

# **Access 2000 Intermediate User Manual**

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Ebit Solutions Limited

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Ebit Solutions Limited  
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## INTRODUCTION

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Access is a database program, created by Microsoft. At the end of 1999 the Trust upgraded to Access 2000 (running in Windows NT).

### What Is A Database?

Databases are used to store information in a structured way.

Computerised databases enable you to store large amounts of information. You can then search for any piece of information or sort the information by any criteria. You can cross reference the data easily, and extract data to be viewed on screen or printed out in a variety of different formats.

For example, if you have a database of staff working at a company, you can extract the names of all staff who work at a certain location and have been with the company for over 5 years. You can then sort the extracted list alphabetically by surname and print it out.

### Multiple Users

Unlike Word documents and Excel spreadsheets, an Access database can be used by several people at the same time. The changes made by all the users will be saved into the same database. This avoids the need to duplicate data as you can create one single database that everyone can access at any time.

### The Aim Of This Manual

In the Basic manual you learnt how to use an existing database. This included moving through data records, inputting new data, creating queries to extract data and creating reports to produce documentation of the data.

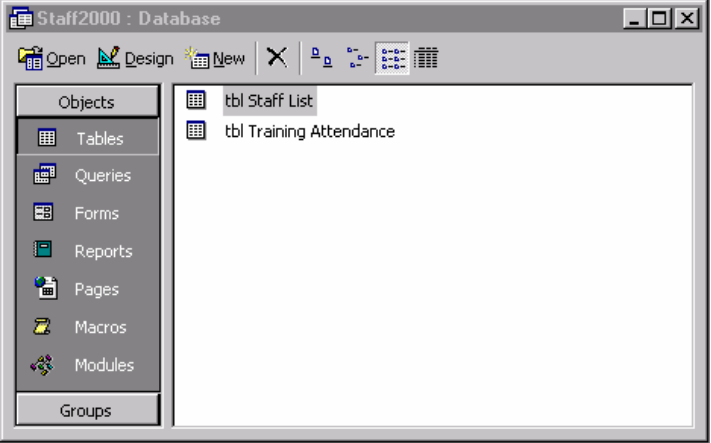
In this Intermediate manual you will learn how to create a simple Access database, to be used by a small number of people. This will involve planning the database, creating tables to store your data and creating forms to facilitate and control the data inputting process.

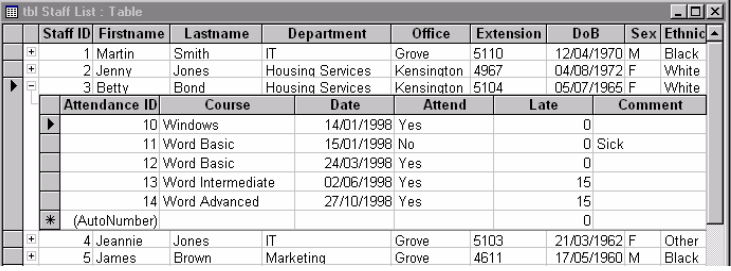
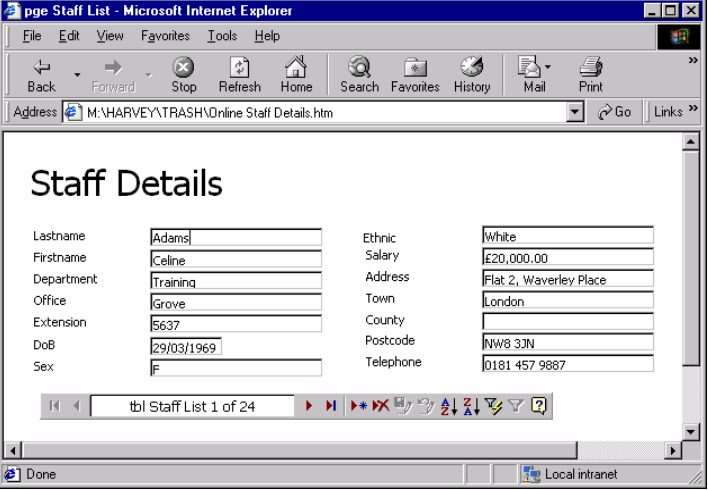
### Instructions

All the important instructions in this manual appear in bold. Toolbar button and Menu commands appear bold and in quotation marks. Keyboard instructions are bold and in square brackets. For example: In the "**Edit**" menu, select "**Undo**", or use the combination command [**Ctrl**]+[**Z**].

## NEW FEATURES IN ACCESS 2000

Access 2000 is very similar to Access 2. But there are a few exciting new features for intermediate users.

Feature	Description of Change																																																
Database Window	<p>The Database Window has been reformatted. There is also a new database object, called a Page.</p> 																																																
Drop Down Lists in Tables	<p>This is a useful new feature. You can now create a drop down list in a table to allow users to input values by selecting them in the list. Previously you could only do this on a form.</p> <table border="1" data-bbox="624 1162 1337 1384"> <thead> <tr> <th>Staff ID</th> <th>Firstnam</th> <th>Lastname</th> <th>Department</th> <th>Office</th> <th>Extension</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Martin</td> <td>Smith</td> <td>IT</td> <td>Grove</td> <td>5110</td> </tr> <tr> <td>2</td> <td>Jenny</td> <td>Jones</td> <td>Housing Mgt</td> <td>Ealing</td> <td></td> </tr> <tr> <td>3</td> <td>Betty</td> <td>Bond</td> <td>Housing Mgt</td> <td>Grove</td> <td></td> </tr> <tr> <td>4</td> <td>Jeannie</td> <td>Jones</td> <td>IT</td> <td>Kensington</td> <td></td> </tr> <tr> <td>5</td> <td>James</td> <td>Brown</td> <td>Marketing</td> <td>Longfield</td> <td></td> </tr> <tr> <td>6</td> <td>Paul</td> <td>Mason</td> <td>Finance</td> <td>Newham</td> <td></td> </tr> <tr> <td>7</td> <td>James</td> <td>Dean</td> <td>Furniture</td> <td>Windmill</td> <td>4553</td> </tr> </tbody> </table> <p>(See section on Creating a Drop Down List in a Table).</p>	Staff ID	Firstnam	Lastname	Department	Office	Extension	1	Martin	Smith	IT	Grove	5110	2	Jenny	Jones	Housing Mgt	Ealing		3	Betty	Bond	Housing Mgt	Grove		4	Jeannie	Jones	IT	Kensington		5	James	Brown	Marketing	Longfield		6	Paul	Mason	Finance	Newham		7	James	Dean	Furniture	Windmill	4553
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7	James	Dean	Furniture	Windmill	4553																																												
Hyperlinks	<p>There is a Hyperlink field property that allows you to use hyperlinks in tables and fields to link to any web page, document, spreadsheet or PowerPoint presentation, on the network or the Intranet.</p>																																																
Two Digit Year Dates	<p>Access 2000 recognises two digit dates between the period 1930 to 2029. But it is probably a good idea to format all date fields to display the year in a four digit format.</p>																																																
Conditional Formatting on a Form	<p>You can now format a field on a form so that its formatting changes depending on its current value.</p> <p>(See section on Conditional Formatting).</p>																																																

Feature	Description of Change
Print Relationships	<p>You can now print out the relationships between the tables in your database.</p> <p>(See section on Printing Relationships).</p>
Subdatasheets in Tables	<p>This is another useful new feature. If two tables are linked together in a one to many relationship, you can actually view the data from the sub-table in the main table.</p> 
Access Pages	<p>Pages are a new type of Access object (like tables, queries and forms).</p> <p>A Page is like a web form, allowing people to input data into an Access database via the Internet (or Intranet) using a web browser such as Microsoft Explorer.</p>  <p>Creating Access Pages is not covered in this manual.</p>
Converting Old Databases	<p>You can convert old Access databases to Access 2000. You can also convert an Access 2000 database down to Access 97 if you need to share it with an Access 97 user.</p> <p>(See section on Converting an Access 2 Database).</p>

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## DO YOU NEED TO USE ACCESS?

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Before you start thinking about creating an Access database you need to decide if Access is actually the right tool for the job.

Access is a large and complex program that can be used to create fairly sophisticated databases. But if the database you wish to create is quite simple, you may not need to learn and use Access. You could perhaps use Excel, especially if you already know how to use it.

### The Benefits Of Excel

Excel can be used to create and store a table of data that can be sorted, subtotalled, and filtered to extract data. You can also use all the Excel formula to perform any type of calculation on the data. You can link to an Excel workbook to perform a Mail Merge to create bulk letters or mailing labels in Word. You can also create graphs from numerical data to display it in a more interesting way.

Furthermore, if your Excel spreadsheet becomes too large or complicated at a later date, you can then export it to Access and build it up from there.

### The Failings Of Excel

Although Excel has thousands of empty rows, it will begin to slow down if you have more than approximately 2000 rows of data. So you can't use it for large amounts of data.

Complex databases contain multiple tables of data that are linked together. You cannot create this type of relationship in Excel. (You can create more than one table of data, but you cannot link the tables together). This means you can't ask the database questions that cross reference across all the data.

Although several people can open an Excel workbook if it is stored on a shared area, two people cannot have it open at the same time. Only Access allows multiple users to update the same database at the same time.

In summary - if your database is going to consist of one simple table of data, containing fewer than 2000 rows of information and only one person needs to use it at a time, then you could use Excel. Otherwise Access is probably more suitable.

Having decided that you need to use Access, you can now start designing the database.

### DATABASE DUPLICATION

As more databases are created at the Trust, the likelihood that information is being duplicated will increase. Try to find out if someone has already created a similar database to the one you have in mind. If it already exists, you don't need to recreate it.

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## DESIGNING A DATABASE

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It is very important to plan your database out on paper before you do anything in Access. This will save you a lot of time.

These are the four steps that you need to follow to help you design the database:

### Determine The Purpose Of The Database

The first step is the most important one. You must ask yourself – **What is the database is for? What is it supposed to do?**

This will help you to determine what information it will need to contain. For example, if you want to keep track of staff being trained, you will need to store information about who the staff were, what they were trained on and when they were trained.

It is also useful to ask - **What information do I want out of the database?**

If you know what information you need to get out of the database, then you will know what information you need to put into it. For example if your manager might ask you to determine if more men attend training than women then you will need to include gender information in the database.

Think ahead. What information might people start asking for in a years time? It is easier to include this data at the beginning, than to have to add it later.

### Determine What Fields You Need

Having determined the information you wish to store in the database, you must now break it down into basic units of data. These are known as fields.

For example, information about people can be broken down into the following fields: title, first name, middle name, surname, date of birth, gender, ethnic origin, etc.

The only fields you don't need to include are those that will actually contain the results of calculations based on other existing fields. For example the VAT on a product can be calculated from the product price and the VAT rate.

### Determine What Tables You Need

Having decided what data fields you want to store in the database, you can divide the fields into fundamental groups.

Make sure every field is allocated to one group.

Each group of fields will be stored in a separate table.

Give each group a name that describes all the data in that group. You can use these as the table names.

**Determine The Relationships Between The Tables**

Having chosen the tables you need, you must now determine the relationships between the tables.

There are three types of relationship:

<b>One to Many</b>	<p>Each record in table A can relate to many records in table B.</p> <p>For example, If you have a table of staff names and a table of training attendance, then the tables have a one to many relationship as each staff member could attend many training courses. This is the most common type of relationship.</p>
<b>Many to Many</b>	<p>Each record in table A can relate to many records in table B and each record in table B can relate to many records in table A.</p> <p>For example, If you have a table of staff names and a table of computers, then to record which computers are being used by which staff you would have to set up a many to many relationship as several staff could use the same computer and several computers could be used by the same person.</p>
<b>One to One</b>	<p>Each record in table A can have no more than one matching record in table B.</p> <p>This type of relationship is unusual as the data from the second table is usually just added into the first table.</p>

**COMMON DESIGN PROBLEMS**

There are several common design problems:

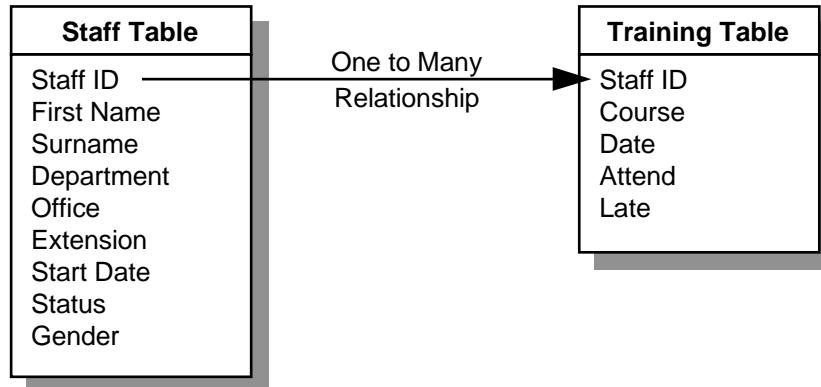
- Avoid creating one table with a large number of fields that don't all relate to the same subject. Create different tables for each subject.
- Avoid having fields that are intentionally left blank in many records because they aren't applicable to those records. This usually means that the fields belong in another table.
- Avoid having different tables which contain the same fields. You should not have to repeat the same information in different tables.
- If two tables are linked together, the field that links them will appear in both tables. But you should never create fields in different tables, with the same name, if they contain unrelated data. This is often done with common fields such as Phone, Date or ID. You should use names that differentiate the fields, ie Home Phone, Work Phone.
- Don't use the word Date, on its own, as a field name as this is a special code word used by Access to calculate the current date. But it is okay to use Date in combination with other words, eg Start Date, End Date, Date of Birth.
- If you will ever need to provide access to your database via the Intranet, don't use spaces in your field, table or query names.

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## DESIGN EXAMPLE

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Here is an example for the design of a simple Training Database for staff working at a company.



There are two tables. The Staff Table contains information about each staff member. The Training Table contains information about each time a person attends a training course.

The Training Table has a one to many relationship with the Staff Table, as each person could attend many training courses.

### Thinking Ahead

To determine the fields that each table needs, you need to think of the questions the database will need to answer.

If you will need to know how soon a person was trained after joining the company then you will need a field in the Staff Table that contains the Start Date.

If you will ever need a breakdown of training for permanent, contract and part time staff then you will need a field in the Staff Table that contains the Status.

If you will ever need to know how many women have attended a particular course then you will need a field in the Staff Table that identifies the Gender.

If you will need to know which staff did not turn up for training, as well as those that did, you will need an Attend field in the Training Table to identify those that did or did not turn up.

If you will need to know who is persistently late for training, then you will need a field in the Training Table called Late, to contain the number of minutes each person is late.

This should demonstrate the need to think about the database before you create anything in Access.

Don't forget to talk to the other people who will use this database to see what their needs are.

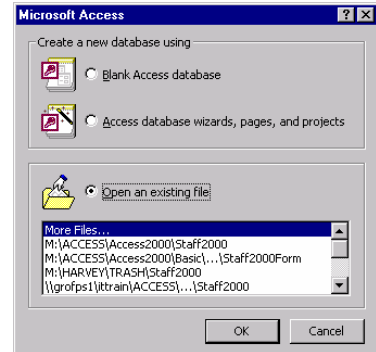
## CREATING A NEW DATABASE

Once the database has been thoroughly planned on paper, you can start to create it in Access.

### To Start Up Access


- Click on the **“Start”** button, select **“Programs**, then select **“Microsoft Access”**

Access will open up and the Startup dialog box will appear.



### To Create A New Database

- In the Startup dialog box, select create a new **“Blank Access database”** and click **“OK”**

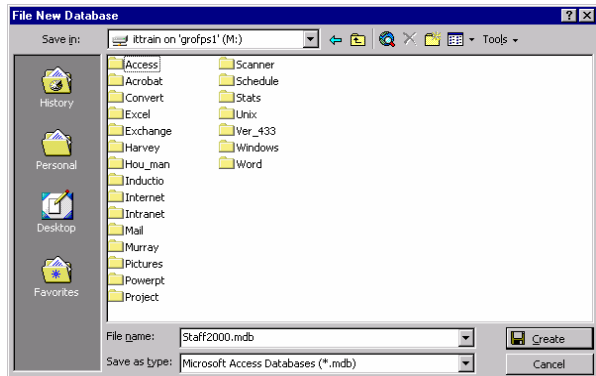
Or if that is not showing, you can click on the **“New”** button  on the Access toolbar. The New dialog box will appear. In the General tab, select the **“Database”** icon and then click **“OK”**.

