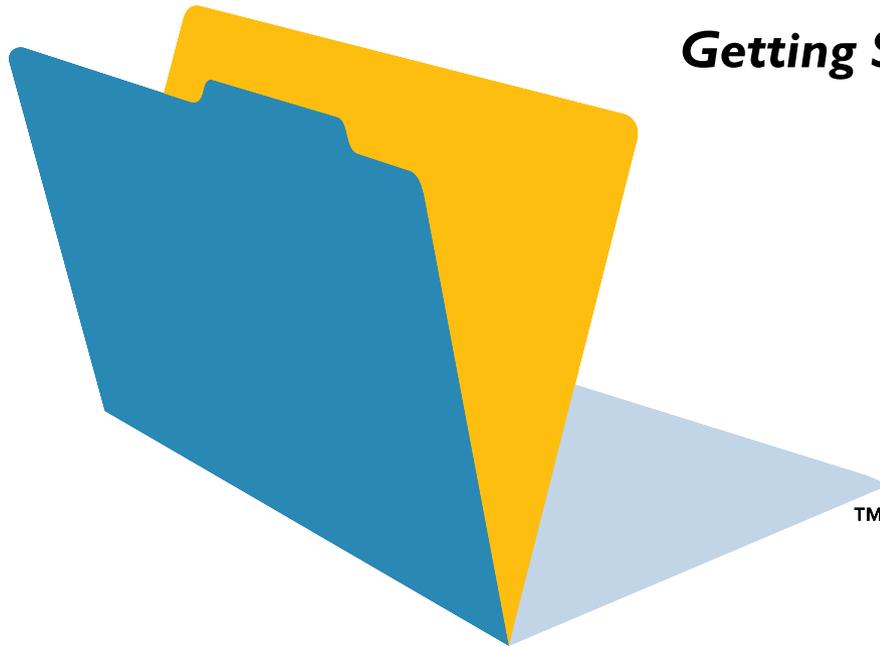


For Windows and Mac

FileMaker Pro 6

Getting Started Guide



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Chapter 1

Welcome to FileMaker Pro

Welcome to the FileMaker® Pro 6 application. FileMaker Pro is designed to help you manage information easily and effectively.

About this guide

The first section of this *FileMaker Pro Getting Started Guide* tells you how to install the application on your Windows or Mac OS computer, and introduces new features in FileMaker Pro. The second section is a tutorial that shows you how to use the major features of FileMaker Pro.

The *User's Guide* describes how to use the most common features in FileMaker Pro. For details about some advanced features, as well as new features added in FileMaker Pro 5.5 and FileMaker Pro 6, see FileMaker Pro Help.

Note When a feature or procedure is specific to a particular platform, you see instructions and illustrations that are also specific to that platform. For features or procedures that are similar on both platforms, you may see illustrations for either Windows or the Mac OS.

Registration and customer support

Please take the time to register your product during installation, through the FileMaker web site at www.filemaker.com/register, or by choosing Help menu > Register Now in FileMaker Pro.

For information about technical support and customer service, see: www.filemaker.com (North American customers)
www.filemaker.com/intl (customers outside North America)

or choose Help menu > FileMaker on the Web. At the web site, you will find the FileMaker Service Directory, which details the service options available to North American customers, as well as links to FileMaker worldwide sites, answers to frequently asked questions, and access to the TechInfo Knowledge Base used by Technical Support. If you do not have access to the Web, please refer to the FileMaker Service Directory included in the software box. North America customers can also call 1-800-965-9090 to learn about the service options available.

About the installation code

The installation code is a seventeen-digit number located on a multi-part sticker on a separate paper sheet within the box. Do not lose this installation code; it cannot be replaced. We recommend that you place one of the stickers on the inside front cover of your manual.

Important You must enter the installation code during installation or the software will not install.

The installation code ensures adherence to the single user license agreement, which allows for use of one (1) copy of the Software on a single computer at a time (refer to your Software License). If the code is invalid or if another copy of the application installed with that same code is running on the network, the FileMaker Pro application displays this error message: "The maximum number of licensed users are currently using this copy of FileMaker Pro. Please refer to the Installation Code section of your Getting Started Guide for further instructions."

If you receive this error message, you have entered a duplicate installation code. To install FileMaker Pro on multiple computers, you must have a unique installation code for each user, or obtain a volume license. You must license one copy of FileMaker Pro for each computer.

Hardware and software requirements

To install and use FileMaker Pro, you need the CD-ROM in the FileMaker Pro package and the following minimum equipment and software:

Windows requirements

- an Intel-compatible Pentium 90 or higher
- at least 32 MB of RAM
- a hard disk with at least 210 MB of free space (for a Complete installation)
- a CD or DVD drive
- Windows 98, Windows Me, Windows XP, Windows 2000 Professional, or Windows NT 4.0 with Service Pack 6

Mac OS requirements

- an Apple computer that supports and is running Mac OS 8.6, Mac OS 9 versions 9.0 through 9.2.2, or Mac OS X versions 10.1 through 10.1.4
- a CD or DVD drive
- the amount of RAM and disk space required depends on the Mac OS version:

	RAM	Disk space (for an Easy Install)
Mac OS 8.6 or Mac OS 9.x	at least 32 MB	at least 60 MB
Mac OS X	at least 128 MB	at least 60 MB

Important note about supported operating systems

At the time this book was written, FileMaker, Inc. tested FileMaker Pro 6 with the Windows and Mac OS operating systems listed above. FileMaker Pro may or may not work with newer operating system releases. For information on newer operating systems, see www.filemaker.com.

Some FileMaker Pro features are unique to or work differently on certain operating systems. This manual and online Help use the label “Mac OS 9.x or earlier” to indicate when a described feature is specific to Mac OS 8.6 through 9.2.2. However, keep in mind that Mac OS 8.6 is the earliest Mac OS version that FileMaker Pro 6 supports, and that FileMaker Pro 6 does not support Mac OS X 10.0 through 10.0.4.

Networking requirements

If you plan to share FileMaker Pro files with other computers on a network, you need to know which type of network you’re using. FileMaker Pro 6 supports the following network protocols:

FileMaker supports this network protocol On these operating systems

TCP/IP (recommended)	All supported Windows and Mac OS operating systems
IPX/SPX	Supported Windows operating systems only
AppleTalk	Mac OS 9.x or earlier

If you’re not sure which network protocol is installed and in use on your computer, check with your network administrator before you begin installation.

Note FileMaker recommends using the TCP/IP protocol on both Windows and Mac OS networks. You must use the TCP/IP protocol to share files on a mixed Windows and Mac OS network.

Computers running Windows also require a Windows-compatible network card and a software driver for the card.

Web publishing requirements

To publish a database on the Web using the FileMaker Pro Web Companion, you need a host computer with access to the Internet or an intranet via TCP/IP. The Web Companion network protocol (TCP/IP) is independent from the network protocol you choose for FileMaker Pro. For example, you can choose AppleTalk or IPX/SPX for the FileMaker Pro network protocol and still publish your database on the Web via TCP/IP.

Important Access to the Internet requires an Internet service provider (ISP). FileMaker Pro does not provide an Internet account for you.

Requirements for advanced features (Windows)

Some of the advanced features of FileMaker Pro require additional software.

FileMaker Pro advanced feature	Software requirement
Send Mail script step	A Mail API (MAPI) enabled email client software
Phone dialing	Phone dialer or other Telephony API (TAPI) compliant software
ODBC features	Microsoft Data Access Components (MDAC) version 2.5. To update MDAC software, use Microsoft Windows Update or see the Microsoft web site at www.microsoft.com .
Insert QuickTime movie and image files	QuickTime software (available at www.apple.com)

Requirements for advanced features (Mac OS)

FileMaker Pro advanced feature	Software requirement
Send Mail script step	E-mail client software
Insert QuickTime movie and image files	QuickTime software (available at www.apple.com) if it was not included with your Mac OS version)

FileMaker Pro advanced feature	Software requirement
URL support and the Speak script step	In Mac OS 9.x or earlier, the Internet control panel and the Speech Manager extension are usually available as part of a normal system software installation. Make sure they're turned on in the Extensions Manager control panel.

Features not supported in Mac OS X

In Mac OS X, FileMaker Pro does not support the following features:

- Toolbars
- Status (CurrentPrinterName) function
- Dial Phone script step

Opening files from previous versions

FileMaker Pro 6 can open files created in earlier versions of FileMaker Pro as described in the following sections.

Important There may be date considerations when converting a database from an earlier version of FileMaker Pro. For more information about how FileMaker Pro handles Year 2000 issues, see www.filemaker.com.

FileMaker Pro 5.x databases

Because FileMaker Pro 5.x and FileMaker Pro 6 share the same format, FileMaker Pro 6 can open FileMaker Pro 5.x files without converting them. You can even use FileMaker Pro 6 files with FileMaker Pro 5.x. However, the new features that you use in a newer version will not be supported when you open the file in a previous version.

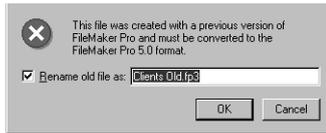
We recommend that, once you have created or opened a file in FileMaker Pro 6, you do not make database design changes using an earlier version of FileMaker Pro, particularly to features that have changed in FileMaker Pro 6.

FileMaker Pro 4.x/3.x/2.x databases

When you convert a FileMaker Pro 4.x/3.x/2.x file, FileMaker Pro 6 software saves your original FileMaker Pro 4.x/3.x/2.x file and creates a copy that has been converted to the FileMaker Pro 5.x/6 format. The original file is not modified and you can open it in the previous version of FileMaker Pro. The converted file can only be opened in FileMaker Pro 5.x/6.

To convert and open a FileMaker Pro 4.x/3.x/2.x file:

1. Start FileMaker Pro 6.
2. Choose File menu > Open and select the file to convert.
3. Click Open.
4. Click OK to append “Old” to the name of the original FileMaker Pro 4.x/3.x/2.x file.



5. Click Save to start the conversion.

By default, this converted file will have the original file’s name. Preserving this name is important if you have existing relationships or scripts, which might not function correctly if it is changed.

FileMaker Pro converts the file and opens it.

Keep these points in mind when converting files:

- You can also convert a FileMaker Pro file by dragging the file on top of the FileMaker Pro 6 application icon.
- If you add or remove the .FP5 filename extension as part of the conversion process, you must re-specify file locations for related or external files when the database is first opened.

- If you are converting a copy of a FileMaker Pro file, close the file before you copy it. Files that are copies of open files will not convert correctly.
- If consistency check or auto-repair error messages appear during conversion, try recovering the file first using a previous version of FileMaker Pro.

FileMaker Pro 1.x databases

On the Macintosh, you can convert FileMaker Pro 1.x databases with FileMaker Pro 6. Follow the instructions in the previous section, “FileMaker Pro 4.x/3.x/2.x databases,” to convert your file to FileMaker Pro 6.

FileMaker Pro for Windows cannot convert FileMaker Pro 1.x databases directly. To use a database created by FileMaker Pro 1.x with FileMaker Pro 6 in windows, do the following:

1. Convert the file on a Mac OS computer using FileMaker Pro 2.x or later.

If you have a Mac OS computer but do not have FileMaker Pro 2.x or later, you can download a trial version of FileMaker Pro for Macintosh from www.filemaker.com, and use it to convert the file.

2. Transfer the converted file to your Windows-based computer.

3. If necessary, follow the instructions in the previous section, “FileMaker Pro 4.x/3.x/2.x databases,” to convert the file to FileMaker Pro 6.

Updating your User Dictionary

If you added words to a User Dictionary in a previous version of FileMaker Pro, you may want to use it with FileMaker Pro 6. For more information about converting a User Dictionary, see FileMaker Pro Help after you have installed FileMaker Pro 6. Choose Help menu > Contents and Index, click the Index tab, and type dictionaries.

Chapter 2

Installing FileMaker Pro in Windows

Before you begin the installation process, exit other open programs and save your work. For late-breaking information about FileMaker Pro, browse the contents of the CD and view the Read Me file or visit www.filemaker.com.

Installation notes

Before you install FileMaker Pro, review the following notes:

- To install FileMaker Pro in Windows NT, Windows XP or Windows 2000 Professional, you must log on with Administrator or Power User privileges.
- If FileMaker Pro 5.x is already installed, you can install FileMaker Pro 6 without uninstalling FileMaker Pro 5.x. You can use either version of FileMaker Pro on the same computer.
- If your computer is running virus protection software, turn it off prior to installing FileMaker Pro, and then turn it back on afterwards.
- When you are installing FileMaker Pro, you will see the License Agreement panel. Read the Software License Agreement. If you accept the terms of the license agreement, click **I accept...**, then click **Next**.
- By default, FileMaker Pro will be installed in the C:\Program Files\FileMaker\FileMaker Pro 6 folder. During installation, you can choose another drive or another folder if you wish.
- During installation, you can choose whether to install all program features (**Complete**), or to install only selected portions of the program (**Custom**). For example, you may choose not to install certain features in order to save disk space.

- During installation, you will be prompted to choose one of the following network protocols for sharing databases: TCP/IP, IPX/SPX, or None. If you are not certain which protocol to use, ask your network administrator, or choose TCP/IP. (If you make a mistake and choose the wrong network protocol, you can change it later. See “Adjusting network software” on page 12 after you have installed FileMaker Pro.)

Installing FileMaker Pro

You must use the installation program to install FileMaker Pro—you can’t install FileMaker Pro by dragging files to your hard disk.

If you want to create an install log file that lists the registry entries and path of all installed files, you must install FileMaker Pro 6 from the command line. See “Installing FileMaker Pro from the command line” on page 12.

To install FileMaker Pro on your hard disk:

1. Insert the CD into your CD or DVD drive.
2. Click **Install FileMaker Pro 6**.



The FileMaker Pro InstallShield Wizard appears.

3. Install FileMaker Pro by following the on-screen instructions.

For details about installation issues, see “Installation notes” on page 11.

4. When the installation is complete, click Finish.

When installation completes, you see a Product Registration panel. You can register online if you have an Internet connection. If you choose to register by letter or by fax, a form will appear in the Adobe Acrobat Reader application. You can fill out the form on your computer, print a copy of the form, and mail or fax it to FileMaker.

Installing FileMaker Pro from the command line

To install FileMaker Pro from the command line and create an installation log file:

1. Insert the FileMaker Pro 6 CD.
2. Open a command window.
3. In the command window, type

```
E:\Files\setup.exe /v"/Lr C:\FMP6InstallLog.txt"
```

4. Follow the on-screen instructions.

The FMP6InstallLog.txt file will be located on the C drive of your hard disk. You can view it with Notepad, Wordpad, or a word processing program.

Note If your CD or DVD drive is not located at drive E, then substitute the correct letter for your drive.

Where files are stored on your hard disk

The FileMaker Pro installer copies files to several folders on your hard disk, depending on the installation options you choose and your operating system. If you performed a command line installation and specified an install log file, you can view the install log file, which lists the location of each installed file. This file can be viewed with Notepad, WordPad or a word processing application.

Uninstalling, modifying, or repairing FileMaker Pro

You can use the Windows Add/Remove Programs Control Panel to uninstall FileMaker Pro, replace missing or corrupt files, or to change which features are installed. For more information about using Add/Remove Programs, refer to Windows Help.

Note Uninstalling doesn't delete files that you've created, as long as they are named differently than the sample and template files that are installed with FileMaker Pro.

When you modify or repair FileMaker Pro, you may be prompted to enter your installation code.

Adjusting network software

Depending on the networking protocol you're using, you may have to modify settings on the host and/or guest computers.

Changing the network protocol

During installation, you select a network protocol (or none) for FileMaker Pro. You must choose a network protocol if you want to share FileMaker Pro databases over a network, either as a guest or as a host. The protocol you choose for FileMaker Pro database sharing does not affect other intranet or Internet activities. You can change the FileMaker Pro database sharing network protocol at any time without reinstalling the software.

Important The network protocol setting in FileMaker Pro must be the same on the host and guest computers.

For more information about your network configuration, see “Networking requirements” on page 8, or consult your network administrator.

To change the network protocol:

1. In FileMaker Pro, choose Edit menu > Preferences > Application.
2. In the **General** tab, choose a network protocol from the Network Protocol drop-down list.
3. Click **OK**.

Changes to this setting don’t take effect until you restart FileMaker Pro.

Changing the IPX/SPX frame type

If you’re using IPX/SPX as the network protocol, you must select a frame type. A frame encapsulates packets of information in a recognizable format; all computers communicating with each other on a network must use the same frame type. For help in deciding which frame type to select, see your network administrator.

Note If you are using TCP/IP networking, you do not need to change the frame type.

Changing the frame type (Windows 98 and Windows Me)

To change the frame type with IPX/SPX networking:

1. Open the Network control panel and click the Configuration tab.
2. Select the IPX/SPX protocol from the list and click Properties.
3. Click the **Advanced** tab.
4. Click the frame type in the Property dialog box.
5. Make a selection from the **Value** drop-down list.

