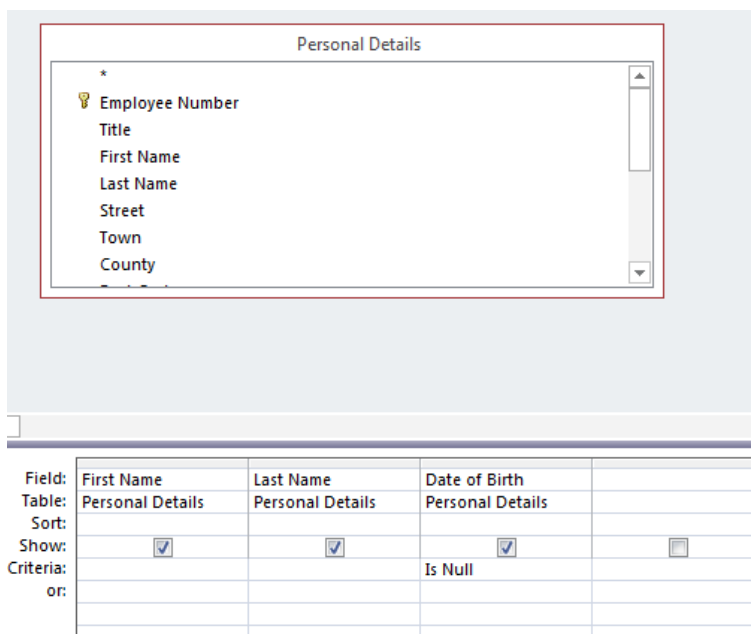
## Find record with empty fields

When filtering a table or form it is easy to find records containing empty fields.

Click the filter arrow and remove the tick from Select All  
Then click on Blanks



However for a query (or when filtering a form) records with an empty field can be found by using the command **Is Null**



Similarly if you want to find all non empty cells type Is Not Null in the criteria line.

## Create queries from more than one table

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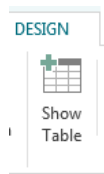
One of the main reasons for using Access is its ability to relate and link tables together.



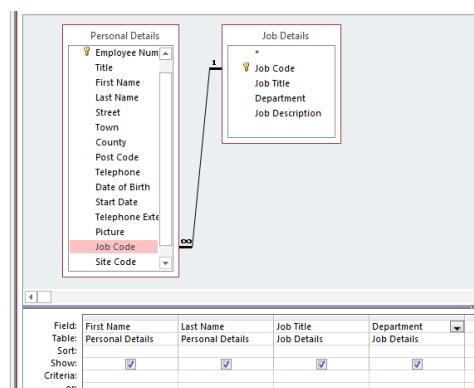
Once a relationship have been created a link line will appear between tables when they are added to a query in design view.

Hint: To create or see relationships between tables select Database Tools, Relationships

To add a second table to a query design click the **Show Tables** button and Add the table.



For example this query shows employee names from one table and job title and departments from another.



Once a table has been added you can select fields by dragging and dropping into the query grid.

Click Datasheet view to run the query.

Wanda	Frost	Receptionist	Administration
Ellen	Lock	Receptionist	Administration
Rosalyn	Hutchins	Receptionist	Administration
Patricia	Griffiths	Receptionist	Administration
Claire	Boden	Receptionist	Administration
Sally	Dunderdale	Receptionist	Administration
Katherine	Stein	Receptionist	Administration
Gloria	Brown	Clerical Office	Administration
Ivana	Dean	Clerical Office	Administration
Linda	Pike	Clerical Office	Administration
Margaret	Taylor	Clerical Office	Administration
Harriet	Smiley	Clerical Office	Administration
Tracey	Drum	Clerical Office	Administration
Gwen	Browne	Clerical Office	Administration
Miranda	Collins	Clerical Office	Administration
Daphne	Platte	Clerical Office	Administration
William	Oswald	Clerical Office	Administration
Carol	Blenkinsop	Clerical Office	Administration
Frances	Holt	Director	Business
Lorraine	Elloway	Administrator	Administration
James	Lawton	Sales Manager	Sales
Katherine	Banks	Sales Manager	Sales
Anne	Beager	Salesperson	Sales
Terence	Roberts	Salesperson	Sales
Linda	Hardy	Salesperson	Sales
Patricia	Gardner	Salesperson	Sales

Record: 1 of 101 No Filter Search

## Removign a table from a query

To remove a table from a query in design view, right click on the table and choose Remove Table.

