

Information Services



Access 2003

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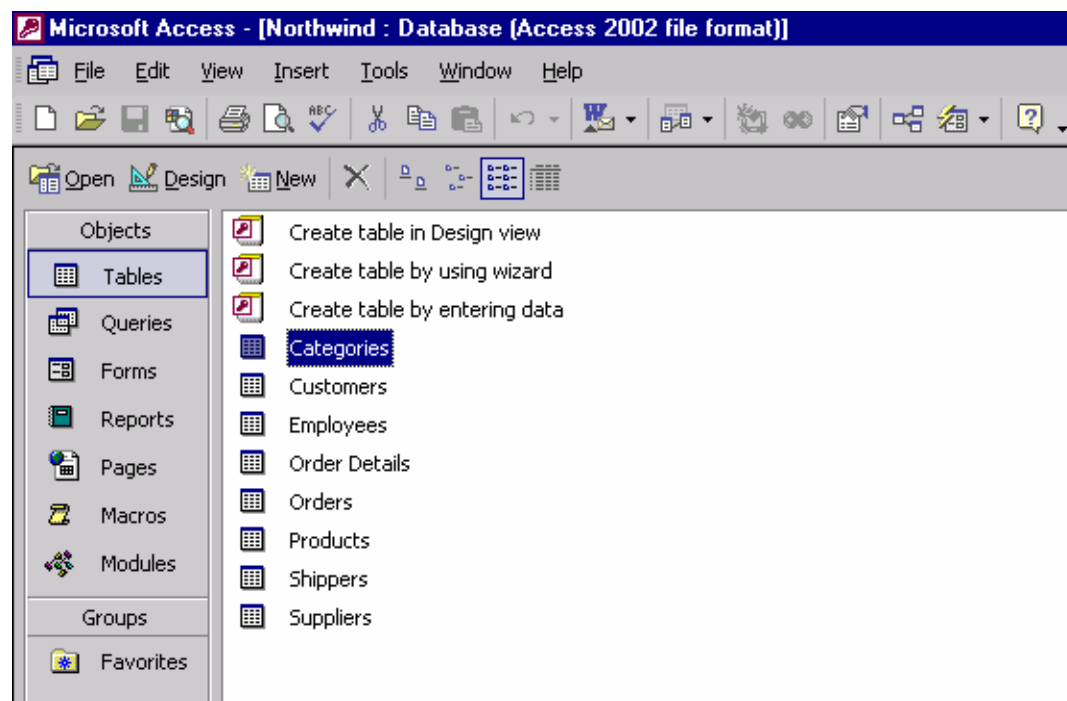
Introduction

Microsoft Access 2003 is a relational database management system (RDBMS) which can be used for storing data, querying data and producing reports.

In Access 2003, you relate tables of different information together. For example, you can have one table which stores information on Customers, another table which has information on Suppliers and a third table which contains Orders. You can produce queries which display the customers who ordered a particular product from a particular supplier. You can then produce reports to display your results for presentation.

Access 2003 is available via Windows NT on the Cardiff Network under *Networked Applications, General Software, Principal Applications*.

Figure 1.1 Example of a database: Northwind Sample database.



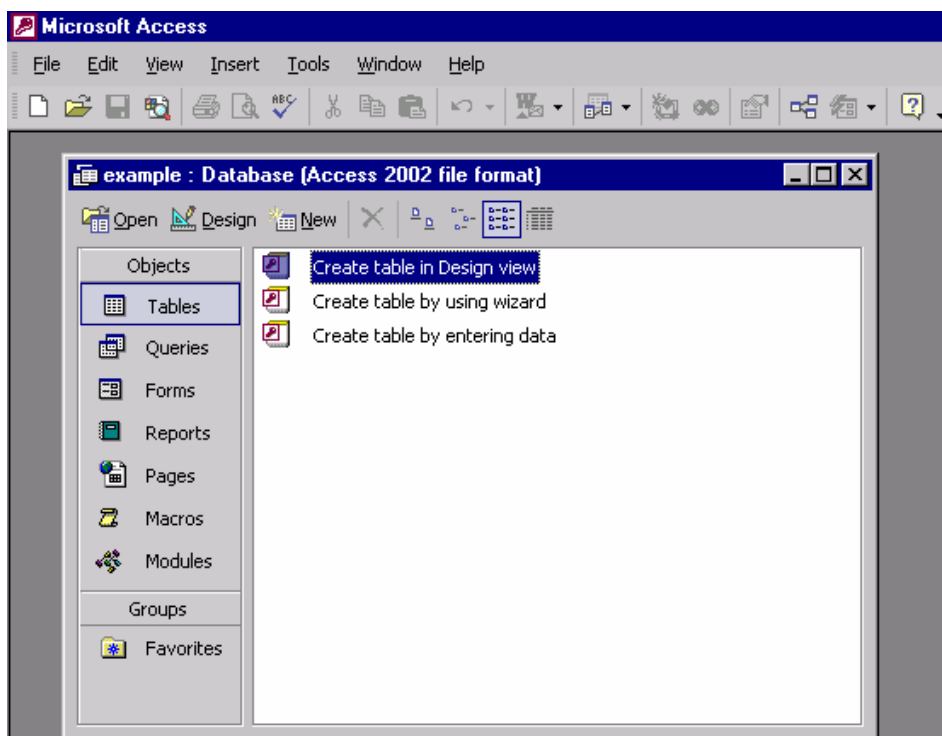
Steps in creating a database

The main steps in designing a database are:

- Plan the structure of your database, what information each table will contain and then how they will be related.
- Design tables
- Create relationships
- Enter data
- Queries for combining information from different tables.
- Forms can be used as an interface for entering data (an alternative to entering data in tables)
- Reports for presenting your data

To create a database in Access 2003, go to *File New* and choose *Blank Database*. Click on Create and then give the database a name. An Access database has .MDB extension which is added automatically. A blank database file will then be created for you and the main database window will open. See Figure 2.1 below.

Figure 2.1 Main Database window



Tables

Tables are mainly used to store all the information in Access 2003 and are normally the first thing that you need to create in your database. In the main database window, ensure that the *tables tab* is highlighted and click on *New*. You are then presented with the New table window (Figure 2.2). In tables, you normally have 2 views, datasheet view where you enter or view your data and *Design View* where you design the structure of your table. You should click on *Design View* first of all and then click *OK*. You should then see a similar screen to that in Figure 2.3.

Figure 2.2 Creating a table

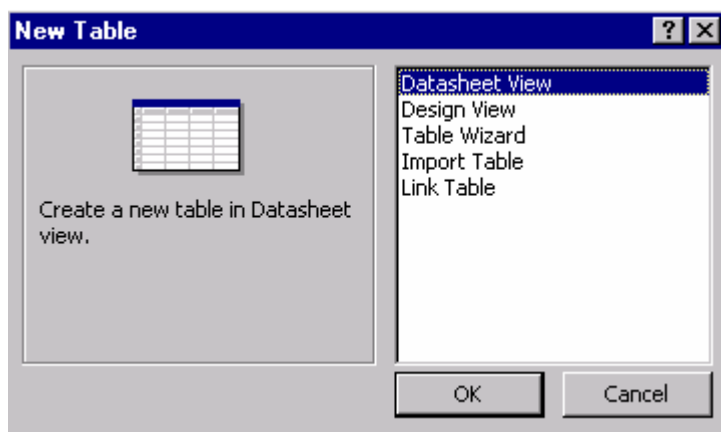
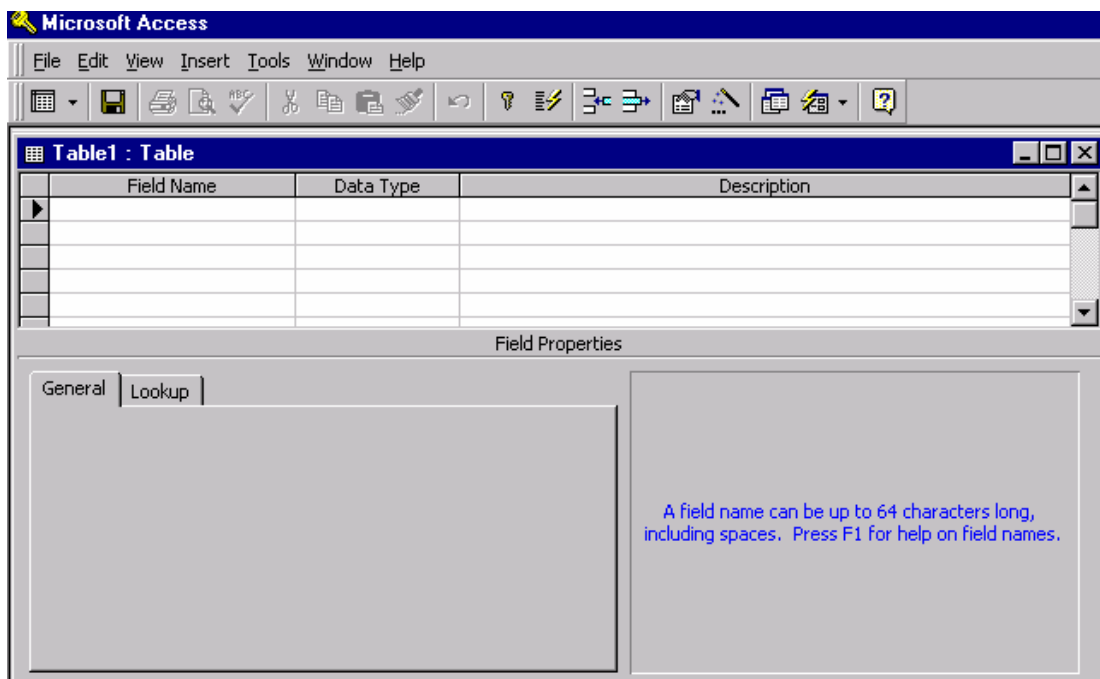


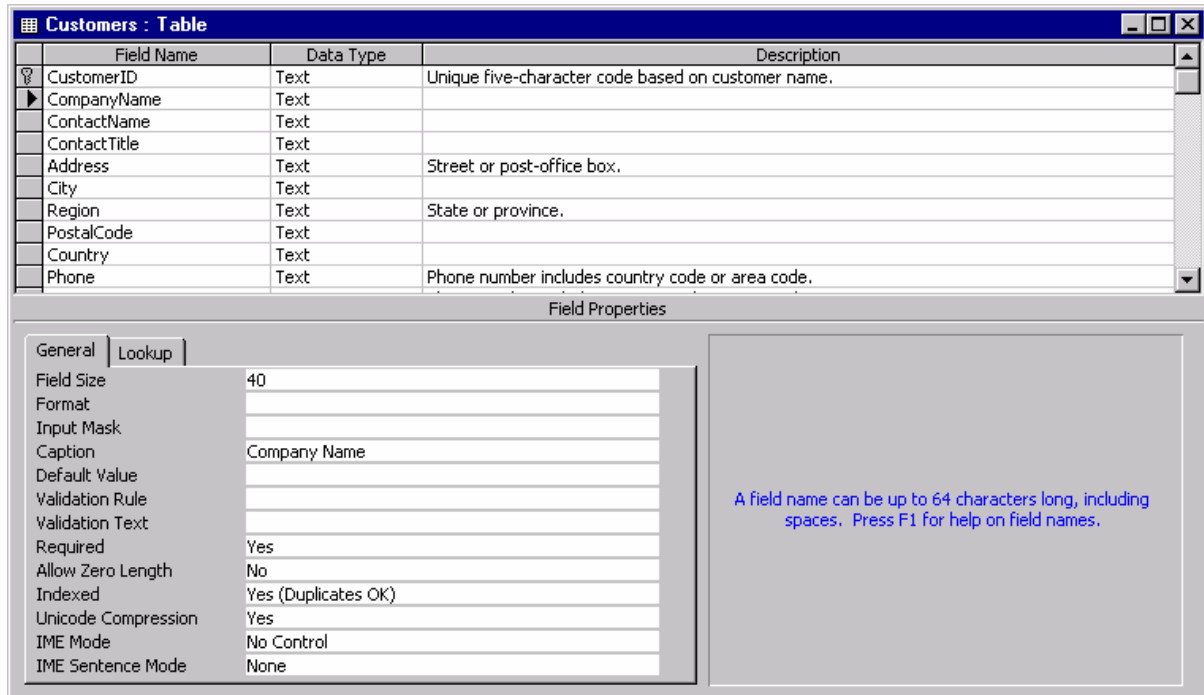
Figure 2.3 Table Design



In *Table design*, you enter your fields and also the data type of each field. So for example, you could have Customer ID, Company Name and City as fields for a

Customers table. Customer ID could have the data type Text; City would be Text, Customer Name would have data type Text. After defining each field, you have extra options under *Field Properties*.