The File New Database dialog box will appear.

You must give your database a name and choose where you want to save it before you can do anything else.

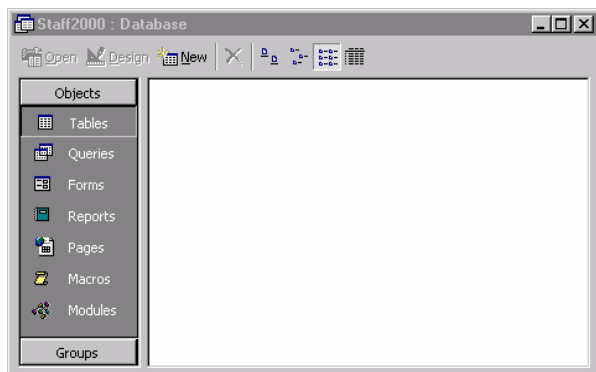
- Enter a **file name** for the database
- Select a **folder** to store it in
- Click on the **“Create”** button

The new database will be created.



The Database Window for your new database will appear.

You can now create the tables that will contain the data.



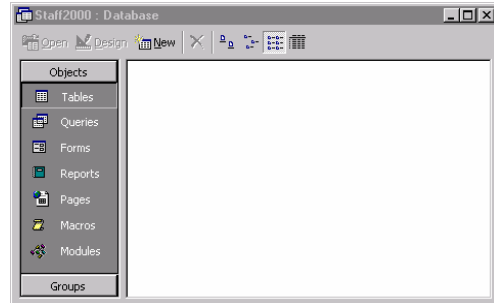
## CREATING A TABLE

Having created a new blank database, you are ready to create the tables that will contain the data.

### To Create A New Table

In the Tables tab in the Database window.

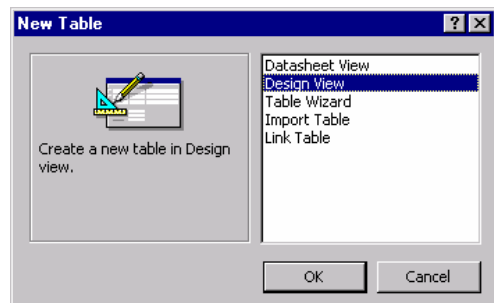
- Click on the "New" button



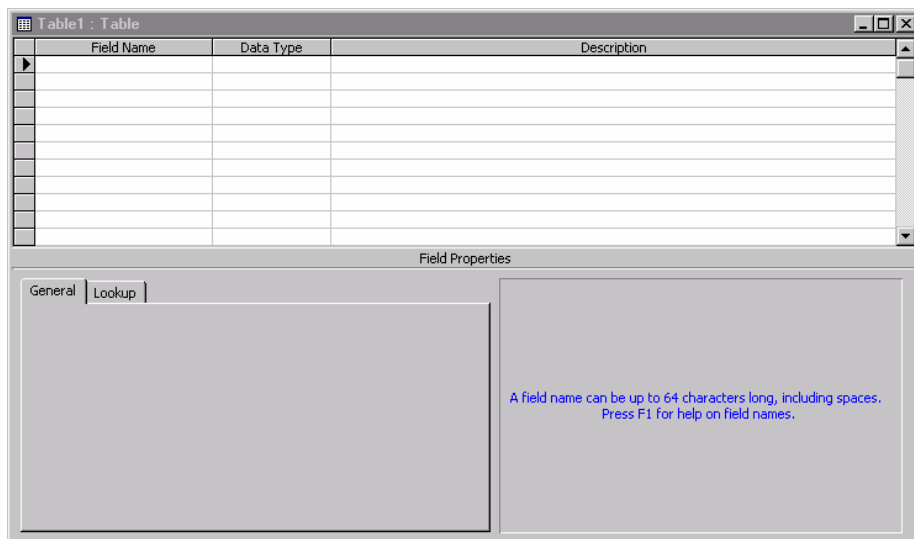
The New Table dialog box will appear.

There is a Table Wizard available to help you create a new table. But it is best to create new tables manually in Design View.

- Select **Design View**
- Click "OK"



The Table Design window will appear.



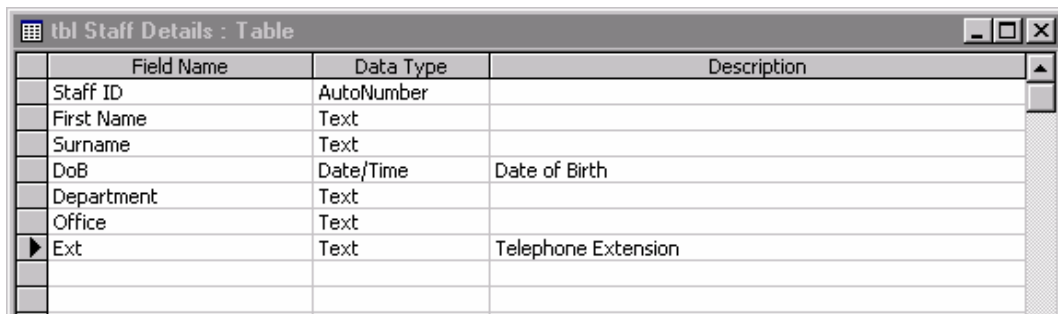
Each row in the Table Design window represents a column of data in the actual table.

The **Field Name** is the name of the column of data.

The **Data Type** specifies the type of data in a column (eg text, numbers, dates, etc.).

The **Description** is just a notes area to explain the field to other users of the database.

## To Add A Field To A Table



Field Name	Data Type	Description
Staff ID	AutoNumber	
First Name	Text	
Surname	Text	
DoB	Date/Time	Date of Birth
Department	Text	
Office	Text	
Ext	Text	Telephone Extension

- Click in the Field Name column and **enter a name**  
Field names can be longer than eight characters and can contain spaces.



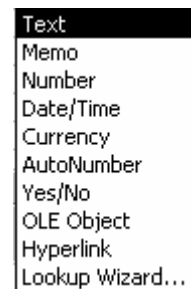
### TIP

Never use the same name for different fields in the same database.

It is also handy not to create field names that are much longer than the values the fields will contain.

You must now specify the type of data that will be stored in the field (see section on Data Types).

- **Click in the Data Type** column  
A drop down menu arrow box will appear.
- Click on the arrow and **select a data type**



You can now enter an explanation of the field into the Description box, if you want to explain the field to other users.

This text is displayed in the status bar at the bottom of the screen when the user selects the field in a table or form.



- Enter field **description**

You can then edit the Field Properties for each field (see section on Field Properties).

You can then create a Primary Key if you need to link this table to another table (see Primary Key section).

You can then save the table (see section on Saving A Table).

## DATA TYPES

There are ten data types. The last two are new to Access 2000.

Data Type	Stores	Size
Text	Text, up to 255 characters	Up to 255 bytes/characters
Memo	Large amounts of text, over 255 characters (usually several sentences or paragraphs)	Up to 65,000 bytes
Number	Numbers	1, 2, 4 or 8 bytes
Date/Time	Dates and times	8 bytes
Currency	Monetary values, eg £44.50	8 bytes
AutoNumber	An automatic counter that generates a new number for each new record: 1, 2, 3, 4, etc. (This was called Counter in Access 2)	4 bytes
Yes/No	A field with a ready made Yes or No options	1/8 byte
OLE Object	OLE objects or graphics (eg a scanned photo, logo or signature)	Up to 1 gigabyte
Hyperlink	Links to any file on the network or Intranet	2048 bytes
Lookup Wizard	This is a new feature that starts a wizard to help you create a drop down menu field	4 bytes



### TIP

Fields containing telephone numbers should be set as Text, because numbers are not allowed to have spaces in them, eg 0181 357 5000.

### HYPERLINK

The Hyperlink data type creates a field that can contain links to any file on the network or Intranet (or Internet).

For example, having created a Hyperlink field, the user could enter:

`http://nhhtnews.nhht/hr/default.htm`      to create a link to the Human Resources home page on the Intranet.

`\\grofps1\IT\Harvey\letter.doc`      to create a link to a Word document called letter in the Harvey folder, on the IT shared area on the grofps1 server.

You can also enter a friendlier name for the link if you enter it in the format:

`friendlyname#address`    eg `HR Home Page#http://nhhtnews.nhht/hr/default.htm`

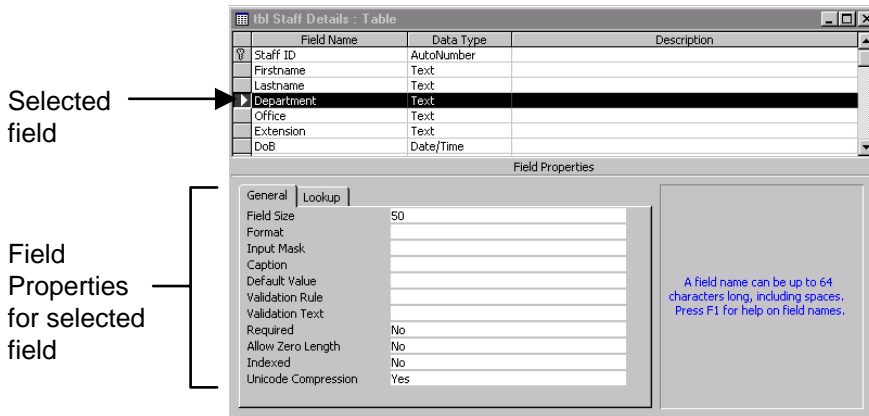
### LOOKUP WIZARD

The Lookup Wizard data type will guide you through the steps to create the drop down menu. The best way to do this is to create a separate table to contain the drop down values first. Then use the Lookup Wizard data type to link to this table. **Don't try this until you have read through the section 'Creating a Combo Box'.**

## FIELD PROPERTIES

Field Properties allow you to control the appearance of data, specify default values, and speed up the process of searching and sorting.

The field properties are set in the Table Design window.



The field properties available varies for each field type. This is a summary of all the available field properties.

Field Property	What It Controls
Field Size	Maximum number of characters allowed in field
Format	Appearance of dates and numbers (and text)
Decimal/Places	Number of places shown after the decimal point
Input Mask	Forces inputted data to appear in a particular format
Caption	Creates an alternative label that will appear in Forms (instead of the actual field name)
Default Value	Automatically fills a value into the field when a new record is created
Validation Rule	An expression that limits the data that can be entered into the field
Validation Text	The message that appears when the ValidationRule is not satisfied
Required	Field can't be left blank
Allow Zero Length	Allows zero length strings to be stored in a Text or Memo field
Indexed	Speeds up searches on fields that are searched frequently
Unicode Compression	Turns on Unicode compression

**TIP** Changing field properties can alter existing data in the table. Try to set all the appropriate field properties before you start entering data into the table.

## FIELD SIZE

The options available differ for Text and Number fields.

### Field Size For Text Fields

The field size can be set between 1 and 255 characters. The default setting is 50.

If a field is to store eight character codes, you may wish to change the setting to 8 so that no one can accidentally enter a longer code. If you want to enter text that might be longer than 50 characters you will need to increase the size.

### Field Size For Number Fields

There are seven options, but you need only use two of them.

Select **Double** if you wish to use numbers with decimal points.

Select **Long Integer** if you do not need to use decimal points (or if you need to link this field in a One to Many relationship with a Counter in another table).

## FORMAT

Access can display number and date values in many different formats.

### Number Formats

These are examples of the number format types. The exact number of decimal places shown will vary if the Decimal field property has been altered.

Format Name	Number Without Formatting	Number With Formatting
General Number	5678.5	5678.5
Currency	5678.5	£5678.50
Euro	5678.5	€5678.50
Fixed	5678.5	5678.50
Standard	5678.5	5,678.50
Percent	0.345	34.50%
Scientific	5678.5	5.67E+03

### Date & Time Formats

There are a selection of date and time formats. But due to the Year 2000 dates problem, you should **not** use the ones containing two digit year dates, as Access guesses which century a two digit date belongs to.

You can use the Long Date format, which will display a date in the format 31 January 1998.

Or you can enter the format code **dd/mm/yyyy** into the format property box of any date field to display the dates in the format 31/01/1998.

Format	dd/mm/yyyy
Input Mask	
Caption	

You can use any of the three time formats. These are Long Time (4:30:00 PM), Medium Time (04:30 PM) or Short Time (16:30).

### Yes/No Formats

The default format for a Yes/No data type is to use "Yes" and "No". But you can also choose "True" and "False", or "On" and "Off".

The underlying values stored in the table are actually -1 (Yes) and 0 (No).

### Custom Formats

If the standard formats do not meet your needs, you can create your own customised format by entering the format into the Format box. These are some examples:

Customised Format	Original Number	Formatted Number
"Acc No " 0000	115	Acc No 0115
mmm yyyy	31/01/98	Jan 1998
hhmm "hours"	2:00 PM	1400 hours

### DECIMAL/PLACES

The default Auto setting uses the decimal points associated with the selected Format.

If you select a value, the decimal places of the selected Format are overridden by the selected value.

### INPUT MASK

If all the data to be inputted into a field has the same format, you can control and simplify data entry by creating an input mask.

For example, if all dates should appear in the format 31/01/1998, you can create an input mask in the format `##/##/####`. The slash separators are already in place (so they don't have to be typed) and each # marks the point at which a number should be entered.

There is an Input Wizard to help you create an input mask. To create an input mask using the Wizard.

- **Click** in the **Input Mask box**



A button showing three dots will appear.

- **Click** on the **button** to start the Input Mask Wizard
- **Follow** the **steps** of the Wizard

### CAPTION

To keep column widths in your tables small, it is best to use short field names. However, in a Form there is more space to display a proper name for a field. The Caption property allows you to specify a longer name for the field that will be used in any forms containing the field instead of the actual field name.

For example you could use *DoB* as a field name and *Date of Birth* as the caption.

## DEFAULT VALUE

If a field usually has the same value entered into it you can set that value as the default value. This saves you having to input it each time. Then you only have to input a value when it is different from the default value.

For example in the Status field in our Staff table we record whether staff are permanent, contract or part time. Most people will be permanent, so that could be set as the default value.

## VALIDATION RULE

The Validation Rule controls the values that can be entered into a field.

It is important that values are entered into fields correctly and consistently, especially if you will be using that field to query data by.

For example, in the Status field of our Staff table, you do not want some people to use the word "Permanent", and some to use the word "Perm". Because a query to display all "Permanent" staff will not display staff who are "Perm".

Here are some examples:

Validation Rule	Values That Can Be Entered
"Permanent" or "Contract" or "Part Time"	Value can only be Permanent, Contract or Part Time
>0	Value must be greater than zero
Like "H???"	Value must be four characters, starting with the letter H
>=#1/1/1995#	Date cannot be before 1st January 1995

## VALIDATION TEXT

If a field's Validation Rule is broken, a message box will appear. You can specify the text in the message box by setting the Validation Text.



## ☺ TIP

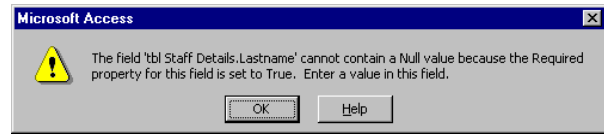
If there are a limited number of values that can be inputted into a field, you can create a drop down list, containing the available options, to speed up and control the inputting process. (See section on Creating a Combo Box on a form).

## REQUIRED

If you want to force users to input a value into a field, so that it is not left blank, you can use the Required property.

When the Required property is changed to *Yes* (from the default value of *No*), it becomes compulsory to enter a value into the field.

If a value is not entered into the field, a message box will appear.



## ALLOW ZERO-LENGTH

This property relates to empty fields. If you turn it on, it allows you to differentiate between two types of empty fields:

- Fields that are empty because the value is currently unknown.  
This is a **null value**.
- Fields that are empty because the value does not exist for that record.  
This is a **zero-length value**.

When the Allow Zero Length property is turned off (which is the default setting), all empty fields are treated as null values.

When the Allow Zero Length property is turned on, you can make a field zero-length by entering "" (two double inverted commas with no space in between). Or you can leave the field empty to make it a null field.

Creating this distinction can be useful if you will need to create queries that can differentiate between these two types of empty fields.

## INDEXED

The Index property speeds up the process when you sort or find by that field. But if you turn on the Index property for too many fields, it will slow Access down.

