

FOR WINDOWS AND MAC OS



# FileMaker<sup>PRO</sup> 4.1

## Installation and New Features Guide

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# Chapter 1: Welcome to FileMaker Pro

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Welcome to the FileMaker® Pro 4.1 application. FileMaker Pro is designed to help you manage information easily and effectively.

## About this guide

This *FileMaker Pro Installation and New Features Guide* tells you how to install the application on your Windows or Mac OS computer.

**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.

- Chapter 1, “Welcome to FileMaker Pro,” explains system requirements and what you have to do before using FileMaker Pro.
- Chapter 2, “Installing FileMaker Pro in Windows,” provides instructions for installing the application on a Windows-based computer.
- Chapter 3, “Installing FileMaker Pro in the Mac OS,” provides instructions for installing the application on a Mac OS-based computer.
- Chapter 4, “New features in FileMaker Pro,” provides an overview of the new features in FileMaker Pro 4.1 and FileMaker Pro 4.0. This chapter is especially helpful for users upgrading from previous versions of FileMaker Pro.
- Chapter 5, “ODBC import with FileMaker Pro,” gives instructions for importing data from ODBC data sources, a new feature in FileMaker Pro 4.1.
- Appendix A, “MacIPX control panel,” provides information for networking using MacIPX in the Mac OS.
- Appendix B, “Installing Win32s,” provides information on installing and removing Win32s.

This installation guide, the *FileMaker Pro User’s Guide*, and the onscreen Help system work together to give you the information you need to know as you learn about FileMaker Pro.

## Registration and customer support

If a product registration card was included with your software purchase, we encourage you to take the time to complete and mail it to us. In some products an electronic version of the registration card is included for your convenience.

Please refer to our Web site at <http://www.filemaker.com> (<http://www.filemaker.com/intl> outside of North America) for information concerning customer and technical support. At our Web site you will find the FileMaker, Inc. Service Directory (detailing the service options available to U.S. and Canadian customers), answers to frequently asked questions, and access to extensive software libraries used by our technicians to help find solutions. If you do not have access to the Web, you may learn about the service options available to U.S. and Canadian customers by calling 1-800-965-9090. For customers outside the U.S. or Canada, please refer to the Technical Support sheet included with the software.

## What you need to install FileMaker Pro

This guide gives instructions for installing the FileMaker Pro application and associated files on your Windows or Mac OS computer. Before you begin installing, you must know how you plan to use FileMaker Pro.

- On a stand-alone computer—you want to use FileMaker Pro on your computer, and you don't plan to share files with other users over a network.
- With networking—you want to use FileMaker Pro on your computer, and you plan to share FileMaker Pro files with other computers using either TCP/IP or IPX/SPX networking software (Windows) or TCP/IP, MacIPX, or AppleTalk networking software (Mac OS).

**If you're on a network** You need to know which type of network you're using. If you're not sure which network option to choose, check with your network administrator before you begin installation.

### Installation code

The installation code is a seventeen-digit number located on either a two-part sticker attached to the front of the paper CD envelope cover (North America) or a three-part sticker attached to a separate paper sheet within the box (International).

**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 installation program or application launch stops and the software 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 Installation and New Features 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 purchase a copy of FileMaker Pro for each user.

## Minimum 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:

- an Intel compatible 486/33 PC or higher with 8 MB of RAM (16 MB of RAM recommended)
- a hard disk
- a CD-ROM drive
- Windows 98, Windows 95, Windows NT 3.51 or later, Windows for Workgroups 3.11, or Windows 3.1

**Note** ODBC import and Web publishing are not supported in Windows 3.1 or Windows for Workgroups.

### Mac OS:

- a Macintosh or Mac OS computer with at least 8 MB of RAM (16 MB recommended)
- a hard disk
- a CD-ROM drive
- System 7.1 or later, or Mac OS 8.0 or later

**Note** ODBC import is not supported in 680x0 Macintosh computers and Web publishing is not supported in 68000 Macintosh computers.

**Memory settings** In the Mac OS, to see the minimum and preferred application memory settings for FileMaker Pro, select the FileMaker Pro application icon after installation and choose Get Info from the File menu. For information about adjusting the memory allocated to FileMaker Pro, see “Adjusting memory” on page 3-8.

## Networking requirements

We recommend using the TCP/IP protocol for networking the FileMaker Pro application on both Windows and Mac OS networks.

### Windows:

To share files among users on a network, you need to have the following additional software and hardware installed on your PC:

- a Windows-compatible network card
- the software driver for your network card
- the appropriate TCP/IP network protocol or IPX/SPX network protocol for Windows 98, Windows 95, Windows NT, Windows for Workgroups, or Windows 3.1

### Mac OS:

To share files among users on a network, you can use TCP/IP, MacIPX, or AppleTalk networking software.

**Using MacIPX with AppleTalk** When you choose MacIPX for networking, you can still access your AppleTalk printers and AppleShare servers. MacIPX is used for networking FileMaker Pro files only.

For more information about MacIPX, see appendix A, “MacIPX control panel.”

**If you are using a 68000 Macintosh computer**, such as a Macintosh Plus, Macintosh SE, Macintosh Portable, or PowerBook 100, you should use only the AppleTalk protocol. MacIPX and MacTCP have only limited support on these computers.



You can use one of the following solutions to share files on a mixed Windows and Mac OS network.

	<b>Windows 98 or Windows 95</b>	<b>Windows NT</b>	<b>Windows for Workgroups</b>	<b>Windows 3.1</b>	<b>Mac OS</b>
<b>TCP/IP</b> (recommended)	Microsoft TCP/IP	Microsoft TCP/IP	Microsoft TCP/IP-32 version 3.11b	Network TeleSystems TCP Pro 3.0 or later	MacTCP 2.0.6 or later or Open Transport 1.1 or later
<b>IPX/SPX</b>	IPX/SPX -compatible Protocol (Microsoft implementation)	Microsoft NWLink IPX/SPX Compatible Transport	Novell NetWare Client Software Shell version 3.26 or later	Novell NetWare Client Software Shell version 3.26 or later	MacIPX version 1.3.1

## 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. If the host computer is Windows-based, it must run Windows 98, Windows 95, or Windows NT 3.51 or later. If the computer is Mac OS-based, it must run System 7.1 or later or Mac OS 8.0 or later.

**Note** Web publishing in FileMaker Pro 4.1 is not supported under Windows 3.1 or Windows for Workgroups, or under 68000 Macintosh computers.

**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.

<b>FileMaker Pro advanced feature</b>	<b>Software requirement</b>
ODBC import	ODBC 2.0 or later drivers. If these have not been installed by another application, you may opt to use the program files and drivers located in the FileMaker Pro 4.1 CD-ROM
URL support	URL.DLL
Open URL script step	URL.DLL
Send Mail script step	MAPI (Mail API) enabled email client software
Phone dialing	Phone dialer or other TAPI (Telephony API) compliant software
Custom Web Publishing	An HTML editing application, such as Home Page 3.0 software. Web browser software is suggested to view your work.
IntelliMouse support	IntelliPoint software (included with the IntelliMouse)

The DLL and the API files are installed with a Typical installation of Windows 98, Windows 95, Windows NT 3.51 and Windows NT 4.0.

## Requirements for advanced features (Mac OS)

<b>FileMaker Pro advanced feature</b>	<b>Software requirement</b>
ODBC import	Install ODBC program files and drivers located in the FileMaker Pro 4.1 CD-ROM (ODBC import is not supported on 680x0 Macintosh computers)
URL support	Internet Config 1.1 or later
Open URL script step	Internet Config 1.1 or later
Send Mail script step	Internet Config 1.1 or later and email client software
Send Apple event script step	AppleScript system software
Custom Web Publishing	An HTML editing application, such as Home Page 3.0 software. Web browser software is suggested to view your work.

AppleScript is installed with a normal Mac OS software installation. The Internet Config application and extension are installed with some versions of the Mac OS system software. If you don't have this software, refer to the Apple Computer, Inc. Web site at [www.apple.com](http://www.apple.com).

## Before you begin

Before you begin the installation process, exit or quit other open programs and save your work, and turn off virus protection utilities.

For instructions on installing FileMaker Pro on a computer using the Windows operating system, see chapter 2, "Installing FileMaker Pro in Windows."

For instructions on installing FileMaker Pro on a computer using the Mac OS, see chapter 3, "Installing FileMaker Pro in the Mac OS."

## Upgrading from previous versions

After you install, you might need to update the FileMaker Pro User Dictionary. If you're upgrading from FileMaker Pro 2.x or earlier, you will also need to convert your database files to FileMaker Pro 4.1.

## Updating your User Dictionary

If you have added words to your User Dictionary in either a previous version of FileMaker Pro or another FileMaker, Inc. (or Claris) product, then you must export that User Dictionary to a text file, then import it into the User Dictionary in FileMaker Pro 4.1.

To export the User Dictionary from FileMaker Pro 2.x and later:

1. In your previous version of FileMaker Pro, choose Spelling from the Edit menu, then choose User Dictionary.
2. Click Text File (or the Text flag in FileMaker Pro 2.x) to show the Import and Export buttons.
3. Click Export and export the text file containing the words from your previous User Dictionary.

To import this file into the User Dictionary in FileMaker Pro 4.1:

1. Open a database in FileMaker Pro 4.1, choose Spelling from the Edit menu, then choose Edit User Dictionary.
2. Click Text File to show the Import and Export buttons.
3. Click Import and import the text file containing the words from your previous User Dictionary.

## Opening files from previous versions

FileMaker Pro 4.1 can open both Windows and Mac OS-compatible files created by FileMaker Pro 2.0 or later.

### FileMaker Pro 3.x databases

You do not need to convert 3.x files. In FileMaker Pro 4.x, you can open files created with FileMaker Pro 3.x; in FileMaker 3.x, you can open files created with FileMaker Pro 4.x. However, new 4.x features are not supported when you open files in 3.x. For example, rotated fields will appear as ordinary fields in 3.x.

### FileMaker Pro 2.x databases

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

**Important** Save a backup copy of your database files before opening them in FileMaker Pro 4.1.

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

1. Start FileMaker Pro 4.1.
2. Choose Open from the File menu and select the file you want to convert in the Open dialog box.

You see the Conversion dialog box.

3. Click OK to append “Old” to the name of the original FileMaker Pro 2.x file.



4. After you click OK, you see another dialog box where you can name the new, converted file.

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

5. Click Save to start the conversion.

FileMaker Pro converts the file and opens it.

### **FileMaker Pro 1.x databases**

To use a database created by FileMaker Pro 1.0, you must first convert it on a Mac OS computer using FileMaker Pro 2.x or later. Afterwards, refer to the instructions in either of the two preceding sections, as appropriate, to convert your file to FileMaker Pro 4.1.

### **Cross-platform considerations**

If you want to use a FileMaker Pro 2.x or later file on a Windows-based system, and that file was originally created using a version of FileMaker Pro for the Mac OS, you must add the appropriate extension to the file’s name. For files that are still in the FileMaker Pro 2.x format, add .fm to the file’s name. For files that are in either the FileMaker Pro 3.x or FileMaker Pro 4.x format, add .fp3 to the file’s name.

## Chapter 2: Installing FileMaker Pro in Windows

Before you begin the installation process, exit other open programs and save your work, and turn off virus protection utilities.

**Note** For instructions on installing FileMaker Pro on a Mac OS–based computer, see chapter 3, “Installing FileMaker Pro in the Mac OS.”

### Installing with Windows 98, Windows 95 or Windows NT 4.0

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-ROM into your CD-ROM drive.

You see the FileMaker Pro screen.



2. For late-breaking information about FileMaker Pro, view the Read Me file. You can also browse the contents of the CD, if you wish.
3. Click the Install FileMaker Pro 4.1 button.

You see the software license agreement.

4. Click Accept to agree to the terms of the license agreement.

You see the Welcome screen.

5. Click Next.

You see the FileMaker Pro Installation dialog box.



Follow the steps described in one of the following sections:

- If you want to install all the available files, continue with Typical installation.
- If you want to install a subset of the FileMaker Pro files, skip to “Compact installation or Custom installation” on page 2-5.

With a Compact installation, the following files are *not* installed:

- Networking files
- Web Companion and Web publishing files
- Tutorial and example files
- Dictionary files

With a Custom installation, you can install just the files you want.

## Typical installation

Follow these steps to install the complete FileMaker Pro package on your Windows 98, Windows 95 or Windows NT 4.0 system.

To install all the FileMaker Pro files on your hard disk:

1. If you have not already done so, insert the CD-ROM.

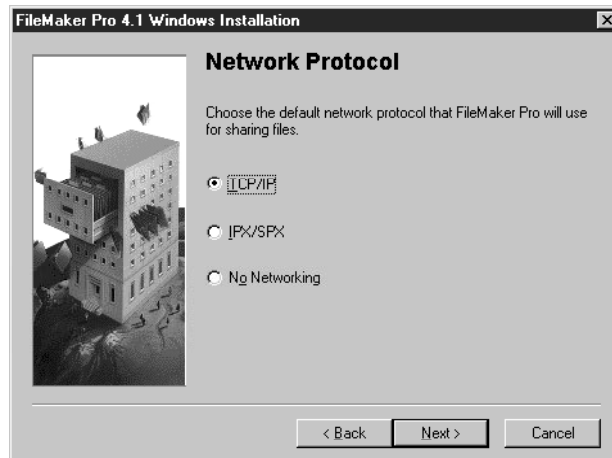
Follow the instructions on page 2-1.

2. In the FileMaker Pro Installation dialog box, choose Typical.

If you want to install FileMaker Pro in another folder or on another drive, click the BROWSE button. If the selected disk doesn't have enough space for the files you select, you can leave the installer and delete existing files to make more room on the disk. If the disk is write-protected, or isn't a hard disk, you can choose another drive.

3. Click Next.

You see the Network Protocol dialog box.