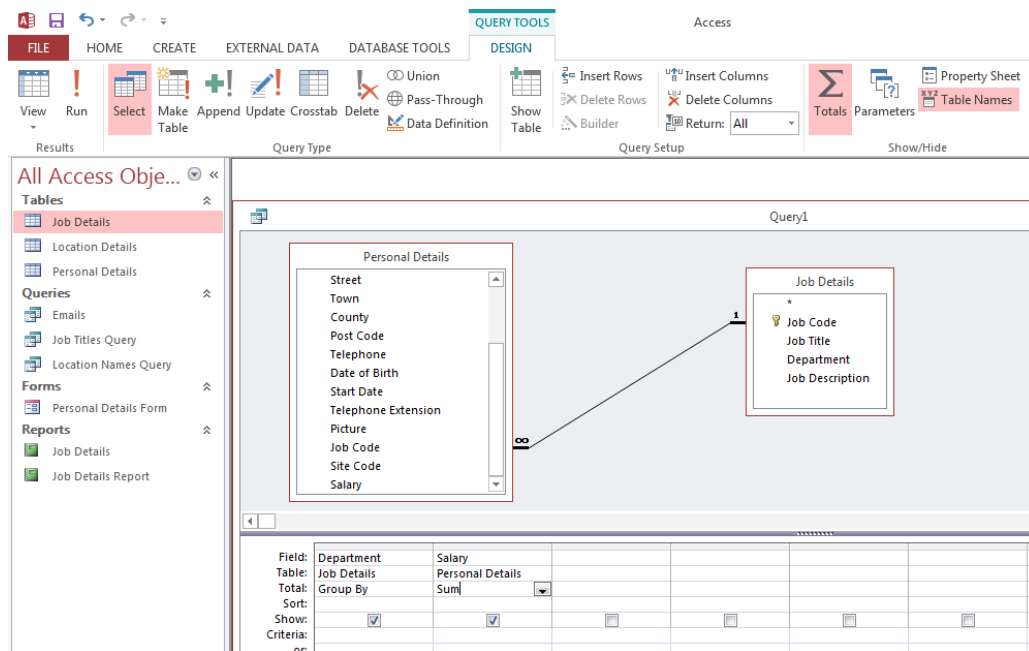
## Linking tables in query design

If a relationship has not previously been created between 2 tables you can still create on while building the query. To create the link drag the field that is in common between the two tabels. In the above example it is the Job Code field.

## Creating a Summary query

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Use the Total button when you wish to summarize or aggregate data. For example displaying total employee salaries by the Department.



After adding the tables and dragging the Department to the grid click the Totals button.



In the Total row for the Salary column change Group By to Sum.

When you run this query the total salaries for each department are displayed.

Department	SumOfSalar
Administration	£215,000.00
Business	£111,000.00
Sales	£243,500.00
Technical	£550,000.00
Training	£533,500.00

## Unit 6: Creating and using Forms

### In this unit you will learn how to:

- Create a form automatically
- Create a form with the Form Wizard
- Modify a form in design view
- Find, sort and filter records when using a Form

Within an Access database you may wish to view one record at a time. It may be for easy data entry or it might be to view record data conveniently on the screen. Forms also can be designed to show picture fields, graphical elements, buttons and long text fields in an easy to read text box. Forms can also contain text labels and multiple tabs to help with navigation and extra forms related to other tables.

### Create a form automatically

A simple way to create a form instantly is to use the Form button.

Select a table in the Navigation pane

Click **Create, Form**

The screenshot shows the Microsoft Access interface. The 'Form' button in the 'Forms' group of the ribbon is highlighted. The 'tblEmployee' form is open in Design View. The form contains the following fields:

Field Name	Value
EmployeeID	001
Surname	Hamsen
Forename	Knut
Gender	M
DateOfBirth	31/10/1974
Address1	5 rue Victor Hugo
Address2	3 Arrondissement
Address3	Paris
Address4	
PostCode	300522
DepartmentID	001

The Field List pane on the right shows the following fields available for this view:

- EmployeeID
- Surname
- Forename
- Gender
- DateOfBirth
- Address1
- Address2
- Address3
- Address4
- PostCode
- DepartmentID

Then to change from this view (Layout View) to Form View click Home, Form View.

The screenshot shows the Microsoft Access interface with the 'tblEmployee' form open. The form is in Form View and contains the following fields:

- EmployeeID: 001
- Surname: Hamsen
- Forename: Knut
- Gender: M
- DateOfBirth: 31/10/1974
- Address1: 5 rue Victor Hugo
- Address2: 3 Arrondissement
- Address3: Paris
- Address4:
- PostCode: 300522
- DepartmentID: 001

Below the main form is a sub-form titled 'tblOrders' which displays a list of orders. The sub-form has the following columns: OrderID, CustomerID, OrderDate, and OrderComp. The data shown in the sub-form is as follows:

OrderID	CustomerID	OrderDate	OrderComp
010	006	27-May-15	<input type="checkbox"/>
023	001	11-Jun-14	<input type="checkbox"/>
029	008	24-Jan-15	<input type="checkbox"/>
032	004	15-Jan-15	<input type="checkbox"/>

The sub-form shows 4 records out of 21. The main form also shows 1 of 21 records.

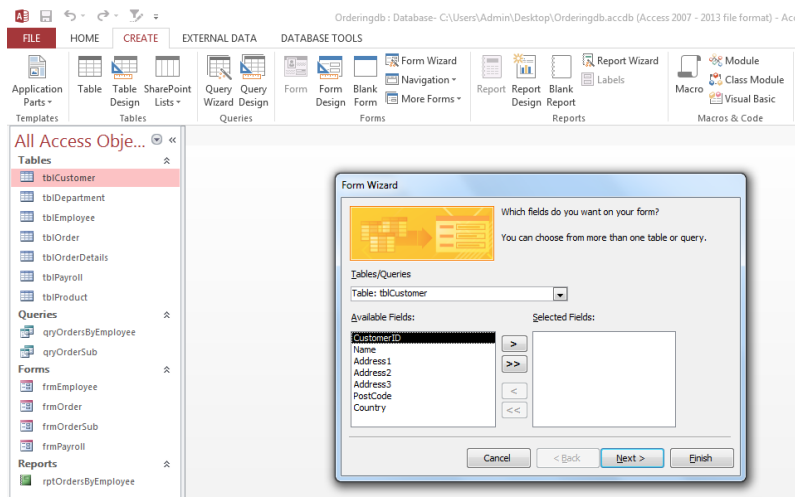
Note that if relationships have been created between tables this way of creating a form can include a 'sub form.' In this example an Orders sub form is created showing orders made by that customer. Click the lower navigation button to see a different customer.

## Create a form with the Form Wizard

Another way to create a form is with the Form Wizard.

