FileMaker® 12

Instant Web Publishing Guide

Contents

Chapter 1
About publishing FileMaker Pro databases on the web

With FileMaker® Pro, you can display your databases on the web in a variety of ways. This makes your data:

- available to many people using a compatible web browser, anywhere in the world. (You can, however, restrict access to files.)
- accessible from many locations, for example, while traveling or working remotely.

There are three ways to publish your data using FileMaker Pro.

Instant Web Publishing: With Instant Web Publishing, you can quickly and easily publish your database on the web. You don't need to modify your database files or install additional software—anyone with compatible web browser software and access to the internet or an intranet can connect to your database to view, edit, sort, or search records, if you give them access privileges. You can use additional software to perform additional tasks, for example, to configure a firewall to secure your network.

Static publishing: If your data rarely changes, or if you don't want users to have a live connection to your database, you can use static publishing. With static publishing, you export FileMaker Pro data to create a web page that you can further customize with HTML. The web page doesn't change when information in your database changes, and users don't connect to your database. (With Instant Web Publishing, data is updated in a web browser window each time the browser sends a request to FileMaker Pro.) For more information, see "Publishing FileMaker Pro data on static web pages" on page 14.

Custom Web Publishing: For more control over the appearance and functionality of your published database, use the Custom Web Publishing technologies available in the FileMaker Server software.

With XML and PHP, you can:

- Integrate your database with another website
- Determine how users interact with data
- Control how data displays in web browsers

For more information, see *FileMaker Server Custom Web Publishing with XML* and *FileMaker Server Custom Web Publishing with PHP.*

Important   Security is important when you publish data on the web. Review the security guidelines in the *FileMaker Pro User's Guide,* available as a PDF file from http://www.filemaker.com/documentation.
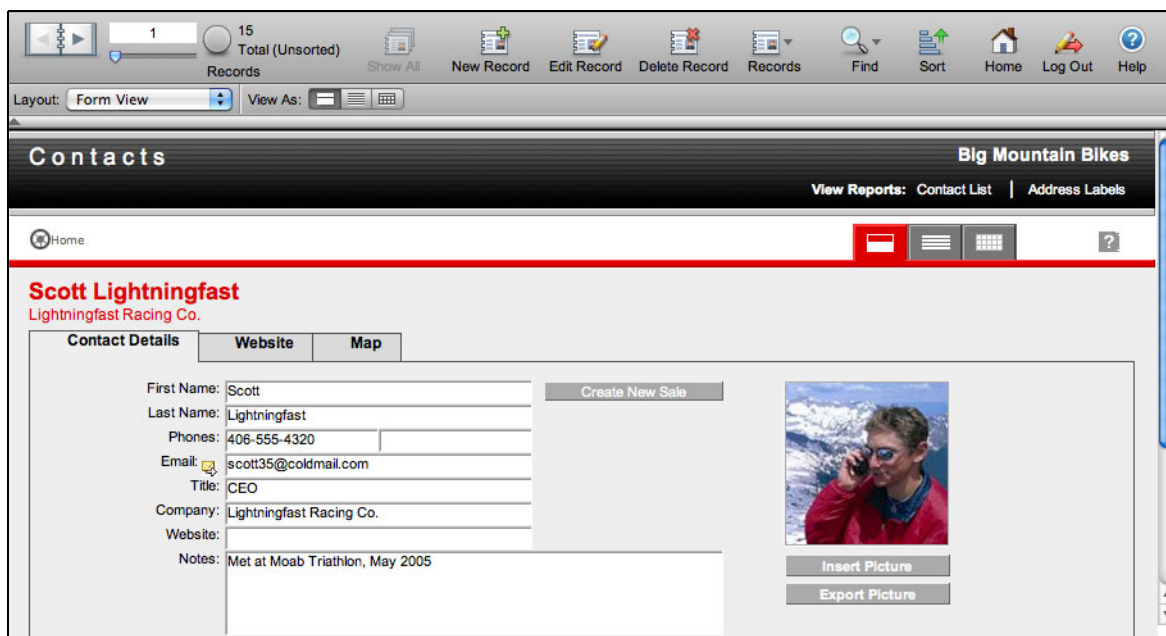
Data from a FileMaker layout displayed in a web browser with Instant Web Publishing

About this guide

This guide provides information about the Instant Web Publishing and static web publishing features in FileMaker Pro. It explains:

- what you need to publish databases on the web
- how to publish your databases using FileMaker Instant Web Publishing
- what web users need to access databases
- how web users can access and interact with your database on the internet or an intranet

FileMaker Pro documentation uses the term *publishing on the web* to refer to databases that users can access on the internet or on an intranet using a web browser.

This guide uses "FileMaker Pro" to refer to both FileMaker Pro and FileMaker Pro Advanced, unless describing specific FileMaker Pro Advanced features.

Important   You can download PDFs of FileMaker documentation from http://www.filemaker.com/documentation. Any updates to this document are also available from the website.

Instant Web Publishing requirements

To publish databases using Instant Web Publishing, you need:

- a Windows- or Mac OS-based computer running FileMaker Pro or FileMaker Server Advanced, enabled for Instant Web Publishing
- access to the internet or an intranet
- one or more open FileMaker Pro databases
- the FileMaker Pro web publishing components (automatically installed with a complete installation)
- a web browser for testing database access (see "Requirements for accessing FileMaker databases on the web" on page 16)

Important   You cannot enable Instant Web Publishing in FileMaker Pro if FileMaker Server or FileMaker Server Advanced is also running on the same computer. You also cannot enable Instant Web Publishing in FileMaker Pro if another instance of FileMaker Pro on the same computer has Instant Web Publishing enabled, or if a database in another instance of FileMaker Pro on the same computer was opened by an account that has the extended privilege Access Via Instant Web Publishing (fmiwp) or Access Via FileMaker Mobile (fmmobile).

Connecting to the internet or an intranet

When you publish databases on the internet or an intranet, the host computer must be running FileMaker Pro or FileMaker Server Advanced, and the databases you want to share must be open.

In addition:

- It is strongly recommended that you publish your database on a computer with a full-time internet or intranet connection using TCP/IP. You can publish databases without a full-time connection, but they are only available to users when your computer is connected to the internet or an intranet.
- The host computer should have a dedicated *static* (permanent) IP address or a domain name. If you connect to the internet with an internet service provider (ISP), your IP address might be *dynamically allocated* (it is different each time you connect). A dynamic IP address makes it more difficult for users to locate your databases. If you are not sure of the type of access available to you, consult your ISP or network administrator.

About hosting databases with FileMaker Pro

FileMaker Pro Instant Web Publishing is designed for sharing data in small workgroups, or for accessing your own data on a network. When hosted with FileMaker Pro, Instant Web Publishing can share files with up to five concurrent web users.

Note   You must use FileMaker Server Advanced to use Instant Web Publishing to share files with more than five web users.

About hosting databases with FileMaker Server Advanced

To share information with more simultaneous web users, you can host the databases with FileMaker Server Advanced. Other benefits of hosting web published files with FileMaker Server Advanced include:

- Better support for long running applications
- Easier maintenance with support for scheduled activities like backups and remote administration
- Support for hosting more files simultaneously
- Increased security with SSL encryption

For general information, see "Hosting databases with FileMaker Server Advanced: an overview" on page 36. For more information, see *FileMaker Server Custom Web Publishing with XML*, *FileMaker Server Custom Web Publishing with PHP,* and FileMaker Server Help*.*

Publishing files from previous versions of FileMaker Pro

You must convert files created in FileMaker Pro 11 and earlier to the .fmp12 file format. For more information on file format conversion, see FileMaker Pro Help.

Chapter 2
Publishing your database on the web

With FileMaker Pro, it is easy to share your database on the web dynamically with Instant Web Publishing, or statically, by exporting data as HTML or XML. If you are connected to a LAN or WAN, you can share your file without requiring additional software. To share files over the internet, contact an Internet Service Provider (ISP) for internet access and information about hosting a database.

Sharing a database with Instant Web Publishing

To publish databases on the web with FileMaker Pro, you enable the Instant Web Publishing feature, then determine which user accounts can access each database from a web browser.

To enable Instant Web Publishing:

1. Open the database.

2. Choose **File** menu > **Sharing** > **Instant Web Publishing** to open the Instant Web Publishing dialog box and enable **Instant Web Publishing**.
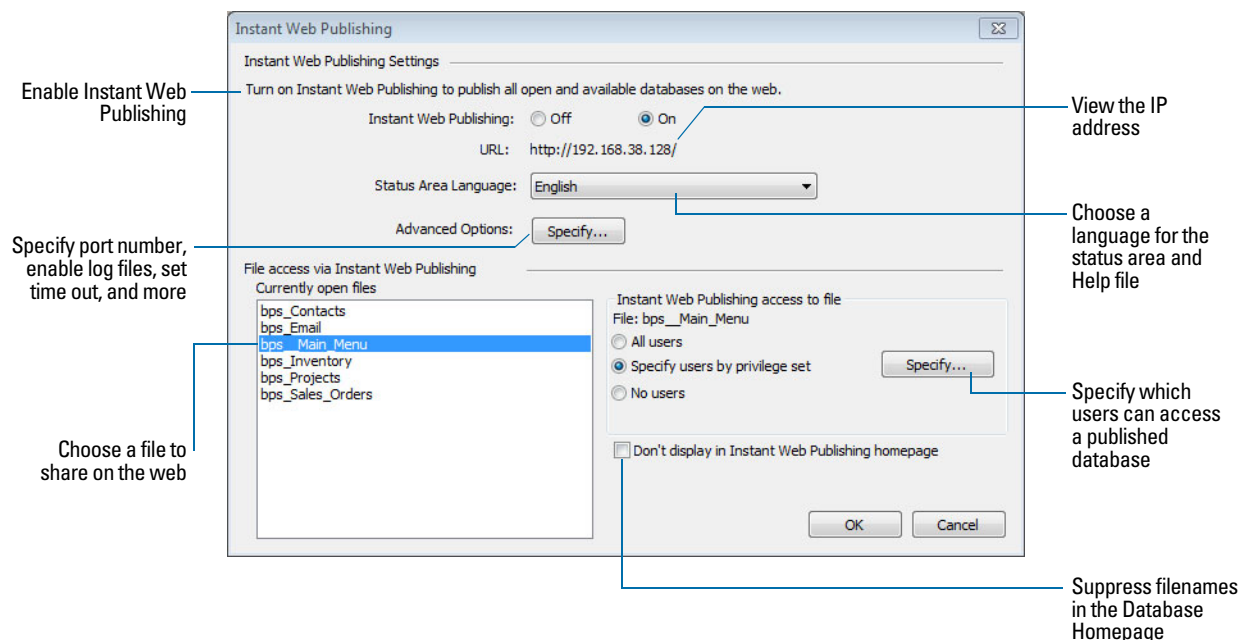
FileMaker Pro Instant Web Publishing dialog box

3. Select the filename to publish on the web from the list of open files.

4. Choose which users can access the file.

Choose this	To provide access to these users
All users	Anyone who has the IP address or domain name of your computer hosting the database, and an active account and password for the database. If the Guest account is the only account that has the Instant Web Publishing extended privilege enabled, web users are automatically logged in.
Specify users by privilege set	Allows select users access to the database. Users must enter their account name and password defined in the Manage Security dialog box.
No users	This default setting prevents any user from accessing the database with Instant Web Publishing.