Note To allow the maximum recommended number of guests (10) to connect, consider increasing the IPX/SPX Maximum Connections to 90 or greater in the Network control panel.

6. Click **OK**.

Windows prompts you to restart your computer for these new changes to take effect.

Changing the frame type (Windows NT)

To change the frame type with IPX/SPX networking:

1. Open the Network control panel and click the Properties tab.
2. Select the IPX/SPX protocol from the list and click Properties.
3. Select a frame type from the drop-down list.
4. Click **OK** to apply the frame type, and click **OK** to close the Network dialog box.

Windows prompts you to restart your computer for these new changes to take effect.

Changing the frame type (Windows XP and Windows 2000 Professional)

To change the frame type with IPX/SPX networking:

1. From the Start menu, open the appropriate control panel:
 - Windows XP: the Network Connections control panel
 - Windows 2000 Professional: the Network and Dial-up Connections control panel

2. Right-click on the network connection you are using.
3. Select Properties from the menu.
4. Select the IPX/SPX protocol from the list and click Properties.
5. Select a frame type from the drop-down list.
6. Click OK to apply the frame type.
7. Click OK to close the Connection Properties dialog box.
8. Close the Network and Dial-up Connections window.

With Windows XP and Windows 2000 Professional, you do not need to restart your computer.

Changing the FileMaker Pro cache size

FileMaker Pro maintains an internal cache of portions of your database. Depending on your computer's memory configuration, you may want to adjust the cache size to improve performance.

You may want to consider increasing the cache size if you plan to:

- work on a large database file
- work on several database files at once
- host database files
- use a database file that contains many graphics
- insert a large graphic into a database file

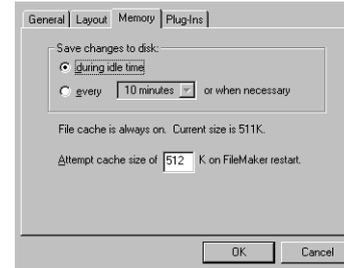
Consider decreasing the cache size if you plan to run several applications at the same time and you have a limited amount of memory (RAM) installed.

Note When you increase or decrease the FileMaker Pro cache size, you also increase or decrease the amount of memory needed to run FileMaker Pro.

For more information on managing memory, see the documentation that came with your computer.

To change the cache size that FileMaker Pro uses:

1. In FileMaker Pro, choose Edit menu > Preferences > Application.
2. Click the Memory tab.



3. Type a number in the Attempt cache size of box.
4. Click OK.

The next time you start FileMaker Pro, the new cache size is used.

Where to go from here

After you install FileMaker Pro, you can immediately begin working with the application. Here are some suggestions on where to go in the documentation to get started:

- If you're new to databases, read chapter 1, "FileMaker Pro basics," in the *FileMaker Pro User's Guide* to learn basic database concepts.
- If you're new to FileMaker Pro, work through the tutorial. The tutorial lesson files are automatically installed when you do a Complete installation. The tutorial begins on page 31 of this guide.
- If you've used FileMaker Pro before, read chapter 4, "New features in FileMaker Pro" on page 23 to learn about new features available in FileMaker Pro 6.

Chapter 3

Installing FileMaker Pro in the Mac OS

Before you begin the installation process, quit other open programs and save your work. For late-breaking information about FileMaker Pro, browse the contents of the CD and view the Read Me file or visit www.filemaker.com.

Installation notes

Before you install FileMaker Pro, review the following notes:

- The FileMaker Pro CD contains two installer programs, one for Mac OS 9.x or earlier, and one for Mac OS X. Before you install FileMaker Pro, confirm your Mac OS version. With the Finder application active, choose **About this Computer** or **About this Mac** from the Apple menu. A window will appear that lists your Mac OS version.
- If you're upgrading, you can install FileMaker Pro 6 without removing the previous version of FileMaker Pro that you may already have installed.
- If your computer is running virus protection software, turn it off prior to installing FileMaker Pro, and then turn it back on afterwards.
- During installation, you can choose whether to install all the program files (an Easy Install), or to install portions of the program (a Custom Install). For example, you may choose not to install certain features in order to save disk space.
- Mac OS X: if you're installing FileMaker Pro on a computer with multiple user accounts, see "Accessing files from other user accounts (Mac OS X)" on page 17 after you install FileMaker Pro.
- Mac OS X: ODBC drivers are not automatically installed. You must install the drivers manually. See "Installing ODBC drivers in Mac OS X" on page 16, after installing FileMaker Pro.

Installing FileMaker Pro

You must use the installation program to install FileMaker Pro—you can't install FileMaker Pro by dragging files to your hard disk.

To install FileMaker Pro on your hard disk:

1. Insert the CD into your CD or DVD drive.

You see the disc's window on your screen. If you see only the disc icon, double-click the CD icon to open its window.

2. Using the table below, locate and double-click the appropriate Start Here file for the Mac OS version in use on your computer.

For this Mac OS version: **Double-click this file:**

Mac OS 9.x or earlier



Mac OS X



You see the Software License Agreement.

3. Read the Software License Agreement. If you accept the terms of the license agreement, click **Accept**.

You see the FileMaker Pro Installer dialog box.



4. Choose Easy Install or Custom Install from the pop-up menu.

The Easy Install option installs all of the FileMaker Pro program files. The Custom Install option allows you to choose which portions of the product to install. (In most cases you should use the Easy Install option.)

5. Look in the Install Location area, and make a note of the folder and hard drive where FileMaker Pro will be installed.

If you want to, you can choose another hard drive or another folder from the Install Location pop-up menu.

6. Click Install.

You see the personalization dialog box.

7. Type your name, company name (if any), and your FileMaker Pro installation code into the appropriate text boxes.

The installation code is a seventeen-digit number located on a multi-part sticker on a separate paper sheet within the box. See “About the installation code” on page 7 for more information.

8. Click OK.

The Installer begins copying files.

When installation completes, you see a Product Registration dialog box. You can register online if you have an Internet connection. If you choose to register by letter or by fax, a form will appear in the Adobe Acrobat Reader application. You can fill out the form on your computer, print a copy of the form, and mail or fax it to FileMaker.

A final dialog box tells you the installation on your hard disk was successful.

9. Click Quit to leave the Installer.

Where files are stored on your hard disk

The FileMaker Pro installer copies files to several folders on your hard disk, depending on the installation options you choose and your operating system. When installation is complete, you can view the Installer Log File in the FileMaker Pro 6 folder. The log file lists the location of each installed file. You can view it with TextEdit (Mac OS X), SimpleText (Mac OS 9.x or earlier), or a word processing program.

Installing ODBC drivers in Mac OS X

In Mac OS X, you must manually install the ODBC drivers after the FileMaker Pro installation is complete.

Note To install the drivers, you will need an administrator password, such as the password created when you first set up Mac OS X.

- 1.** Navigate to the folder Applications/FileMaker Pro 6 folder/FileMaker ODBC Drivers.
- 2.** Double-click the FileMaker Pro Mac OS X ODBC Drivers file.
- 3.** Follow the installer instructions.

Accessing files from other user accounts (Mac OS X)

If you logged in as an administrator and installed FileMaker Pro into the default Applications folder on a computer with multiple user accounts, other users who log in with a non-administrator password will not be able to access some FileMaker Pro application folders and files.

- **Template and tutorial files:** If a non-administrator user needs to access these files, perform a Custom Install and install these files into the user's Applications folder.
- **Web Security folder and Web folder:** Set file permissions so that all valid users have Read & Write access to the Web Security databases and Read only access to the Web folder.

For more information on setting file permissions, see the Mac OS X Help topic "Setting Access Privileges."

Choosing a network protocol (Mac OS 9.x or earlier)

You must choose a network protocol if you want to use FileMaker Pro over a network, either as a guest or as a host. For more information about your network, see "Networking requirements" on page 8, or consult your network administrator.

Important The network protocol setting in FileMaker Pro must be the same on the host and guest computers.

To choose a network protocol:

1. Choose Edit menu > Preferences > Application.
2. In the General tab, choose a network protocol from the Network protocol pop-up menu.
3. Click OK.

Changes to this setting don't take effect until you restart FileMaker Pro.

Adjusting memory

You might need to change the amount of memory reserved for FileMaker Pro if you plan to:

- work on a large database file
- work on several database files at once
- host database files
- use a database file that contains many graphics
- insert a large graphic into a database file

Mac OS X allocates memory to applications differently than Mac OS 9.x or earlier. To adjust the memory amount, follow the appropriate instructions for your Mac OS version:

- For Mac OS X, follow the instructions in the next section, "Adjusting the FileMaker Pro cache (Mac OS X)."
- For Mac OS 9.x or earlier, see "Adjusting memory requirements (Mac OS 9.x or earlier)" on page 18.

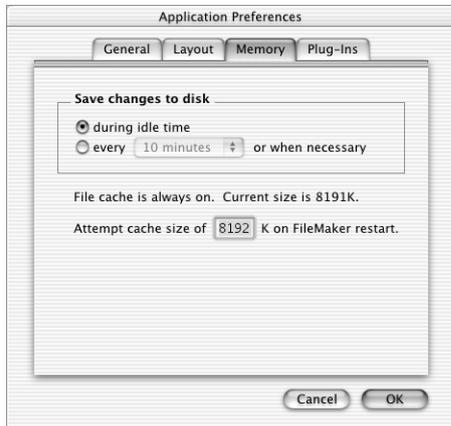
Adjusting the FileMaker Pro cache (Mac OS X)

Because Mac OS X dynamically allocates memory to applications as needed, there is no way to set a specific amount of memory to allocate to the FileMaker Pro application. However, you can adjust the FileMaker Pro cache size.

You may want to increase the cache size if you plan to do any of the items listed in "Adjusting memory," above. Consider decreasing the cache size if you plan to run several applications at the same time and you have a limited amount of memory (RAM) installed.

To change the cache size that FileMaker Pro uses:

1. In FileMaker Pro, choose the FileMaker Pro application menu > Preferences > Application.
2. In the Application Preferences dialog box, click the Memory tab.



3. Type a number in the Attempt cache size of box.

4. Click OK.

The next time you start FileMaker Pro, the new cache size is used.

Adjusting memory requirements (Mac OS 9.x or earlier)

You may want to increase the amount of memory reserved for FileMaker Pro if you plan to do any of the items listed in “Adjusting memory” on page 17. Consider decreasing the amount if you plan to run several applications at the same time and you have a limited amount of memory (RAM) installed.

Keep the following points in mind:

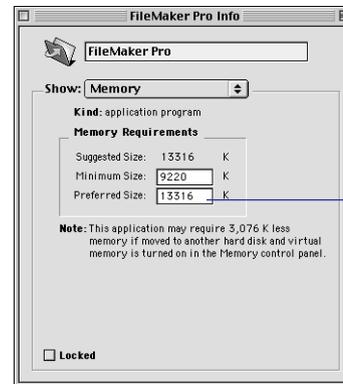
- The amount of memory you give to FileMaker Pro affects your ability to run other applications. If the Mac OS and FileMaker Pro take up all the available memory, you won't be able to open other applications while FileMaker Pro is running.
- Avoid specifying less memory than the Suggested size in the FileMaker Pro Info dialog box.

To change the amount of memory FileMaker Pro uses:

1. If FileMaker Pro is open, quit the application by choosing File menu > Quit.
2. In the Finder software, open the FileMaker Pro 6 folder. Select the FileMaker Pro application icon by clicking it once.

Note If you click the application icon twice, you will start FileMaker Pro. If that happens, choose File menu > Quit and try again.

3. Choose File menu > Get Info > Memory.



Change the amount of memory FileMaker Pro uses here

4. In the Memory Requirements area, double-click the Preferred Size number and type a number to change the memory allocated for FileMaker Pro.

If you can't type in the box, make sure you've quit FileMaker Pro.

5. Click the close box.

The next time you start FileMaker Pro, it will use the amount of memory you specified in the Preferred Size text box if that amount of memory is available.

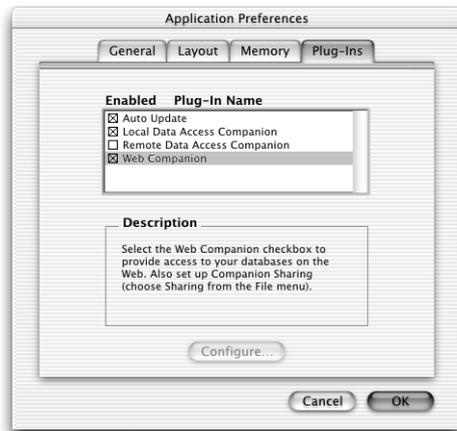
Enabling the FileMaker Pro Web Companion (Mac OS X)

Note For instructions on enabling the FileMaker Pro Web Companion in Mac OS 9.x or earlier, see chapter 14 of the *FileMaker Pro User's Guide*.

FileMaker Pro uses the FileMaker Pro Web Companion plug-in to serve databases over the Web.

To enable the Web Companion in Mac OS X:

1. Start the FileMaker Pro application.
2. Choose the FileMaker Pro application menu > Preferences > Application.
3. In the Application Preferences dialog, click the Plug-Ins tab.
4. Select the Web Companion checkbox.



After you enable the Web Companion, you must specify which *port number*, or virtual connection, the Web Companion will use to publish data.

The first time you enable the Web Companion, FileMaker Pro displays the following dialog, which requests permission to make a one-time change to your computer's setting to facilitate web publishing on a port number below 1024.



The standard port number for web publishing is 80 (ports are numbered between 1 and 65535), and most web servers and browsers use this port as the default. Port 80 is also the default port for the FileMaker Pro Web Companion. For security reasons, Mac OS X restricts access to ports below 1024. To configure the FileMaker Pro Web Companion to use ports below 1024 while maintaining the Mac OS X access restrictions on these ports, it is necessary to make a one-time change to the file permissions of the Web Companion Enabler to give it the authority to open privileged ports (ports 1-1023). To make this change, you will need an administrator password, such as the password created when you first set up Mac OS X.

Note If you use a port other than port number 80 for FileMaker Pro web publishing, your users will need to append a colon (":") and the number of the port to their URLs to access your web hosted databases. For more information, see "Accessing databases that are published to the Web" on page 21.

5. Do one of the following three options:

To	Click
Configure the Web Companion to use the default port 80, or any other valid port number (This is the recommended option, but it requires a Mac OS X administrator password.)	Continue. Proceed with the next step in this section.
Configure the Web Companion to use port 1024 or higher (This option does not require a Mac OS X administrator password.)	Advanced. For further instructions, see the section “Configuring the Web Companion for use with ports 1024 and higher” on page 20.
Skip enabling the Web Companion at this time	Cancel. The Web Companion will not be enabled, and your system settings remain unchanged.

6. Enter an administrator name and password in the Authenticate dialog.

The administrator name and password you enter can be the same as the name and password used when Mac OS X was installed, or if you have administrator privileges but do not know an administrator password, you can create a new user and password with administrator privileges. For more information on creating an account with administrator privileges, see the Mac OS X Help topics “Working as an administrator” and “Changing your password.”



7. Click OK.

The Web Companion is now configured to use port 80.

8. Click OK again to close the Application Preferences dialog.

To use a port number other than 80, open the Application Preferences dialog again (choose the FileMaker Pro application menu > Preferences > Application), click the Plug-Ins tab, select the Web Companion plug-in, and click Configure. In the Web Companion Configuration dialog, enter the port number you want (between 1 and 65535) in the TCP/IP Port Number box, and click OK.

Configuring the Web Companion for use with ports 1024 and higher

You do not need an administrator password to configure the FileMaker Pro Web Companion to use a port number between 1024 and 65535. Unlike ports below 1024, the FileMaker Pro Web Companion can use ports 1024 and above without altering your system’s settings.

To configure the FileMaker Pro Web Companion to use only ports 1024 and above:

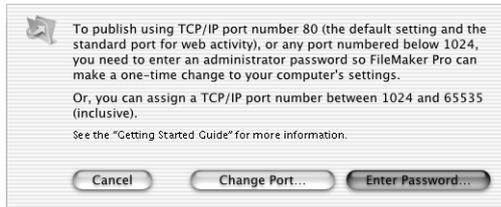
1. Choose the FileMaker Pro application menu > Preferences > Application.
2. In the Application Preferences dialog, click the Plug-Ins tab.
3. Select the Web Companion checkbox.

You see the following dialog.



4. Click Advanced.

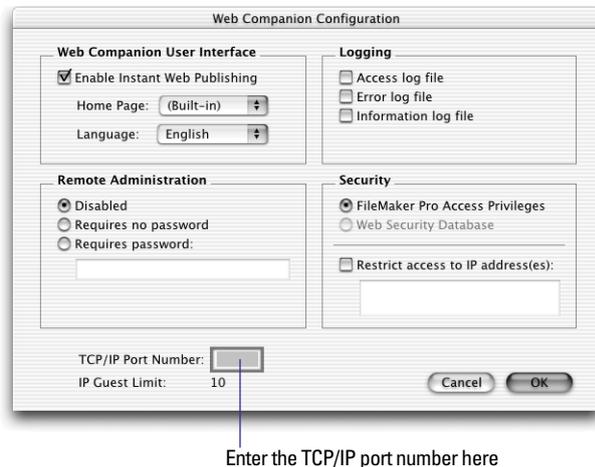
You see the following dialog.