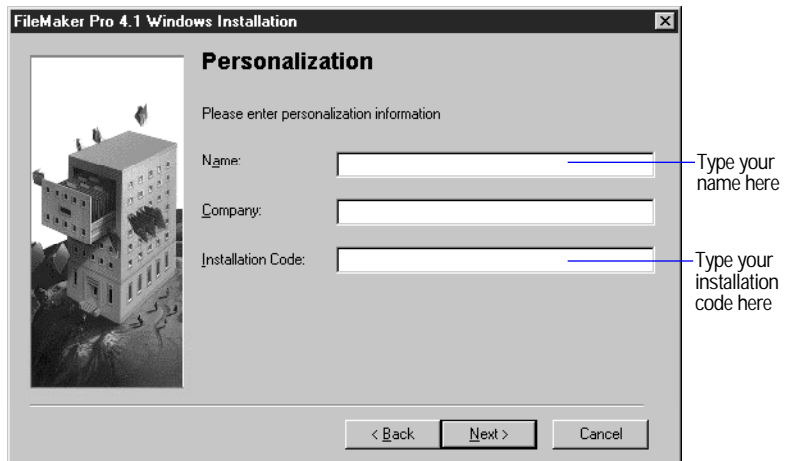


If you want to network your files, select a protocol. You can change the network protocol later, without re-installing the program. For help in deciding which network protocol to select, see your network administrator.

4. Click Next.

The installer tells you if the selected drive doesn't have enough space for the files you select.

Otherwise, you see the Personalization dialog box.



5. In the Name box, type your name and press the Tab key.
6. Type your company name, if applicable, and press Tab.
7. In the Installation Code box, type your FileMaker Pro installation code.

The installation code is a seventeen-digit number located on either a two-part sticker attached to the front of the paper CD envelope cover (North America) or a three-part sticker attached to a separate paper sheet within the box (International).

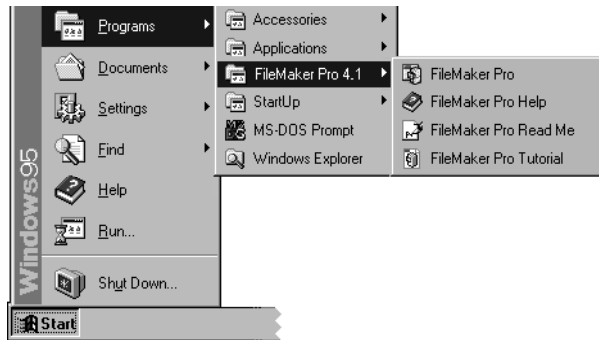
**Important** You must enter the installation code during installation or the software will not install. See “Installation code” on page 1-2 for more information.

8. Click Next.

If you’ve made an error in typing, follow the instructions provided on the screen.

After the installation program copies all the files, it creates a menu item for FileMaker Pro in the Start menu.





## Compact installation or Custom installation

To install a subset of FileMaker Pro files on your hard disk:

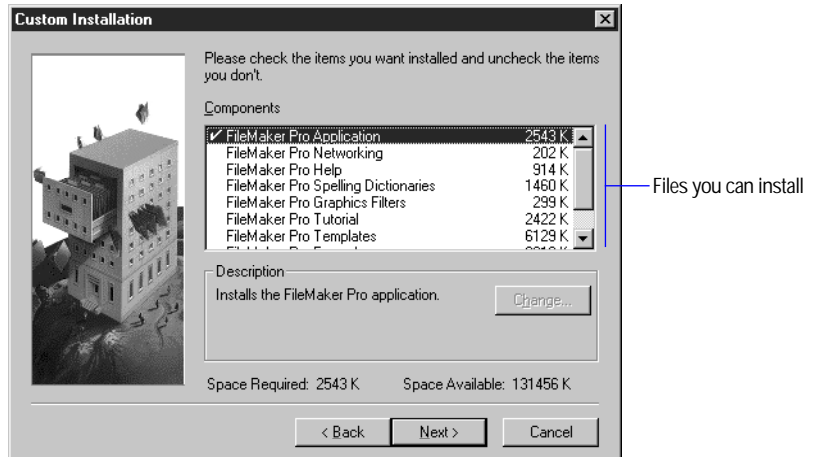
1. If you have not already done so, insert the CD-ROM.  
Follow the instructions on page 2-1.
2. In the FileMaker Pro Installation dialog box, choose Compact or Custom.



If you want to install FileMaker Pro in another folder or on another drive, click the Browse button. If the selected disk doesn't have enough space for the files you select, or is write-protected, you can leave the installer and delete existing files to make more room on the disk. If the disk is locked, or isn't a hard disk, you can choose another drive.

## 3. Click Next.

If you've selected Custom, the dialog box lists the files you can install.



## 4. For a Custom installation, click to the left of an item to select the files you want to install.

Any file with a checkmark will be installed.

## 5. Click Next.

If you are installing the FileMaker Pro application, you see the Personalization dialog box.

## 6. In the Name box, type your name and press the Tab key.

## 7. Type your company name, if applicable, and press Tab.

If you don't have a company name, you can put other information (like your address) in the box or leave it blank.

## 8. In the Installation Code box, type your FileMaker Pro installation code.

The installation code is a seventeen-digit number located on either a two-part sticker attached to the front of the paper CD envelope cover (North America) or a three-part sticker attached to a separate paper sheet within the box (International).

**Important** You must enter the installation code during installation or the software will not install. See "Installation code" on page 1-2 for more information.

## 9. Click Next.

If you've made an error in typing, follow the instructions provided on the screen.

10. Click Next.

The Installer begins copying files. A dialog box tells you what the Installer is doing.

After the selected files are installed, a final dialog box tells you the installation on your hard drive was successful.

If you've installed the FileMaker Pro application, the installation program creates a menu item for FileMaker Pro in the Start menu.

### Uninstalling FileMaker Pro for Windows 98, Windows 95, or Windows NT 4.0

1. Open the Add/Remove Programs control panel.
2. Click the Install/Uninstall tab and select FileMaker Pro 4.1 from the list.
3. Click Add/Remove.

Earlier versions of FileMaker Pro can be removed the same way.

**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.

## Installing with Windows 3.1, Windows for Workgroups, or Windows NT 3.51

If you are using Windows 3.1 or Windows for Workgroups 3.11, you need to install Win32s 1.30c before installing FileMaker Pro. If an earlier version of Win32s is installed on your system, the older version must be removed and Win32s 1.30c must be installed. See appendix B, "Installing Win32s" for further information.

**Note** ODBC import is not supported in Windows 3.1 or Windows for Workgroups.

## Typical installation

To install FileMaker Pro with Windows 3.1, Windows for Workgroups 3.11, or Windows NT 3.51:

1. Start Windows.
2. Insert the CD-ROM into the CD-ROM drive.
3. Choose Run from the Program Manager's File menu.
4. Type the drive letter for the CD-ROM drive and the path for the setup command in the Command Line box (for example, d:\setup) and click OK.
5. Follow the installation instructions provided on the screen.

## Compact installation or Custom installation

For information on installing a subset of the FileMaker Pro files, see "Compact installation or Custom installation" on page 2-5.

## Uninstalling FileMaker Pro for Windows 3.1, Windows for Workgroups, or Windows NT 3.51

1. Open the FileMaker Pro program group.
2. Double-click Uninstall FileMaker Pro.

**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.

## Where files are stored on your hard disk

The following tables show the files and folders you can install, and the preferred location for them on your hard disk. With a Typical installation, the FileMaker Pro Installer installs all the files you need in their preferred locations.

### Location of the FileMaker Pro 4.1 folder

In Windows 98, Windows 95 and Windows NT 4.0, the FileMaker Pro 4.1 folder is installed by default in the FileMaker folder in the Program Files folder (C:\Program Files\FileMaker\FileMaker Pro 4.1). In Windows 3.1, Windows for Workgroups, or Windows NT 3.51, the FileMaker Pro directory is installed by default in the root directory (C:\fmpro41).

## Contents of the FileMaker Pro 4.1 and fmpro41 folders

This table shows the location and contents of items installed in a Typical installation.

<b>Folder location in Windows 95, Windows 98 and Windows NT 4.0</b>	<b>Folder location in Windows 3.1, Windows for Workgroups, and Windows NT 3.51</b>	<b>File or folder</b>	<b>Description</b>
C:\Program Files\FileMaker\ FileMaker Pro 4.1	C:\fmpro41	FILEMAKER.PRO.EXE (FMPRO.EXE in Windows 3.1, and Windows for Workgroups)	Application file
		README.WRI	Text document about FileMaker Pro
		CLLNGENU.DLL	Claris Spelling engine module
		FMENGINE.DLL	FileMaker application module
		FMOLE.DLL	FileMaker application module
		FMRSRC.DLL	FileMaker application module
		FMATM16.DLL	Support for Adobe Type Manager (Windows 98, Windows 95 and Windows NT 4.0 only)
		FMATM32.DLL	Support for Adobe Type Manager (Windows 98, Windows 95 and Windows NT 4.0 only)
		FMTTOOLS.DLL	FileMaker application module
		FMPRO41.HLP FMPRO41.CNT	FileMaker Pro online help documents
		FMPRO41.FTS	A file generated by the Help system
		FMPRO41.GID	A file generated by the Help system
		CLPROOF.DLL	Spelling engine
C:\Program Files\FileMaker\ FileMaker Pro 4.1\Template	C:\fmpro41\template	TEMPLATE	Folder containing predesigned templates that help you use FileMaker Pro right away
C:\Program Files\FileMaker\ FileMaker Pro 4.1\Examples	C:\fmpro41\examples	EXAMPLES	Folder containing database examples that use the relational capabilities of FileMaker Pro 4.1
C:\Program Files\FileMaker\ FileMaker Pro 4.1\Tutorial	C:\fmpro41\tutorial	TUTORIAL.FP3	A FileMaker Pro tutorial database
C:\Program Files\FileMaker\ FileMaker Pro 4.1\Web (for Web publishing, do not move or rename this folder)	C:\fmpro41\web (Windows NT 3.51 only)	Employee Database files Guest Book files Shopping Cart files	Example databases and HTML files that you can use to learn about Custom Web Publishing

<b>Folder location in Windows 95, Windows 98 and Windows NT 4.0</b>	<b>Folder location in Windows 3.1, Windows for Workgroups, and Windows NT 3.51</b>	<b>File or folder</b>	<b>Description</b>
C:\Program Files\FileMaker\ FileMaker Pro 4.1\Web Tools	C:\fmpro41\web tools (Windows NT 3.51 only)	CDML Reference	For Custom Web Publishing, a FileMaker database that documents how to use CDML to create HTML format files for Custom Web Publishing; contains a <i>Developer's Guide</i>
		CDML Tool	For Custom Web Publishing, a FileMaker database that helps you create HTML files that contain CDML tags, using Copy and Paste
		CDML Template folder	For Custom Web Publishing, HTML files containing CDML tags for the standard actions (Add Record, Search, and so on), to be used as building blocks for your Custom Web Publishing files
C:\Program Files\FileMaker\ FileMaker Pro 4.1\Web Security	C:\fmpro41\web security (Windows NT 3.51 only)	Databases folder Security folder	A folder containing the FileMaker databases and HTML files required to use Web Security Database safeguards
C:\Program Files\FileMaker\ FileMaker Pro 4.1\Odbc		ODBC Example folder ODBC Installer folder	Contains the ODBC example files and the evaluation ODBC drivers
C:\Program Files\FileMaker\ FileMaker Pro 4.1\System	C:\fmpro41\system	USENGLSH.MPR UKENGLSH.MPR	The primary dictionaries that FileMaker Pro uses to spell check your files. You can select either U.S. or British spellings for your main dictionary. Each dictionary contains over 100,000 words.
		USER.UPR	The dictionary that stores your customized list of spelling exceptions and additions to the primary dictionaries
		CLADDON.CLR	An additional dictionary that contains computer terminology
		DELSL1.ISU	A log file, used by the uninstaller
		FMIPX32.NET	IPX/SPX network plug-in
		FMTCP32.NET	TCP/IP network plug-in
		CWORKS.IMP	ClarisWorks database translation filter
		DBF.IMP	DBF database translation filter
		EXCEL.IMP	Microsoft Excel translation filter
		FMBMP32.FLT	BMP graphic filter

**Folder location in Windows 95, Windows 98 and Windows NT 4.0**

**Folder location in Windows 3.1, Windows for Workgroups, and Windows NT 3.51**

<b>File or folder</b>	<b>Description</b>
FMCGM32.FLT	CGM graphic filter
FMDRW32.FLT	DRW graphic filter
FMMAC32.FLT	MacPaint graphic filter
FMPCX32.FLT	PCX graphic filter
FMPIC32.FLT	PIC graphic filter
FMSLD32.FLT	Lotus SLD graphic filter
FMTIFF32.FLT	TIFF graphic filter
FMWMF32.FLT	Metafile graphic filter
CTL3D32.DLL	Windows 3-D interface (Windows 3.1, Windows for Workgroups, and Windows NT 3.51 only)
FMHOSTS.TXT	Stores your lists of hosts which appear in the TCP/IP network dialog box
ODBC.IMP	ODBC translation filter
WEBCOMP.NFMX	The FileMaker Web Companion plug-in that enables Web publishing from FileMaker Pro (Windows 95, Windows NT 3.51, and Windows NT 4.0 only)

## Windows System Directory folder

The following table shows the files and folders installed in the Windows System Directory folder.

**Folder location in Windows 95 and Windows NT 4.0**

**Folder location in Windows 3.1, Windows for Workgroups, and Windows NT 3.51**

<b>File or folder</b>	<b>Description</b>
Windows System Directory	
\windows\system (Windows 3.1 and Windows for Workgroups), \winnt35\system32\ (Windows NT 3.51)	
NWIPXSPX.DLL	Networking file
NWNETAPI.DLL	Networking file

## Adjusting the FileMaker Pro cache

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** By changing the FileMaker Pro cache size, you also affect the amount of memory needed to run FileMaker Pro.

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

### Changing the cache size

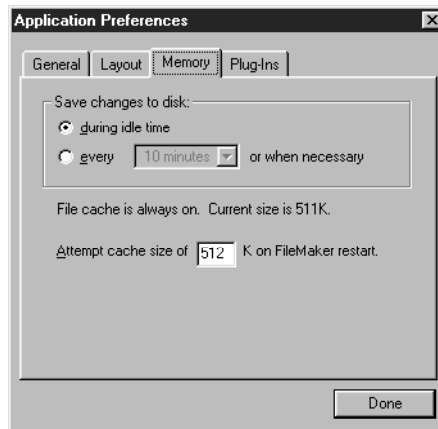
To change the cache size that FileMaker Pro uses:

1. In FileMaker Pro, choose Preferences from the Edit menu and then choose Application.

You see the Application Preferences dialog box.