- The FileMaker Pro **Log in using** <account name> feature in the File Options dialog box does not work when accessing files from the web.

- Web users are not automatically logged in with the Guest account, unless the Guest account is the only account that has the Instant Web Publishing extended privilege enabled. See "Logging in to a file" on page 18 and FileMaker Pro Help for information on enabling the Guest account for Instant Web Publishing.

- If you change the **Instant Web Publishing access to file** setting while users are logged in, those users do not lose their sessions and can continue using the database until they log out or their sessions time out. If you make other changes to Instant Web Publishing settings while guests are logged in to a shared database, guests lose their sessions and are returned to the Database Homepage. For best results, first close the database, then change settings when the database is closed, and then restart FileMaker Pro.

5. Repeat steps 3 and 4 for each database you want to publish.

6. Click **OK** or choose additional settings.

Tip   Select **Don't display in Instant Web Publishing homepage** in the Instant Web Publishing dialog box to suppress a filename from appearing in the built-in Instant Web Publishing Database Homepage. This is useful if your solution includes multiple files and you don't want all the filenames displayed.

Keep these points in mind:

- The above instructions are for hosting a database with FileMaker Pro. You may want to host your files with FileMaker Server Advanced to share your databases with more web users, or to publish more files. For more information, see "Hosting databases with FileMaker Server Advanced: an overview" on page 36.

- In Mac OS X, you may be asked to provide the operating system password. For more information, see "Specifying a port number for web publishing" on page 11.

- Assigning access to files in the Instant Web Publishing dialog box changes the extended privilege settings in the associated user's privilege set. You can review and modify the Extended Privileges settings directly in the Manage Security dialog box. For more information on setting or modifying access privileges, see FileMaker Pro Help.

- You can specify which users can access each file without enabling Instant Web Publishing.
- The list of open files and file access options in the Instant Web Publishing dialog box are dimmed if you don't have Full Access privileges or don't have privileges to manage the extended privileges for a file.

Choosing a language for Instant Web Publishing

You can choose a language for the Instant Web Publishing interface, tooltips, and onscreen Help. Choosing or changing the language has no effect on your actual data.

To specify the language, open the Instant Web Publishing dialog box, select the language to display in the status area, then click **OK**.

Specifying a port number for web publishing

The TCP/IP address in the Instant Web Publishing dialog box determines where web browsers can find FileMaker Pro databases on the host computer. By default, FileMaker files are shared from port 80. If port 80 is already in use (by a web server or another application), consider changing TCP/IP Port Number to 591. FileMaker, Inc. has registered port number 591 with the Internet Assigned Numbers Authority (IANA) specifically for web publishing.

To specify or change the port number:

1. Open the Instant Web Publishing dialog box (see "Sharing a database with Instant Web Publishing" on page 9).

2. For **Advanced Options**, click **Specify**, then type the desired TCP/IP port number.

3. Click **OK**, then **OK** to save the changes.
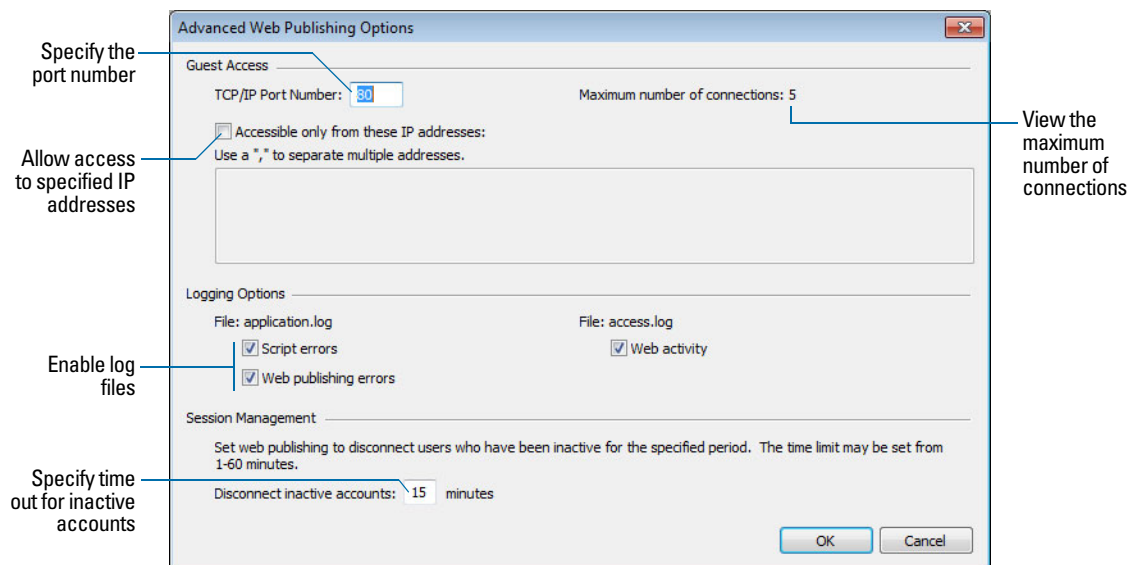
Advanced Web Publishing Options dialog box

Important If you use a port number other than 80, web users cannot access your database unless they append a colon, and the new port number, to your IP address (or domain name). For example, if you use port 591 instead of port 80:

- If you are hosting on FileMaker Pro, web users would type `http://12.34.56.78:591` or `http://accounts.yourcompany.com:591` in a web browser.

- If you are hosting on FileMaker Server Advanced, web users type `http://<IP address>:591/fmi/iwp/` where `<IP address>` is the IP address of the host computer.

- Or you can provide access to the database from a link that contains the IP address and port number. For more information, see "Linking to a database from an HTML page" on page 13.

Changing the port number on Mac OS X

The first time you enable Instant Web Publishing, Mac OS X requests permission to make a one-time change to your computer's setting to facilitate web publishing on a port number below 1024. For security reasons, Mac OS X restricts access to ports below 1024. To configure FileMaker Pro to use ports below 1024, you must provide an administrator password, such as the passphrase created when you first set up Mac OS X. You do not need an administrator password to use a port number between 1024 and 65535. For more information on creating an account with administrator privileges, see the Mac OS X Help system.

Checking the maximum number of web connections

The number of simultaneous web users allowed to access your files depends on which application you use to host your database. With FileMaker Pro, you can host up to five concurrent web users. Use FileMaker Server Advanced to share files with more web users.

To view the maximum number of web connections allowed:

1. Open the Instant Web Publishing dialog box (see "Sharing a database with Instant Web Publishing" on page 9).

2. For **Advanced Options,** click **Specify**, then view the **Maximum number of connections** number.

3. Click **OK,** then **OK**.

When the maximum number is reached, additional web users see an error message in the web browser when they try to access the database.

Important   If you feel that you have reached the maximum number of users inappropriately, it's possible that a web user has not logged out of the database properly. You can wait for the sessions to time out or close the file to disconnect web users from the database. For more information, see "Logging out of a database and closing a web session" on page 21.

Restricting access except to specified IP addresses

You can restrict the IP addresses that can access your databases on the web. For example, you can specify that only web users from the IP address 12.34.5.6 can access your databases.

To specify which IP addresses can access your databases:

1. Open the Instant Web Publishing dialog box (see "Sharing a database with Instant Web Publishing" on page 9).

2. For **Advanced Options,** click **Specify**.

3. Select **Accessible only from these IP addresses** and type the IP address that can access your files. Separate multiple IP addresses with a comma (,).

4. Click **OK,** then **OK** to save the changes.

Note   Type an asterisk (*) in the section of the IP address to grant access to web users with similar IP addresses (for example: `12.34.5.*` or `12.*`). You can't type an asterisk in the first section, however.

Disconnecting inactive web accounts

You can specify the amount of time web users remain connected to the database when their session, or connection to the web server, is idle. Sessions are considered idle when web users do not submit requests from the web browser, such as finding, creating, or submitting changes, changing layouts, and so on. A session also becomes idle when the web user closes the web browser window, moves to another web site, or quits the web browser without clicking the **Log Out** button.

To specify the duration that a session can be idle before it times out:

1. Open the Instant Web Publishing dialog box (see "Sharing a database with Instant Web Publishing" on page 9).

2. For **Advanced Options,** click **Specify**.

3. For **Disconnect inactive accounts,** specify the amount of time before disconnecting idle web users (from 1 to 60 minutes), then click **OK** to save the changes.

If you are concerned that web users might not log out of the database properly, specify a short session time out. You can also create a scripted button to automatically log web users off. See "Creating a script to log out of a database and close the session" on page 36 and "Logging out of a database and closing a web session" on page 21 for more information.

Linking to a database from an HTML page

Instead of having web users type the IP address or domain name to access your database, you can create an HTML page that specifies a link to your databases.

To view this	Use this link

Database Homepage or a homepage you create	If the database is hosted with FileMaker Pro or FileMaker Pro Advanced:
	`http://<IP address>:<Port number>`
	If the database is hosted with FileMaker Server Advanced:
	`http://<IP address>:<Port number>/fmi/iwp/`

A particular database	`http://<IP address>:<Port number>/fmi/iwp/` `cgi?-db=<database name>&-loadframes`

Keep these points in mind:

- If you close your files frequently, or if web users access a number of databases, consider linking to the Database Homepage, which dynamically creates links for all databases that are open and shared with Instant Web Publishing. For more information on the Database Homepage, see "Accessing a FileMaker database on the web" on page 17.

