

FileMaker® 16

Installation and New Features Guide

for FileMaker Pro 16 and FileMaker Pro 16 Advanced



FileMaker®
An Apple Subsidiary

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Edition: 01

Contents

Chapter 1	
<i>Before you begin</i>	4
About this guide	4
Where to find FileMaker documentation	4
Customer support, Knowledge Base, and Community	4
Product notifications	5
About the license key	5
Backing up your FileMaker Pro download	5
Requirements for features	5
Converting the trial version to the full version of FileMaker Pro	5
Upgrading FileMaker Pro from a previous version	6
Opening files from previous versions	6
Automating the installation process	6
Chapter 2	
<i>Installing FileMaker Pro in Windows</i>	7
Installation notes	7
Choosing to install 32- or 64-bit FileMaker Pro	7
Default installation locations	8
Installing FileMaker Pro	8
About installing Bonjour	9
Uninstalling, modifying, or repairing FileMaker Pro	9
Chapter 3	
<i>Installing FileMaker Pro in macOS</i>	10
Installation notes	10
Default installation locations	10
Installing FileMaker Pro	11
Uninstalling FileMaker Pro	11
Chapter 4	
<i>New features</i>	12
Improved layout object editing	12
Improved usability	12
Support for JSON data	12
Enhanced security	12
Script steps	13
Functions	13
Changed and removed features	14
FileMaker Pro 16 Advanced	15
Chapter 5	
<i>Where to go from here</i>	16

Chapter 1

Before you begin

Welcome to your FileMaker® software. FileMaker Pro helps you quickly create solutions that work seamlessly across iPad, iPhone, Windows, Mac, and the web.

About this guide

This *Installation and New Features Guide* tells you how to install FileMaker Pro 16 or FileMaker Pro 16 Advanced on your Windows or Mac computer and introduces new features in the software.

Keep the following in mind:

- This guide uses “FileMaker Pro” to refer to both products, unless describing specific FileMaker Pro Advanced features.
- 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 macOS.

To send your feedback on this guide, visit the [FileMaker website](#).

Where to find FileMaker documentation

For the most up-to-date version of this guide and other FileMaker documentation, see the [Product Documentation Center](#).

For late-breaking information and release notes about FileMaker Pro, see the [FileMaker Knowledge Base](#).

Customer support, Knowledge Base, and Community

For help with installation, launch, or reinstallation (not including data recovery), choose **Help** menu > **Service and Support** or visit [Support](#).

For tips, technical advice, and more information about FileMaker Pro, visit the [FileMaker Knowledge Base](#).

To ask questions and get advice from other users, choose **Help** menu > **FileMaker Community** or visit the [FileMaker Community](#).

Note Information in the FileMaker Knowledge Base and the FileMaker Community may not be available in all languages.

Product notifications

FileMaker Pro automatically checks for software updates (which include minor software changes) and for new software versions (which include new and changed product features). You can update your software when you receive the update notification or by choosing **Help** menu > **Check for Updates**.

You can turn off notifications at any time by choosing **Edit** menu > **Preferences** (Windows) or **FileMaker Pro** menu > **Preferences** (macOS).

About the license key

FileMaker Pro software comes with a unique, 35-character license key. If you purchased FileMaker Pro as a download from the FileMaker Store website, you received an email message with a link to your Electronic Software Download page. Your license key is on that page. If you purchased a boxed version of FileMaker Pro, your license key is in the box.

Do not lose your license key. You must have a valid license key to install the software. Keep the license key in a safe place in case the software ever needs to be reinstalled.

For more information, refer to the FileMaker Pro or FileMaker Pro Advanced Software License located in the application folder where you installed your software.

Backing up your FileMaker Pro download

We recommend that you make a backup copy of your FileMaker Pro software download in case you need to reinstall the software. See [this article](#) in the FileMaker Knowledge Base.

Requirements for features

Some features of FileMaker Pro require additional software.