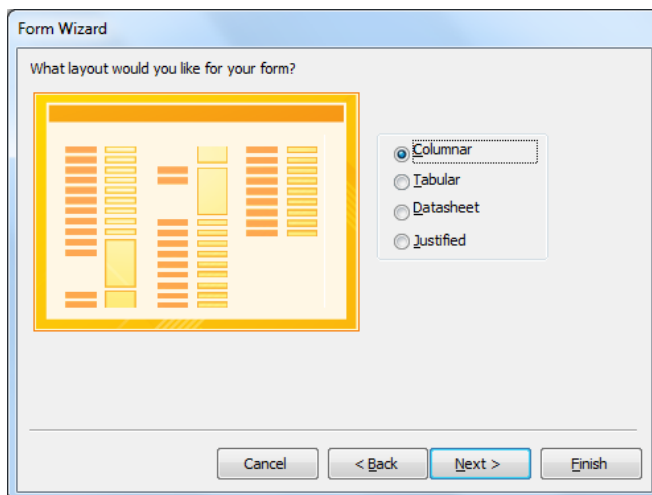
First select the table to base the form on from the Navigation pane.

Select **Create, Form Wizard**.



Select fields either one by one or you can choose all fields by clicking the >> button.

Click Next and then choose the type of form you wish to create.



There are 4 formats to choose from:

Columnar - shows one record at a time

Tabular – shows the data in a tabular form

Datasheet – shows the data just like a Datasheet

Justified - A cross between a columnar and tabular form

A Datasheet form

tblCustomer2

stomerID	Name	Address1	Address2	Address3	PostCoc	Country
001	WH Smythsons	2 West House	Battersea	London	SW17 3	UK
002	MLK	59 Dernerstrasse	Bearnon	Rotterdam	RO 277	Holland
004	James Lewis	2 London Road	Guilford	Surrey	GU1 2W	UK
006	Heckatt	112 Sloane Avenue	Chelsea	London	SW1 2FL	UK
007	VMH Industries	9 Fraunhoffe	Hisservan	Amsterdam	AM 257	Holland
008	Cartoum	13 Rue Industrielle	St Michele	Lille	14006	France
(New)						

A Justified form

tblCustomer1

tblCustomer

CustomerID	Name	Address1		
001	WH Smythsons	2 West House		
Address2		Address3	PostCode	Country
Battersea		London	SW17 3FK	UK

## Modify a Form in Design View

Once a form has been created it can be saved as an object within the database. Select the Save icon in the Quick Access toolbar or press the shortcut Ctrl+s.

To modify a form select it from the Navigation bar (Forms section) and choose **View, Design View**

In Design View for a Columnar form you will see the fields as textboxes inside the Detailed band. Each field has a label to identify each field and will be a title label in the Form Header.

## Exercise

Make changes to the above form:


Edit the form title.

Change the text size to 28.

Change the Header back colour to dark green.

Change the Detail section back colour to light green.

Change the title text colour to white.

Add an image called Team.jpg to the  Logo Header.

Add a command button to Close the form (name  Close).

Move the address fields as a block to the right

Move the DepartmentID after DateofBirth field

Select Home, View, Form View to see your form



**Employee Form**

EmployeeID: 001  
Surname: Hamsen  
Forename: Knut  
Gender: M  
DateOfBirth: 31/10/1974  
DepartmentID: 001

Address1: 5 rue Victor Hugo  
Address2: 3 Arrondissement  
Address3: Paris  
Address4:   
PostCode: 300522

Close Form

Record: 1 of 21 | No Filter | Search

Save your form as frmEmployee2

## Find, sort and filter records when using a Form

In Form View you can find, sort and filter data as easily as with tables.

For filtering and sorting right click in the field to sort or filter by.

To find data click in a field use the Find button.

### Exercise

Open the form frmEmployee2 and use the **Find** button in the Address3 field Kent.

Use **Text Filters** to display only Paris in the Address3 field.

Filter the records for PostCodes starting with SE.

Remove the filter and sort in ascending order of Surname.

Finally remove the sort order.

## Unit 7: Creating and using Reports

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### In this unit you will learn how to:

- Create reports with the Report Wizard from tables or queries
- Group records in a report and summarize data
- Modify and print reports

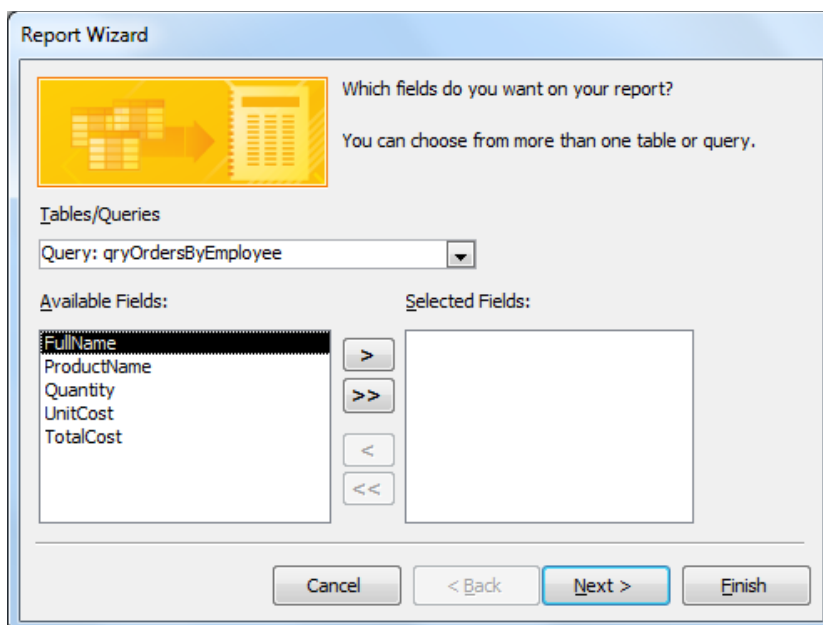
In an Access database you can create reports based on one or several tables. They are used for printing or for creating PDF documents and they update if the data in the tables is changed or added.