- The link you provide can access a database and show the default layout. If additional functionality is desired, consider including a startup script in the database that automates the desired tasks.

- If possible, host the databases on a static IP address or use a domain name. In some environments, a new IP address is assigned dynamically to a computer every time it reconnects to the network.

- The URL syntax for linking to a particular database is different than FileMaker Pro 6 and earlier, so you must update the link after converting the file.

- If you're hosting files with FileMaker Pro, you can store the static HTML pages and any accompanying images in the Web folder inside the FileMaker Pro folder.

Using a custom homepage

To replace the default Database Homepage, place an HTML file named `iwp_home.html` in the Web folder inside the FileMaker Pro folder. Web users are returned to this page when they log out of a session or the session times out.

Note   If you are hosting databases with FileMaker Server Advanced, place the custom homepage in the Web Publishing/IWP folder where FileMaker Server is installed (Windows) or in the /Library/FileMaker Server/Web Publishing/IWP folder (Mac OS).

You can use the `iwp_home.html` file that is on the disk image as a basis for your custom homepage. Be sure to make a copy of the original file before modifying it. Or you can create your own homepage, such as one that redirects web users to another page on your web site.

If there is no file named `iwp_home.html` in the Web folder (FileMaker Pro, FileMaker Pro Advanced) or the iwp folder (FileMaker Server Advanced), Instant Web Publishing uses the default Database Homepage.

In order to prevent a custom homepage from loading into the Instant Web Publishing layout frame when a user logs out via a script or a session times out, the following JavaScript should be added to the head section of the `iwp_home.html` file:

```
if (window != window.top) top.location = "/fmi/iwp/cgi?-home";
```
You can set `top.location` to the home URL or any other URL.

Publishing FileMaker Pro data on static web pages

With Instant Web Publishing, data is updated in a web browser window each time the browser requests data from FileMaker Pro. This is called dynamic publishing. With static publishing, the data you publish from FileMaker Pro doesn't change with each new request.

Static publishing might be a good option for you if:

- your data doesn't change often.
- you don't have full-time internet access.
- you don't want users to connect directly to your database.

To publish static data, you need:

- a web site hosted on a web server (you can enable Instant Web Publishing to have FileMaker Pro be the web server for items in the FileMaker Pro Web folder)
- FileMaker Pro, and one or more databases with data
- a computer connected to the internet or an intranet (you only need to connect when you upload your web page to a web server)
- an application for copying (uploading) files to your web server application
- a text-editing or web-authoring application (optional)

General steps for publishing static data

With static publishing, you export data to a web page, then add the web page to your existing web site. Web users connect to your web site, not to your database.

To publish static data from FileMaker Pro:

1. Find the appropriate records, then choose **File** menu > **Export Records,** and choose **HTML Table** or **XML Files**.

- Choose **HTML Table** to generate a table of data that can be viewed by supported web browsers.
  You can customize the appearance in a text editing or web authoring application.
- Choose **XML Files** if you'd like to programmatically change the appearance of the data.

2. Add links from existing web pages to your new web page.

3. Copy the new web page to your web server.

Static web pages cannot use FileMaker Pro access privileges for protection, but by storing the files in the FileMaker Web folder, you can restrict access by specifying which IP addresses can access the files in the Instant Web Publishing dialog box. For more information, see "Restricting access except to specified IP addresses" on page 12. For additional security options, see your web server documentation or check with your ISP or network administrator.

For more information on exporting records as HTML or XML, see FileMaker Pro Help. Visit http://www.filemaker.com/support/technologies for general information on XML and example files.

Chapter 3
Working with FileMaker databases on the web

FileMaker Pro Instant Web Publishing automatically provides web pages and forms for interacting with your database. Web users click buttons in the status area to browse, find, sort, add, edit, and delete records.

When you enable Instant Web Publishing and share files, anyone who has an account for a database and knows the IP address or domain name where it is hosted can access the file. Depending on their account privileges, they can:

- view records on different layouts and views
- add, duplicate, and delete records
- add and edit data in fields
- search the database to view a subset of records
- sort the database to rearrange the records

Important   Manage accounts and privilege sets to restrict user access to database features for both the desktop and the web.

Requirements for accessing FileMaker databases on the web

To work with a published FileMaker Pro database, web users need:

- a web browser that has JavaScript enabled: Internet Explorer 8, Internet Explorer 9, Safari 5, Firefox.
- access to the internet or an intranet.
- the Internet Protocol (IP) address or domain name of the computer that hosts your database file.

Notes

- These requirements may differ from those of the FileMaker product that hosts the database.
- Instant Web Publishing is not supported from iOS browsers on iPads, iPhones, or iPods.
- Instant Web Publishing is not supported from runtime solutions or Kiosk solutions because runtimes cannot be shared over a network.

Accessing a FileMaker database on the web

To access the Database Homepage, web users open the web browser, then type the IP address of the host computer.

Type the IP address or domain name in the browser window
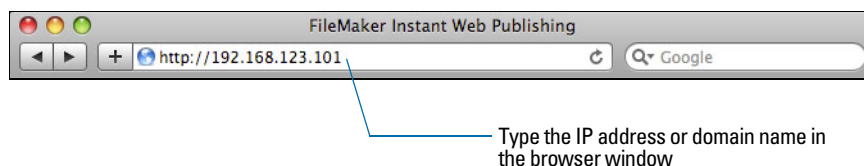
- In some cases, web users can type the domain and host name of your computer instead of the IP address, for example `http://accounts.yourcompany.com`. Or, they can type the host name, like `http://yourcompany.com`. Contact your internet service provider or network administrator for information about mapping a domain and host name to your IP address.

- If you configure FileMaker Pro to use a port number other than 80 (the default), web users must append that port number to your IP address, for example: `http://10.0.0.1:88`. See "Specifying a port number for web publishing" on page 11.

- If you are hosting on FileMaker Server Advanced, web users type
  `http://<IP address>:<Port number>/fmi/iwp/`
  where `<IP address>` is the IP address of the host computer and `<Port number>` is the port number specified for web publishing.

- You can also create an HTML page that contains a link to a database published on the web. For more information, see "Linking to a database from an HTML page" on page 13.

The Database Homepage lists the FileMaker Pro databases that are open on the host computer and enabled for web sharing.

If you don't see an open, shared database listed:

- Check its filename: it should be unique and not contain single or double quotation marks.

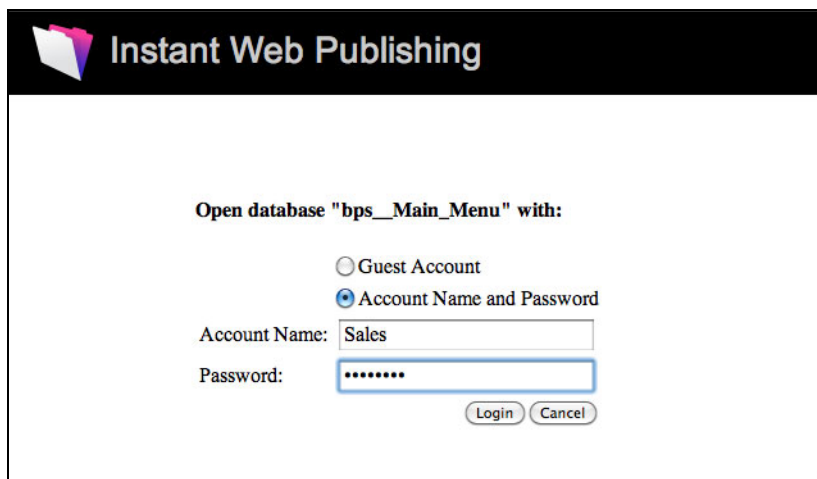- Be sure **Don't display in Instant Web Publishing homepage** in the Instant Web Publishing dialog box is cleared.

Web users click a filename to open a database.

Click a filename to open the database
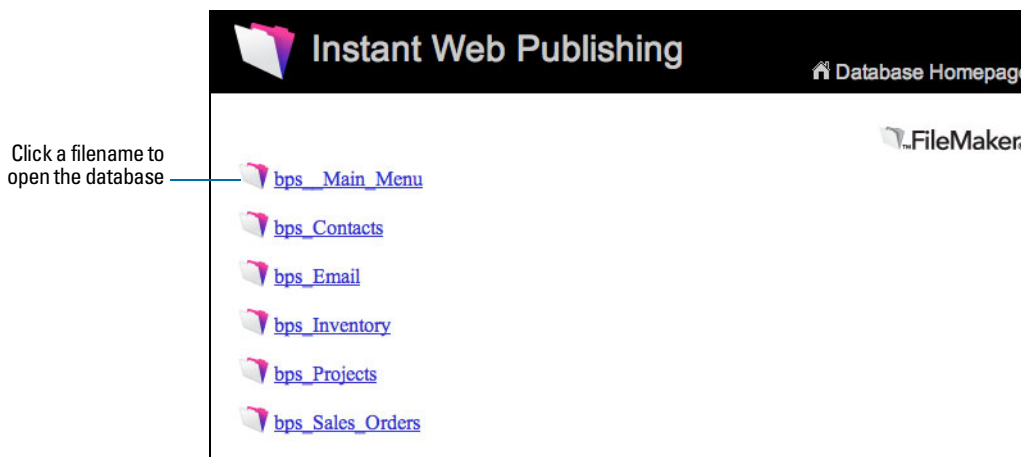
The Database Homepage lists files shared with Instant Web Publishing

Logging in to a file

When opening a database, web users may be prompted for their account information.

Forms-based login page

- If the Guest account and at least one other account that requires authentication both have the Instant Web Publishing extended privilege enabled, web users have the option to log in with the Guest account or an account name and password.

- If the Guest account is the only account with the Instant Web Publishing extended privilege enabled, web users automatically log in with the Guest account, and they do not see the login page.

- The default privilege set for Guest accounts provides "read-only" access. You can change the default privilege in the Accounts tab of the Manage Security dialog box. For more information, see FileMaker Pro Help.

- Web users generally cannot modify their account password from a web browser. However, it is possible to use the Change Password script step to designate a preset password that the user can change to.