Figure 2.4 Defining Fields in Table Design



An example of the Customers table in the sample NWIND database is given in Table 2.4. In the table above, the current field selected is CompanyName with data type Text and the extra field properties are also shown. So for example, the field size is 40 which limits the length of Company Name to 40 characters. When you have defined your fields, you should save the table via *File Save*. To enter data, you go into Datasheet view via *View Datasheet View*. In datasheet view, each row is called a record and the field names you defined in design view should appear as column headings. A sample of a table in datasheet view is shown in Figure 2.5.

Figure 2.5 Datasheet View of Customers Table

Customer ID	Company Name	Contact Name	Contact Title	Address
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.
BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8
BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 57
BLONP	Blondel père et fils	Frédérique Citeaux	Marketing Manager	24, place Kléber
BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	C/ Araquil, 67
BONAP	Bon app'	Laurence Lebihan	Owner	12, rue des Bouchers
BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.
BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Circus
CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 333
CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de Granada 9993
CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29
COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	Av. dos Lusíadas, 23
CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley Gardens
DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walsenweg 21
DUMON	Du monde entier	Janine Labrune	Owner	67, rue des Cinquante Otages
EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King George
ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6

When you close datasheet view, you are not prompted to save any changes, you are only prompted to save when you make changes to design view. To close a datasheet, choose *File Close*. You should then be back in the database window (Figure 2.1).

You create each table similarly to the above procedure.

Relationships and Primary keys

When you have created tables, you can define relationships between tables. A common type of relationship is a One-to-many relationship. In a One-to-many relationship, you define a relationship between 2 tables. The One part of the relationships is a table which contains unique records defined by a primary key. So for example, the Customers table could be the One part in a relationship and the Customer ID is the unique primary key. The Customers table would contain unique details on the Customer such as their address, telephone number etc. You could relate this to a table called Customer Orders which is the Many part and contains orders made by customers. (The logic being that a single customer can make many orders.)

The link between the 2 tables is the primary key Customer ID.

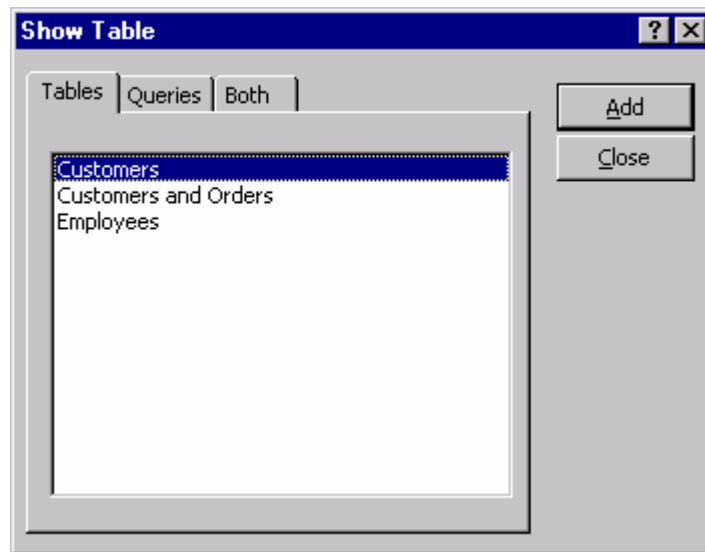
In a table, you set the primary key via clicking on the field you want as your primary key in Table design view and click on *Edit Set Primary Key*. You set the Customer ID as the primary key in the Customers table. In the Customer Orders table, Customer ID is defined as a field but is not defined as a primary key. See Figure 2.6 for an example of the related customer order data.

Figure 2.6 Related Customer Orders table

Order ID	Customer	Employee	Order Date	Required Date	Shipped Date
10692	Alfreds Futterkiste	Peacock, Margaret	03-Nov-95	01-Dec-95	13-Nov-95
10952	Alfreds Futterkiste	Davolio, Nancy	15-Apr-96	27-May-96	23-Apr-96
10643	Alfreds Futterkiste	Suyama, Michael	25-Sep-95	23-Oct-95	03-Oct-95
10835	Alfreds Futterkiste	Davolio, Nancy	15-Feb-96	14-Mar-96	21-Feb-96
11011	Alfreds Futterkiste	Leverling, Janet	09-May-96	06-Jun-96	13-May-96
10702	Alfreds Futterkiste	Peacock, Margaret	13-Nov-95	25-Dec-95	21-Nov-95
10625	Ana Trujillo Emparedados y hel...	Leverling, Janet	08-Sep-95	06-Oct-95	14-Sep-95
10308	Ana Trujillo Emparedados y hel...	King, Robert	19-Oct-94	16-Nov-94	25-Oct-94
10926	Ana Trujillo Emparedados y hel...	Peacock, Margaret	03-Apr-96	01-May-96	10-Apr-96
10759	Ana Trujillo Emparedados y hel...	Leverling, Janet	29-Dec-95	26-Jan-96	12-Jan-96

Once you have defined the primary key in a table, you can then link the table to the other table which contains related records via *Tools Relationships*. The dialog box shown in Figure 2.7 should appear. Click on each table you will be including in relationships and click on Add.

Figure 2.7 Adding tables in relationships



To create a One-to-Many relationship, you click on the Primary key in the table with unique records and drag the primary key field to the field in the other table which is related to the primary key.

A relationships table should then appear (See Figure 2.8) and there should be a box Enforce Referential Integrity and a One-to Many relationship type. Click on *Enforce Referential Integrity* and click on *Create* and the One-to-Many relationship will be created. (See Figure 2.9).

To save your relationships, click on *File Save* and then *File Close*.

Figure 2.8 Creating a One-to-many relationship

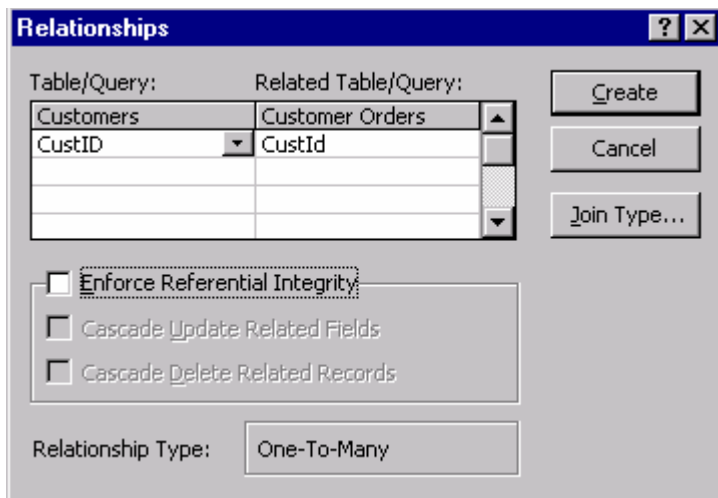


Figure 2.9 One-to-many relationship

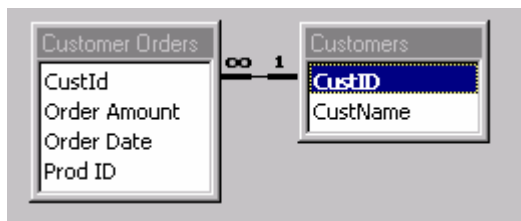
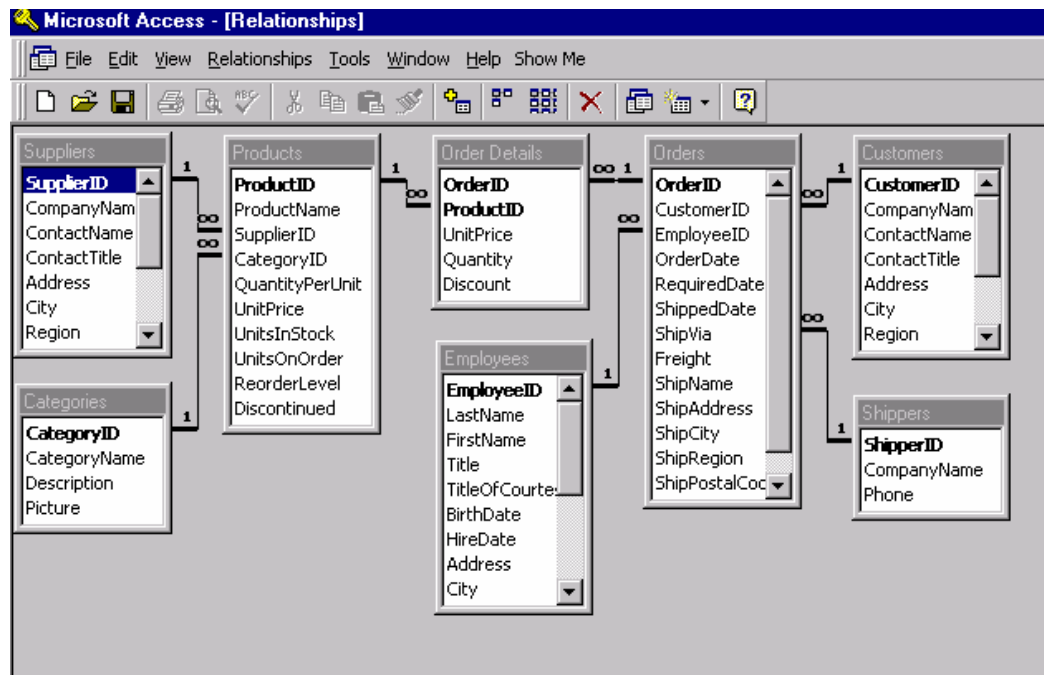


Figure 2.10 Relationships in the sample NWIND database.



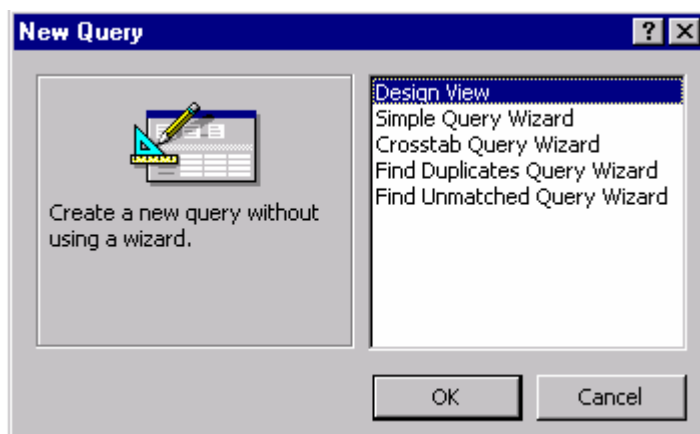
When setting up relationships, it is best to plan the structure of your database first, defining what each table is going to contain and then how the tables are related.

