Lesson 10
Making databases relational

Relational databases let you easily view relationships between files and streamline data entry. You can enter data once, then view and use that data in related files.

In this lesson, you will:

- see how relational databases work
- define a relationship
- display data from one related record
- display a list of related records

The sample files in this lesson are a Members file with records for individual Corporate Travelers Club members, and a Companies file for companies where these members work. Each company has many members.

View data from one related record

See how relationships work in the sample files

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

3. Open the Sample10 folder.

You should be here:
FileMaker Pro 5 Trial\Tutorial\Sample Files\Sample10.

4. Open Companies10.fp5 and browse through the records.

You see one record for each of the three companies that has members in the Corporate Travelers Club.

5. Open Members10.fp5 and browse through the records.

6. In Members10.fp5, create a new record for `Jane Doe`.

7. For `Company`, choose `ABC Company`.

First Name   Jane
Last Name   Doe
Company   [ABC Company]

8. Notice that the address for ABC Company automatically appears.

First Name   Jane
Last Name   Doe
Company   ABC Company

Company Address   345 Industrial Park Blvd.
Chicago
USA

About related files

Companies10.fp5 and Members10.fp5 are related files.

When you enter a company name in a record in the Members file, FileMaker Pro identifies the record for that company in the Companies file. FileMaker Pro then displays the address from this matching company record in the Members file.

How does this happen? The Members file has a *relationship* to the Companies file that is based on matching data in the Company field in both files. The Company field is the *match field*. The Members file displays the company address using *related fields* based on this relationship.

You will learn both parts of this process: how to define the relationship and how to display data using the relationship.

Exit or Quit FileMaker Pro to close both files before continuing.

Display a related record in a file

Define a relationship to another file

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Working Files folder.

3. Open the MyFiles10 folder.

You should be here:
FileMaker Pro 5 Trial\Tutorial\Working Files\MyFiles10.

MyMembers10.fp5 and MyCompanies10.fp5 are the same as the sample files, but without the relational structures. You will build these structures now.

4. Open MyMembers10.fp5.

5. Choose File menu > Define Relationships.

6. Click New, navigate to the MyFiles10 folder in the Working Files folder, and double-click MyCompanies10.fp5.

7. In the Edit Relationship dialog box, select the Company field in the left column, and the ::Company field in the right column.

Fields in the file you are working in (MyMembers10.fp5) are on the left. Fields in the file you want to see data from (MyCompanies10.fp5) are on the right.

8. Notice that the relationship name defaults to the name of the related file: MyCompanies10.
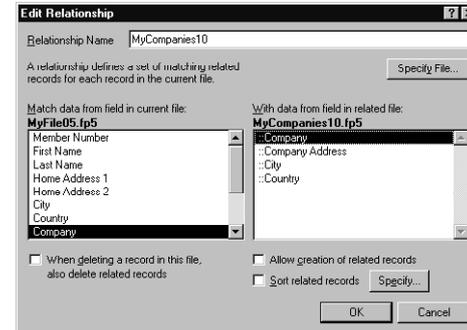
9. Click OK, then click Done.

Display data from a related record

Once you've defined the relationship, set up the layout to display data using that relationship. Here, you want to display the company address.

1. In MyMembers10.fp5, choose View menu > Layout Mode.

2. Using the Field tool , drag a field onto the layout.

You see a list of fields in this file.

3. In the Specify Field dialog box, click Current File ("MyMembers10.fp5") and choose the MyCompanies10 relationship from the list.

You now see a list of the fields in the related file MyCompanies10.fp5. The colons (::) before each field name show that these are related fields, not fields defined in the file you are currently working in. These related fields will display data from the related file.

Choose the relationship to display fields from the related file
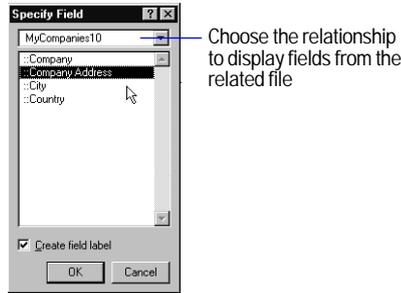
4. Click ::Company Address, then click OK.

5. Repeat steps 2-4 for City and Country.

6. Move the fields if necessary, and make the fields large enough to display all the data they contain. The fields should look like this:

7. Choose View menu > Browse Mode and flip through the records to view company addresses from the MyCompanies file in the MyMembers file.