- You can let users change their login accounts from a web browser with the Re-Login script step (for example, to switch from the Guest account to an account with more privileges). Note that you cannot use the Re-Login script step to switch back to the Guest account.

- Since basic authentication has been replaced with a forms-based model, account names and passwords are not restricted to the ISO-Latin-1 character set.

- With FileMaker Server Advanced, you can limit the list of hosted databases displayed in the Database Homepage to only those databases each web user can access. To do so, select **List only the databases each user is authorized to access** in the **Database Server** > **Security** tab of Admin Console. If this option is selected, web users will be prompted for their account information before they view the Database Homepage.

Working with data in Instant Web Publishing

Web users interact with databases on the web in Browse or Find mode. All the features that enable web users to interact with your database, for example, entering, editing, deleting, and finding records, are accessible from the status area.
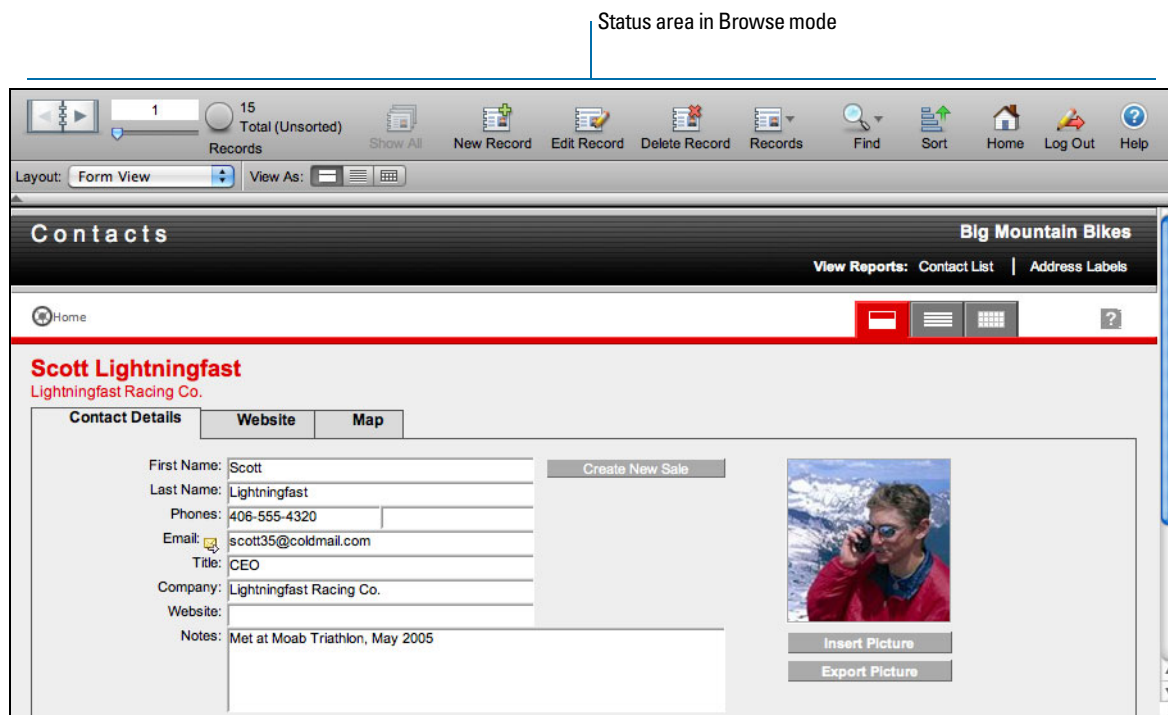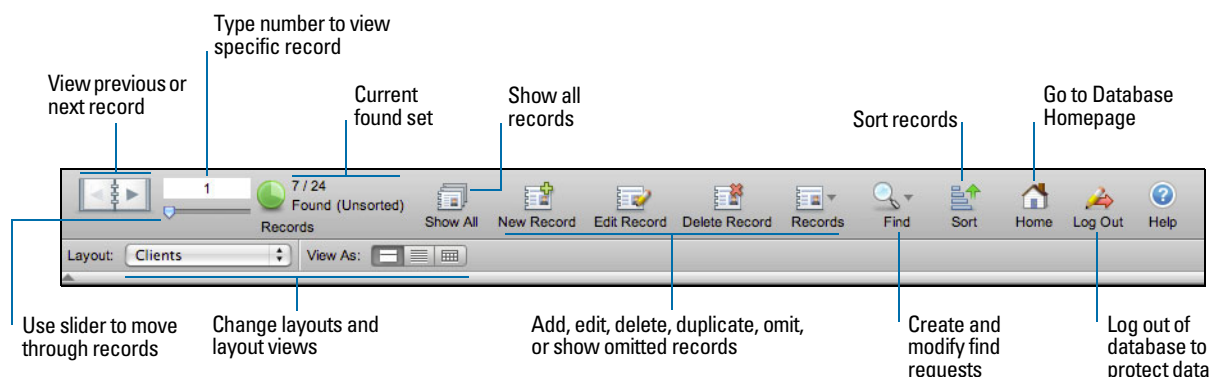

Data from a FileMaker layout displayed in a web browser with Instant Web Publishing

Viewing and modifying records in Browse mode

In Browse mode, web users perform tasks by clicking a button in the status area. If their account name and privileges provide access, they can:

- create records
- edit records
- duplicate records
- delete records
- sort the found set (based on fields on the current layout)
- show all records
- omit the current record from the found set
- omit multiple, consecutive records from the found set
- view the omitted records (and hide the existing found set)

Hold the cursor over a button to see its description. Procedures are outlined in the Instant Web Publishing Help. To view the Help file, click the Help button in the status area.

Type number to view
specific record

View previous or
next record

Current
found set

Show all
records

Sort records

Go to Database
Homepage

Use slider to move
through records

Change layouts and
layout views

Add, edit, delete, duplicate, omit,
or show omitted records

Create and
modify find
requests

Log out of
database to
protect data

Status area in Browse mode

Save new or changed data to the host

Abandon any changes and return to
Browse mode

Abandon any changes and
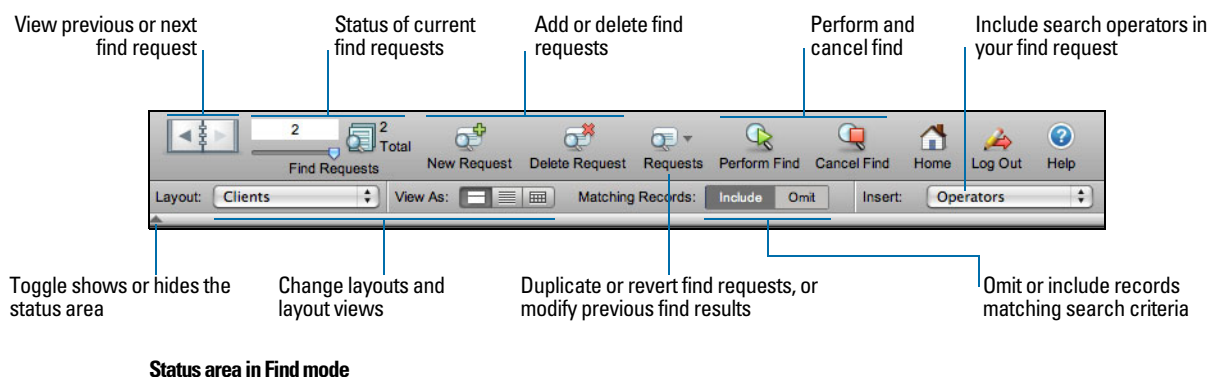continue editing record

Status area when editing records

Important   After entering or editing data in a record, web users must click the **Submit** button in the status area to save the record in the database.

Finding records

In Find mode, web users have most of the same searching capabilities as FileMaker Pro desktop users. They can:

- create find requests
- duplicate find requests
- delete find requests
- show all records
- extend (broaden) or constrain (narrow) the found set

Note   Web users cannot save a found set of records (called a snapshot link in FileMaker Pro) and they cannot access saved find requests. However, web users can reuse the find requests they created during the current web browser session. For more information, see Instant Web Publishing Help.

View previous or next find request

Status of current find requests

Add or delete find requests

Perform and cancel find

Include search operators in your find request

Toggle shows or hides the status area

Change layouts and layout views

Duplicate or revert find requests, or modify previous find results

Omit or include records matching search criteria

Status area in Find mode

Note After entering or editing search criteria in a find request, web users must click the **Perform Find** button in the status area to send the request to the host.

Web users can show or hide the status area with a toggle. To have complete control over the user interface, you can create a startup script to ensure that the status area is hidden. For more information, see "Hiding the status area to customize the interface" on page 31.

Working with records that contain a web viewer

Web users can interact with web viewers in much the same way FileMaker Pro desktop users can.

Web users can:

- view web page content that is related to the current record — including content that requires a web browser plug-in, such as PDF documents, QuickTime movies, and so on
- click links to navigate web sites
- use the shortcut menu within a web viewer to move back and forward between web pages, copy text, and so on

Note To navigate back and forward within a web viewer in Instant Web Publishing, use the shortcut menu. Right-click (Windows) or Control-click (Mac OS) within the web viewer and choose **Back** or **Forward**. If the layout has more than one web viewer, the shortcut menu works only with the web viewer that has most recently changed from one page to another, not necessarily the one that your mouse pointer is over.

Logging out of a database and closing a web session

When web users are finished working with a database, it is important that they click the **Log Out** button in the status area and quit the web browser application. If they close browser windows or quit the browser application before logging out, their session is still open. This might:

- prevent others from accessing the data, if the maximum number of web connections has been reached.
- make data vulnerable to hackers until the specified time out occurs.

If this happens, you can either wait for the session to time out or close the file on the host machine, which immediately disconnects all web users. There is no way to send a message to web users requesting that they log out of their sessions.

If you are concerned that web users might not log out of the database properly, you can set the session time out for a short amount of time. This minimizes the inconvenience if web users don't log out of the database properly. See "Disconnecting inactive web accounts" on page 13 for more information. You can also create a scripted button to safely log web users off. See "Creating a script to log out of a database and close the session" on page 36.

If you are concerned about security, consider hosting the files with FileMaker Server and enable SSL encryption in a web browser. For more information, see the *FileMaker Pro User's Guide or FileMaker Server Help*.