Queries

Queries are used to combine information from tables so for example if you wanted the customer’s contact details to appear on each order the customer makes, you would create a query which combines information from the Customers’ table and the Customer Orders table.

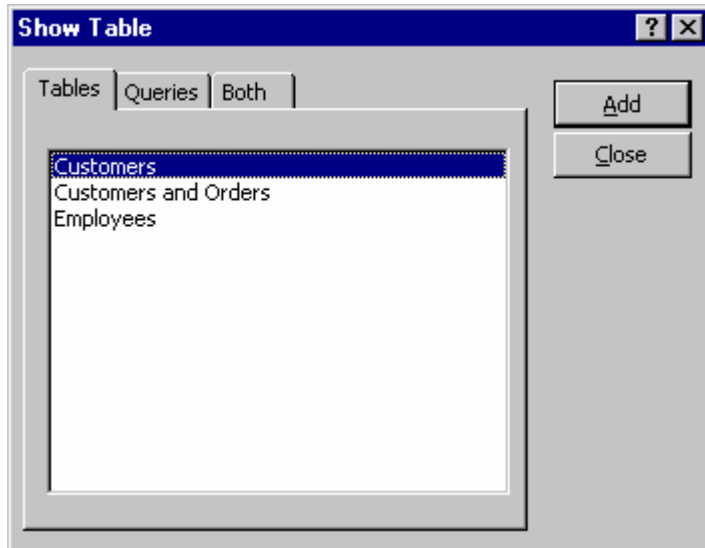
To create a query, go to the main database window (Fig 2.1). Click on the *Query* tab and then click on *New*. You will then get the screen shown in Figure 3.1.

Figure 3.1 Creating a query.



You have a choice of using various query wizards or create a query yourself. Click on *Design View* and click *OK* which will allow you to create a query yourself. You are then presented with a box similar to that shown in Figure 3.2.

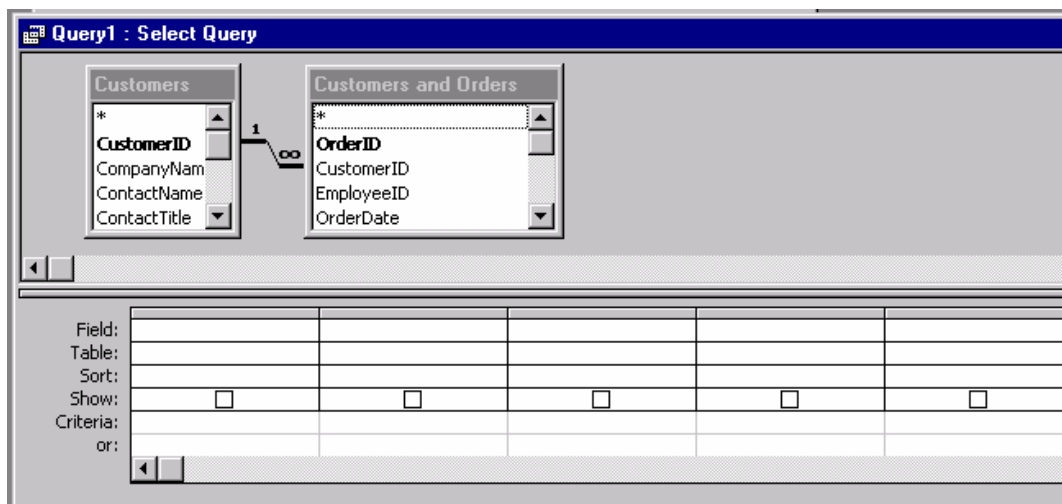
Figure 3.2 Selecting tables for the query



Choose each table you want to include in your query via clicking on each one and clicking on *Add*. Once you have finished choosing your tables, click on *Close*.

You should then obtain a screen similar to the one shown below in Figure 3.3

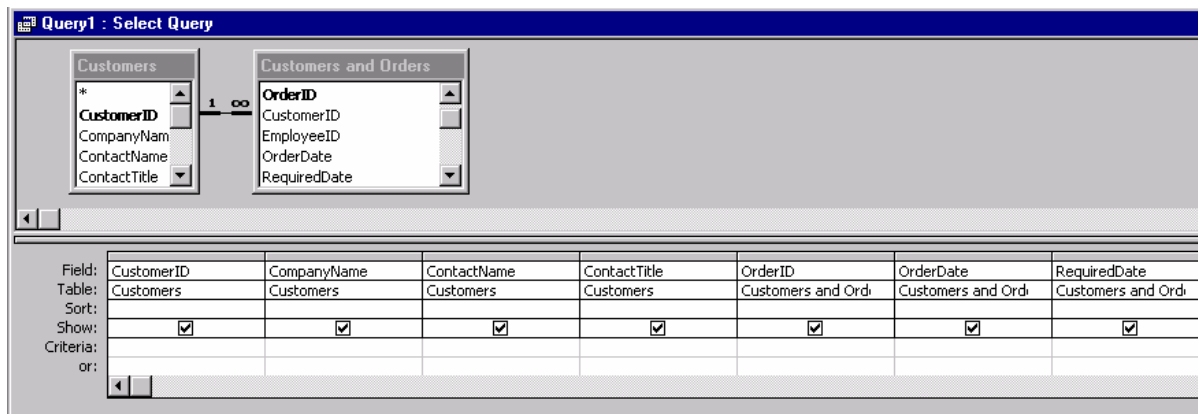
Figure 3.3 Query Design View



In Query design view, once you have selected the tables to include in the query, you then drag the table fields you want to include from the tables to the Field row in the grid below. If you want all the fields in a table to be included, then double-click on the table heading and all the table fields will become blue, you can then drag all fields at once to the grid.

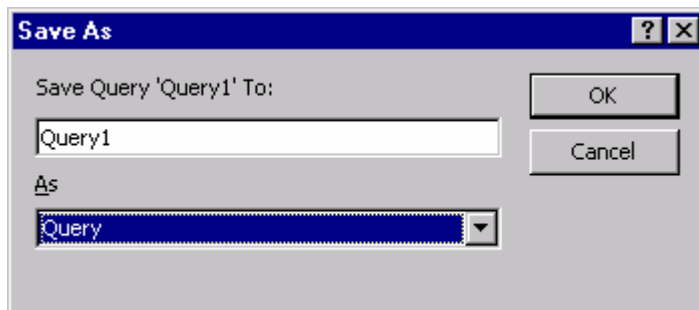
Once you have dragged the fields you want into the grid, it should look similar to what is illustrated in Figure 3.4.

Figure 3.4 Adding table fields to grid in Query Design View



To view the data for the query you have created, click on *View Datasheet View* and you should then see the query results. If the query results are what you want, then save the query via *File Save As*.

Figure 3.5 Save as Query dialog box



To save the query within the current database which is the default, give a name to your query at that point. Click on *File Close* to close the query.

Forms

Forms in a database are used as an alternative to data entry in datasheet view of a table. In a form, you can make data entry easier and show things that can't be displayed when entering data in table datasheet view. For example, you can display staff photographs, company logos can be displayed and you can display information from more than one table via the use of Forms and Subforms.

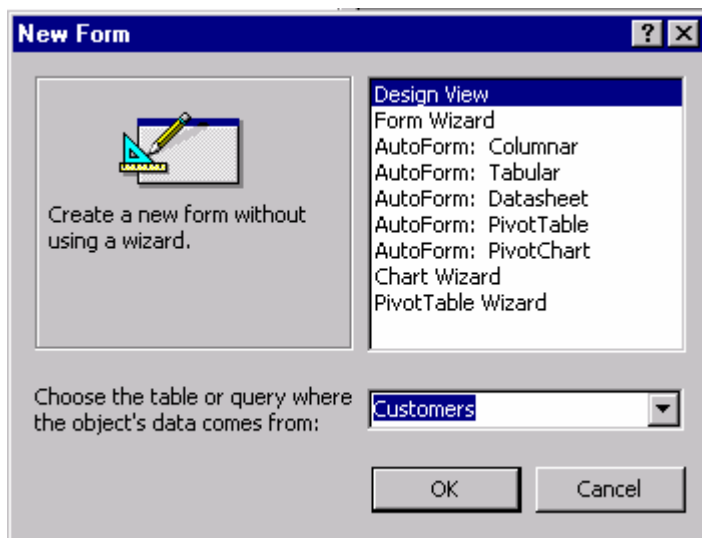
There are three types of Form views: *Design View*, *Form View* and *Datasheet View*. *Design View* is where you design your form; *Form View* displays each individual

record, for example, information on each customer; *Datasheet View* displays all records similar to that shown in Figure 2.5.

To create a form from the database window (Figure 2.1), click on the *Forms* tab and click on *New*.

You are then given various options on which form you want to create using form wizards. When creating the form, you usually specify which table/query contains the data you want on the form via the dropdown arrow box. See Figure 4.1 for an example.

Figure 4.1 Creating a new form



In Figure 4.1, you are choosing to create a form based on the *Customers* table and then click on *Design View* which will take you into design of the form. See Figure 4.2.

(Alternatively, you could choose the *Form Wizard* which would take you through the process step by step.)

In *Form Design View*, there are 2 boxes available which you will need. One is the *Toolbox* and the other is the *Field List*.

The *toolbox* is used to do many things on a form such as inserting images, displaying photographs, placing command buttons on your form which can perform various actions. A full description of the *toolbox* and each of the buttons is in Appendix A. The *Field list* box displays the fields in the table on which the form is based, in this example, the *Customers* table. You can drag fields from the *field list* box onto the form detail section by clicking on each of them and placing them in the detail section of the form. See Figure 4.3.

If the *toolbox* is not available, then go to the form menu and click on *View Toolbox*. Similarly for the *field list*, you choose *View Field List*.

