

# Instructions for Creating Personnel Database

## Create A New Database

1. Find the shortcut or the file that starts MS Access and click it to activate the program.
2. In the “Create a New Database Using” portion of the dialogue box, select the “Blank Database” radio button. (See Figure 1)

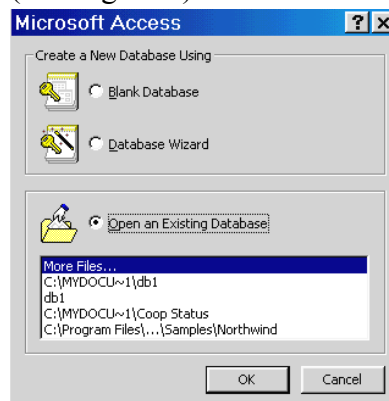


Figure 1

3. The “File New Database” dialog box appears. (Figure 2) Access requires that you save the file (give it a name and a location) before you begin working with it. That is because as you enter data into the database (after you have designed it), the data is saved automatically as you enter it and move from field to field and record to record.

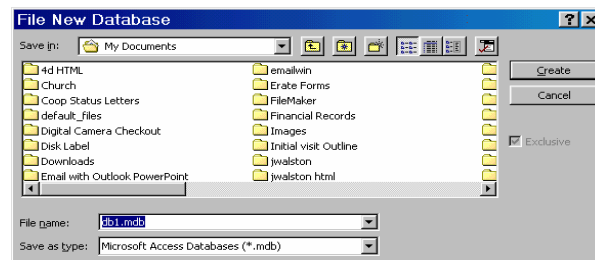


Figure 2

4. Name you database “Personnel Information” and save it in the “My Documents” folder.
5. After Access creates the file the program opens and you will see the Database Window. (See Figure 3) The Database window is the holding place for all the objects that you will create

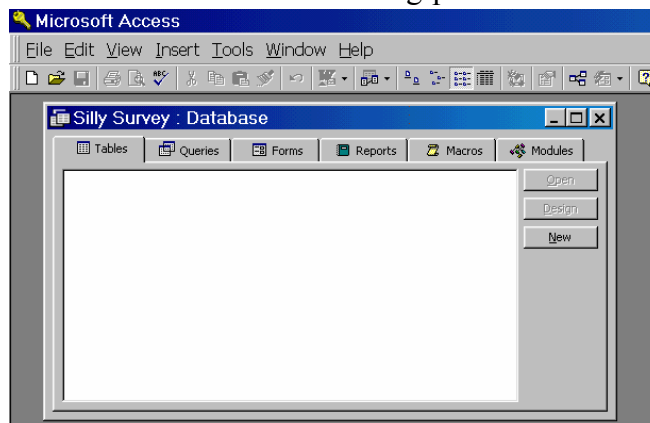


Figure 3

that will make up the Personnel Information database. Database files or applications that you create with MS Access will consist of tables, forms, queries, and reports. (Macros and Modules are beyond the scope of this workshop but they are also elements that can be included in an Access database file or application.) Your file can have multiple tables, queries, forms and reports, but all of them together make up the database file. You will both create and view all of the database objects that you create for you database file from this window. Notice that the window is empty right now. That is because you haven't created anything yet.

## Creating Access Tables

Most often when you are creating a database file, the first thing you will need to do is create a holding place for the data that you want to store in the database. Remember, a database is, first and foremost, a data storage structure. In MS Access data is stored in tables. A table is a collection of data about a specific topic, such as products, supplies, or for our purposes today, personal information. Tables store data items in a row-column format similar to that used by spreadsheet applications. So before we can enter data into a table, we have to create the table.

In the Database window click on the "Tables" tab to give it the focus. Click on the "New" button to activate the "New Table" dialogue box. (Figure 4)



Figure 4

1. In the New Table dialogue box there are five options for creating a new table. We are going to use the Design View for all of the tables that we create today, but you should experiment with the other options. One of them may be more to your liking. Select Design View in the window and click on the OK button to activate the Table 1 Design View window. (Figure 5)