### Create reports with the Report Wizard from tables or queries

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The Report Wizard allows you to choose report data on a table or on a query. For example after selecting the query qryOrdersByEmployee in the Orderingdb database click

Create, Report Wizard

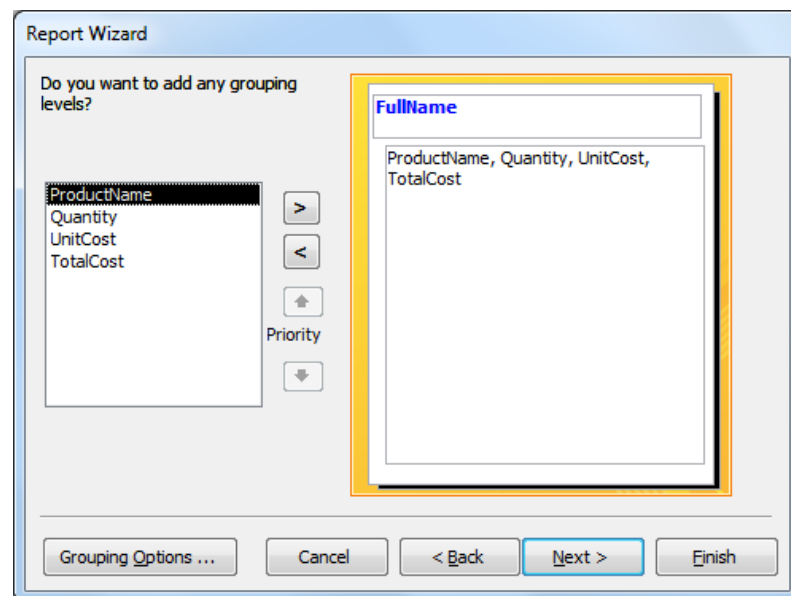


Choose all the fields by clicking the >> button

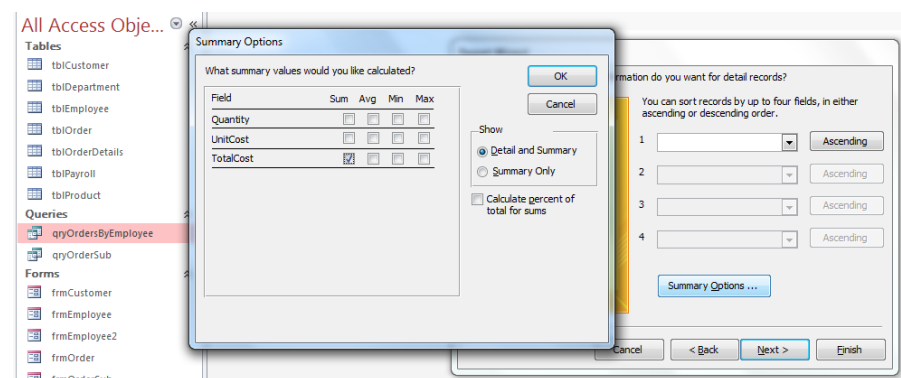
## Group records in a report and summarize data

On the next two screen you can see how to group and summarize a report using the Report Wizard

Group the report by FullName



On the next screen select **Summary Options** and tick Sum for TotalCost.



Sort within each group by ProductName in ascending order.

Enter the name Employee Sales

Choose Portrait orientation

## Modify and print reports

### Exercise

Make the following modifications to this report:

Resize fields if necessary to fit one page wide.

Use the **Page Setup** tab to change the margins to Narrow.

Remove any fill colours for headers and detail band. Hint: Set the **Alternate Back color** to None.

Change the font colour of the headings and totals to navy blue

Add a **Line** control above the title.

Format all totals to the **Currency** format property.

**Hint:** Use the Shift key to select more than one total at a time

Orderingdb : Database- C:\Users\Admin\Desl

FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS

>> Sales Report

Navigation Pane

Employee Sales

Full Name	Product Name	Quantity	Unit Cost	Total Cost
Ben Grey	Alarm Clock	10	£12.99	£129.90
	Alarm Clock	50	£12.99	£649.50
	Alarm Clock	50	£12.99	£649.50
	Binders	100	£3.99	£399.00
	Binders	100	£3.99	£399.00
	Blank CD's (10)	500	£5.95	£2,975.00
	Cufflinks	100	£45.99	£4,599.00
	Iron	25	£29.50	£737.50
	Toaster	50	£45.99	£2,299.50
	Toaster	15	£45.99	£689.85
	Vacuum Cleaner	10	£111.50	£1,115.00
Total Sales by Employee				£14,642.75
Bepe Hamsen	Binders	100	£3.99	£399.00
	Erasers (25)	500	£2.99	£1,495.00
	Erasers (25)	250	£2.99	£747.50
	Paper Ream	100	£4.98	£498.00
	Pencil Sharpeners (10)	300	£1.95	£585.00
	Pencils (25)	500	£1.99	£995.00
	Pencils (25)	250	£1.99	£497.50
	Printer Cartridge	400	£4.99	£1,996.00
	Printer Cartridge	250	£4.99	£1,247.50
Total Sales by Employee				£8,460.50
Charles Goodwin	Alarm Clock	100	£12.99	£1,299.00
	Cufflinks	10	£45.99	£459.90

Page: 1 No Filter

Close the report then rename as rptSalesReport.