Figure 4.2 Form Design View

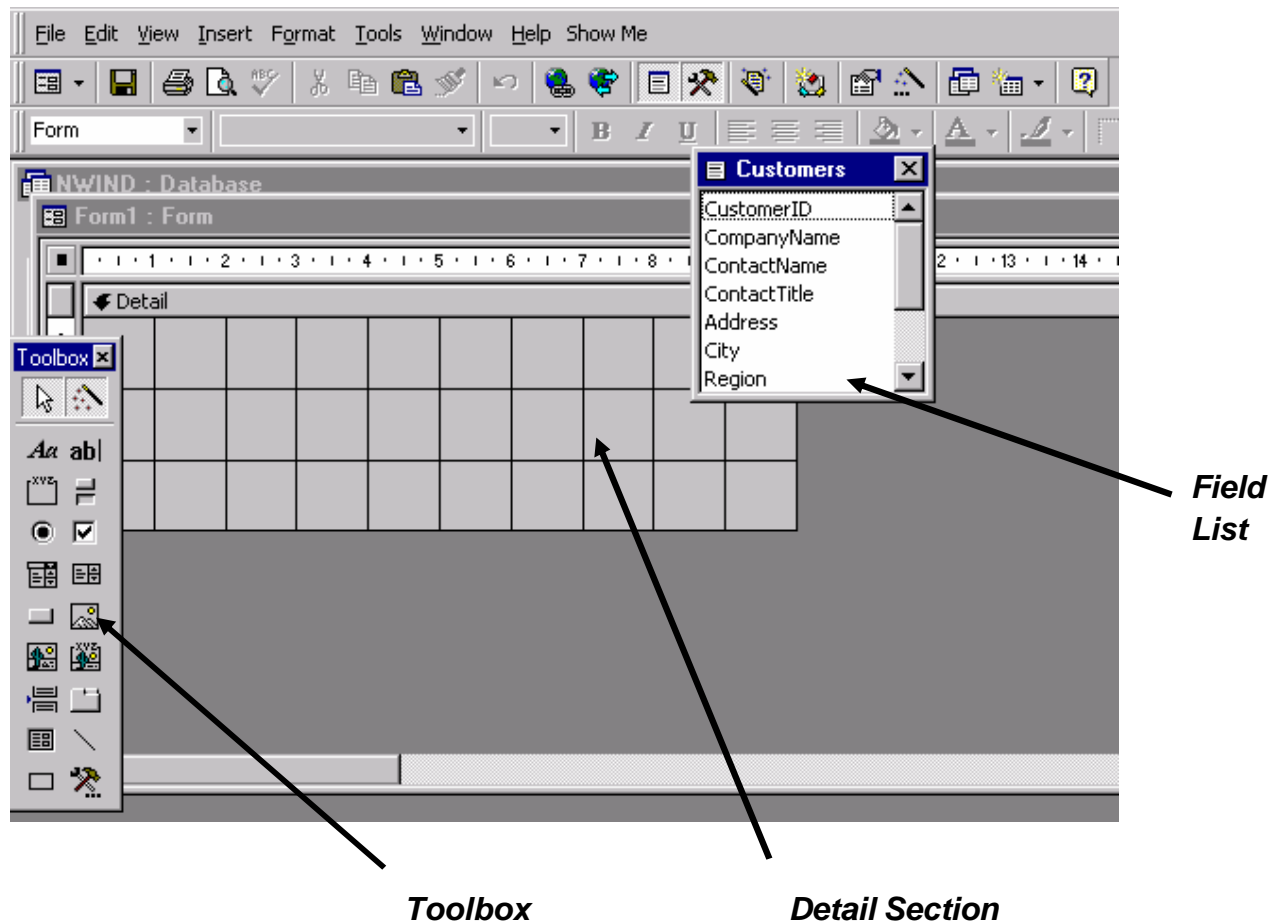
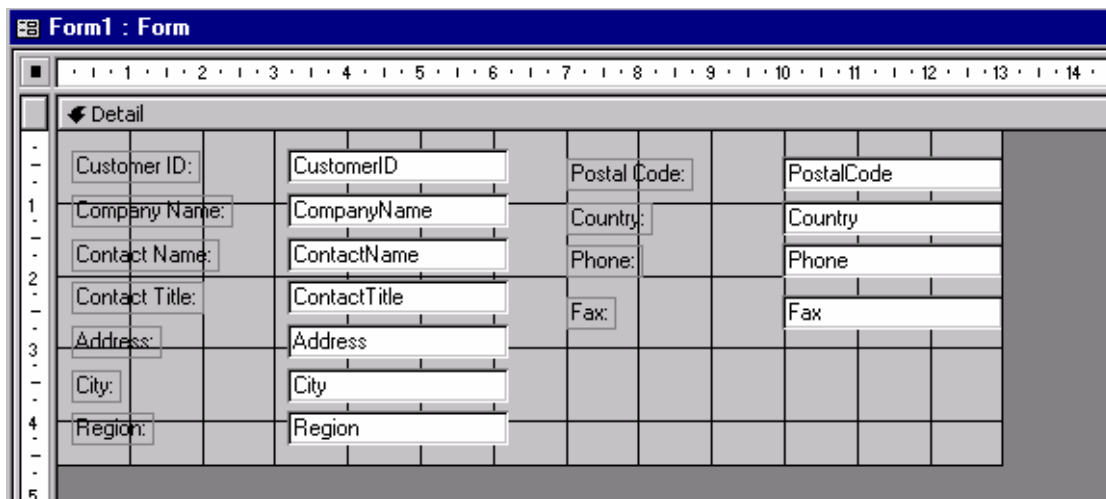
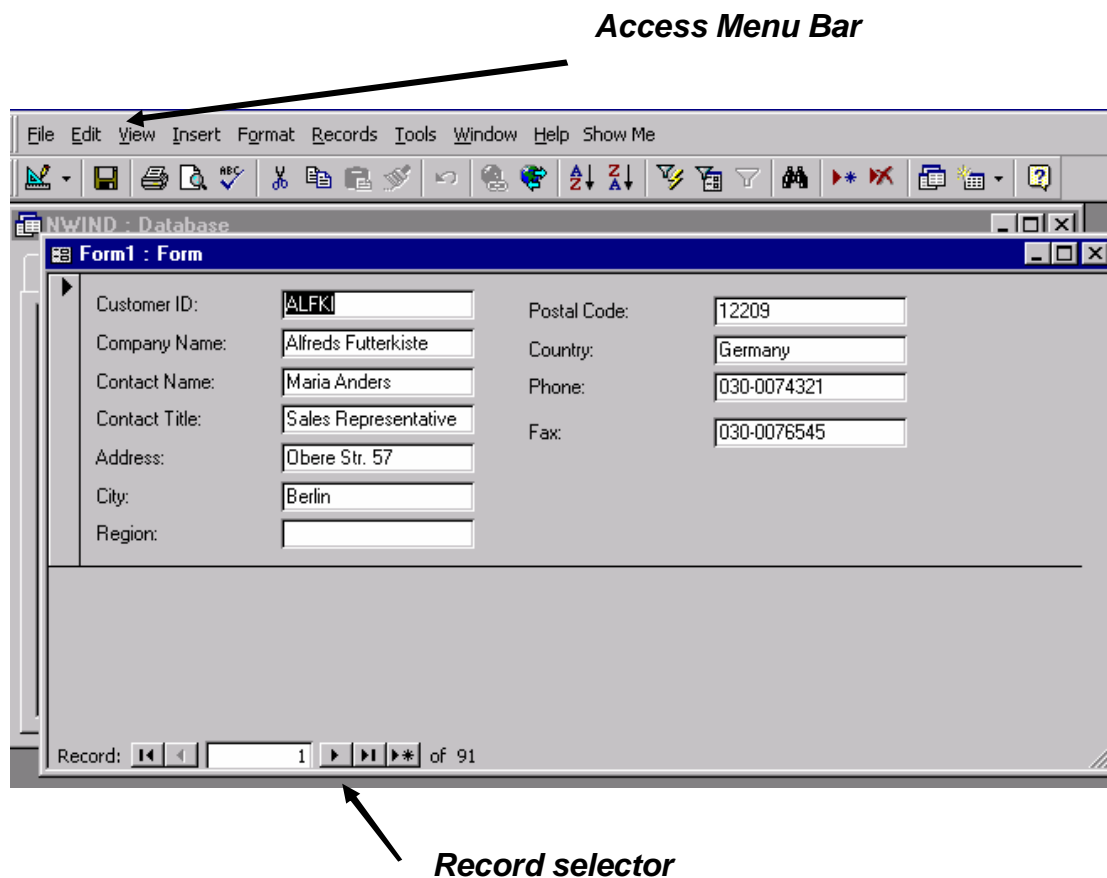


Figure 4.3 Form Design View with fields in detail section



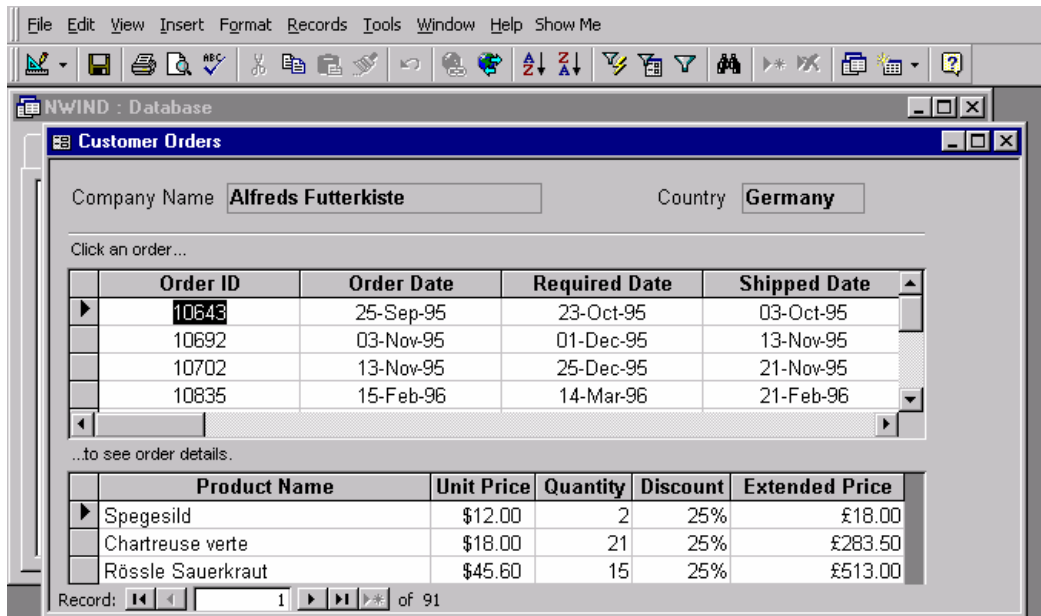
In a form, the detail section shown in Figure 4.3 is where you place most field information. There are 2 other optional form sections, page header/footer and form header/footer which are available via clicking on View on the main menu bar.

Figure 4.4 Form View of Form

To view the data in a form, you can view each record in Form View via clicking on *View Form View* from the main Access menu bar. (See Figure 4.4). Form View shows each record individually. To move onto the next record, use the record selector. In the example in Figure 4.4, record 1 out of 91 customer records is currently displayed. You can view all records in DataSheet View via *View Datasheet View*.

A more advanced form is shown in Figure 4.5 from the Northwind sample database. This is an example of a main form and 2 subforms which shows the orders made by a customer and then details on each specific order.

