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# How to Import FileMaker Pro Databases into FmPro Migrator

# How to Import FileMaker Pro Databases into FmPro Migrator

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# Installation

## Installation Tips

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This document provides an explanation of the steps required to import info from FileMaker Pro database files using FmPro Migrator and FileMaker Pro (with Advanced Tools enabled).

FmPro Migrator 11.01

Manual Revision 24

4/16/2024

Changes with this manual version:

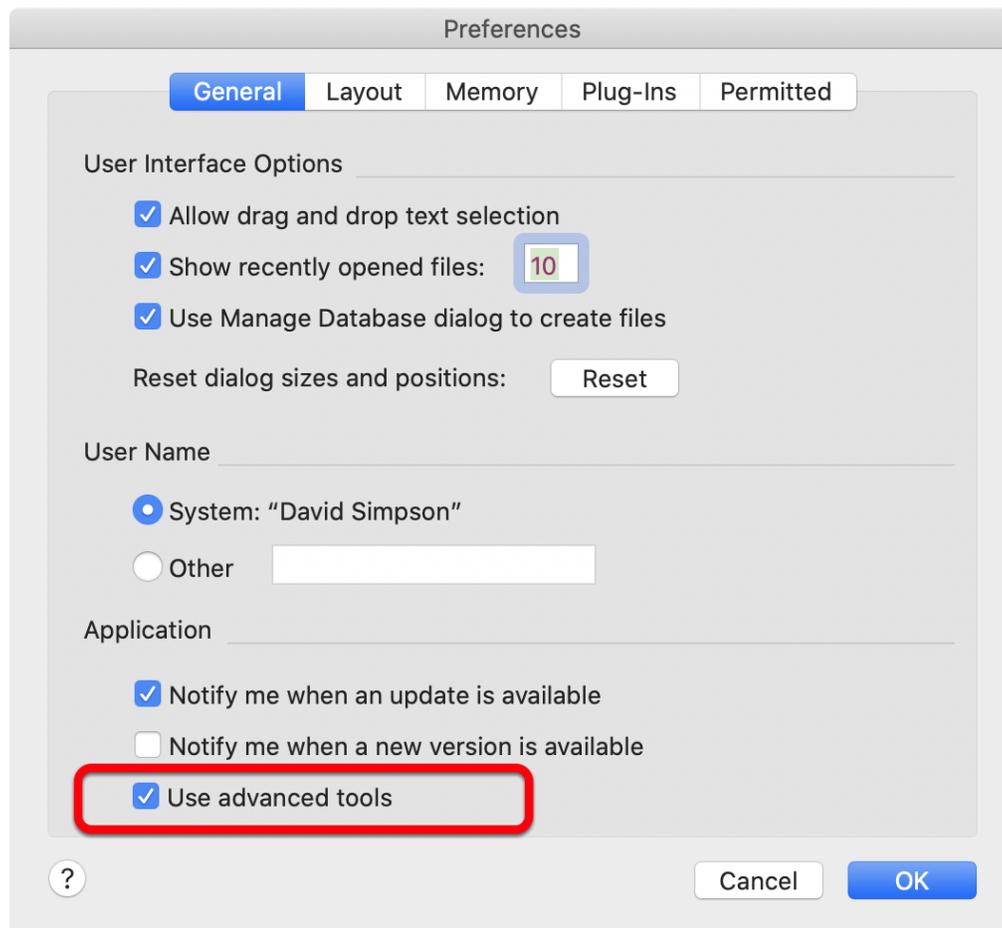
Updated for FmPro Migrator Platinum Edition 11.01.

Added new Licensing FmPro Migrator info.

Updated some screenshots.

Replaced FileMaker Pro Advanced with FileMaker Pro in most places.

### Enable FileMaker Advanced Features



As of FileMaker Pro 19 the advanced tools are included in FileMaker Pro instead of requiring installation of FileMaker Advanced as a separate product. FileMaker Pro is now used in place of FileMaker Pro Advanced - this manual may show both names in some places when showing

screenshots and discussing older versions of FileMaker.

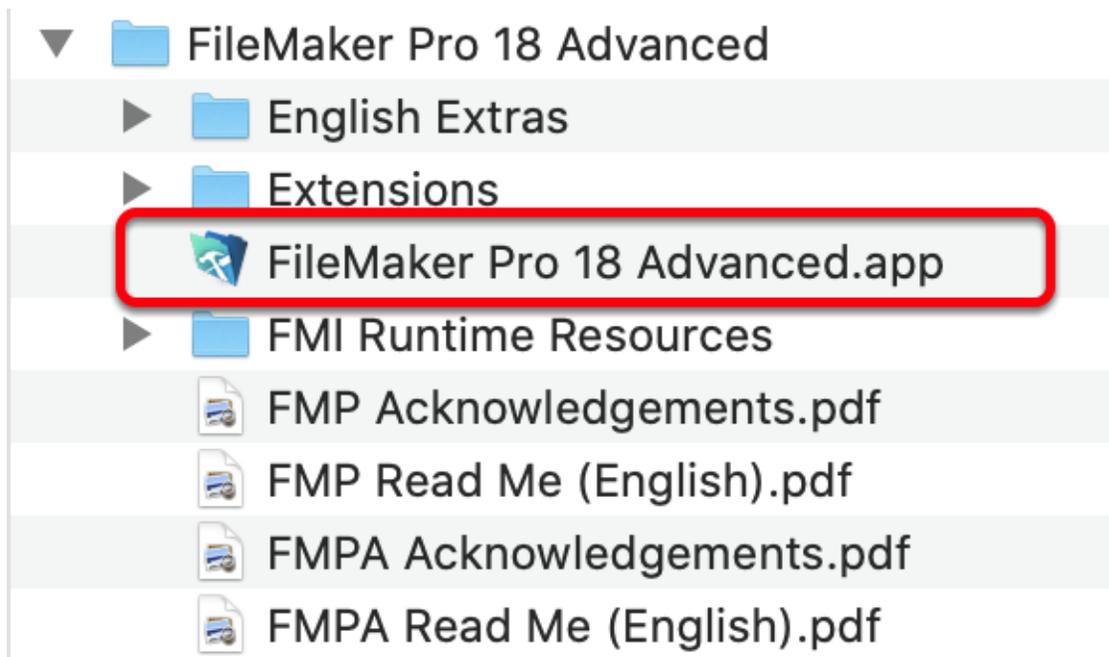
On macOS, select the Preferences menu item or Command - comma keys to open the Preferences dialog.

On Windows, select the Edit -> Preferences menu item to open the Preferences dialog.

Click the "Use advanced tools" checkbox, click the Ok button, Quit and re-open the FileMaker application.

The advanced tools are required in order to export the DDR XML file used by FmPro Migrator.

## FileMaker 18 Compatibility

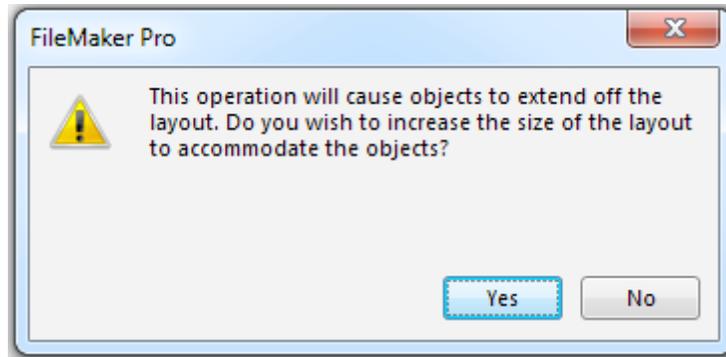


FileMaker Pro Advanced 18 introduces a change to the name of the application - by the addition of "18" in the name of the application. Previously, the name of the app was simply "FileMaker Pro Advanced".

FmPro Migrator on macOS automatically handles this name change within the automation scripts.

On Windows, the name of the EXE application should be manually changed to remove the version number for use with the WinAutomation jobs. Overall, running the Table Consolidation process on Windows is no longer recommended due to limitations with creating of relationships in an automated manner.

## FileMaker 14+ Notes - Copy Layouts to FileMaker - Windows



On Windows, it may be necessary to manually click on the Yes button the first time the Extend Objects Dialog is displayed. Otherwise, the button won't get clicked and an error will be displayed. After manually clicking on this dialog once, it will be automatically clicked every other time it is displayed.