## Displaying a database with the status area hidden

Like the desktop version of FileMaker Pro, you can create a script that hides and locks the status area when the database is opened in a web browser. This allows you to design a custom interface.

Keep these points in mind:

- If you lock the status area, you must manually create scripts and buttons that offer users all the necessary functionality. For example, you must create buttons so users can create new records, enter edit mode to modify data, delete records, change layouts, and so on. It is very important to carefully test your database files to make sure you have provided web users access to all critical features.

- To properly secure your data, you must create a script that logs web users out of the database and closes the session. For more information, see "Creating a script to log out of a database and close the session" on page 36.

- You should provide documentation to help users interact with your data from your custom environment, as most of the instructions included in the Instant Web Publishing Help file will not be appropriate.

Differences between FileMaker Pro and Instant Web Publishing

The status area in Instant Web Publishing is very similar to the status toolbar in FileMaker Pro. Web users can switch between Browse and Find mode, choose layouts and views, and much more.
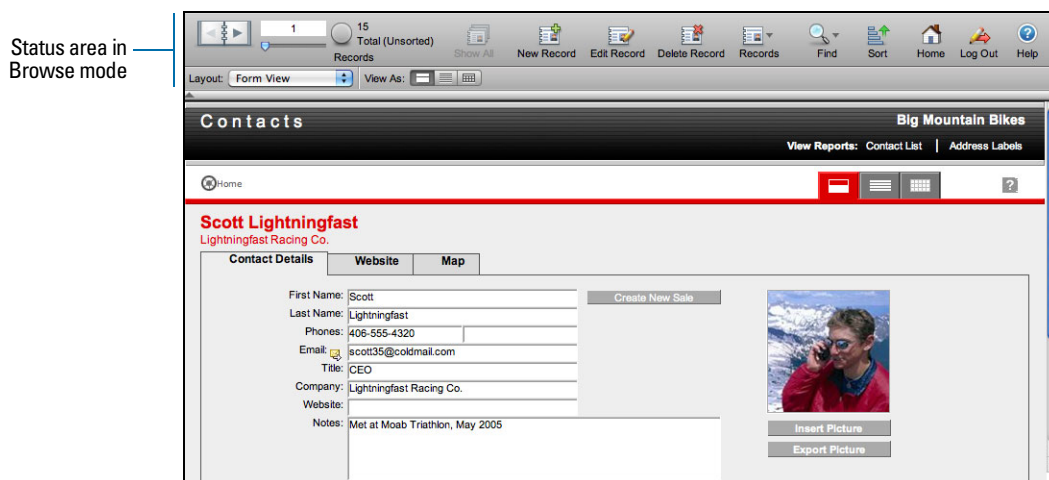
Status area in
Browse mode

Data from a FileMaker layout displayed in a web browser with Instant Web Publishing

Status toolbar in
Browse mode
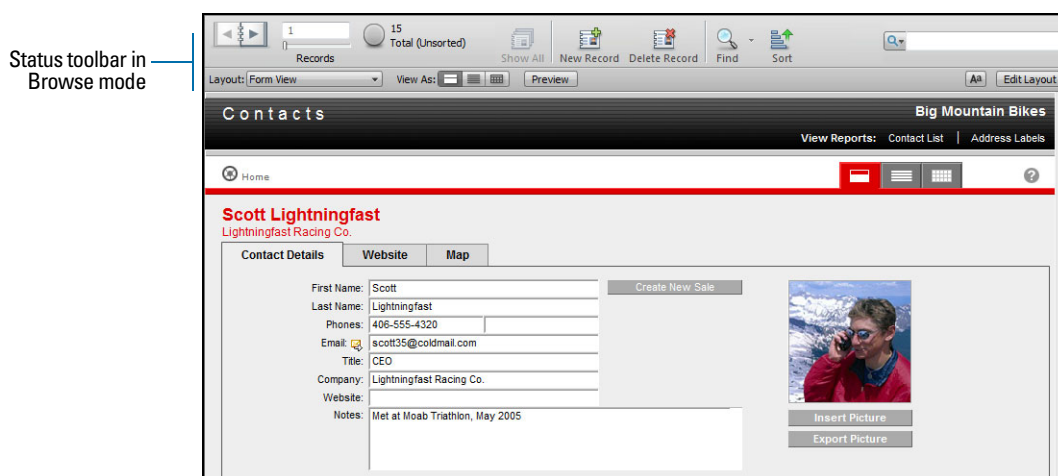
Data displayed in a FileMaker Pro layout

Benefits to accessing databases with Instant Web Publishing

There are some unique advantages to the Instant Web Publishing feature in FileMaker Pro:

- You can easily and quickly deploy a solution onto the web with your existing database. You don't need to use web authoring tools, write HTML or CSS code, or use other technologies to share your data with anyone using a compatible web browser.
- You can access data remotely, whether from a home office or while travelling.
- By hiding and locking the status area, you can easily deploy a custom, web-based application.

Benefits to accessing databases with FileMaker Pro

Although accessing a database from the web is very similar to FileMaker Pro, it is not as responsive as accessing a database from a FileMaker Pro network client:

- There are no customization features available on the web. Although web users can choose layouts and different layout views, they cannot add, delete, or modify fields, layouts, scripts, relationships, and so on. Web users also cannot customize the status area.

- The Instant Web Publishing status area does not include the Quick Find text box that is in the FileMaker Pro status toolbar. However, Instant Web Publishing does support the Perform Quick Find script step.

- Web users cannot directly interact with the hard drive, so import/exporting data, drag and drop, and automation with OLE, ActiveX, and Apple events will not work.

- Web users can only enter data in text, number, date, time, or timestamp fields.

- Web users cannot enter or modify container field objects like images, sounds, and QuickTime files.

- Web users cannot enter data with rich text formatting (RTF).

- Web users cannot view and print complex, multi-page reports.

- Web users can view only 25 records at a time in List View and only 50 records at a time in Table View. They must use the navigation controls in the status area to see additional records. FileMaker Pro users can see all records at one time in List View and Table View.

- Web users cannot spell check their data.

- Web users should only interact with a database from one web browser window.

- ODBC data source single sign-on is not supported in Instant Web Publishing.

- FileMaker Pro keyboard commands are not available for use in a web browser.

- Tooltips that are displayed in a web browser are updated only when a page is loaded.

- Web users cannot use scripted Back and Forward buttons to navigate within a web viewer. However, web users can choose **Back** and **Forward** from the shortcut menu in a web viewer.

- Even if you clear **Allow interaction with web viewer content**, web users might still be able to interact with a web viewer in a limited way.

- Web users experience longer download times in List View when browsing records that display web viewers.

Using external ODBC data sources in Instant Web Publishing

To support authentication with an external ODBC data source in Instant Web Publishing, you must store the user name and password for the external data source in the FileMaker database.

Note   ODBC data source single sign-on is not supported in Instant Web Publishing.

1. Open the database.

2. Choose **File** menu > **Manage** > **External Data Sources**.

3. The Manage External Data Sources dialog box appears.

4. Select the ODBC data source in the list and click **Edit**.

5. For Authentication, select **Specify user name and password (applies to all users)** and enter the user name and password for the external ODBC data source.

6. Click **OK**.

For more information on external ODBC data sources, see FileMaker Pro Help.

Using external FileMaker data sources in Instant Web Publishing

To support authentication with an external FileMaker data source in Instant Web Publishing, the FileMaker database and the external data source must use the same user name and password for authentication. This user name and password in the FileMaker database must also have the Instant Web Publishing extended privilege enabled.

Users must use this common user name and password to log in so that these same credentials can be passed to the external data source for authentication.

For more information on external FileMaker data sources, see FileMaker Pro Help.

Chapter 4
Designing a database for Instant Web Publishing

With FileMaker Pro, data displayed on a web form with Instant Web Publishing looks and behaves similarly to a FileMaker layout. When you design solutions that are accessed on the web, there are some limitations of the technologies that you should be aware of. For example, FileMaker Pro layouts are rendered on the web using Cascading Style Sheets, which doesn't offer graphics support as robust as the FileMaker Pro application.

Tips for designing layouts for Instant Web Publishing

FileMaker Pro layouts determine which fields web users see, and how the data is formatted.

- Like FileMaker Pro, default web layouts can be specified with startup scripts.

- User accounts and privileges determine which layouts web users can view.

- Web users can only search on fields that are present on the current layout.

- If you're designing layouts specifically for searching, note that web users can't enter search criteria for summary, global, or container fields.

- If you create layout folders using the Manage Layouts dialog box in FileMaker Pro, all layouts in all layout folders are listed at the same level in the Layout pop-up menu in Instant Web Publishing. Layout folders are not displayed in Instant Web Publishing.

- If users add too many leading or trailing spaces before or after the data in a text field, the data may not appear in the text field when the database is opened in Instant Web Publishing. To prevent this, warn users to avoid adding leading spaces. If extra spaces are necessary, you should make sure the text field length is sufficient to accommodate the extra spaces, or you can add a scroll bar to the text field.

- If a field in the layout is formatted as a drop-down list or pop-up menu that uses values from two fields, the field control may appear cropped in Instant Web Publishing. To increase the width of the field control in Instant Web Publishing, increase the width of the field in the layout.

Tips for rendering layouts in Instant Web Publishing

Important   You must select the **Classic** theme in the FileMaker Pro Layout Setup dialog for the layouts that you want to use for Instant Web Publishing. If your layouts use any other theme, the layouts are not supported for Instant Web Publishing.

Files created in FileMaker Pro 11 and earlier that were converted to FileMaker Pro 12 will be in the **Classic** theme after conversion. But newly-created databases in FileMaker Pro 12 will not be in the **Classic** theme by default.

Layouts are rendered in web browsers using Cascading Style Sheets (CSS). Not all layout objects can display with CSS. For example:

- Avoid diagonal lines, pen patterns, fill patterns, and ovals. They do not display in web browsers.

- Rounded objects created with FileMaker Pro tools cannot be rendered. For example:

  - Rounded rectangles are displayed as rectangles.

  - Buttons and tabs on tab panels are displayed as rectangles (without rounded corners).

  - Circles are not displayed.

  However, Instant Web Publishing can display an *image* of a rounded object. You can use FileMaker Pro layout tools to draw a rounded object, use the screen-capture feature of your operating system to create an image of the object, then paste or insert the image onto your FileMaker Pro layout. This alternative doesn't work for rounded tabs, though.