Figure 4.5 Advanced form showing Customer Orders information

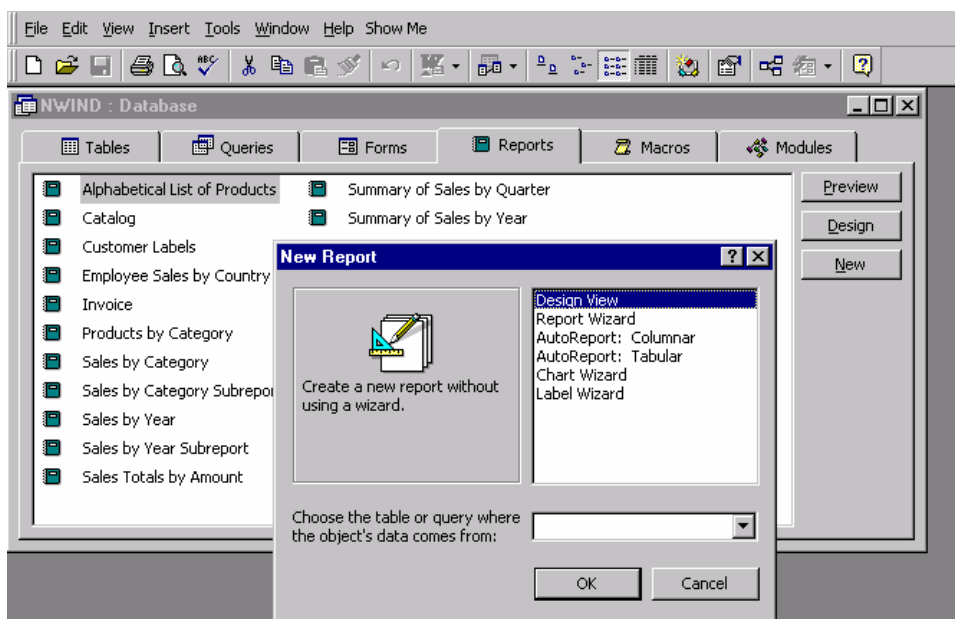


Reports

Reports are used for presenting your data. To create a report, go to the database window, (Fig. 2.1), and click on the *Reports* Tab and click on *New* and you will be presented with the screenshot in Figure 5.1

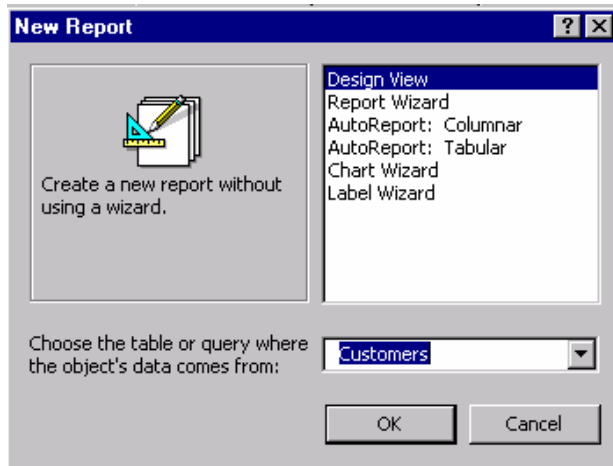
Once again, you have the choice of using a wizard to assist you such as the report wizard or creating a report yourself.

Figure 5.1 Creating a report



To create a report without using the wizard, click on *Design View* and then choose the table or query which contains the data you want in the report as shown in Figure 5.2. Click OK and you will be presented with the screenshot in Figure 5.3.

Figure 5.2 Creating a report based on Customers table in Nwind database



In Figure 5.3, you see the report in design view. Similarly to form design view, you have a field list to choose from, a toolbox and a detail section as well as page header/footer and a report header/footer.

You can place a report header/footer and page header/footer via clicking on *View* from the main menu bar. The page header section of a report is useful, for example, if you wanted a company logo or today's date to appear at the top of every page. The report header could contain the main heading for your report.

The detail section of design view is where you place most of the data for the report. You click on the fields you want from the field list and drag them to the detail section. Figure 5.4 shows a report with fields in design view.

Before printing your report, it is useful to view it in *Print Preview* first via clicking on *View Print Preview*. An example is shown in Figure 5.5.

Figure 5.3 Design View of report

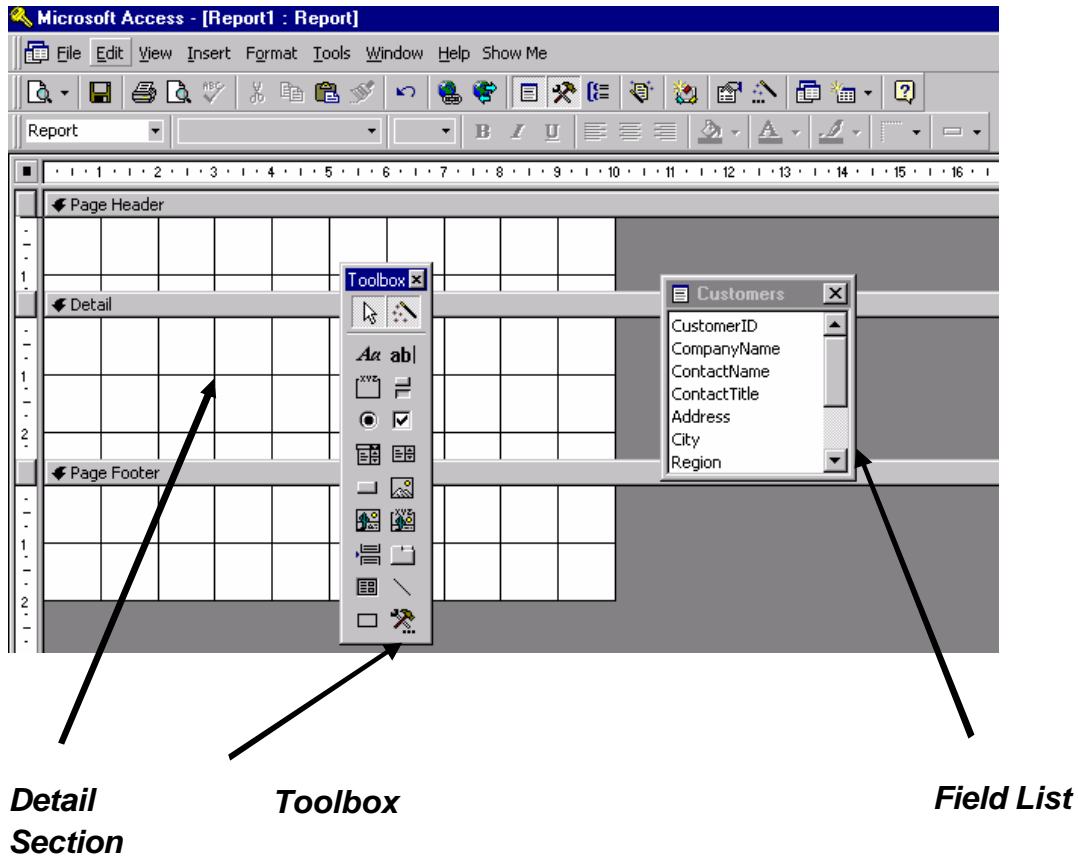
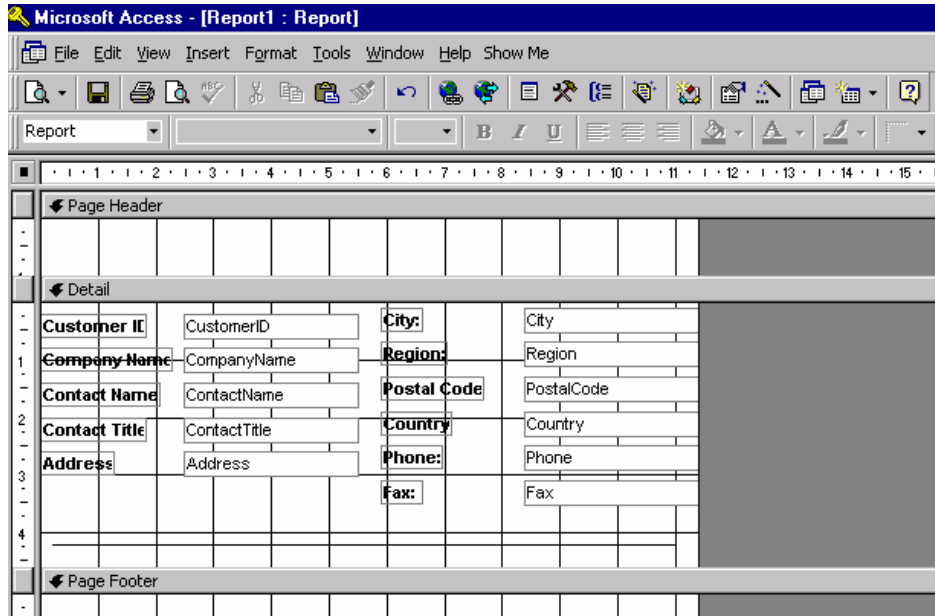


Figure 5.4 Report Design View with fields in detail section

Customer ID	ALFKI	City:	Berlin
Company Name	Alfreds Futterkiste	Region	
Contact Name	Maria Anders	Postal Code	12209
Contact Title	Sales Representative	Country	Germany
Address	Obere Str. 57	Phone:	030-0074321
		Fax:	030-0076545
<hr/>			
Customer ID	ANATR	City:	México D.F.
Company Name	Ana Trujillo Empareda	Region	
Contact Name	Ana Trujillo	Postal Code	05021
Contact Title	Owner	Country	Mexico
Address	Avda. de la Constitució	Phone:	(5) 555-4729
		Fax:	(5) 555-3745

Figure 5.5 Sample basic report in Print Preview



Grouping in Reports

In a report, you may often want to group a report by certain criteria, for example, to show customers within each country as shown in the sample report in Figure 5.6. In Figure 5.6, the grouping level is country and there is a group header for each country. Within each country, the data is sorted in ascending order of Company Name.

Figure 5.6 Report showing grouping levels

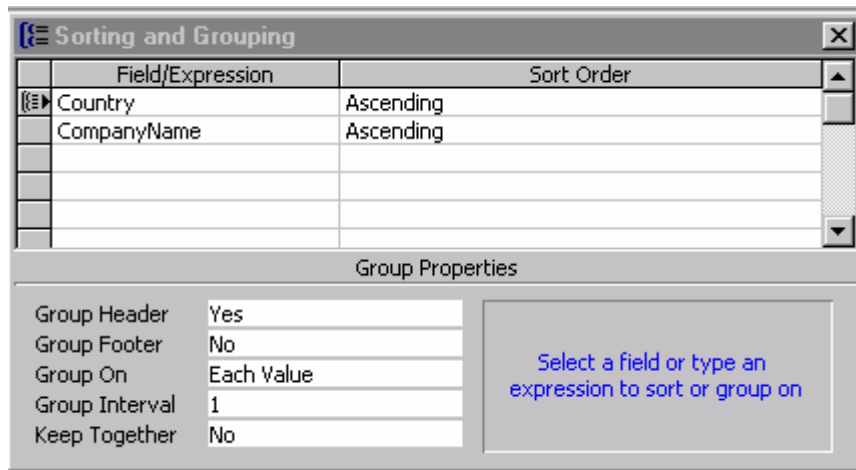
<i>Customers</i>										
<i>Country</i>	<i>Company</i>	<i>City</i>	<i>Contact</i>	<i>Contact</i>	<i>Address</i>	<i>City</i>	<i>Reg</i>	<i>First</i>	<i>Phone</i>	<i>Fax</i>
<i>Argentina</i>										
	Carlos Comel	CAC	Palacio St	Salvo Agre	Carrito 555	Buen		10 10	(1) 125-	(1) 125
	Osiano Alenti	OCC	Yvonne M	Salvo Agre	Ing. Gustavo Menéndez	Buen		10 10	(1) 125-	(1) 125
	Rancho gond	RAN	Sergio Gu	Salvo Rap	Av. del Libertado 90	Buen		10 10	(1) 125-	(1) 125
<i>Austria</i>										
	Ernst Handel	ERN	Roland M	Salvo Kts	Kirchgasse 8	Graz		30 10	(0) 5-24	(0) 5-2
	Prozoll und m	PRO	Georg Pip	Salvo Kts	Großweg 14	Salzb		50 20	(0) 2-21	(0) 2-2
<i>Belgium</i>										
	Marcus Derve	MAR	Collette M	Salvo Agre	Rue Joseph-Beno 58	Brux		0-11	(0) 201	(0) 20
	Suprême d'alt	SUP	Paulette C	Accountin	Boulevard Foa, 25b	Charl		0-80	(0) 1) 29	(0) 1) 2
<i>Brazil</i>										
	Comício Min	COM	Pedro Al	Salvo Aco	Av. das Ladeiras, 29	Sao SP		05 49	(11) 555	
	Família Argub	FAM	Auricour	Marketing	Rua Otta, 32	Sao SP		05 44	(11) 555	
	Gourmet Larc	GOU	André Fon	Salvo Aco	Av. Brasil, 442	Cam SP		04 31	(11) 555	
	Haroldo Carne	HAR	Maria Pon	Accountin	Rua do Paço, 81	Rio d RJ		05 45	(21) 555	(21) 55
	Que Delícia	QUE	Bernardo	Accountin	Rua de Paricadeira,	Rio d RJ		02 33	(21) 555	(21) 55
	Queen Counth	QUE	Lúcia Ca	Marketing	Alameda dos Carióis	Sao SP		05 43	(11) 555	
	Ricardo Adria	RIC	Janele Lu	Accountin	Av. Copacabana, 281	Rio d RJ		02 33	(21) 555	
	Frankgo Hips	FRH	Arabela D	Salvo Rap	Av. Heloisa Castro, 4	Sao SP		05 05	(11) 555	(11) 55
	Wellington Im	WEL	Paula Rui	Salvo Kts	Rua do Mercado, 12	Poa SP		03 19	(14) 555	
<i>Canada</i>										
	Bottom-Delta	BDT	Kurabath	Accountin	29 Fairview Blvd.	Pasv BC		1 23	(604) 555	(604) 5
	Laughing Bac	LAB	Yoshi Fan	Marketing	1 500 Oak St.	Vanc BC		6 04	(604) 555	(604) 5
	Mia Padarde	MIC	Jean Fria	Marketing	43 rue St. Laurent	Montl Québ HI J		514) 555	(514) 5	
<i>Denmark</i>										
	Simons bolto	SIM	Jytte Palle	Owner	Vindballe 24	Kobe		1 234	31 12 34	31 12 3
	Vatle Jensen	VAT	Palle Ivar	Salvo Kts	Straeløsevej 45	Julu		32 00	33 21 32	33 22 3
<i>Finland</i>										
	Walter Hank	WAR	Pirkko Ka	Accountin	Toukoku 50	Oulu		50 11	501 449	50 1 44
	Witman Kala	WIL	Matti Kall	Owner/Kts	Kaakukatu 45	Hels		21 24	50-224 3	50-224
<i>France</i>										
	Bonnel pière	BON	Frédérique	Marketing	24, place Kléber	Savo		01 00	33 80 7 5	33 80 7
	Bon app'	BON	Laurence	Owner	12, rue des Bouches	Nice		15 00	31 24 4 5	31 24 4
	Du monde ent	DUM	Jeanne La	Owner	87, rue des Cingulard	Nant		44 00	40 81 3 3	40 81 3
	Fabrice gourm	FGL	Melanie R	Accountin	134, chaussée de Fo	Lille		50 00	20 18 7 0	20 18 7