Turn on the Index property for a field if:

- It is not a primary key
- The values stored in it vary greatly
- It is often used to find records (using Sort or Find)

There are three Index options:

No	Index option turned off
Yes (Duplicates OK)	Creates an index on the field. The same value can appear twice in the field.
Yes (No Duplicates)	Creates a unique index on the field. The same value cannot appear twice in the field.

## UNICODE COMPRESSION

Compresses the data to save memory space. Leave on the default value *Yes*.

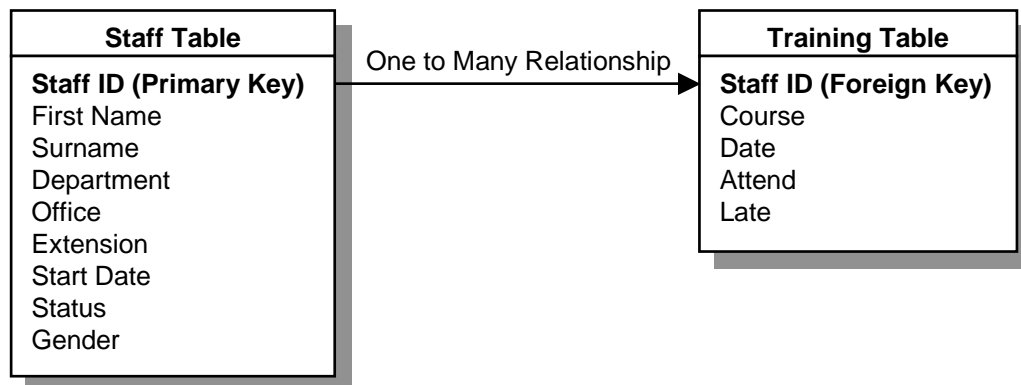
## PRIMARY KEY

The Primary Key is a field in a table used to uniquely identify each record.

It is good practice to set a primary key in each table (unless the table is just being used to provide a list of options in a Combo Box or List Box on a form).

If you intend to link two tables together you **must** have a primary key on the one side of a 'one to many' relationship.

The easiest data type to use as a primary key is an AutoNumber, because it automatically gives each record a unique number.



### To Create A Primary Key

When the table is open in design view.

- Click on the field selector to **select** the **field** you wish to make the primary key
- Click on the "**Primary Key**" button  on the Toolbar


Field Name	Data Type	Description
Staff ID	AutoNumber	
Firstname	Text	
Lastname	Text	
Department	Text	
Office	Text	

A small key icon will appear in the field selector to identify the primary key.

### To Turn Off The Primary Key

Turning off the Primary Key removes the primary key function without deleting the field.


When the table is open in design view.

- Click on the field selector to **select** the **primary key field**
- Click on the "**Primary Key**" button  on the Toolbar

## Setting Two Fields As The Primary Key

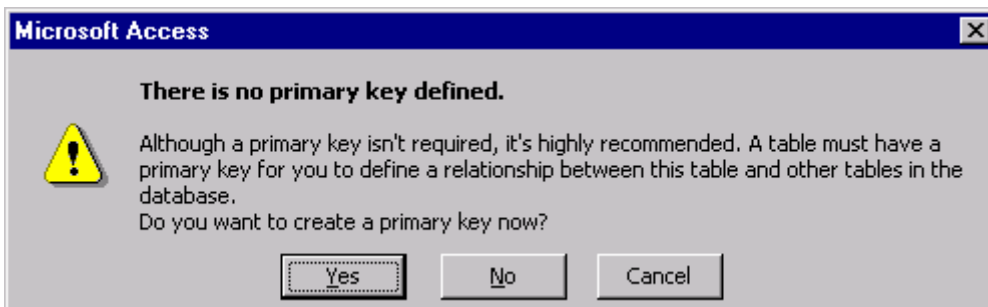
You can combine two fields to create a unique reference for each record.

Field Name	Data Type	Description
Staff ID	AutoNumber	
Firstname	Text	
Lastname	Text	
Department	Text	
Office	Text	

- Select the first field, and then [Ctrl]+click to select the second field
- Click on the "Primary Key" button  on the Toolbar

## The "There Is No Primary Key Defined" Message Box

If you create a new table, save and close it without creating a primary key, a dialog box will appear asking if you would like Access to create a primary key for you.



If this table is the 'one' table in a one to many relationship then it must contain a primary key.

- Select "Yes"

Access will create a new AutoNumber field called "ID", which will be set as the primary key. But you should rename this to give it a more specific name.

**If you are going to have several tables in a database, make sure that the ID field in each table has a different name (ie Staff ID, Training ID, etc).**

But not all tables need to have a primary key.

If a table is the 'many' table in a one to many relationship, or if it is just being used to store the values for a drop down list (see Creating A Combo Box), then it does not need to have a primary key.


- Select "No"

## SAVING A TABLE

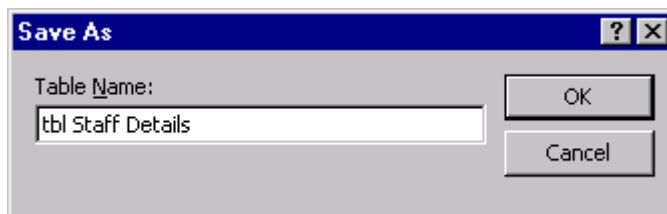
Having created your table with all the appropriate fields and field properties, you will need to save it.

### To Save A New Table

In the Table design window.

- Click on the "**Save**" button  on the Toolbar

The table Save As dialog box will appear.



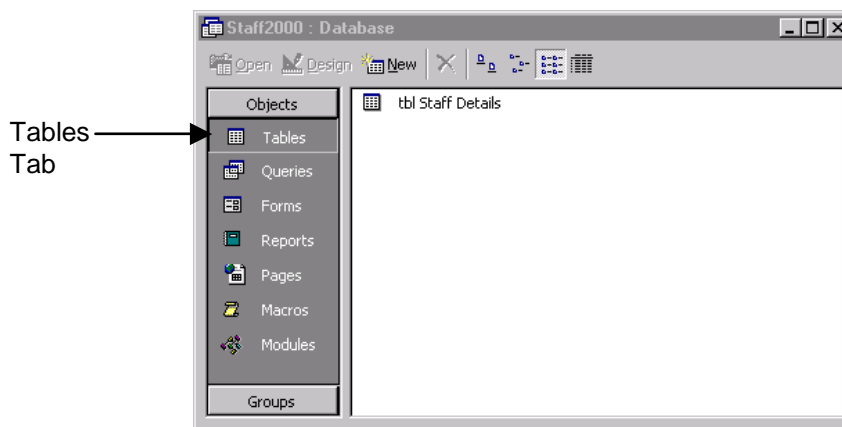
A common naming convention in Access is to preface all tables, queries and reports with a three character name that describes the type of Access element that it is.

You should also use names that describe the function of the element, especially for queries and reports. Here are some examples:

Object	Name Prefix	Example
Tables	Tbl	tbl Staff Details
Queries	Qry	qry All Staff Trained on Word Basic
Reports	rpt	rpt 1998 Training Statistics

- Enter a name** for the table
- Click "**OK**"

The table will be saved with that name. It will now be visible in the Table tab of the Database window.



## CHANGING THE TABLE DESIGN

If you need to alter the design of the table, you must open it in Design View (rather than Datasheet View, which is used to input data into the table).

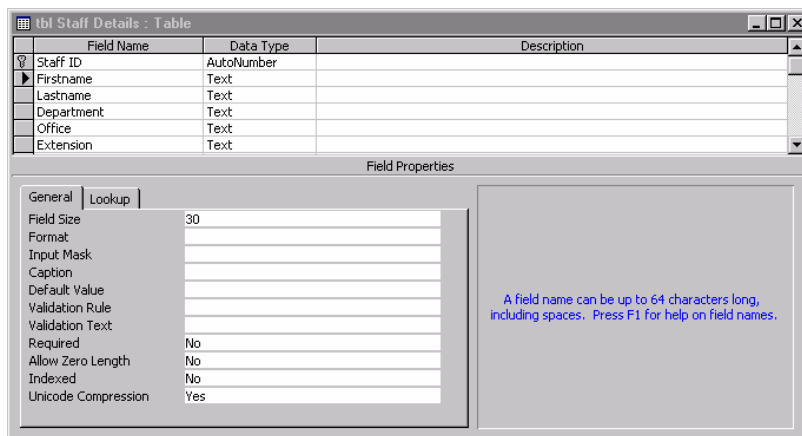
### To Edit The Table Design

In the Database window.

- Click on the **Table tab** to view all the available tables
- Click to **select** the **table**
- Click on the "**Design**" button



The table will open up in Design View.



### To Switch Between Design View and Datasheet View

- Click on the "**Datasheet View**" button  to view the Datasheet



- Click on the "**Design View**" button  to view the Design

## LINKING TABLES

Only a very simple database will contain just one table. In fact, you can create this type of database in Excel unless you are going to store a large amount of data (ie more than about 2000 records).

Most databases contain several tables that are linked together. These are known as relational databases. Access is a good tool for creating a relational database.

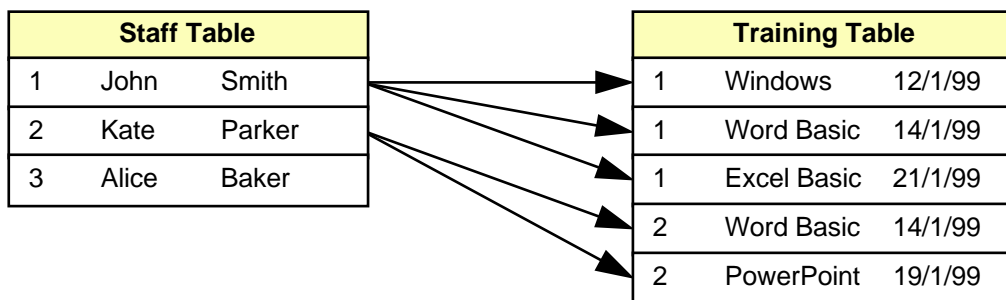
There are three ways that you can link tables together.

### One To Many Relationship

This is the most common type of relationship.

In a one to many relationship each record in table A can relate to many records in table B.

For example, If you have a table of staff names and a table of training attendance, then the tables have a one to many relationship as each staff member could attend many training courses.

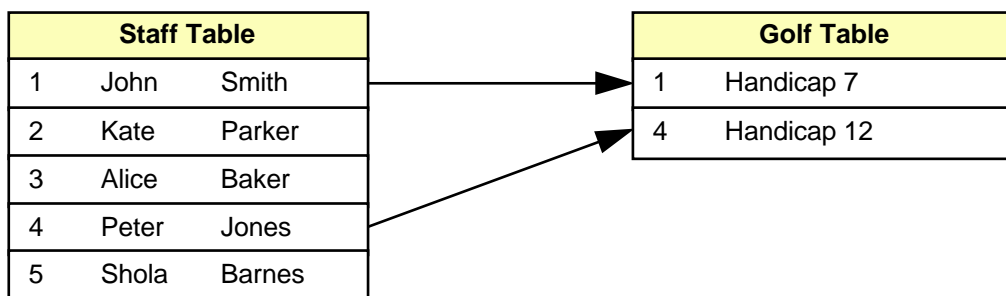


### One To One Relationships

Each record in table A can have no more than one matching record in table B.

For example, If you have a table of staff names and a table of who plays golf (for the company golf team), each person will only appear on the Golf table once, if at all.

This type of relationship is unusual because the data from the second table is usually combined with the first. But if there are 1000 staff members and only 20 golf players, you will have lots of empty cells if you store the golf data in the staff table.

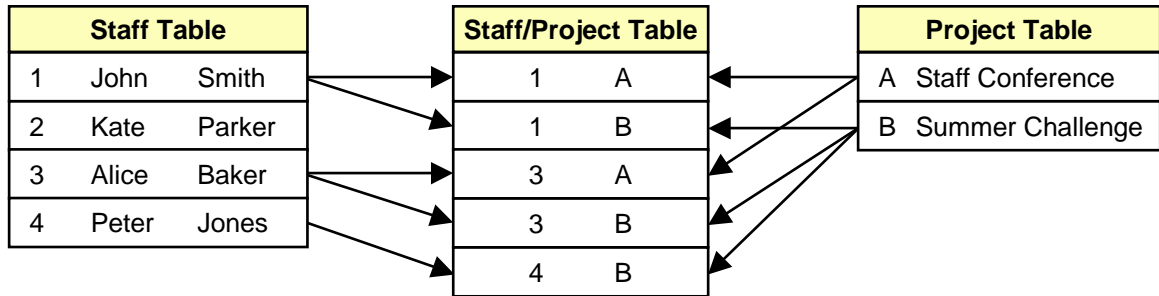


### Many to Many Relationships

Each record in table A can relate to many records in table B and each record in table B can relate to many records in table A.

For example, If you have a table of staff names and a table of current projects, then to record which staff are involved in which projects, you would have to set up a many to many relationship as one person could work on many projects and each project could have many staff working on them.

To create this type of relationship you must actually create three tables - a staff table, a project table and a project/person table. The staff table and the project table both have a one to many relationship with the project/person table.



### RELATIONSHIPS PREPARATION

Before you create a relationship between two tables by linking them together you must ensure that:

1. The main table contains a field that is defined as the **Primary Key**.
2. The second table contains an identical field with the same name and data type (and field size). This is known as the **Foreign Key**.



**TIP** But there is one exception to condition 2. If the primary key is an AutoNumber, the foreign key should be a field whose data type is a Number and whole field size is a Long Integer.

These are the data types that must match up.

Primary Key Data Type	Foreign Key Data Type
Text	Text
Number	Number (must have the same field size as the primary key field)
AutoNumber	Number (the field size must be Long Integer)

## CREATING RELATIONSHIPS

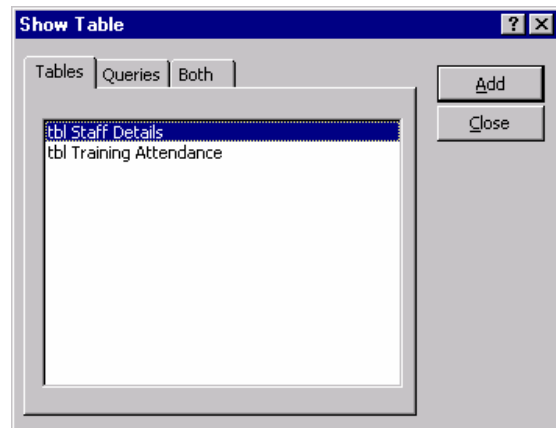
Having created the two tables and ensured that a primary key exists in the main table, and an appropriate matching field exists in the second table (see previous page), you are ready to link the tables.

This is done in the Database Window.

- In the **"Tools"** menu, select **"Relationships"**

The Show Table dialog box will appear, containing the names of all the tables (and queries) in your database.

- Click to **select** the **main table** you wish to link from
- Click on the **"Add"** button
- Click to **select** the **second table** you wish to link to
- Click on the **"Add"** button
- Click on the **"Close"** button

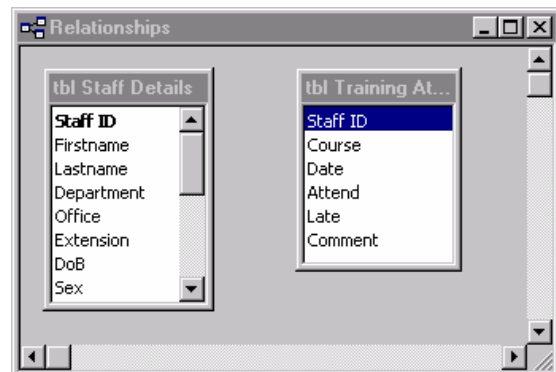


The selected tables will be added to the Relationships window.

To create a relationship between the two tables.

- Click and **drag** the **field** in the main table onto the corresponding field name in the second table

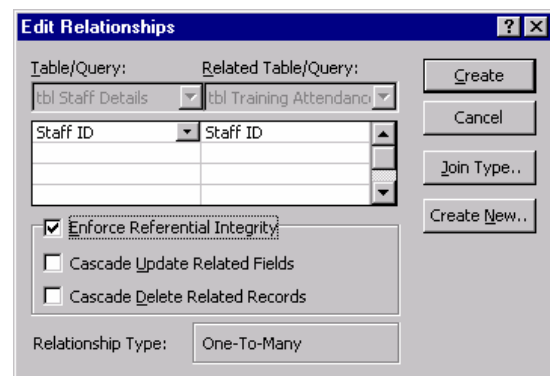
(In this example you would drag the Staff ID field on the left table onto the Staff ID field on the right table).