5. Click Change Port.

You see the Web Companion Configuration dialog.

6. Enter a port number between 1024 and 65535 in the TCP/IP Port Number box.



7. Click OK to save your changes.

You are finished. The Web Companion is now configured to use the port you have specified.

Accessing databases that are published to the Web

When you publish a database to the Web, your users access that database by entering the host machine's URL in their web browser. If the FileMaker Pro Web Companion is configured to use port number 80, the default port, the URL your users will enter will look like this:

`http://12.34.56.78/`

The number "12.34.56.78" is an example; in its place, your users would enter the actual URL of your host machine.

If the FileMaker Pro Web Companion is configured to use a port number other than the default, the URL your users will enter will look like this:

`http://12.34.56.78:1024`

Again, the number "12.34.56.78:1024" is an example; your users would enter the actual URL of the host machine, followed by a colon (":") and the port number specified in the FileMaker Pro Web Companion Configuration dialog.

For more information on accessing FileMaker Pro databases on the Web, see chapter 14 of the *User's Guide*, "Publishing databases on the Web."

Where to go from here

After you install FileMaker Pro, you can immediately begin working with the application. Here are some suggestions on where to go in the documentation to get started:

- If you're new to databases, read chapter 1, "FileMaker Pro basics," in the *FileMaker Pro User's Guide* to learn basic database concepts.
- If you're new to FileMaker Pro, work through the tutorial. The tutorial lesson files are automatically installed when you do an Easy Install. The text of the tutorial begins on page 31 of this guide.
- If you've used FileMaker Pro before, read chapter 4 of this guide to learn about new features available in FileMaker Pro 6.

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Chapter 4

New features in FileMaker Pro

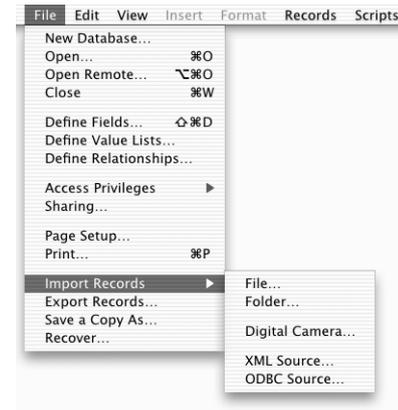
This chapter provides you with an overview of the new features in FileMaker Pro 6. See page 29 for a summary of the new features in the previous version, FileMaker Pro 5.5.

Important See FileMaker Pro Help for complete details on new features in FileMaker Pro 6.

Import and export XML data

Extensible Markup Language (XML) is a standard language for structured data interchange on the Internet or an intranet. Instead of being a rigid file format, XML is a language for defining agreed-upon formats that groups can use for exchanging data. Many individuals, organizations, and businesses are using XML to transfer product information, transactions, inventory data, and other business data.

FileMaker Pro 6 can import, open, and export XML. Additional documentation and sample files are available that demonstrate the capabilities of the FileMaker Pro 6 XML import/export features. See the XML Documentation and XML Examples folders (inside the FileMaker Pro 6 folder). For general information on XML and links to XML resources, see the FileMaker web site at www.filemaker.com.



New Import Records submenu

Import and convert XML data

FileMaker Pro 6 can import XML data into an existing FileMaker Pro file or into a new FileMaker Pro file. The XML can be a physical file, or the result of an HTTP request sent to a web server. For example, you could set up an Orders database to send tracking numbers to a package delivery company in the form of an HTTP request, and their web server could return the latest package tracking information in XML format, ready to be imported into the Orders database.

The XML that you import must conform to the FileMaker FMPXMLRESULT grammar format. If your XML is in a different format, you can apply an Extensible Stylesheet Language for Transformations (XSLT) style sheet during import to transform your XML into the FMPXMLRESULT grammar.

You can use the Import Records and Open script steps to create scripts that import and open XML data.

Export XML data

FileMaker Pro 6 can export data in two XML grammars:

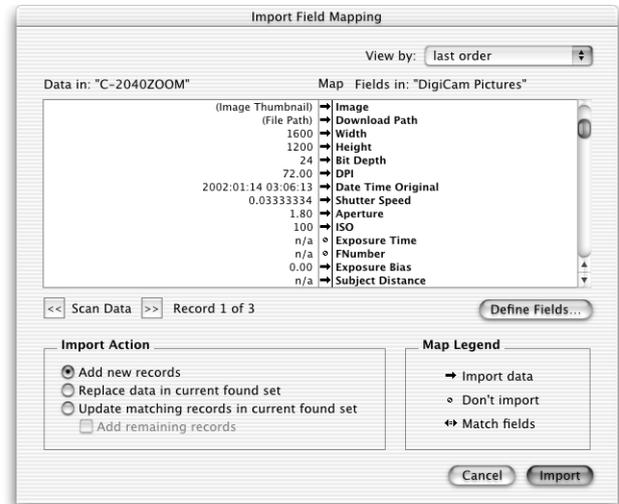
- **FMPXMLRESULT**: a grammar that defines the database structure (field names, field types, number of records, date formats, and time formats) as well as the data itself.
- **FMPDSORESULT**: a grammar that is useful for publishing databases on web pages that are formatted with cascading style sheets or XSLT. The FMPDSORESULT grammar is compatible with the Microsoft XML Data Source Object used by Microsoft Internet Explorer.

You can apply an XSLT style sheet during export to transform either of the above grammars into a different XML format, or into a completely different format such as HTML or plain text. For example, through XML export you can create a data-driven web page, or a text file of data that uses a custom field delimiter.

You can use the Export Records script step to create scripts that export XML files.

Import photos from a digital camera (Mac OS X)

FileMaker Pro 6 makes it easy to import photos from a digital camera. Previously, you would have to download your photos to disk, and then insert them one at a time into your database. Now all you have to do is connect your camera to your computer, and FileMaker Pro can directly import some or all of the photos. FileMaker Pro also imports photos from memory card readers.



It's easy to import photos and EXIF annotation data from your digital camera (Mac OS X)

In addition to the photos, FileMaker Pro can also import Exchangeable Image File (EXIF) annotation data if your digital camera provides it. EXIF annotations typically include the date and time the photo was created, aperture, shutter speed, and other information about each photo. FileMaker Pro 6 includes new templates that make use of the photo import feature. You can use these templates as is, or modify them to suit your needs.

You can use the Import Records script step to create scripts that import photos.

Import a folder of files in a single operation

FileMaker Pro 6 can import a folder of files in a single operation. Instead of having to insert several graphics or QuickTime files one by one, you can now save time by importing them all at once. You can also import a folder of text files, which is much faster and easier than copying and pasting the contents of each file one at a time.

FileMaker Pro 6 can import any graphics file format that you can insert with the Insert Picture and Insert QuickTime commands, including GIF, JPEG, EPS, TIFF, and many other formats. You can import a folder of graphics files into container fields, and import a folder of text files into text, number, date, or time fields.

FileMaker Pro creates one new record for each file in the imported folder.

In addition to the file content, FileMaker Pro 6 also provides additional information about each file that you can import into other fields: the filename, the file path, and (for picture and QuickTime files only) a smaller thumbnail image.

You can use FileMaker Pro 6 to import a folder of files in all supported operating systems: Windows, Mac OS X, and Mac OS 9.x or earlier. You can use this feature to import photos that you have previously downloaded from a digital camera. However, when you import a folder of graphics files, you will not be able to import Exchangeable Image File (EXIF) annotation data that may be present in the files. If you're using Mac OS X and you want to import photos with EXIF annotations, make sure you import photos directly from your digital camera or memory card reader.

You can use the Import Records script step to create scripts that import a folder of files.

Find and replace data

As in a word processing application, you can now find and replace data across multiple fields (including related fields) in a record or in a find request, across a found set of records or find requests, or across text objects in a layout. You can search for data in any type of field except container fields. Although you can search for data in fields that are viewable but not modifiable, you can't replace data in them.



Find and replace operations are scriptable and can be controlled using access privileges.

Constrain and extend a found set

You can now easily constrain (narrow) and extend (broaden) an existing found set using the new Constrain Found Set and Extend Found Set commands. Previously, some searches based on multiple criteria required multiple find requests. With these two new menu commands, it's easier to manipulate a found set.

Constrain and extend operations are scriptable and can be controlled using access privileges.

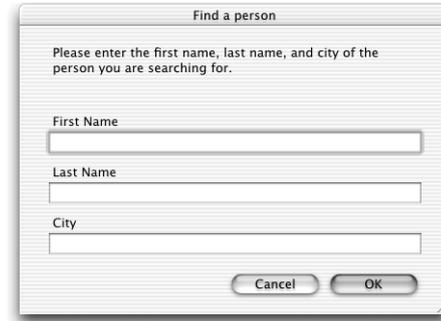
New and updated templates

The templates provided with FileMaker Pro have been updated in appearance and functionality. Four templates are new.

See the Customizing Templates.pdf located in the Electronic Documentation folder (inside the FileMaker Pro 6 folder) for information on how to customize templates.



Click here for information on using this template



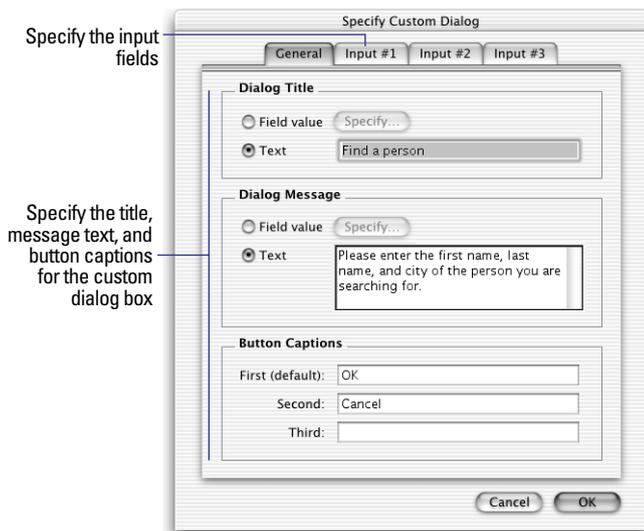
The finished custom dialog box

Scripting improvements

Scripting improvements include:

- The new Show Custom Dialog script step lets you create a custom dialog box that can accept data from a user and transfer it to the specified field.

- The new Open Find/Replace and Perform Find/Replace script steps allow you to perform a find/replace operation automatically.
- The Perform Find script step now has options for constraining and extending a found set.
- The Import Records and Export Records script steps now provide support for handling XML, photos, and multiple files in a single operation.
- Default script steps are no longer added when a new script is created.



Creating a custom dialog box

Ease-of-use improvements

FileMaker Pro 6 provides a number of improvements in response to customer requests and feedback:

- The ability to sort a database by right-clicking or Control-clicking in a field.
- More resizable dialog boxes, for example, the Set Layout Order dialog box. When you reposition or resize a dialog box, FileMaker Pro remembers the location and size when you reopen your file or re-launch the application.

- The Format Painter  gives you the ability to select an object in Layout mode and copy its formats to other objects.

Web Companion improvements

The FileMaker Pro 6 Web Companion improves the security of your web published files with a new, more secure Web folder structure. When you use the new `cdml_format_files` folder (in the FileMaker Pro 6 folder), browser clients are restricted from directly viewing the source code and design of your web content files and CDML format pages. Instead, these pages are returned to a browser client only after being processed through the Web Companion.

For information on this and other recommended security practices, see the `Web Security.pdf` located in the Web Security folder (inside the FileMaker Pro 6 folder).

Mac OS X improvements

Improvements in FileMaker Pro in Mac OS X include:

- Mac OS X Services, such as sending a text selection to the Mac OS X Mail application, are now supported from within FileMaker Pro.
- ODBC import, ODBC export, and the Execute SQL script step are now supported. (You must manually install the ODBC drivers after the FileMaker Pro installation is complete.)
- The FileMaker Pro Open and Import commands now provide support for filename extensions, such as `.FP5` and `.JPG`.
- Long filenames (up to 255 characters, including filename extensions) are now supported.
- FileMaker Pro 6 requires Mac OS X version 10.1 and has been developed for improved performance with it.

Multiple-user installation improvements (Windows)

For multiple-user installations on one computer, there is now the ability to set the network protocol and define a user name upon launching FileMaker Pro for the first time by each user.

Windows XP support

FileMaker Pro 6 supports both the Professional and Home editions of Windows XP and has earned the Designed for Windows XP logo, which identifies products that work well with Windows XP.

If you're using FileMaker Pro under a site license and have multiple users logged into one computer, you can use Windows XP Fast User Switching to quickly switch between user accounts without having to quit FileMaker Pro.

Support for people with special needs

FileMaker Pro 6 documentation is provided in tagged Adobe Portable Document Format (PDF). Tagged PDF files work with assistive technology, such as the JAWS for Windows screen reader. For more information about tagged PDF files, see www.adobe.com.

Compatibility with FileMaker Server 5.5

FileMaker Pro 6 is compatible with FileMaker Server 5.5.

Changes to keyboard shortcuts

Keyboard shortcuts for manipulating objects in Layout mode have changed in FileMaker Pro 6.

Windows

Command	FileMaker Pro 5.5	FileMaker Pro 6
Bring an object forward	Ctrl-Shift-F	Ctrl-Shift-[
Bring an object to the front	Ctrl-Shift-Alt-F	Ctrl-Alt-[
Send an object backward	Ctrl-Shift-J	Ctrl-Shift-]
Send an object to the back	Ctrl-Shift-Alt-J	Ctrl-Alt-]
Group objects	Ctrl-G	Ctrl-R
Ungroup objects	Ctrl-Shift-G	Ctrl-Shift-R
Lock an object	Ctrl-H	Ctrl-Alt-L
Unlock an object	Ctrl-Shift-H	Ctrl-Alt-Shift-L
Rotate an object	Ctrl-Shift-R	Ctrl-Alt-R

Mac OS

Command	FileMaker Pro 5.5	FileMaker Pro 6
Bring an object forward	Shift-⌘-F	Shift-⌘-[
Bring an object to the front	Shift-Option-⌘-F	Option-⌘-[
Send an object backward	Shift-⌘-J	Shift-⌘-]
Send an object to the back	Shift-⌘-Option-J	Option-⌘-]
Group objects	⌘-G	⌘-R

Command	FileMaker Pro 5.5	FileMaker Pro 6
Ungroup objects	Shift-⌘-G	Shift-⌘-R
Lock an object	⌘-H (Mac OS 9) Option-⌘-H (Mac OS X)	Option-⌘-L
Unlock an object	Shift-⌘-H (Mac OS 9) Shift-Option-⌘-H (Mac OS X)	Shift-Option-⌘-L
Rotate an object	Option-⌘-R	No change

Consistent conversion of dates with two-digit years

FileMaker Pro 6 improves the input of dates with two-digit years, such as “99” and “02.” FileMaker Pro 6 uses one consistent method for converting two-digit years into four-digit years. (FileMaker Pro 3.0 through 5.5 used different conversion methods depending on how the dates were entered.)

FileMaker Pro 6 conversion method

FileMaker Pro 6 converts two-digit year dates as follows: if the current year is among the *first* ten years of the century (as in 2000-2009), then FileMaker Pro converts two-digit years in the range 00-89 to dates in the *current* century, and 90-99 to dates in the *previous* century.

For example, if the current year is 2002, then FileMaker Pro converts:

- 97 to 1997
- 05 to 2005
- 83 to 2083

In the future, when the current year is between 2010 and 2089, FileMaker Pro 6 will convert two-digit years to dates in the current century. For example, in 2010, FileMaker Pro 6 will convert 97 to 2097.

To improve the accuracy of date input, FileMaker recommends that you always enter dates in four-digit year form, and use the validation option that displays an error message when a date entry contains a two-digit year. For more information about year 2000 issues, see the “Year 2000 Readiness Disclosure” document, available at www.filemaker.com.

Previous conversion methods

In FileMaker Pro 3.0 through 5.5, the processing of dates with two-digit years was different depending on how they were entered.

Two-digit year dates entered or edited directly in a field converted using one method, but the following types of two-digit year input used a different conversion method:

- dates input or modified via importing, Apple events, ODBC, JDBC, or the Web Companion
- dates input via drag-and-drop or script commands to a non-active field
- dates input as part of a calculation expression in the Specify Calculation dialog box
- dates entered for the Auto-Enter Data option in the Define Fields/Options dialog box
- dates entered for the Validation In range option in the Define Fields/Options dialog box
- dates entered as literal values in calculation expressions or scripts

If you need details on how FileMaker Pro 3.0 through 5.5 converted dates in each of these situations, see the “Year 2000 Readiness Disclosure” document, available at www.filemaker.com.