To create this report, you would place the customer fields in the detail section and specify country as a group using the Sorting and Grouping menu. If creating a report as shown earlier in report design view in Figure 5.3, you can get grouping from the menu bar by clicking on *View Sorting and Grouping* and you will get the box shown in Figure 5.7.

In Figure 5.7, the grouping field specified is Country and within each country, the data is sorted in ascending order of CompanyName. For each field in the Grouping box, you also have various Group properties so for example, Country has the *Group Header* property set to Yes.

Alternatively, you can also specify the fields you want to group by when using the report wizard to create a report.

Figure 5.7 Sorting/Grouping in Report Design View.



Closing a database and exiting Access

In the main database window Figure 2.1, choose *File Close* to close the database. To exit Microsoft Access completely, choose *File Exit*.

Opening a database

Choose *File Open* to open a database, then browse to the directory where your database is located and click on the database and then click on *Open*.

Backing up your database

To backup your database, you should use *Windows Explorer* or via *My Computer*.

Compacting/Repairing a database

Microsoft Access databases can get quite large in size especially if you have a lot of photographs or images in your database in forms. Also, if you delete large amounts of information from your database, then that space may not be recovered automatically. To reduce the size of a database, first of all open the database and then you go to Tools Database Utilities Compact and Repair Database. You should do this on regular basis, at least once a month.

Sometimes a database can become corrupted which tends to happen most often if you are low on filespace on the drive you are working on, for example, H:. Access will usually inform you if the database is corrupted and give you the option to repair it.

Inserting photographs/images in your database

If you want to store images in your database, for example, a photo of each member of staff, then the steps are:

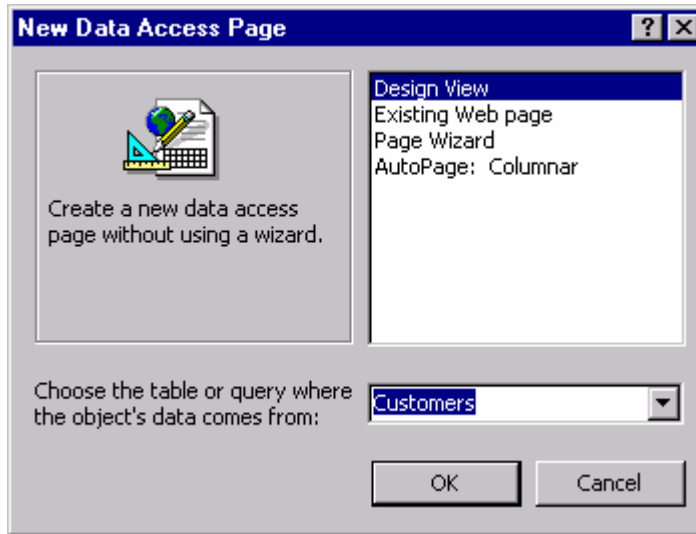
- Open the table (Employees table, for example) in design view
- Create a new field named Photo and set the field type to OLE object.
- Save the table as you have made a change to the table design.
- Open the form which you have based on the table, in design view, and from the field list box, select the Photo field and drag to the detail section of the form.
- In form view, you then click on the Photo field and choose *Insert Object* and click on the option *Create from file* and then browse to the location of the file which contains the image via clicking on Browse.
- Click on OK twice.
- Use the record selector on the form to move onto the next record or member of staff and repeat the process.

When inserting images or photographs from files, it is recommended to use (.JPEG) or (.GIF) graphics as they do not tend to use as much space as (.BMP) files.

Data Access Pages

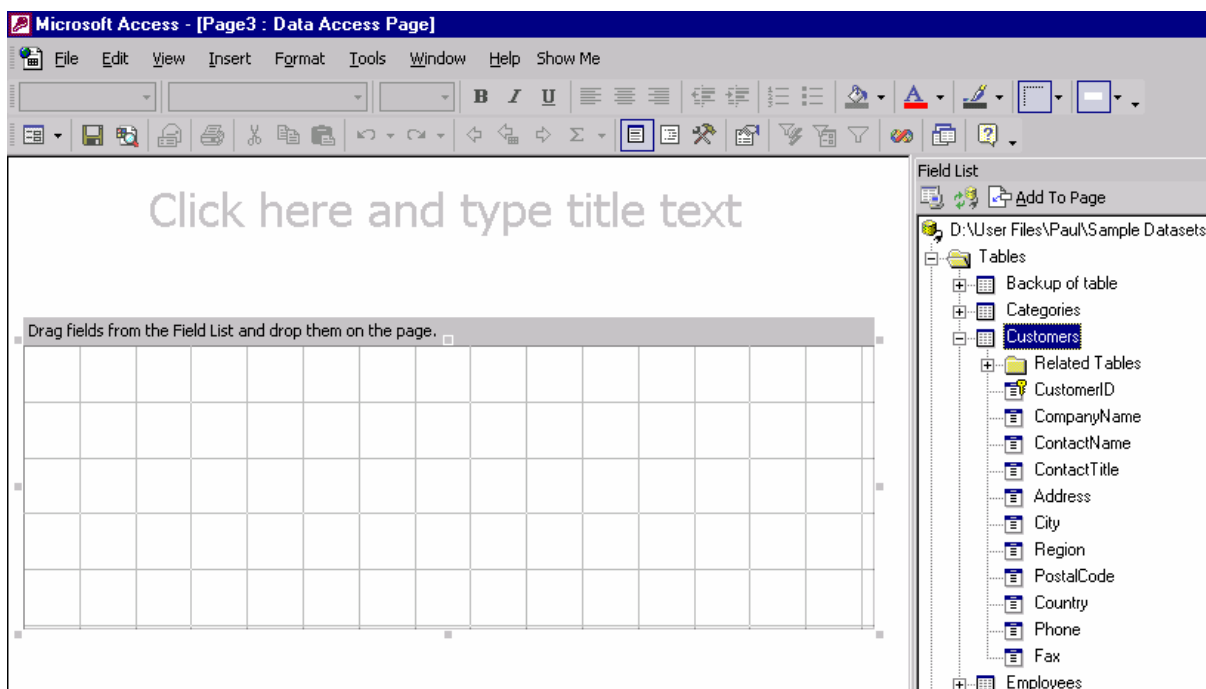
A Data Access page is a web page that is connected directly to the data in your database. You can create Data Access pages that are stored as objects in your database similar to form and report objects. You can create a Data Access page via clicking on *Pages* and then *New*. Click on *Design View* and choose the Table/Query which contains the data you want to display. Then click *OK*. A sample is shown in Figure 6.2 where the data source is the Customers table in the Northwind sample database.

Figure 6.2 Creating a Data Access Page



Once you have indicated the Data source for the Data Access Page, you will be taken into Data Access Page design as shown in Figure 6.3.

Figure 6.3 Data Access Page Design View



In Figure 6.3, you can drag the fields from the *field list* on the right-hand side to the relevant section on the Data Access Page on the left hand side. You can drag all the Customers table fields by dragging the *Customers table title*. You will then be prompted with a layout wizard where you can choose different layouts as shown in Figure 6.4. Click *OK*. The result of the default layout *Columnar* is shown in Figure 6.5.