2. Click the Memory tab at the top of the dialog box.





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

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

## 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 No Networking) for FileMaker Pro. You can change the network protocol at any time.

You must choose a network protocol if you want to share FileMaker Pro files over a network, either as a guest or as a host. For more information about your network configuration, consult your network administrator.

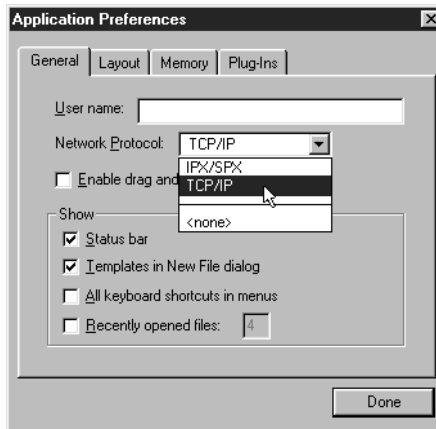
**Important** The network protocol setting in FileMaker Pro must be the same on the host and guest computers.

To change the network protocol:

1. Start FileMaker Pro 4.1.
2. Choose Preferences from the Edit menu, and then choose Application.

You see the Application Preferences dialog box. If necessary, click the General tab to bring the General preferences to the front.

3. Choose a network protocol from the Network Protocol drop-down list.



**Note** In Windows 3.1, FMIPX32.NET and FMTCP32.NET appear in the drop-down list.

Changes to this setting don't take effect until you exit FileMaker Pro and then start it again.

### IPX/SPX Considerations

**Windows 98, Windows 95 or Windows NT** To allow the maximum number of guests (25), your IPX/SPX connections must be set to 60 or greater. Consider increasing the SPX connections to 60 in the Network control panel if you cannot connect the desired number of guests. You do not need to modify settings in Windows NT.

**Windows 3.1 or Windows for Workgroups 3.11** You should use the Novell NetWare Client Shell version 3.26 or later to share FileMaker Pro files. You'll need to change Novell NetWare settings in order to network FileMaker Pro. To share FileMaker Pro files over the network, your machine must be a fully configured NetWare client.

To share FileMaker Pro database files:

- Use the Windows Setup program to set the network to the appropriate NetWare option (usually NetWare 3.26 or later).
- Add the following entries to your NET.CFG (or SHELL.CFG) file:

```
GET LOCAL TARGET STACKS=10
SPX CONNECTIONS=40
```

Get local target stacks needs to be set on all guest machines. SPX connections should be set on the host machine if it will host more than twelve guests, or on guest machines using additional SPX applications. Consider increasing the SPX connections if you cannot connect the desired number of guests.

### Changing the frame type

After you select 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 in Windows 98 or Windows 95

To change the frame type with IPX/SPX networking:

1. Open the Network control panel and click the Configuration tab.
2. Open IPX/SPX Compatible Protocol 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.
6. Click OK.

Both Windows 98 and Windows 95 prompt you to restart your computer for these new changes to take effect.

### **Changing the frame type in Windows NT**

To change the frame type with IPX/SPX networking:

1. Right-click Network Neighborhood.
2. Select Properties from the menu.  
You see the Network dialog box.
3. Click the Protocols tab.
4. Click NWLink IPX/SPX.
5. Click Properties.
6. Select a frame type from the drop-down list.
7. Click OK to apply the frame type.
8. Click OK to close the Network dialog box.

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

### **Changing the frame type in Windows 3.1 and Windows for Workgroups**

For information on changing the frame type in Windows 3.1 and Windows for Workgroups, please refer to the documentation that came with your networking software.

## **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 or FileMaker Pro, read chapter 1, "FileMaker Pro basics," in the *FileMaker Pro User's Guide* and work through the online tutorial, located in the FileMaker Pro 4.1 folder.
- If you've used FileMaker Pro before, read chapter 4 of this guide to learn about new features available in FileMaker Pro 4.1 and 4.0.
- If you're upgrading from FileMaker Pro 4.0, read chapters 4 and 5 of this guide to learn about new features such as the ODBC import capability in FileMaker Pro 4.1.

# Chapter 3: Installing FileMaker Pro in the Mac OS

Before you begin the installation process, quit other open programs and save your work, and turn off virus protection utilities.

**Note:** For instructions on installing FileMaker Pro on a Windows-based computer, see chapter 2, “Installing FileMaker Pro in Windows.”

## Installing FileMaker Pro

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

### Starting the Installer

To start the FileMaker Pro Installer:

1. Insert the CD-ROM into your CD-ROM drive.

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



2. Double-click the file named Start Here.

You see the software license agreement.

3. Click Accept to accept the license agreement.

You see the FileMaker Pro Installer dialog box.

4. Follow the steps described in one of the following sections:

- If you want to install all the available files, continue with “Easy installation.”
- If you want to install a subset of the FileMaker Pro files, skip to “Custom installation” on page 3-4.

### Easy installation

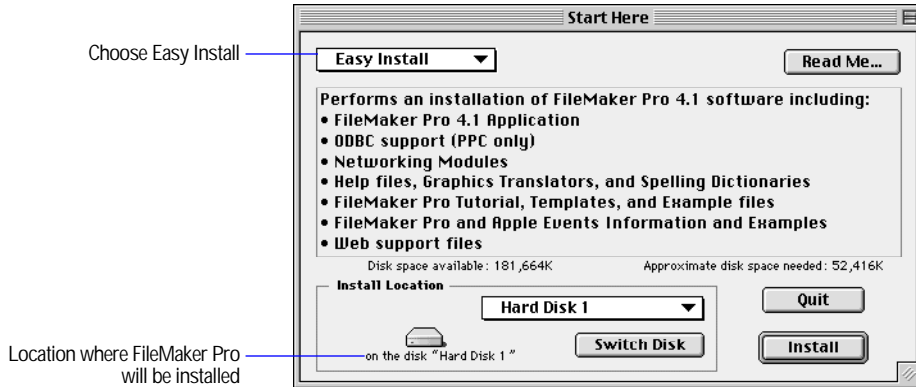
Follow these steps to install the complete FileMaker Pro package on your hard disk. The Installer automatically installs the correct version for either 680x0 Macintosh computers or Power Macintosh and compatible computers.

**Note** ODBC import is not supported in 680x0 Macintosh computers and Web publishing is not supported in 68000 Macintosh computers.

To install FileMaker Pro on your hard disk:

1. If you have not done so already, start the Installer, as described on page 3-1.

You see the FileMaker Pro Installer dialog box.



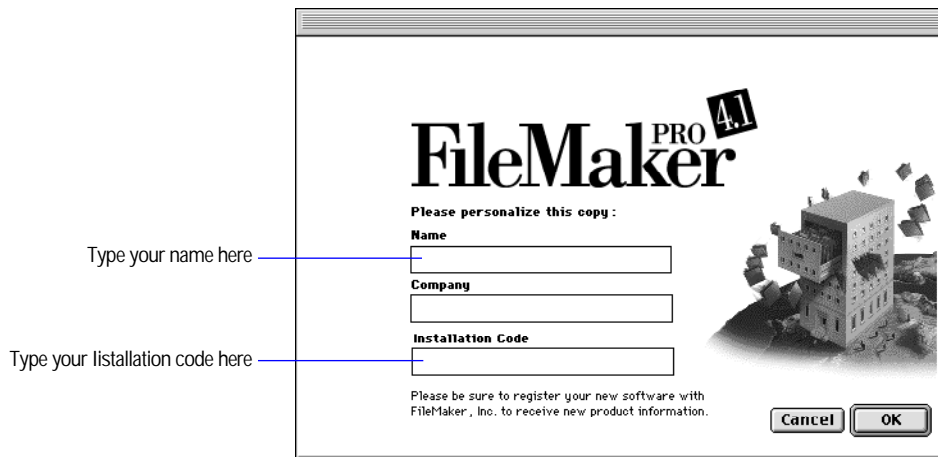
2. Specify the installation location, or use the default location.

- If you don't see the name of the hard disk where you want to install FileMaker Pro, click the Switch Disk button, which appears only when you have more than one volume mounted.
- If you switch to a disk that isn't a hard disk or is locked, the Install button is dimmed and the dialog box tells you why you can't install onto that disk.
- To select the folder in which you want to install the FileMaker Pro 4.1 Folder, choose Select Folder from the pop-up menu and select the desired folder.
- If the selected disk doesn't have enough space for the files you select, you see a message. If you switch to the Finder software, you can delete existing files to make more room on the disk. You can also choose not to install some files (like the tutorial or template files) by selecting Custom Install from the pop-up menu. For more information, see "Custom installation" on page 3-4.



3. Click Install.

You see the Personalize dialog box.



4. In the Name box, type your name and press the Tab key.

5. Type your company name, if applicable, and press Tab.

If you don't have a company name, you can put other information (like your address) in the box or leave it blank.

6. Type your FileMaker Pro installation code.

The installation code is a seventeen-digit number located on either a two-part sticker attached to the front of the paper CD envelope cover (North America) or a three-part sticker attached to a separate paper sheet within the box (International).

**Important** You must enter the installation code during installation or the software will not install. See "Installation code" on page 1-2 for more information.

Check your typing carefully. After you click OK, you can't change the name, company, or installation code unless you re-install FileMaker Pro.

7. Click OK.

The Installer begins copying files. After all the files are installed, a final dialog box tells you the installation on your hard disk was successful.

8. If you are installing the MacIPX networking software, click Continue. (You must do a Custom Installation to install MacIPX. See the next section, “Custom installation.”) Otherwise, click Quit to leave the Installer.
9. If you turned off virus protection and file sharing before installing, turn them back on now.

## Custom installation

To install a subset of FileMaker Pro files on your hard disk:

1. If you have not already done so, start the Installer, as described on page 3-1

You see the FileMaker Pro Installer dialog box.

2. Choose Custom Install from the pop-up menu.

The dialog box lists the files you can install.



3. Select the files you want to install by selecting the checkboxes.
4. Specify the installation location, or use the default location.
  - If you don't see the name of the hard disk where you want to install FileMaker Pro, click the Switch Disk button, which appears only when you have more than one volume mounted.
  - If you switch to a disk that isn't a hard disk or is locked, the Install button is dimmed and the dialog box tells you why you can't install onto that disk.
  - To select the folder in which you want to install the FileMaker Pro 4.1 Folder or the specified files, choose Select Folder from the pop-up menu and select the desired folder.



- If the selected disk doesn't have enough space for the files you select, you see a message. In the Finder software, you can delete existing files to make more room on the disk. You can also choose not to install some files (like the tutorial or template files) by deselecting those files in the scrolling list.

5. Click Install.

If you've selected the application, you see the Personalize dialog box.

6. In the Name box, type your name and press the Tab key.

7. Type your company name, if applicable, and press Tab.

If you don't have a company name, you can put other information (like your address) in the box or leave it blank.

8. Type your FileMaker Pro installation code.

The installation code is a seventeen-digit number located on either a two-part sticker attached to the front of the paper CD envelope cover (North America) or a three-part sticker attached to a separate paper sheet within the box (International).

**Important** You must enter the installation code during installation or the software will not install. See "Installation code" on page 1-2 for more information.

Check your typing carefully. After you click OK, you can't change the name, company, or installation code unless you re-install FileMaker Pro.

9. Click OK.

The Installer begins copying files. After the selected files are installed, a final dialog box tells you the installation on your hard disk was successful.

10. Click Quit to leave the Installer.

If you installed the MacIPX networking software, the final dialog box allows you to restart your computer. You must restart your computer before you can use the new network software.

11. If you turned off virus protection and file sharing before installing, turn them back on now.

## Where files are stored on your hard disk

The following table shows the files and folders you can install, and the preferred location for them on your hard disk. If you install onto the current system disk, the FileMaker Pro Installer places all the files you need in their preferred locations.

### FileMaker Pro 4.1 Folder

This table shows the files and folders installed in the FileMaker Pro Folder.

<b>FileMaker Pro 4.1 Folder</b>	<b>File or folder</b>	<b>Description</b>
	FileMaker Pro	The FileMaker Pro 4.1 application
	FileMaker Pro Help	The FileMaker Pro onscreen Help system
	FileMaker Pro Balloon Help	The FileMaker Pro onscreen Balloon Help system
	Read Me	Late breaking news about FileMaker Pro
FileMaker Tutorial	FileMaker tutorial	A FileMaker Pro tutorial database
FileMaker Templates	Template files	Folder containing predesigned template files that help you use FileMaker Pro right away
FileMaker Examples	Example files	Folder containing database examples that use the relational capabilities of FileMaker Pro
FileMaker and Apple Events	Apple Events Reference	A FileMaker database that documents how to use Apple events with FileMaker Pro
	Sample Applications folder Syntax Examples folder	Folders containing scripting examples, sample AppleScript, and HyperCard applications
FileMaker Extensions	AppleTalk Network MacIPX Network TCP/IP Network	Modules that support AppleTalk, MacIPX, and TCP/IP networks
	ClarisWorks DBF Excel ODBC	Filters for translating ClarisWorks database, DBF, Microsoft Excel, and ODBC files
	Web Companion	The FileMaker Web Companion plug-in that enables Web publishing from FileMaker Pro
Web (for Web publishing, do not move or rename this folder)	Employee Database files Guest Book files Shopping Cart files	Example databases and HTML files that you can use to learn about Custom Web Publishing

<b>FileMaker Pro 4.1 Folder</b>	<b>File or folder</b>	<b>Description</b>
Web Tools	CDML Reference	For Custom Web Publishing, a FileMaker database that documents how to use CDML to create HTML format files for Custom Web Publishing; contains a <i>Developer's Guide</i>
	CDML Tool	For Custom Web Publishing, a FileMaker database that helps you create HTML files that contain CDML tags, using Copy and Paste
	CDML Template	For Custom Web Publishing, a folder of HTML files containing CDML tags for standard actions (Add Record, Search, and so on) to be used as building blocks for your Custom Web Publishing files
Web Security	Databases Security	A folder containing the FileMaker databases and HTML files required to use Web Security Database safeguards
ODBC	ODBC Example	Contains the ODBC example files and the evaluation ODBC drivers
	ODBC Installer	

## System Folder

This table shows the files and folders placed in your System Folder.

