

	<b>ManufactPro™</b>
	<b>MAINTENANCE &amp; INSTALLATION</b>
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**1.0 OBJECTIVE**

This document outlines maintenance and installation of the client and server application software for the ManufactPro database system.

MMC provides this document as a guide to help you understand the operation of client/server relational database software. Specific procedures are the responsibility of the end users of MMC products.

**2.0 SCOPE**

This document is specific to the ManufactPro relational database system, a product of MMC, running on the FileMaker Pro platform. The document covers systems running versions of MFP 10x using the platform FileMaker 13 or higher and referred to throughout this document as “FMP or FM.”

**3.0 MAINTENANCE PROCEDURE**

By using the platform of FileMaker Pro to host your database solution, many of the traditional maintenance routines of big databases can be avoided and minimized. Re-indexing, for example, is accomplished on the fly or as needed on the FileMaker platform.

Some maintenance still needs to be done to keep your system running smoothly. Some of these tasks can be automated using the Server Console and backup software, some can be done manually by IT or the MFP administrator or MMC Software, LLC. It is up to you to decide who does the maintenance and when.

The “wait till it crashes” option is not very professional and can result in downtime for your operations, data loss and very expensive emergency service bills. Almost every crash we have seen could have been avoided by a couple of the routines below.

Basic computer OS skills are needed to perform these tasks: running applications, starting and stopping services, copying and renaming files, writing backup media, and restoring from backup media. If you are unable to perform or contract out maintenance, do not use our software. Maintenance requires a workstation with the full version of FileMaker Pro and a full version of the MMC software installed. If you choose to limit user functionality via the package definition format file or by doing network installation in a managed MS environment, at least one machine is required on site to be configured to our specifications. If your IT department cannot provide this, do not use our software.

**Suggested Schedule:**

**Daily:**

Backup a closed daily copy of databases to backup media. Use the FM server console to write backups at a specific time. Reason: restore data due to user/admin errors; restore data in event of hard disk crash.

**Monthly:**

Reboot the server. Clears any memory leaks and instabilities. Do a cold reboot, which is a shutdown, wait 5 minutes and then restart. Reason: improves speed and performance. Unstable machines can do very weird things. Interval can be lengthened as one gains experience with their server setup, network traffic loads and user usage loads.

MFP internal Maintenance Scripts are set to run every 30 days, unless changed by the administrator in the preferences. One may run MFP specific maintenance scripts manually in each file (use button on report or admin screens); Doc Log, Parts, and Part Lots are examples. A master Maintenance button is located on the Admin screen

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(MFP 10x). Reason: performs error checks and writes calculated data to local indexed fields. Very important if the administrator is working unlocked and not using the user interface for data entry. Corrects many data issues caused by admins who “trick” the system.

**Annually:**

FMP Server. Compress and swap large log files. Reason: improves performance and reduces disk fragmentation.

Migrate data into a clean structure/schema. Reason: prevents data corruption due to file damage.

Burn a DVD copy of the system for reference. Reason: Data from one or more years back may be difficult or impossible to get.

**As needed:**

Document any design changes to the files. This is extremely important to prove the change control trail if you have a validated system and to allow MMC to move your customization to a new structure during annual maintenance or upgrade.

Apply updates or bug fixes from MMC.

Apply updates or bug fixes from FileMaker, Inc.

**4.0 BASICS**

Using the FM Console

**FMP**

Use the FM Console application to configure and manage the server. This can be accessed on the server, from the button on the MFP admin screen, or through a web browser

Launch the FileMaker Pro Server Console application on the local machine. Do not open any network files. Enter the username and password.