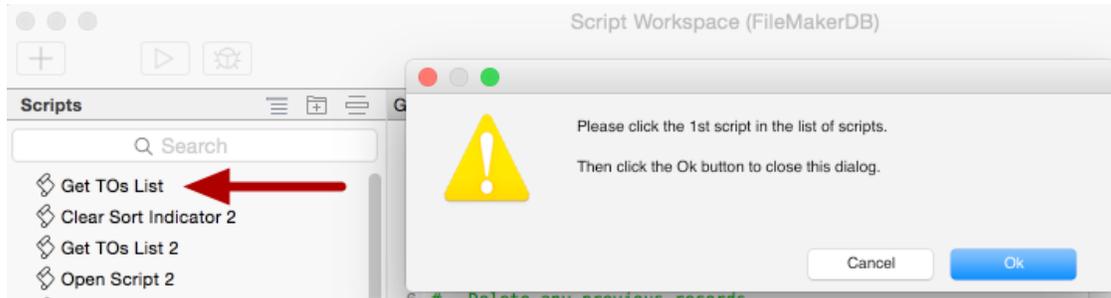
**Note:** This issue appears to be intermittent and may no longer be an issue.

## FileMaker 14 Notes - Creating Relationships in FileMaker - Windows



With FileMaker 14+ on Windows, it is not possible to get or set the contents of the TO name combobox menus on the Edit Relationship dialog. In fact, even a user cannot use type-ahead to set the contents of these menus - this is a change in behavior compared to FileMaker 13. Therefore, it will probably be necessary to revert back to FileMaker 13 on Windows or use FileMaker 14+ on macOS to build relationships.

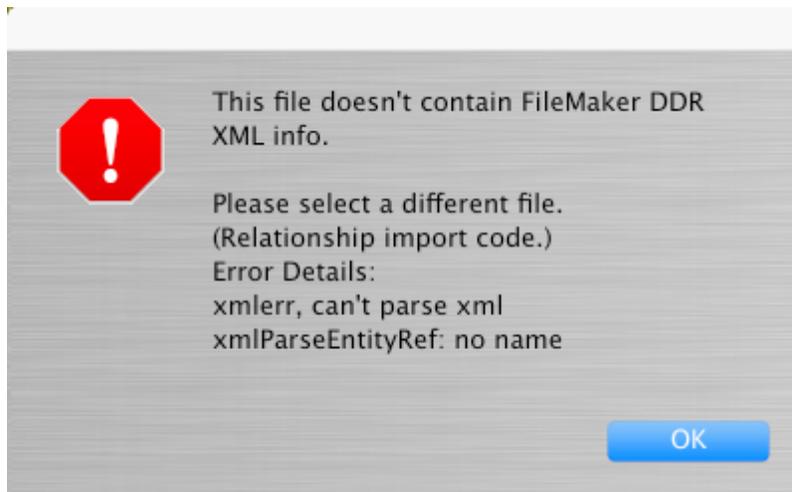
## FileMaker 14+ Notes - Creating Scripts in FileMaker - macOS



AppleScript is not able to click the 1st script in the list of scripts in the Script Workspace window. FmPro Migrator will prompt you to manually click the first script before processing can start. Once this has been done, the rest of the processing runs normally.

**Note:** This dialog may not always display right away. It may require clicking on the Script Workspace before it is displayed.

## FileMaker 14 DDR XML Errors



Some DDR Files exported from FileMaker Pro Advanced 14 might be corrupted when created by FileMaker. This can be an indication of corruption within the FileMaker database. However some of these DDR XML errors may disappear by using FileMaker Pro Advanced 13 to export the DDR XML file.

**WorkAround:** You can ALWAYS export a FileMaker 13 DDR XML file and use this file for a FileMaker 14 Table Consolidation project. There is nothing extra included in a FileMaker 14 DDR XML file which FmPro Migrator requires in order to complete the project. Furthermore, FmPro Migrator doesn't check the version info written into the DDR XML file, only the version of the running FileMaker Pro Advanced application. FmPro Migrator captures the objects most likely to change between FileMaker versions (scripts, layouts) via the clipboard.

If you cannot import the DDR XML file into BaseElements or Inspector Pro, then FmPro Migrator won't be able to read it either.

For more details, please see this web page at [Goya.com.au about DDR XML file corruption](http://Goya.com.au/about-DDR-XML-file-corruption).

## Installation & Pre-Migration Tips

Tip1: Configure your operating system (macOS or Windows) for English language. Even though the AppleScript scripts on macOS are intended to work with other languages, there can still be some compatibility issues when using any language other than English.

Tip2: Don't rename the FmPro Migrator or FileMaker Pro executable files on your hard disk. If you want to maintain different versions of these applications, put them into folders containing different names. The AppleScript/WinAutomation scripts look for these two applications by their executable filenames, and if they are renamed the shortcuts won't be able to find the applications even if the applications are currently running.

Tip3: On macOS make sure that you only have **one copy of FileMaker Pro running** and **only one database open** when performing the GUI automation tasks (importing layouts into FmPro Migrator, creating value lists, custom functions, scripts, layouts in FileMaker Pro). FmPro Migrator will verify that the version of FileMaker you have selected in the Source Database and Destination Database menus matches what is currently running. But if 2 copies of FileMaker are running, this verification process will not necessarily work properly. It is likely that the first opened copy of the FileMaker application will receive the AppleScript commands.

Tip4: On Windows, in order for the compiled WinAutomation job to find menu items within the FileMaker user interface, the database window should not be maximized. Click the Restore Down button in the window if it is maximized. The source code for the job file is written into the C:\<username>\My Documents\WinAutomation\_Jobs folder as a file named \_FmPro Migrator WA Jobs.waj. This file is available under open source licensing, and modifications can be made by the user if necessary, for instance for updating the job file to work with localized versions of FileMaker.

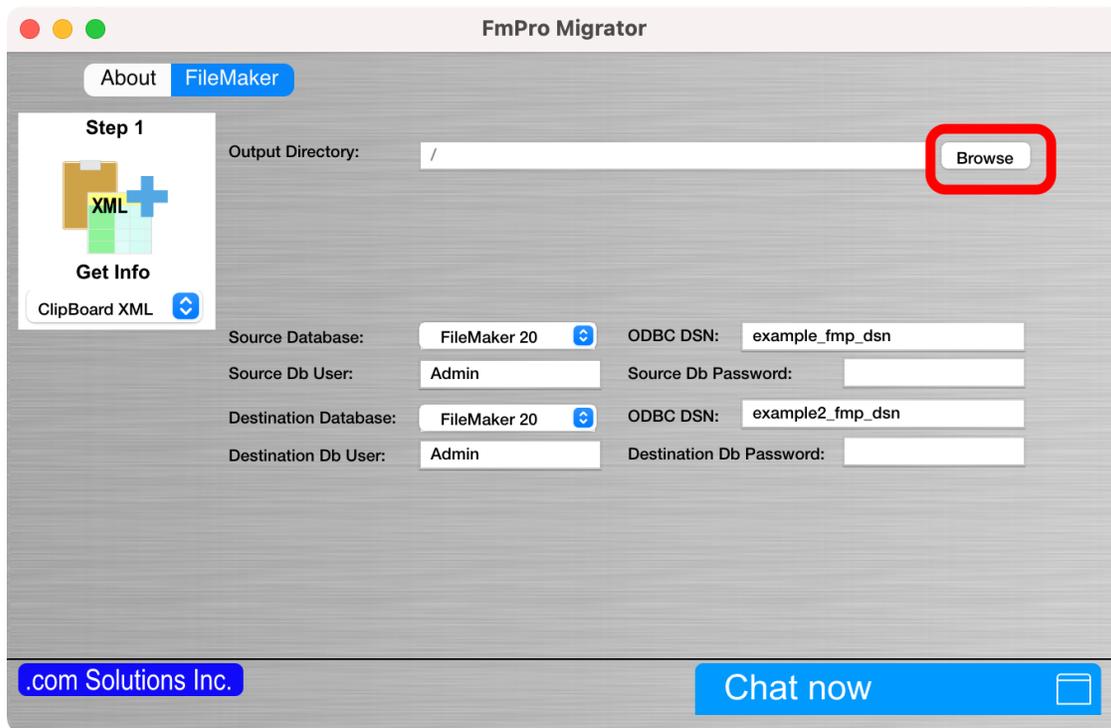
Tip5: Duplicate value lists, layouts and script names need to be considered prior to performing a Table Consolidation or Conversion project. It may be necessary to perform the entire Table Consolidation process to more easily see the duplicated objects which will cause problems in the completed solution.

It will be necessary to re-import all of the individual database files again into a new empty MigrationProcess.db3 FmPro Migrator project file. To do this, quit FmPro Migrator and create a new empty project folder. Select the Browse button on the FileMaker tab to use this new folder and copy 1 table via the clipboard from FileMaker into FmPro Migrator. A new MigrationProcess.db3 file will be created in the new folder.

Tip6: Duplicated table occurrences only need updated if the resulting relationships cause new

TOs to be created during conversion. These new TOs will have a different name compared with the original file - and won't get used by default. If the new TOs and relationships are exact duplicates of existing ones - they can simply be deleted in the new consolidated file.