New features in FileMaker Pro 5.5

The following features were added in FileMaker Pro 5.5 and are also available in FileMaker Pro 6:

- support for Windows 2000 Professional and Mac OS X
- many ease-of-use improvements, for example, being able to resize the Specify Calculation dialog box
- the ability to secure individual records through FileMaker Pro 5.5 access privileges, including record-by-record security for databases published on the Web
- many new script steps and functions, for example, an Execute SQL script step
- extended ODBC and SQL functionality, such as the ability to execute SQL statements from a field value
- improved functionality, for example, importing named ranges of Microsoft Excel data
- more power in publishing data on the Web, for example, support for more script steps in Instant Web Publishing

Important See FileMaker Pro Help for complete details on new features in FileMaker Pro 5.5.

Hands-on, task-oriented tutorial

To get new users up to speed more quickly, FileMaker Pro features an extensive hands-on tutorial. Tutorial lessons guide you through common database tasks, including finding records, creating databases, calculations, scripts, and reports, and defining relationships. See the next chapter for the first lesson in the tutorial.

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Lesson 1

FileMaker Pro basics

Welcome to the FileMaker® Pro tutorial. This tutorial shows you how you can manage your information in FileMaker Pro.

You will learn how to use FileMaker Pro software to:

- locate and sort information
- create and enter records in a simple database
- create mailing labels
- create calculations, buttons, and scripts
- create and run reports
- use the relational capabilities of FileMaker Pro

It takes approximately four hours to complete this tutorial, which can be done in one session or several shorter sessions.

How to use this tutorial

These lessons are based on the membership database of a fictitious travel firm, The Corporate Travelers Club. Corporate travelers who are members of this club save their businesses money on travel costs, and the club's expenses are offset by an annual membership fee. FileMaker Pro is used to track the members' names, addresses, and membership status, as well as to generate labels and form letters to contact members.

It's best to complete these lessons sequentially, as the concepts introduced in early lessons are assumed to be understood in later lessons. However, because the lessons are self-contained, it's possible to skip lessons entirely, or to complete them later if desired.

This tutorial assumes that you are familiar with your computer's operating system. Opening files, locating folders, and other activities that require some knowledge of your computer's OS are a necessary part of completing this tutorial.

Note All persons and companies listed in the sample files are purely fictitious, and any resemblance to existing persons and companies is purely coincidental.

Files included with this tutorial are intended to illustrate the features of FileMaker Pro, and as such, might be unsuitable for use as templates for further development.

We begin with a demonstration

To show you the goal of each lesson up front, we guide you through a sample file that illustrates a feature or concept. This way, you will always know a lesson's objectives.

We explain how it works

As we introduce new techniques and concepts, we will explain how to use them in other situations.

You build the structures

Because using FileMaker Pro is the most effective way to learn the application, each lesson features a hands-on activity designed to guide you through menus, screens, and concepts step by step.

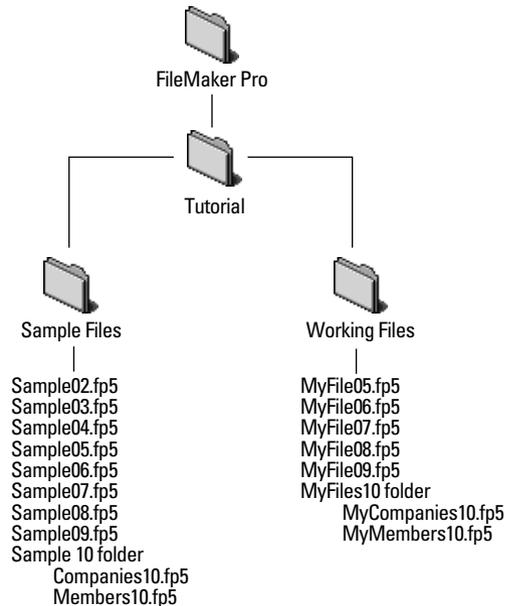
Where to find the lesson files on your hard drive

The files used in this tutorial are installed as part of a typical FileMaker Pro installation set.

The sample files illustrate the concepts explained in the lessons, and let you see how features work before you build them. Refer back to the sample file associated with each lesson if you need to. The tutorial sample files for lessons 2 through 9 are installed in FileMaker Pro\Tutorial\Sample Files. The sample files for lesson 10, which explains relational databases, are installed in FileMaker Pro\Tutorial\Sample Files\Sample10.

The working files mimic the sample files, except the features being taught in particular lessons have been removed. You will add these missing items and structures as you complete each lesson. The working files for lessons 5 through 9 are installed in FileMaker Pro\Tutorial\Working Files. The working files for lesson 10 are installed in FileMaker Pro\Tutorial\Working Files\MyFiles10.

Overview of the FileMaker Pro Tutorial folder structure



If you need to start over

If you make a mistake or need to start over, you can reinstall the tutorial files without having to reinstall the entire FileMaker Pro application. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

Database concepts

What is a database?

A *database* is a method of organizing and analyzing information. You’ve probably used several databases recently without realizing it. A date book, a parts list, and even your own address book are databases.

Why use a database?

Storing information in a database file has many benefits. A database doesn’t just hold information—it helps you organize and analyze the information in different ways. For example, databases allow you to group information for reports, sort information for mailing labels, count your inventory, or find a particular invoice.

Computerized databases offer many additional advantages over their paper-based counterparts: speed, reliability, precision, and the ability to automate many repetitive tasks.

How is a database organized?

A database file is organized into *records*. Each record is a collection of *fields*.

Imagine your address book is a FileMaker Pro database file. Each listing in your address book is one record. Each record has information, such as name, address, and phone number. Each of these pieces of information—name, address, and phone number—is stored in a separate field.

FileMaker Pro basics

Unlike most word processing or spreadsheet programs, FileMaker Pro saves your work automatically. Consequently, it's important to carefully consider your actions when making sweeping changes to your files, especially when deleting records. Once records are deleted, they are completely removed from your database.

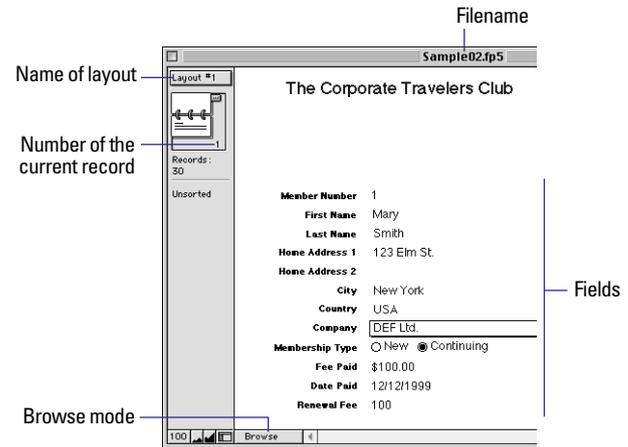
As you will learn in lesson 11, you should back up your files on a regular basis. Backups can save you many hours of unnecessary work and worry in the event that your files become lost or damaged, or records are inadvertently deleted.

About FileMaker Pro modes

When you work in FileMaker Pro, you work in one of four *modes*.

- Use *Browse mode* to enter data and view records.
- Use *Find mode* to locate a record or a group of records quickly.
- Use *Layout mode* to specify how information will appear on the screen or when you print it.
- Use *Preview mode* to see what the pages will look like when you print them.

Once you have opened a database, you can switch from one mode to another using either the View menu or the mode pop-up menu at the bottom of the application window. You can also quickly determine which mode your FileMaker Pro database is using by referring to this pop-up menu.



For more information

For more information on FileMaker Pro basic concepts, see chapter 1 of the *FileMaker Pro User's Guide*.

You can also find specific information about the procedures and concepts introduced in the following chapters in the FileMaker Pro Help.

To access FileMaker Pro Help:

Choose Help menu > FileMaker Pro Help.

To see an overview of the FileMaker Pro Help topics:

Choose Help menu > Contents and Index.

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Lesson 2

Browsing information

You view, enter, or change data in Browse mode. This is the simplest way to interact with your database.

In this lesson you will:

- open a database with data already in it
- move between records
- view information in different ways by switching layouts
- see the difference between *form view*, *list view*, and *table view*

Note You can install a fresh copy of the tutorial files at any time. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

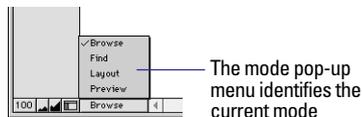
Open a database and move between records

To open the sample database for this lesson:

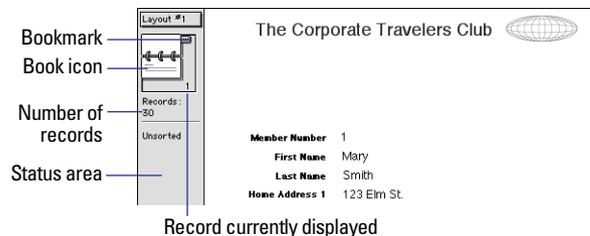
1. Open the Tutorial Folder in the FileMaker Pro folder.
2. Open the Sample Files folder.

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

3. Open Sample02.fp5.
4. Notice that the database is in Browse mode. FileMaker Pro defaults to Browse mode when a database is opened.



In the status area, notice that there are 30 records and that the first record is displayed.



5. Click the bottom page of the book icon to move forward one record at a time, and click the top page to move back one record at a time.

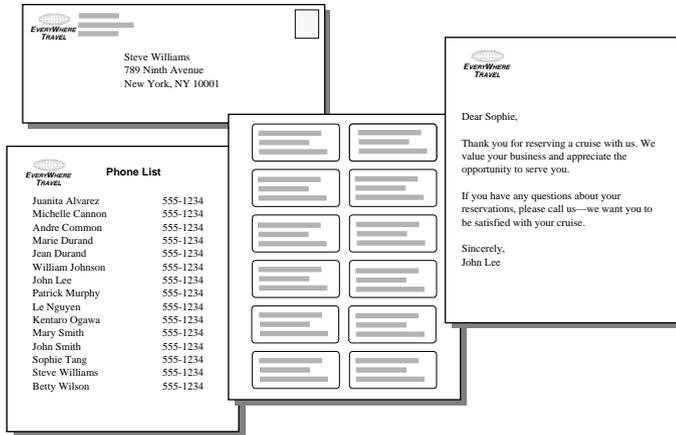
6. Move between records by dragging the bookmark up or down.

You can also type a record number in the area immediately below the book icon to change the current record displayed.

View information in different ways

Even though you enter information only once in FileMaker Pro, you can use that information in many ways. *Layouts* let you view some or all of your fields.

Because it is not necessary to see all of your fields in each layout, layouts are a powerful tool for working with or printing just the information you need to accomplish a particular task.

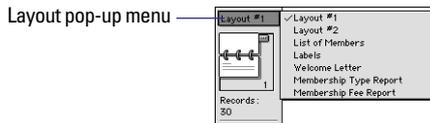


The same data can be arranged differently with multiple layouts

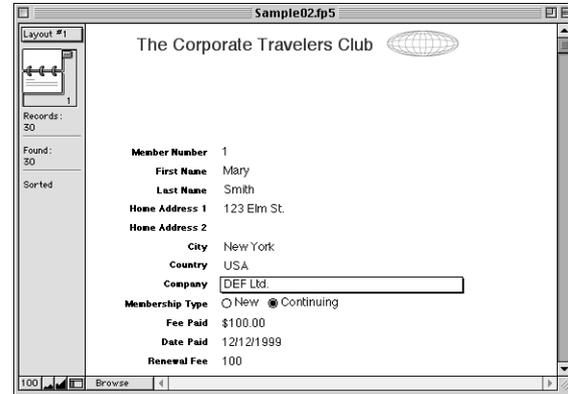
See a different layout

To see some layouts in action, use the Sample02.fp5 sample file you just opened.

1. Click on the layout pop-up menu, located above the book icon. A list appears showing the layouts available in this file.



2. Examine Layout #1. Layout #1 shows all of the fields in the Sample02.fp5 database.



Layout #1 displays all of the fields in the Sample02.fp5 database

3. Go to the layout pop-up menu and choose the List of Members layout.

This layout shows each record as one row in a columnar list. Notice that the List of Members layout contains only four of the fields that were present in Layout #1. No data has been removed from the database. Because fewer fields are present on this layout, some data is simply not displayed.

Last Name	First Name	Company	Membership Type
Smith	Mary	DEF Ltd.	Continuing
Common	Andre	ABC Company	Continuing
Williams	Steve	ABC Company	New
Ogawa	Kentaro	ABC Company	Continuing
Durand	Marie	DEF Ltd.	Continuing
Cannon	Michelle	XYZ Inc.	Continuing
Smith	John	XYZ Inc.	New
Murphy	Patrick	XYZ Inc.	New
Durand	Jean	XYZ Inc.	New
Nguyen	Le	DEF Ltd.	New
Lee	John	XYZ Inc.	New
Tang	Sophie	DEF Ltd.	Continuing
Alvarez	Juanita	DEF Ltd.	Continuing
Wilson	Betty	XYZ Inc.	New

The List of Members layout displays only four of the fields present on Layout #1

4. Go to the layout pop-up menu and return to Layout #1. No data has been lost.

View your layouts as forms, lists, and tables

You can view your layouts in three different ways: as a form, as a list, and as a table.

- Form View displays your current layout one record at a time.
- List View shows your current layout as a list, with one record appearing beneath another.
- Table View shows you many records at one time in a grid.

Generally, layouts can be toggled between form view, list view, and table view while the database is in Browse mode.

Last Name	First Name	Company	Membership Type
Smith	Mary	DEF Ltd.	Continuing
Common	Andre	ABC Company	Continuing
Williams	Steve	ABC Company	New
Ogawa	Kentaro	ABC Company	Continuing
Durand	Marie	DEF Ltd.	Continuing
Cannon	Michelle	XYZ Inc.	Continuing
Smith	John	XYZ Inc.	New
Murphy	Patrick	XYZ Inc.	New
Durand	Jean	XYZ Inc.	New
Nguyen	Le	DEF Ltd.	New
Lee	John	XYZ Inc.	New
Tang	Sophie	DEF Ltd.	Continuing
Alvarez	Juanita	DEF Ltd.	Continuing
Wilson	Betty	XYZ Inc.	New
Johnson	William	DEF Ltd.	Continuing
Yargas	Julia	XYZ Inc.	Continuing
Mehmet	Ahmet	XYZ Inc.	Continuing
Verhaag	Annelies	DEF Ltd.	Continuing
Iskoven	Kevin	XYZ Inc.	Continuing

Switch between form view, list view, and table view in the same layout to see how they are different.

1. In Sample02.fp5, switch to the List of Members layout. You see many records, in the form of a list.

2. Choose View menu > View as Form.

You now see a single record, displayed in the same layout. Only the viewing option has changed.

3. Choose View menu > View as Table.

The View as Table feature allows you to view many records at once in a grid.

4. Choose View menu > View as List to return to the original view of the List of Members layout.

Layout	First Name	Last Name	Home Address 1	Home Address 2	City
Mary	Smith		123 Elm St.		New York
Andre	Common		147 White Avenue		Los Angeles
Steve	Williams		789 Ninth Avenue		New York
Kentaro	Ogawa		2-23-5 Imachi	Setagaya	Tokyo
Marie	Durand		1 rue de la Poste		Paris
Michelle	Cannon		123 4th St. SW		Edmonton
John	Smith		41 Mary St		Sydney
Patrick	Murphy		89 Lavenworth Place	Castlemock	Dublin
Jean	Durand		1001 place du Monde		Montreal
Le	Nguyen		123 place de la		Paris
John	Lee		123 St. Johns Circle		London
Sophie	Tang		126, Deepwater Bay		Kowloon
Juanita	Alvarez		147 Houston Avenue		New York
Betty	Wilson		466 Fifth Avenue		New York
William	Johnson		862 Marsh Road		London
Julia	Vargas		Avenida Sevilla, 87		Madrid
Ahmet	Mehmet		Bahar Caddesi 50-15	Etiler	Istanbul
Annelies	Verhaag		Blauwburgstraat 33		Amsterdam
Jens	Jensen		Bredgade 127		Copenhagen
Juan	Garcia		Calle Real Manzana	Colonia Aquimero	Mexico DF
Gerard	LeFranc		Ches Piere	466 Rue Eiffel	Paris
Julia	Schmidt		Grosse Elbestrasse		Hamburg
Sven	Svensson		Klammerdammsgatan		Stockholm
Matti	Virtanen		Matintie 2		Helsinki

5. When you are finished with this lesson, close the file by choosing File menu > Close.

For more information

You have opened a database, browsed through records, switched layouts, and learned the differences between form view, list view, and table view. For more about browsing information in FileMaker Pro, see chapter 2 of the *FileMaker Pro User's Guide*.

Lesson 3

Finding and sorting records

Your database is a collection of records. Sometimes you'll work with all of the records in the database (to mail out an annual catalog for each customer record in the database, for example). Often, however, you'll work with a subset of your database—people who come from a particular city, for example, or records that fall within a particular range of dates.

In FileMaker Pro, this process of searching for records that match particular criteria is called *finding* records. Once you've found the records you want to work with, you can change their order by *sorting* them. Records can be sorted in ascending or descending order.