Figure 6.4 Layout wizard for Data Access Pages

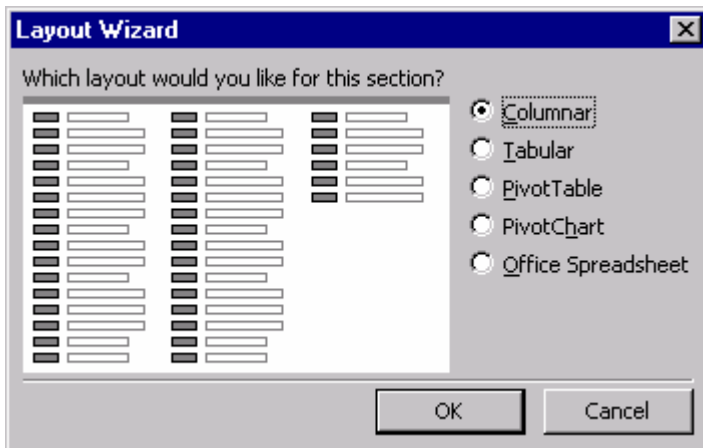
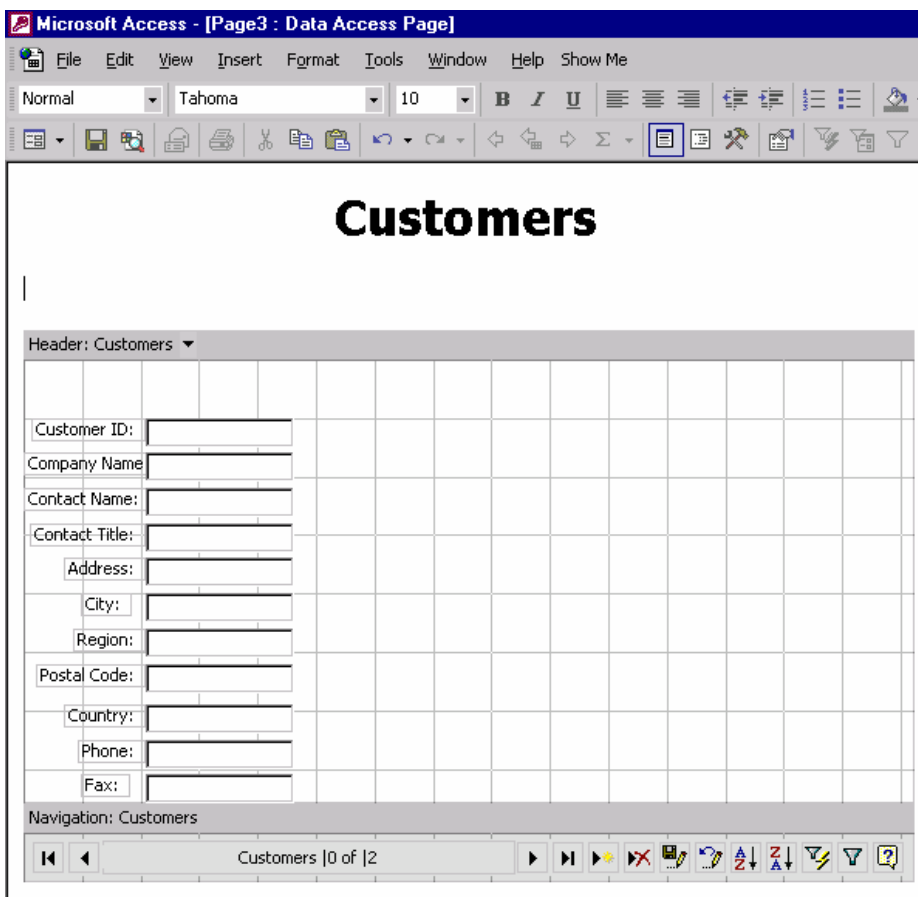


Figure 6.5 Data Access page



To Save the Data Access page, choose File Save As as shown in Figure 6.6. You will then be asked to save the file as a HTML file as shown in Figure 6.7.

Figure 6.6 Saving Data Access page

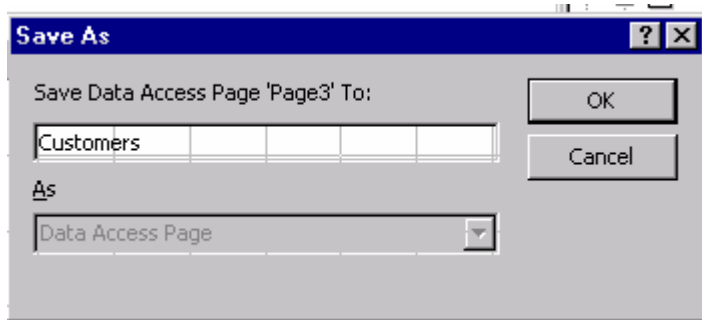
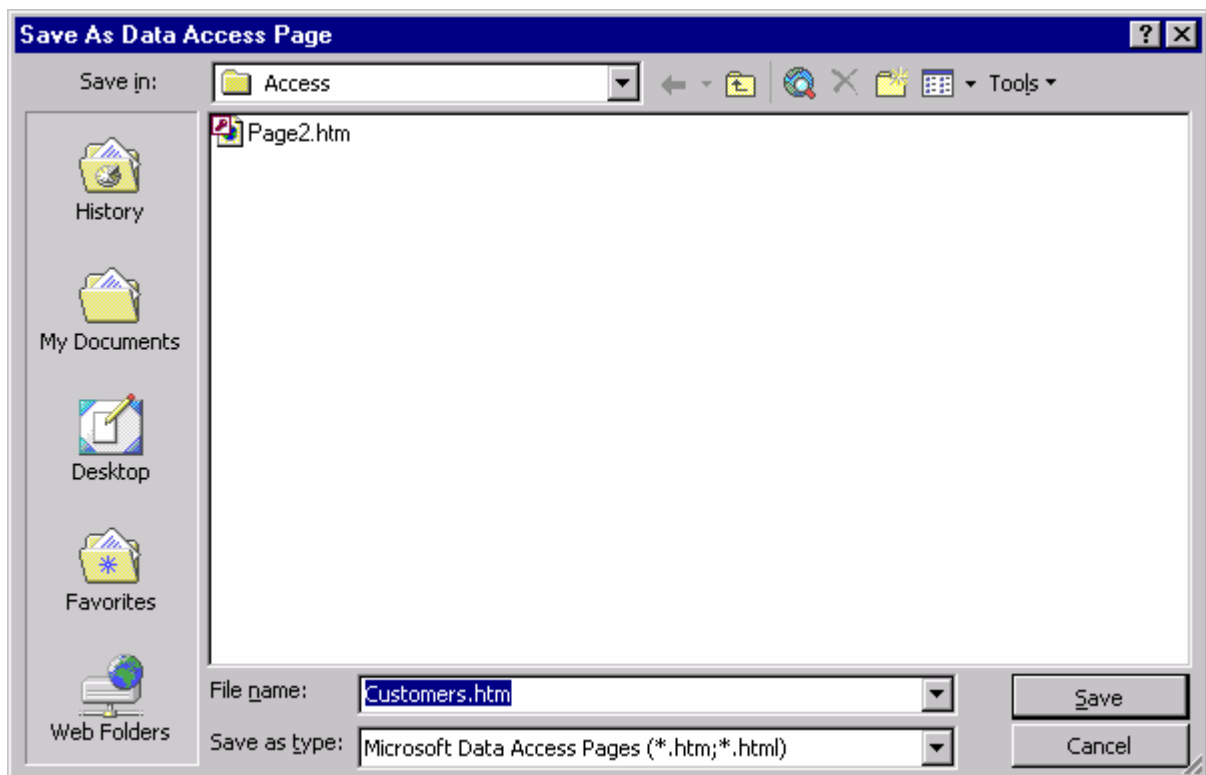
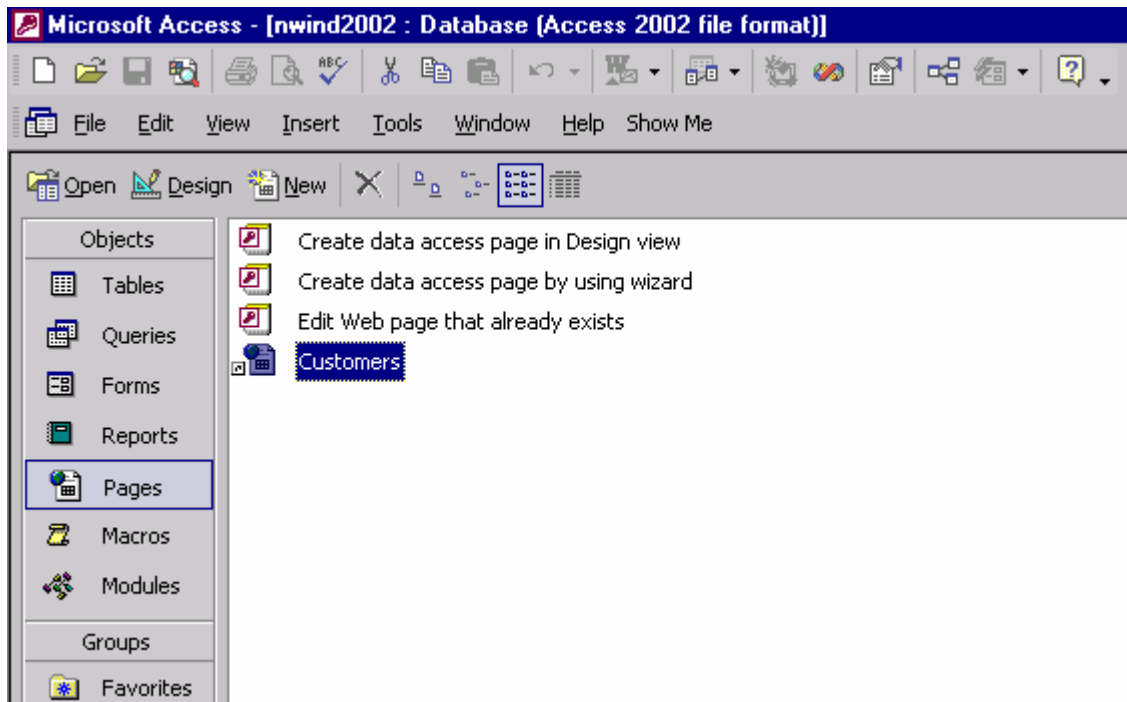


Figure 6.7 Saving Data Access page as html file



Click on Save in Figure 6.7. Then click on File Close and you should see the Customers Data Access Page is now an object in the database as shown in Figure 6.8. There is also a corresponding htm file in the location you specified in Figure 6.7.

Figure 6.8 Database Window containing the Customers Data Access Page

If you choose to Open the Customers Data Access page in Figure 6.8, you should see the first individual Customer record as shown in Figure 6.9.

Figure 6.9 Data Access Page containing Customer records

The screenshot shows the Microsoft Access Data Access Page for the 'Customers' table. The page title is 'Customers'. The form contains the following fields and values:

Customer ID:	ALFKI
Company Name:	Alfreds
Contact Name:	Maria Anders
Contact Title:	Sales
Address:	Obere Str. 57
City:	Berlin
Region:	
Postal Code:	12209
Country:	Germany
Phone:	030-0074321
Fax:	030-0076545

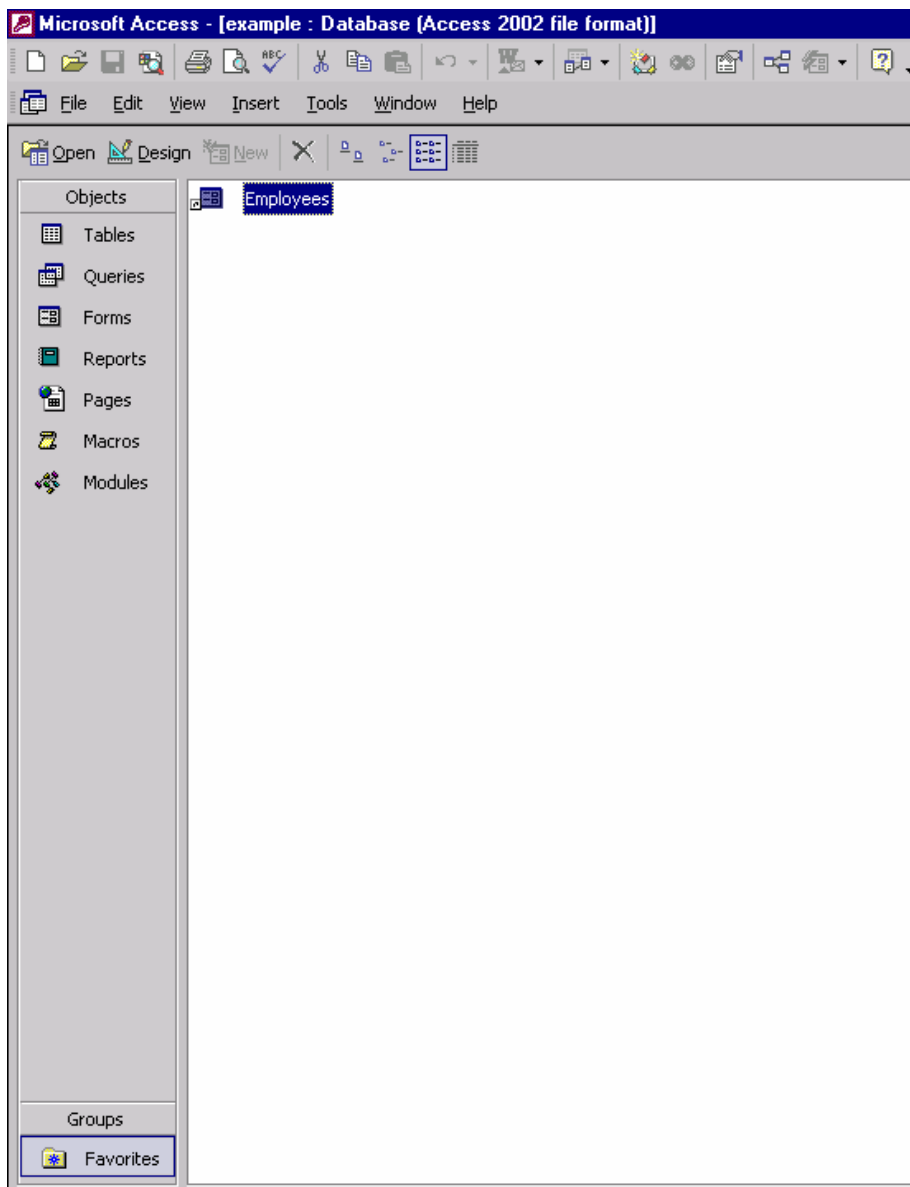
The status bar at the bottom indicates 'Customers 1 of 91'.