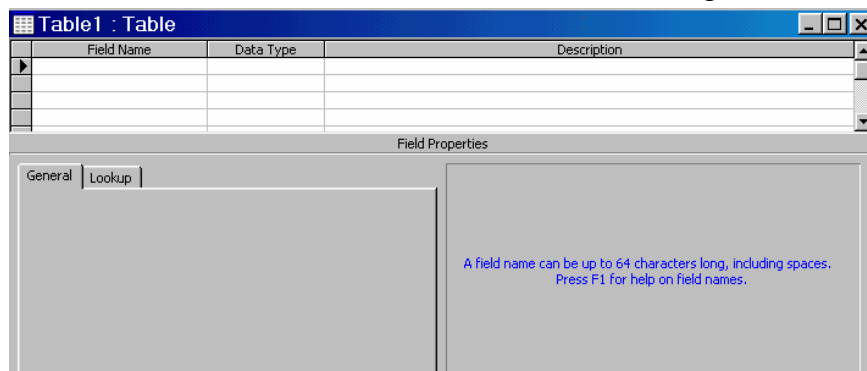
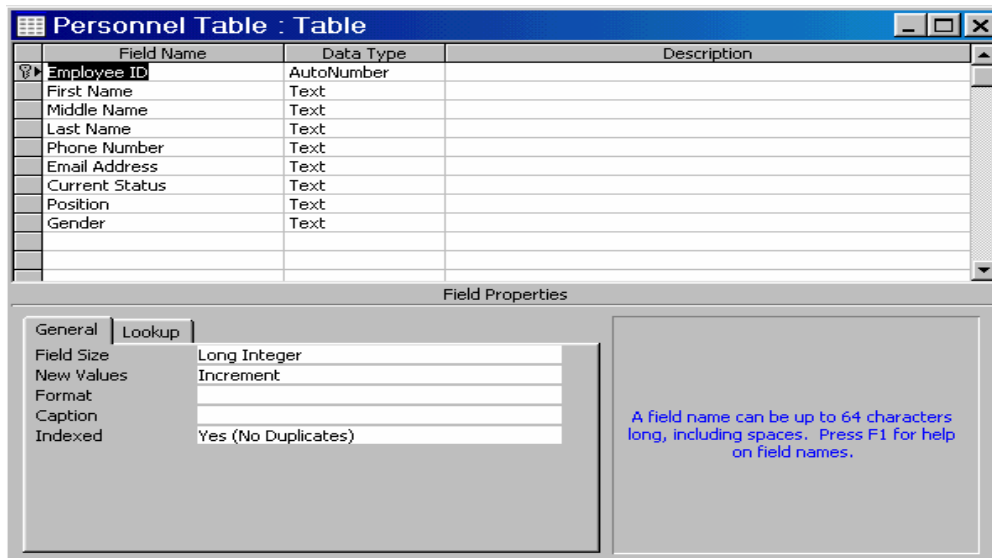


Figure 5

2. You should take note that the database window is still open. It is in the background and does not have the focus right now, but it is still there. Also notice that the Design View window is

divided into two parts, the grid at the top and the Field Properties at the bottom. We will be working in both windows. The grid at the top is divided into three columns. Two of them are required the third is optional. As we saw earlier, databases are made up of fields and records. In this window you are going to tell Access what fields you want to include in this database table. Click in the Field Name column and Row 1. Type in the name of the first field (which for our Personnel Information database will be Employee ID).

3. Tab over to the next column, Data Type. Change the data type to "AutoNumber". We will be using this field as the primary key field so click on the Key in the toolbar.
4. This field does not need a description so click in the second column and add the next field, First Name. Tab to data type and notice that by default, it is text. That is good for this field.
5. Tab over to the third column, the "Description" column. This information is optional, but if you choose to use it, the text that you enter here will be shown in the status bar at the bottom of the table when you click in this field in "Datasheet" view. Type "Enter your first name only."
6. Click in the "Field Length" box in the "Field Properties" portion of the New Table window. Change the field length from 50 to 25. (This is a space saving technique that will help keep your databases as small as possible.)
7. Add fields for Middle Name, Last Name, and phone number, email address, current status, position and gender as seen in the illustration below.



8. Go back to the "Gender" field. In the data type column change it from text to "Lookup Wizard." In the Wizard dialogue box, select the second radio button, "I will type in the values that I want" and click next. In the first cell enter "Male". Hit the Tab key and type "Female." Click next and finish.
9. Click in the Phone Number field and click in the field properties portion of the screen. Select Input Mask and choose phone number. (Note: in the input mask if you replace the (999) with (361) you will never have to type the (361).
10. For the Position field, select Lookup Wizard and type in the values that you want to use. Type in secretary, supervisor, director, Maintenance director, assistant supervisor, assistant director, and clerk