Feature	Software requirement
Send Mail script step using an email application	A supported email application. See FileMaker Pro technical specifications . This requirement does not apply to SMTP mail.
Phone dialing (Windows only)	Phone dialer or other Telephony API (TAPI) compliant software.
ODBC and JDBC features	FileMaker ODBC and JDBC drivers, which are available in the xDBC folder in the installation disk image and at FileMaker Downloads and Resources . macOS: ODBC Manager , a freeware product from Actual Technologies. See FileMaker ODBC and JDBC Guide and Help .

Converting the trial version to the full version of FileMaker Pro

If you have installed the FileMaker Pro 16 trial version on your computer, you can convert to the full version of FileMaker Pro 16 by entering your license key without uninstalling the trial version first. You can also convert your trial copy by entering an upgrade license key and the license key from an eligible earlier version. See [Help](#).

Upgrading FileMaker Pro from a previous version

If you are upgrading FileMaker Pro from a previous version, we recommend that you upgrade to the new version before uninstalling the previous version.

1. Install the upgrade using your license key (see “About the license key” on page 5).
2. Move plug-ins, dictionary information, and your preferences to the new version of FileMaker Pro. For information about moving your preferences, see the [FileMaker Knowledge Base](#).
3. If you plan to use only the latest version, uninstall the previous version.

If you choose to uninstall the previous version before upgrading to the latest version, make sure you have the license key for the previous version. When you install FileMaker Pro with an upgrade license key, if a previous version isn't installed, you are asked to enter the license key for the previous version of the product.

Opening files from previous versions

Files created by the current FileMaker Pro version, and all versions since FileMaker Pro 12, are in the same file format and have the filename extension .fmp12. To use files created with versions of FileMaker Pro earlier than version 12, you'll need to convert them to the FileMaker Pro 12 file format. See [Help](#).

Automating the installation process

If you're installing FileMaker Pro on multiple computers—for example, under a volume or site license—or if you want to do a silent installation, you can automate the process. Use the file, Assisted Install.txt, with the installer to bypass the usual installation dialog boxes. See [FileMaker Pro Network Install Setup Guide](#). For information on licensing, visit the [FileMaker website](#).

Chapter 2

Installing FileMaker Pro in Windows

Before you begin the installation process, exit other open programs and save your work. For late-breaking information and release notes about FileMaker Pro, see the [FileMaker Knowledge Base](#).

Installation notes

Before you install FileMaker Pro, review the following notes:

- Check that your computer meets the system requirements and has the required Windows updates installed. See [FileMaker Pro technical specifications](#).
- FileMaker Pro installs required Microsoft software components if they're not already installed. The Microsoft installers require Internet access to download the necessary files. Therefore, on some computers, installing FileMaker Pro may require an Internet connection.
- To install FileMaker Pro, you must have Windows administrator privileges and use an administrator account and password.
- If your computer is running virus protection software, turn it off prior to installing FileMaker Pro, and then turn it back on afterward.
- During installation, you can choose whether to install all program features (complete) or portions of the program (custom). For example, you may choose not to install certain features in order to save disk space.
- At the start of installation, you choose a language version for the FileMaker Pro installer. The default selection matches your operating system language. A complete install will install only the language version you choose. You can install additional language versions by choosing a custom install, then selecting other language packs from the list of supported languages.
- You can also install FileMaker Pro by using the command line and remotely using a networked volume. See [FileMaker Pro Network Install Setup Guide](#).

Choosing to install 32- or 64-bit FileMaker Pro

If you are using a supported 32-bit version of Windows, you can install only the 32-bit version of FileMaker Pro.

On supported 64-bit versions of Windows, you can install either the 32- or 64-bit version of FileMaker Pro. You must install the 64-bit version of FileMaker Pro if you plan to use FileMaker Pro with a 64-bit version of any of the following software:

- an email application to send email from FileMaker Pro
- FileMaker Pro plug-ins
- ODBC client drivers for external SQL sources
- audio/video codecs to play content in interactive containers

Otherwise, you can install the 32-bit version of FileMaker Pro.

Default installation locations

By default, FileMaker Pro and FileMaker Pro Advanced are installed in one of the following folders.