<b>System Folder</b>	<b>File or folder</b>	<b>Description</b>
Claris	FileMaker Help Viewer	The application that accesses the FileMaker Pro Help file
	USEENGLISH.MPR UKENGLISH.MPR	The primary dictionaries that FileMaker Pro uses to spell check your files. You can select either U.S. or British spellings for your main dictionary. Each dictionary contains over 100,000 words.
	USER.UPR	The dictionary that stores your customized list of spelling exceptions and additions to the primary dictionaries
	CLADDON.CLR	An additional dictionary that contains computer terminology
	Claris Translators folder	Translators that FileMaker Pro uses to read graphics files created in other applications
	Claris XTND System	Translation engine
Control Panels	MacIPX control panel	Control panel for configuring MacIPX. This file is installed only in a Custom installation.
Extensions	MacIPX AppleTalk MacIPX Ethernet MacIPX Token Ring	MacIPX interface files. These files are installed only in a Custom installation.
	XTND Power Enabler (Power Macintosh and compatible computers only)	Extension that enhances the XTND graphics importing capabilities of FileMaker Pro on these computers
	Microsoft OLE Extension	Extension that is necessary for Microsoft Excel 5.0 import

## Adjusting memory

The Mac OS sets aside a certain amount of memory for FileMaker Pro. However, 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
- run several applications at the same time, and you have a limited amount of memory (RAM) installed

### Changing the amount of memory used

If you want to change the amount of memory reserved for FileMaker Pro, 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.
- Avoid specifying less memory than the Suggested size in the FileMaker Pro Info dialog box.

To change the amount of memory FileMaker Pro uses:

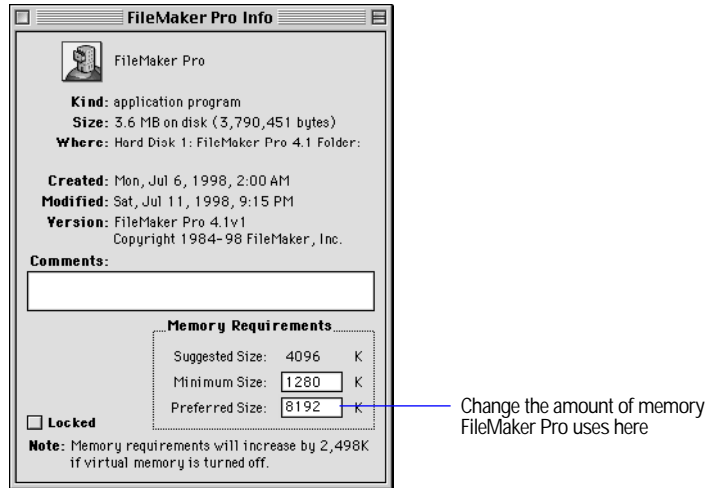
1. If FileMaker Pro is open, quit the application by choosing Quit from the File menu.
2. In the Finder software, open the FileMaker Pro 4.1 Folder. Select the FileMaker Pro application icon by clicking on it once.

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



3. Choose Get Info from the File menu.

You see the FileMaker Pro Info window.



4. In the Memory Requirements area at the bottom of the window, 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, the amount of memory you specified is available for the application.

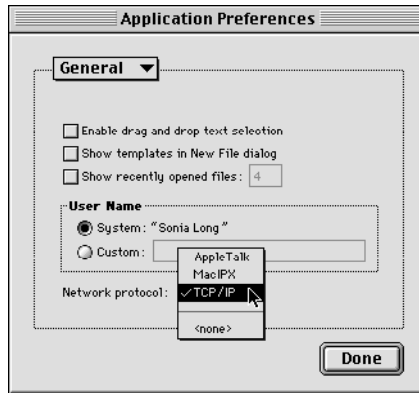
## Choosing a network protocol

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, consult your network administrator.

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

To choose a network protocol:

1. Choose Preferences from the Edit menu, and then choose Application.  
You see the Application Preferences dialog box. If necessary, choose General from the pop-up menu at the top of the dialog box.
2. Choose a network protocol from the Network protocol pop-up menu.



3. Click Done.

Changes to this setting don't take effect until you quit FileMaker Pro and then start it again.

## 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 online tutorial, which is automatically installed when you do an Easy Install.
- If you've used FileMaker Pro before, read chapter 4 of this guide to learn about new features available in FileMaker Pro 4.1 and 4.0.
- If you're upgrading from FileMaker Pro 4.0, read chapter 5 of this guide to learn about the new ODBC import capability in FileMaker Pro 4.1.

# Chapter 4: *New features in FileMaker Pro*

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This chapter introduces the new features in FileMaker Pro 4.1 and FileMaker Pro 4.0.

## ODBC import



FileMaker Pro 4.1 enables you to import data via Open Database Connectivity (ODBC). If you have ODBC drivers installed and configured, you can import data from a number of ODBC-compatible data sources, including Oracle databases. The drivers query the data source using Structured Query Language, or SQL, to determine which records are imported. See the next chapter, “ODBC import with FileMaker Pro,” for more information.

## Runtime feature support



In FileMaker Pro 4.1, you can see and use features enabled in the FileMaker Pro Developer Edition application, such as Kiosk mode.

The Developer Edition helps database developers quickly create and deploy standalone FileMaker Pro runtime solutions for their customers. Using FileMaker Pro 4.1, you can open these runtime databases, which have features previously unsupported in FileMaker Pro:

- Kiosk mode
- custom menus
- master access removed

**Note** These features can only be implemented in the FileMaker Pro Developer Edition software. For more information on the Developer Edition application, please visit our Web site at <http://www.filemaker.com>.

### Support for Kiosk mode

When runtime solution database files are created in Kiosk mode, they do not display operating system and application interface elements. As in a presentation or slide show, the FileMaker Pro menu bar and menu choices do not appear and the screen surrounding the primary database file is black, even when opened in FileMaker Pro 4.1.

**Important** Before opening a file in Kiosk mode using FileMaker Pro 4.1, close any shared FileMaker Pro files.

## Support for custom menu items

Using FileMaker Pro Developer Edition, database developers can customize the name of the Script menu, connect a script to a custom menu item in the Help menu, and connect a script to “About <solution name>” (under the Help menu in Windows and under the Apple menu in the Mac OS).

If a menu name is altered in the runtime solution, the custom menu name will replace the menu name in the FileMaker Pro 4.1 file you’re viewing. If a custom Help menu and script has been specified, it will be available, along with the FileMaker Pro 4.1 onscreen help, under the Help menu.

## Remove master access

The FileMaker Pro Developer Edition software enables developers to permanently remove access to Define Fields, Define Relationships, Access Privileges, and the ScriptMaker® feature. This prevents anyone from modifying the database structure in the runtime solution files.

If you open these databases in any version of FileMaker Pro, these features will be unavailable to you. The files behave as if access privileges are disabled for these features.

## Euro character support



FileMaker Pro 4.1 now provides cross-platform support for the new European currency symbol (€). To use the Euro symbol with FileMaker Pro, you must also be using an operating system and font that support the new symbol.

To determine the keystroke for entering the Euro symbol, you can use a keyboard mapping utility such as Character Map (Windows) or Key Caps (Mac OS) to locate the character.

**Warning** FileMaker Pro files containing the Euro symbol may not display the symbol correctly when opened with FileMaker Pro 4.0 and earlier versions.

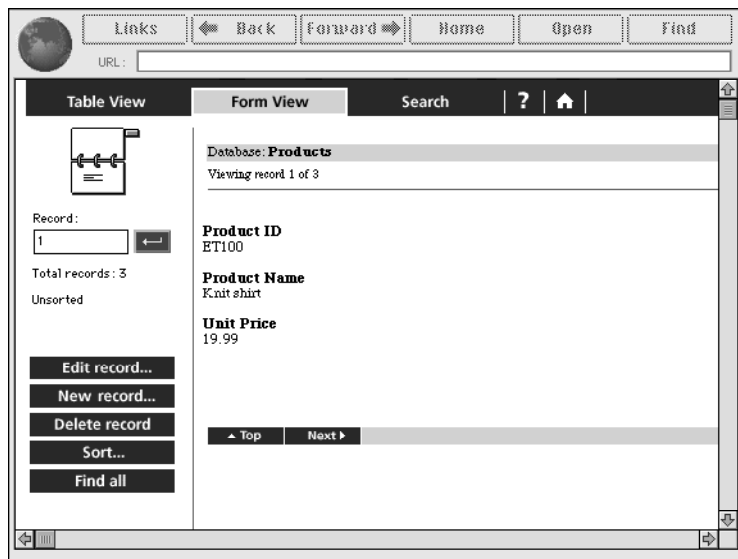
Both Windows 98 and Mac OS 8.5 include fonts that support this character. For more information on the Euro character, visit the Microsoft or Apple Web sites.



## Web publishing capabilities

Using FileMaker Pro 4.0 and 4.1, you can access your database from almost anywhere in the world. Your file can be viewed, edited, sorted, and searched with just Web browser software and access to the Internet or your intranet. You can also choose how much or how little access other users have to your file.

**Note** Access to the Internet requires an Internet service provider. FileMaker Pro does not provide an Internet account for you.



## Instant Web Publishing

With FileMaker Pro 4.0 and 4.1, you can quickly publish your database on the Internet or on an intranet, using the FileMaker Pro Web Companion.

This functionality is built in—no additional CGI or Web server software is required for either the Mac OS, Windows 98, Windows 95, or Windows NT. However, access to the Internet requires an Internet account.

## Custom Web Publishing

You can create a complete, custom, interactive Web solution using the FileMaker Pro Web Companion and dynamic HTML files.

FileMaker Pro now can publish HTML documents containing GIF and JPEG graphics, animated GIF files, QuickTime movies, and AIFF files. In addition, FileMaker Pro 4.0 and 4.1 support any custom Java applets designed by a developer using the FileMaker Pro Developer Edition.

For step-by-step instructions on Web publishing, refer to the *FileMaker Pro User's Guide* and the CDML Reference database in the Web Tools folder.

## Internet features

FileMaker Pro 4.0 and 4.1 support many new Internet features, including the ability to host databases on the Web.

**Note** Some of these features require additional software. See “Requirements for advanced features (Windows)” on page 1-5 for Windows computers and “Requirements for advanced features (Mac OS)” on page 1-6 for Mac OS computers.

### GIF and JPEG support

FileMaker Pro supports GIF and JPEG graphic formats in layouts, container fields, and published Web pages. When FileMaker Pro sends an image to a Web browser, it can send either a GIF or JPEG image. If one is not available, the stored graphic is converted on-the-fly to JPEG for display, even if it is not stored in JPEG format in the database.

### Export to an HTML table

You can now export all or part of your database formatted as an HTML table.

### Send Mail script step

With email client software, you can send email via the Internet or your intranet directly from your FileMaker Pro database.

## URL support

With FileMaker Pro 4.0 and later, you can open a URL from a field. To open a URL in Windows, right-click a URL in a field and choose Open <URL> from the context menu. In the Mac OS, command-click a URL in a field. If the address is for a Web page, FileMaker Pro opens your Web browser software.

## Open URL script step

You can create a script that opens a Web browser and goes to a specified URL.

## Expanded Sort and Find options

Related records can now be sorted within a portal or as part of a related list.

With the addition of exact field matches, Find requests can be even more specific.

## Calculation functions

In FileMaker Pro 4.0 and 4.1, new functions help you determine:

- the current group that a password belongs to
- the modifier key being pressed by the user
- the network protocol that is loaded and in use
- the ID of the current record
- the number and kinds of objects in a layout

In addition, FileMaker Pro 4.0 and 4.1 support any custom plug-ins designed by a developer using the FileMaker Pro Developer Edition.

## Layout and interface enhancements

Fields and objects can be rotated in 90-degree increments, allowing greater flexibility in your layouts. Text can also be dragged and dropped into a rotated text block.

To make creating and managing your files easier, value lists can be defined from the File menu. Recently opened documents are listed in the File menu on both the Mac OS and Windows platforms. You can turn this feature on or off in Application Preferences.

## Microsoft Excel import

FileMaker Pro now supports direct import of worksheets (.XLS files) from Microsoft Excel, including versions 4.0, 5.0, and 8.0 for the Mac OS, and versions 4.0 through 8.0 for Windows. Additionally, you can import a specific worksheet from a Microsoft Excel workbook.

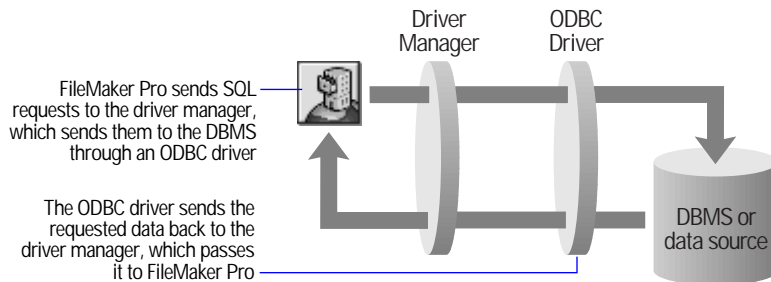
# Chapter 5: ODBC import with FileMaker Pro

This chapter explains how to import data from ODBC sources, a new feature in FileMaker Pro 4.1. See the *FileMaker Pro User's Guide* for information about importing other file types.

## What is ODBC?

Open Database Connectivity (ODBC) is a standard language that enables compliant applications to access data from many different database management systems (DBMSs). It allows an application accessing data, for example, FileMaker Pro 4.1, to make a request without database-specific calls that work with only one DBMS.

An application makes its request, or *query*, for data using Structured Query Language (SQL, pronounced “sequel”). Each DBMS that supports ODBC recognizes a common subset of SQL statements.



FileMaker Pro interacting with a DBMS via SQL

## ODBC terminology

To use the ODBC import feature, it's useful to understand the following terms.