In this lesson, you will:

- find records matching criteria in a single field and multiple fields
- find records matching a range of data
- narrow your searches by omitting records
- sort records in ascending and descending order

Note You can install a fresh copy of the tutorial files at any time. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

Find records based on criteria in a single field

In the membership database, find all of the members that are from New York City.

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Sample Files folder.

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

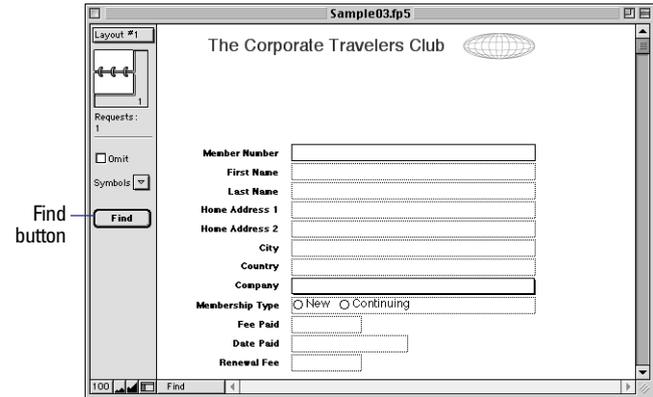
3. Open Sample03.fp5.

4. Choose View menu > Find Mode.

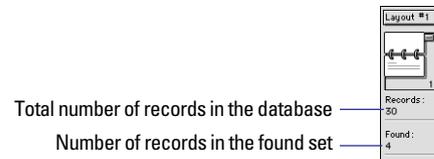
In Find mode, you create a find request using the fields in the layout you see. Type the criteria you want to search for directly into the fields on the request.

5. Type `New York` in the City field.

6. Click the Find button in the status area.



Your find request returns records for four members who live in New York. This is the *found set*.



7. Click the book icon to view each of the four records in the found set.

Find records based on criteria in separate fields

You can find records that match multiple criteria, for example members who are both from the United States and are new members.

This type of search is commonly referred to as an *AND search*. To perform an AND search in FileMaker Pro, type each search criterion directly into the appropriate field in Find mode.

To find all members who live in the United States and are new members:

1. Choose **View** menu > **Find Mode**.
2. Type **USA** in the **Country** field.
3. Locate the **Membership Type** field, and select the **New** radio button.



4. Click **Find** in the status area.

Your find request returns a found set of two records for the two new members who live in the United States.

5. To find all of the records in your database, choose **Records** menu > **Show All Records**.

Note It is not necessary to choose **Show All Records** before performing a **Find**, as FileMaker Pro always finds records from the entire database.

Find records that match multiple criteria in the same field

Sometimes you need to find records that match more than one criterion in a single field. For example, you may need to find all members located in either New York or London. This type of search is commonly referred to as an *OR search*, because your found set will consist of records that match any one of the find criteria.

To perform an OR search in FileMaker Pro, you will need to use multiple find requests.

- Type the first search criterion into the appropriate field of the first find request.
- Create a second find request and enter the second search criterion in the same field.

When you click the **Find** button, FileMaker Pro will retrieve all of the records that match any of the criteria you've entered.

To find all members living in New York or London:

1. Choose **View** menu > **Find Mode**.
2. Type **New York** in the **City** field.
3. Choose **Requests** menu > **Add New Request**.

Notice that the status area shows that there are two requests.



4. Type **London** in the **City** field of this second request.
5. Click **Find** in the status area.

Your find request returns a found set of six records for six members who live in either New York or London.

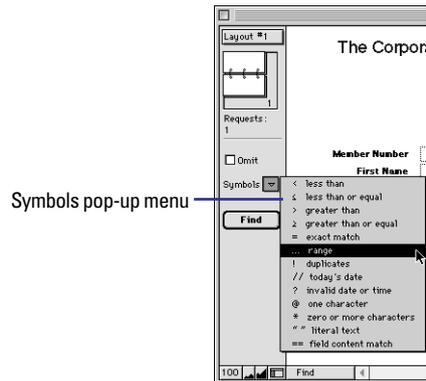
Find records that match a range of criteria in the same field

Sometimes, you might want to find records that match a range of criteria within a single field. For example, you might want to find all of the records that fall within a one-month period, or locate all of the sales invoices numbered between 500 and 1000.

To perform this type of search in FileMaker Pro, you use a special range symbol in your find request to specify the lower and upper limits of your find criteria.

To find the members who paid their membership fees between January 1, 2000 and June 30, 2000:

1. Choose View menu > Find Mode.
2. Type 1/1/2000 in the Date Paid field.
3. In the status area, click the Symbols pop-up menu. Select range from the list.



4. Your find request should now have 1/1/2000 . . . in the Date Paid field. Immediately after the ellipsis (...), type 6/30/2000.

Fee Paid
Date Paid 1/1/2000...6/30/2000
Renewal Fee

5. Click Find.

Your search returns six records, for six members who paid their fees within the first six months of the year 2000.

Narrow your search

Sometimes, you might need to find records that match certain criteria while at the same time excluding others (for example, finding all of the records that were added in a given year except for those added in February, or finding all customers who reside in New York state except for those in New York City). You can perform these types of finds by using a combination of multiple find requests and omitting certain records.

Because FileMaker Pro processes multiple find requests in the order they are created, it is possible to create very specific, layered searches in this manner. Omitting records in a search does not delete them from the database.

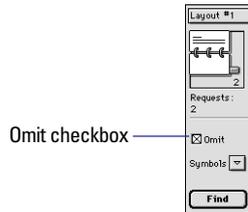
To find the records of members who paid their fees in the first six months of 2000, except for those who paid their fees in February:

1. Choose View menu > Find Mode.
2. Type 1/1/2000 in the Date Paid field.
3. In the status area, click the Symbols pop-up menu. Select range from the list.
4. After the ellipsis, type 6/30/2000.
5. Choose Requests menu > Add New Request. Notice that the status area shows that this is the second request.
6. Type 2/1/2000 in the Date Paid field.

7. In the status area, click the Symbols pop-up menu and select range from the list.

8. After the ellipsis, type 2/29/2000 in the Date Paid field.

9. Click Omit in the status area to select it.



10. Click Find.

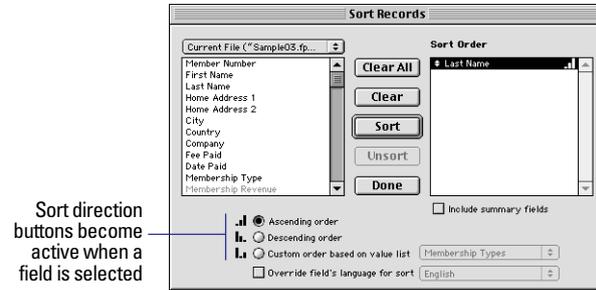
Your search returns five records for five members who paid their fees within the first six months of 2000, except the month of February.

Sort your found set

Once you have a found set of records to work with, you might want to sort those records. For example, you might want to display the records in alphabetical order, or sort them from newest to oldest.

To sort records in alphabetical order by the members' last names:

1. Go to the layout pop-up menu and choose the List of Members layout. This layout will make it easier to see the results of the sorting.
2. Choose Records menu > Sort.
3. If any fields appear in the Sort Order column on the right side of the dialog box, click Clear All.
4. In the list of available fields, select Last Name and click Move.



Notice the sort direction symbol to the right of the Last Name field increases in size from left to right. This indicates that when the database is sorted by this field, the data will be in ascending order (from a to z).

5. Click Sort.

The names in the List of Members are now in alphabetical order by last name.

6. When you are finished with this lesson, close each open file by choosing File menu > Close.

For more information

You have found records based on a variety of criteria, and narrowed your searches by using Omit. You have sorted the results of your searches. For more information on finding and sorting records in FileMaker Pro, see chapter 3 of the *FileMaker Pro User's Guide*.

Lesson 4

Creating a database and entering records

In the previous lessons, you saw how to use a simple database with existing data. Now you will create your own file and add records.

In this lesson you will:

- create a simple database
- define fields to hold different kinds of data
- create records
- enter data
- modify data

If you are not familiar with database basics, you should do the first two lessons in this tutorial before continuing.

Note You can install a fresh copy of the tutorial files at any time. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

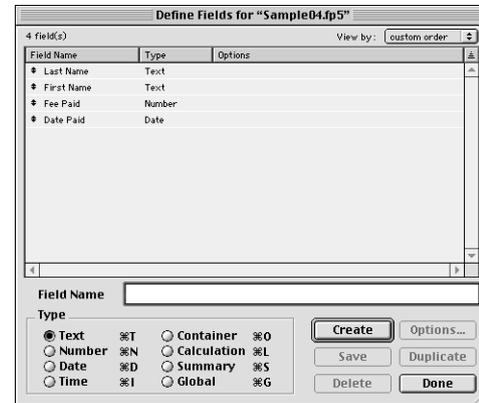
Create a simple database and define fields

Look at the sample file

The sample file is the model for the file you’ll create. It shows you how fields are defined and that different field types hold different types of data.

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Sample Files folder.
You should be here: FileMaker Pro\Tutorial\Sample Files.
3. Open Sample04.fp5.
4. Choose File menu > Define Fields.

You see the Define Fields dialog box showing all of the fields in the database.



5. Notice that the First Name and Last Name fields are of type Text, Fee Paid is of type Number, and Date Paid is of type Date.

6. Click Done.

7. Notice that the data in each field corresponds to the field type.

You will learn how to add text and graphics, like the title and logo, in lesson 5.

About field definitions

You create a field for each category of information you want, such as First Name or City. To find, sort, calculate, and display data correctly, the field type should match the kind of data it contains (text, number, date, and so on). For example, you can’t search for text values in a field of type Number.

You will learn about other field types in later lessons.

Create a database

1. Choose File menu > New Database.
2. If you see the New Database dialog box, choose Create a new empty file, then click OK. If not, go to step 3.
3. Go to the Working Files folder and select it as the location for this file.
4. For File Name, type MyFile04.
5. Click Save.

The Define Fields dialog box appears. You will now create fields to store information.

6. To create the first field, type First Name in the Field Name box.
7. Notice that the field type is Text.



8. Click Create.
9. Type Last Name in the Field Name box.
10. Click Create.
11. Type Fee Paid in the Field Name box, select Number in the Type area, then click Create.

12. Type Date Paid in the Field Name box, select Date in the Type area, then click Create.

Your defined fields should match those in the sample file.

13. Click Done.

You see the empty fields in a new, blank record. *Field labels* identify the fields. Your file is ready for data entry.



FileMaker Pro automatically saves your changes as you work.

Enter data into the database

Now you can begin to enter members' data.

Create the first record

1. If you don't see field boxes, press Tab to begin data entry.
2. Type Jane in the the First Name field.
3. Press Tab to move to the next field.
4. Type Doe in the Last Name field.
5. Type 25 in Fee Paid.

You will learn how to format number fields to display as currency in the next lesson.

6. Type 11/11/2000 in Date Paid.

The completed record should look like this:



Create another record

1. Choose Records menu > New Record.
2. As you did for Jane Doe's record, enter data for John Smith, who paid 75 dollars on 2/2/2000.

Your database now contains two records. Click the book icon to see each record.

Modify data in a record

Suppose you realize that Jane Doe paid 75 dollars, not 25. You can easily correct the entry.

1. Go to Jane Doe's record.
2. Select the amount in Fee Paid.

First Name	Jane
Last Name	Doe
Fee Paid	25
Date Paid	11/11/2000

3. Type the new amount, 75.
4. Click an empty area outside a field to save the change.
5. When you are finished with this lesson, close each open file by choosing File menu > Close.

For more information

You have created a simple database and defined fields, and added and modified records. For more information, see chapter 5 in the *FileMaker Pro User's Guide*. You can also use or build on the database template files included with FileMaker Pro; see chapter 5. For more information on entering data in different field types and by different methods, including import, see lesson 7 in this tutorial and chapters 2 and 12 in the *FileMaker Pro User's Guide*.

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Lesson 5

Customizing what you see

You can enhance the way your data looks by adding graphics and other effects.

In this lesson, you will:

- learn how layouts determine what you see
- add, resize, and move fields
- display values in a number field as currency
- add text to a layout, and change its size and color
- add graphics
- see where to find other ways you can customize a layout

Note You can install a fresh copy of the tutorial files at any time. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

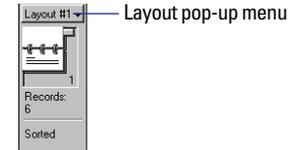
Customize your view in Layout mode

Look at the sample layouts

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Sample Files folder.

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

3. Open Sample05.fp5.
4. Choose **Layout #1** from the layout pop-up menu if it is not already selected.



You see a simple layout.

5. Choose **Layout #2** from the layout pop-up menu.
6. Notice that although this is the same record, now:
 - First Name and Last Name are side by side
 - you see the City field
 - Fee Paid shows a dollar sign
 - the club’s name and logo are at the top of the screen



You will make the above changes in this lesson.

7. Choose **View menu > Layout Mode**.

Use *Layout mode* to customize the appearance of your data. Notice that although the data is still in the file, you do not see it here.

About customizing layouts

Design layouts in Layout mode. You can include any combination of fields, text, and graphics on a layout. You can change the font and color of fields and text. You can also change the formatting of Number or Date fields.

Changes you make in Layout mode affect only the way data appears. The data itself remains as it was entered.

Leave the sample file open to refer to as you build these features in the working file.

Customize a layout

You will change a simple layout in this lesson's working file to make it look like Layout #2 in the sample file.

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Working Files folder.

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

3. Open MyFile05.fp5.
4. Choose View menu > Layout Mode.

You see a plain layout. You will modify this layout in different ways in the following sections.

Resize, move, and add a field

Select and resize a field

1. In Layout mode, click the First Name field to select it.



2. Drag the handle at the lower-right corner of the field to the left until the field is smaller, yet large enough to display the longest first name you expect in your file.

3. Choose View menu > Browse Mode to see your field.

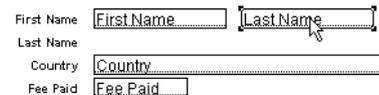
4. Flip through the records.

If the field doesn't display all names completely, return to Layout mode and make the field larger.

5. Repeat this process for Last Name.

Move a field

1. Choose View menu > Layout Mode.
2. Click inside the Last Name field and drag it beside the First Name field.

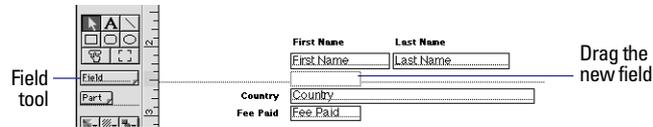


3. Drag the Last Name field label above the Last Name field.
4. Drag the First Name field label above the First Name field.
5. Choose View menu > Browse Mode to see your results.

Add a field

If a field has been defined in Define Fields, you can display it on any layout. In this database, some defined fields are not on this layout. You will add one of these fields now.

1. Choose View menu > Layout Mode.
2. Using the Field tool, drag the field to the layout, and place it below the First Name field.



3. In the Specify Field dialog box, select the City field.
4. Click OK.
5. Choose View menu > Browse Mode to see your field.

You see a city entered in each record. City data was entered previously, and the field holds the data.

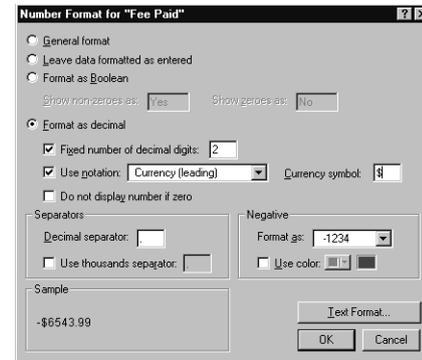
Display a number as currency

You can display a number as currency, even though only the number is typed into the field.

1. Choose Window menu > Sample05.fp5.
2. Choose View menu > Browse Mode.
3. In Layout #2, look at Fee Paid and notice that the number displays as currency.
4. Click the number to see the data actually entered in the field.

Formatting affects only the way data is displayed. It does not change the data.

5. Choose Window menu > MyFile05.fp5.
6. Choose View menu > Layout Mode.
7. Select the Fee Paid field.
8. Choose Format menu > Number.
9. Select options as shown in the following dialog box.



10. Click OK.
11. Choose View menu > Browse Mode to see the formatted data.

Add custom text to a layout

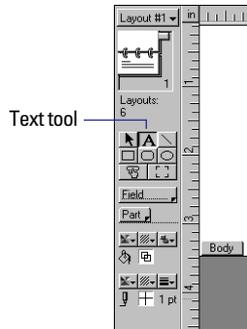
You will add the name of the organization to the top of the layout, then format the text.

Add text

1. Choose Window menu > Sample05.fp5.
2. Choose View menu > Layout Mode and look at the heading at the top of the layout.

This is your model.