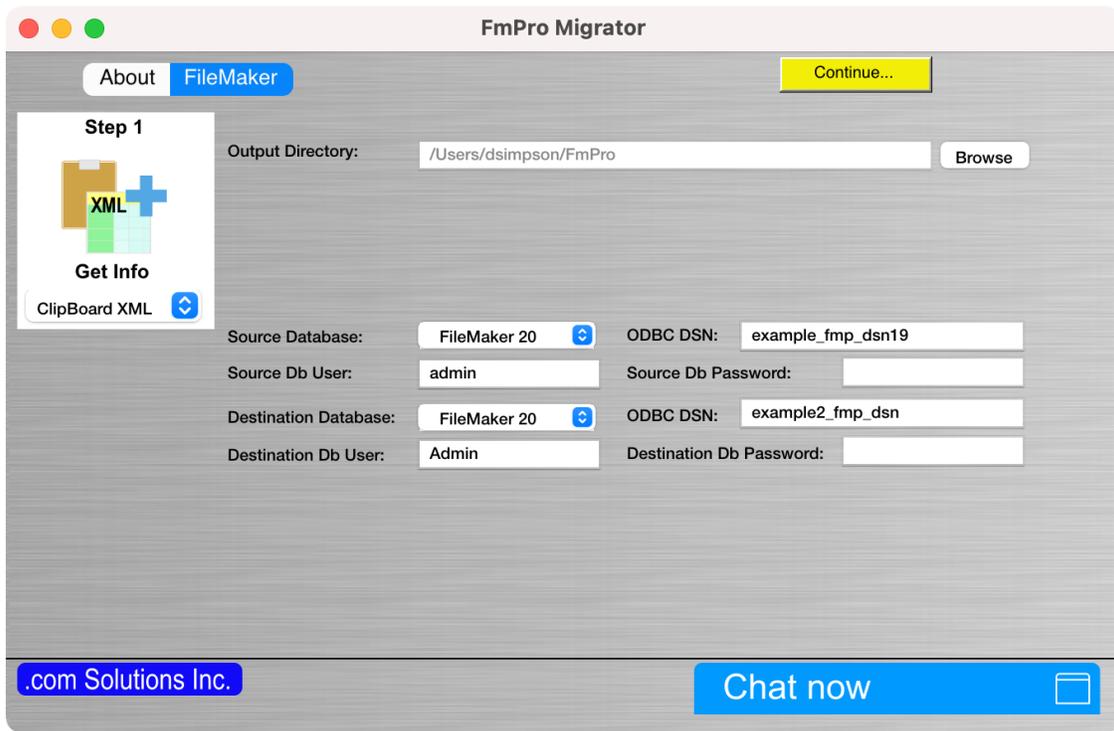
## Select Output Directory



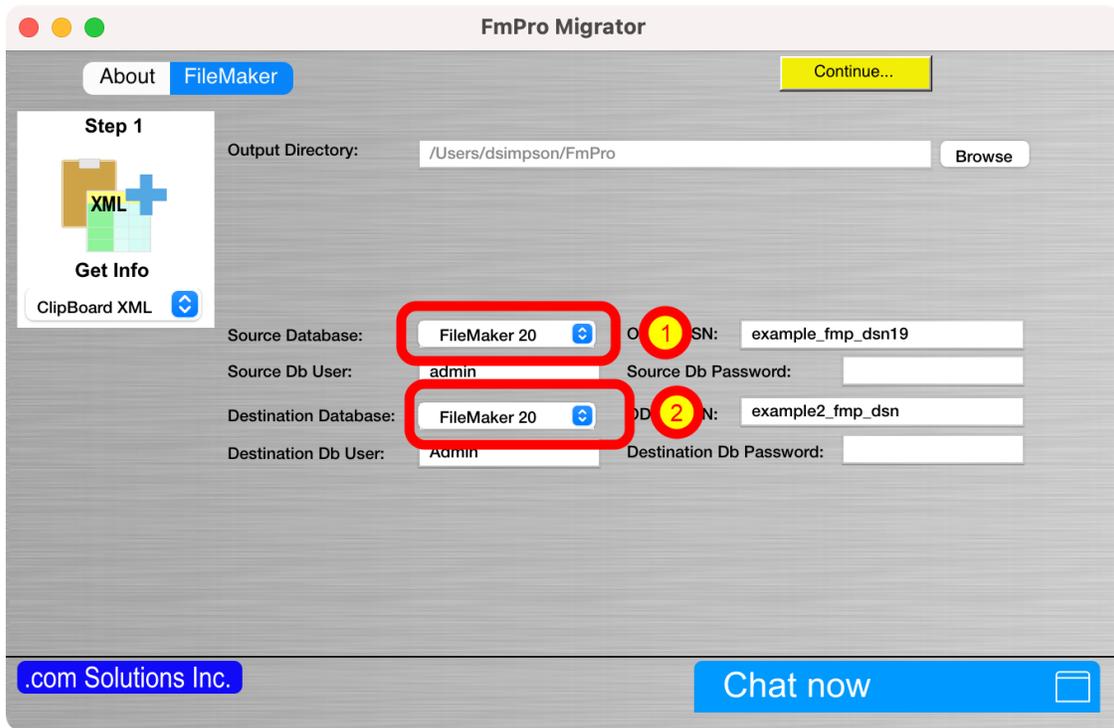
FmPro Migrator stores migration information for each project within a SQLite database file named MigrationProcess.db3. FmPro Migrator needs to know where this file should be stored, prior to starting your migration project. You can have as many MigrationProcess.db3 files as needed (for instance a separate file for each project), as long as these files are stored within different directories on your hard disk. This output directory is also used for writing automation scripts, instructions and the FileMakerDB.fp7/FileMakerDB.fmp12 template database file.

On the FileMaker tab within FmPro Migrator, click the Browse button, then select an output directory

[If you select an output directory which already contains a MigrationProcess.db3 file, the yellow Continue... button will be enabled so that you can continue working on a previously created project. Otherwise, the MigrationProcess.db3 file will be created automatically when you add the first table to your migration project.]



**Select Source and Destination Database Types**



Selecting both the Source Database and Destination Database types as FileMaker (version#) triggers FmPro Migrator to enter Table Consolidation mode once the first table is copied from the Clipboard.

Note: It is important to accurately select the type of Destination Database in order for FmPro Migrator to use the correct AppleScript or WinAutomation scripts when performing migration tasks. Different versions of FileMaker have used differing menu options, therefore customized automation scripts are used by FmPro Migrator based upon the database version.

On macOS and Windows, FmPro Migrator will attempt to determine if you are running a version of FileMaker Pro which is different from what you have selected for the Source/Destination database types. It will also check to see if you are running 2 copies of FileMaker Pro at the same time, and will warn you to close one of them.

**FileMaker 12+ Note1:** As of FileMaker 12, there have been changes made to the format of XML code placed onto the clipboard for layouts and scripts. These different formats are not fully compatible with different versions of the FileMaker database. For instance, if you capture layouts with FileMaker 11 and then try to paste them into FileMaker 13, the contents of the layout won't get pasted. So for Table Consolidation projects it is recommended that you use the same version of FileMaker for all phases of the project. Therefore, select the source and destination database versions to be the same version.

### Convert FileMaker 5/6 Files

When upgrading FileMaker 5/6 files, the files should be converted into .fp7 files using the FileMaker Pro 11 Trial Version from the FileMaker website. This tech note provides further details: [http://help.filemaker.com/app/answers/detail/a\\_id/10571](http://help.filemaker.com/app/answers/detail/a_id/10571)

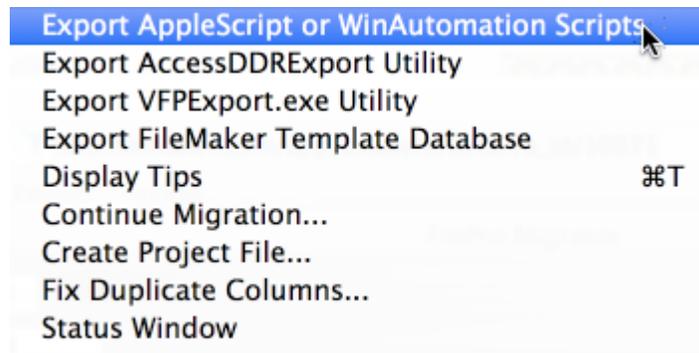
FmPro Migrator uses FileMaker Pro 12+ (with advanced tools enabled) when performing a Table Consolidation or Conversion project. Open the original (older) files with the newer version of FileMaker Pro and the files will be converted automatically by FileMaker. For the purposes of this documentation, these new files are considered to be the source data files for the project.

For example, if you want to convert FileMaker Pro 5.5 (.fp5) files to FileMaker Pro 13:

- 1) Download the FileMaker Pro 11 Trial version from the tech note provided above.
- 2) Convert the .fp5 files into .fp7 files using the FileMaker Pro 11 Trial version.
- 3) Convert the .fp7 files into .fmp12 files using FileMaker Pro 12+.