- On 32-bit Windows systems:
C:\Program Files\FileMaker\<<FileMaker product>
- On 64-bit Windows systems:
 - 32-bit FileMaker Pro is installed in
C:\Program Files (x86)\FileMaker\<<FileMaker product>
 - 64-bit FileMaker Pro is installed in
C:\Program Files\FileMaker\<<FileMaker product>

where <FileMaker product> is FileMaker Pro 16 or FileMaker Pro 16 Advanced. During the installation you can choose a different drive or folder.

Installing FileMaker Pro

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

1. Do one of the following:

- If you received your software electronically, after downloading the file for the 32- or 64-bit version of FileMaker Pro, double-click the installation icon (.exe file).



- If you are installing FileMaker Pro using a DVD, insert the DVD into your DVD drive, open the DVD window, then click the installation icon to install the 32-bit version.



Click to install
the 32-bit
application



Click to browse
and view the
contents of the
DVD



Click to exit

To install the 64-bit version, click the browse icon, open the 64-bit folder, then double-click Setup.exe.

2. Install FileMaker Pro by following the onscreen instructions.

See “Installation notes” on page 7.

3. When the installation is complete, the Product Registration dialog box appears.

If you have problems installing or starting FileMaker Pro, visit [Support](#).

About installing Bonjour

The Bonjour service enables automatic discovery of computers, devices, and services on IP networks. You need to have Bonjour installed on your system for remote hosts to be discovered. If Bonjour is not installed or the service is not running, FileMaker Pro can't discover remote hosts. Without Bonjour, you must manually enter the host names or IP addresses for remote hosts. If the installer doesn't detect a supported version of Bonjour, it prompts you to install Bonjour.

If you need to install Bonjour manually:

1. Open the FileMaker Pro installation folder.
2. Open the Files folder, then open the Bonjour folder.
3. Open the 32-bit or 64-bit folder, based on your version of Windows.
4. Double-click the Bonjour (32-bit) or Bonjour64 (64-bit) icon.
5. Follow the onscreen instructions to install Bonjour.

Uninstalling, modifying, or repairing FileMaker Pro

You can use Settings or Control Panel in Windows to uninstall FileMaker Pro, replace missing or corrupt files, or change which features are installed. When you repair FileMaker Pro, you may be prompted to enter your license key.

Chapter 3

Installing FileMaker Pro in macOS

Before you begin the installation process, quit other open programs and save your work. For late-breaking information and release notes about FileMaker Pro, visit see the [FileMaker Knowledge Base](#).

Installation notes

Before you install FileMaker Pro, review the following notes:

- Check that your computer meets the system requirements. See [FileMaker Pro technical specifications](#).
- To install FileMaker Pro, you must have macOS administrator privileges and use an administrator account and password.
- If your computer is running virus protection software, turn it off prior to installing FileMaker Pro, and then turn it back on afterward.
- During installation, you can choose whether to install all the program files (standard install) or portions of the program (custom install). For example, you may choose not to install certain features in order to save disk space.
- A standard install installs FileMaker Pro in the language matching your operating system. You can install additional language versions by choosing a custom install, then selecting other language packs from the list of supported languages.
- You can also install FileMaker Pro remotely using Apple Remote Desktop. See [FileMaker Pro Network Install Setup Guide](#).

Default installation locations

By default, FileMaker Pro and FileMaker Pro Advanced are installed in the following location:

[drive]/Applications/<FileMaker product>

where <FileMaker product> is FileMaker Pro 16 or FileMaker Pro 16 Advanced. During the installation you can choose a different drive or folder.

Installing FileMaker Pro

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

1. Do one of the following:

- If you received your software electronically, after downloading the file, double-click the disk image icon (.dmg file).



- If you are installing FileMaker Pro using a DVD, insert the DVD into your DVD drive, then open the DVD window.

2. Double-click the **FileMaker Pro** installation icon.



3. Install FileMaker Pro by following the onscreen instructions.

See "Installation notes" on page 10.

