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# Computer Training

## Introduction to MS Access 2

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### *Workbook*



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## ***Introduction***

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Welcome to the Warp! MS-Access 2 Computer Training Course.

MS-Access 2 is a Powerful Database Application program for Windows 3.x. It is part of Microsoft's popular professional Integrated software Suite: Microsoft Office.

**Database Programs** are tools which allow you to store and manipulate information. This course gives step-by-step instruction on the basic features of MS-Access 2. By the end of this course you will be equipped with all of the skills necessary to use MS-Access 2 to generate simple and effective relational databases. With these skills, and a bit of practice, you will be well on your way to becoming an Access 2 Whiz.

This workbook leads you step-by-step through all of the fundamental skills you will need to use Access 2 effectively.

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# Creating a Database

## Getting started

You start MS Access as you would any other Windows application:

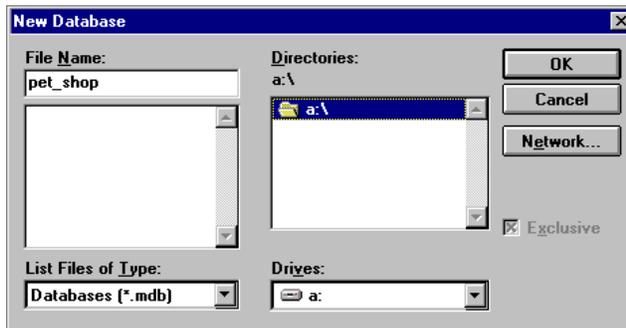
### Exercise Starting MS Access 2



- Double-click on the **Microsoft Access** icon from the **Microsoft Office** Window

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### Exercise Creating & Saving a New Database



- Name your database file. You can name the file for this Exercise **pet\_shop** and save it to your **A:\** floppy disk
- Click the **OK** button



The Database Window gives you access to every **object** in your database. The following sections will lead you through creating an Access Database using this Database Window:

## Planning a Database

There are 7 steps to creating a database:

1. Determine the purpose of your database
2. Determine the **tables** you need in your database
3. Determine the **fields** you need in each table
4. Identify fields with **unique** values
5. Determine the **relationship** between tables
6. Refine your design
7. Add **data** and create other database **objects**

### 1. Determine the purpose of your database

What information do you want to extract from your database? You need to determine how a database management system (like Access) can help you turn the raw data you collect into the information you need. Throughout this workbook we will be looking at how a Pet Shop can use Access to help keep tabs on the information needed to run the business.

As the Pet Shop manager your database might need to provide you with certain information, like names and addresses of customers and suppliers. You might want to keep an inventory of all the stock you currently have in your shop so that you can reorder when stocks get low. When a customer makes a purchase from your shop you may want to generate a detailed receipt to keep your books up to date. If they are a new customer, you could take their details so that you could send them your quarterly newsletter.

Once you have determined the information you want to extract from your database, you can then decide on the subjects (Tables), and the facts about each subject (fields) into which you will divide your data.

### 2. Determine the Tables you need

Each **Table** in your database holds information on just one **subject**.

The Pet Shop database will need one table for **Customers**, one for **Suppliers**, one for **Products** and one for **Sales**.

Determining the tables to include in your database is a very important and fundamental process. It is important that you sit down and sketch the tables you need **on paper** before you even turn on your computer. Talk to the people who will use the database to see what sort of data they need included. Look at the means by which you collect your data, like the questionnaires you give your customers, or the record sheets you use to keep track of your suppliers.

There are two basic rules when trying to determine the tables to include In your database:

1. A Table should not contain **Duplicate** information and information should not be duplicated between tables

You should store any one piece of data in your database **once**. A customer's name, for example, should only have to be entered once in the Customer table. Requiring the user of the database to input the customer's name when recording a **Sale** is duplicating information in two different tables. This could lead to data-entry errors.

2. Each table should contain data about one subject

Imagine that you designed a database which stored customer details when a sale was made. Each time a customer bought something, you would enter their name and address, as well as the code for the item being purchased. If the customer returned that item for a refund, you would have to delete the whole record, wiping out valuable customer information in the process. It would be better to create one table for Customer details, and one for Sales details. When a sale is cancelled, the only information which needs to be deleted is information about the purchase, leaving the customer's details intact.