11. Save and close the table. The table should be named Personnel Information Table
12. Create a new table in Design View
13. Add one field to the table... Current Status. Save the table as Employment Status Table. Close the table.
14. Open the Personnel Information Table in design view. Click in the data type column for the Current Status field. Click on the drop down arrow and select Lookup wizard.
15. Leave the first radio button selected and click next.
16. In this dialogue box you select the table or the query from which you want the values for this field to be selected. In our database there is only one so click next.
17. This dialogue box will list all the fields from the table you selected in Step 16. Again, we only have one so select it and click next two times and then finish. Then click Yes on the save message box. You didn't see any apparent change, but in the field properties, click on the Lookup tab and notice all the information that has been added by the lookup wizard.
18. Close the Personnel Information table and open the Employment Status Table in Datasheet view. Enter the following information... Part Time, Half Time, 3/4 Time, and Full Time.
19. Open the Personnel Information table in Datasheet view. Click in the Current Status field, click on the drop down arrow and you should see the information that you just entered in the Employment Status table.
20. Create a third table with the following fields and respective data types.

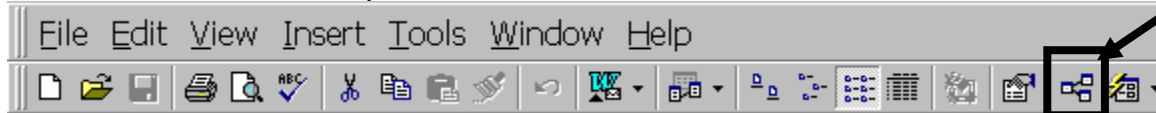
Employee Information Table : Table			
	Field Name	Data Type	
	Information ID	AutoNumber	
	Employee ID	Number	
	Address	Text	
	City	Text	
	State	Text	
	Zip Code	Text	
	Date Hired	Date/Time	
	Spouse's Name	Text	
	Current Salary	Currency	

21. Select the City field and in the properties sheet, click in the default value line. Type Corpus Christi. Add a default value for the State field also, TX.
22. Add an input mask for the zip code and for the date hired fields.
23. You have now designed all the tables that you need for this database.

## Establishing Relationships between Tables

If you are going to store information in more than one table and you want to draw information from two or more tables for a single object such as a query or a form, you must connect those tables together and tell Access how you want them to be related to one another. Relationships can be tricky but they also make you database very powerful. When we used the Lookup Wizard and told Access to get the information from another table with the current status field, Access automatically created the relationship. Now we need to create a relationship between the Personnel Information table and the Employee Information Table.

1. Be sure all tables are closed and the database window is open and has the focus.
2. Click on the Relationships Button the Standard Toolbar.



3. When the Relationships window opens you should see two table already connected. Now click on the Show Tables button and add the Employee Information Table.
4. Notice that both the Employee Information Table and the Personnel Information table have fields that are in bold. Those are the primary key fields for those tables. We want to create a relationship between these two tables that says that every record in the Personnel Information Table can have many records attached to it (associated to it, related to it) in the Employee Information Table. That is called a One-to-Many relationship.
5. To do that, click and hold on the primary key field (employee id) in the Personnel Table and drag to the same field (employee id) in the Employee Information Table.
6. In the create window select Enforce Referential Integrity, Cascade Update Related Fields and Cascade Update Deleted Fields and click on Create.
7. You have now established a One-to-Many relationship between those two tables. Since they are connected you can create forms, queries, and reports using data from both of them at the same time.

## Creating Access Forms

In Access, tables are the primary storage structure for data. However, in a large database with many fields and many records, working with data in a table (datasheet view) can be hazardous to your data. Access provides another object that is designed for working with your data. In this section of the workshop you will learn how to create a form.

1. Close any tables that are open
2. Click on the Forms tab in the database window.
3. Click on the New button and select Form Wizard
4. In the drop down box at the bottom of the dialogue box select the Personnel Information table and click on OK.
5. Since this is going to be our data entry form we want almost all the fields from the table listed on the form. Click on the second button to move all the fields from the left side to the right side of the dialogue box. Now select the employee id field and move it back to the left window. Click on Next
6. Select the Columnar layout and click Next.
7. Select Clouds and click Next.

8. Give your form a name... General Information Form would be a good name. Click finish
9. Add some information to you database using the form.

Now let's create a form that draws information from the two tables that we established a relationship between.

1. In the forms window select the New Button. Choose Wizard, select the Personnel Table and click on OK.
2. This time just select the First Name and Last Name Fields and move them from the available fields column to the selected fields column.
3. Click on the Tables/Queries list box and select the Employee Information Table. We want all the fields from this table to be included on our form except the Information ID and Employee ID fields. Move the rest of them any way you want to. Click on next.
4. Choose to view your data "by Personnel Information Table" and select the "Form with Subform" radio button. Click next.
5. Select Tabular for the layout. Click next.
6. Select Clouds and click next.
7. Change the name of the form to "confidential information form" and the subform confidential information subform. Click on finish.
8. You can make the forms look better by opening the subform in design view and making the text boxes and labels narrower. Open the main form in design view and delete the label for the subform.