- Complex or layered pictures are not rendered properly. It's best to create composite pictures in a drawing program, then paste the image into the FileMaker Pro layout.

- If your images have transparent components, use the GIF file format.

- For forms and reports, make fields large enough to display and print the data. In the web browser, fields do not expand when they are active and the field contents do not wrap. You can format fields to display a scroll bar so users can view the field contents.

- A timestamp field should not be formatted to display a drop-down calendar. The calendar and optional calendar icon are not displayed for timestamp fields in Browse and Find modes.

- Arrange fields formatted as a checkbox set or radio button set with the value lists displayed horizontally for best results.

- Radio buttons and checkboxes display as standard HTML controls. If they are getting cropped, enlarge the fields on the FileMaker Pro layout.

- Buttons can display multiple lines of text if you include Return characters between the lines. Make sure the button is large enough to accommodate the text in supported web browsers.

- Instant Web Publishing offers limited text styles. Paragraph text styles, tab stops, and vertical alignment are not supported. Additionally, underline, word underline and double underline are all rendered as regular underline. Evaluate your layouts in all supported web browsers before sharing the database with others.

- Web users can view text highlighting that is specified in the layout. However, web users cannot add or make changes to text highlighting by using the buttons in the status area. To allow web users to highlight text, you must include a button in the layout that executes a FileMaker Pro script. To highlight text, you can use the TextStyleAdd script step with the HighlightYellow style, and the TextStyleRemove script step to remove the HighlightYellow style.

- If layout text is wrapping to a new line, increase the size of the text boundaries in the FileMaker Pro layout. For example, if the text is aligned left, drag the lower right handle slightly towards the right.

- The FileMaker Pro Title Header, Title Footer, and Summary layout parts are not supported and should be removed from layouts used with Instant Web Publishing.

- Dynamic subsummary parts do not appear in Instant Web Publishing.

- To avoid cropping of movies, make sure the container field is large enough to display the movie and the movie controls.

- Avoid using more than one copy of the same field on a layout, regardless of whether they have the same or different control styles. For example, don't use a field with an edit box control style and the same field with a drop-down list control style. Otherwise, web users must enter the exact same data in all copies of the field to save changes or to perform a find. The same limitation applies to more than one portal or filtered portal on the layout that refer to the same fields.

- Conditional formatting does not appear in Instant Web Publishing.

Design considerations for List View and Table View

With Instant Web Publishing, users can dynamically choose a layout view to interact with data on the current layout (provided that you make the layout view available in the Layout Setup dialog box).

The key differences between views in FileMaker Pro and Instant Web Publishing are:

- In Instant Web Publishing, List View displays the current record at the top of the page, and Table View displays the current record on the first row of the table. All records in the sort order after the current record then follow.

- In FileMaker Pro, the sorting in List View and Table View is not performed relative to the current record and all records are always displayed regardless of which record is the current record. In Instant Web Publishing, the sorting in List View and Table View is performed relative to the current record and determines the number of records displayed. For example, if the current record is the last record in an ascending sort, only the current record is displayed since there are no other records after it. In a descending sort of the same records, all records will be displayed with the current record as the first record.

- In FileMaker Pro, records can be sorted in ascending or descending order by clicking the column heading (the field name) in Table View. In Instant Web Publishing, records can be sorted by clicking the column headings or by clicking the Sort button in the status area.

Tips for working with data in a web browser

- Formatting for date, time, timestamp, and number fields is specified in the layout.

- Web users can view charts that are specified in the layout. If the data for the chart changes, Instant Web Publishing displays the updated chart when the browser window is refreshed. However, web users cannot make any changes to the design of the chart and cannot create new charts.

- Repeating field data is displayed in web browsers.

- The tab order defined for fields in a layout works in Instant Web Publishing. However, fields can only be tabbed to while in Edit or Find mode. Tab controls and buttons are not included in the tab order in Instant Web Publishing.

  Note The tab order in a web browser might vary from the tab order in FileMaker Pro. Different browsers might support the tab order in a different manner.

- Only the Tab key is supported for navigating between fields or objects in Instant Web Publishing.

- Pop-up menus and pop-up lists display as HTML pop-up menus. Web users can't edit value lists by using an Edit item, or enter values that aren't in a value list by using an Other item.

- If your layout contains a portal, related records also display in a web browser within a portal, provided that the related file or table is also shared with Instant Web Publishing. When you submit a record containing a portal you might be notified that another user has modified one of the records since you loaded the page. If this occurs, refresh your page and submit the data again. If this is a likely scenario, consider using portals as "read only" forms. Alternatively, you can edit related record data in portals by using the Go To Related Record script step and editing them directly.

- Web users can create and edit portal records, including filtered portal records. To delete a portal record, you must provide a scripted button that selects the appropriate portal record, then deletes it. Web users cannot create or change portal filters.

- When a published database file contains references to a protected related file that it is not authorized to access, web users cannot authorize access to the protected file in Instant Web Publishing. Consequently, when web users open the published database file, the file does not contain any data from the protected file. To prevent this, be sure to use FileMaker Pro to authorize all files that reference protected files. For more information on authorizing access to protected files in a multi-file solution, see FileMaker Pro Help.

General database design considerations

Keep the following points in mind:

- If you are designing a database that will be accessed by both Instant Web Publishing and FileMaker Pro network clients, it's best to design with web clients in mind to ensure compatibility across both technologies.

- Communication from a client to the FileMaker host goes through intermediary technologies with Instant Web Publishing. When you request data with Instant Web Publishing, you are sending the request from a web browser to a virtual FileMaker environment, which processes your request, then requests and retrieves the results from FileMaker Pro. These results are then passed back to the browser. This interaction is usually undetectable to web users, but occasionally you must take action to make sure the results are the same regardless of how clients access your database. Because web users don't have a direct connection to the host, they aren't notified immediately when data changes. For example, you may need to update your scripts to include the Commit Records/Requests script step to refresh the browser window. For more information, see "Script steps tips and considerations" on page 34 and "Creating a script to log out of a database and close the session" on page 36.

- Each database must be assigned a unique filename, when you host them with Instant Web Publishing. If you have two hosted databases with the same name, only one appears in the Database Homepage in Instant Web Publishing.

- When defining account names and passwords, avoid characters that may be interpreted incorrectly on the web. You may want to limit account names and passwords to alphabetic and numeric characters only.

- It is best not to set too many field validations on a layout. In FileMaker Pro, validation is checked when users click out of a field. In Instant Web Publishing, validation is only checked when users click the **Submit** button, at which time, a message for the first validation error will be returned. After users correct the first validation error, a message for the next validation error will be returned, and so on. Web users must correct all validation errors sequentially before being allowed to submit a record.

- Typically, third party plug-ins can be used for web published databases if they do not attempt to display information to an end-user's screen, if they do not require direct end-user interaction, if they do not interact with the FileMaker Pro user interface, or otherwise require interaction from end users.

- When hosting a database with FileMaker Server Advanced, only use plug-ins that have been enabled for the FileMaker Server Web Publishing Engine. (In general, a plug-in designed for use only with FileMaker Pro will not be compatible with the Web Publishing Engine.) For information on installing plug-ins on FileMaker Server Advanced, see the *FileMaker Server Getting Started Guide,* included with FileMaker Server Advanced.

- You should not access the same file from multiple browser windows or in multiple tabs of the same browser window.

- If your solution includes multiple files:
  - Instant Web Publishing must be enabled in all databases. If you don't want related files to be accessed directly, you can exclude a filename from the Database Homepage by enabling the **Don't display in the Instant Web Publishing Database Homepage** option in the Instant Web Publishing dialog box.
  - Identical accounts, passwords, and privilege sets must be created in each file used by Instant Web Publishing. The account and password you provide when you open the first file is used to authenticate related files.
  - Web browsers can't display fields on a layout that are from another file, unless Instant Web Publishing is enabled in the other file, and the other file contains the same account and password that is currently in use. This also applies to calculation fields that are based on field values from other files.

- Some features, such as the **Drop-down Calendar** field format, might not work or appear the same in Instant Web Publishing as they do in FileMaker Pro.

- Although tab panels can't be selected with keyboard commands, you can use the Go to Object or Go to Field script steps to allow web users to access tab panels. See "FileMaker scripts and Instant Web Publishing" on page 33.

- FileMaker Pro Advanced custom menus have no effect on web published databases viewed in a web browser.

Working with graphics, sounds, and movies on the web

Container fields store and display pictures, sounds, movies, and files of any type. Container objects can either be embedded inside the database itself, linked by reference using a relative path, or stored externally. If you're hosting the database with FileMaker Pro, referenced container objects must be stored in the Web folder, in the FileMaker Pro folder.

You can optimize container fields for static content or for interactive content:

- By default, container fields are optimized for static content. With container fields optimized for static content, web users can't play video or audio files, or open PDF files—the web user sees either a static graphic or a link to the container field object.

- Container fields optimized for interactive content allow web users to play media files and to interact with PDF files. To optimize the container field as an *interactive container*, select the **Interactive content** option in FileMaker Pro using the Inspector.

Web browsers provide inconsistent support for media files, and browser versions vary on Mac OS and Windows operating systems. Some browsers may not display or correctly play certain media files. For example, video files may play as audio files if a specific video file format is not supported by the web user's browser or operating system.

Web users may be prompted to unblock content before it can be played.

Web users may be prompted to install browser plug-ins. For example, web users may be prompted to install Windows Media Player or QuickTime Player to play media files. If you know what browser your web users will use, then test your media files with that browser to verify that the browser is able to play that media file type.

The recommended file types appear in the table below.

For this kind of media	Use these recommended file types
Video file	.avi, .mov, .mp4
Audio file	.mp3
Image file	.jpg, .png

Note   When you publish a database on the web with Instant Web Publishing, web users can't add graphics, sounds, or movies to a container field.

Setting the initial layout and view

When a FileMaker Pro database is set to perform a script at startup, users who access the database through Instant Web Publishing can see the results of that script each time they open the database. By setting a startup script, you can determine which layout and view web users see when they open the database with the following script steps:

- Go to Layout [Layout Name]
- Enter Browse Mode [ ]
- View As [Form View]

You can also specify a starting layout in the File Options dialog box. See FileMaker Pro Help for more information.