Term	Refers to
Open Database Connectivity or ODBC	An application programming interface (API) that enables FileMaker Pro to import data from other database management systems (DBMS).
Database Management System or DBMS	An application that allows users to store, process, and retrieve information in a database (for example, FileMaker Pro).

<b>Term</b>	<b>Refers to</b>
Structured Query Language or SQL	A programming language that controls and interacts with a DBMS (for example, is used by ODBC to access data).
Data source	The specific data that you want to access, including the DBMS that is storing the data. For example, a DBMS can be an Oracle database on a network or a text file or Microsoft Excel table from your hard drive. Each data source must be registered with the ODBC driver manager before FileMaker Pro can import the ODBC data.
Query	Requesting, and then receiving, data from a DBMS.
Column	An attribute in a table, similar to a field in a FileMaker Pro database.
Row	A collection of attributes in a table, similar to a record in a FileMaker Pro database.
Join	Combining data from two or more tables into a single set of records.
Driver manager	The control panel that manages communication between requesting applications and data sources. When an application makes a request via ODBC, the driver manager routes the request through the correct driver to the correct data source and returns the data to the requesting application. All ODBC drivers and data sources to be used on that computer are registered with the driver manager.
Driver	The ODBC driver translates an application's SQL queries into commands a particular DBMS can understand. It processes ODBC calls, submits SQL requests to the data source, and returns the data back to the driver manager, which then routes it to the requesting application (for example, FileMaker Pro).

## ODBC support in FileMaker Pro

With FileMaker Pro 4.1, you can either import records into an existing database or create a new database by opening an ODBC data source.

Not all ODBC functions are supported by FileMaker Pro 4.1. FileMaker Pro supports ODBC as a *requesting* application, but not as a data source. You can use FileMaker Pro to import data from other ODBC data sources, but there is no ODBC driver that allows other applications to access data in FileMaker Pro 4.1 via ODBC.

**Note** ODBC import is not supported in Windows 3.1, Windows for Workgroups, or 680x0 Macintosh computers.

FileMaker Pro is certified with the following ODBC data sources and drivers:

<b>Platform</b>	<b>Certified ODBC data sources</b>
Mac OS	Oracle 7 (INTERSOLV) Text (INTERSOLV)
Windows 98, Windows 95, Windows NT	Microsoft Excel (INTERSOLV, Microsoft) Microsoft Access (Microsoft) Oracle 7 (INTERSOLV) SQL Server (INTERSOLV, Microsoft) Text (INTERSOLV, Microsoft)

The Microsoft Excel and Microsoft Access ODBC drivers are available with Microsoft Office. Trial versions of the other drivers are included with FileMaker Pro. For information on purchasing ODBC drivers, visit the INTERSOLV Web site (<http://www.intersolv.com>) or contact another ODBC driver manufacturer.

If you already have ODBC drivers installed and you have defined data sources, you're ready to import ODBC-compliant data into FileMaker Pro.

## SQL support in FileMaker Pro

The FileMaker Pro query builder helps you easily search a DBMS, fetch specific records, and import the resulting records into a FileMaker Pro database.

FileMaker Pro provides an easy-to-use interface to create SQL queries containing the *Select* keyword and the *Where* and *Order By* clauses. You can also type SQL statements directly in the SQL query box.

Use the *Select* keyword to specify which tables and columns your SQL query will contain. For example, the following SQL statement, containing only the *Select* keyword, would retrieve all the records (rows) from the *Company\_Name* and the *Amount* columns in the *Sales\_data* table:

```
SELECT Sales_data.Company_Name, Sales_data.Amount
FROM Sales_data
```

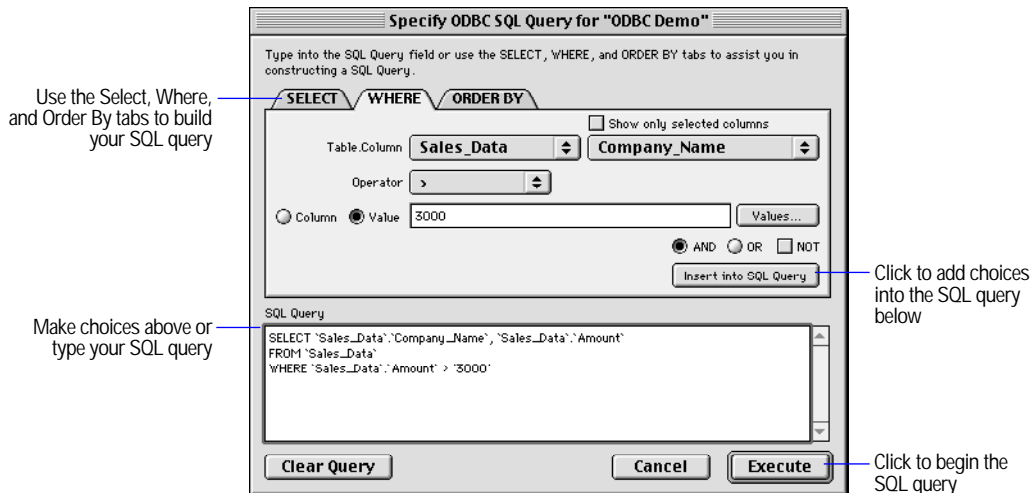
Use the Where clause to further narrow down the records being retrieved. For example, use the greater than (>) operator to return records where the amount sold is greater than 3,000:

```
SELECT Sales_data.Company_Name, Sales_data.Amount
FROM Sales_data
WHERE Sales_data.Amount > 3000
```

You can also reduce the number of records by creating a join with another column. For more information, refer to the example in “Specifying a SQL join” on page 5-17.

Use the Order By clause to sort the records before they are imported. To sort the above records in descending order (from the highest to the lowest sales amounts) the SQL statement would read:

```
SELECT Sales_data.Company_Name, Sales_data.Amount
FROM Sales_data
WHERE Sales_data.Amount > 3000
ORDER BY Sales_data.Amount DESC
```



Building a SQL statement in the FileMaker Pro query builder

To create SQL queries in FileMaker Pro, choose Import/Export then Import Records from the File menu, then the ODBC file format. If the data source has been configured, you can build your SQL query. Refer to “Importing from the data source” on page 5-12 for more information.



## Importing ODBC data: an overview

The procedures to import ODBC data can vary depending on which driver you are using. For example, the steps to import data using the Oracle or SQL Server ODBC driver vary from the steps using the Text driver. Additionally, steps may vary from one ODBC driver manufacturer to another. Refer to the documentation available in the retail version of the ODBC driver for more information.

Here are general steps to import ODBC data:

1. If necessary, install the ODBC driver.
2. In the ODBC control panel, choose the driver and data source.
3. Use the FileMaker Pro query builder to generate a SQL query. The data resulting from the query can then be imported into a FileMaker Pro 4.1 database.

### An ODBC import example

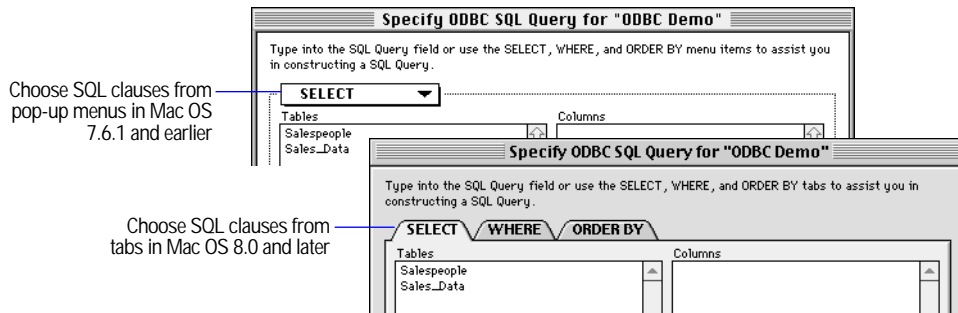
To help you get acquainted with importing data from ODBC sources, FileMaker Pro 4.1 includes a sample database, ODBC-compliant data, and evaluation ODBC drivers. You can work through the examples in this chapter using an ODBC text driver on your system, or you can install the INTERSOLV evaluation drivers.

Use the ODBC example files, along with the instructions below, to import ODBC data from two text files, Salespeople and Sales\_Data.

- The Salespeople table has information for seven employees, such as their name, their manager's name, their sales region, and their employee identification number.
- The Sales\_Data table has 250 records tracking sales that the employees have made.

In the next three sections, you'll import data from the tables by creating SQL statements. You can then evaluate the imported data in the FileMaker Pro Sales Reports database.

**Note** The instructions provided work with Windows 98, Windows 95, Windows NT, and Mac OS 8.0. If you're using Mac OS system 7.6.1 or earlier and have not installed the Appearance Manager extension, options presented in dialog box tabs will appear in pop-up menus.



The FileMaker Pro query builder dialog box in Mac OS 7.6.1 (top) and Mac OS 8.1

## Installing the ODBC drivers

A 30-day evaluation copy of the INTERSOLV ODBC drivers is included in the ODBC folder in the FileMaker Pro 4.1 folder:

### Windows:

C:\Program Files\FileMaker\FileMaker Pro 4.1\ODBC\ODBC Installer

### Mac OS:

Mac HD:FileMaker Pro 4.1:ODBC:ODBC Installer

**Note** If you already have ODBC drivers installed, you can use them to import ODBC data. Choose Import/Export from the File menu, Import Records, and then choose the ODBC file format.

To work through the ODBC import examples in this chapter, install the trial Text driver. Be sure you can reinstall your original drivers before replacing them with the INTERSOLV evaluation drivers.

**Important** The ODBC drivers are the link between FileMaker Pro and ODBC-compatible data sources. FileMaker, Inc. cannot guarantee that third-party ODBC drivers will work correctly in all situations. Some troubleshooting tips for the INTERSOLV ODBC drivers have been included in the FileMaker Pro 4.1 Read Me, located on the CD-ROM. For more information, visit the INTERSOLV Web site.



Setup.exe

**Windows:**

To install the trial ODBC drivers in Windows 98, Windows 95, or Windows NT, double-click the Setup.exe icon in the ODBC Installer folder inside the ODBC folder. Follow the onscreen installation instructions, and choose the default behavior where possible. When prompted for product registration information, type your name, company name, and type eval in the serial number box. Leave the Registration Key blank.



ODBC Mac PPC Installer.3.02

**Mac OS:**

To install the trial ODBC drivers in the Mac OS, double-click the ODBC Mac PPC Installer icon in the ODBC Installer folder inside the ODBC folder. Follow the onscreen installation instructions. When prompted for a serial number, press Return. Leave the Registration Key blank. Continue the installation by choosing the default options.

## Configuring the ODBC control panel

Configuring the ODBC control panel can vary depending on which driver you're using.

Here are general steps to configure the ODBC control panel:

1. Choose the ODBC driver that will work with your data source.
2. Specify the data source and data source options (for example, the Salespeople and Sales\_Data files).
3. If necessary, specify the tables you'll be importing from and the column names.

For this example, we'll configure the data source in the ODBC Example folder using the INTERSOLV Text driver.

### Choosing the driver and data source

These instructions assume you have an ODBC driver installed. To install the INTERSOLV evaluation ODBC drivers, see the previous section.



32bit ODBC

1. In the User DSN tab of the ODBC control panel (called 32bit ODBC in Windows and ODBC Setup PPC in the Mac OS), click Add.
2. Select the type of driver to work with.

**Windows:**

Choose the INTERSOLV 32-BIT TextFile.

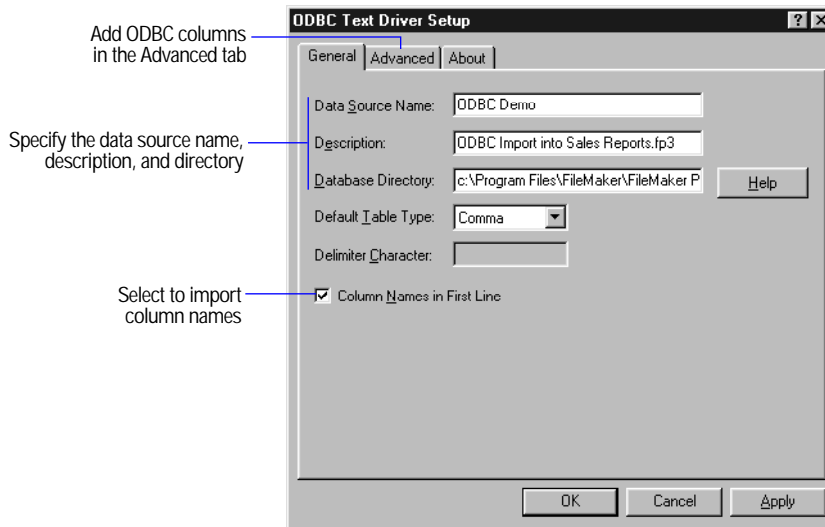
**Mac OS:**

Choose INTERSOLV Text PPC.

3. Click Finish.
4. In the General Tab of the ODBC Driver Setup dialog box, begin configuring the driver by specifying the data source name.  
For this example, type ODBC Demo.
5. Supply a description of the data source in the Description box. The description can be whatever you choose.  
For this example, type ODBC Import into Sales Reports.fp3.
6. In the Database Directory box, specify the path to the data source.

**Windows:**

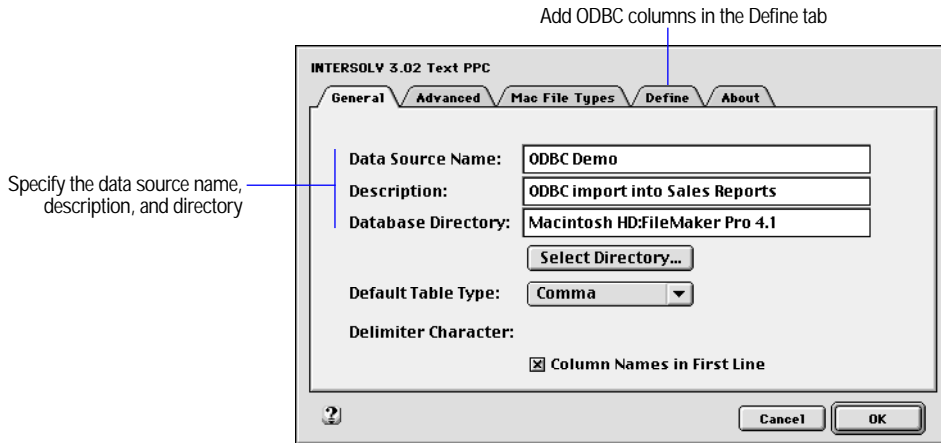
Type the path: C:\Program Files\FileMaker\FileMaker Pro 4.1\ODBC\ODBC Example.