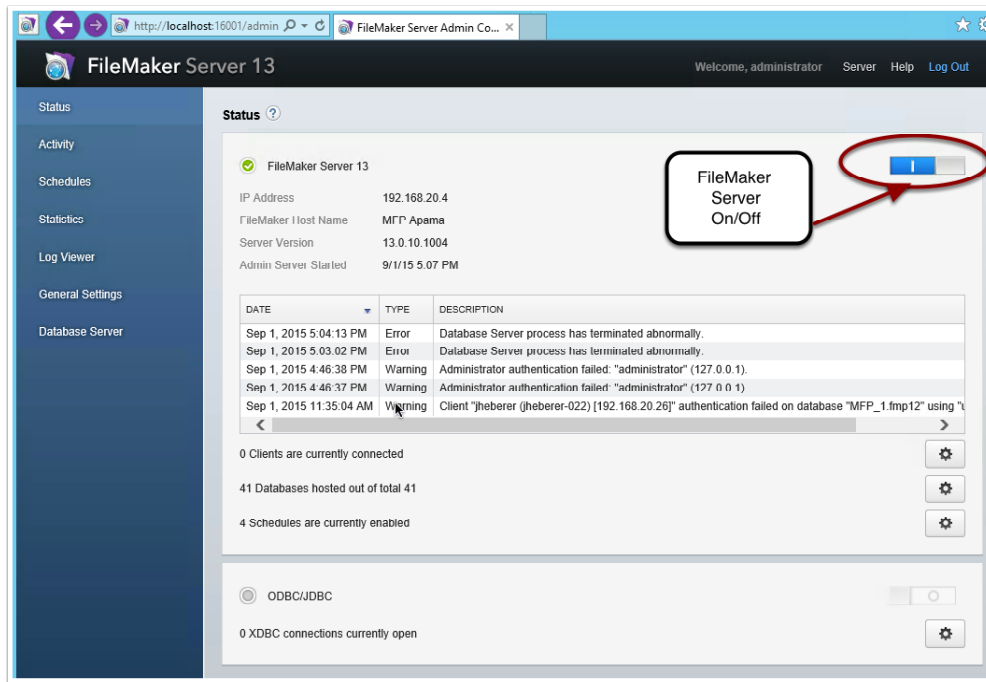
One can now open or close files, and configure the server settings. See the FileMaker Server documentation.

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**Start/Stop FileMaker Pro Server**

FMP

Launch the FM Console application.

Login.

Turn off or on the database server using the button.

**Rename files**

Find or navigate to the file using Windows Explorer..

Right click and select rename.

Type the new name and type the Enter key to save.

**Open the ManufactPro**

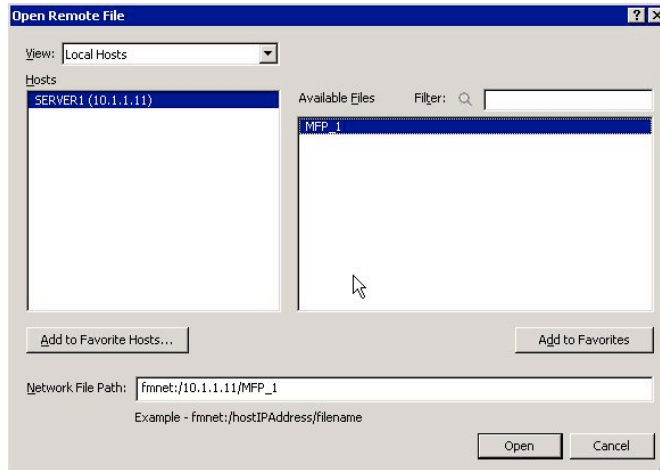
Use the launcher file on the desktop (OpenMFP) or the open remote command in the application.

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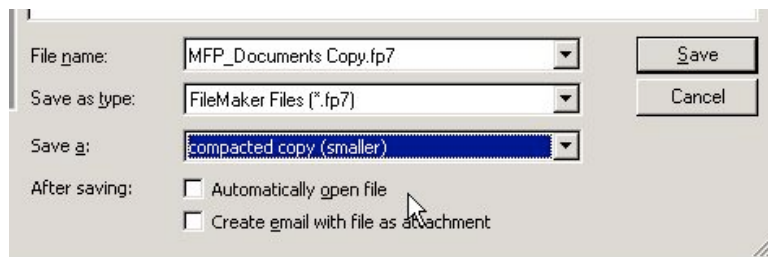


## 5.0 MAINTENANCE HOW TOS

Note: These procedures involve making copies of your MFP system and you need to take care to make sure there is only one copy of the system available for user access, this includes local drives..

### Compact and swap FMP

- Stop FileMaker Server
- Copy the entire system to a client
- Open like normal, but use full control and point to the local copy of MFP\_1.fp7.
- Open the file to compress using MFP\_1.fp7.
- Select File>Save a copy as>Choose “compacted copy” from the drop down menu. Click OK.
- Do this for all large log files.
- Exit FileMaker.
- Remove the original non compacted files from the directory, save in case of problems.
- Copy the new compacted files into the directory.
- Rename the new compacted files to the exact name as the original.
- Open the entire system once in single user mode, and exit.
- Copy the entire system back to the server.
- Start FileMaker Server.
- Review the Event Log.



#### Restore from a backup

Stop FileMaker Server  
Copy the entire system to an unshared directory and compress.  
Find the most recent copy on your tape and restore to a hard drive.  
Copy this to the FileMaker Server directory on the server.  
Start FileMaker Server.

#### Restore from a ghost

Reinstall the ghost image.  
Stop the FileMaker service(s).  
Copy the last known good files from storage and overwrite the files in the FileMaker server directory.  
(Note: the databases on the ghost are frequently damaged, current data need to be copied manually.)

#### Update a file

This is if MMC sends you an update or critical bug fix.