Hiding the status area to customize the interface

FileMaker Pro automatically generates interface controls in the status area for interacting with databases shared with Instant Web Publishing. These controls allow the user to create, alter, and delete records; switch views and modes when accessing databases via a web browser; find and sort records; open HTML Help; and so on. If you want to present your own interface for performing all database tasks, you can create a script that hides the status area when opening the file.

To suppress Instant Web Publishing controls, create a startup script that includes Show/Hide Toolbars [Hide] as one of the first steps. For solutions involving multiple database files, use this startup script step in each file.

If you want to prevent web users from being able to create new records, you can either:

- create a script to hide the status area, or
- prevent creation of new records with a user's account in the Manage Security dialog box

Important   When you suppress the FileMaker Pro Instant Web Publishing controls, web users are completely dependent on your scripted buttons. You must include a button that lets web users log out of the solution, as well as perform other tasks. See "Creating a script to log out of a database and close the session" on page 36 for details.

You can include scripted buttons on your layout to:

- add, select, navigate, edit, and delete records.
- specify search criteria and perform find requests.
- sort the database in all desirable ways.
- change layouts and layout views.
- continue or cancel scripts that may have paused.
- open other database files (the databases must be open and shared with Instant Web Publishing on the host computer).

Important   If you are suppressing the status area, thoroughly test your database to make sure you have provided users all required functionality.

Specifying the sort order for web users

Web users can sort data based on fields on the current layout. To control which fields web users can sort on, you can:

- hide the status area and create buttons that are scripted to sort the data by fields specified in the script.
- restrict access to layouts with a user's account in the Manage Security dialog box.

Web viewer design considerations

If your FileMaker Pro solution contains web viewers, consider the following points for Instant Web Publishing:

- Content in a web viewer may have unintended effects on Instant Web Publishing. Therefore you must test the websites you want to display within a web viewer. For example, a URL (either a URL calculated from field data or a URL that the user specifies by clicking a link in a web viewer) can specify a page that has the `target=top` attribute. This attribute causes the page to completely replace Instant Web Publishing in the web browser window.
- Web users might be able to interact with web viewer content in a limited way, even if you clear the **Allow interaction with web viewer** checkbox in the Web Viewer Setup dialog box. Limited interaction can also occur even if a web viewer is defined as a button.

- Web pages that load code — such as JavaScript or references to Java, ActiveX, Flash, or other plug-ins — run that code within the user's web browser. Some web technologies may not be supported or may be supported differently in the browsers supported by Instant Web Publishing. Security settings within the user's browser may also prevent the use of these plug-ins.

- If the URL calculated by a web viewer does not include a colon (:), then Instant Web Publishing automatically adds the scheme http:// to the beginning of the URL. To avoid errors, include the appropriate scheme in the web address when you set up a web viewer.

- The Back and Forward actions of the Set Web Viewer script step are not supported in Instant Web Publishing. See "Script steps tips and considerations" on page 34. Web users can use the shortcut menu's **Back** and **Forward** commands instead. However, if a layout has more than one web viewer, the shortcut menu works only with the web viewer that has most recently changed from one page to another, not necessarily the one that your mouse pointer is over.

- Instant Web Publishing does not support web viewers whose content is itself published by Instant Web Publishing. No web page displays in a web viewer if the web viewer URL contains "/fmi/iwp".

There might be other ways in which web viewers behave differently for web users and FileMaker Pro users. Additionally, web viewers might behave differently in the different web browsers supported by Instant Web Publishing. For the latest information on web viewers, see http://www.filemaker.com/support/technologies.

FileMaker scripts and Instant Web Publishing

The Manage Scripts feature in FileMaker Pro is useful for automating frequently performed tasks, or for combining several tasks. When used in Instant Web Publishing, it can allow web users to perform more tasks, or to easily perform a series of tasks simply by clicking a button.

FileMaker Pro supports over 75 script steps with Instant Web Publishing. Web users can perform a variety of automated tasks when you provide buttons on your FileMaker Pro layouts or set scripts to run when a database is opened or logged out. To see which script steps are supported, select **Instant Web Publishing** from the **Show Compatibility** list in the Edit Script window in FileMaker Pro. Dimmed script steps are not supported on the web. For information on individual script steps, see FileMaker Pro Help.

Show script steps that are compatible with Instant Web Publishing
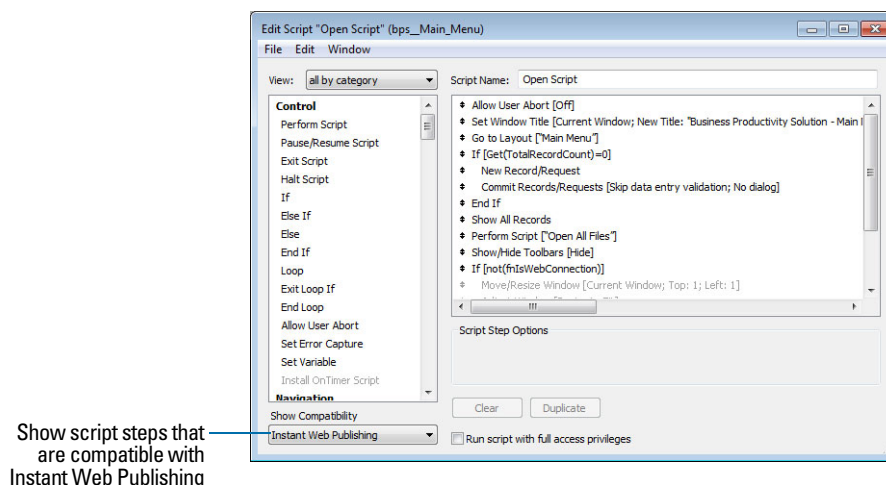
FileMaker Pro Edit Script window

Script steps tips and considerations

Although many script steps work identically on the web, there are several that work differently due to design limitations. Before sharing your database, evaluate all scripts and buttons that will be executed from a web browser. Be sure to log in with different user accounts to make sure they work as expected for all clients.

Keep these tips and considerations in mind:

- Use accounts and privileges to restrict the set of scripts that a web user can execute. Verify that the scripts contain only web-compatible script steps, and only provide access to scripts that should be used from a web browser.

- Consider the side effects of scripts that execute a combination of steps that are controlled by access privileges. For example, if a script includes a step to delete records, and a web user does not log in with an account that allows record deletion, the script will not execute the Delete Records script step. However, the script might continue to run, which could lead to unexpected results.

- In scripts, you can select **Run script with full access privileges** to allow scripts to perform tasks that you would not grant individuals access to. For example, you can prevent users from deleting records with their accounts and privileges, but still allow them to run a script that would delete certain types of records under conditions predefined within a script.

- If your scripts contain steps that are unsupported, for example, steps that are not web-compatible, use the Allow User Abort script step to determine how subsequent steps are handled.

  - If the Allow User Abort script step option is enabled (**On**), unsupported script steps will stop the script from continuing.

  - If the Allow User Abort script step is set to **Off**, (default), unsupported script steps are skipped over and the script continues to execute.

  - If this script step is not included, scripts are executed as if the feature is enabled, so unsupported script steps will stop scripts.

- Some scripts that work with one step from a FileMaker Pro client may require an additional Commit Records/Requests script step to save the data to the host. Because web users don't have a direct connection to the host, they aren't notified when data changes. For example, features like conditional value lists aren't as responsive for web clients because the data must be saved to the host before the effects are seen in the value list field.

- Similarly, any script that modifies data should include the Commit Records/Requests step, because all data changes aren't visible in the browser until the data is saved, or "submitted" to the server. This includes script steps such as Set Field, Set Field By Name, Insert Text, Insert Calculated Result, Insert from Last Visited, Insert Current Date, Insert Current Time, Cut, Insert Copy, Copy Record/Request, Copy All Records/Requests, and Paste. Many single-step buttons should be converted into scripted buttons to include the Commit Records/Requests step. When you design scripts that are executed from a web browser, it's a good idea to include the Commit Records/Requests step at the end of a script to make sure all changes are saved.

- To create conditional scripts based on the type of client, use the Get(ApplicationVersion) function. If the value returned includes **FileMaker Web Publishing** you know that the current user is accessing your database with Instant Web Publishing. For more information on functions, see FileMaker Pro Help.

- Because there are intermediary technologies involved when accessing a FileMaker Pro database from a web browser, you must assess the activities on the web server before closing a file. Some scripts open additional "windows" in the virtual FileMaker environment on the web server, and they must be closed before the session can be terminated. Any open windows will be closed automatically if web users click the **Log Out** button or when the session times out. For more information, see "Creating a script to log out of a database and close the session" on page 36.

- After converting your files, you should open each script that web users might run and select **Instant Web Publishing** from the **Show Compatibility** list in the Edit Script window to verify that the script will execute properly with Instant Web Publishing.

- In Instant Web Publishing, the GetLayoutObjectAttribute function works as in FileMaker Pro, except for the following differences:

  - The `hasFocus, containsFocus, source` and `content` attributes return values that were current when the web browser most recently loaded the page. That is, these attributes aren't updated after the user clicks or tabs into an object, edits data without submitting it, navigates to other web pages within a web viewer, and so on.

  - When this function acts on a web viewer, the `content` and `source` attributes return the same value, a URL.

  For more information on the GetLayoutObjectAttribute function, see FileMaker Pro Help.

Script behavior in Instant Web Publishing

The following script steps function differently on the web than in FileMaker Pro. For information on all script steps, see FileMaker Pro Help.

Script step	Behavior in Instant Web Publishing
Perform Script	Scripts cannot perform in other files, unless the files are open and shared with Instant Web Publishing on the host or server machine.
Allow User Abort	Determines how unsupported script steps are handled. Enable to stop scripts from continuing, and disable to skip over unsupported steps. See "Script steps tips and considerations" on page 34 for more details.
Set Error Capture	Can be enabled (On) or disabled with Instant Web Publishing. If disabled, Find and field validation errors will be displayed for scripts. If enabled, alert messages are suppressed when scripts are run.
Pause/Resume Script	The script pauses until the user clicks **Continue** or executes the Resume script step by clicking a scripted button, or the session times out.
Sort Records	You must save a sort order with the Sort Records script step to execute in Instant Web Publishing.
Open URL	Opens a complete URL from a text or calculation field in a new browser window (URL must contain "http://" if the target URL starts with "http://").
Go to Field	In Browse mode, switches a record into editing and sets the insertion point in the specified field.
Commit Records/Requests	Submits the record to the database.
New Window	Does not open a new physical browser window, but instead opens a new virtual window within the existing browser window. Although each virtual window can display a different layout, table, found set, or sort order as is possible in FileMaker Pro windows, web users can only view one virtual window at a time.
Select Window	Brings the specified virtual window to the front.
Close Window	Closes the specified or current virtual window to reveal the window underneath it.

