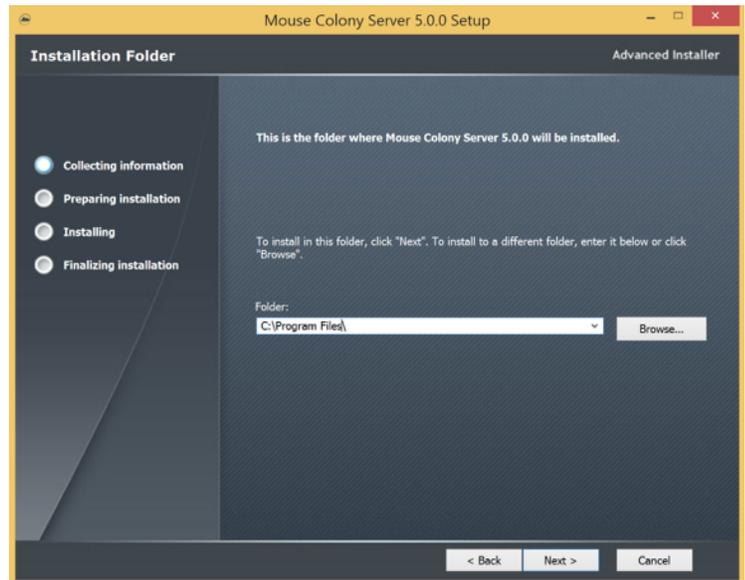# Mouse Colony Server Installation (see FileMaker help for more details)

**It is highly recommended that the installation be performed by somebody familiar with the server and following the instructions provided in FileMaker Server 13 Help. This is just a guide to facilitate the installation of Mouse Colony Server.**

## Using Installers

**Mouse Colony Server Using the Windows Installer.**

1) Make a copy of the FileMaker folder (located inside Program Files), just in case something goes wrong with the installation. In the FileMaker Admin Console, go to Database Server>Server Plug-ins tab and make sure that "Enable FM script engine.." and "Allow Install Plug-in File…" are checked.

2) After the installer opens, **make sure** that the folder selected during the first step of the installation reads: **C:\Program Files** (see figure). Sometimes the installation folder erroneously defaults to C:\Programs Files (x86).

3) **Run the installer** in the computer that will host Mouse Colony Server and make sure that all the files are in the appropriate directories. Mouse Colony Server Folder location: [drive]:\Program Files \FileMaker\FileMaker Server\Data\Databases\. The BaseElements Plugin should have copies in: [drive]: \Program Files\FileMaker\FileMaker Server\Database Server\Extensions\ and [drive]:\Program Files \FileMaker\FileMaker Server\Web Publishing\publishing- engine\cwpc\Plugins\. The permission for the FileMaker folder (Program Files), the included folders, Mouse Colony Server and the BaseElements plugin (in the locations described above) are set by the installer. Nevertheless, make sure that they are "Everyone"/"Full Access" after the installation.

**Mouse Colony Server Using the Mac Installer**

1) Make a copy of the FileMaker folder (located inside Program Files), just in case something goes wrong with the installation. In the FileMaker Admin Console, go to Database Server>Server Plug-ins tab and make sure that "Enable FM script engine.." and "Allow Install Plug-in File…" are checked.

2) **Run the installer** in the computer that will host Mouse Colony Server and make sure that all the files are in the appropriate directories. Mouse Colony Server Folder location: OS X: /Library/FileMaker Server/Data/ Databases/. The BaseElements Plugin should have copies in: /Library/FileMaker Server/Database Server/ Extensions/ and /Library/FileMaker Server/Web Publishing/publishing-engine/cwpc/Plugins (for the web publishing engine).

3) The permission for the FileMaker folder, the included folders, Mouse Colony Server and the BaseElements plugin (in the locations described above) are set by the installer. Nevertheless, make sure that they (database files and container field objects) belong to the fmsadmin group. To edit databases shared from OS X, files should also have group read and write access enabled.

**Common steps for Mac and Windows**

4) After the installation, login in the FileMaker Server Admin Console and make sure that Mouse Colony Server is closed. If not, close it.

5) Open Mouse Colony Server using FileMakerPro running in the server (this is critical or there will be problems in future logins). The program will open and you might see a dialog saying that the copy was not authenticated. Please disregard, this will disappear once our new website is up and running.