## **Queries – Asking Your Database A Question**

Having a database is good, but what are you going to do with it once you have all that data stored away in such a nice orderly fashion? You have to be able to extract data from the database if it is going to be useful and so, in this section you will learn how to create and run simple queries. Let's start by asking the database to show us all of the names and salaries and genders of all the employees.

1. In the database window click on the "Queries" tab and click on the "New" button.
2. Select "Simple Query Wizard." In the next dialogue box in the "Tables/Queries" list box, select "Personnel Information Table." This is the table that has some of the information that we need in the query results set. Click next.
3. Since we aren't interested in all the information in all the fields for this query, we are only going to select two fields. Click on First Name and click on the top arrow. Now click on Last Name and move it to the right column and do the same for Gender. We need some fields from another table. In the Tables/Queries drop down list select the Employee Information Table. Select the current salary field. Now click "Next."
4. Select the first radio button on the next screen and click next.
5. Give the query a name. Let's name this one "Employee Salaries." Click "Finish." You should now be looking at the query result set that lists all the employee's first and last name, their gender, and their salary. But suppose we just wanted to see the salaries of the women in the company.
6. Click on the View button to move into Design view. The Query Design window is divided into two parts. The top part contains the table(s) that the query is querying. The bottom half, called the query by example grid can be used to visually construct the question (query) that you want to ask the database.

7. In the "Gender" column click in the Criteria row. Type "Female" (without the quotes). Click on the Run button on the toolbar (the large red exclamation point). Now you should only see the names and salaries of the women in the database.
8. Save the query.
9. Let's take this one step further. Let's ask the database to show us all the women in the company who are making more than \$40,000.
10. Go back to the design view of the query. In the current salary field click in the criteria row and type >\$40,000.
11. Run the query. You should see the name, salary, and gender of every one in the database who is a woman and makes over \$40,000. But do we really need to see the gender field in this query result set? No.
12. Go back to the design view and in the gender field click the check box that is in the "Show" row to remove the check. Run the query.
13. Save and close the query.
14. Create a form that you can use to view the results of this query.
15. Create queries that will show the employment status of all employees, the hire date, and the salaries of all the men. (Also create a parameter query.)

## Creating Reports in Access 97

The last step needed to complete the Personnel Information Database application is to create a report. Remember that reports are created for output, usually for printing but also for web and on-screen presentations. Let's create a report that will show us the last name, first name, and phone number of everyone in the database.

1. Click on the Reports tab in the database window, click on the New button, select "Report Wizard" and in the list box, select the Personnel Information Table. Click OK.
2. Move the last name, first name, and phone number fields from the "Available Fields" box to the "Selected Fields" box and click Next.
3. This page in the wizard gives you the opportunity to add some grouping to your report. If, for example, you tell the wizard that you would like to group by last name, Access will put all the people with the same last name together. We are not going to add any grouping to this report. Click Next.
4. This page allows you to choose a sort order. If you use the list box to select the last name field, the report will list everyone in alphabetical order by their last names. Click on the drop down list and select last name. If the field is a number field it will be listed on the report numerically. Click Next.
5. This is the layout page. Select tabular, portrait, and be sure to check the text box at the bottom of the box. Click Next.
6. Choose a style. This will have an effect on the appearance of the report, but only on font, style, color and size. Click Next.
7. Give your table a name that will identify it to you next week and next month. Our report will be called "Employee Phone Numbers." Click Finish.
8. Let's create another report that includes some grouping and draws information from two tables. In the database window on the Reports tab click the New button. Select the Personnel Information Table.
9. In the first Report Wizard window, select first name, last name and gender.

10. In the "Tables/Queries" list box select the "Employee Information Table". From this table choose the "Current Salary" field and click on the Next button.
11. In the next window, select "by Employee Information Table" and click Next.
12. Group the report by Gender and click the Next button.
13. Click Next in the sort order window since we don't need to sort this report.
14. In the Layout window select "Stepped" and click Next.
15. Select a style and click Next.
16. Give the report a meaningful name. Salary by Gender would be a good one for this report.
17. You can also create a report based on a query. Create a query that will show first name, last name, gender, and salary of all employees. Then create a new report that will draw its information from that query.