Script step	Behavior in Instant Web Publishing
Re-Login	Lets the user log into the database using a different account and password without closing and reopening the file. However, for web users you must select the **Perform without dialog** checkbox and specify an account name and password in this script step.
Refresh Window	Updates the content area of the browser window. Select **Flush cached join results** to update the display of dynamic or complex related field content.
Set Web Viewer	The Reset action resets a web viewer to its originally specified web address, but it does *not* clear the web viewer's Back and Forward history. The Reload action reloads the web page using the most recently set URL. This URL is either the one initially defined for the web viewer or the one most recently set with the Go to URL action, not necessarily the URL of the currently displayed web page. When using the Go Back and Go Forward actions, Set Web Viewer behaves as an unsupported script step as described above. For these actions, the web viewer displays the web page of the most recently set URL and the Get(LastError) function returns "Command is unknown."
Exit Application	Closes all virtual windows, ends the user's session, and takes the user back to the Database Homepage.

Creating a script to log out of a database and close the session

It is important that web users properly close their session by clicking the **Log Out** button in the status area. If they close browser windows or quit the browser before clicking the **Log Out** button, their session is still open. This might prevent others from accessing the database and could make data vulnerable to hackers until the specified time out occurs.

Important   Your script should include the Exit Application script step, which closes all virtual windows, ends the user's session, and takes the user back to the Database Homepage.

Script triggers and Instant Web Publishing solutions

In FileMaker Pro, both scripts and user actions (such as the user clicking a field) can activate script triggers. But in Instant Web Publishing, only scripts can activate script triggers. For example, if an Instant Web Publishing user clicks a field that has an OnObjectEnter script trigger, the trigger is not activated. However, if a script causes the focus to move to the field, then the OnObjectEnter script trigger is activated. For more information on script triggers, see FileMaker Pro Help.

Hosting databases with FileMaker Server Advanced: an overview

Without planning, you might have to redefine links to other files or images. If your database is maintaining file path information for container field objects or file relationships, you should store the file paths as a relative link. It's also best to store all files in the same folder.

If your databases use container fields that store field objects externally, then use the Upload Database assistant to transfer database files from your computer's file system to FileMaker Server Advanced. The Upload Database assistant transfers the database and the container field contents to the correct folders on your server for hosting. See FileMaker Server Help for more information on how to use the Upload Database assistant.

Here are general steps for manually hosting Instant Web Publishing files with FileMaker Server Advanced:

1. Move the FileMaker Pro databases into the Databases folder in the FileMaker Server folder.

2. Move the contents of the Web folder to the root folder of the web server software. Make sure the relative path is preserved.

For IIS, move the files to: `<root drive>\Inetpub\wwwroot`

For Apache, move the files to: `/Library/WebServer/Documents`

Note   Verify the path with the server administrator.

3. Redirect your URLs to: `http://<IP address>/fmi/iwp` or `http://<domain name>/fmi/iwp` so web users can locate your database.

For information on enabling Instant Web Publishing in FileMaker Server Advanced, see FileMaker Server Help.

Using a FileMaker Server Advanced group start page

Instant Web Publishing solutions that are hosted on FileMaker Server Advanced can be included in a group start page. A group start page defines a single URL that displays the hosted databases that are contained in a FileMaker Server group folder.

See FileMaker Server Help for more information on creating and using a group start page.

Documenting your solution

Instant Web Publishing cannot cover the nuances of how web users should interact with your particular databases. It's helpful if you can provide your own documentation, especially if you're presenting a lot of layouts and automating tasks with scripted buttons.

You should include the following information in your documentation:

- Browsing and finding records: Let web users know that they work with data in Browse mode or Find mode. Instruct users how to create, edit, delete, find, and sort records.

- Navigating the database: Instruct web users on how to view records in appropriate layouts and layout views.

- It is important that web users properly close their session, or connection to the host computer, by clicking the **Log Out** button in the status area. For more information, see "Logging out of a database and closing a web session" on page 21.

- Tooltips created for layout objects can help web users understand how to interact with your solution. Tooltip text will appear in a web browser's default text style.

  Note   Tooltips are updated only when a page is loaded. For more information on tooltips, see FileMaker Pro Help.

Chapter 5
Testing, monitoring, and securing your site

Before notifying users that your published database is available, it is important to verify that it looks and functions as you expect.

- Test features like finding, adding, deleting, and sorting records with different accounts and privilege sets.

- Verify that various privilege sets are performing as expected by logging in with different accounts. Make sure unauthorized users can't access or modify your data.

- Click all scripted buttons to verify that the outcome is expected. See "FileMaker scripts and Instant Web Publishing" on page 33 for information on designing web-friendly scripts.

- Test your published database with different operating systems and browsers.

- If the web pages aren't displaying properly, see "Requirements for accessing FileMaker databases on the web" on page 16 and review chapter 4, "Designing a database for Instant Web Publishing."

Testing your database with a network connection

To access a published database, open web browser software, type the IP address or domain name of the host computer and press Return or Enter. You can view an IP address in the Instant Web Publishing dialog box. For more information, see "Accessing a FileMaker database on the web" on page 17.

Testing your database without a network connection

If you don't have a network connection, you should still test your database in all compatible web browsers.

- If you are hosting on FileMaker Pro, open the web browser software and type `http://127.0.0.1/` and press Return or Enter. (You may also test with `http://127.0.0.1/fmi/iwp` if you're hosting on FileMaker Pro.)

- If you are hosting on FileMaker Server Advanced, open the web browser software and type `http://127.0.0.1/fmi/iwp` and press Return or Enter.

The Database Homepage should display a list of all open database files that have Instant Web Publishing enabled. If you don't see an open, shared database listed, see "Accessing a FileMaker database on the web" on page 17 for more information.

Note   To improve performance of an Instant Web Publishing solution, avoid using localhost in the URL by replacing it with the IP address, either 127.0.0.1 or the actual host IP. For example, change `http://localhost/fmi/iwp` to use `http://127.0.0.1/fmi/iwp` instead.

Monitoring web activity with log files

You can set logging options to track the activity your database receives from web users. When you enable the log files, FileMaker creates log files in the following locations:

- Windows XP: Documents and Settings\%UserName%\Local Settings\Application Data\FileMaker\logs\

- Windows Vista and Windows 7: Users\%UserName%\App Data\Local\FileMaker\logs\

- Mac OS X: The Web logs folder inside the FileMaker Pro folder.

You can view the log files in any application that opens text files.

To create log files:

1. Choose **File** menu > **Sharing** > **Instant Web Publishing**.

2. For **Advanced Options,** click **Specify**, then enable the log files you want to create.

Select	To track	In this file
Script errors	Information about errors generated when web users execute scripts (for example, Instant Web Publishing documents script steps that are skipped if they're not web-compatible)	application.log
Web publishing errors	General information about errors generated when accessing or interacting with web-shared databases	application.log
Web activity	Information about web users' activities (for example, the users' IP addresses and pages accessed)	access.log

For a list of error codes and descriptions, see the topic "FileMaker Pro error codes" in FileMaker Pro Help.

If you don't want to create log files, clear the checkboxes in the Logging Options area.

3. Click **OK,** then **OK** to save the changes.

Keep these points in mind:

- The web activity log continuously adds entries to the file. The entries and files aren't automatically deleted, and the files can become very large. If you create log files, consider archiving them on a regular schedule to save hard disk space on your host computer.

- To maximize security, be sure web users can't view or copy log files by gaining access to the FileMaker Pro folder.

- Entries are added to a log file in the order that FileMaker processes them.

- You can also use FileMaker Pro functions to track user activity. For more information on functions, see FileMaker Pro Help.

Securing your data

When you publish a database, it is very important to determine who should have access to the data and to control which tasks users can perform. For more information on securing your database, see the *FileMaker Pro User's Guide*, available as a PDF file from http://www.filemaker.com/documentation.

Keep these security considerations in mind when publishing databases on the web:

- User accounts operate the same regardless of which technologies clients use to access your files. For example, if you create an account that restricts access to deleting records, users who access the database with that account name and password will not be able to delete records, whether they access the data from a web browser, an ODBC data source, or another copy of FileMaker Pro.

- It's safest to create a "web-only" database specifically for web publishing. Make sure the file contains only the layouts, scripts, and field definitions that you want to expose to the public. For more information, see the *FileMaker Pro User's Guide*.

- If web users access your files with multiple clients, consider providing them with multiple accounts. For example, give them an account name and password with more limited access when accessing the database from a web browser versus another copy of FileMaker Pro.

- When enabling Instant Web Publishing for individual files, assign accounts and privilege sets to web users instead of providing access to all users.

- If an account limits record-by-record browse privileges but does not limit the privilege to delete records, it is possible for users to delete records they cannot view.

- If the same account opens related files, the related data is displayed on layouts containing related fields.

- Instant Web Publishing uses the accounts and privilege sets defined in FileMaker Pro for the best security. For more information, see the *FileMaker Pro User's Guide*.

- Never store sensitive documents or databases inside the Web folder. With FileMaker Pro, you can put images to share with container fields or static HTML pages that you want to publish in the Web folder inside the FileMaker Pro folder, but due to web server architecture, all files in the Web folder are accessible and might be deleted by others.

- Carefully review your scripts to make sure they are web compatible and that the combination of steps don't produce unexpected results. For more information, see "FileMaker scripts and Instant Web Publishing" on page 33.

- As operating system vendors continue to patch security problems, they may disable certain features, often in conjunction with security settings within the user's web browser. Such changes might disable or change the behavior of web viewers in Instant Web Publishing. If such changes affect your solution, FileMaker recommends that you tell users how to change security settings in their browsers to allow web viewers to function properly, or ensure that the URLs used by your web viewers are for trusted web sites only.

Index