6) The program may close and ask you to login using your account.  If this is a custom install, use the login we provided (case sensitive).

7) Restart mouse colony in the server by logging into the FMServer Admin Console. Set up the scripts that should be executed by the server. Go to Schedules and select the calendar icon to create a schedule. Then, select FM script>Mouse Colony Server and enter an Admin login account and password. Select from the list: OnTimer send email reminders and Run cage counts-Daily Census.

8) After the previous steps, it is not required that Administrators login using FMPro **installed on the same computer** that is running the server. **It can be done from any remote computer running FileMakerPro.** After logging in, you will see the Mouse Colony Server Admin Console. From there, the Administrator account (created during installation) can create more administrator accounts for the facility personnel (go to Manage Accounts), PI accounts (Manage PI/Proj. Directors), and regular user accounts (Manage Accounts) under individual PIs. PI accounts are different than Login Accounts!

9) It is advisable that you create the PI accounts (Manage PI/Proj. Directors) before the login accounts (use Manage Accounts) for individual users under each PI.

10) The PIs, or somebody linked to a PI, must create their own Colonies (it works better in that way). They can request tasks from the facility and the facility personnel will see the tasks every time they login.

11) Once the tasks are performed, they can email the users to notify them.

## Manual Installation

1. **Upload Mouse Colony Server** using the instruction provided by FileMaker Server Help (see short version taken from FileMaker below). Databases can be uploaded manually and using the "Upload to FileMaker Server…" function (Menu>File) or by placing the files in:

   Windows: [drive]:\Program Files\FileMaker\FileMaker Server\Data\Databases\Mouse Colony Server folder

   Mac: /Library/FileMaker Server/Data/Databases/Mouse Colony Server folder

2. **Install the appropriate plug-in for the Mac or PC server.** This is required for the full functionality of Mouse Colony Server. The plugin is in the "Plugins" folder inside the Mouse Colony Server Folder. Instructions can be found in the FileMaker Server Help (see also a short version taken from FileMaker below). It is critical that copies of the plugin are installed in the 2 locations described for the master server and web-publishing engine for the correct function of Mouse Colony Server.

**Windows:** BaseElements Plug-ins: [drive]:\Program Files\FileMaker\FileMaker Server\Database Server \Extensions\ BaseElements **and** [drive]:\Program Files\FileMaker\FileMaker Server\Web Publishing\publishing-engine\cwpc\Plugins\ BaseElements (for the web publishing engine).

**Mac:** The BaseElements Plugin should have copies in: /Library/FileMaker Server/Database Server/ Extensions/ and /Library/FileMaker Server/Web Publishing/publishing-engine/cwpc/Plugins/BaseElements (for the web publishing engine)

## Set up Server-Side scripts

**a)** OnTimer email Reminders

**b)** Run Cage Count-Daily Census scripts to run once a day (i.e. 1 am) on the server according to the Running Server-Side scripts instructions, which can be found in the FileMaker Server Help (see also a short version taken from FileMaker below).

**The following are a brief versions of recommendations by FileMaker. We urge you to read and follow the procedures recommended by FileMaker Server Help Manual.**

**Uploading database files manually (from FileMaker)**

Note The following information is for server administrators and group administrators.
You can manually copy FileMaker Pro database files to FileMaker Server; however, you must be sure to do the following:

- Place the database files in the proper location. FileMaker Server hosts database files in a default folder (Databases) and two optional additional folders (additional_1 and additional_2). You can select or change those folders on the Database Server > Folders tab. See Setting up additional database folders.

- If your database uses container fields that store objects externally, then place the externally stored container field objects in the proper location. If you created folders for your database, then make sure you create the correct folders on the server and copy the field objects into those folder.

- OS X: Change group ownership for database files and container field objects.
  Important If you need to move, copy, or rename a hosted file, be sure to close it first. A database file must be closed before you can manually move, copy, or rename the hosted file. You can close the open databases on the Activity > Databases tab. See Closing hosted files.
  Notes

  - The Database Server checks whether a database has some form of sharing enabled when the database is opened. If no other sharing is enabled, the Database Server automatically enables sharing via FileMaker Network (extended privilege fmapp) for the Full Access privilege set. If you enable only the fmwebdirect extended privilege for sharing via FileMaker WebDirect and don't enable fmapp, then users can't access the file with FileMaker Pro.