Within FmPro Migrator, you must select the same version of FileMaker as both the source and destination database versions.

## Install WinAutomation jobs [Windows]



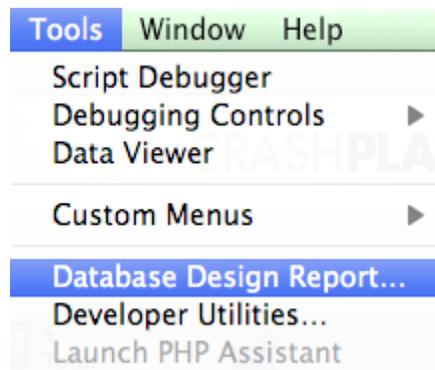
This step does not need to be performed manually anymore. The first time you use any of the GUI automation tasks on Windows, the `_FmPro Migrator WAJobs.exe` file will be exported into a new folder: `C:\My Documents\WinAutomation_Jobs` and will be launched automatically.

On macOS, the AppleScript code is embedded within FmPro Migrator therefore no installation is required.

Selecting this menu will save a text file of AppleScript code, a LiveCode AppleScript test stack and a LiveCode performance testing stack to the output directory.

These files have been released as open source for use by the FileMaker community.

## Export FileMaker Database Design Report (DDR XML)



FmPro Migrator requires information from the FileMaker Database Design Report (also known as DDR XML) in order to import information about FileMaker Pro TOs, Relationships, Value Lists, Custom Functions and Layouts.

For each FileMaker database file to be migrated, select Tools -> Database Design Report...

When prompted for the output directory, select XML as the output file type (do not select HTML).

DDR XML files can be exported for all open FileMaker database files as the same time.

**Note:** DDR XML files can only be exported by FileMaker Pro Advanced, and newer versions of FileMaker Pro with the Advanced Tools enabled.

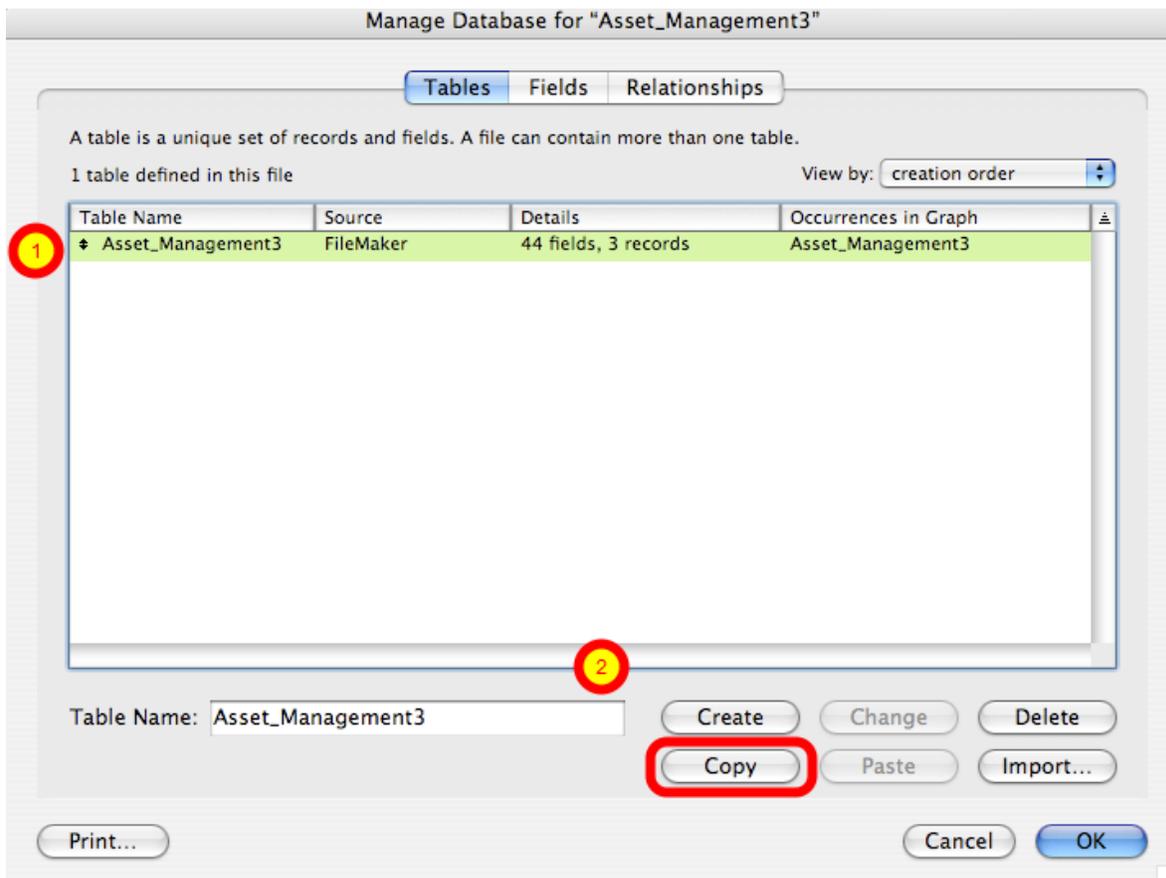
# Step 1 - Import Table Info

## Step 1 - Import Table Definitions

### Step 1 - Import Table Definitions

FmPro Migrator Edition uses FileMaker table definitions copied from the clipboard for table consolidation and conversion projects. These table definitions include all table/field options, validations and calculation formulas required to recreate the tables within a new database file. When performing SQL database conversions, this info is also used to create new tables in the SQL database.

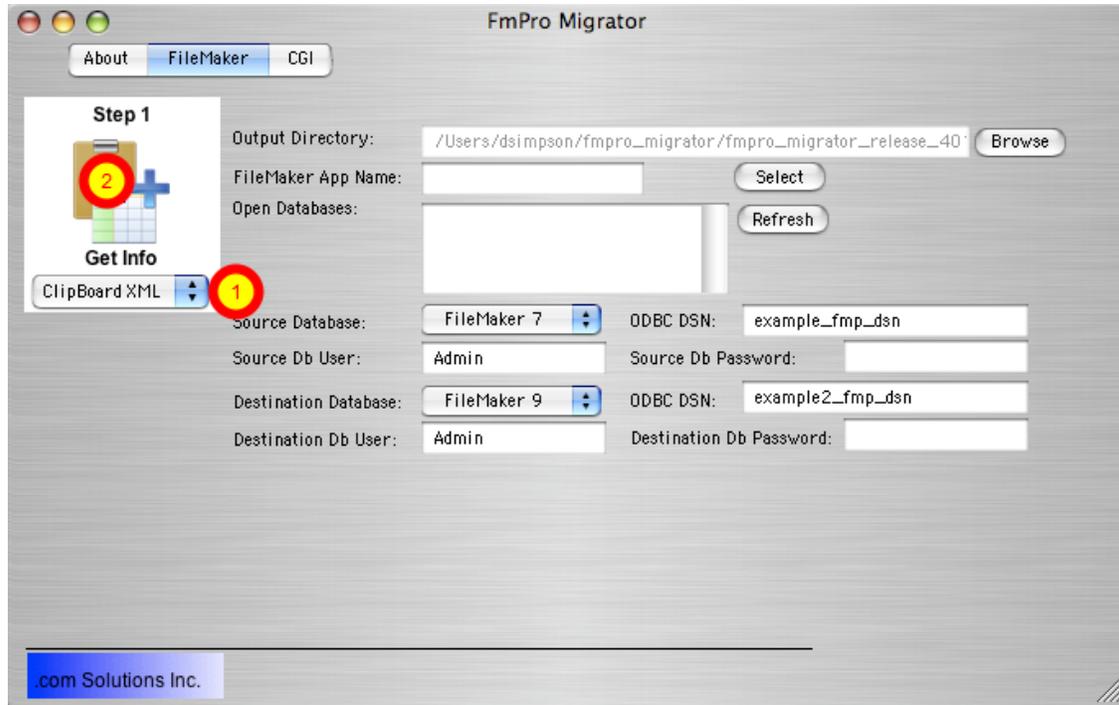
### Step 1 - Open Define/Manage Database Dialog within FileMaker Pro Advanced



Open each source database file within FileMaker Pro Advanced. Select the table within the Define/Manage Database dialog, click the Copy button.

**Note:** If you licensed FmPro Migrator Platinum Edition and need help with this step because you don't have FileMaker Pro Advanced, then please contact .com Solutions via the [Contact page on the www.fmpromigrator.com website](#).

## Step 1 - Paste Table into FmPro Migrator



On the FileMaker tab of the main FmPro Migrator window, select the "Clipboard XML" menu item, then click the Get Info button.

## Export DDR File

After copying the table definition via the Clipboard, export a DDR XML file from each source database file. These files will be used to import Relationships into FmPro Migrator later in the migration process.