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3. Determine the Fields you need

The **Fields** in each table hold the facts about one subject. The fields in a table for customer details might include **First Name**, **Surname**, **Address**, **Age** and other facts which describe each customer. The fields in each table should be related directly to the subject of the table.

4. Identify Fields with unique values

Each Access database table needs one field which gives each of it's records a unique label. Examples might include unique serial numbers for each of the products you stock, or a different ID code for each of your customers. This field is called a **Primary Key**, and allows Access to connect information between different tables.

5. Determine the Relationships between tables

Access is known as a **relational database**. You enter raw **data** into tables regarding specific subjects, and then link those tables to extract

meaningful **information**. The **Relationships** button on the toolbar lets you form relationships between your tables easily. We'll look at building relationships later.

## 6. Refine the design

Once you have made the tables you think you need and formed relationships between them, you need to study your design to find any flaws. You'll enter a few records of data into each table and use sample **Forms** and **Reports** to see if you can extract the information you need from your database design.

## 7. Enter data and create other database objects

If you are confident your design is sturdy enough to let you extract the information you need, it is time to enter your data. You can then create forms, reports, queries and other database objects to analyze your data.

That was an overview of the entire process of designing a new database. Let's jump in and start creating a database:

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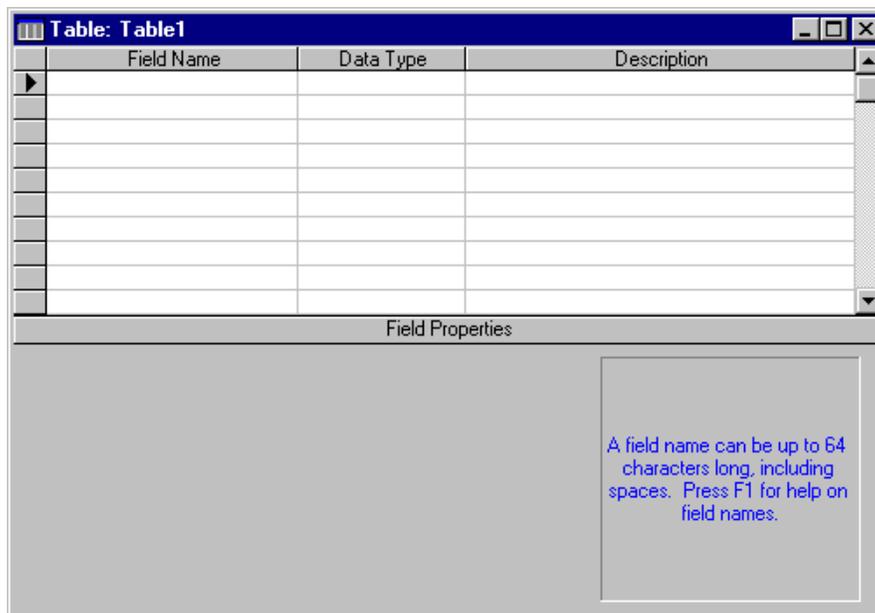
## Creating a Table

You should already have open a **Blank Database** which is stored as the file named **pet\_shop.mdb** on your floppy disk. Follow these steps:

- Click the **Tables** tab on the Database Window
- Click the **New** button
- Click the **New Table** button