  - For information on how to remove databases that are already hosted, see Removing hosted files.

  - You can manually copy files with a filename extension of .fmp12 or files with a registered runtime solution filename extension. For more information on registered runtime filename extensions, see Database settings.

  - Database filenames must be unique for the entire server regardless of the folder or subfolder.
    Place database files in the proper location
    Place the FileMaker Pro database files that you want FileMaker Server to open — or shortcuts (Windows) or aliases (OS X) to those files — in the following folders:

    - Windows: [drive]:\Program Files\FileMaker\FileMaker Server\Data\Databases\

    - OS X: /Library/FileMaker Server/Data/Databases/
      Or you can place the files in an optionally specified additional database folder. See Database and
      backup folder settings.
      Windows If FileMaker Server is installed in a non-default location, the beginning portion of the default path shown above, \Program Files\FileMaker\FileMaker Server, is replaced with the path that was specified during installation. For example: \My_Path\Data \Databases\

Hosting databases Uploading database files

## Place the externally stored container field objects in the proper location

If your database uses container fields that store objects externally, you must also place the externally stored container field objects in the proper location when you manually upload the database.

1. In the folder where you placed the database, create a folder named RC_Data_FMS, if it doesn't already exist.

2. In the RC_Data_FMS folder, create a folder with a name that matches the name of your database file. For example, if your database file is named Customers, then create a folder named Customers: RC_Data_FMS\Customers

3. Place the externally stored objects in the new folder you created.
For example, your database file, Customers.fmp12, has a table named Rewards with a container field named Photo. Photo is a managed container that stores externally and uses open storage. By default, FileMaker Pro creates the following folder structure as the base directory for your externally stored objects:
Files\Customers\Rewards\Photo

4.
Note To see the base directory for your container fields, in FileMaker Pro, choose File menu > Manage > Containers and click Storage.
If your database file is encrypted, you should select Secure storage for the container fields to ensure the security of the data. Selecting Open storage for the container fields doesn't encrypt the data. See FileMaker Pro Help.
Copy the folders for your base directory (with the contents of the folders) into the RC_Data_FMS \Customers folder on the server, giving you this folder structure:
RC_Data_FMS\Customers\Files\Customers\Rewards\Photo
Place the externally stored objects into this folder on the server.

Note When databases are hosted on FileMaker Server, multiple databases can't share a common folder of container objects. The container objects for each database need to be in a folder identified by that database's name. The information about the container folders is stored with the database. See Setting up additional database folders.

## Change group ownership for files (OS X)

For files that will be shared from OS X, change the files (database files and container field objects) to belong to the fmsadmin group. To edit databases shared from OS X, files should also have group read and write access enabled.

For more information, see Users, groups, and permissions (OS X).

Note Any OS X subfolders containing databases, external container field objects, backups, script files, or plug-in files must also be readable and executable by the fmsadmin group. Database and backup folders need to be writable by the fmsadmin group for backups and uploads. Some plug-in files or scripts that use preferences or folders of additional files may require write permission to those files or folders.

## Installation for server-side plug-in files

Note The following information is for server administrators.
To enable the FileMaker Script Engine to use plug-ins, you must place them in the proper folder on

the master machine in your FileMaker Server deployment.

- Windows: [drive]:\Program Files\FileMaker\FileMaker Server\Database Server\Extensions\

- OS X: /Library/FileMaker Server/Database Server/Extensions/

  To enable a **web publishing solution** to use a plug-in, place a copy of the plug-in on the machine running the Web Publishing Engine (even if the Web Publishing Engine is running on the same machine as the Database Server). For all web publishing solutions (XML, PHP, and FileMaker WebDirect), place the plug-ins in this folder:

    - Windows: [drive]:\Program Files\FileMaker\FileMaker Server\Web Publishing\publishing- engine \cwpc\Plugins\

    - OS X: /Library/FileMaker Server/Web Publishing/publishing-engine/cwpc/Plugins/ Notes

- Windows: If FileMaker Server is installed in a non-default location, the beginning portion of the default path shown above, \Program Files\FileMaker\FileMaker Server, is replaced with the path that was specified during installation. For example: \My_Path\Database Server\Extensions\

- OS X: For FileMaker Server, you must set the correct file permissions for plug-ins. See Changing plug-in file permissions (OS X).