## Click Continue... Button



Once the first table has been copied into FmPro Migrator, the yellow Continue... button will become visible. Click the Continue... button to open the Migration Process window.

# Step 2 - Import Layouts

## Step 2 - Import Layouts

### Step 2 - Layouts Tab

Migration Process

Tables Relationships TOs Value Lists CFs **Layouts** Scripts GUI

Instructions: Layouts: 21

**Layout Migration:**  
[Used for Table Consolidation, Access to FileMaker Pro and FileMaker Layout to HTML, Servoy, Visual FoxPro and Access migration projects.]  
Within FileMaker 7+ (layout mode), select all objects on a layout then select Copy from the Edit menu. Click the Add Layout button on this screen to copy the layout definition from the clipboard into FmPro Migrator. Each layout can be copied individually in this manner, or all layouts can be imported in batch mode (see info below). Each layout is given a default name in the form: Layoutxx where xx is an incrementing number. The currently selected layout or

Layout Name	Size	Fields	Portals
Assets v13	1790,2061	36	1
Assets v8 Copy	1792,2061	37	1
Bar Chart Gallery	1255,2190	3	0
Companies	355,127	5	0
Companies 2	355,127	5	0

Portals:

Portal Name	Fill Method	Field Titles

The Layouts tab provides an interface for managing layouts during a migration project. Layouts can be captured from FileMaker either one at a time [1] or in batch mode [2].

Clicking on a layout in the list displays details for the layout, including a thumbnail version of the layout image.

Clicking on a portal displays the portal rectangle on the thumbnail image.

## Importing Layouts - Clipboard

The screenshot shows the 'Migration Process' window with the 'Layouts' tab selected. The window title is 'Migration Process'. The top navigation bar includes 'Tables', 'Relationships', 'TOs', 'Value Lists', 'CFs', 'Layouts', 'Scripts', and 'GUI'. Below the navigation bar, there are icons for various data formats: XML, XLS, and FM. The 'Instructions' pane on the left provides detailed steps for layout migration. The main area displays a table of layout information and a 'Portals' table.

**Layout Migration:**  
[Used for Table Consolidation, Access to FileMaker Pro and FileMaker Layout to HTML, Servoy, Visual FoxPro and Access migration projects.]  
Within FileMaker 7+ (layout mode), select all objects on a layout then select Copy from the Edit menu. Click the Add Layout button on this screen to copy the layout definition from the clipboard into FmPro Migrator. Each layout can be copied individually in this manner, or all layouts can be imported in batch mode (see info below). Each layout is given a default name in the form: Layoutxx where xx is an incrementing number. The currently selected layout or

Layouts: 21

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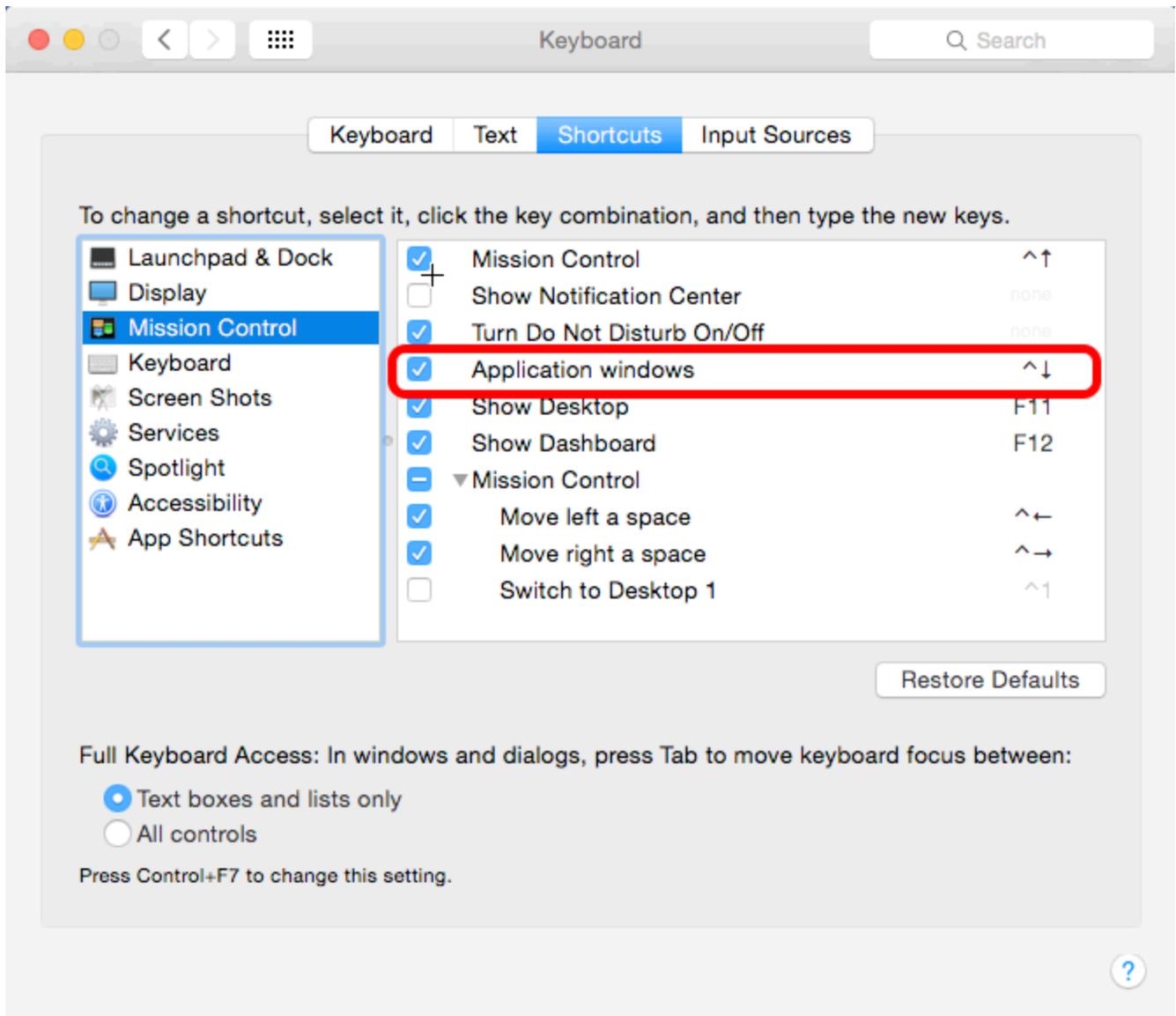
Portals:

Portal Name	Fill Method	Field Titles

Clicking the Layout Batch Import button will import layouts from the Clipboard.

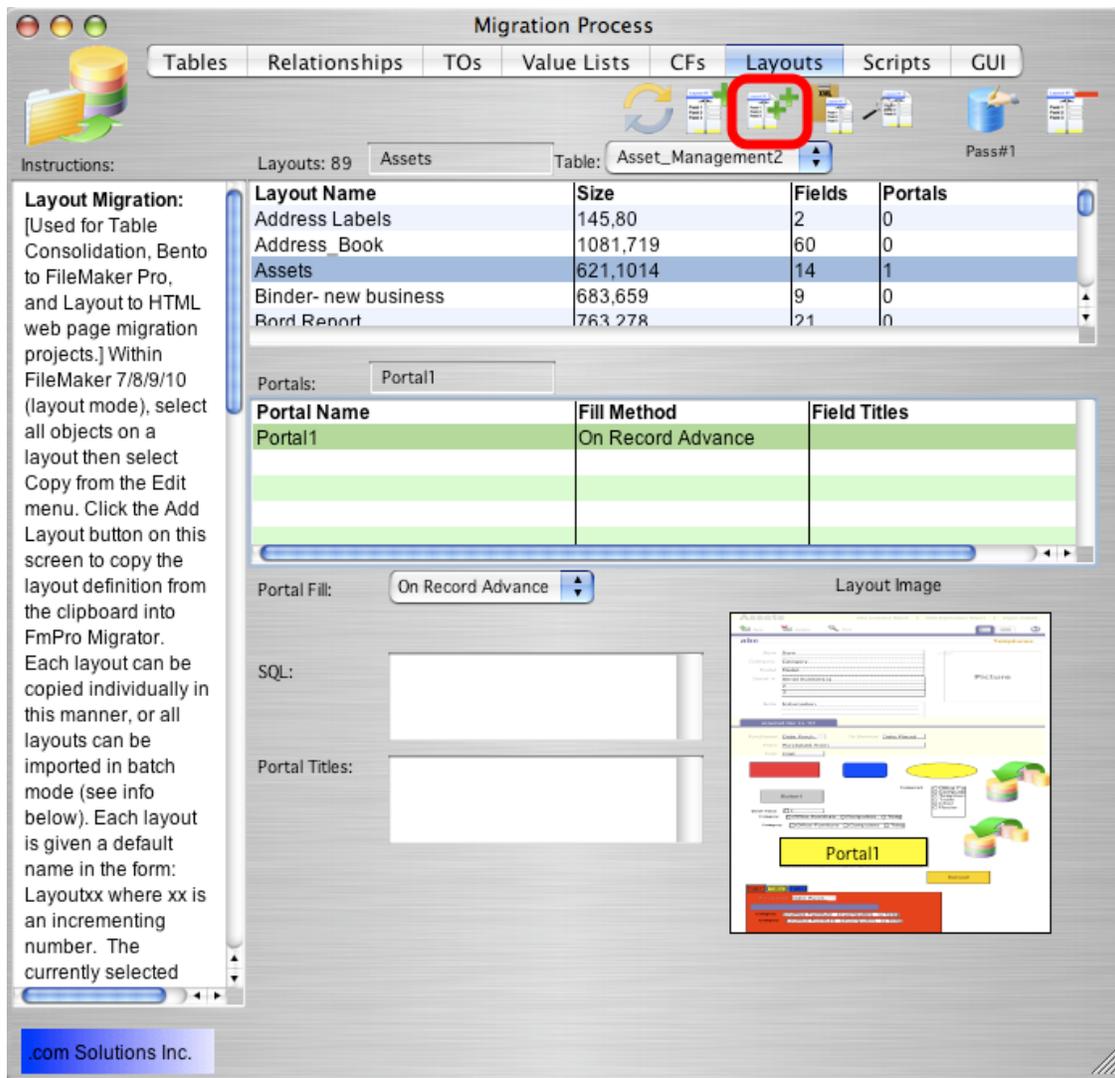
Clipboard - Uses AppleScript/WinAutomation to control the FileMaker Pro graphic interface and import each layout using the clipboard.