## Unit 8: Importing, Exporting and Linking Objects

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**In this unit you will learn how to:**

- Import from Excel
- Import Objects from Access
- Export Objects to Access
- Link Access Tables

### Importing from Excel

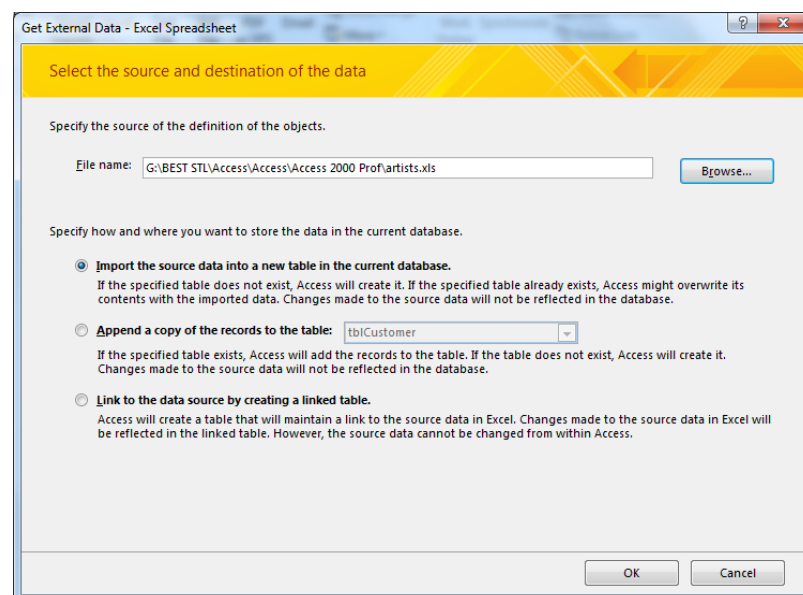
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Instead of creating tables from scratch you may want to import already existing data in Excel into your Access database.

To import all of the data from a worksheet ensure the first row of the data contains unique column headings.

Then in your database select External Data.

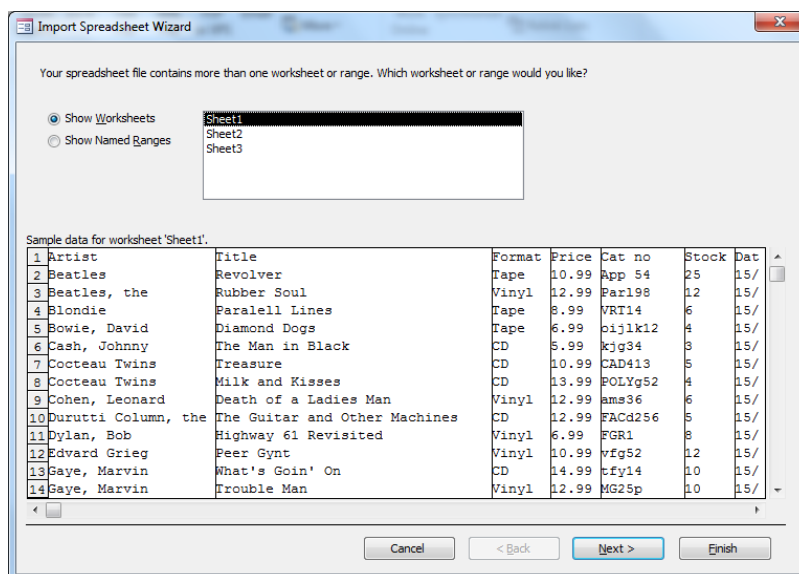
In the Import & Link group of the ribbon choose Excel.



Click the Browse button and select the Excel workbook to import.

On the next screen choose the sheet that contains the data.

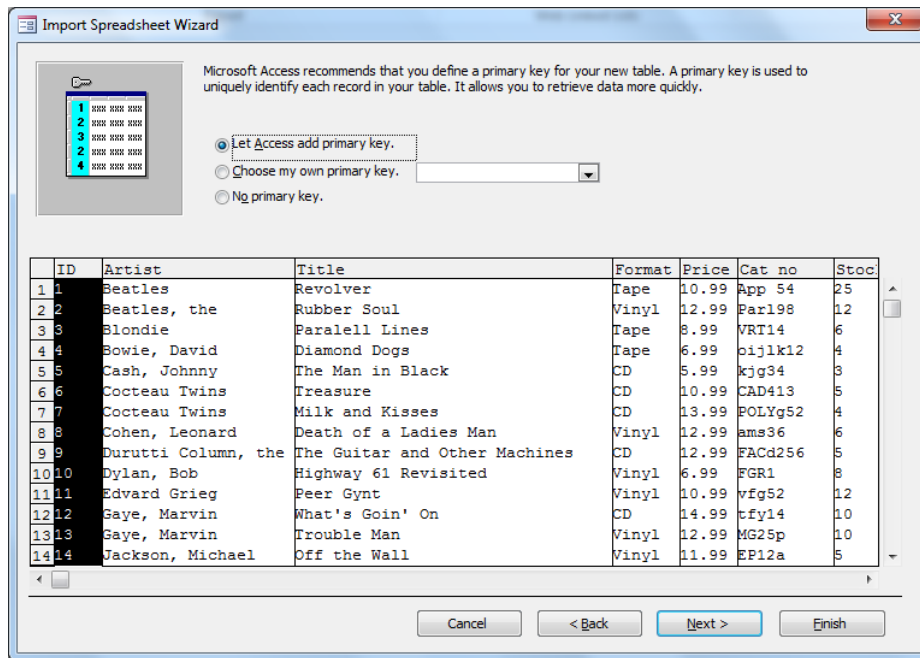
Note that if you want to import a selection of records rather than all the Excel data create a Named Range first in Excel for the records required.



On the next screen ensure First Row contains Field Headings is selected.

On the next screen you have the option to format columns or even not include a column in the imported table.

The next screen allows you to choose a Primary Key, let Access create one or choose not to have one for the imported table.