More information on creating Data Access pages in Access can be found via [Help Microsoft Access Help](#), [Contents](#) and choose [Data on the Web](#).

Favorites

You can copy any database object to a *Favorites* folder in the main Database window which will create a shortcut to that database object. The example in Figure 6.10 shows a shortcut to the Employees form in the Favorites folder. This feature could be useful if you have many database objects and want to easily find certain objects quickly. If you delete the shortcut in favorites, this will not delete the original object.

Figure 6.10 Favorites folder



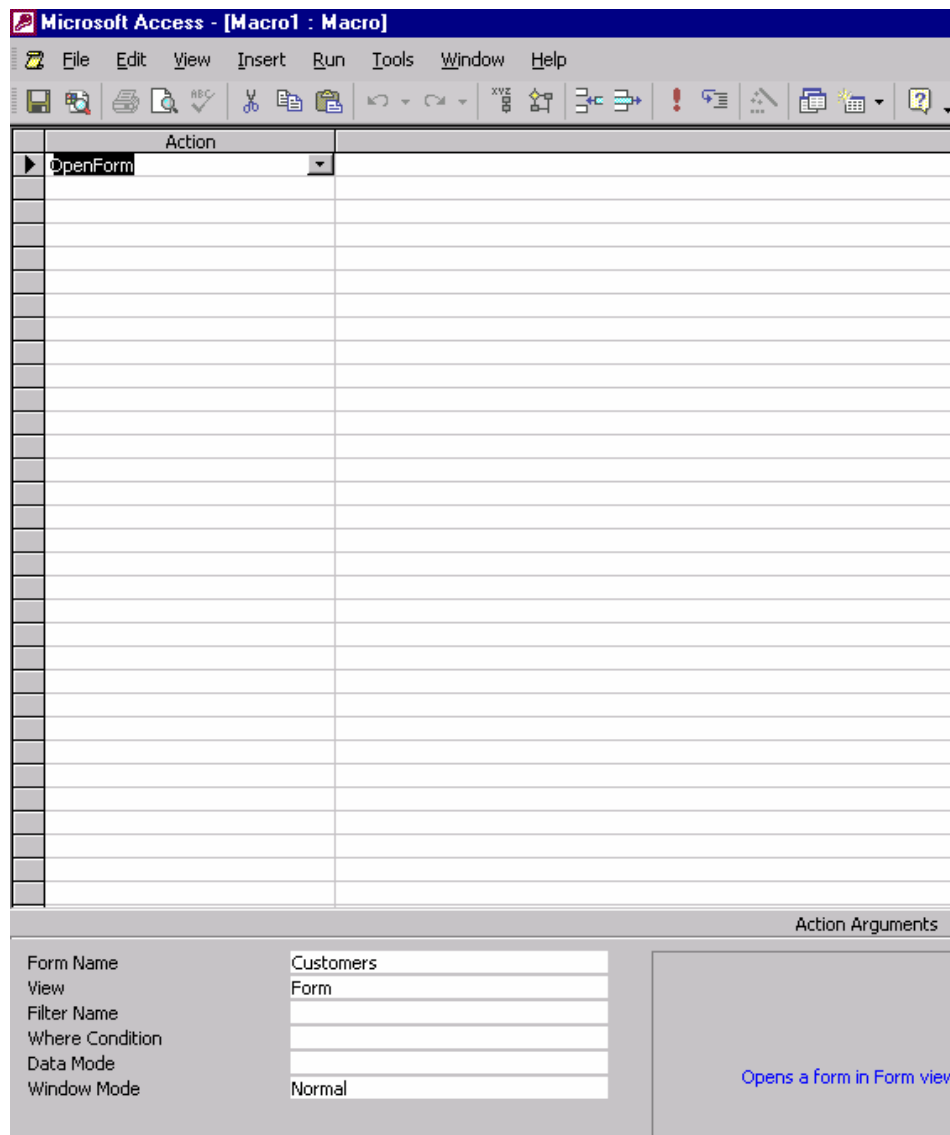
Macros and Modules in Access

As well as the five database objects introduced so far, there are two further database objects: Macros and Modules.

Macros

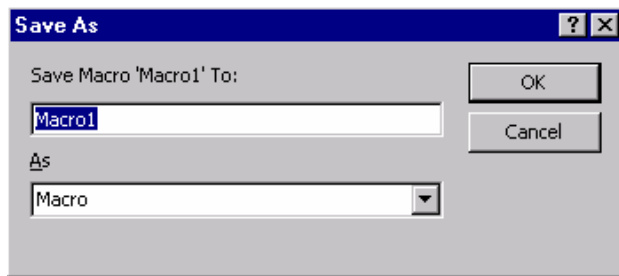
Macros are used to carry out a series of actions. You can create a macro via clicking on *Macros* and click on *New*. You then specify the action or series of actions you wish the macro to perform. Each action has *Action Arguments* which you specify. An example is shown in Figure 7.1. The simple macro shown in Figure 7.1 has one action which opens the Customers form.

Figure 7.1 Example of a simple macro



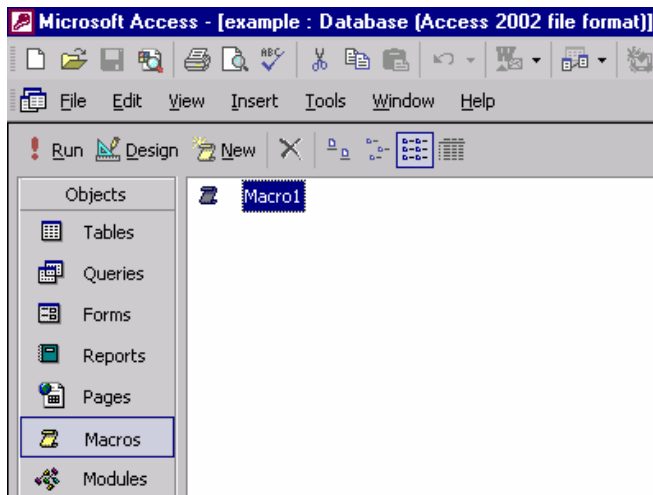
To save a macro, choose File Save As and then give it a name as shown in Figure 7.2. Click on *File Close* to close the macro. The macro should then appear in the main *Database Window*.

Figure 7.2 Saving a macro



Once you have created macros, you can run them directly from the main Database Window as shown in Figure 7.3. To run the macro, click on the *Run* icon on the toolbar. You can also run macros from within forms and reports via Command Buttons for example.

Figure 7.3 Running a macro



Modules

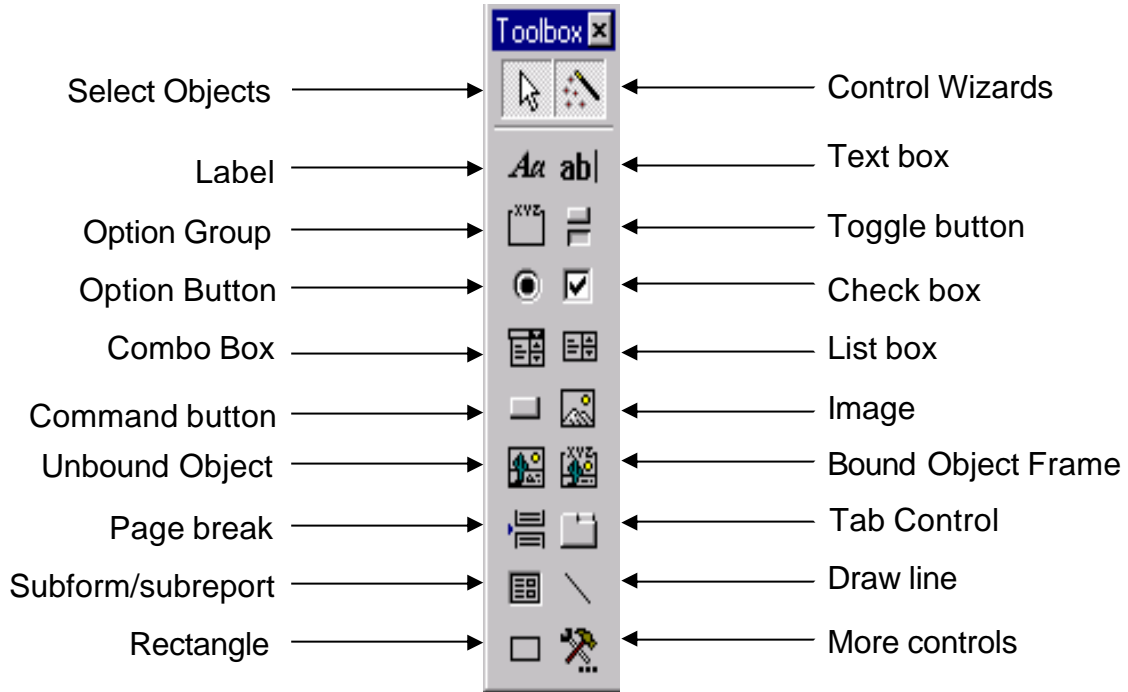
Modules are an alternative to macros and also can be used to perform various actions automatically in response to a user's actions. Modules are written within Access using Microsoft Visual Basic. You can write various functions in Modules which can then be called from Forms and Reports.

Getting Help

You can get help within Microsoft Access 2003 via clicking on *Help Microsoft Access help* which will bring up a menu to guide you through using Access and various tips. Within *Microsoft Access Help*, you can click on three tabs: *Contents*, *Answer Wizard* or *Index*. The sample database Northwind.MDB referred to in the screenshots previously is available on the Cardiff University network via Help Sample Databases and Northwind Sample Database.

Appendix A: Toolbox

The toolbox is used in form or report design.



Information Services User Guides

This is one of a series of User Guides produced by Information Services.

Our User Guides are available free of charge to our registered users. They can also be accessed from the Information Services web site at

www.cf.ac.uk/insrv/educationandtraining/guides/

All reasonable checks are made to ensure that the information contained in this guide is correct at the time of going to press.