### **Exercise**

#### *Creating a Table*

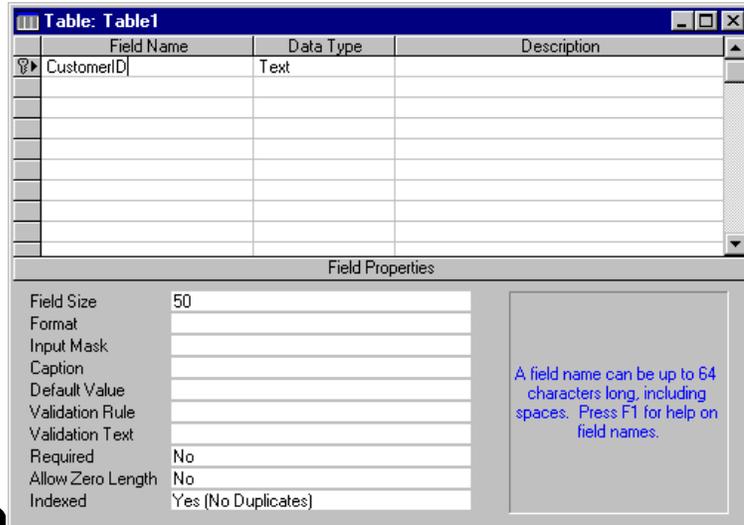


The names and properties of the **Fields** in your table are added here. Let's add the first field. It will be the **Primary Key** for this table, the place where we store a unique code for each customer in our database:

**Exercise**  
*Adding Fields*

- Type **CustomerID** into the first **Field Name** box
- Click the **Primary Key** button on the toolbar 

**Exercise**  
*Setting a Primary Key*

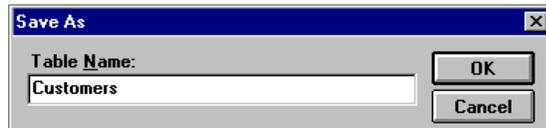


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Before we do anything else we will save this table:

**Exercise**  
*Saving a Table*

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

**Exercise**  
*Naming a Table*



- This table will contain our customer's details, so type **Customers** into the box
- Click the **OK** button

Now we'll enter the other fields that describe our customers: **Title, First Name, Surname, Address, Suburb, State** and **Postcode**.

- Type **Title** into the next **Field Name** box
- The **Data Type** will be set automatically to **Text** (which we want)
- Type **First Name, Surname, Address, Suburb, State** and **Postcode** into the next six fields. The data type of each of these fields is **Text**, which is the default.

Even though the Postcode is a number, it's **Data Type** should be set to **Text**. The only reason to give a field the Data Type of **Number** is if the field is to be involved in calculations.

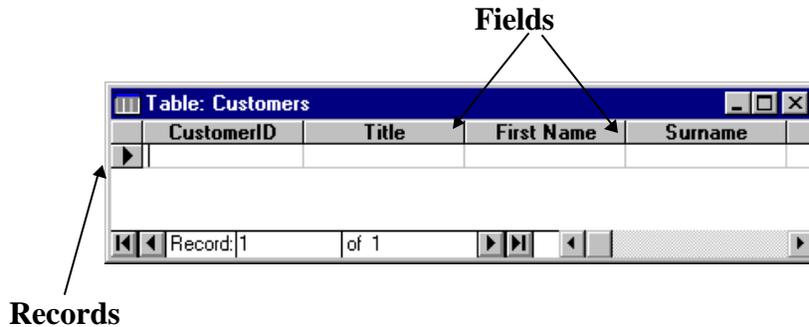
- Click the **Save** button on the toolbar

Now, look at the table in **DataSheet View**:

- Click the **DataSheet View** button on the toolbar 

### Exercise

*Viewing a Table in DataSheet mode*



A database is a collection of records which are grouped into fields. Each **column** in an MS Access table stores the table's **fields** and each **row** stores the table's **records**. A record contains all the information on a subject for one member of your database.

When you first create a table it will contain one empty record. To enter data into your new table, just fill in the fields for each record:

- Our first customer is:  
**Mr Bob Jones**  
**1 Apple Lane**  
**Baker's Town NSW 2100**
- We have chosen to record the CustomerID as the first 4 letters of the Surname, followed by a number. So Mr Jones' code will be **Jone1**. Type this into the first **CustomerID** field
- Enter each part of the customer's details into the appropriate field in the first record. Use the **[Tab]** key on your keyboard to move forward through your fields. Use the **[Shift]+[Tab]** key combination to move backwards.