- You must install the plug-ins for the Web Publishing Engine in addition to any plug-ins you may have installed for FileMaker Server or FileMaker Pro, even if they are the same plug-ins.

- If the Plugins folder does not exist, you must create it. Plug-in files placed in this folder or subfolders must be owned by the fmsadmin group and must be group readable and executable.

## Running server-side scripts

Note The following information is for server administrators and group administrators. FileMaker Server can run two types of scripts to automate administrative tasks:

- FileMaker scripts defined in hosted databases. See Running FileMaker scripts.

- System-level script files. See Running system-level script files.
  Both FileMaker scripts and system-level scripts execute on the master machine in your FileMaker Server deployment.
  To run a script, create a scheduled task on FileMaker Server. Specify the script, and when and how often to run the script. As with any schedule, you can run the scheduled task manually at any time.
  You can also create a Script Sequence scheduled task that runs optional pre-processing and post-processing system-level scripts before and after a FileMaker script. See Creating Script Sequence tasks.
  Note If you are a group administrator, your server administrator must configure your administrator group to allow you to run scripts associated with the databases in your group folder. For more information, contact your server administrator.
  Related topics
  Scheduling administrative tasks

Scheduling administrative tasks Running server-side scripts

## Running FileMaker scripts

Note The following information is for server administrators and group administrators.

FileMaker Server can run FileMaker scripts that are created in hosted databases. You create a schedule to run a FileMaker Script scheduled task, specify the database and the FileMaker account to use to run the script, choose a script created in the database, and when to run the script. FileMaker scripts that run on FileMaker Server can do simple or complex tasks such as:

- perform a field recalculation across all records

- process and archive new transactions nightly

- remove duplicate records before a scheduled backup
  You use the Manage Scripts feature (formerly ScriptMaker) in FileMaker Pro to build scripts by selecting from a list of FileMaker Pro commands, called script steps, and specifying options. To run a FileMaker script on FileMaker Server:

- The script should include script steps that are supported in a FileMaker Server schedule.

- The script must be defined in a database file that is hosted on FileMaker Server. See Hosting databases.
  For information about creating FileMaker scripts with script steps that are supported in a FileMaker Server schedule, see FileMaker Pro Help.
  You can also create a Script Sequence scheduled task that runs optional pre-processing and post-processing system-level scripts before and after a FileMaker script. See Creating Script Sequence tasks.
  Notes

- You can select Abort schedule if time limit reached or server stopped in the Schedule assistant to abort the FileMaker script schedule if the script takes longer to run than the specified time limit, or if the Database Server stops. If you do not select Abort schedule if time limit reached or server stopped, and a FileMaker script hangs, you can stop the script on the Activity > Clients tab. (See Event log.) You can stop the script on the Activity > Clients tab.

- If scripts contain steps that aren't supported in FileMaker WebDirect solutions, Custom Web Publishing, or in a FileMaker Server scheduled script, 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 option is disabled (Off), 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 script steps have options that are skipped, such as an option to show a dialog box. The Event.log file contains detailed information about errors or script steps that are skipped when FileMaker Server runs FileMaker scripts. See Viewing log file entries.

- Server-side FileMaker scripts run in separate sessions in the FileMaker Script Engine, behaving like they do for Custom Web Publishing. Each session has its own copy of global fields and variables. Calculation functions return the same values as when scripts run under Custom Web Publishing, with the following exceptions:

- Get(AccountName) initially returns the account name that the script was run under (specified in the Schedule assistant when the schedule is created).

- Get(UserName) returns the schedule name.

- Get(ApplicationVersion) returns the Database Server version string.

- Functions related to hardware, such as Get(SystemIPAddress), return information from the Database Server.


- Whenever a session starts for a server-side FileMaker script, a unique temporary subfolder is created for that session in the temp folder on the FileMaker Server computer. The temporary subfolder name begins with the letter "S", followed by a number representing the session. You can use the Get(TemporaryPath) function to return the path to the temporary subfolder. When the session is terminated, the temporary subfolder and any files placed in it are deleted.

- When running on FileMaker Server, the Get(DocumentsPath) function returns the path to the Documents folder, which is in the same folder as the server's Backups, Databases, and Scripts folder. You can use the Documents folder as a shared location for passing import and export files between pre-processing scripts, FileMaker scripts, and post-processing scripts in Script Sequence scheduled tasks.