Windows 32bit ODBC control panel

**Mac OS:**

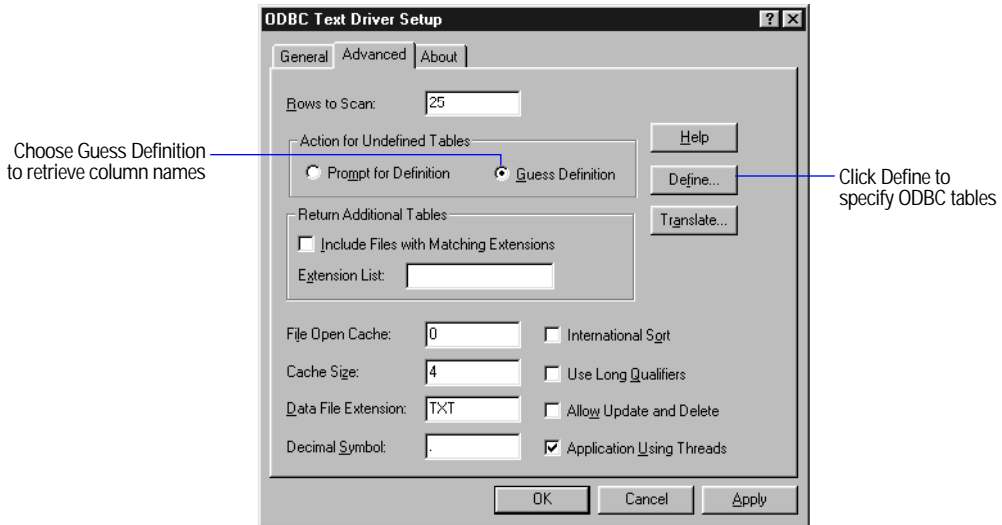
Click the Select Directory button and locate the folder containing the data source (the ODBC Example folder, inside the ODBC folder in the FileMaker Pro 4.1 folder). Click Select ODBC Example.



Mac OS ODBC Setup PPC control panel

7. Select the Column Names in First Line checkbox.
8. Click the Advanced Tab to specify additional settings.
9. In the Advanced tab, verify that the Data File Extension information is correct.  
For this example, the data file extension for the sample data source files should be TXT.
10. Verify that the Action for Undefined Tables is Guess Definition (Windows) or Guess (Mac OS).

Leave the control panel open and continue to the next section.



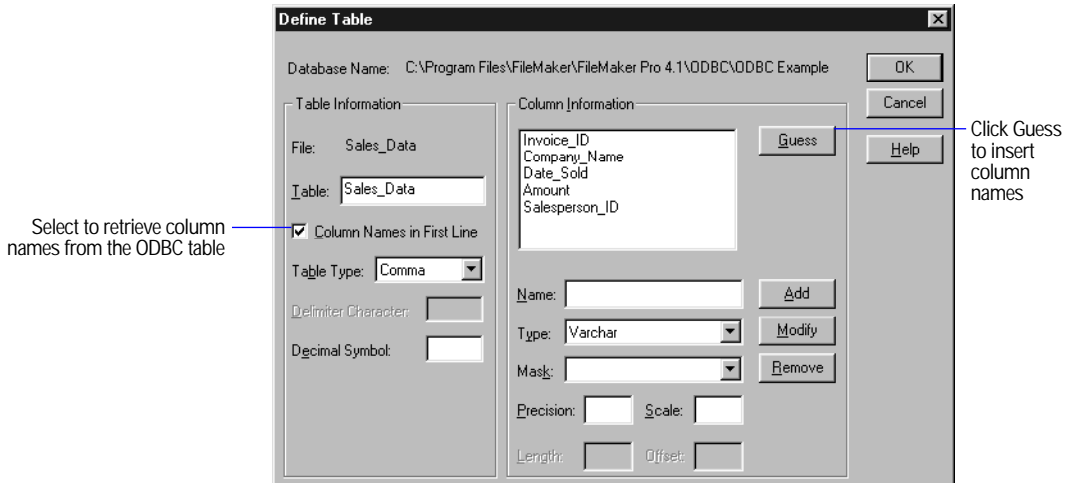
Advanced options in the Text ODBC control panel (Windows)

## Specifying the tables and columns in Windows

After choosing and configuring the ODBC text driver in the ODBC control panel, you specify the tables and columns to import.

1. In the Advanced tab of the Windows ODBC control panel, click Define.
2. In the Define File dialog box, change the Files of type option to All Files.
3. Select the Sales\_Data table, located in the ODBC Example folder, and click Open.
4. Select the Column Names in First Line checkbox.
5. For column information, click the Guess button. The ODBC driver will attempt to retrieve the column names from the specified table.

It may take a few moments to retrieve the column names.



6. Select the Date\_Sold column and verify that the Type and Mask values are correct.

The Type should be Date, and the Mask should be m/d/yy.

When importing columns that store date information, you should verify that the driver recognizes the correct column type and mask, especially if the data source is from a Unix computer.

7. Click OK.

This saves the information for the Sales\_Data table.

8. Specify the information for the Salespeople table by following steps 2-7 above.

Click the close box to close the control panel.

## Specifying the tables and columns in the Mac OS

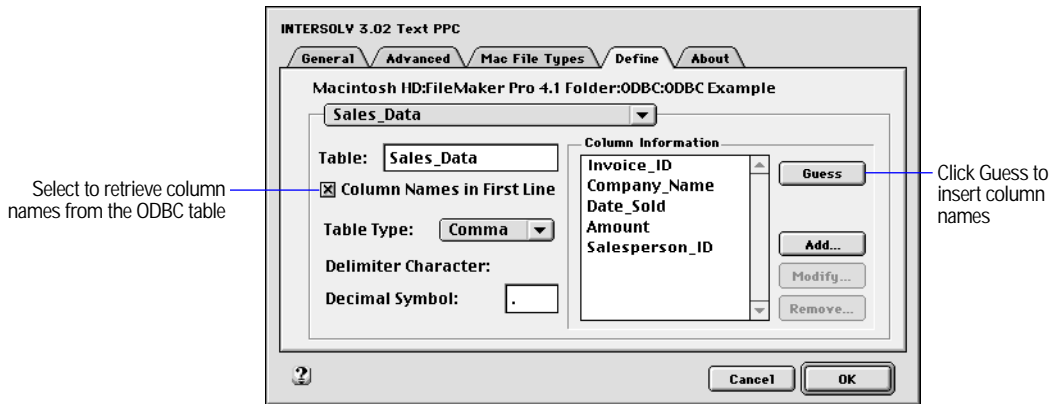
After choosing and configuring the ODBC text driver in the ODBC control panel, you specify the tables and columns to import.

1. In the Mac OS, click the Define tab.

The Sales\_Data table appears in the Table pop-up menu. If Salespeople appears, switch to the Sales\_Data table.

2. Select the Column Names in First Line checkbox.

- For column information, click the Guess button. The ODBC driver will attempt to retrieve the column names from the specified table. It may take a few moments to retrieve the column names.



- Specify the information for the Salespeople table. In the Table list, choose Salespeople. You'll be prompted to save changes to the table definition. Click Yes.
- Click the GUESS button to retrieve the column names for the Salespeople table, then click OK. Click Yes to save changes, then click OK again.

## Importing from the data source

After you've specified and configured the data source, you can open your FileMaker Pro 4.1 database and import ODBC data. There are three general steps involved in importing data with ODBC:

- specifying the data source in FileMaker Pro
- creating a SQL query using the Select, Where, and Order by clauses
- importing the results of the SQL query into FileMaker Pro



## Connecting to the data source from FileMaker Pro

To specify the data source in FileMaker Pro:

1. Open the FileMaker Pro database file you'll import data into.

For this example, open the Sales Reports database file, located in the ODBC Example folder.

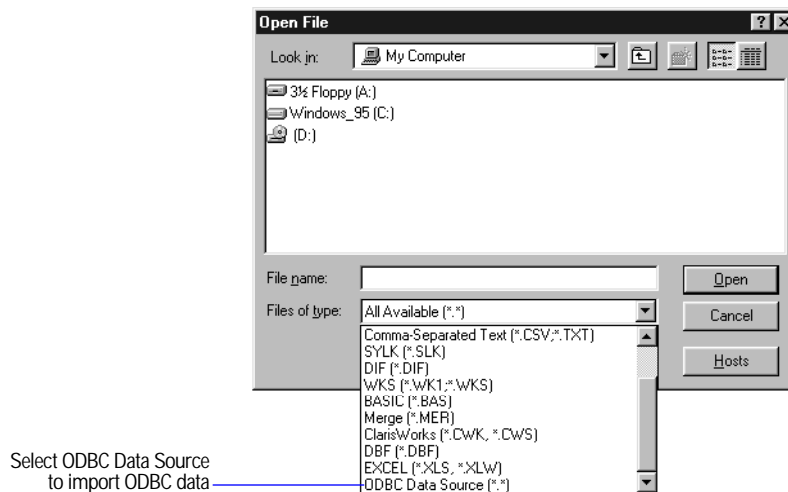
2. In Browse mode, choose Import/Export from the File menu, then choose Import Records.
3. Choose the file import format.

### Windows:

For Files of type, select ODBC Data Source.

### Mac OS:

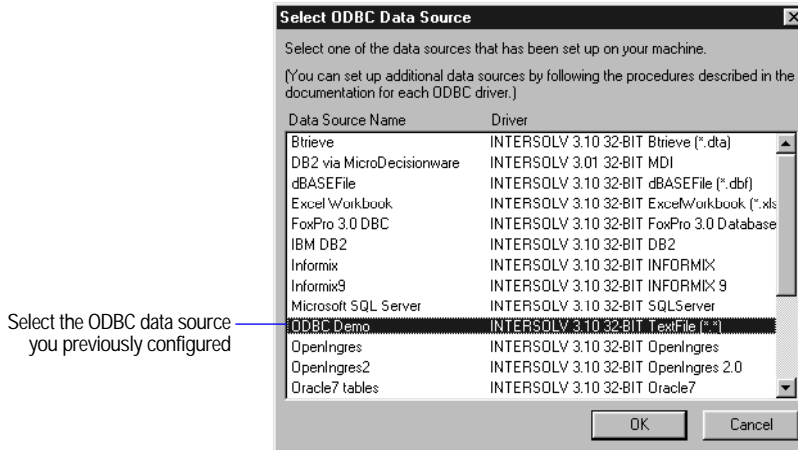
Select ODBC in the Show pop-up menu.



Importing data into FileMaker Pro

4. In the Select ODBC Data Source dialog box, select the name of the data source to import from, and then click OK.

For this example, select ODBC Demo, the data source name you specified in the previous section, “Configuring the ODBC control panel.”



5. If appropriate, enter the user name and password for the data source you selected, and click OK.

If a user name and password appear, delete them and click OK to proceed. The ODBC example files have no user name or password.

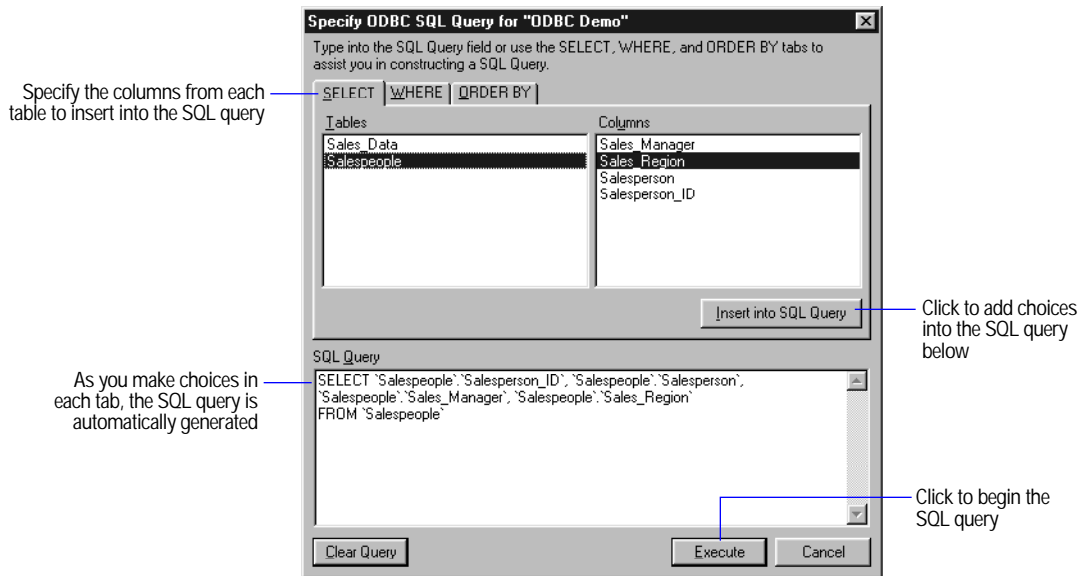
## Specifying the SQL query in FileMaker Pro

In FileMaker Pro, you build your query in the Specify ODBC SQL Query dialog box. Start by using the SQL *Select* clause to specify what data you want to extract from the data source.

1. If there is already a SQL statement in the SQL Query box, click Clear Query.

To confirm that you want to delete the query, click Clear.

2. In the Select tab, click the table you'll import from.



SQL statement retrieves four columns from the Salespeople table

For this example, select the Salespeople table.

The columns associated with the Salespeople table appear.

3. Select a column to insert into your SQL query and click Insert into SQL Query.

Select the Salesperson ID column, then click Insert into SQL Query. This moves the SQL statement into the SQL Query box.

4. Insert additional columns into the SQL query by double-clicking on the column name.

Double-click the following columns: Salesperson, Sales\_Manager, and Sales\_Region.