3. Open MyFile05.fp5 if it is not already open.
4. Choose View menu > Layout Mode.
5. Select the text tool.



6. Click the top of the layout where you want to begin the line of text.
7. Type The Corporate Travelers Club
8. Click the selection tool  to end the text entry.

Change text size and color

1. Click the Corporate Travelers Club text to select the text block.



2. Choose Format menu > Text.
3. Choose 18 point from the Size list.
4. For Color, choose any dark blue.
5. Click OK.

Add a graphic to the layout

Add a logo beside the club name.

1. Choose Window menu > Sample05.fp5.
2. In Layout #2, choose View menu > Layout Mode and notice where the logo appears on the layout.
3. Open MyFile05.fp5 if it is not already open.

4. Choose View menu > Layout Mode.
5. Click beside the Corporate Travelers Club text, where you want to place the club logo.
You will see no change onscreen yet.
6. Choose Insert menu > Picture.
7. Open the Working Files folder.
8. Make sure all file types are showing, and select logo.gif.
9. Click Open.
10. Drag the logo to move it if necessary.
11. Choose View menu > Browse Mode to see the finished layout.
12. When you are finished with this lesson, close each open file by choosing File menu > Close.

For more information

You have learned how to enhance the appearance of your data by using graphics, custom text, field formatting, and creative positioning of objects on layouts. There are many other ways to customize the appearance of fields and layouts.

For example, after you've created a layout, you can:

- add effects like embossing or patterns to objects
- use lines or boxes to highlight or separate information
- add scroll bars to individual fields
- change background or field color

When you create a new layout, you can apply color and style using a *theme*.

Chapters 6 and 7 in the *FileMaker Pro User's Guide* explain how to add these enhancements and others. The database templates that come with FileMaker Pro also show ways to enhance layouts. See chapter 5 for information about how to use the templates.

Lesson 6

Creating lists, mailing labels, and form letters

You can easily create layouts to view and print information in many different ways.

In this lesson, you will create:

- a list of your records
- mailing labels
- a form letter

Note You can install a fresh copy of the tutorial files at any time. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

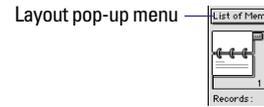
Create a columnar list

A columnar list shows many records simultaneously. Each row is one record. Each column holds one category of data, such as Last Name or Phone Number.

Look at the sample list

You can create a list of records that shows just the information you want to see.

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Sample Files folder.
You should be here: FileMaker Pro\Tutorial\Sample Files.
3. Open Sample06.fp5.
4. Choose the List of Members layout from the layout pop-up menu.



You see a columnar list showing some of your fields.

<u>Last Name</u>	<u>First Name</u>	<u>Company</u>	<u>Membership Type</u>
Smith	Mary	DEF Ltd.	Continuing
Common	Andre	ABC Company	Continuing
Williams	Steve	ABC Company	New
Ogawa	Kentaro	ABC Company	Continuing
Durand	Marie	DEF Ltd.	Continuing

About columnar list layouts

Choose View menu > Layout Mode to view the layout that produces the columnar list you just looked at.

Each field on the layout appears once, but the list displays many records.

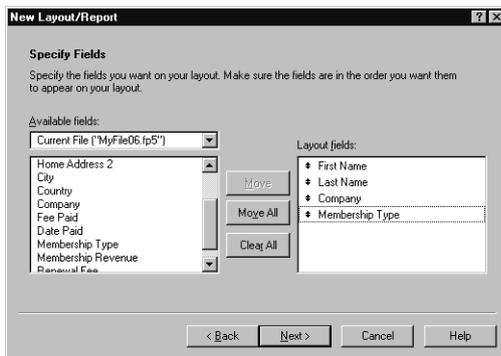
A screenshot of the FileMaker Pro layout design view. It shows a columnar list layout with four columns: Last Name, First Name, Company, and Membership Type. Each column contains a single instance of the field name, and the entire layout is enclosed in a dotted border.

Create a columnar list

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Working Files folder.
You should be here: FileMaker Pro\Tutorial\Working Files.
3. Open MyFile06.fp5.
4. Choose View menu > Layout Mode.

5. Choose Layouts menu > New Layout/Report.
6. For Layout Name, type `List of Members`.
7. Select `Columnar list/report` for the new layout type and click `Next`.
8. Select the `Columnar list/report` layout again, then click `Next`.
9. Double-click each of the following fields in the order you want it to appear in the list:
 - Last Name
 - First Name
 - Company
 - Membership Type

These fields move to the `Layout fields` list.



10. Click `Next`.
11. Click `Next` on each of the next four panels to accept the defaults.
12. Click `Finish`.
13. Choose `View` menu > `Browse Mode`.

The data in all records for the fields `Last Name`, `First Name`, `Company`, and `Membership Type` appears in the `List of Members` layout.

Create mailing labels

Look at the sample labels

1. Choose `Window` menu > `Sample06.fp5`.
2. Choose `View` menu > `Browse Mode`.
3. Select `Labels` in the layout pop-up menu.

You see the mailing label for the current record.

4. Choose `View` menu > `Preview Mode`.

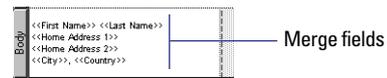
You see a page of labels as it will print.

5. Notice that not all records have the same number of lines of text.

Records with four-line addresses display all lines. In records needing only three lines, the extra line is omitted so there is no blank line in the labels.

6. Choose `View` menu > `Layout Mode`.

You see the names of fields that will appear on the labels.



About label layouts

Label layouts use *merge fields*. Merge fields expand or contract to fit the data in the field, and take no space if the field is empty. Merge fields are for display and printing only. You don't enter data into merge fields.

Create a label layout

In this section, you will use the `New Layout/Report` assistant to:

- create a label layout
- select fields to include on the labels

Create the label

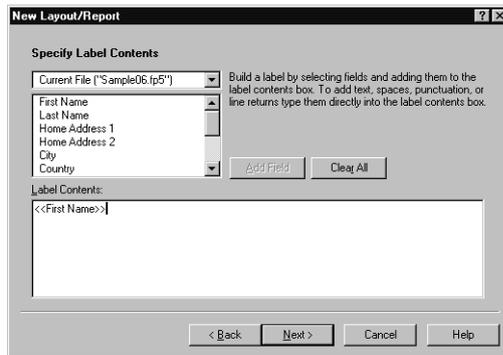
1. Choose **Window** menu > **MyFile06.fp5**.
2. Choose **View** menu > **Layout Mode**.
3. Choose **Layouts** menu > **New Layout/Report**.
4. For **Layout Name**, type **Labels**.
5. Select **Labels** for the new layout type.
6. Click **Next**.
7. Choose **Avery 5160** from the **Use label measurements for list**.
8. Click **Next**.

Now you're ready to specify the label contents.

Choose the fields that will appear on the labels

1. Double-click **First Name** in the list.

First Name moves to the **Label Contents** area. The insertion point flashes.



2. After **First Name**, type a space.
3. Double-click **Last Name** in the list.
4. After **Last Name**, press **Enter** (Windows) or **Return** (Mac OS).

5. Double-click **Home Address 1** in the list, then press **Enter** (Windows) or **Return** (Mac OS).
6. Double-click **Home Address 2** in the list, then press **Enter** (Windows) or **Return** (Mac OS).
7. Double-click **City** in the list.
8. Type a comma, then a space.
9. Double-click **Country** in the list.

Now you have set up the merge fields.

10. Click **Next**.
11. Click **View** in **Layout mode**.
12. Click **Finish**.

Your label should look like this:



13. When you finish viewing your label layout, choose **View** menu > **Preview Mode**.

Your labels should look like those in the sample file.

Create a form letter**Look at the sample letter**

1. Choose **Window** menu > **Sample06.fp5**.
2. Choose **View** menu > **Browse Mode**.
3. Choose **Welcome Letter** from the layout pop-up menu.
4. Flip through the records and look at the letter. You might need to scroll down to see all of it.
5. Notice the personalized address and salutation for each record.

6. Also notice that the wording in each letter is the same, except that the company name for each record appears in the first paragraph. The text flows around the company name, regardless of its length.

This letter is ready to print, for every record in the database.

About form letter layouts

The letter is simply a layout containing text, merge fields, and a graphic.

1. Choose View menu > Layout Mode.

2. Click anywhere on the text.

You see the handles in the corners of the entire text block. All of the text is in a single text block.

3. Notice that Company is a merge field in the body of the letter.

The address and salutation also use merge fields.

Create a form letter

To create this letter, you will:

- create a blank layout
- create a text block to contain your letter
- add merge fields for the recipient's name and address
- type the letter
- customize the letter with the recipient's company name
- add the closing

Create a one-page blank layout

1. Choose Window menu > MyFile06.fp5.
2. Choose View menu > Layout Mode.
3. Choose Layouts menu > New Layout/Report.
4. For Layout Name, type `Welcome Letter`.
5. Select Blank layout for the new layout type.

6. Click Finish.

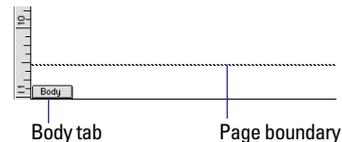
7. On the layout, click the Header tab, then press Backspace (Windows) or Delete (Mac OS).

8. Click the Footer tab, then press Backspace (Windows) or Delete (Mac OS).

This letter will not use a header or footer.

9. Drag the Body tab down to about 11 inches.

When you release the mouse button, you will see the page boundary. If you don't see the page boundary, drag the Body tab down some more.



10. Now drag the Body tab up to just above the page boundary.

The page boundary line will disappear.

11. Use the scroll bar at the bottom of the screen to scroll a few inches to the right.

You see a heavy dotted line along the right side. This is the right-side page boundary. Your letter will be within these boundaries.

12. Scroll back all the way to the left.

13. Scroll up to the top of the layout.

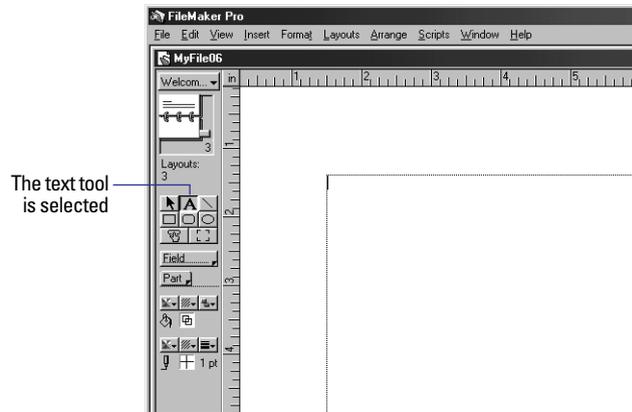
Create the text block

You will create a text block with a 1.5-inch margin on all sides.

1. Click the text tool .

2. Drag a rectangle starting about 1.5 inches from the top left side of the layout, and ending about 1.5 inches from the bottom right side, as indicated by the page boundary lines.

When you release the mouse, the insertion point flashes in the top left of the text box. You will type the letter inside this box.



Add the address

1. Choose Insert menu > Merge Field.
2. Select First Name in the list and click OK.
3. Type a space.
4. Choose Insert menu > Merge Field.
5. Select Last Name in the list and click OK.
6. Move to the next line (enter a line space):

Windows: Press the Enter key above the Shift key on the keyboard.

Mac OS: Press Return.

7. Add merge fields for the street address, city, and country, with appropriate spaces, new lines, and punctuation.

Type the letter

1. Press Enter (Windows) or Return (Mac OS) twice to create two line spaces at the end of the address.
2. Start the salutation line: type `Dear` and a space.

3. Insert merge fields for the first and last name, separated by a space.

In your own letters, you can use more fields (for example, a title field) for a more elegant salutation.

4. Type a comma and two line spaces.

5. Type the letter:

The Corporate Travelers Club welcomes you and your company to our organization.

We look forward to doing business with you and hope you have many pleasant trips with us!

Customize the letter with the company name

1. Click after the word `company` in the first paragraph.
2. Type a comma and a space.
3. Insert a merge field for the company name.
4. Type another comma.

Add the closing

1. Click at the end of the text and enter two line spaces.
2. Press tab several times to go to the center of the text block.
3. Type `Sincerely`, then enter four line spaces.
4. Press Tab several times to align the insertion point with `Sincerely`, and type `John Jones`.
5. Enter a line space, then press Tab again to align the cursor with the previous lines of text, then type `President`.

Your layout should look like the letter in the sample file.

6. Choose View menu > Browse Mode to see your letter.

It should look like the letter in the sample file. See lesson 5 to learn how to add a logo.

7. When you are finished with this lesson, close each open file by choosing File menu > Close.

For more information

In this lesson, you have created list, label, and form-letter layouts. You can create as many layouts as you like, to organize your information in any way you like. To learn how to create other layouts, see lesson 9 in this tutorial and chapter 6 in the *FileMaker Pro User's Guide*.

Lesson 7

Simplifying data entry

You can simplify the way you enter data in FileMaker Pro and improve accuracy by using value lists, calculation fields, and data auto-entry.

In this lesson, you will:

- see how value lists can aid data entry
- write and test a calculation formula
- use a field's auto-entry options to automatically enter data

Note You can install a fresh copy of the tutorial files at any time. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

Enter data using value lists

Value lists let you choose the value you want from a scrolling list, a pop-up menu, checkboxes, or radio buttons. These lists can contain predefined values, or can be constructed dynamically based on the values in a particular field. They are an efficient way to enter frequently used values into your database.

Look at the sample value list

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Sample Files folder.

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

3. Open Sample07.fp5.

4. Choose Layout #1 from the layout pop-up menu if it is not already selected.

5. Locate the Membership Type field on the current record. You see two radio buttons, one for New and one for Continuing. These correspond to the two choices in the Membership Types value list. Click one to enter the corresponding value in the field.

A value list with predefined values, displayed as radio buttons

Membership Type New Continuing

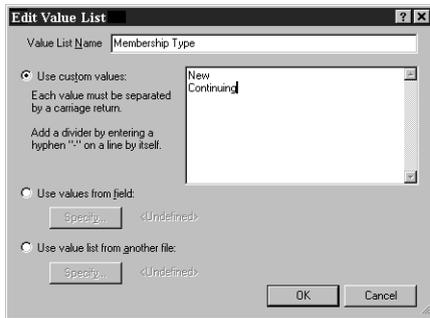
Define a value list

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Working Files folder.

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

3. Open MyFile07.fp5.
4. Choose Layout #1 from the layout pop-up menu if it is not already selected.
5. Choose File menu > Define Value Lists.
6. Click New.
7. Name the new value list by typing Membership Types.

8. Click into the large box and enter the values for this list, New and Continuing, by typing each value on its own line.



9. Click OK.

10. Click Done.

Assign a value list to a field and display it as radio buttons

1. Choose View menu > Layout Mode.

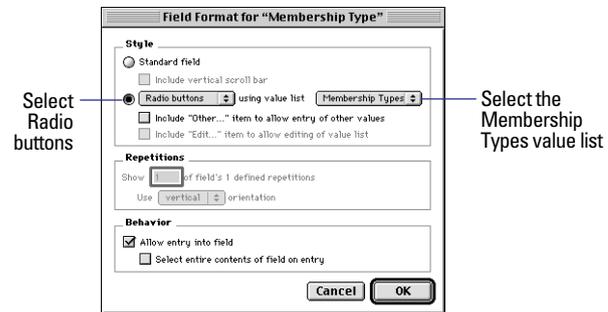
2. Select the Membership Type field.



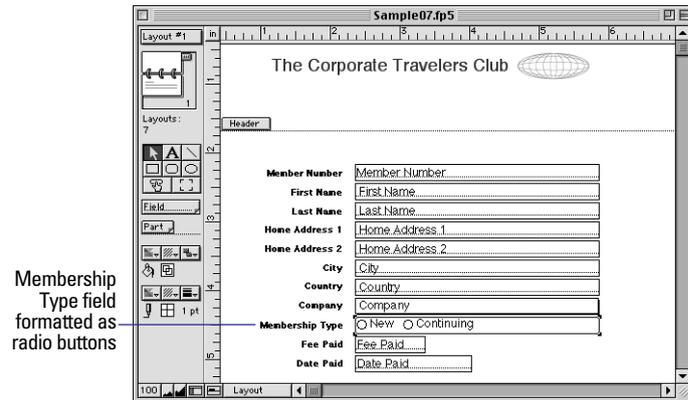
3. Choose Format menu > Field Format.

4. In the Style area, click the triangle next to Pop-up list and select Radio buttons from the list.

5. Click the triangle button to the right of using value list and select Membership Types from the menu.



6. Click OK. Your radio buttons should be visible in Layout mode.



7. In Browse mode, test your value list and buttons by clicking them.

Generate values with a calculation field

When you want FileMaker Pro to perform a calculation for you, for example to determine the amount of tax owed or the proper fee to be paid, you use a *calculation field*. Calculation fields are one of the FileMaker Pro field types. FileMaker Pro can perform simple and complex calculations.

The calculation formula uses values from the current record or related records. The formula can use values from all field types. You can use calculations to return text values (for example, combining the contents of first name and last name fields into a full name field), dates, times, and the contents of container fields.