When you release the mouse a new dialog box will appear.

- Click to turn on the **Enforce Referential Integrity** option

Access will guess the type of relationship you wish to create depending on fields you are linking together.



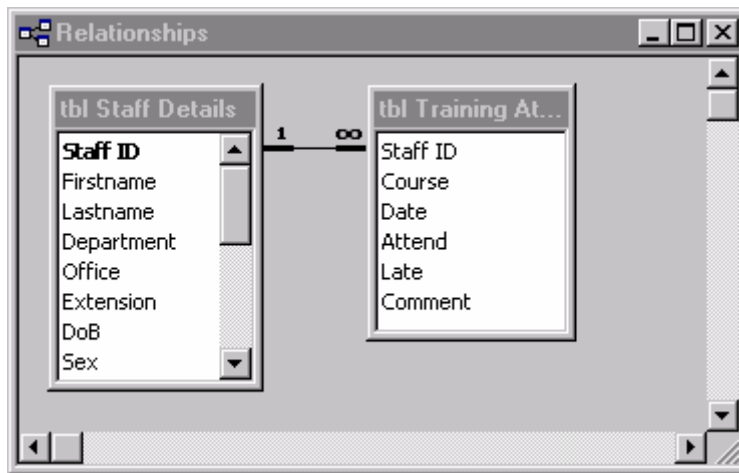
If Enforce Referential Integrity has been turned on, there are two options that you can select:

Option	Effect
Cascade Update Related Fields:	If you change the data in the primary field Access will update the corresponding data in the linked fields in the second table.
Cascade Delete Related Records	If you delete a record in the primary table Access will delete all related records in the second table.

Having selected the appropriate relationship you are ready to create the link.

- Click on the **"Create"** button

The link will appear between the two tables in the Relationships window.



A one to many relationship will show a small 1 on one side of the link and an infinity sign ∞ on the many side of the relationship.

**To Edit A Relationship**

- **Double click** on the **link** line that joins the two tables

The Relationships dialog box will appear.

- **Make** the appropriate **changes** and then click **"OK"**

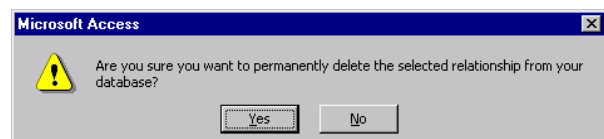
**To Delete A Relationship**

- Click to **select** the **link** line that joins the two tables
- Press the [**Delete**] key

A dialog box will appear

- Click **"Yes"**

The relationship will be deleted.



## To Add Another Table

At some point you may need to add more tables to the Relationship window.

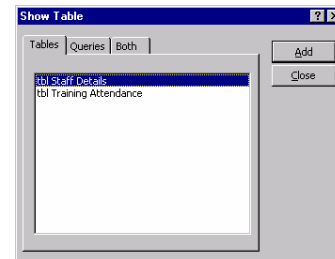
- Click on the **"Add Table"** button on the toolbar 

The Show Table dialog box will appear.

- Select the table** (or query) you wish to add
- click on the **"Add"** button

Repeat this for each table you wish to add.

- Click on **"Close"** to close down the dialog box



## To Remove A Table

You may wish to remove a table from the Relationship window.

- Click on the table to **select the table**
- Press **[Delete]**

Having created all the appropriate relationships, you will want to save them and close the Relationship window.

## To Save The Relationships

- Click on the **"Save"** button on the toolbar 

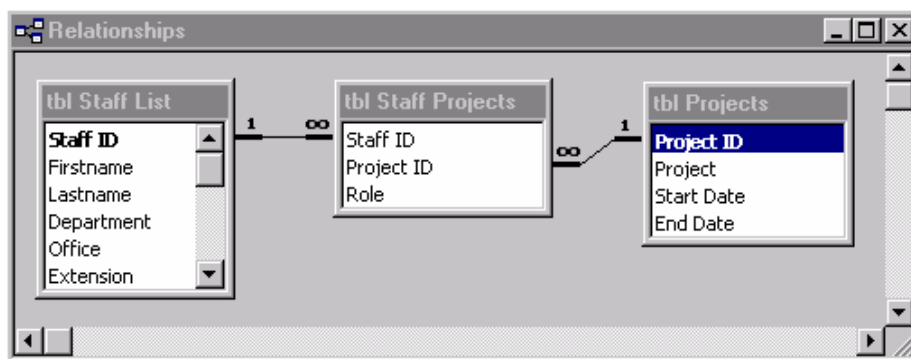
## To Close The Relationship Window

- In the **"File"** menu, select **"Close"**



To create a many to many relationship between tables A and B, you must actually create a third table C. You then link table A to C with a one to many relationship, and link table B to C with a one to many relationship.

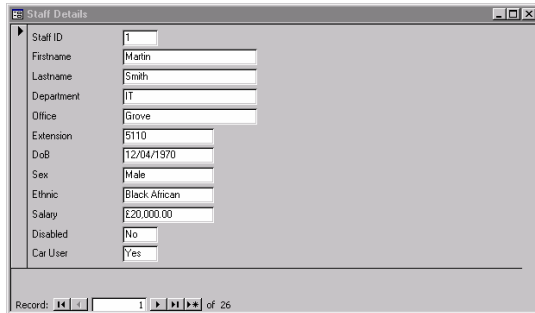
The following diagram shows how a many to many relationship would look. Table 'C' is in the middle.



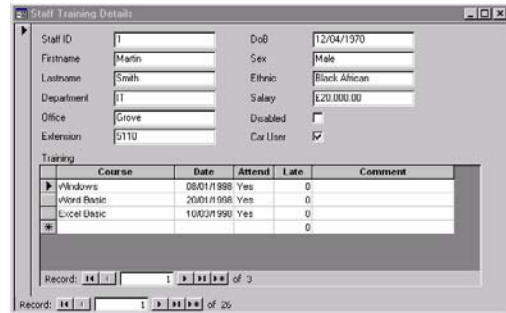
# FORMS

Forms provide a more user-friendly way to enter new data or view existing data, than working directly in a table.

You can also use forms to view and edit data from two separate tables (that are linked together).



This form displays data from one table.



This form displays data from two linked tables. This is known as a main form containing a subform (a main/subform).

## CREATING A FORM

The easiest way to create a new form is to use the Form Wizard. You can then customise the form in design view if you need to.

A form can be based on a table or a query.

These are the steps to create a simple form based on one table.

### To Create A Simple Form

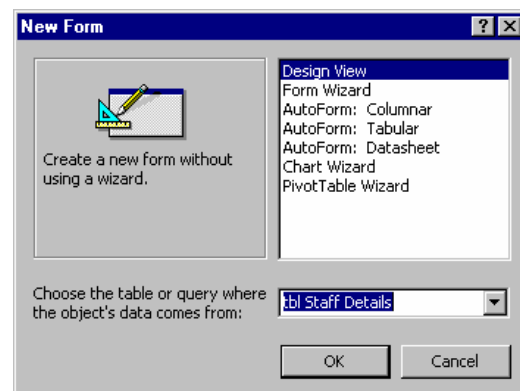
- Click on the **"Forms"** tab in the Database window
- Click on the **"New"** button



The New Form dialog box will appear.

The first step is to choose the type of form you wish to create, and then the table or query that you want to base the form on.

- Select **"Form Wizard"**
- In the drop down menu, **select a table** (or query)
- Click **"OK"**



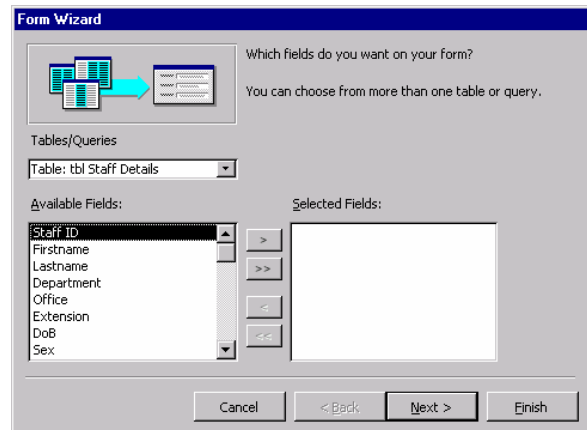
The first dialog box in the Form Wizard will appear.


This is used to select which fields you want to appear on the form.

The available fields are shown on the left.

- **Double click** on each **field** you wish to add

The selected fields will be moved to the box on the right.

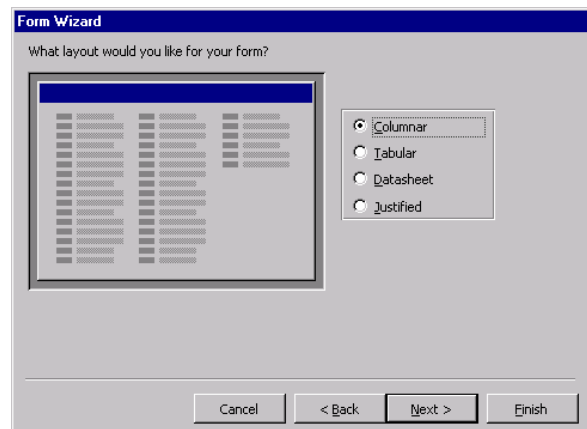


You can click on the  button to add select all the fields in one go.

You can now select a layout for the form.

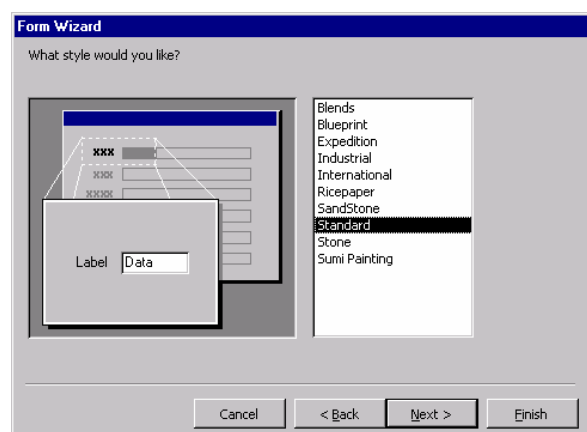
Columnar is probably the most commonly used layout.

- Select a **layout**
- Click "**Next**"



You can now choose a format style for the form.

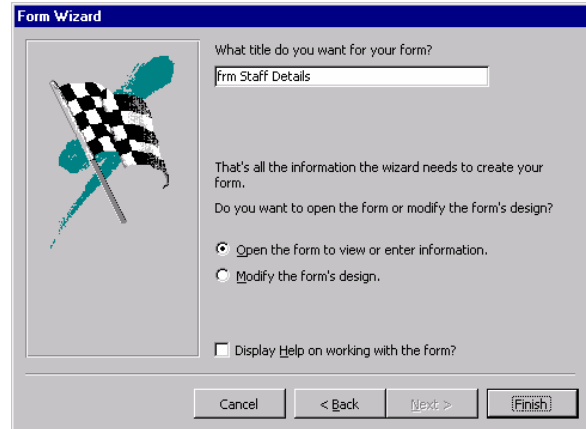
- Select a **style**
- Click "**Next**"



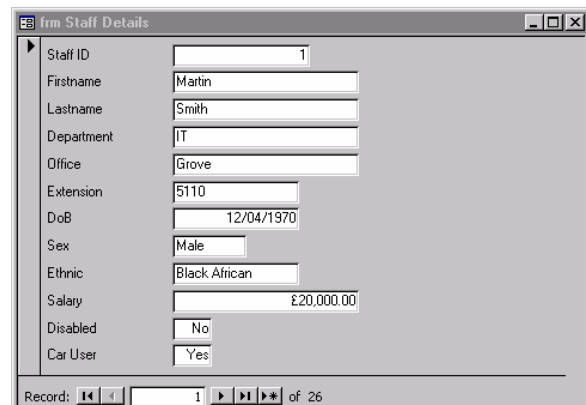
You can now choose a title for the form.

In Access 2000 this is the name the form is Saved As (not a text title that appears on the form).

- **Enter a title** for the form
- Click **“Finish”**



The form will be created, showing data from the table the form is based on.



### To Close The Form

- In the **"File"** menu, select **"Close"**

### Changing A Form

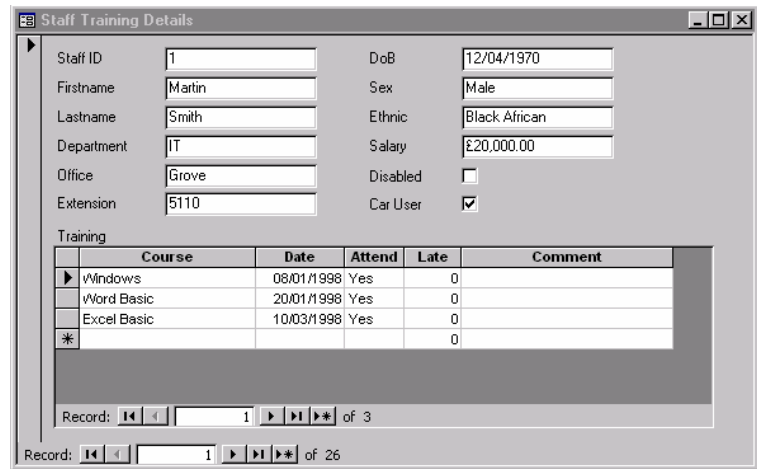
If you want to change the position of the fields on the form, add or delete fields, or change the fonts and colours used on the form, then you will need to edit the form in Design View. (See section on Editing a Form).

## CREATING A MAIN/SUBFORM

A main/subform displays data from two tables linked together in a one to many relationship.

The main part of the form is based on the 'One' table. The subform is based on the 'Many' table.

**You must set up the relationship between the tables before you create a main/subform.**



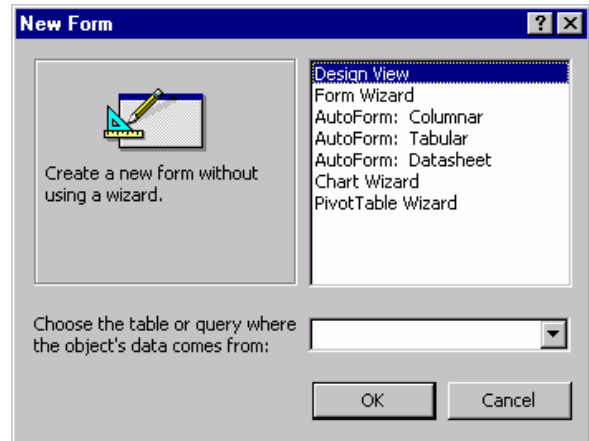
### To Create A Main/Subform

In the Forms tab in the Database Window.

- Click on the **"New"** button

The New Form dialog box will appear.

- Select **"Form Wizard"**
- **Select the table** you wish to base the main form on
- Click **"OK"**



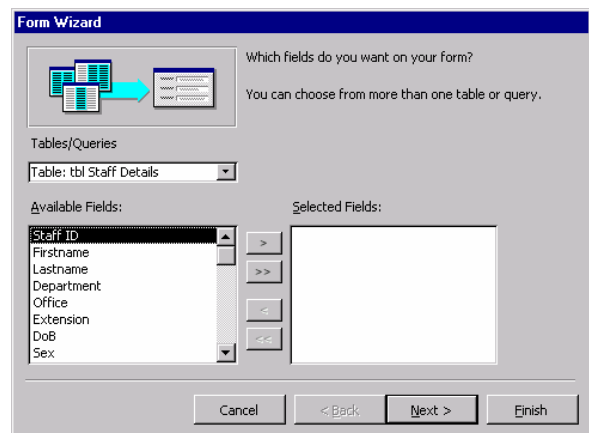
You can now choose which fields from the main table appear on the form.

- **Double click** on each field you wish to add

You can now select and add fields from another table.

In the Tables/Query drop down list.

- **Select the table** you wish to base the subform on
- **Double click** on each field you wish to add



The selected fields will all be moved to the box on the right.

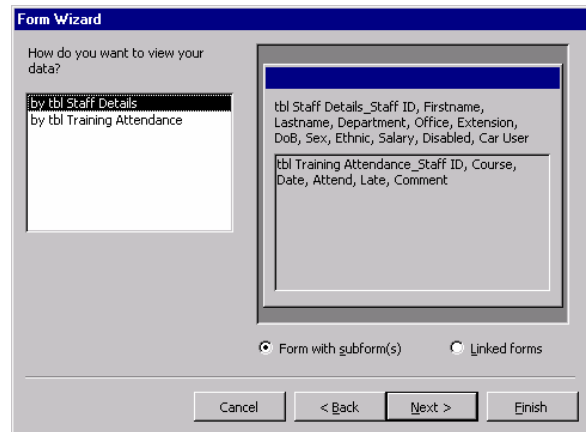
- Click **"Next"**

You will now be asked how you wish to view the data from the tables on the form.