Stop FileMaker Server.  
Read the instructions with the update, this will tell you what to rename files and where to put them.  
Run the update per the instructions.  
Copy the updated files back to the server.  
Start FileMaker Server.

#### Do a design change

Minor design changes can be accomplished live online. Document the change.

Major changes must be done off line  
It is MMC's policy to always keep an unused development copy of a system we maintain for design changes and backup purposes. The reason is complex, but lies in the fact that FileMaker databases contain the data, the structure, the user interface and the reports all in one place. The structure can be damaged or degraded in the normal production environment use due to thousands of opens and closes, server crashes and disk errors.

This is the basic software design routine we use  
Write the specification

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Make the change  
 Test the change  
 Document the test  
 Stop FileMaker Server  
 Copy the affected files to your offline copy  
 Import data  
 Reset counters  
 Run conversion routines or update scripts  
 Copy the updated files back to the server  
 Start FileMaker Server  
 Test again live

**Recover a file**

FileMaker has a routine to recover damaged files. This must be done offline in single user mode.

Symptoms:  
 Unexpected crashes  
 Counters do not work  
 Some records display as blank or question mark

It is the policy of MMC to move data that has been recovered into the original unused files rather than reuse the recovered files. While using the recovered files can work for a while, repeated crashes and data loss may occur.

Stop FileMaker Server  
 Copy the entire system to a client  
 Open the application, FileMaker Pro  
 Select File>Recover..  
 Point to the file you want to recover first.  
 Do this for all damaged files.  
 Exit FileMaker  
 Rename the current files and move out of the hosted directory.  
 Rename the new recovered files to the exact name as the original.  
 Remove the original uncompressed files from the directory, save in case of problems.  
 Copy the entire system back to the server  
 Start FileMaker Server.

**6.0 WHEN THINGS GO WRONG / TROUBLESHOOTING**

1. Use the FM Console application from any client machine to see the statistics and if any or all of the files are closed.
2. If the files do not open, try stopping and starting the dbase server, try manually opening the files and review messages.
3. If this does not work. Shut down and restart the server. The databases should open automatically. Shut down and wait 2 minutes and then start up. Do not do a restart.
4. If this does not work. Read the error messages and event logs and try to recover the problem databases. Use the Event Viewer application. Use the recover tool.
5. If this does not work. Try restoring from backup.
6. If this does not work. Try reinstalling the server software.
7. If this does not work. Call MMC Software, LLC.

**7.0 INSTALLATION—SERVER/CLIENT/MFP**

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For best performance, ManufactPro should be run on its own server using FileMakerPro Server. However, we have had success in using a server that acts as a file server, print server, gateway, domain controller, or backup domain controller. FileMaker Server will not run on a server with Microsoft Exchange installed and running. The reason is Exchange will take 100% of the CPU for long periods of time—hours and prevent users access to the hosted databases.

We suggest the following hardware setup for a dedicated server:  
 Application Server (running FileMaker Server): Raid 1 drives, 5GB Ram, Offline storage, CD-ROM drive.

**Step 1 - Installing the Server**

Login as Admin. Turn virus protection off.. Click Install or Setup.exe. Choose custom to change installation location from the default install: C:\programs\filemaker. Do not drag or copy and paste this application, the application will not run and the Registry keys will become disconnected. Uninstall and reinstall if you want to move the directory. Install only one copy.

**Step 2 - Configuring the Server Software**

Select FileMaker Console.  
  
 See the MMC Server IQ for values set during your install

**Step 3 - Install the MFP Databases**

Copy the databases into the FileMakerPro Server Folder. The server will open all files in this directory and one level down. Install only one copy. Do not change the names of the files. If installing from a CD, select all files and set the read only bit (properties: right click) to “not read only”. Install and share the FM\_Support directory. Select Start>Control Panels>Services and start the FileMaker Server Service and open the FM Console and select “Open from the drop down,”

**Step 4 - Create Backup Schedule, Configure Backup and Virus Apps.**

Open the console and click schedules  
  
 Configure the Backup software or agent and Virus scanners  
 Configure the backup software (Verities/Symantec) to copy the closed backup copies.  
 Make sure your backup software skips open files. Backup only the closed, not the open database files. If you do not do this, the databases can be corrupted, damaged and you can loose data and cause your system to be non-functional. Most backup software should skip open files. Test after the first backup to make sure the files are on the tape and usable.  
  
 Configure the virus software (Symantec) to skip the FileMaker Server directory at c:\Programs\FileMaker\FileMaker Server\. Pattern matching virus scanning software is known to alter/rewrite the data and schema of the database files. Do not let this happen.