See how calculations speed data entry

Members of the Corporate Travelers Club pay an annual fee. New members pay a fee of \$200, while continuing members pay \$100.

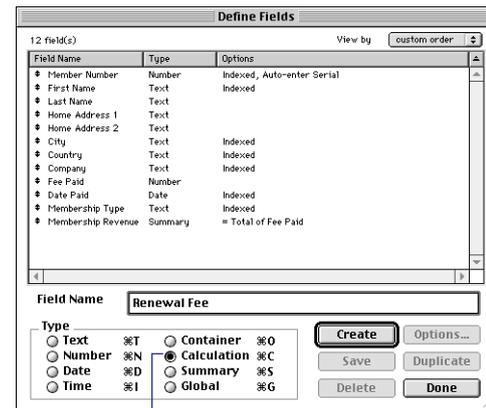
The following steps show the calculation you are going to build. The calculation returns a membership renewal fee based on membership type.

1. Choose **Window** menu > **Sample07.fp5**.
 2. Choose **Layout #1** from the layout pop-up menu if it is not already selected.
 3. Create a new record by choosing **Records** menu > **New Record**. Notice there's no data in the **Renewal Fee** field.
 4. In the **Membership Type** field, click **New**. The **Renewal Fee** field indicates 200.
- The **Renewal Fee** field is a calculation field.
5. In the **Membership Type** field, click **Continuing**. The value in **Renewal Fee** changes to 100.
 6. Delete this record by choosing **Records** menu > **Delete Record**. Deleting this record is necessary to set up a later part of this lesson.
 7. Click **Delete** in the confirmation dialog box.

Create a calculation field

There are several different ways of formulating a calculation, each of which can yield the correct result. The following method uses an *If* statement to compare the data entered in the **Membership Type** field with one of the membership types. The calculation returns one of two results.

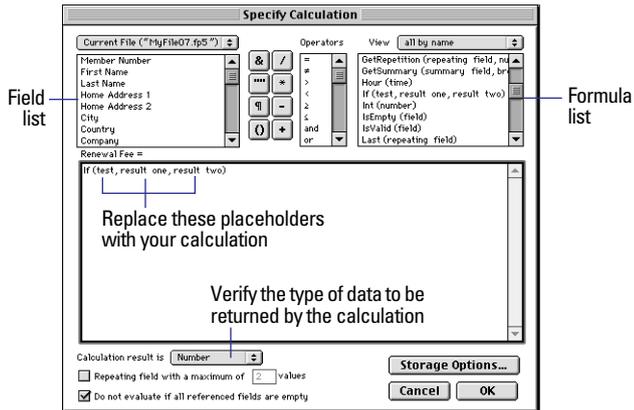
1. Choose **MyFile07.fp5** from the **Window** menu.
2. Choose **File** menu > **Define Fields**.
3. For **Field Name**, type **Renewal Fee**.
4. For **Type**, click **Calculation** to make this a calculation field.



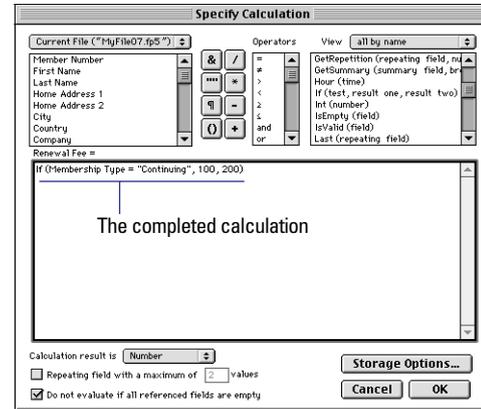
Click Calculation

5. Click **Create**.
- The **Specify Calculation** dialog box appears.
6. Scroll through the list of formulas in the upper-right corner of the **Specify Calculation** dialog box until you locate **If** (test, result one, result two). Double-click this formula so that it appears in this dialog box.

This formula has three parts: a test, a result if the test evaluates as true (result one), and a result if the test evaluates as false (result two). You will replace the placeholders *test*, *result one*, and *result two* with the actual components of the calculation.



7. Select the placeholder *test* and type `Membership Type = "Continuing"` exactly as it appears here.
8. Select the placeholder *result one*, and type `100`.
9. Select the placeholder *result two*, and type `200`.
10. Make sure the calculation result is set to `Number`.



11. Click **OK**.

If you receive an error message, make sure that all spaces and punctuation are identical to the formula shown above.

12. Click **Done**.

The `Renewal Fee` field appears at the bottom of the layout. Depending on the size of your screen, you may need to scroll down to see it.

Your calculation formula is now complete. When data is entered in the `Membership Type` field, FileMaker Pro will compare it to the word we are testing for, "Continuing." The test is true if it matches this word, and the calculation will return your first result, 100. If it doesn't match, the test is false, and the second result is returned.

Test your calculation

To see if your calculation works, try changing the value in the `Membership Type` field to `New`, and notice the result in the `Renewal Fee` field—it should change as the membership type changes.

Automatically enter a serial number

FileMaker Pro lets you automatically enter certain types of data—for example, incremental numbers—when you create a new record.

Look at a serial number example

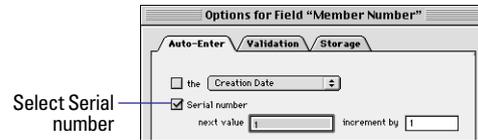
1. Choose Window menu > Sample07.fp5.
2. Go to the last record in the database.
3. Locate the Member Number field, and note the current number of this record.
4. Create a new record by choosing Records menu > New Record.

The value in the Member Number field of the new record is increased by one.

Note If you did the first activity in this chapter, you will notice that the value in Member Number is 32, even though there are now 31 records in the Sample07.fp5 database. FileMaker Pro continues to increment serial numbers even if intervening records have been deleted, such as record 31 in this case.

Create a field for serial numbers

1. Choose Window menu > MyFile07.fp5.
2. Choose File menu > Define Fields.
3. For Field Name, type Member Number.
4. Select Number as the field type.
5. Click Create.
6. Click Options.
7. Select Serial number on the Auto-Enter tab. You don't need to change amounts for next value and increment by for this exercise.



8. Click OK.
9. Click Done.

The new field appears at the bottom of the layout. (You might need to scroll down to see it.)

10. Test your new field entry option by choosing Records menu > New Record. Each time you create a new record, the value in the Member Number field increments by one.

To learn how to change the position of the new field, see lesson 5.

11. When you are finished with this lesson, close each open file by choosing File menu > Close.

For more information

You have learned how to simplify data entry by defining and formatting value lists, calculation fields, and auto-entered serial numbers. For more information on calculation fields and field auto-enter options, see chapter 5 of the *FileMaker Pro User's Guide*. For more information on defining and formatting value lists, see chapter 7 of the *FileMaker Pro User's Guide*.

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Lesson 8

Automating tasks with buttons and scripts

FileMaker Pro lets you automate many database tasks with buttons and scripts. These powerful features can save you a lot of time by performing a series of actions with a single click.

In this lesson you will:

- make and use a button to perform a task
- create and run a simple script to perform a multi-step task
- use a button to perform a script

Note You can install a fresh copy of the tutorial files at any time. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

Perform a task using a button

Look at a sample button

A *button* is an object on a layout that you can click to perform many FileMaker Pro commands. You can use a button to switch layouts in your database.

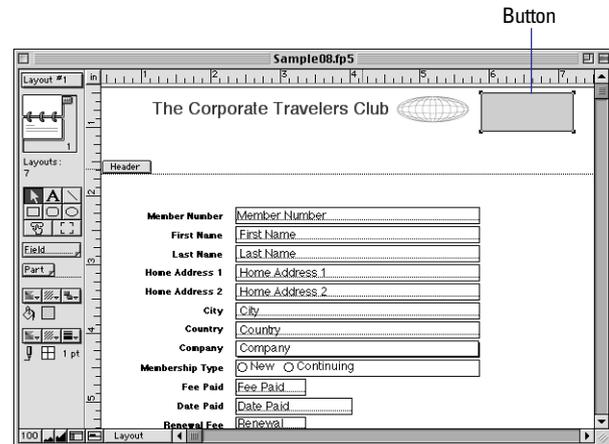
1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Sample Files folder.

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

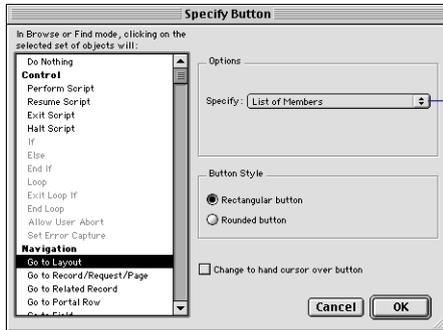
3. Open Sample08.fp5.
4. Locate the button labeled Go to List of Members at the top of Layout #1.
5. Click the button. You should now be viewing the List of Members layout (as indicated by the layout pop-up menu).

Create the button

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Working Files folder.
You should be here: FileMaker Pro\Tutorial\Working Files.
3. Open MyFile08.fp5.
4. Choose Layout #1 from the layout pop-up menu if it is not already selected.
5. Select View menu > Layout Mode to switch to layout mode.
6. Click the button tool .
7. Draw the button at the top of the layout.



8. In the Specify Button dialog box, select the Go to Layout command from the list.
9. In the Options area, select the List of Members layout.



Specify the List of Members layout

10. Click OK.

11. Notice that the insertion point is now in the center of your button. Type Go to List of Members in your button to identify it.

12. Click outside the button.

If you need to move the button, select it and drag it to the desired location, as with any other layout element.

To test your button, go to Browse mode and click it. The button takes you to the List of Members layout.

Perform a series of tasks using a script

As you have just seen, you can use a button to perform a single command. To make FileMaker Pro perform a sequence of commands, use a script.

Run a script in the sample file

1. Choose Window menu > Sample08.fp5.
2. Choose Scripts menu > Preview Labels Layout.

You should now see the Labels layout, in Preview mode. This script lets you preview labels before you print.

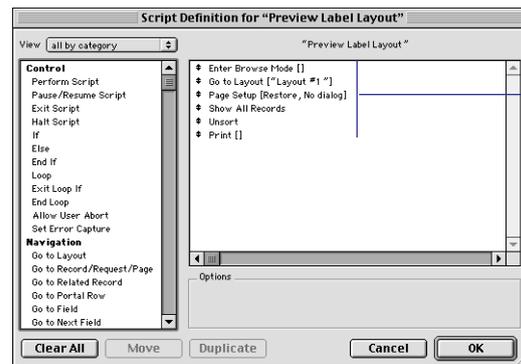
About scripts

A *script* lets you construct a series of instructions for FileMaker Pro to perform. Like buttons, scripts allow you to automate most of the FileMaker Pro menu commands, as well as activate some commands not found in the FileMaker Pro menu structure (such as Send Mail and Dial Phone). Simple scripts can perform a single task, while complex scripts might combine elements (such as user feedback and control) with programming techniques (such as branching and looping) to make powerful, dynamic instruction sets.

Create a script to preview the Labels Layout

1. Choose Window menu > MyFile08.fp5.
2. Choose Scripts menu > ScriptMaker.
3. In the Script Name text box, type Preview Labels Layout.
4. Click Create.

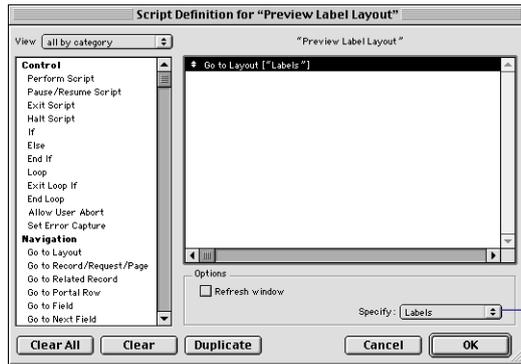
In the resulting Script Definition dialog box, notice that a script has been created, and that it includes some default script steps. All FileMaker Pro scripts are created with these same default script steps present. You will clear these default steps before adding your own steps to the script.



Delete these default script steps

5. Click Clear All.

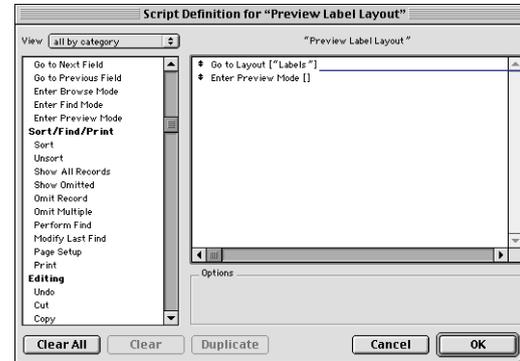
6. Select the Go to Layout script step and click the Move button. (You can also select and move script steps by double-clicking them.)
7. In the Options area, select the Labels layout from the list of available layouts.



Specify the layout you want the script to go to

8. From the list on the left, scroll down and select the Enter Preview Mode script step, and move it over to your script.
9. With this script step selected, deselect the Pause checkbox in the Options area.

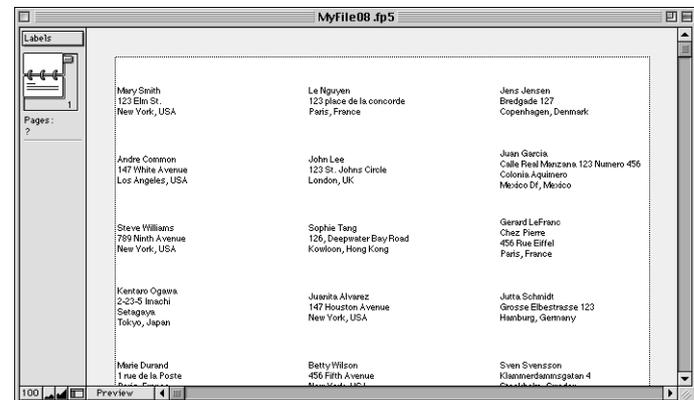
When you use a script to change modes, FileMaker Pro gives you the option of pausing the script. This can be useful if you require some input before continuing the script. In this instance, Enter Preview Mode is the last step of the script, so no user input is necessary.



The finished script

10. Click OK, then click Done.

11. To run the script you have just created, choose Scripts menu > Preview Labels Layout. FileMaker Pro displays the Labels layout and switches to Preview mode.



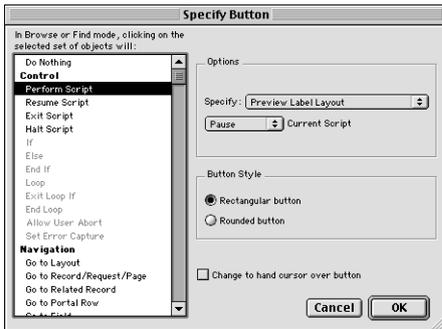
Assign a script to a button

While buttons are generally more convenient for users, scripts are a more powerful feature, allowing you to combine many menu commands into a single executable action. Using a button to run a script gives you the best of both features.

To assign the script you just created to a button:

1. In MyFile.08.fp5, choose **Layout #1** from the layout pop-up menu.
2. Choose **View menu > Layout Mode**.
3. Double-click the button you created earlier in this lesson.
4. In the **Specify Button** dialog box, select the **Perform Script** script step from the top of the list on the left.
5. In the **Options** area, select **Preview Labels Layout** from the list of available scripts. Leave the rest of the default settings as they are.

If you have not already created this script, follow the steps described in “Create a script to preview the Labels Layout” on page 64.



6. Click **OK** to save this button.

Rename the button

1. Click the text tool **A**.
2. Click the button once. The text insertion point appears in the button.
3. Type **Preview Labels Layout** to rename this button.

Test the button

1. In Browse mode, test the button by clicking it.

Clicking this button performs the script, which displays the Labels layout and switches to Preview mode.

2. When you are finished with this lesson, close each open file by choosing **File menu > Close**.

For more information

In this lesson, you have created buttons and scripts, and used these two features together. For more information on creating buttons and scripts in FileMaker Pro, see chapter 10 of the *FileMaker Pro User's Guide*.

Lesson 9

Creating and running reports

The process of retrieving and organizing data from a database is called *reporting*. *Summary reports* present just the totals of your data; they do not break information into smaller groups. *Subsummary reports*, also referred to as *reports with grouped data*, categorize information by a particular field or fields, allowing you to group information hierarchically. This subsummarized information can then be subtotaled, averaged, or counted.

In this lesson you will:

- generate a report with grouped data
- generate a report with grouped data and totals

Note You can install a fresh copy of the tutorial files at any time. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

Generate a report with grouped data

Look at a sample report

This example shows a report that groups the members by membership type. The report has been saved to a script.

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Sample Files folder.

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

3. Open Sample09.fp5.
4. Choose Scripts menu > Membership Type Report to generate the membership type report.

5. Examine the resulting report.

First, notice that you are in Preview mode. Preview mode is necessary to view summarized data on the screen. Second, notice how the members are grouped by the membership type, and further alphabetized by last name within each of these categories.