- Use the Get(DocumentsPathListing) function with the Import Records and Export Records script steps to determine if a file exists before using the Open File script step to open the file, and to ensure that multiple scripts can safely read and write to the same FileMaker Pro database.

- FileMaker Server evaluates relative file paths in import and export script steps in relation to the Get(TemporaryPath) unique subfolder. Script steps that use relative paths containing ".." return an access error when performed. Script steps can use absolute paths if they point to the Documents folder or any of its subdirectories. That is, the beginning of the absolute path must be the same as the path returned by the Get(DocumentsPath) function. For example, any OS X path that starts with /Library/ FileMaker Server/Data/Documents is acceptable.

- If you run a FileMaker script that uses the import ODBC script with a third-party ODBC driver, you need to use the 64-bit version of the ODBC driver. For a script that runs on the server, only 64-bit ODBC drivers are supported.

## To start Admin Console:

1. Use one of the following ways:

    - To go directly to the Admin Console Start Page, open a web browser and enter: http://[host]: 16001
    where [host] is the IP address or domain name of the master machine in your FileMaker Server deployment. Port 16001 is only available on the local host machine and not from a remote machine.

    - To go directly to the Admin Console Start Page from a remote machine, open a web browser and enter:
    https://[host]:16000
    where [host] is the IP address or domain name of an external master machine in your
    FileMaker Server deployment.

2. Click Start Admin Console, and the Admin Console Login page opens.
    If this page doesn't open or you see a browser security message, see Admin Console problems.

3. In the Admin Console Login page, enter the user name and password for the Admin Console account.
Admin Console starts and displays the Status pane. See Checking the status of your deployment.

Tip You can also start Admin Console and go directly to the Login page by entering /admin-console

on the end. For example:

http://localhost:16001/admin-console

## Ports used by FileMaker Server

Note The following information is for server administrators.

When running FileMaker Server in an environment that uses a firewall, be sure to configure the firewall on each machine to allow FileMaker Server to communicate. The table below lists all the ports used in a FileMaker Server deployment.

Note Not all of the ports listed below need to be open to end users or between all machines or end users indicated in the "Used by" column in a FileMaker Server deployment. Ports marked "Available" are used locally on the machine indicated in the "Used by" column; these ports must not be used for anything else but do not need to be opened in a firewall. For more information on deploying FileMaker Server, see FILEMAKER SERVER GETTING STARTED GUIDE on the Start Page.

• Ensure that no existing websites on the master or worker machines use port 80 or 443. These ports are used by FileMaker Server on both machines. If the FileMaker Server installer detects an existing website using these ports, the installer prompts you to let it disable that website.

- Windows: Make sure the IIS web server is enabled on both the master and worker machines and that no existing websites use ports 80 or 443. The FileMaker Server installer creates its own website that uses these ports on each machine.

- OS X: The web server included in OS X does not need to be enabled; if it is enabled, ensure that no existing websites use ports 80 or 443 on the master or worker machines. The installer creates a separate web server instance on each machine and enables it for FileMaker Server to use on these ports.

Port Open/ number Used by available Purpose

80 Web server machine, end users Open HTTP

80 Master machine, end users and Open Progressive downloading of Admin Console users container data to all clients,

redirects to port 16000 for Admin Console

443 Web server machine, end users Open HTTPS

443 Master machine, end users Open HTTPS: Uploading databases from FileMaker Pro, inserting

data in externally stored container fields from all clients

2399 Master machine, end users Open ODBC and JDBC sharing

5003 Master machine, end users Open Hosting databases for
FileMaker Pro and FileMaker Go

clients

8998 Web Publishing Engine machine Available FileMaker internal

9090 Master machine (local only) Available FileMaker internal

9889 Web Publishing Engine machine Available FileMaker internal

9898 Web Publishing Engine machine Available FileMaker internal

16000 Master machine, Admin Console Open HTTPS: Admin Console Start users Page, Admin Helpers

16001 Master machine (local only) Available FileMaker internal

16020 Web Publishing Engine machine Available FileMaker internal

Port Open/
number Used by available Purpose

16021 Web Publishing Engine machine Available FileMaker internal

50003 Master machine (local only) Available FileMaker Server service (Windows) or background

process (OS X)