4. When the installation is complete, the Product Registration dialog box appears.

Uninstalling FileMaker Pro

1. Drag the FileMaker Pro 16 or FileMaker Pro 16 Advanced folder and all its contents from the Applications folder to the Trash.

2. Drag the FileMaker Pro or FileMaker Pro Advanced preferences file to the Trash.

For FileMaker Pro:

<home>/Library/Preferences/com.filemaker.client.pro12.plist

For FileMaker Pro Advanced:

<home>/Library/Preferences/com.filemaker.client.advanced12.plist

Chapter 4

New features

See [Help](#) for more information on the following features.

Improved layout object editing

- Layout Objects window – Use the Layout Objects window to view and work with all the objects that are on the current layout. You can select, hide, and name objects, and change the stacking order.

Improved usability

- Windows: All document windows are now independent of one another, all can be positioned in any available monitor, and each window has its own menu bar.
- Enhanced Specify Calculation dialog box – For information about a function, click an item in the functions pane, then click ⓘ.
- Accessing plug-in features – You can use external script steps provided by a plug-in to access the features of the plug-in.
- Copying and pasting value lists – You can now use standard keyboard shortcuts to copy a value list and paste it into another FileMaker Pro file.

Support for JSON data

- JSON parsing, character encoding, and cryptographic functions – You can use these functions to process and encrypt JSON data exchanged with other data sources, such as web services that have REST APIs.

Enhanced security

- OAuth identity provider accounts – You can authenticate user accounts via third-party OAuth identity providers that have been specified in FileMaker Server.
- fmrest extended privilege – Allows access to a database file from a web service via the FileMaker Data API (FileMaker Server only).
- fmurlscript extended privilege – Allows users to run a script from a URL.
- fmextscriptaccess extended privilege – Allows users to access solutions with Apple events and ActiveX.
- Interactive lock icons – When you open a shared file, click the lock icon to view encryption information about your connection to the host.

Script steps

New script steps:

- **Configure Region Monitor Script** – Configures a specified script to run when an iOS device enters or exits a specified region.
- **Open Launch Center** – Opens the Launch Center, where you open, create, and manage FileMaker solutions.

Changed script steps:

- **AVPlayer Set Options** now allows you to change the zoom setting for the video and volume settings for the audio. **AVPlayer Play** and **AVPlayer Set Options** now provide **Embedded Only** as an additional option for displaying the media.
- **Go To Layout** now allows you to specify the animation to use for switching to the new layout in FileMaker Go.
- **Go To Related Record** now allows you to specify the animation to use when displaying the related record in FileMaker Go.
- **Insert From Device** now allows you to specify the presentation for displaying the signature capture screen.
- **Insert From URL** now allows you to specify many supported cURL options.
- **New Window** now allows you create a card, a window that is modal to its parent window.
- **Print** now allows you to create PDFs in web browsers with FileMaker WebDirect.
- **Print Setup** now allows you to specify PDF options for the **Print** script step and **Save Records As PDF** script step on FileMaker Server and FileMaker WebDirect.
- **Save Records as PDF** now allows you to save PDFs with FileMaker Server and FileMaker WebDirect.
- Several **Insert** script steps now allow you to specify a variable as the target.

Removed script steps:

- The **Set Allowed Orientations** script step has been removed.

Functions

New functions:

- **Base64EncodeRFC** – Returns data as text in the specified Base64 format.
- **CryptAuthCode** – Returns a binary HMAC (keyed-hash message authentication code) using the specified cryptographic hash algorithm.
- **CryptDigest** – Returns a binary hash value generated by the specified cryptographic hash algorithm.
- **Get(AccountGroupName)** – Returns the current account's group name when the account authenticates via an external server or an OAuth identity provider.
- **Get(RegionMonitorEvents)** – Returns events that caused the script specified in the **Configure Region Monitor Script** script step to run.
- **HexDecode** – Returns either container or text content from text encoded in hexadecimal format.