### Exercise

*Entering data into a Table*

Our next customer is:

**Ms Jane Smith**  
**2 Banana Drive**  
**Cattleville NSW 2342**

- Enter this data to make a record for Ms Smith. The CustomerID will be **Smit1**

CustomerID	Title	First Name	Surname	
Jones1	Mr	Bob	Jones	1 A
Smit1	Ms	Jane	Smith	2 B
*				

**Record Selector**

Click to select the entire record. Also, can display the following symbols:

- The current record; the record has been saved as it appears.
- A new record that you can enter information in.
- You are editing this record; changes aren't yet saved.
- This record is locked by another user; you can't edit it.

If you have more records in your table than will fit on your screen, you can navigate between them by using the **Record Navigation** tools

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**Exercise**  
*Closing a Table*

Close the datasheet by double-clicking the close button in the upper-left corner of the datasheet window.

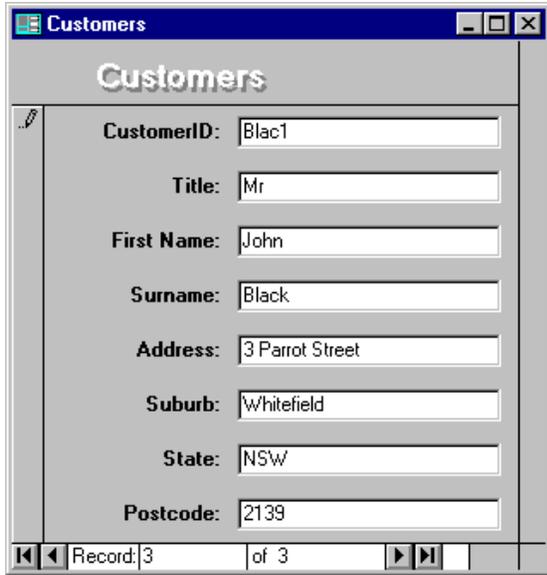
Notice that an icon representing your new table appears on the **Tables** tab of the Database Window. You can **Open** this table in **DataSheet** view by double-clicking on the icon, or by clicking the **Open** button on the **Tables** tab. You can edit the layout of your table in **Design** view by clicking the **Design** button on the **Tables** tab.

### Using a Form to enter data

You can use a **Form** to enter data into your tables. Forms are usually easier to work with than entering your data directly into the table. We'll look briefly at creating a simple form and then using it to add data to our **Customers** table:

**Exercise**  
*Creating a Form using AutoForm*

- Select the **Customers** table on the Tables tab
- Click the **AutoForm** button on the toolbar



- Our next customer is:  
**Mr John Black**  
**3 Parrot Street**  
**Whitefield NSW 2139**
- Click the **New Record Button** on the toolbar 
- Enter the Customer's details on the form. Use the **[Tab]** and **[Shift]+[Tab]** keystrokes to navigate through your form

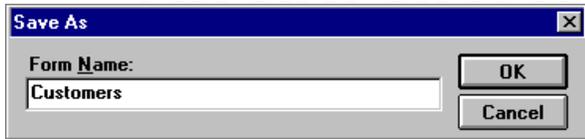
**Exercise**  
*Entering data into a Form*

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Close the form window (double-click the close button) and click the Save button.

**Exercise**  
*Closing a Form*



- Click the **OK** button (we want the new form to have the name **Customers**)

**Exercise**  
*Saving a Form*

### Editing data in a table

To edit data in a table using the table's datasheet view:

- Click the **Tables** tab on the Database Window
- Select the Table you want to edit (we'll click on the our **Customers** table)
- Click the **Open** button

### Editing individual cells

- Click on the cell you want to edit
- Use standard text formatting techniques to edit the contents of the cell

**Exercise**  
*Modifying data in a Table*

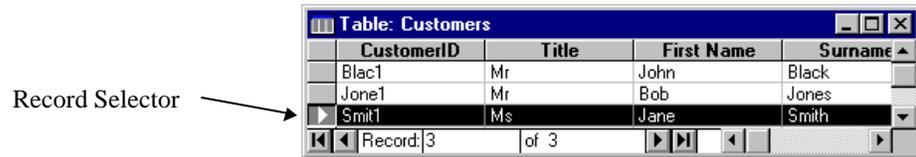
### Selecting table objects

You can select whole **Records**, whole **Fields** or the whole **Table** to edit:

- To select a **Record**, click on the **Record Selector** next to the record of interest

**Exercise**  
*Selecting a Record*

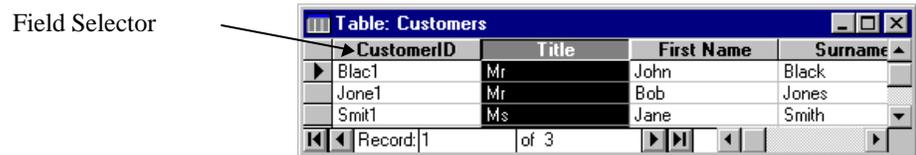
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- To select more than one record, click and **drag** over the record selector buttons of interest
- To select a **Field**, click on the **Field Selector** above the field of interest

### Exercise

*Selecting a Field*



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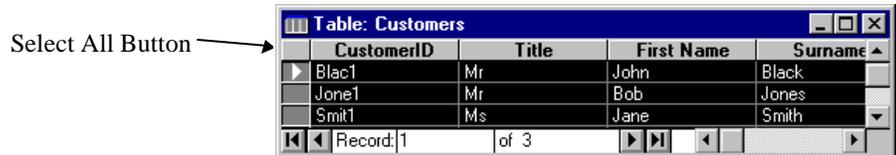
To select more than one field, click and drag over the field selector buttons of interest

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To select all the records in your table, click the **Select All** button

### Exercise

*Selecting all Records & Fields*



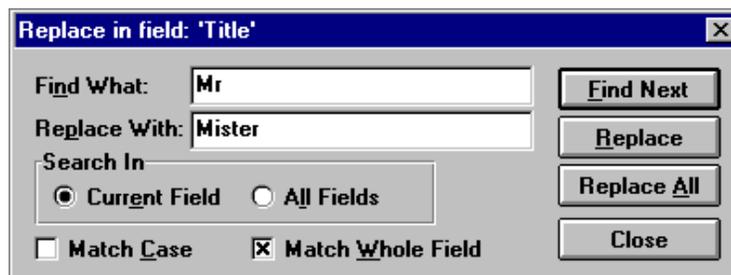
### Using Replace

You can let Access find specific data and replace it with other data using the **Replace** command

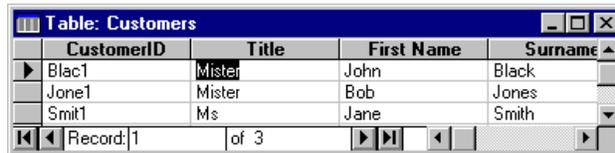
### Exercise

*Replacing text in a Table*

- Select the range of data you want to search through. It could be a field, a record, or the whole table. We'll search through our table and replace all of the **Mr** titles with **Mister**:
- Click the **Title** field selector
- Select the **Edit...Replace** menu item



- Enter **Mr** into the **Find What:** box
- Enter **Mister** into the **Replace With:** box
- Click the **Replace All** button
- (Click the **Yes** button to confirm your intention)
- Click the **Close** button on the **Replace** window



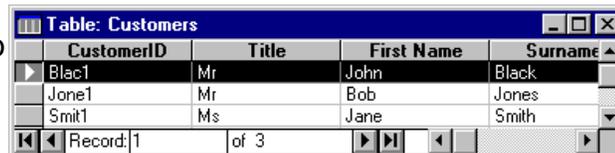
CustomerID	Title	First Name	Surname
Blac1	Mr	John	Black
Jone1	Mister	Bob	Jones
Smit1	Ms	Jane	Smith

- Change **Mister** back to **Mr** in the same way

## ~~Deleting Records~~ For evaluation purposes only Do not use for training

Deleting unwanted records is a common task:

- Click the **Record Selector** button next to the record you want to delete →



CustomerID	Title	First Name	Surname
Blac1	Mr	John	Black
Jone1	Mr	Bob	Jones
Smit1	Ms	Jane	Smith

This selects the record

- Hit the **[Delete]** key on your keyboard
- If you are sure you want to delete the selected record, click the **OK** button. Your record will be permanently deleted
- Close the table datasheet

**Exercise**  
*Deleting data from a Table*