## Mission Control - Shortcut Key Conflict with Command Up Arrow in FileMaker



On macOS, one of the default shortcut keys for Mission Control conflicts with the FileMaker Shift Down Arrow shortcut used for advancing to the next layout. FmPro Migrator will import the same layout many times if this conflict exists. Before importing layouts, disable this conflicting shortcut key in the System Preferences -> Keyboard panel for Mission Control. It is a good idea to disable 3rd party automation tools which might also have conflicting shortcut keys.

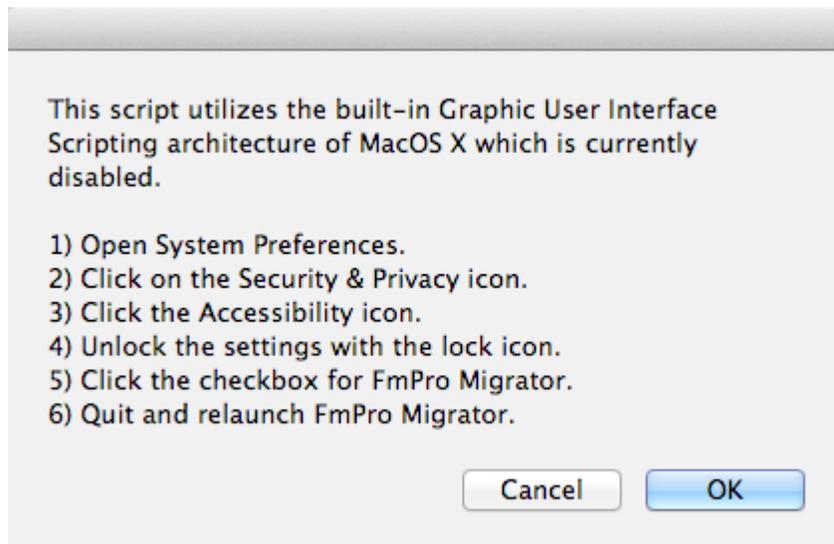
## Step 2 - Click Import All Layouts Button



The Import All Layouts button starts the process of importing all of the layouts.

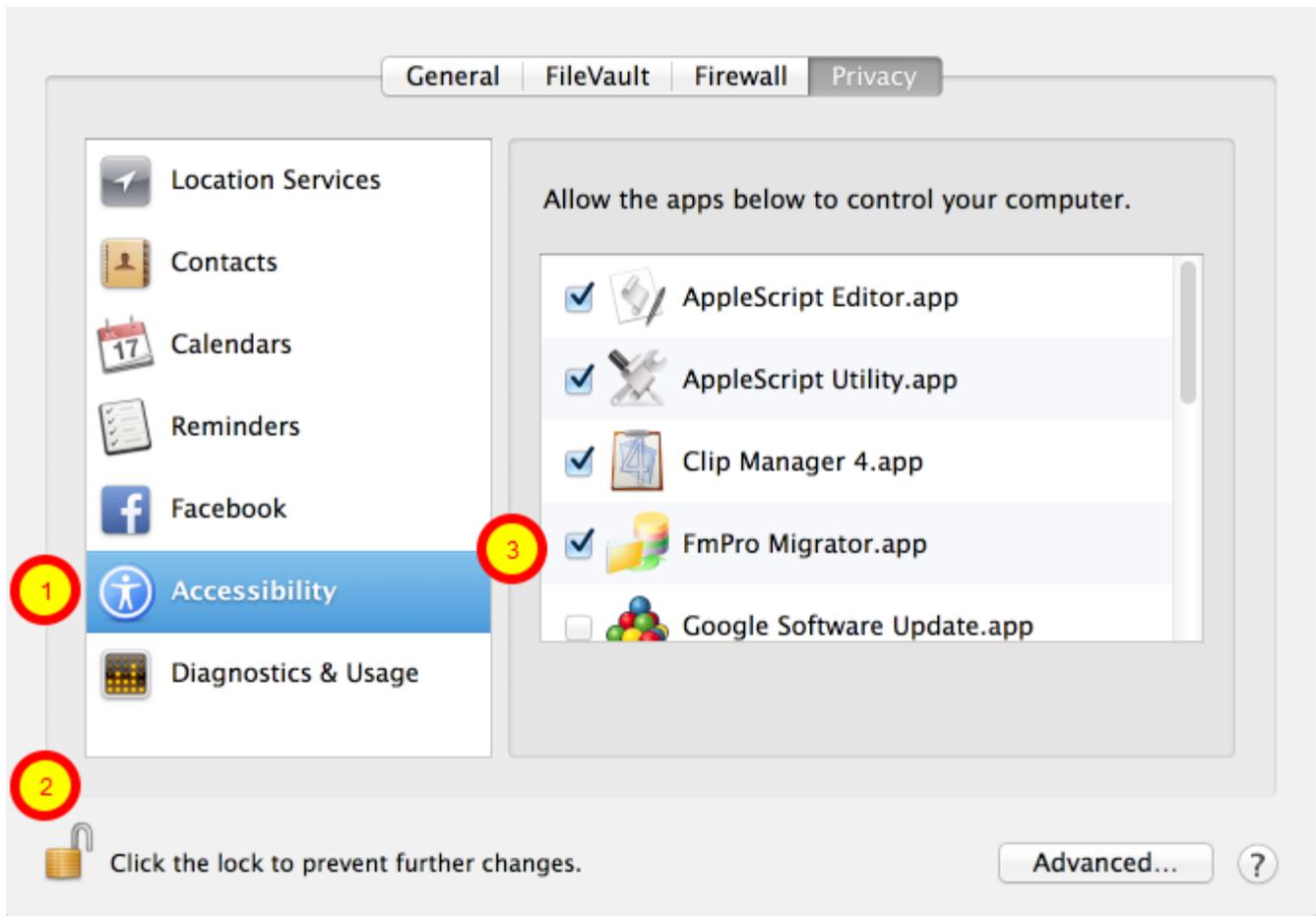
**Note:** The Import Type menu is covered up by the TO Name menu when a layout has been selected in the list - as shown in this screenshot. Also shown in this screenshot is the location of Portal1 on the thumbnail image of the layout, since Portal1 has been selected from the list of portals.

## Step 2 - macOS 10.9 Security Dialog



On macOS, FmPro Migrator uses AppleScript to perform batch processing tasks with FileMaker Pro database files. Starting with macOS 10.9 (Mavericks), each application which uses the AccessibilityAPI to control the computer needs to be authorized. FmPro Migrator performs a test to verify that it has been authorized to control the computer via AppleScript GUI scripting, and presents this dialog if it has not yet been enabled.