8. When you are finished, Exit or Quit FileMaker Pro to close all files before continuing.

View data from a list of related records

Suppose you want to show all club members for each company. You also want to add new members to the Members file without entering the company name for each.

Work with related records in the sample files

View a list of related records

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

3. Open the Sample10 folder.

You should be here:
FileMaker Pro 5 Trial\Tutorial\Sample Files\Sample10.

4. Open Companies10.fp5.

5. Browse through the records.

You see a list of members at each company. They are all individuals in the Members file.

Add to the list

1. Go to the ABC Company record.

2. Add a new member by clicking the first empty line under First Name.

Displays a list of members from the related file

Click here to enter a new member for this company
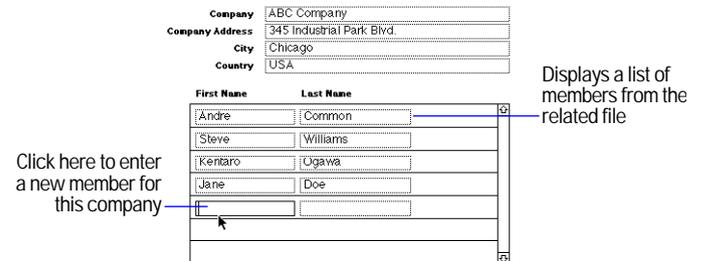
3. Type Joe, then press Tab and type Williams in the last name field.

View the new record in the related file

1. Open Members10.fp5.

2. In Members10.fp5, go to the last record.

You see Joe Williams' record, with the company information filled in. You automatically created this record when you typed Joe Williams into the list in the Companies file.

Add a new record and view it in the list

1. In Members10.fp5, create a record for a new member who works at ABC Company.

2. Now return to Companies10.fp5 and look at the ABC Company record.

You see the new member in the list (scroll down if necessary).

About working with lists of related records

In the "View data from one related record" on page 10-1, a relationship in the Members file displays data (company addresses) from the Companies file. Here, a relationship in the Companies file displays data (member names) from the Members file.

Both relationships use the same match field, Company, but this time, there is more than one matching record in the related file because there is more than one member from each company. A *portal* in the Companies file displays the members for each company.

When you added Joe Williams to the list of members who work at ABC Company, the relationship automatically created a record for Joe Williams in the Members file. ABC Company is automatically entered into the match field because the name was added to the portal of the ABC Company record.

A new member added to the Members file automatically appears at the end of the members list in the matching company record in the Companies file.

Exit or Quit FileMaker Pro to close all open files.

Display a list of related records

Create a portal to display matching records

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Working Files folder.

3. Open the MyFiles10 folder.

You should be here:
FileMaker Pro 5 Trial\Tutorial\Working Files\MyFiles10.

4. Open MyCompanies10.fp5.

A relationship must always be defined before you can display data from related records. The relationship to MyMembers10.fp5 has already been defined for you, using the process described in "Define a relationship to another file" on page 10-2.

5. To view the relationship, choose File menu > Define Relationships, select the relationship (MyMembers10), and click Edit.

6. Notice that Allow creation of related records is selected. This lets you add a name to the list.

7. Click OK, then click Done.

8. Choose View menu > Layout Mode.

9. Click the portal tool and draw a box to hold the list of names [ ].

10. In the Portal Setup dialog box, show records from the MyMembers10 relationship.

11. Show 7 rows in the portal.

Each row displays one matching member record.

12. Select Show vertical scroll bar.

13. Click OK.

Arrange the fields in the portal

1. Make the first portal row (the white part at the top of the portal) tall enough to hold a field.

2. Using the Field tool `Field`, drag a field into the first portal row.

3. Select the ::First Name field and click OK.

4. Drag another field beside ::First Name and specify ::Last Name.

5. Move the First Name and Last Name field labels above the portal, above their respective fields.

The portal should look like this when you are done.
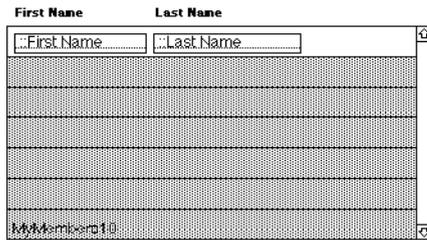
6. Choose View menu > Browse Mode to view your list of members.

7. Test your new structure: type the name of a new member at ABC Company, then look to see if it appears in MyMembers10.fp5 (it will be the last record).

8. When you are finished with this lesson, Exit or Quit FileMaker Pro to close all open files.

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