The names of both tables will be displayed.

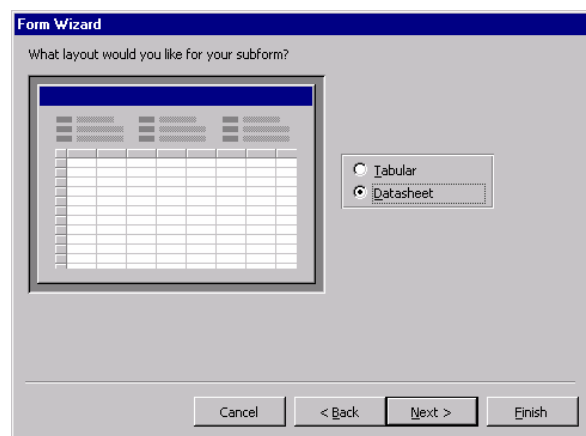
In the list of tables.

- **Select the main table**
- Ensure the **Form with subform(s)** option is selected
- Click **“Next”**



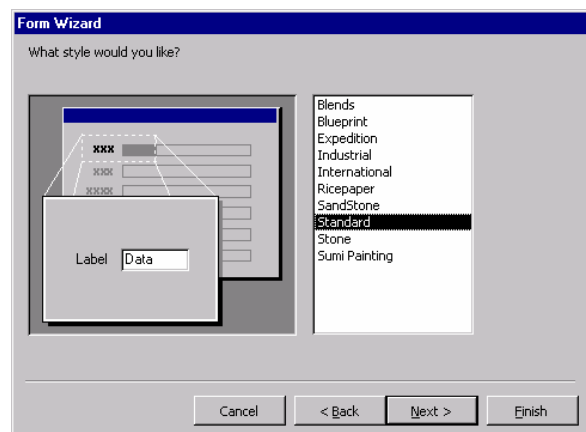
You can now choose a layout for the subform. Datasheet is best.

- Select **Datasheet**
- Click **“Next”**



You can now choose a format style for the main form.

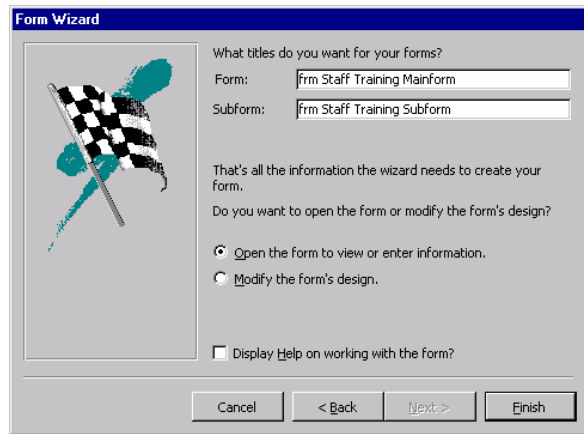
- Select a **style**
- Click **“Next”**



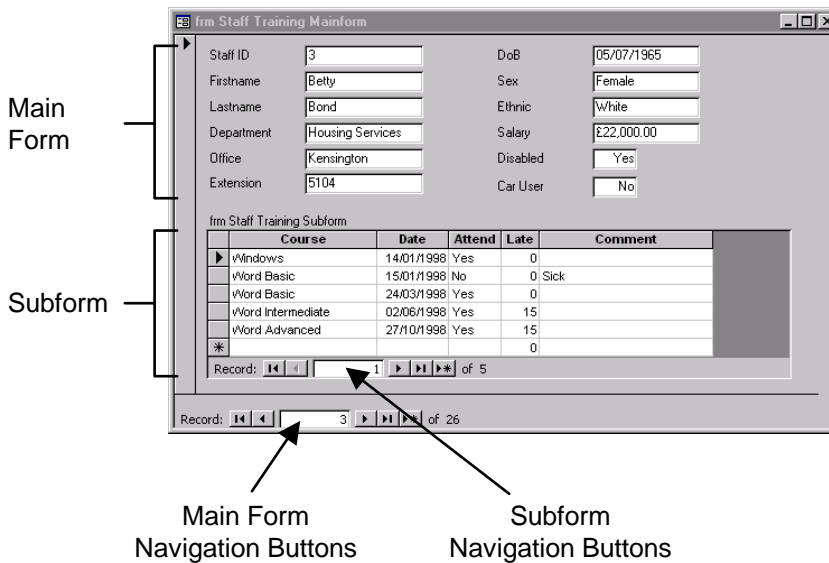
The main form and the subform are saved as two separate objects. (But you need only open the main form to view both together).

You can now choose names to save the main form and the subform as.

- Enter a **title** for the main form
- Enter a **title** for the **subform**
- Click "**Finish**"



The main/subform form will then appear.



The main form fields appear at the top of the form.

The navigation buttons for the main form records appear at the very bottom of the window.

The subform fields appear in datasheet format at the bottom of the form, with the navigation buttons for these subform records just underneath.

### To Close The Form

- In the "**File**" menu, select "**Close**"

### Changing A Form

If you wish to make changes to the appearance of the form or add new fields to it, you can edit it in design view.

- Click on the "**Design View**" button 

See next section for editing a form in design view.

## EDITING A FORM

You can edit an existing form to change the position and formats of the fields, the field labels and the form background. These edits are made to the form in design view.

If the form is already open (in Form View), you can change to Design View.

### To Change To Design View

- Click on the "Design View" button 

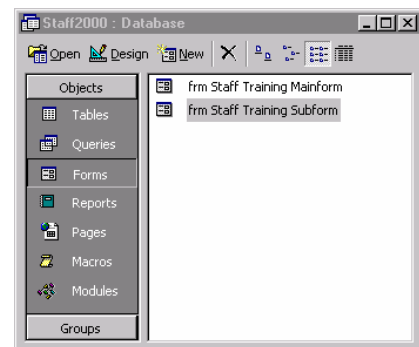
If the form is not already open, you can open it directly in Design View.

### To Open A Form In Design View

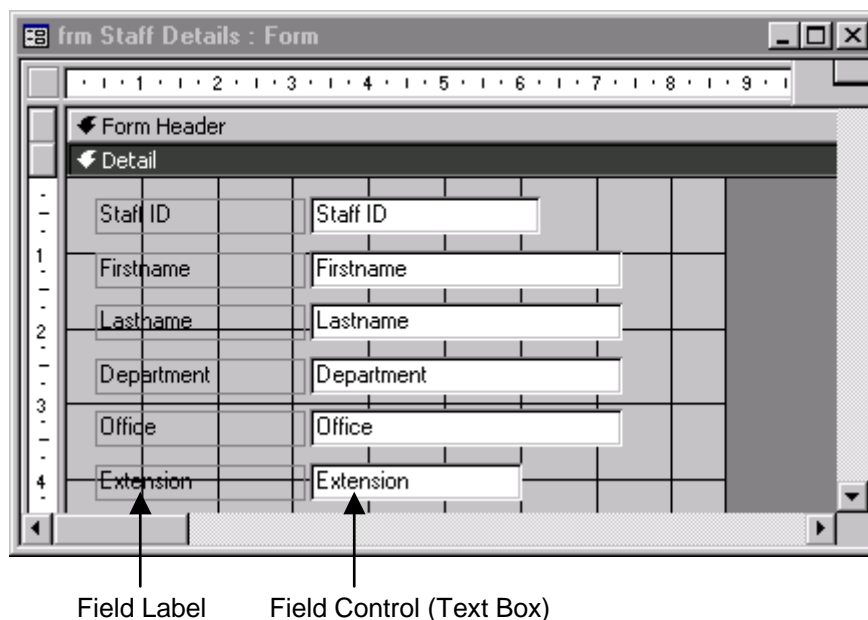
- Select the form in the Database window
- Click on the "Design" button



The form will be displayed in Design View.



The Detail area contains the field controls for each record. In this picture the field controls are all text boxes. Each field control has a label.



In this section we will look at selecting, moving, resizing and formatting the fields and labels on a form.

## To Select A Field Or Label

- Click on the **field** or label

The eight sizing handles will appear around the field or label. The bigger handle in the top left corner is the move handle. When you select a field the label associated with it is also partially selected (so the move handle becomes visible) and vice versa.



## To Move A Field Or Label

- Click to **select** the **field** or label
- Click and **drag** on the **move handle** on the top left corner of the field or label



### TIP

To move both the field and its label at the same time, you can click and drag on the border of the field or label (whichever is selected). A hand icon will appear when the cursor is positioned correctly.

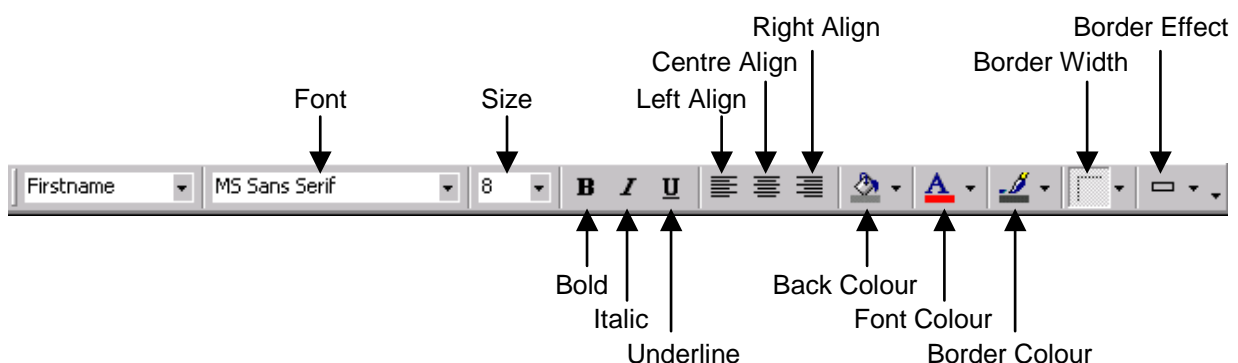
If you change the order of the fields on the form, you will need to change the Tab Order (see Setting The Tab Order).

## To Resize A Field Or Label

- Click to **select** the **field** or label
- Click and **drag** on one of the **sizing handles** around the selected control (but not the larger move handle)

## To Reformat A Field Or Label

You can reformat a field or label to change the font, size, alignment, colour and border width. The easiest way to make these changes is using the buttons on the Formatting Toolbar.



- Click to **select** the **field** or label
- Click on the appropriate **formatting button**

### To Change A Label Name

You can rename any field label.

- Click to **select** the **label**
- **Click** again on the label **text** to insert the flashing text insertion point into the text
- Use the [Backspace] or [Delete] keys to **delete** the **existing** label caption and then **type** a **new one**

### To Delete A Field Or Label

- Click to **select** the **control**
- Press [**Delete**]

### To Undo A Mistake

- In the "**Edit**" menu, select "**Undo**" or you can use the keyboard shortcut [**Ctrl**]+[**Z**]

You can also move, resize or reformat, several fields or labels at the same time. This will save you a lot of time.

To do this you need to select all the fields or labels that you wish to change.

### To Select Multiple Fields Or Labels

- Click to **select** the **first field** or label
- Hold down the [**Shift**] key and **click** to select each **additional field** or label

You can now move, resize or reformat all the select fields or labels, using the same steps for changing one field or label.



### TIP

There is a faster method for selecting a large number of fields and/or labels.

Click on an empty part of the form and drag across the form, to create a rectangular selection box. When you release the mouse, everything that is wholly or partially included in the box will be selected.

If you have selected an extra field/label by mistake, you can hold down the [**Shift**] key and click on the field/label to deselect it.

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## ALIGNING, SPACING AND SIZING

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Once you start moving and resizing fields and labels, the form can get a bit messy. You can use the align, space and size commands to keep the form neat and tidy.

### To Align Fields Or Labels

If you have moved or resized some fields or labels, you may wish to line them up neatly. This can be done using the Align command.

- **Select** all the **fields** or labels that you wish to align
- In the "**Format**" menu, select "**Align**" to bring up the alignment options

You can align elements by their tops, rights, lefts or bottoms.

- **Select** the appropriate **alignment** option

### To Space Out Fields Or Labels

You can use the horizontal and vertical spacing options to space fields and labels evenly across the form, or to increase or decrease the spacing between them.

- **Select** all the **fields** or labels that you wish to space out
- In the "**Format**" menu, select "**Horizontal Spacing**" or "**Vertical Spacing**", then choose "**Make Equal**", "**Increase**" or "**Decrease**"

### To Size Fields Or Labels

The size options allow you to resize fields and labels to ensure that they are all the same size.

- **Select** all the **fields** or labels that you wish to size
- In the "**Format**" menu, select "**Size**"

A submenu of size options will appear:

Option	Result
Fit	Adjusts fields and labels to fit the text they contain
Grid	Adjusts fields and labels in or out to meet the nearest points on the forms grid
Shortest	Makes the selected controls the height of the shortest control
Tallest	Makes the selected controls the height of the tallest control
Widest	Makes the selected controls the width of the widest control
Narrowest	Makes the selected controls the width of the narrowest control

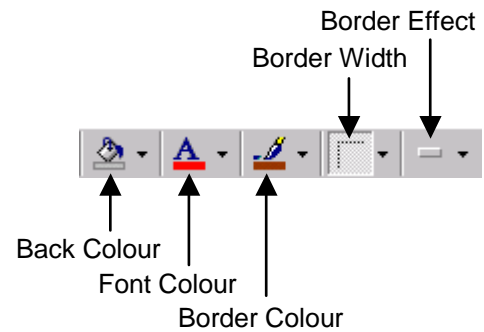
- **Select** the appropriate size **option**

## CHANGING COLOURS ON A FORM

You can change the colours of any field or label on the form. You can also change the colour of the form background.

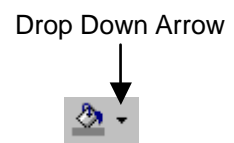
Colours are changed using the colour buttons on the Formatting toolbar.

There is also a Border Width button to change the width of a field control, and a Border Effect button to change the border style of a field control (eg to give it a shadow, or make it invisible).



Each button contains a drop down arrow. Click on the arrow to bring up a menu of all the choices.

The picture on the left of the button changes to show the last choice you selected. You can click on this to apply the same choice again.



### To Change The Colour Or Border Style Of A Field Or Label

- Click to **select** the **field or label** you wish to change
- **Select** the **colour or border** style you wish to apply using the appropriate button on the Formatting toolbar


### To Change The Background Colour Of The Form

- Click to **select** the form **background**
- Use the “**Back Colour**” button to select an appropriate colour

### ☺ TIP

You can use the Format Painter tool to copy and paste the formatting from one field or label to another.

### To Copy And Paste Formatting

- **Select** the **field** or label containing the formatting you wish to copy
- Click on the “**Format Painter**” tool  to copy the formatting
- **Click** on the **field** or label you wish to apply the formatting to

## CONDITIONAL FORMATTING

This is a new feature in Access 2000.

Conditional formatting is used on a form to change the formatting of a field when a particular value appears in the field.

This is very useful if you want to highlight or monitor particular values. For example if you had a field showing tenants arrears, you could make the number change to red for all records where the arrears was a negative value.

You can actually have four different formats on one field - one default format and then up to 3 conditional formats.

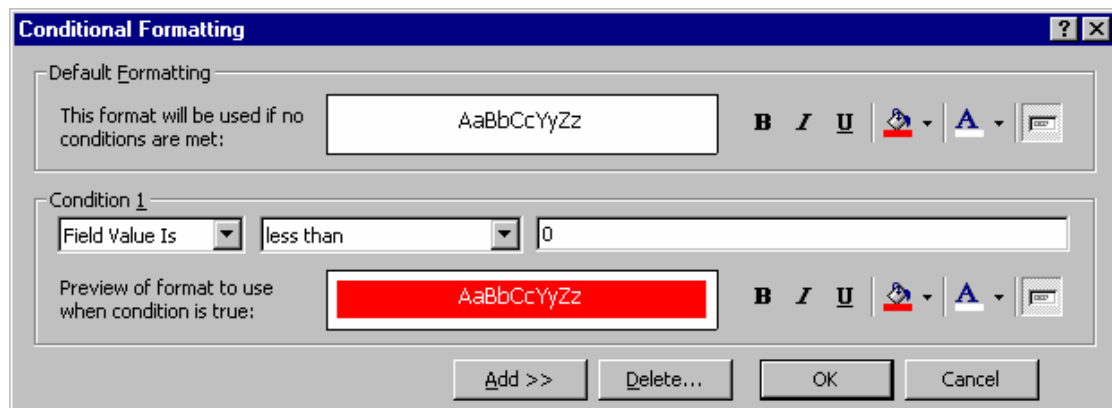
Conditional formatting can be applied to text box and combo box fields.