## Step 2 - macOS 10.9 Security Preferences

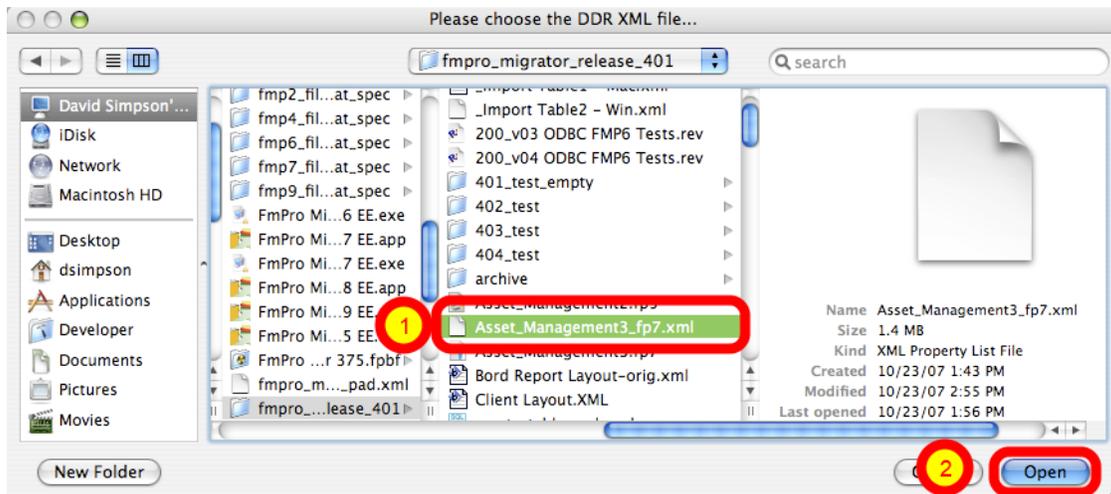


In the macOS System Preferences, click the Security & Privacy icon, (1) click the Accessibility item in the list, (2) click the lock button to allow changes, (3) click the checkmark next to the FmPro Migrator application.

**Note:** You will need to perform this unlocking process once, for each new version of FmPro Migrator is installed on your computer.

After allowing Accessibility access for FmPro Migrator, it will often be possible to immediately click on the same GUI batch processing button in FmPro Migrator to proceed with the migration. Sometimes you need to re-launch FmPro Migrator after making this change, and it can be helpful to close the System Preferences window to insure that MacOSX has recognized the change.

## Step 2 - Select the DDR XML File



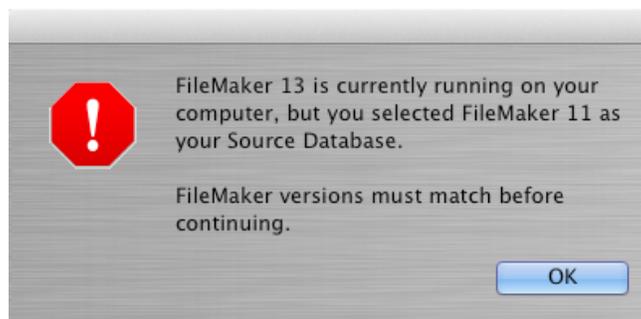
(1) Select a DDR XML file, (2) click the Open button.

**Note:** FmPro Migrator Developer Edition requires a Database Design Report as a DDR XML file created with FileMaker Developer/Advanced 7+. This DDR XML file is used by FmPro Migrator to count the number of layouts which will be copied via the clipboard, as well as the order in which the layouts are found within the FileMaker database file. The DDR XML file should be re-created if any layouts have been deleted or moved within the file by using the Manage Layouts dialog.

This DDR XML file needs to be created with the same version of FileMaker Pro Advanced which is being used for the conversion project. The version of FileMaker Pro Advanced should remain the same during the entire project.

FmPro Migrator will loop thru all of the layouts and capture them via the clipboard by using AppleScript or WinAutomation to drive the FileMaker graphical interface.

## Step 2 - Troubleshooting - Mis-Matched FileMaker Versions Error [macOS]



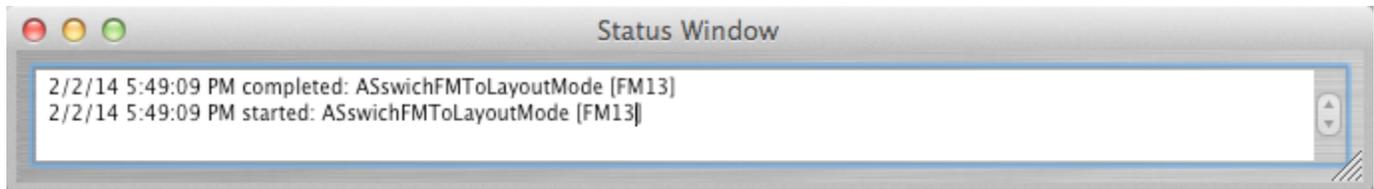
FmPro Migrator needs to have an accurate idea of which version of FileMaker Pro is currently running on your computer in order to use the correct AppleScript code to perform each task. This means that it is important to select the correct Source Database and Destination Database on the

main FmPro Migrator window.

If you are capturing layouts from FileMaker Pro, FmPro Migrator will verify that the source database version you selected is the actual version which is running on your computer [see dialog above].

If you are building objects in FileMaker Pro (i.e. value lists, custom functions, scripts, layouts), then FmPro Migrator will verify that the destination database version you selected is the actual version which is running on your computer.

## Step 2 - Troubleshooting - Locks Up with No Processing Completed [macOS]



If a batch processing task starts, but appears to lock up with no activity, then force quit and re-launch FmPro Migrator from the Finder and open the Status Window by selecting the File -> Status Window menu item. Click the batch processing button again, and review the results in the Status Window.

FmPro Migrator will continue to log the results of its AppleScript processing handlers in the Status Window as long as the window is open.

As shown above, the ASswitchFMToLayoutMode handler has run, but nothing else has completed. This type of problem can be due to having 2 copies of FileMaker Pro Advanced open at the same time. Some of the commands might get sent to one copy of FileMaker and other commands could get sent to the 2nd copy of FileMaker.

If a single copy of FileMaker Pro Advanced is running, but the FileMakerDB.fp7/FileMakerDB.fmp12 file is not open, a similar problem might also occur.

For more details about the tasks performed by the AppleScript handlers, please see the Troubleshooting AppleScript GUI Automation at the end of this document.

# Step 3 - Import Scripts

## Step 3 - Import Scripts

### Step 3 - Scripts Tab

Migration Process

Tables Relationships TOs Layouts **Scripts** GUI

Scripts: 4

Script Name	Steps
---- Address Book	0
Address Book - Import from AB2FM File (Admin)	17
Address Book - Add Group	9
Perform Script - File Reference Example	3

Script Text:

**3** This script imports records from the AB2FM FileMaker file which was used to import records. It requires: AB2FM.fp7 file in same directory as this INS database file, for importing purposes.

```
# Access - Admin only
# 11/4/2006 - David Simpson - .com Solutions Inc. - www.fmpromigrator.com - Initial Release
#
#
Go to Layout [ "Address_Book" ]
# Import Data - Look for AB2FM File in same folder (or prompt?)
Import Records [ Source: "file:AB2FM.fp7"; Target: "Address_Book"; Method: Update matching records ]
Source field 2 import to Address_Book::phonetic last name
Source field 3 import to Address_Book::name
Source field 4 import to Address_Book::organization
Source field 5 import to Address_Book::department
Source field 6 import to Address_Book::suffix
Source field 7 import to Address_Book::note
Source field 8 import to Address_Book::last name
Source field 9 import to Address_Book::phonetic first name
Source field 10 import to Address_Book::company
Source field 11 import to Address_Book::birth date month
Source field 12 import to Address_Book::birth date day
Source field 13 import to Address_Book::birth date year
Source field 14 import to Address_Book::title
Source field 15 import to Address_Book::job title
Source field 16 import to Address_Book::nickname
```

Instructions:

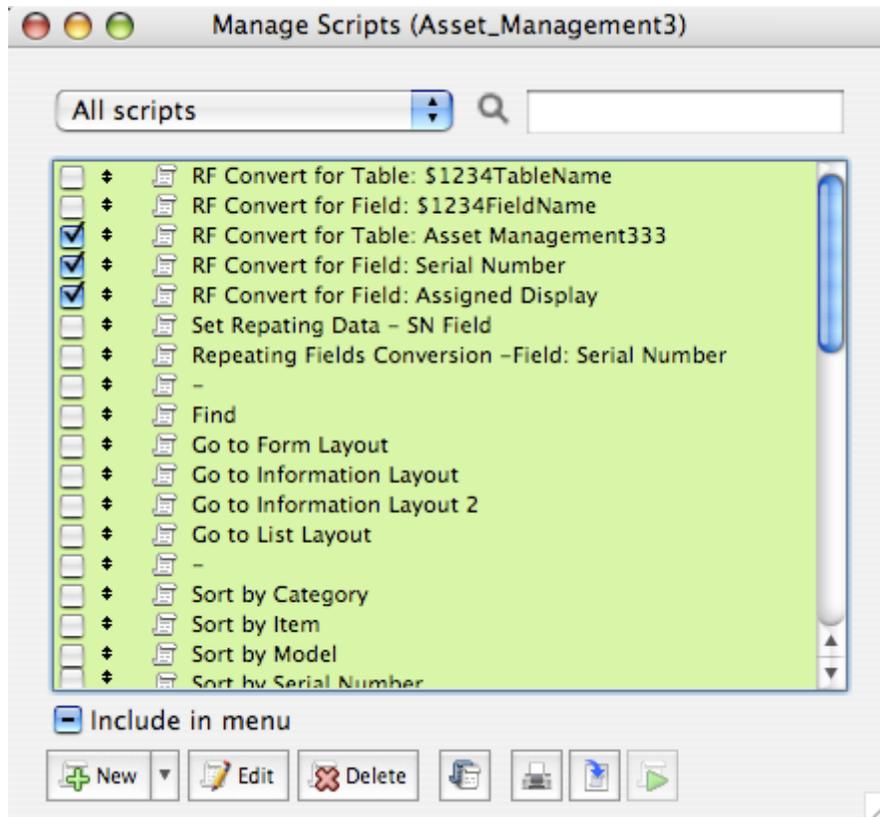
**ScriptMaker Script Migration:**  
Copy scripts from FileMaker Pro 9 or FileMaker Advanced onto the clipboard, from within FileMaker. Click the Add Scripts button on this screen to add the scripts to FmPro Migrator. All scripts within a FileMaker file can be copied all at once, each script will retain its name as displayed within ScriptMaker.