5. Click Execute to map the ODBC columns to FileMaker Pro fields.

The next section, “Importing ODBC data with a join” on page 5-17, introduces the Where and the Order By tabs.

**Note** You can also type a SQL statement directly into the SQL Query box.

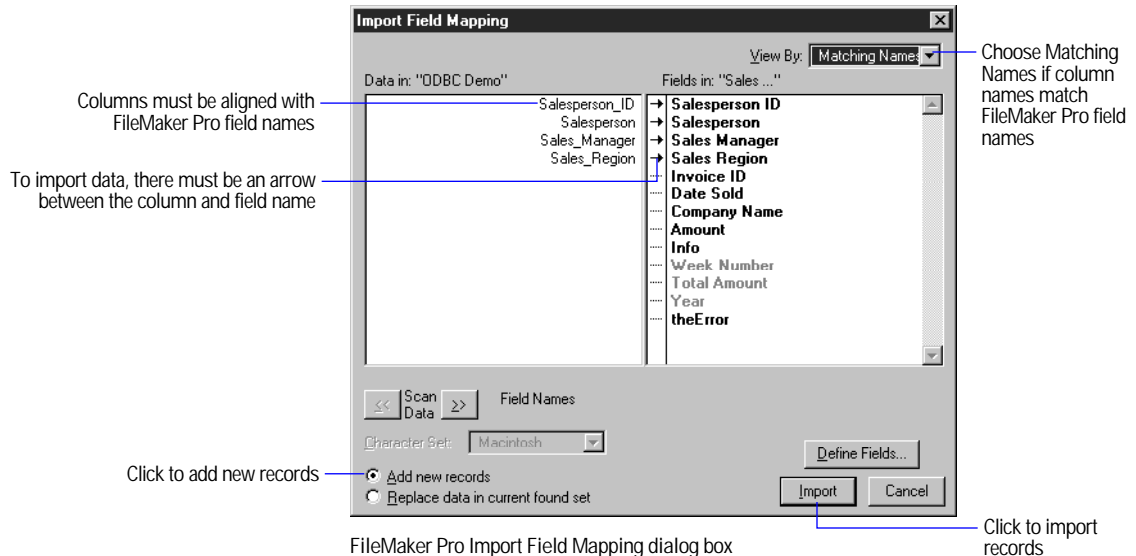
## Importing the results of the query into FileMaker Pro

After building the SQL query in the Specify ODBC SQL Query dialog box, you're ready to import the resulting records into FileMaker Pro.

1. In the FileMaker Pro Import Field Mapping dialog box, match the fields you want to import on the right with the data source columns on the left by selecting Matching Names from the View By list.

You can also drag the FileMaker Pro fields on the right side to line up with the ODBC columns on the left (for example, move the Salesperson\_ID field on the right up to the first position, and so on).

2. Make sure the columns on the left have an arrow to their right between the column name and the field name.



3. Click Add new records, and then click Import.
4. If you see the Import Options dialog box, select options, then click OK.

Seven records should be imported into the Sales Reports database. To stop importing, press Esc (Windows) or Command-period (Mac OS). To delete the records already imported, choose Delete All from the Mode menu.

## Importing ODBC data with a join

Use the Where tab in the FileMaker Pro query builder to create a multi-table SQL query, or join. A join combines data from two or more tables into a new table.

### Specifying a SQL join

In this example, we want to view a report that contains information about sales transactions (from the Sales\_Data table) along with information about the salesperson (from the Salespeople table). To ensure that the data is combined in a meaningful way, you should link the two tables with a matching field.

Because both tables in the ODBC example files contain the Salesperson\_ID column, we can create a variety of reports by doing a join on the Salesperson\_ID column.

Use the ODBC example files, along with these procedures, to create a report that lists sales information for each salesperson.

Invoice_ID	Company_Name	Date_Sold	Amount	Salesperson_ID
1	Home Furniture Suppliers	2/1/98	3049.48	SP-1
2	Canadian Export Company	3/27/98	3435.91	SP-2
3	New Technology University	1/20/98	2996.48	SP-3
4	Photo Supply, Inc.	6/6/98	3741.22	SP-2
5	Photo Supply, Inc.	3/3/98	4503.19	SP-7
6	New Technology University	2/27/98	4496.11	SP-6
7	New Technology University	4/14/98	2275.74	SP-7
8	Exports, Inc.	4/26/98	4224.2	SP-7
9	RayMont University	4/24/98	2290.16	SP-6
10	Audio Supplies Company	1/3/98	2752.7	SP-2
11	Exports International	5/16/98	2296.96	SP-7
12	Sushi Corporation	1/28/98	4876.11	SP-3
13	Audio Supplies Company	4/24/98	4316.24	SP-6
14	Photo Supply, Inc.	2/15/98	3265.91	SP-2
15	Office Equipment, Inc.	4/6/98	4827.29	SP-2
16	Photo Supply, Inc.	3/23/98	3668.88	SP-1

Salesperson_ID	Salesperson	Sales_Manager	Sales_Region
SP-1	Sonia Long	Dennis Nguyen	Central
SP-2	Jennifer Norris	Bill Swanson	Western
SP-3	Nancy Cohen	Dennis Nguyen	Central
SP-4	Rajesh Shah	Julie Chen	Eastern
SP-5	Faye Johnson	Dennis Nguyen	Central
SP-6	Susan Kenwood	Bill Swanson	Western
SP-7	Timothy Murphy	Julie Chen	Eastern

Company_Name	Amount	Salesperson_ID	Salesperson
International Exports	4981.46	SP-6	Susan Kenwood
New Technology University	4960.37	SP-6	Susan Kenwood
New Technology University	4929.75	SP-3	Nancy Cohen
Eastern Photo Technology Company	4929.66	SP-3	Nancy Cohen
Sushi Corporation	4916.20	SP-3	Nancy Cohen
Coffee, Inc.	4915.30	SP-2	Jennifer Norris
Furniture International	4913.20	SP-2	Jennifer Norris
International Exports	4888.62	SP-6	Susan Kenwood
Office Equipment, Inc.	4881.93	SP-6	Susan Kenwood
Sushi Corporation	4876.11	SP-3	Nancy Cohen

The SQL query has joined information from the Sales\_Data table and the Salespeople table

**Note** Before importing ODBC data, you must specify the ODBC driver and data source in the ODBC control panel as described in “Configuring the ODBC control panel” section from page 5-7 to page 5-12.

To access the FileMaker Pro query builder, choose Import/Export then Import Records from the File menu, then the ODBC file format. Refer to “Importing from the data source” on page 5-12 for more information.

To do a join:

1. In the Specify ODBC SQL Query dialog box, click Clear Query to remove the SQL statement from the SQL Query box.

To confirm that you want to delete the query, click Clear.

2. In the Select tab, click the Sales\_Data table.

The columns associated with the Sales\_Data table appear.

Select the Company\_Name column, then click Insert into SQL Query.

3. Insert the following columns into the SQL query by double-clicking the following column names: Amount and Salesperson\_ID.

4. From the Salespeople table, insert the Salesperson column.

5. Click the Where tab to join data from both tables.

You also specify search criteria in the Where tab.

6. Verify that the Sales\_Data table is showing in the Table list.

The top table is the equivalent of a SQL “left” table; the bottom is the “right” table.

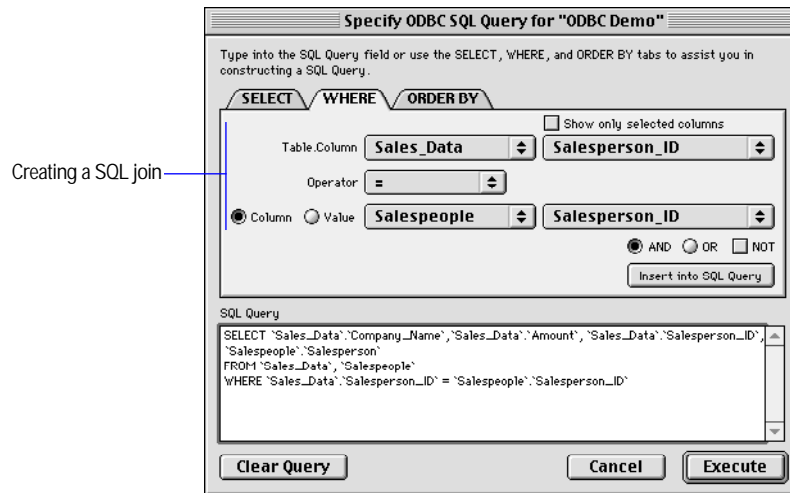
7. Select Salesperson\_ID in the Columns box on the right.

8. The operator should be displaying an equal sign (=).

9. If necessary, change the bottom table to Salespeople.

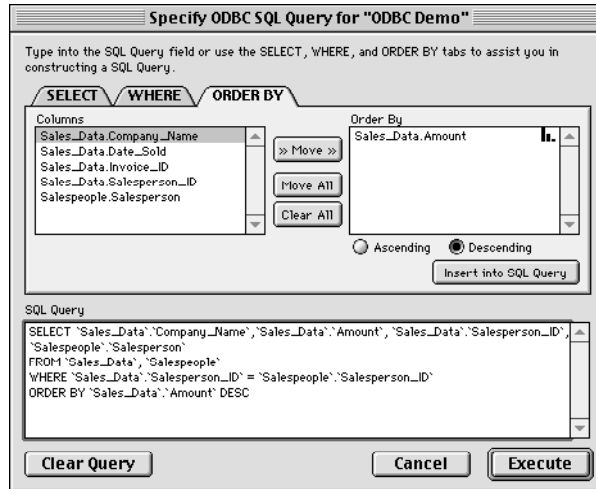
10. Select Salesperson\_ID in the Columns box on the right.

11. Click Insert into SQL Query.



Using the Where SQL clause

12. Click the Order By tab to sort the records before importing them into FileMaker Pro.
13. Select the name of the column to sort by, Sales\_Data.Amount.
14. Click Descending to sort the records from highest amount sold to lowest amount sold.
15. Click Move.
16. Click Insert into SQL Query.
17. Click Execute.
18. Import the resulting records into FileMaker Pro, as described in “Importing the results of the query into FileMaker Pro” on page 5-16. 250 records are imported into the Sales Reports database.



SQL query using all three clauses: Select, Where, and Order By

You can use the Sales Reports database to view reports of your data.

Click Reports to select summary reports on the ODBC data

The SQL query imported 250 records from both data source tables



ODBC data imported into the Sales Reports database

To view a summary report of total sales for each salesperson, click the Reports button, then the By Salesperson button.





Choose a report in the Sales Reports database

## Using ODBC import with ScriptMaker

As with other import script steps, you can create an ODBC script that hides all dialog boxes during an ODBC import. Because FileMaker Pro interacts with an ODBC driver, however, some options behave differently than when used with other scripted imports:

- The Restore import order option stores the field order in the Import Field Mapping dialog box, similar to other scripted imports.
- The Specify File option stores the path to the data source, the user ID and password, and the SQL query to be executed against the data source.

To save the user name and password, you must also select the Save user name and password checkbox in the ODBC Enter Password dialog box.

- The Perform without dialog option hides all dialog boxes encountered during an ODBC import.

If you select this option but you have not specified a file, you will need to manually select ODBC in the Open File dialog box while performing the import script.

**Note** The ODBC import feature saves the complete data source path information, user ID and password, and SQL query from the previous ODBC import. Keep this in mind when selecting the Restore import order or Specify File options.

In addition, the Set Error Capture ScriptMaker step will suppress all ODBC errors and alerts that might occur during an ODBC import.

## ODBC considerations

Keep the following considerations in mind when importing data using ODBC:

- The ODBC drivers included with FileMaker Pro 4.1 are for evaluation purposes only; visit the INTERSOLV Web site (<http://www.intersolv.com>) for purchasing information or check with the application providing the data source for other ODBC drivers.
- Different ODBC drivers might present very different configuration interfaces. Contact the driver manufacturer for more information. Additional tips are available in the FileMaker Pro 4.1 Read Me file and the FileMaker, Inc. Web site (<http://www.filemaker.com>).

# Appendix A: MacIPX control panel

---

You can use the MacIPX control panel to:

- select the network interface for your applications that use MacIPX
- change the parameters that MacIPX uses (if necessary)

**Important** For enhanced performance, TCP/IP is recommended.

## Using an Ethernet or token-ring network interface for MacIPX

The MacIPX control panel displays icons for the available network interfaces, such as Ethernet, AppleTalk, and token ring. MacIPX automatically configures itself for the first networking environment it detects when the Macintosh starts.

**AppleTalk users** For information on selecting an AppleTalk interface and related options, see “Using an AppleTalk interface for MacIPX” on page A-4.

**PCI Power Macintosh computer users (such as 4400, 7200, 7500, 8500, 9500 or later and other Mac OS computers)** These Mac OS models use Open Transport networking.

**Warning** Be sure to use Open Transport version 1.1 or later.

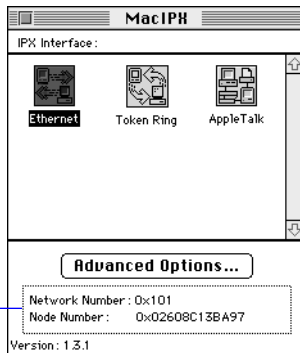
To switch between network interfaces (Ethernet, Token Ring, or AppleTalk):

1. Open the MacIPX control panel.
2. Click one of the icons to select it.



MacIPX control panel

After you select the IPX interface, the control panel displays the network number and node number of your Macintosh on the selected interface



The software on your computer system determines which icons you see.

3. Click OK, and then close the MacIPX dialog box.

**Note** MacIPX 1.3.1 supports most Ethernet interface cards, as well as the token-ring interface card from Apple Computer.