**Step 5 - Set Permissions for the Server Directory**

Share the FileMaker Server directory. Allow full control to sys admins and ManufactPro/FileMaker admins. Do not give anyone else read or any other kind of access. Apply the permissions to the directories only, not the files. FileMaker uses its own permission scheme, not the operating system’s permissions. You must not allow the users to navigate to the database files and double click on them. This is the wrong way to open networked databases and file damage and data corruption will occur. Users must open the system by double clicking the “launcher” file on their desktop or via Open Remotes

**Step 6 - Open Firewall Ports**

See current shipping docs for ports

**Installing FileMaker on a Client machine**

There are three steps: install the application, install MFP software, open Firewall Ports.

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Step 1 - FileMaker app: Turn virus protection off. Insert the FileMaker application CD. Click Install. Enter the registration key. The application will install, answer no to the registration dialogs. MMC usually copies the application files and registration key to this location for easy network installs. Command line and script installs are possible, read the directions in the FileMaker documentation.

Step 2 - Open Firewall Ports

**Moving Servers-FileMaker Server**

Moving servers is no big deal. Install and configure FM Server on the new box. Stop services on the old box, copy the databases to the new box, start service on the new box. All clients on the network should find the new box. OK to change share name and IP address. In some cases, the first user to open the system must "locate" the new box the very first time using Open>Remote. After this first locate, everything works fine. Make sure you configure backups and remove the old databases from the old box and disable the service. Running two FileMaker servers on the same network is OK, but they must host different databases. If they host the same dbases, there is no way to correctly point, connect to the new vs. the old system. Do not do this. You will have some data entry in one system and some in another. It is almost impossible to correct. Do not host 2 identical systems at the same time.

**Moving Servers-Doc Control**

Open the MFP and login as usual. Click Preferences>Preferences>Document Locations. Type to change the server name. The MFP uses a UNC path to find the documents. The path is built from the server name in these fields and a complex calculation to determine the file/directory names. The UNC path is rebuilt each time the open document feature is used. You can run the maintenance script to re-write all paths at once.

**Custom Files**

Some companies have custom databases that have been developed outside the scope of the MFP system. These file are hosted on the same server and may have a button in the MFP home/main file. They are very specialized to the owner who designed them, so please check with them first as to function, changes and access..

**Passwords**

Every file MMC develops has a master password used for design purposes. Using this password puts one at risk of data deletion and design changes. Please check with your MFP admin for the master password or use the super user account and password. The master password cannot be changed.

**MMC Network Access**

MMC requires a current and valid network logon to your domain. If we are installing software, we require permissions that will let us do that. When we install or maintain the server software, we require the admin password and physical access to the server. If you want us to make customizations or troubleshoot, we require remote access. We Windows Remote Desktop with or without VPN clients—we have the most widely used ones.

**Known Issues:**

**FileMaker Server**

1. Java updates can prevent the server admin console from working. Test before applying and downgrade if not working. 11 and lower
2. The Windows Firewall blocks the TCP port FileMaker uses to find Server. Solution: Open
3. Multiple IP addresses can confuse the application. Use only one.

**FileMaker Client**

1. The memory cache on the client can drastically affect performance. Set to 256 MB or max.
2. The Windows Personal Firewall blocks the TCP port FileMaker uses to find Server. Solution: Open ports.
3. Multiple IP addresses can confuse the application (hardwired and wireless at same time). Use only one.



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4. The "Open MFP" file cannot find the server if the network has subnets or port blocking on the routers is enabled. Solution is to add the IP address to the opener file using the buttons and distribute to all users.

**8.0 RESOURCES**

- FileMaker documentation (in MFP\_Support directory, with the programs and the installer images/files)
- MMC documentation (in MFP\_Support directory)
- FileMaker website <http://www.filemaker.com>
- MMC website <http://www.mmcpro.com>

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## 9.0 2015 Quick Reference Page

### Server:

Install: FileZilla, Adobe Acrobat, FileMaker Server

IE: No Enhanced Security mode

Browser: HTML5

FM Server Config.-Follow the MMC IQ doc. Max out the RAM:2-4 GB

Printer: add printer most users use

Mapped drive: Add the mapped drive to doc control identical to users

Ports open (In and out): 80, 5003, 5013, 50003, 16000, 16001 tcp

RAS: Add the MMC account to the TS list, enable RDC

Virus Scanning: exclude Programs\FileMaker\FileMaker Server\Data

Backups: grab Programs(x86)\FileMaker\FileMaker Server\Data\Backups

Monthly Maintenance: Use FileMaker Server Admin console to disconnect users, then old restart (shut down, wait 5 min, restart).

### Clients:

Install: FileMaker Client

Plugins installed on first login. No MMC installer anymore

Security: Must be able to write to desktop, create an email in outlook, print (Group Policies)

Ports open (In and out): 80, 5003, 50003, 16000, 16001 tcp

FileMaker Memory Cache: Launch app, go to preferences, set to 256MB or higher if allowed.