Finally name the imported table (Artists)

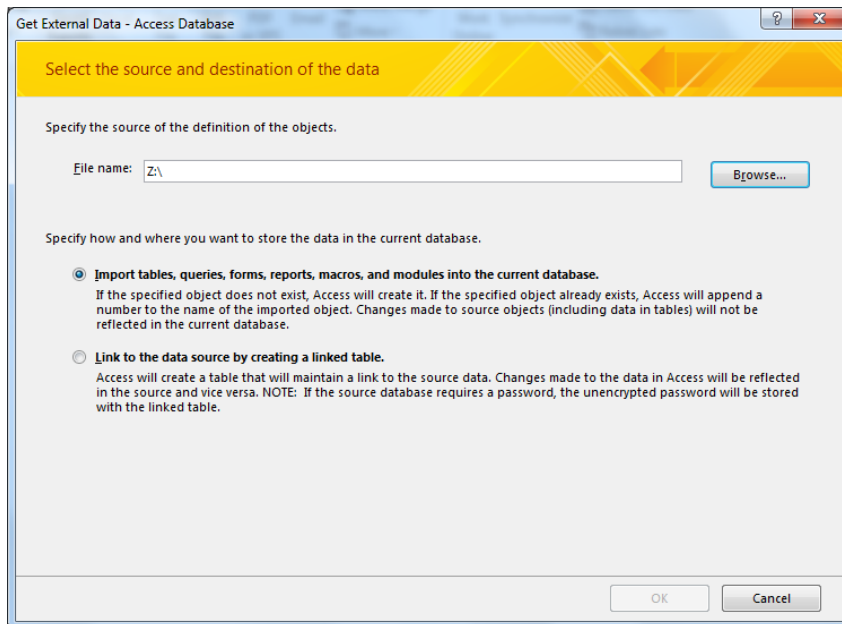
You now have a new table withing the database.

## Importing Objects from Access

When creating a database you can import objects (tables, forms, reports, queries) from an already existing database.

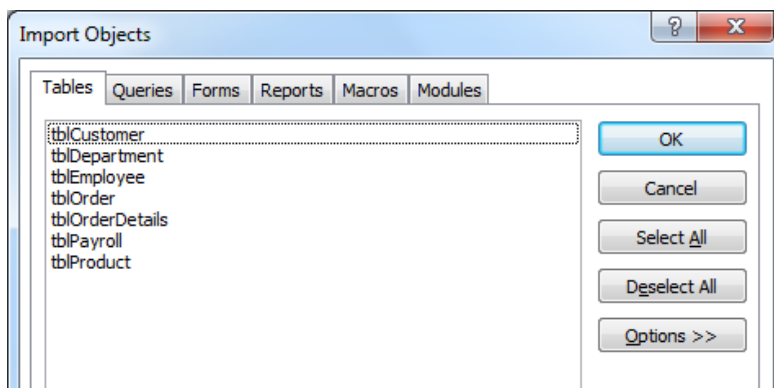
As with importing from Excel start by clicking the **External Data** tab.

Now click **Access** from the Import & Link group.



Choose the first option then click Browse to select the Access database from which you want to import objects.

Press OK then you can choose the tables to import.



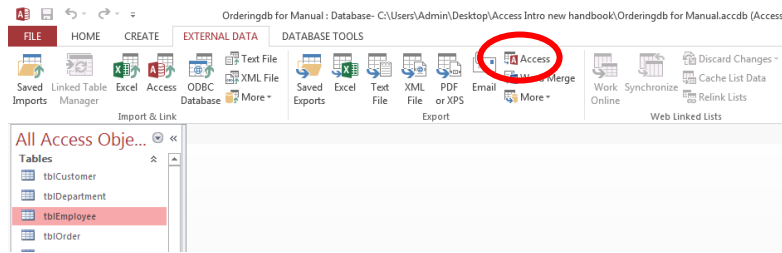
If you want to import other objects click and select them from the other tabs before pressing OK.

Use the Ctrl key for multiple selection.

Now click OK and all the objects selected will now be imported into the current database.



## Exporting Objects to Access



You may wish to export a table or another object to either an Access database or to Excel.

To do this:

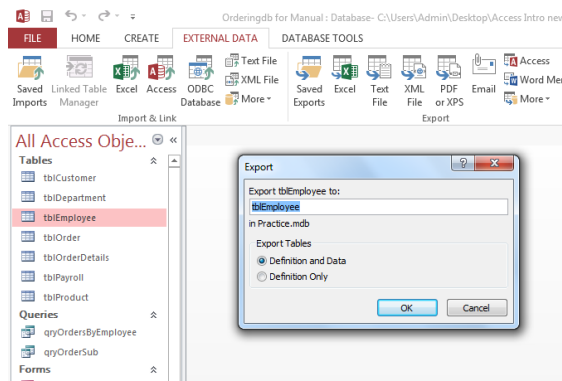
Select the table (or other object) from the Navigation pane.

Choose **External Data**, then choose **Access** from the Export group.

Click Browse then select the Access file to export into

Press Save.

On the next screen choose whether to export the whole table or just the table definition.



Click OK and then the Close button.

Repeat the process to export other object.

To Export to Excel do the same but choose **External Data**, **Excel** from the Export group.