## Selecting a frame type

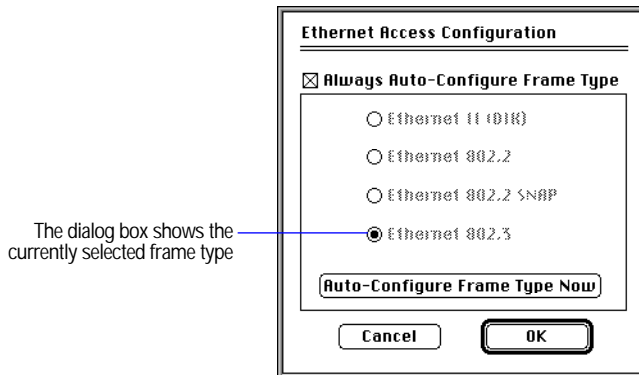
A frame encapsulates packets of information in a recognizable format. Each packet on the network must conform to a specific frame type to successfully communicate with other computers on the network. After you select the network protocol, you must select a frame type.

**Important** All computers communicating with each other on the network must use the same frame type. The MacIPX control panel gives you the option to Always Auto-Configure Frame Type. However, when IPX is using more than one frame type on a network, MacIPX might not choose the frame type you require. If you are unable to connect to FileMaker Pro databases (using the Hosts dialog box) after configuring the MacIPX control panel, you might have the wrong frame type selected for your network. Try turning off Always Auto-Configure Frame Type and then select the appropriate frame type manually. If you have questions about your frame type, or are unsure how to configure MacIPX, check with your network administrator.

To have MacIPX select the frame type:

1. In the MacIPX control panel, double-click the selected network interface icon.

You see the Access Configuration dialog box for your chosen network interface. For example, if you click the Ethernet icon, you see the Ethernet Access Configuration dialog box, where you can set parameters for working with Ethernet.



2. In the Access Configuration dialog box, click Always Auto-Configure Frame Type.
3. Click OK to close the dialog box.

When you start up your computer, MacIPX determines the appropriate frame type by monitoring packets on the network. When this option is checked, the buttons for the frame types are unavailable.

To select a frame type manually:

1. In the Access Configuration dialog box, deselect Always Auto-Configure Frame Type.
2. Click the appropriate frame type, and then click OK.

Check with your network administrator if you're not sure which frame type to select.

When you close the dialog box, you see an alert dialog box.

3. Click OK.

To have MacIPX determine the appropriate frame type at any moment:

1. In the Access Configuration dialog box, click Auto-Configure Frame Type Now. Then click OK to dismiss the message.

In the dialog box, MacIPX highlights buttons in sequence until it determines the appropriate frame type.

2. Click OK to close the dialog box.

## Using an AppleTalk interface for MacIPX

If your Mac OS computer is connected to an Apple LocalTalk network, you must specify an AppleTalk interface to use MacIPX networking. When you use AppleTalk, you must also select an IPX gateway.

**Important** Novell supplies MACIPXGW.LAN, a LAN driver (IPX gateway) that can be run on Novell NetWare v3.11 or later servers, which lets you use AppleTalk to share information with other computers on the IPX network. Contact your Novell dealer or use an online service to get this driver. To install the LAN driver on your Novell server, see your Novell system administrator or the documentation that came with the driver.

To select an AppleTalk network interface:

1. Open the MacIPX control panel.

The MacIPX control panel is installed in the Control Panels folder inside the System Folder.

2. If necessary, click the AppleTalk icon to select it and then click the close box.

Your computer then sends IPX packets encapsulated in AppleTalk, which are delivered on the LocalTalk network to an IPX gateway.

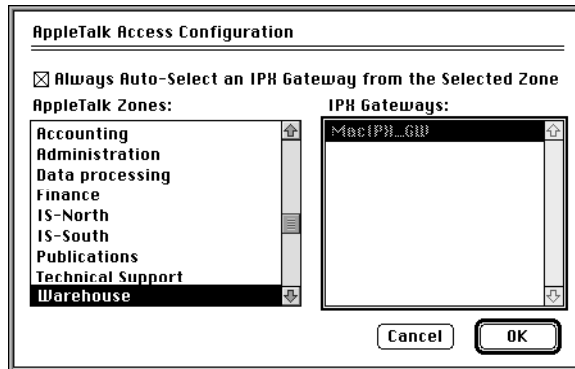
The gateway decapsulates these packets and routes them over an IPX network. See the following steps for information on selecting a gateway.

To have MacIPX select an available IPX gateway:

1. In the MacIPX control panel, click the selected AppleTalk icon.

You see the AppleTalk Access Configuration dialog box.

2. In the AppleTalk Access Configuration dialog box, choose an AppleTalk zone that has an IPX gateway.



3. Click Always Auto-Select an IPX Gateway from the Selected Zone.
4. Click OK to close the dialog box.

When the computer starts up and detects that it's connected to an AppleTalk networking interface, such as LocalTalk, it selects an appropriate IPX gateway in the specified zone. In some cases (for example, if you get an error message), you need to select the gateway yourself.

To select an IPX gateway yourself:

1. In the AppleTalk Access Configuration dialog box, deselect Always Auto-Select an IPX Gateway from the Selected Zone.
2. Choose an AppleTalk zone where an IPX gateway is installed.

When you click a zone name, you see a list of available IPX gateways.

3. Click an IPX gateway.
4. Click OK to close the dialog box.

## Setting advanced MacIPX parameters

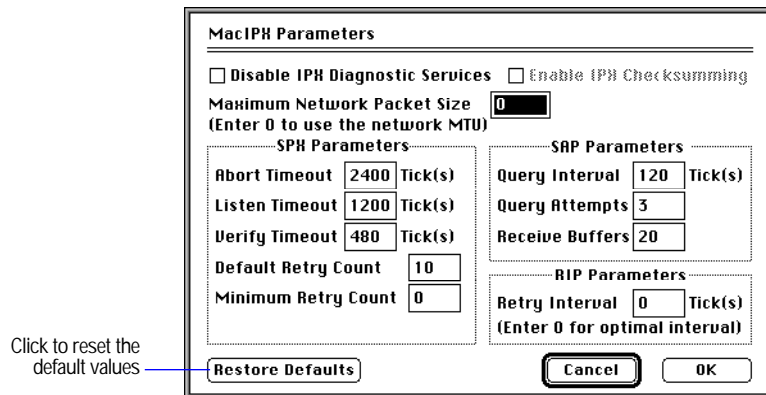
From the MacIPX control panel, you can set other parameters that affect MacIPX operations.

**Important** Only a certified network engineer or administrator should change the advanced parameters. Changing the parameters without a good understanding of their functions can adversely affect the performance of MacIPX. For more information, see your network administrator or contact your Novell dealer.

To set advanced parameters:

1. In the MacIPX control panel, click Advanced Options.

You see the MacIPX Parameters dialog box.



2. Set the parameters you want and click OK to save your changes. You must restart your computer for the changes to take effect.

**Note** To restore the parameters to the default settings provided by Novell, click Restore Defaults and restart your system. If you make changes to the settings and want to restore the parameters to what they were when you opened the dialog box, click Cancel.



Use the information in the following tables to set parameters for:

- MacIPX
- SPX (Sequenced Packet Exchange)
- SAP (Service Advertising Protocol)
- RIP (Routing Information Protocol)

<b>MacIPX parameter</b>	<b>Function</b>
Disable IPX Diagnostic Services	Disables the IPX Diagnostic Services, used by some network management tools. Disabling IPX Diagnostic Services can reduce the amount of memory that MacIPX uses. Click this parameter if you don't use any network management tools, or if your tool doesn't use IPX Diagnostic Services.
Maximum Network Packet Size	Limits the maximum network packet size. The value can't be greater than the maximum value supported by the physical network. Enter 0 (zero) to let MacIPX determine for itself what value to use.
Enable IPX Checksumming	Enables checksumming of IPX packets. The option is unavailable if the current network doesn't support IPX checksumming.

For the following SPX parameters, you can enter any value between 0 and 9999. The values for Abort Timeout, Listen Timeout, and Verify Timeout apply only to those SPX connections using the “watchdog,” such as those used by FileMaker Pro 4.0.

<b>SPX parameter</b>	<b>Function</b>
Abort Timeout	Sets the amount of time that SPX waits, without receiving any response from the other side of the connection, before it terminates the session. The timeout number is expressed in ticks (with 60 ticks per second). The default value is 2400 ticks, or 40 seconds.
Listen Timeout	Sets the time that SPX waits (without receiving a packet from the other side of the connection) before it requests the other side to send back a packet assuring that the connection is still valid. If SPX hasn't heard from the other side of the connection within this time, it sends packets to the other side asking for verification that the connection still exists. The default value is 1200 ticks, or 20 seconds.
Verify Timeout	Sets the frequency at which SPX sends a packet to the other side of a connection to inform it that its side is still active. If no packets are being exchanged on the SPX connection by the software that established the session, SPX sends packets at regular intervals to make sure that the connection is still working. The default value is 480 ticks, or 8 seconds.

<b>SPX parameter</b>	<b>Function</b>
Default Retry Count	Specifies the maximum number of times that SPX attempts to retransmit a packet before determining that the packets can't be sent, and then closes the connection. The default value is 10 times. An application can override the value in this field.
Minimum Retry Count	Specifies the minimum number of times that an SPX packet must be retransmitted. If an application has a retry count setting that is too low, you can override it by setting this parameter. The default value is 0 (zero) times.

For the following SAP parameters, you can enter any value between 0 and 9999, but an application can override the values you set.

<b>SAP parameter</b>	<b>Function</b>
Query Interval	Specifies the time that must elapse before an SAP query is retransmitted. The default value is 120 ticks, or 2 seconds.
Query Attempts	Specifies the number of times that an SAP query is transmitted. The default value is 3 times.
Receive Buffers	Specifies the number of buffers to handle responses returned from SAP queries. The default is 20 buffers.

For the following RIP parameter, you can enter any value between 0 and 9999.

<b>RIP parameter</b>	<b>Function</b>
Retry Interval	Specifies the time that must elapse before a RIP request is retransmitted. The default value is 0 ticks, which lets the MacIPX determine what the interval should be, based on the network configuration.

## Appendix B: Installing Win32s

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If you are using Windows 3.1 or Windows for Workgroups 3.11, you need to install Win32s 1.30c before installing FileMaker Pro. After installing Win32s, you will still be able to run all the applications you currently use. If an earlier version of Win32s is installed on your system, you must first remove the older version.

To determine the version of Win32s that's installed on your computer:

1. In the File Manager, click WIN32S16.DLL, located in the \WINDOWS\SYSTEM directory.

The file is highlighted.

2. Select Properties from the File menu of the File Manager.

You see the version.

### Removing earlier versions of Win32s

To completely remove an earlier version of Win32s:

1. Modify the following line from the [BOOT] section in the SYSTEM.INI.

Change DRIVERS=MMSYSTEM.DLL WINMM16.DLL

to the following: DRIVERS=MMSYSTEM.DLL

2. Remove the following line from the 386 Enhanced [386Enh] section of the SYSTEM.INI file:

DEVICE=<WINDOWS>\<SYSTEM>\WIN32S\W32S.386

where <WINDOWS> and <SYSTEM> are the locations of your WINDOWS and SYSTEM directories. In a normal Windows configuration the line will read DEVICE=C:\WINDOWS\SYSTEM\WIN32S\W32S.386

3. Exit and restart Windows.
4. Delete the following files from the <WINDOWS>\<SYSTEM> subdirectory or from the SYSTEM directory in network installations:

W32SYS.DLL

WIN32S16.DLL

WIN32S.INI

WINMM16.DLL

5. Delete all the files in the <WINDOWS>\<SYSTEM>\WIN32S subdirectory or the <SYSTEM>\WIN32S subdirectory in network installations. Then delete the WIN32S directory itself.

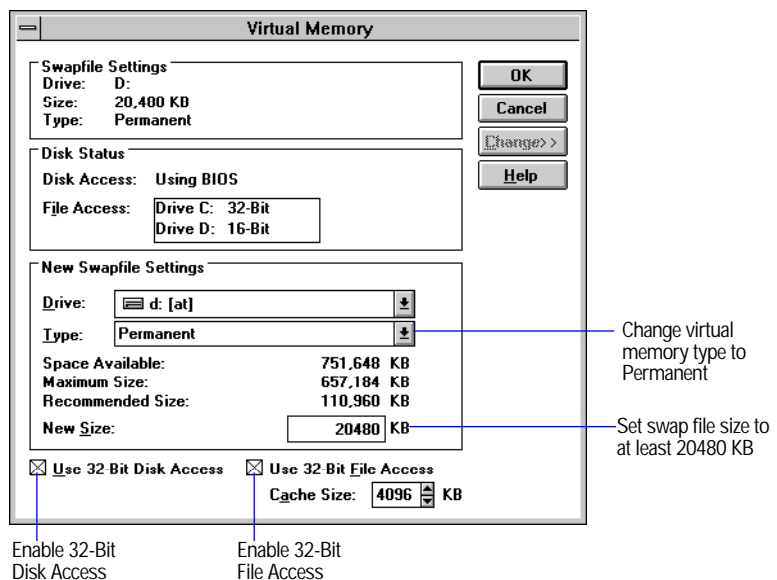
The above changes take effect the next time you run Windows.

**Note** <WINDOWS> refers to the Windows installation directory. On a networked Windows installation, the system directory may be located on a shared remote volume. If you are removing only WIN32s from your machine, then you do not need to remove the shared files in <SYSTEM> and <SYSTEM>\WIN32S. Before removing these files from the shared network, make sure that all users that use Win32s have removed the references to Win32s from the SYSTEM.INI file.

## Installing Win32s 1.30c

To install or update Win32s:

1. In the Program Manager, click the Main group.
2. Open the 386 Enhanced control panel and change the virtual memory type to Permanent.
3. Make sure the swap file size is at least 20480 KB.
4. Select Use 32-Bit Disk Access and Use 32-Bit File Access, if available.



5. Click OK.

If you made changes, you need to restart Windows before installing Win32s.

6. In the File Manager, open the Disk 1 directory that's in the Win32s directory on the FileMaker Pro CD-ROM.
7. Double-click the SETUP .EXE program and follow the Win32s setup instructions.
8. When the Win32s installation is complete, the FreeCell Setup dialog box appears.
9. FileMaker, Inc. recommends that you install and run the game FreeCell, because it can help verify your Win32s software installation.
10. Restart the machine, then install FileMaker Pro.

See "Installing with Windows 3.1, Windows for Workgroups, or Windows NT 3.51" on page 2-7, for step-by-step instructions.