### To Apply Conditional Formatting

In form design view.

- **Select the field** control you wish to format
- In the **"Format"** menu, select **"Conditional Formatting"**

The Conditional Formatting dialog box will appear.

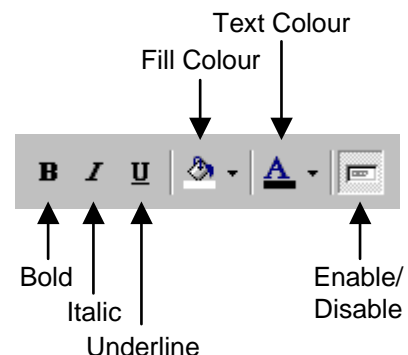


At the top you can set the default format style. This is applied to all values that do not match the conditions you set underneath.

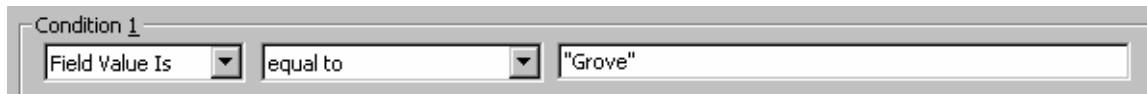
Standard format buttons in the dialog box - bold, italic, underline, fill colour and text colour - are used to set the default and conditional formats.

There is also an Enable/Disable button. This is used to lock a field so that its contents cannot be edited.

- Use the format buttons to set the **default format**



In the Condition 1 area, you can set the first conditional format.



- In the first drop down list, ensure **Field Value Is** is selected
- In the second drop down list, select a **comparison phrase** such as equal to, or greater than
- In the third box, enter a **value**

You can now choose the format you wish to be applied if the condition is met.

- Select the **formatting**

If you want to create a second format condition, you can click on the “Add” button. A Condition 2 area will appear in the dialog box. Repeat the previous steps to set the second condition.

To apply the formatting.

- Click **“OK”**

You can also make the formatting change when the field is selected using the mouse or the tab key (regardless of the value in the field). This is known as having the ‘focus’.

This is useful for highlighting the field that is currently being edited on the form.

**To Apply Conditional Formatting (On Focus)**

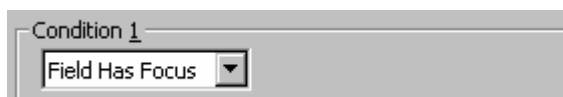
- **Select** the **field** you wish to format
- In the **“Format”** menu, select **“Conditional Formatting”**

The Conditional Formatting dialog box will appear.

- Set the **default format**

In the Condition 1 area.

- In the first drop down list, select **Field Has Focus**



- Select the **formatting** you wish to apply
- Click **“OK”**

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## SETTING THE TAB ORDER

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The tab key can be used to move from field to field on a form, when you are inputting data.

The tab order is the order in which you move through the fields as you press the tab key.

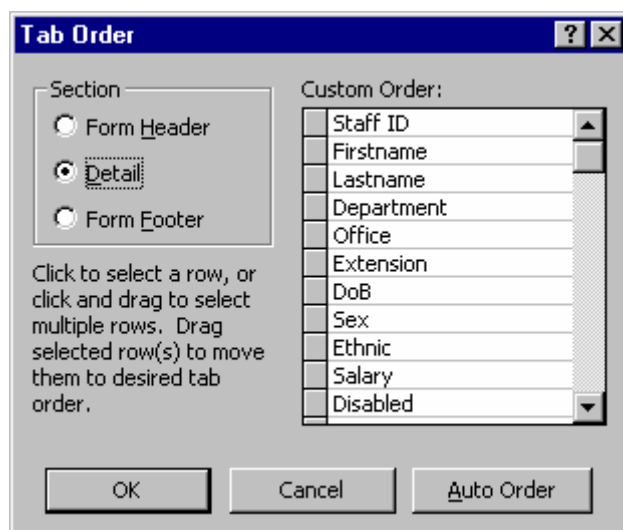
The initial tab order is determined automatically when you create the form. But if you then change the order of the fields on the form, the tab order will need to be changed so that the tab key will move you through the fields in the new order.

### To Reset The Tab Order

You can only change the tab order if you looking at the form in design view.

- In the "Edit" menu, select "Tab Order"

The Tab Order dialog box will appear.



The current tab order for the fields is shown in the Custom Order box. The small grey box to the left of the field name is the field selector used to select and reorder the fields.

- Click on a field selector to **select** a **field** (and then release the mouse)
- Click and **drag** on the field selector to move the field up or down the list of fields

You can use these steps to reorder all the fields on the form.

- Click on the "OK" button to save the new tab order

## CREATING A NEW BLANK FORM

If you wish to create a form that is unlike any of the existing forms in the Form Wizard, you can either create a new form using the form wizard, and then edit it. Or you can create a new blank form from scratch and design it to suit your needs.

You can use the Form Design Toolbox to add a variety of field controls to the form, such as drop down lists and check boxes, to control the data inputting process.

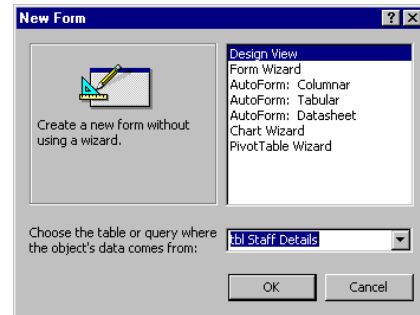
### To Create A New Blank Form

- Select the **"Forms"** tab in the Database Window
- Click on the **"New"** button

The New Form dialog box will appear.

- Select **Design View**

You must now choose which table or query you wish to base the form on.

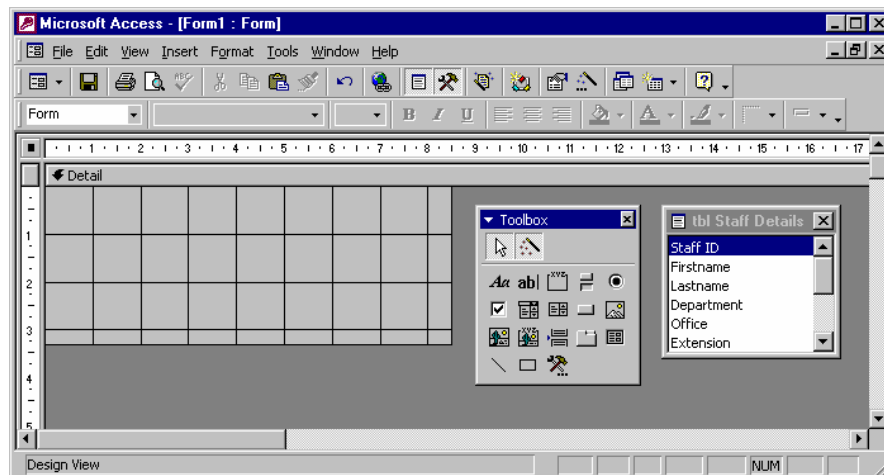


### ☺ TIP



If you want to create a form to display data from two tables, you should create a query containing data from both tables, then base the form on that query.

- **Select the Table** or Query you would like to base the form on
- Click **"OK"**

A new blank form will be created based on the select table or query.



Hopefully the Toolbox will be visible, containing buttons for adding fields controls and labels to the form, and the Field List containing the names of all the fields in the table that the form is based on. If they are not showing:

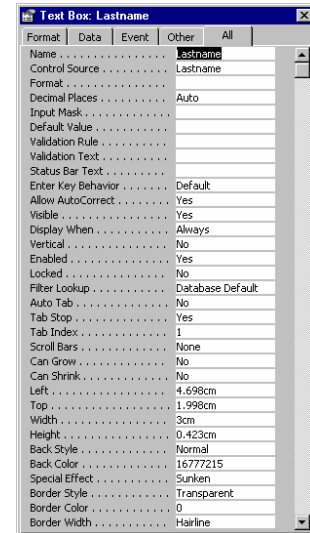
- Click on the **"Toolbox"** button  to display the toolbox.
- Click on the **"Field List"** button  to display the field list

# PROPERTIES

Each field control and label (and form) has a set of properties that determine its position, format and behaviour.

Some of these properties can be changed in other ways, eg you can change the position of a control by dragging it with the mouse, or you can change the formatting of a label using the formatting buttons.

But some properties can only be changed using the Properties window.



## To View The Properties Window

You can only view the properties in form design view.


- Click on the “**Properties**” button 

The Properties Window will appear showing the properties of the control, label or form that is currently selected.

You can view all the properties for the selected object at once, or view groups of properties. There are tabs at the top of the property window that allow you to choose which properties are displayed.

(Ensure the "All" tab is selected while you work through this manual).

## To View The Properties For A Control Or Label

- Click on the “**Properties**” button  to display the Properties window
- Click to **select** the **control** or label

## To View The Properties Of The Form

- Click on the small **grey box** in the top left hand corner of the form



The properties shown will vary slightly depending on whether a control, label or form is selected. These are some of the useful properties for fields, labels or forms:

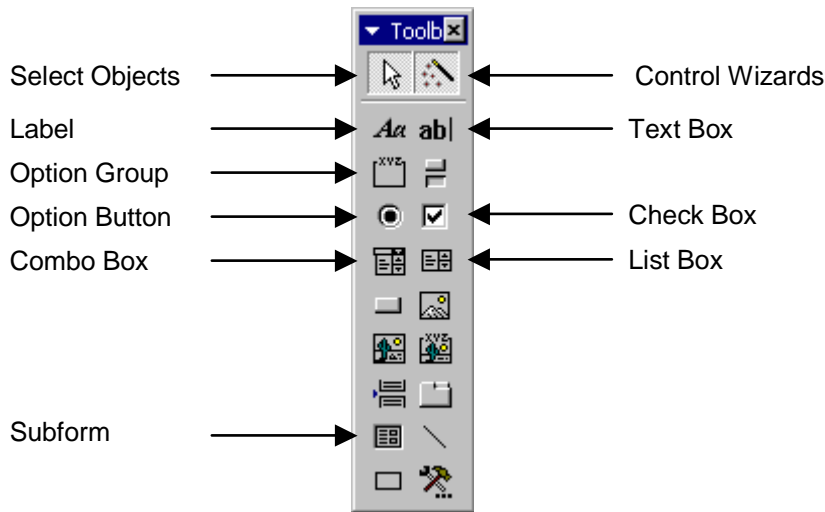
Property	What Is It?
<b>Control Source</b>	The field the text box is linked to in the underlying table.
<b>Record Source</b>	The table or query the form is based on.
<b>Caption</b>	The text label that appears on the form.
<b>Left and Top</b>	The position of the control from the left of the form and the top of the form.
<b>Default View</b>	Determines how a form is displayed. (New blank forms are set as 'Continuous Forms'. You will probably want to select 'Single Form').

## FORM DESIGN TOOLBOX

The Toolbox allows you to add field controls and labels to any form.

There are several different types of field controls (apart from the basic text box) that can be used on a form to control the data inputting process.

These are the steps for using the toolbox buttons to add labels and controls.



These are the most commonly used buttons:

Button	Function
<b>Select Objects</b>	Used to select labels and controls on the form.
<b>Label</b>	Add text labels to the form.
<b>Option Group</b>	Adds an Option Group control to the form
<b>Option Button</b>	Adds an Option Button control to the form
<b>Combo Box</b>	Adds a Combo Box control to the form
<b>Subform</b>	Adds a subform to the form
<b>Control Wizards</b>	Turns on the wizards
<b>Text Box</b>	Adds a Text Box control to the form
<b>Check Box</b>	Adds a Check Box control to the form
<b>List Box</b>	Adds a List Box control to the form

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## ADDING FIELD CONTROLS TO A FORM

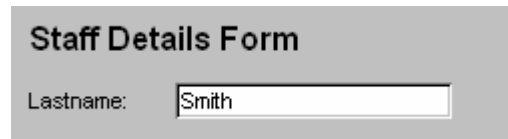
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In form design view, the Toolbox buttons are used to add a variety of labels and field controls to any form.

### ADDING A LABEL

Labels are used to describe a field control or as a heading for a form.

- Click to select the **"Label"** button
- **Click and drag** on the **form** to choose the position and size of the label on the form



Staff Details Form

Lastname:

A white box will appear, containing the flashing text insertion point.

- **Type** the **text** you wish to appear in the label

### Changing The Label Text

- Click to **select** the **label** you wish to edit
- **Click** on the **label again** to enter edit mode
- **Type** the new **text**

### ADDING A TEXT BOX

The text box control is the most common field type.

- Click to select the **"Text Box"** button
- **Click and drag** on the form to choose the position and size of the text box on the form




Lastname:

You must now link the box to the appropriate field in the underlying table (by assigning a Control Source – see next page).

### 😊 TIP

You can now add text boxes to forms using the Field List. And if you use this method you do not have to assign a Control Source (as it does it for you).

Click on the **"Field List"** button  to display a list of all the available fields. Then drag the name of the field you wish to add onto the form. A text box and a label will appear on the form.

### To Assign a Control Source

This is done by editing the properties for the control (see section on Properties).

- Click to **select** the **control**
- **Click** in the **Control Source** property box



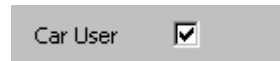
A drop down arrow will appear.

- Click on the drop down arrow to bring up list of all the fields available and **select** the appropriate **field**

The control is now linked to the selected field.

### ADDING A CHECK BOX

A Check Box is a yes/no (true/false) option.



**Check boxes can only be used with fields that have been given a Yes/No data type (in table design view)**

- Click to select the "**Check Box**" control on the Toolbox
- **Click** and **drag** on the **form** to choose the position and size of the check box on the form

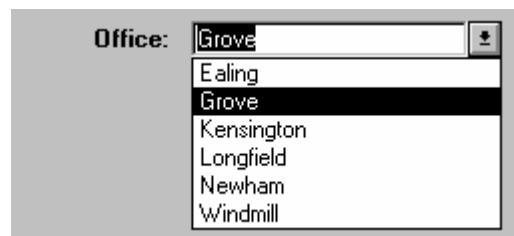
You must now link the box to the appropriate field in the underlying table by assigning a Control Source (see previous steps).

### ADDING A COMBO BOX

Combo boxes are used to provide you with a drop down list of options. The list is accessed by clicking on the drop down arrow at the right of the box. You then click on the appropriate option in the list to select it.

If there is no appropriate option in the list you can type something different into the box at the top of the list.

There is a wizard to help you create a combo box (see section on Creating A Combo Box).

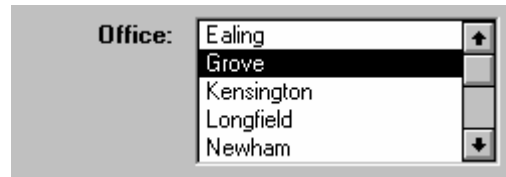


## ADDING A LIST BOX

List boxes are used to provide you with a list of options and to force you to choose one of those options.

If the list is long a scroll bar will appear on the right to enable you to scroll up and down the list.

There is a wizard to help you create a list box (see section on Creating A Combo Box).



## ADDING AN OPTION GROUP

An Option Group is a collection of option buttons (of which only one can be selected).

There is a wizard to help you create an option group (see section on Creating An Option Group).

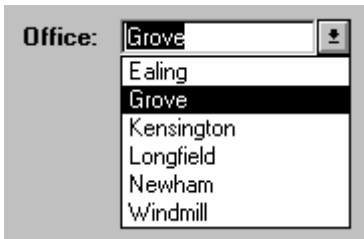
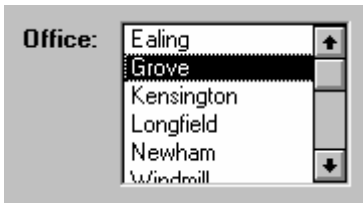


## CREATING A COMBO BOX (OR LIST BOX)

You can add a drop down list to a form that enables users to select choices from an existing list, rather than type in the data. This speeds up the data inputting process and ensures consistency.