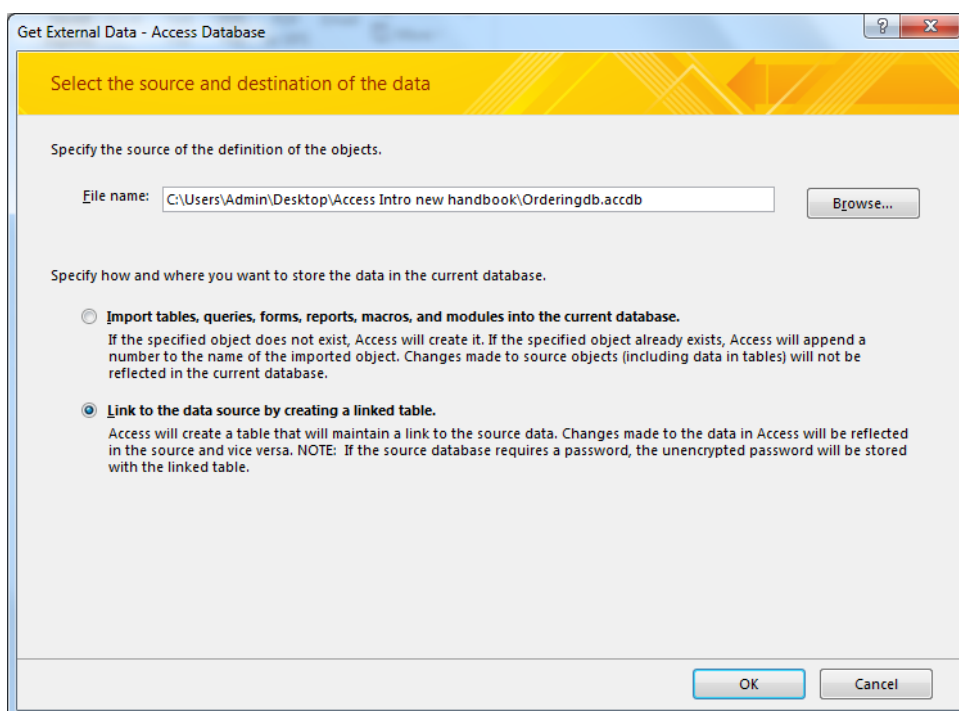
## Linking Access Tables

As well as importing and exporting objects, Access allows you to link to a table in another database (or to a sheet of an Excel workbook). This can be advantageous when many users wish to use the same data but to create their own reports, queries and forms.

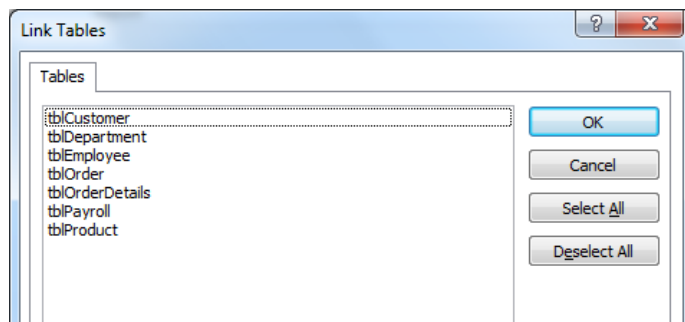
To link to a table of another database select the External Data tab

Choose Access from the Import & Link group

Select the second option – Link to data source by creating a linked table.

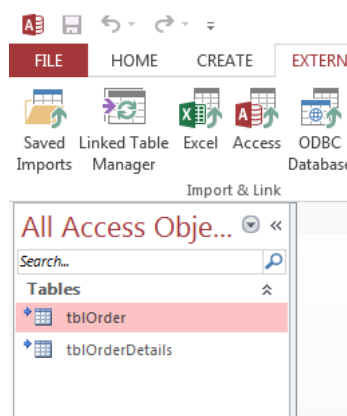


Click Browse to choose the database to link to, then OK.



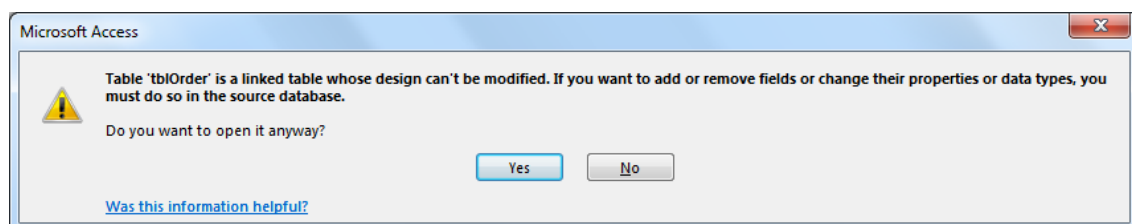
Now choose the table or tables to link to and press OK.

Note that linked tables display a small blue arrow next to the table icon in the Navigation pane.



When you open a linked table the data displayed is coming from the other database. Any data added or deleted will be added or deleted in the table of the source database.

However you cannot make changes to the table design.



Changes to the table design must be made by opening the source table.