This report groups data by the Membership Type field, also referred to as the break field

Last Name	First Name
Continuing	
Alvarez	Juanita
Cannon	Michelle
Common	Andre
Durand	Marie
Jensen	Jens
Johnson	William
LeFranc	Gerard
Mehmet	Atmet
Noronha	J.
Ogawa	Kentarō
Smith	Mary
Tang	Sophie
Vargas	Julia
Verhaag	Annelies
New	
Dupont	Jacques
Durand	Jean
Garcia	Juan
Lee	John
Murphy	Patrick
Nguyen	Le
Schmitt	Julia
Smith	John
Svensson	Sven
Virtanen	Matti
Williams	Steve
Wilson	Betsy

6. Click the Continue button in the status area to complete the script and return to Layout #1.

About subsummary reports

A report with grouped data requires a number of elements to work properly.

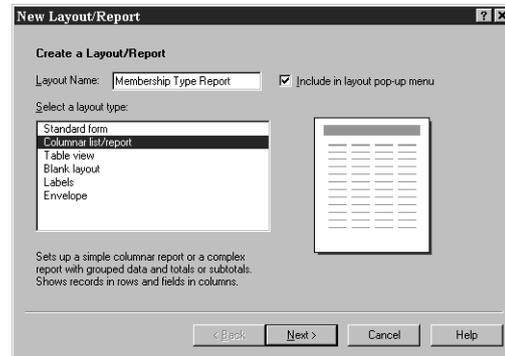
Subsummary reports include:

- a subsummary part in the report layout for each level of detail you want to break out. The New Layout/Report assistant creates these for you.
- a field or fields to group records by. These fields are referred to as *break fields*.
- records sorted by these break fields, in the order the subsummary parts appear on your report layout.

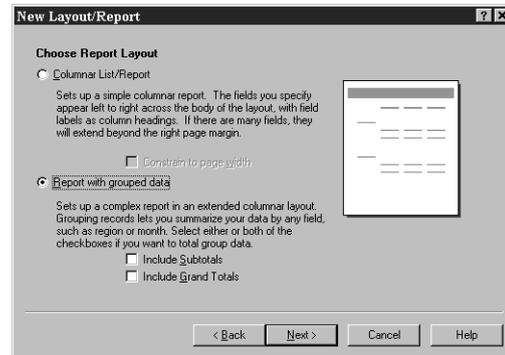
Create a subsummary report

To create the Membership Type Report:

1. Open the Tutorial folder in the FileMaker Pro folder.
 2. Open the Working Files folder.
- You should be here: FileMaker Pro\Tutorial\Working Files.
3. Open MyFile09.fp5.
 4. In Layout mode, choose Layouts menu > New Layout/Report.
 5. For Layout Name type `Membership Type Report`.
 6. Select Columnar list/report for the new layout type and click Next.

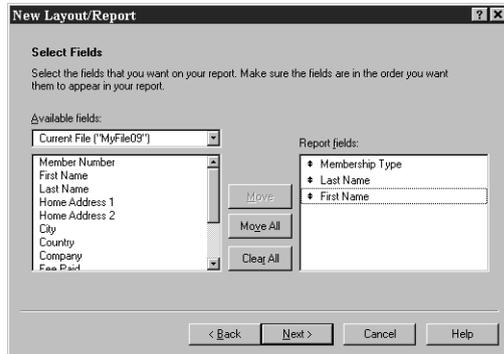


7. Select Report with grouped data, and click Next.



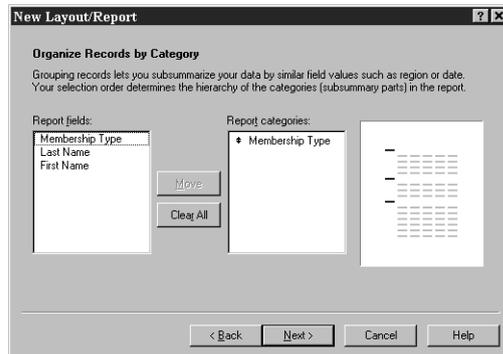
Select the fields used in this report

1. Double-click Membership Type, the first field to be used in this report, to move it to the Layout fields list.
2. Select and move the Last Name field.
3. Select and move the First Name field.



4. Click Next.

5. Move the Membership Type field to the Report categories list to organize the records by membership type.

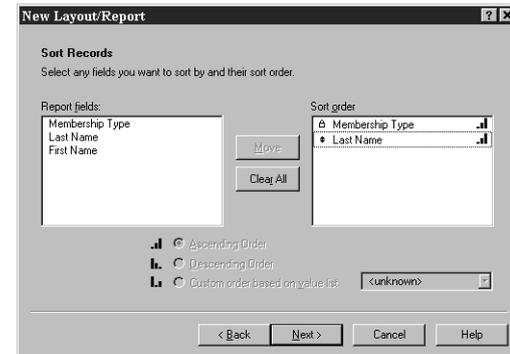


Membership Type is referred to as a break field because you are using the contents of this field to break the records into categories for your report.

6. Click Next.

7. Move the Last Name field to the Sort order list.

This sorts the records in each group of membership types alphabetically by members' last names. Notice that the break field Membership Type appears automatically at the top of the Sort order list to enable FileMaker Pro to group records by this category.



8. Click Next.

Select a theme and create the header and footer

1. Select the Standard theme to set the text size, color, and style of the finished report.
2. Click Next.
3. Go to the Top center list and select Large Custom Text.
4. Type Membership Type Report for the header of the report and click OK.
5. Go to the Bottom center list and select Page Number to number the pages in the report's footer.

6. Click Next.

Create a script to run this report again

1. Click Create a script.
2. Leave Script Name as it appears. Click Next.
3. Click View the report in Preview mode if it is not already selected.
4. Click Finish.

Your finished report should look like the report pictured on page 67.

Generate a report with grouped data and totals

Look at a sample report

This subsummary report:

- groups the members by membership type
- subtotals the fees collected for each membership type
- provides a grand total of these fees

1. To view the finished sample report, choose Window menu > Sample09.fp5.
2. Choose Scripts menu > Membership Fee Report to generate the membership fee report.

3. Examine the resulting report.

As in the previous example, the members are grouped by membership type. Additionally, the fees collected for each membership type are subtotaled beneath those members' names, and a grand total of all fees appears at the bottom of the report.

Membership Fee Report			
	Last Name	First Name	Fee Paid
Continuing	Alvarez	Juanita	100
	Cannon	Michelle	100
	Common	Andre	100
	Durand	Marie	100
	Jensen	Jens	100
	Johnson	William	100
	LeFranc	Gerard	100
	Mehmet	Ahmet	100
	Noronha	J.	100
	Ogawa	Renbaro	100
	Smith	Mary	100
	Tang	Sophie	100
	Yargas	Julia	100
	Verhaag	Annelies	100
		1400	Subtotals
New	Dupont	Jacques	200
	Durand	Jean	200
	Garcia	Juan	200
	Lee	John	200
	Murphy	Patrick	200
	Nguyen	Le	200
	Schmitt	Jutta	200
	Smith	John	200
	Svensson	Sven	200
	Virtanen	Matti	200
Williams	Steve	200	
Wilson	Betsy	200	
		2400	
New		3800	Grand Total

4. Click the Continue button to complete the script and return to Layout #1.

A report with grouped data and totals requires the same elements as a report with grouped data: a subsummary part in the report layout for each category, a field or fields to group records by, and a sort of the database by these fields.

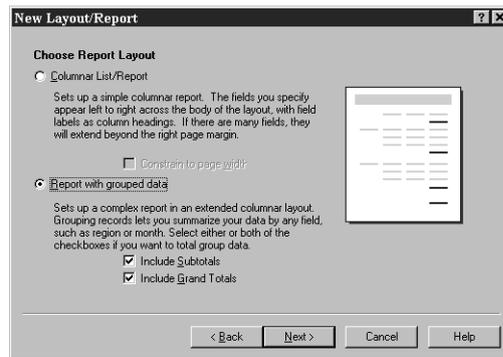
Two additional elements are also required:

- a grand summary layout part
- summary field(s) to display totals, averages, or counts

Create a report with grouped data and totals

To create the Membership Fee Report:

1. Choose Window menu > MyFile09.fp5.
2. In Layout mode, choose Layouts menu > New Layout/Report.
3. For Layout Name, type Membership Fee Report.
4. Select Columnar list/report for the new layout type and click Next.
5. Select Report with grouped data and then select Include Subtotals and Include Grand Totals.



6. Click Next.

Select the fields used in this report

1. Select the first field to be used in this report, Membership Type, and move it to the Layout fields list.
2. Select and move the Last Name field.
3. Select and move the First Name field.

4. Select and move the Fee Paid field.
5. Click Next.
6. You want to organize the records by Membership Type. Move this field to the Report categories list.
7. Click Next.
8. Move the Last Name field to the Sort order list to sort the records in each group of membership types alphabetically by members' last names.
9. Click Next.

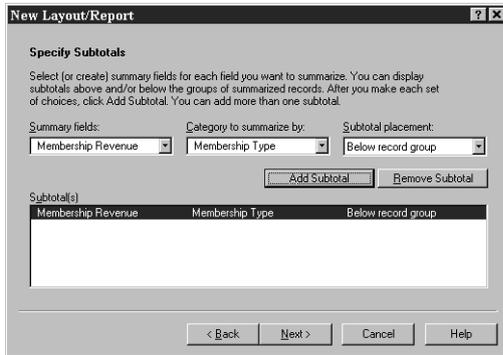
Specify subtotals and grand totals

A *summary field* is a type of field you can specify when you define fields. Summary fields allow calculations across all of the records in your found set. In general, when you need to total data across a number of records, you must use a summary field.

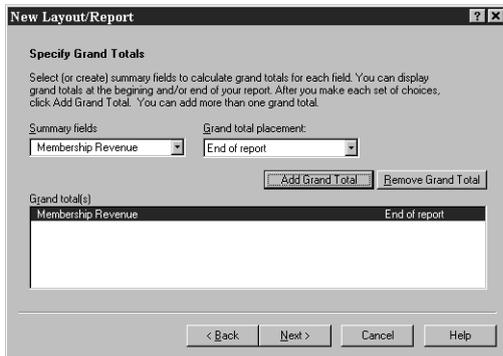
In the Membership Fee Report, you want to see subtotals for fees paid by each type of member, New and Continuing, and to see a grand total of both groups' fees at the end of the report. To accomplish this, you will need to specify subtotal and grand total summary fields in the New Layout/Report Assistant.

The summary field you will use is Membership Revenue, which has already been defined for you. Membership Revenue totals the fees entered in the Fee Paid field.

1. Click Add Subtotal to add the Membership Revenue field as the subtotal. This tells FileMaker Pro to create a subtotal of membership fees paid beneath each membership category.
2. Click Next.



3. Click **Add Grand Total** to add the Membership Revenue field as the grand total at the end of the report. This tells FileMaker Pro to create a grand total of membership fees.



4. Click **Next**.

Select a theme and create the header and footer

1. Select the **Standard** theme to set the text size, color, and style of the finished report.
2. Click **Next**.

3. Go to the **Top center** list and select **Large Custom Text**.
4. Type **Membership Fee Report** for the header of the report and click **OK**.
5. Go to the **Bottom center** list and select **Page Number** to number the pages in the report's footer.
6. Click **Next**.

Create a script to run this report again

1. Click **Create a script**.
2. Leave **Script Name** as it appears. Click **Next**.
3. Click **View the report in Preview mode** if it is not already selected.
4. Click **Finish**.

Your finished report should look like the report pictured on page 70.

5. When you are finished with this lesson, close each open file by choosing **File menu > Close**.

For more information

In this lesson, you generated reports with grouped data, and reports with grouped data and totals. For more information on creating reports in FileMaker Pro, see chapters 6 and 7 of the *FileMaker Pro User's Guide*.

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.

Note You can install a fresh copy of the tutorial files at any time. For Windows-based systems, see the Custom setup instructions in “Installing FileMaker Pro” on page 11. For Mac OS systems, see “Installing FileMaker Pro” on page 15.

View data from one related record

See how relationships work in the sample files

1. Open the Tutorial folder in the FileMaker Pro folder.
2. Open the Sample Files folder.
3. Open the Sample10 folder.

You should be here:

FileMaker Pro\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 the FileMaker Pro folder.
2. Open the Working Files folder.
3. Open the MyFiles10 folder.

You should be here:

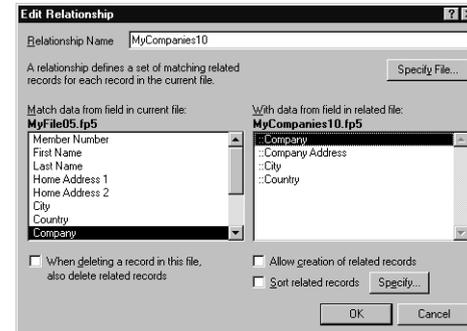
FileMaker Pro\Tutorial\Working Files\MyFiles10.

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.



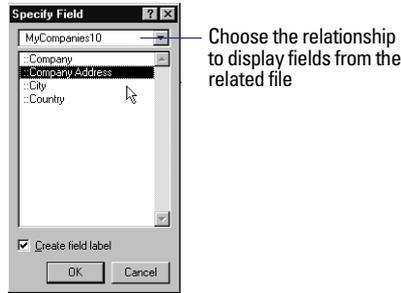
9. Click OK, then click Done.

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.



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:

First Name	<input type="text" value="First Name"/>
Last Name	<input type="text" value="Last Name"/>
Company	<input type="text" value="Company"/>
Company Address	<input type="text" value="::Company Address"/>
City	<input type="text" value="::City"/>
Country	<input type="text" value="::Country"/>

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 the FileMaker Pro folder.
 2. Open the Sample Files folder.
 3. Open the Sample10 folder.
- You should be here:
FileMaker Pro\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.

Company

Company Address

City

Country

First Name	Last Name
<input type="text" value="Andre"/>	<input type="text" value="Common"/>
<input type="text" value="Steve"/>	<input type="text" value="Williams"/>
<input type="text" value="Kentaro"/>	<input type="text" value="Ogawa"/>
<input type="text" value="Jane"/>	<input type="text" value="Doe"/>
<input type="text"/>	<input type="text"/>

Click here to enter a new member for this company

Displays a list of members from the related file

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 73, 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 the FileMaker Pro folder.
2. Open the Working Files folder.
3. Open the MyFiles10 folder.

You should be here:

FileMaker Pro\Tutorial\Working Files\MyFiles10.

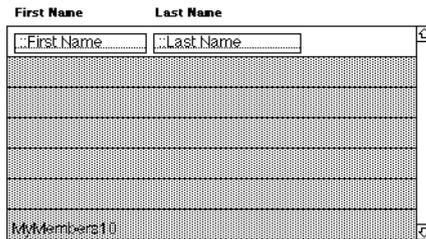
4. Open MyCompanies10.fp5.

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 74.

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 , 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.

For more information

You have seen how to use and create simple one-to-one and one-to-many relationships. This tutorial covers just the basics; there are many important points to consider when building a relational database system. Be sure you read chapter 8 in the *FileMaker Pro User's Guide* before using relational structures in your own files.

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Lesson 11

Keeping your data safe

Power failures, disk problems, and other unexpected computer problems can happen to anyone at any time. To help prevent data loss, regularly back up all important documents on your computer, including your databases.

In this lesson you will learn:

- how and when to back up your database
- where to learn about other ways to protect your files

How to back up your database

There are many ways to back up a file. This is one way.

1. Determine the size of the database.

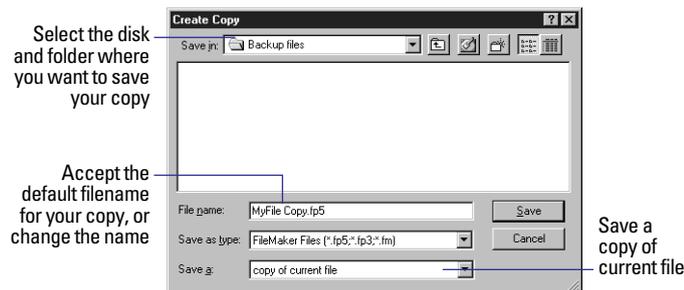
Windows: Right-click the icon for the file, then choose Properties.

Mac OS: Click the icon for the file, then choose File menu > Get Info.

2. Identify a disk or volume that has enough available space for a copy of the database.

3. Open the database you want to back up.

4. Choose File menu > Save a copy as.



5. Click Save.

Important Next time, back up to a *different* disk or volume. Never back up over the only or most recent copy of your file. You should have several different backups at all times.

When to back up

You should back up:

- as often as necessary to be sure you can restore all of your data in an emergency.
- before you make a major or irreversible change like deleting records, deleting a field from Define Fields, or replacing data using the Import or Replace features.

Remember, it takes far less time to back up a file than it does to recreate a lost or damaged file!

For more information

This lesson has shown you one way to protect a database. For other ways to prevent and overcome difficulties with your files, see appendix B in the *FileMaker Pro User's Guide*.

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