For example if you had a field for Office Location, you could create a drop down list of all the available offices.

There are two types of drop down lists - Combo box and List box.

<p><b>COMBO BOX</b></p> <p>The Combo box has a drop down arrow that you click on to bring up a drop down list.</p>  <p><b>Advantages</b></p> <p>Takes up less room on the form (because the list isn't shown until you click on the drop down arrow).</p> <p>If the value you wish to enter isn't displayed on the form you can type it in (you can disable this).</p>	<p><b>LIST BOX</b></p> <p>The List box has a scroll bar for you to scroll up and down the list.</p>  <p><b>Advantages</b></p> <p>The values in the list are visible on the form without you having to click on anything (unless the list is long, then you have to use the scroll bar).</p> <p>Users cannot select a value that does not appear in the list.</p>
--	--

These are the steps to create a combo box (the list box is very similar).

### CREATING A COMBO BOX

The best way to add a combo box to a form is to create a table (that will contain the list of choices) and then to use the control Wizard to add the combo box to the form.

#### To Create A Table For A Drop Down List

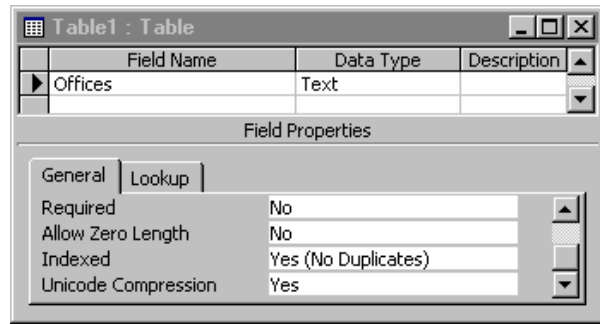
In the Table tab in the Database window.

- Click on the "**New**" button to create a new table
- Select "**Design View**"

The Table Design window will appear."

In the Table Design window.

- **Enter a field name** for the list of values
- **Enter an appropriate data type**



**TIP**

If you want the values in your list to appear in alphabetical (or numerical) order, you should change the Indexed property for the field to Yes.

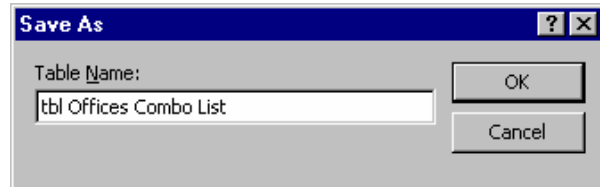
- Click on the **"Datasheet View"** button 

You will then be asked if you want to save the table.

- Click on **"OK"**
- Give the **table a name**

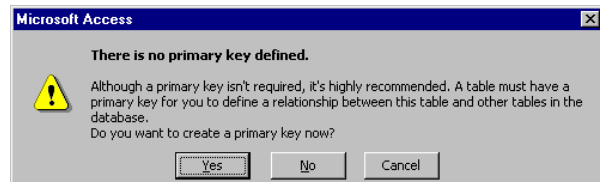
You may want to use a name that differentiates this table from your main data tables.

- Click on **"OK"**



You will then be asked if you wish to create a primary key. **You do not need to have a primary key in a table that is being used to feed a combo box or list box.**

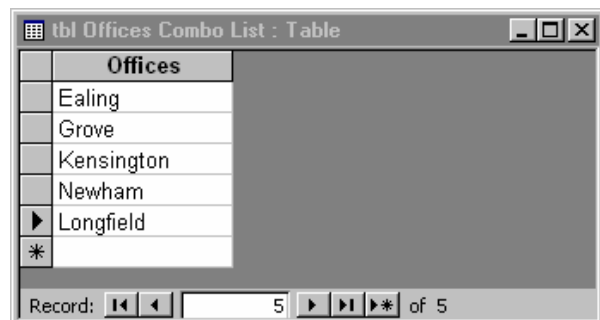
- Click on **"No"**





The table will be shown in datasheet view.

- **Enter the values** that you want to appear in the list
- In the **"File"** menu, select **"Close"** to close the table

You are now ready to create the combo box.

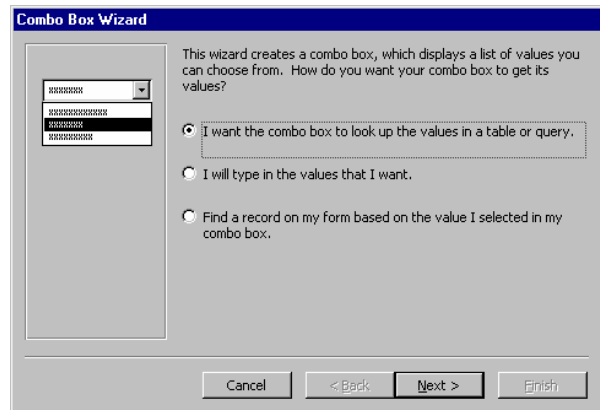


### To Create A Combo Box

- **Open** the **Form** you wish to put the combo box on, in **Design** view
- Ensure the **Toolbox** is showing
- Ensure that the "**Control Wizard**" button is selected  on the Toolbox
- Select the "**Combo Box**" button  (or the "List Box" button if you wish to add a List Box)
- **Click and drag across** the **form** to establish the size and position of the field control on the form (you can move or resize it later)

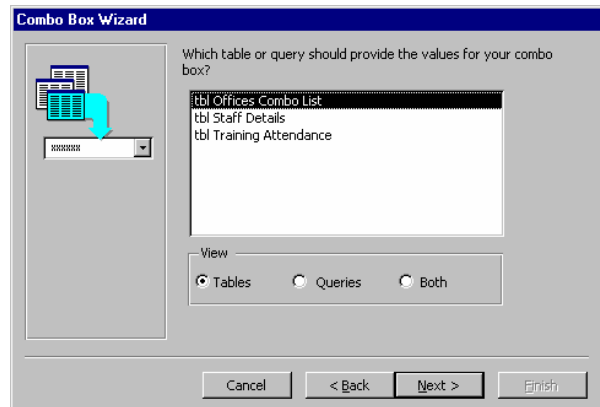
When you release the mouse button, a Wizard will appear to help you create the combo box (because the Control Wizard button was turned on).

- Select "**I want the combo box to look up the values in a table or query**"
- Click on "**Next**"




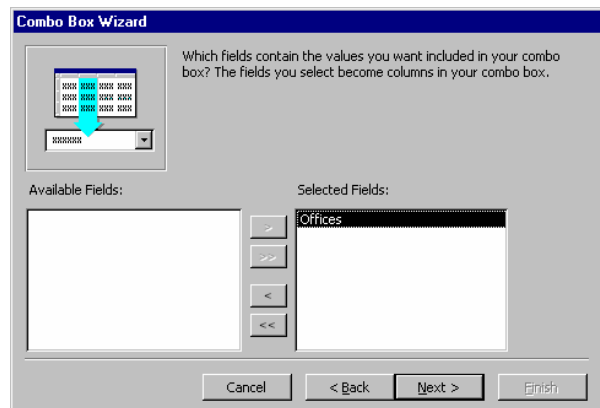
You must now tell Access which table or query contains the values that are to appear in the combo box.

- **Select** the **table** containing the values for the list
- Click "**Next**"



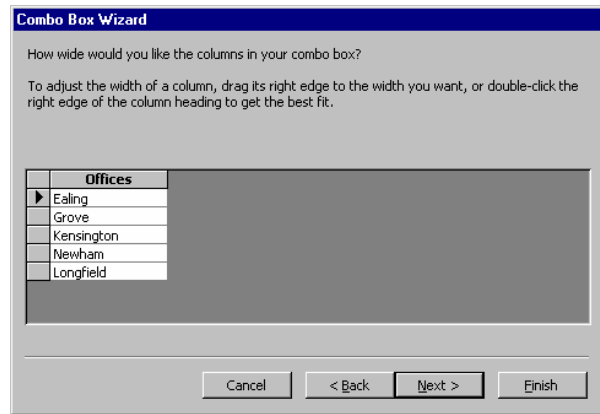
You must now tell Access which fields in the selected table contain the values that are to appear in the combo box. All the available fields in the table are listed on the left.

- **Select** the appropriate **field**
- Click on the "**Add**" button  to add the field to the box on the right
- Click "**Next**"



You now get a chance to choose the width of the column(s) in the drop down list.

- Drag on the right border of the column heading to **resize the column**
- Click "**Next**"

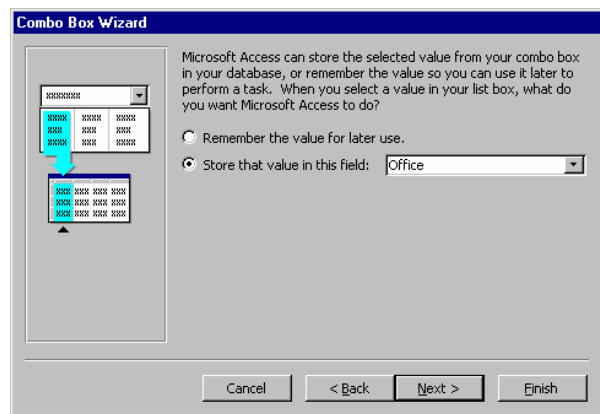


You must now tell Access where you want it to store the values each time someone selects a value in the drop down list.

- Select "**Store that value in this field**"

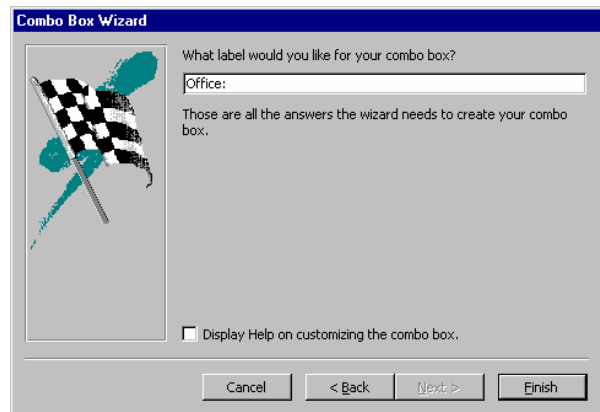
The drop down list on the right will contain all the fields in the table or query that the form is based on.

- **Select the field** that relates to the values in the combo box
- Click "**Next**"



You can now enter an appropriate label for the combo box field.

- **Enter a label name**
- Click on the "**Finish**" button



The combo box will be added to the form.



You can now look at the form in Form View, to test the combo box.

If you ever need a new value to appear in the list, you should open the table containing the values for the list and enter the new value.

## CREATING AN OPTION GROUP

An option group is used to provide a list of options, only one of which can be selected.

The value selected in an option group is stored in the table as a number (eg: Good = 1, Average = 2, Poor = 3). If you wish to be able to perform statistical analysis on these numbers, you should ensure that the data type for this field is set as a Number.



If you would prefer to have the options stored in your table as text, you should probably use a combo box instead of an option group.

These are the steps to create an option group.

- In design view on your form, ensure the **"Control Wizard"** button is selected on the Toolbox
- Select the **"Option Group"** button on the Toolbox

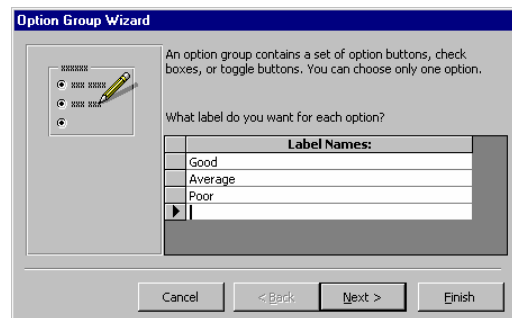


- **Click and drag** across the form to choose the position and size of the option group

The Option Group Wizard will appear.

You must now specify what options you wish to be displayed on the form.

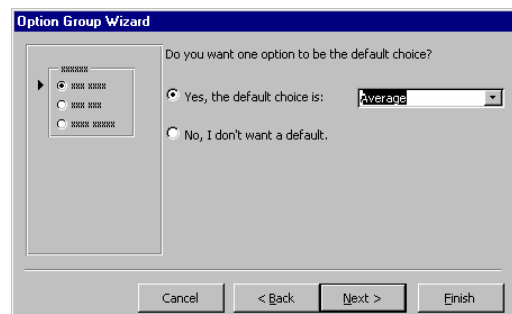
- **Enter the values/options** you wish to be available
- Click **"Next"**



The next dialog box allows you to specify a default value.

This is useful if one value is more common than any of the others. If this is not the case, choose no default value.

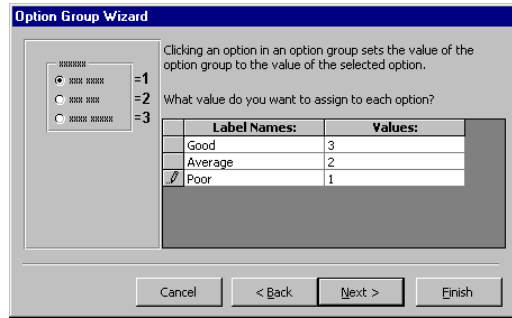
- **Select the appropriate option**
- Click **"Next"**



Access assigns numerical values to the options/values you have created.

These are the values that will appear in the table. But you can change them if you would like to use other numerical values.

- Change **values** if necessary
- Click "**Next**"



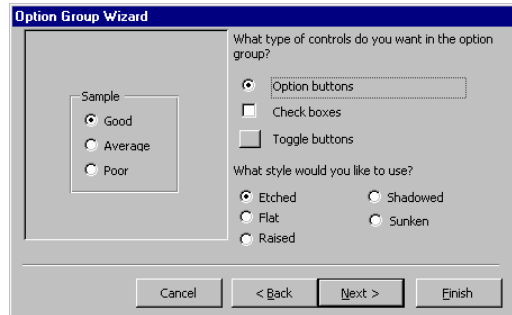
You must now specify which field you wish to store these numerical values in.

- Select the "**Store the value in this field**" option, and **choose** the appropriate **field** in the drop down menu
- Click "**Next**"



You can now choose a format style for the option group controls.

- **Select** appropriate **format**
- Click "**Next**"



You can now choose a label for the option group.

- **Enter** a **name** for the group
- Click "**Finish**"



The Option Group will be created.



## EXPRESSIONS

Expressions can be used on a form to display useful information or perform calculations.


For example you could use an expression to display the current date or to calculate the VAT by multiplying values by 17.5%.

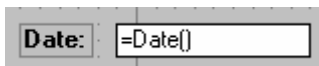
**The result of an expression is NOT stored in the table, it is only displayed on the form.**

Expressions are created in a text box control on the form.

### To Create An Expression

This must be done in form design view.

- Click on the "Text Box" button on the Toolbox  and then click and **drag across** the **form** to add a text box
- Click in the text box and **enter** the appropriate **expression**



Here are some examples.

Field names always appear in square brackets, eg [Firstname].

Expression	Result
=Date()	Displays the current date.
= [Firstname] & " " & [Lastname]	Combines the Firstname field with a space and then the Lastname field to display the full name.
= [Salary]*0.24	Calculates 24% of the value in the Salary field.
=Date()-[DoB]	Subtracts the DoB (date of birth) field from the current date to display the age in days.
=(Date()-[DoB])/365.25	Subtracts the DoB (date of birth) field from the current date, and divides it all by 365.25, to display the age in years.
=Int((Date()-[DoB])/365.25)	This is the best formula for calculating age as it rounds the result down and displays it as a whole number.
= [Startdate]+7	Displays the date 7 days from the date in the Startdate field.
= [Price]*0.175	Multiplies the Price field by 17.5%.
=( [Price]*0.175)+[Price]	Multiplies the Price field by 17.5% and adds the result to the original price.

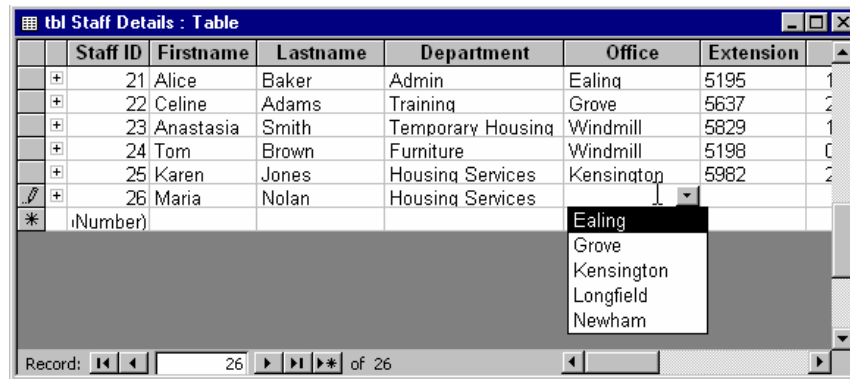
You will probably also want to change the caption property of the text box label to give it an appropriate name.