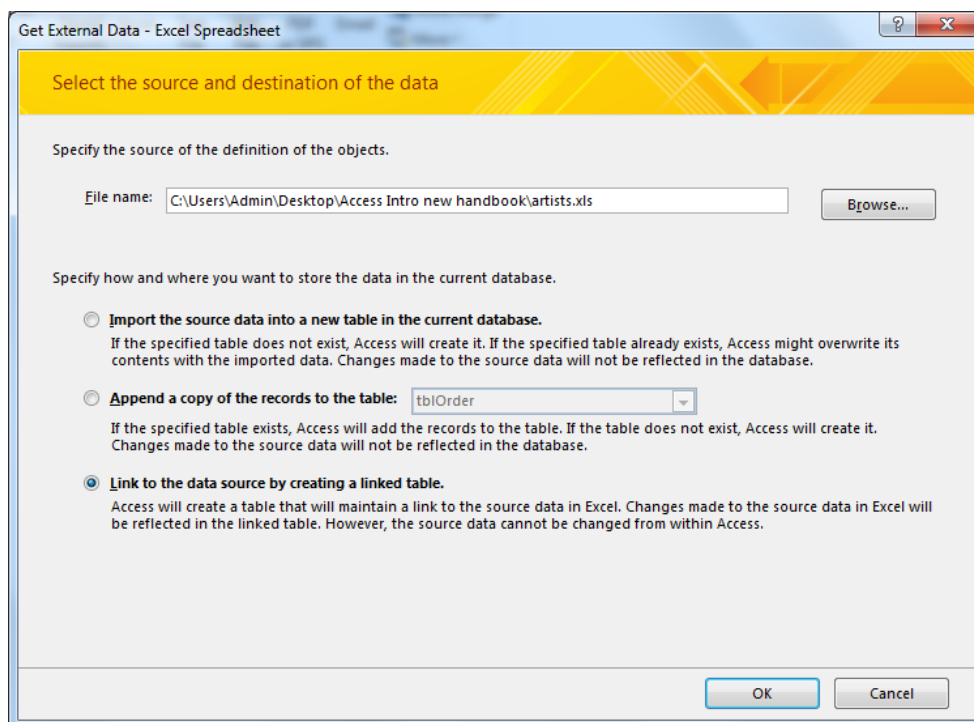
## Linking to Excel

In a similar way you can link to a worksheet in an Excel workbook.

Choose **External Data**

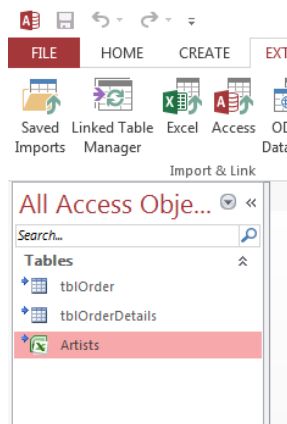
Click **Excel** from the Import & Link group

Choose **Link to data source by creatign a linked table.**



**Hint:** Click Append data to an existing table if you want to copy and append data instead of linking it.

Blowse and select the Excel file and choose the worksheet to link to.



Unlike with linking to an Access table, when linking to Excel changes cannot be made to data.

You must open the source Excel worksheet to make changes to data or to its design.

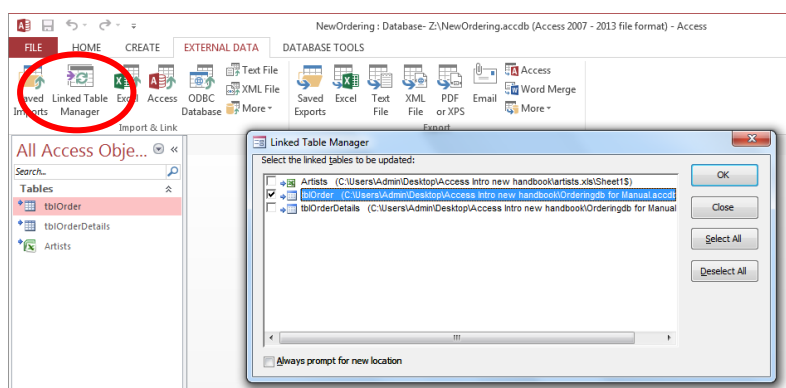
## Linked Table Manger

Changes to data will normally update automatically.

Use the Linked Table Manager if locations to tables have been changed and to view all the linked tables at once.

Select External Data

Linked Table Manager.



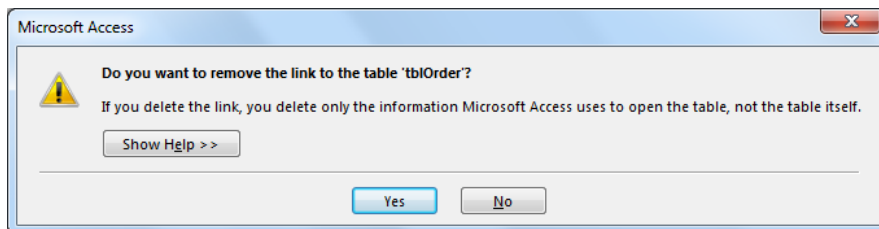
Click OK to update a link location of a selected table.

## Breaking a link

If you no longer need to link to a table then:

Right click the linked table in the Navigation pane

Select **Delete**



The dialog confirms that the link is being deleted and not the actual data in the source table.

## E&OE

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STL Training reserves the right to revise this publication and make changes from time to time in its content without notice.

## Quick reference: Access shortcuts

<b>Keystroke</b>	<b>Command</b>
Ctrl +	Add new record
Ctrl-F2	Builder
spacebar	Check/uncheck box or option button
Ctrl-W	Close
Ctrl-C	Copy
Ctrl-X	Cut
Ctrl-Y	Cut current line and copy to Clipboard
F6/Shift-F6	Cycle through sections
Ctrl-Tab/Shift-Ctrl-Tab	Cycle through tab of each object's type (toggle)
F11	Database window
Ctrl -	Delete current record
F2	Edit/Navigation mode (toggle)
Ctrl-Tab/Shift-Tab	Exit subform and move to next/previous field in next record
Shift-Down/Up	Extend selection to next/previous record
F12	File/Save As
Ctrl-F	Find
Shift-F4	Find Next
Shift-F3	Find Previous
Ctrl-G	GoTo
Ctrl ;	Insert current date
Ctrl :	Insert current time
Ctrl-Alt-spacebar	Insert default value
Ctrl-Enter	Insert new line
Ctrl '	Insert value from same field in previous record
F10	Menu bar
Ctrl-Home/End	Move to beginning/end of multiple-line field
Ctrl-Up/Down	Move to current field in first/last record (Navigation mode)
Ctrl-Home	Move to first field in first record (Navigation mode)
Home/End	Move to first/last field in current record (Navigation mode)
Ctrl-End	Move to last field in last record (Navigation mode)
Home or Ctrl-Left	Move to left edge of page
F5	Move to page number/record number box
End or Ctrl-Right	Move to right edge of page
Ctrl-F6	Next window
F4	Open combo box
Ctrl-Enter	Open in Design view