- **HexEncode** – Returns data as text in hexadecimal format.
- **JSONDeleteElement** – Deletes a JSON data element specified by an object name, an array index, or a path.
- **JSONFormatElements** – Formats elements in JSON data to make them easier to read.
- **JSONGetElement** – Queries JSON data for an element specified by an object name, an array index, or a path.
- **JSONListKeys** – Lists the object names (keys) or array indexes in JSON data for an element specified by an object name, an array index, or a path.
- **JSONListValues** – Lists the values in JSON data for an element specified by an object name, an array index, or a path.
- **JSONSetElement** – Adds or modifies an element in JSON data specified by an object name, an array index, or a path.
- **SortValues** – Sorts a list of values based on the specified data type and locale.
- **TextDecode** – Returns text decoded from container data using the specified character encoding.
- **TextEncode** – Returns a text file as container data from text using the specified character encoding and line endings.
- **UniqueValues** – Returns unique values that are in a list based on the specified data type and locale.

Changed functions:

- **GetAVPlayerAttribute** returns the following additional settings: **zoom**, **pictureInPicture**, **volume**, and **externalPlayback**.
- **GetLayoutObjectAttribute** – In Windows, the object coordinate measurement has changed. In previous versions of FileMaker Pro, the starting point was relative to the bottom-left corner of the FileMaker Pro menu bar (and toolbar, if present). It is now relative to the top-left corner of the primary display's desktop area.

Removed functions:

- The **External()** function has been removed.

Note Plug-ins written for version 6.0 and earlier are no longer supported.

Changed and removed features

- Variables are now supported in FileMaker data source references.
- The maximum cache size has been increased to 2048 MB.
- Windows: The Launch Center now displays a menu bar. When the last document window is closed, FileMaker Pro quits unless the Launch Center or another window is open, or there is a hidden window.

- The zoom control area, which included the zoom controls, status toolbar control, and Mode pop-up menu, has been removed from the bottom left of the document window.
 - To zoom in or out, use the View menu, keyboard shortcuts, or the Set Zoom Level script step.
 - To show or hide the status toolbar or switch modes, use the View menu, keyboard shortcuts, or a script step.
- The fmscriptdisabled extended privilege has been removed. To enable ActiveX Automation and Apple events to access a solution, use the fmextscriptaccess extended privilege.
- The following layout themes have been removed from FileMaker Pro. Any layout created in a previous version of FileMaker Pro that uses a removed theme will continue to use that theme in FileMaker Pro 16 and will be displayed in the Change Theme dialog box.

Family	Layout theme
Condensed	Dark, Light
Contrast	Black, Blue, Green, Red
FileMaker Millennium	Cool Brown, Cool Gray, Cool Gray Touch, Warm Blue, Warm Bronze, Warm Green
Glass	Onyx, Onyx Touch, Purple, Silver
Rectangular	Bamboo, Ice, Pine, Shell, Stone
Rounded	Cosmos, Desert, Forest, Ocean, Ocean Touch, Sky
Semi-Rounded	Beach, Canyon, Meadow, Quarry, River, River Touch
Specialty	Electric, Retro, Wave, Wave Touch

FileMaker Pro 16 Advanced

- Improved Edit Expression dialog box in the Data Viewer – Expressions can be evaluated as you type. You can now resize the Result area.

Chapter 5

Where to go from here

After you've installed FileMaker Pro, you can immediately begin working with the application. Here are some suggestions on how to get started.

- To see how some FileMaker Pro features work, choose **File** menu > **Get Started**, then choose:
 - **Learn More > Tour FileMaker Pro** to start the tour.
 - **Choose a Starter Solution** and scroll to see professionally designed FileMaker Pro solutions customized for managing common business and personal tasks. To create a new file on the desktop from a Starter Solution, choose **Create from This Starter Solution**.
- To display the Product Documentation Center for downloading other guides, choose **Help** menu > **Product Documentation**.
- For comprehensive information and step-by-step procedures about using FileMaker Pro, choose **Help** menu > **FileMaker Pro Help**.
- For additional training material, visit the [FileMaker website](#).