When you view the text box in form view, the result of the expression is displayed.

## CREATING A DROP DOWN LIST IN A TABLE

This is a new feature that appeared in Access 97.

You can now create drop down lists in tables. This is useful if you like to input data directly into tables.



As with Combo Box on a form you should create a new table to hold the values that will be displayed in the drop down list. These steps are covered in the section Creating a Combo Box.

Assuming you have already created a table to hold the drop down list values:

- **Open** the **table**, in which you wish the drop down list to appear, in **design** view
- **Select** the **field** that is to display the drop down list

In the Field Properties.

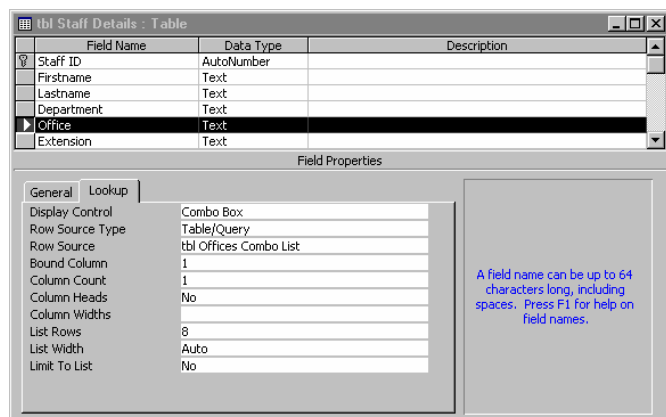
- Select the **Lookup** tab
- Change the **Display Control** property to **Combo Box**

Some new properties will appear.

- Click in the **Row Source** property box

A drop down menu will appear.

- Click on the drop down arrow to display a list of all the tables and queries in the database. **Select** the **table** containing the values for the drop down list
- **Save** the **changes** to the table



You can now view the table in datasheet view. The drop down menu will now appear when you click in the amended field.

## IMPORTING DATA

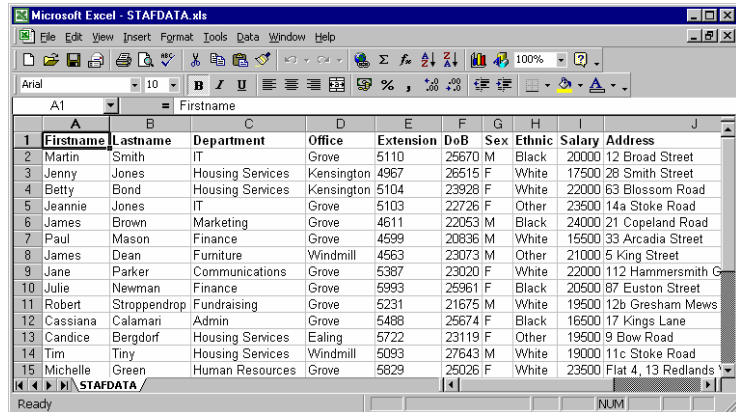
If you already have data in an alternative source, such as Excel, you can import it into your database.

You can either import the data into the database as a new table, or you can import it into an existing table.

Your data must be set up in Excel as one large data table, starting at the top of the first sheet in the book.

Row 1 must contain headings for the columns of data.

These headings will be used as the field names in the Access table.



### Importing Data Into An Existing Access Table

There are a few things to bear in mind if you wish to import the data into an existing table.

The columns of data do not have to be arranged in the same order in the Excel spreadsheet as they are in the Access table, but...

**The column headings in Excel must be identical to the matching field names in the Access table.**

You do not have to import the same number of columns of data. But if there are more columns of data in the Excel spreadsheet than in the Access table, the extra columns will not be imported unless you create new fields for those extra columns (with the same name as the headings in Excel).

### To Import Data From Excel

In Access, having closed down all tables and forms.

- In the "File" menu, select "Get External Data", then select "Import"

The Import dialog box will appear.

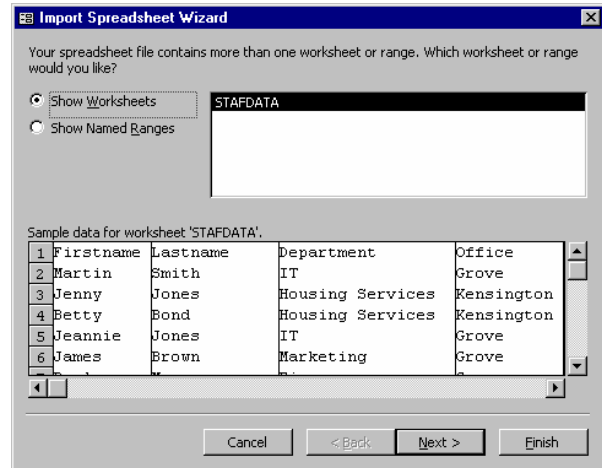
- In the **Files of Type** drop down menu, select **Microsoft Excel**
- Navigate through the folder structure to **select the excel file** containing the data
- Click "**Import**"



The Import Wizard will start up.

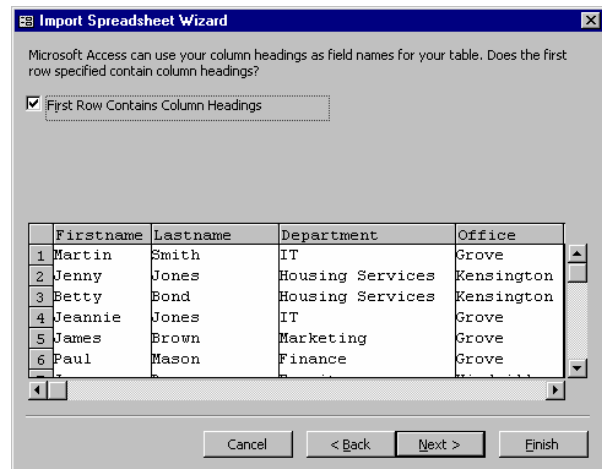
You can view the data in the workbook by named ranges or just by sheets.

- **Select appropriate option**
- Click **“Next”**



If there is a row of headings in your spreadsheet, these can be used as the field names for the imported data in Access.

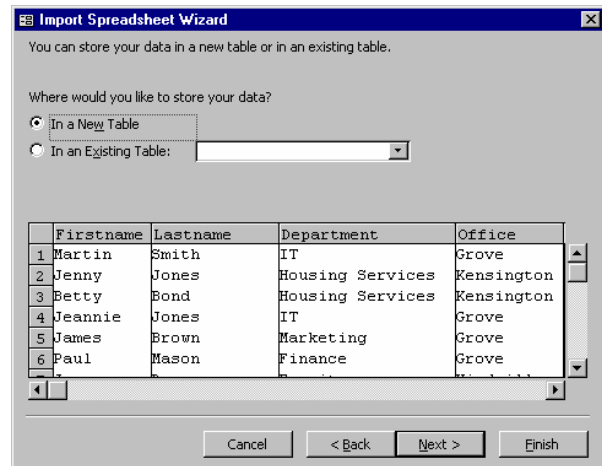
- Select **“First Row Contains Column Headings”**
- Click **“Next”**



You can now choose to import the data into a new table or add it to an existing table.

If you choose an existing table, you must specify the table, and then Access will only import the columns whose headings exactly match existing field names in the selected table.

- **Select the appropriate option**
- Click **“Next”**



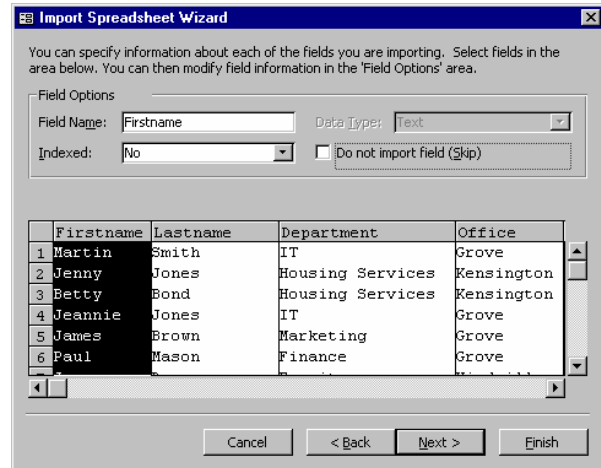
If you chose to add the data to an existing table, one final dialog box will appear confirming your choice. You can then click on the “Finish” button to import the data as new records at the bottom of the selected table.

If you chose to import the data as a new table – see next steps.

This dialog box can be used to change the field names, turn on indexing or choose not to import a particular column.

But you can do all these things to the table in design view once the data has been imported.

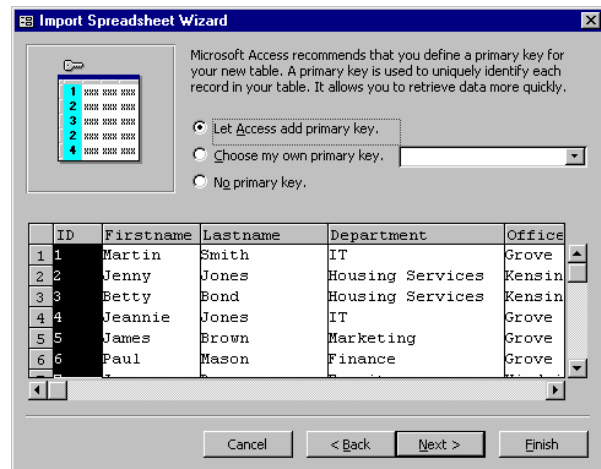
- Select **"Next"**



You can now let Access create an extra ID field to be used as the primary key, choose an existing column of data as the primary key, or select no primary key.

If this table is going to be linked to another table in a one to many relationship, it will need to have a primary key (if it is the main table in the relationship).

- **Select** the appropriate **option**
- Click **"Next"**



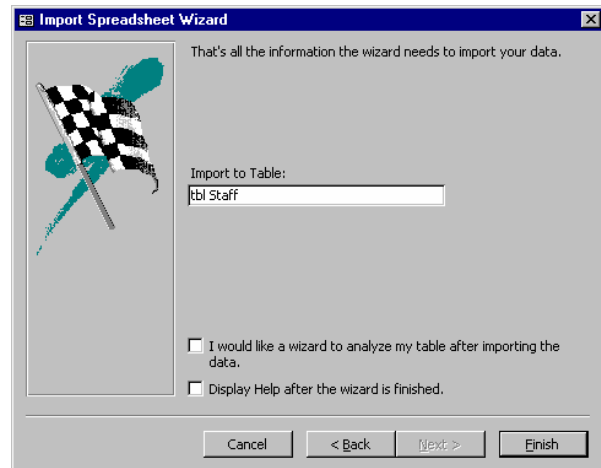
You can now enter a name for the new imported table of data.

- **Enter a name**
- Click **"Finish"**

Hopefully you will be informed that the data has been imported successfully.

- Click **"OK"**

A new table will be created, visible in the table tab in the database window.



### Importing Data From Word

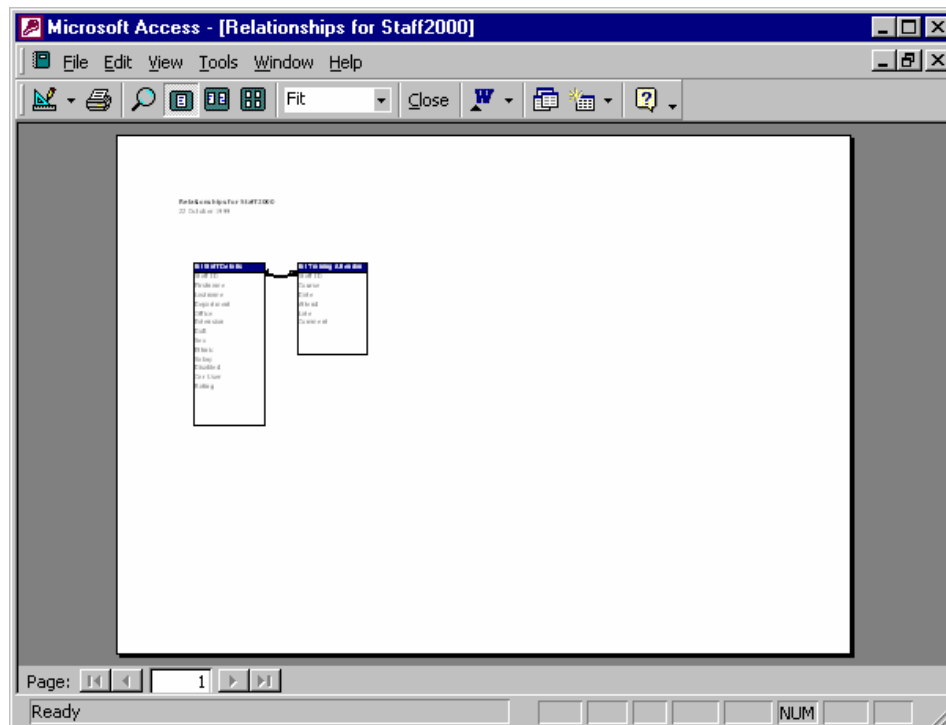
If you have data in a Word table that you wish to import into Access, you could copy and paste the data into Excel and then follow the steps for importing data from Excel.

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## PRINT RELATIONSHIPS

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You can now print out the relationships between the tables in your database.



This can be useful for showing other people how the database has been constructed, especially for more complex databases.

This is done in the Relationships window.

- In the **“Tools”** menu, select **“Relationships”**
- In **“File”** menu, select **“Print Relationships”**

Access will create a report showing the relationships between the tables.

- Click on the **“Print”** button to print the report

You can also save this report for later use.

## CONVERTING AN OLD ACCESS DATABASE

You can open an Access 2 or an Access 97 database in Access 2000. But the database will open in read-only mode. This means you can view the data, but you can't create any new tables, queries, forms or reports, or modify any existing ones. To do that you will need to convert your database to Access 2000.

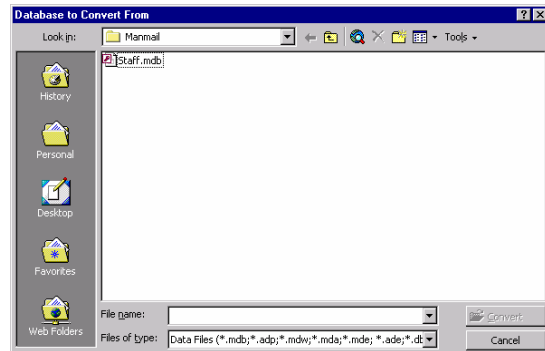
If the database is simple, ie it does not contain lots of clever features using Access Basic programming, it should convert easily. If in doubt, contact the IT Helpdesk or the person who originally created the database.

### To Convert A Database To Access 2000

- **Open Access 2000**, but do not open a database
- In the **"Tools"** menu, select **"Database Utilities"**, then **"Convert Database"**, then **"To Current Access Database Version"**

The Database to Convert From dialog box will appear.

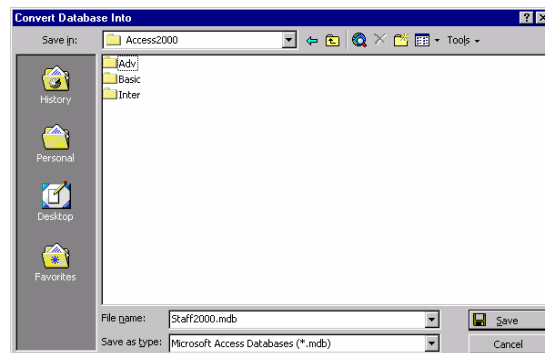
- Navigate through the folder structure and **select the database** you wish to convert
- Click on the **"Convert"** button



An identical looking dialog box will appear. This one is used to save a copy of the converted database.

In the Convert Database Into dialog box.

- **Enter a name** for the converted database and select a folder to save it in
- Click on the **"Save"** button



A new copy of the database will be created that is Access 2000 compatible. The original database will still exist in the old format.

You should then open the converted database in Access 2000 and check to see that it functions properly and contains all the correct data.

Do not delete the old database until you are certain there are no problems with the new one.