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The Scripts tab provides an interface for managing ScriptMaker Scripts during a migration project. Scripts can be captured [1] from FileMaker by copying them to the Clipboard within the ScriptMaker window within FileMaker Advanced. Once the scripts have been updated by FmPro Migrator, they can then be copied to the Clipboard [2] and pasted back into FileMaker Advanced.

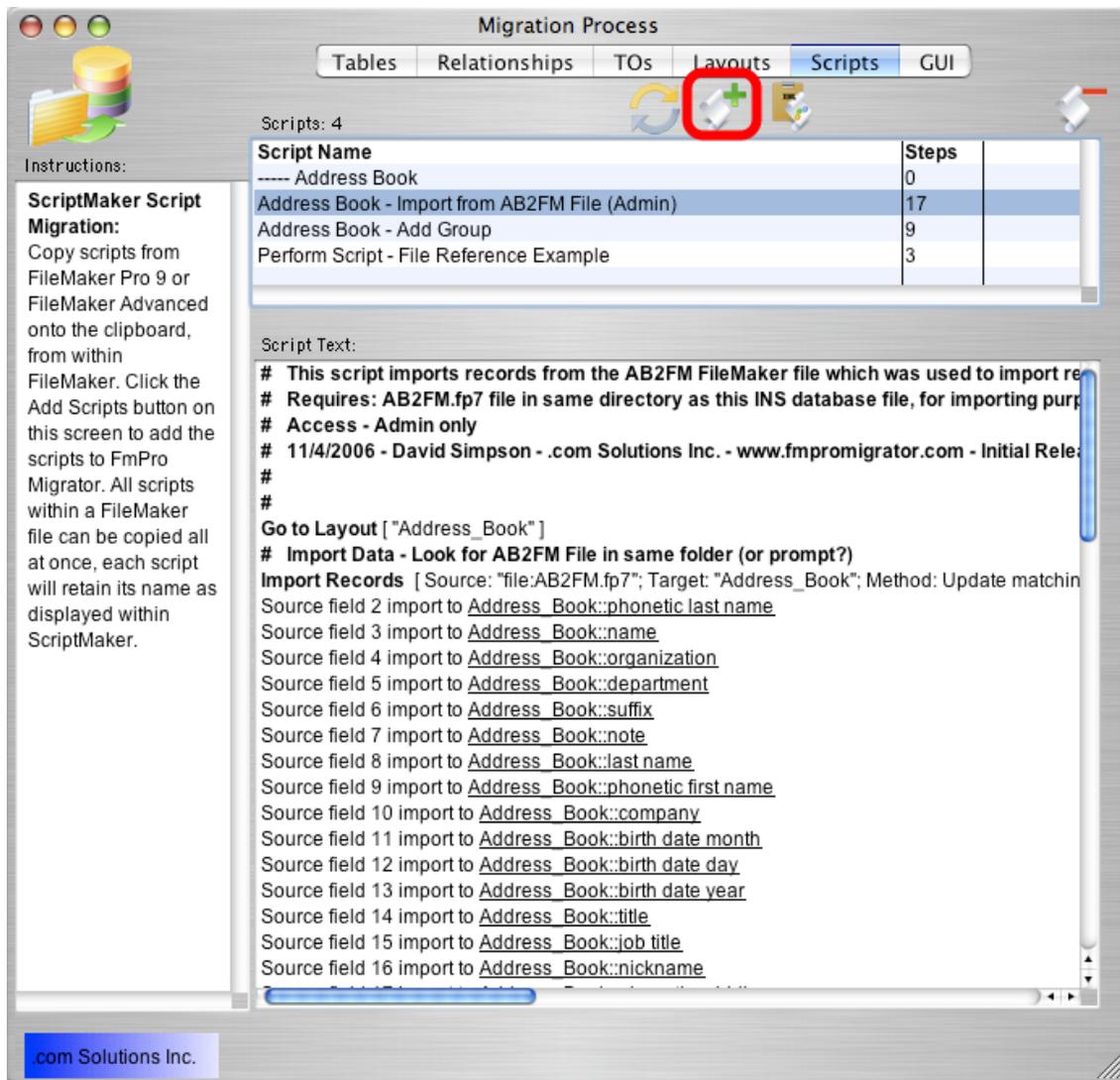
Scripts can also be viewed within FmPro Migrator by clicking each script and viewing the text version of the script within the Script Text field [3]. Duplicate or unneeded scripts can also be deleted by selecting the scripts and clicking the Delete button [4].

### Step 3 - Copy ScriptMaker Scripts From FileMaker to ClipBoard



Within FileMaker Advanced, open the ScriptMaker window, select all of the scripts and select Copy from the Edit menu.

## Step 3 - Paste Scripts From ClipBoard Into FmPro Migrator



Click the Add Scripts from ClipBoard button to paste the scripts into FmPro Migrator.

You will perform this task for every source database file which contains scripts to be added to the destination database file.

### Troubleshooting - Duplicate Script Names

Within a multi-file solution, it is possible to have the same script located within several files. However duplicate scripts are not allowed within the new single file FileMaker database. When duplicate scripts are pasted into the new consolidated database file, the duplicated scripts will be renamed with an incrementing numeric suffix. There are a couple of options available to solve this situation.

#### Option #1:

If duplicated scripts are have the same functionality, just delete the duplicated scripts within the FmPro Migrator scripts window.

**Option #2:**

If the duplicated scripts contain different functionality, they should be renamed before copying either the scripts or layouts into FmPro Migrator. One technique could be to add a file referencing prefix to each duplicated script to indicate the source of the script. This will insure that references between the scripts and layout objects will be maintained throughout the migration process.

# **Step 4 - Import Relationships, TOs, Value Lists & Custom Functions**

## Step 4 - Import Relationships, TOs, Value Lists and Custom Functions

### Step 4 - Relationships Tab

The screenshot shows the 'Migration Process' window with the 'Relationships' tab selected. The window title is 'Migration Process' and it has tabs for 'Tables', 'Relationships', 'TOs', 'Value Lists', 'CFs', 'Layouts', 'Scripts', and 'GUI'. The 'Relationships' tab shows a list of 77 relationships. The first relationship is selected, and its configuration is shown below. The 'Left Table' is 'Client' and the 'Right Table' is 'Horse'. The 'Relationship SQL' field is empty. The 'Predicates' table shows two predicates: 'Client::Client\_ID = Horse::Client\_ID' and 'Client::Logic\_1\_field <> Horse::Inactive'. Red circles highlight the following elements: 1. Relationship Name, 2. Right Table Name, 3. Relationship Count, 4. Relationship ID, 5. Relationship Count, 6. Relationship Count, 7. Left Table dropdown, 8. Cascade Create checkbox, 9. Cascade Delete checkbox, 10. Right Table dropdown, 11. Cascade Create checkbox, 12. Cascade Delete checkbox, 13. Predicate field, 14. Add predicate button, 15. Remove predicate button.

Left Table Name	Right Table Name	Relationship Count
Client	Client_Call_L	0
Client	Horse	2
Client	Policy	2
Underwriter	Policy	1
Underwriter_Self_Join	Underwriter	1

Left Table	Right Table
Table: Client	Table: Horse

Left Table::Field	Join Type	Right Table::Field
Client::Client_ID	=	Horse::Client_ID
Client::Logic_1_field	<>	Horse::Inactive

FmPro Migrator imports Relationships, Table Occurrences, Value Lists and Custom Functions by reading the contents of the DDR XML file for each source database file.

Click the Relationships tab on the Migration Process window.

The Relationships tab provides an interface for managing the relationships which will be

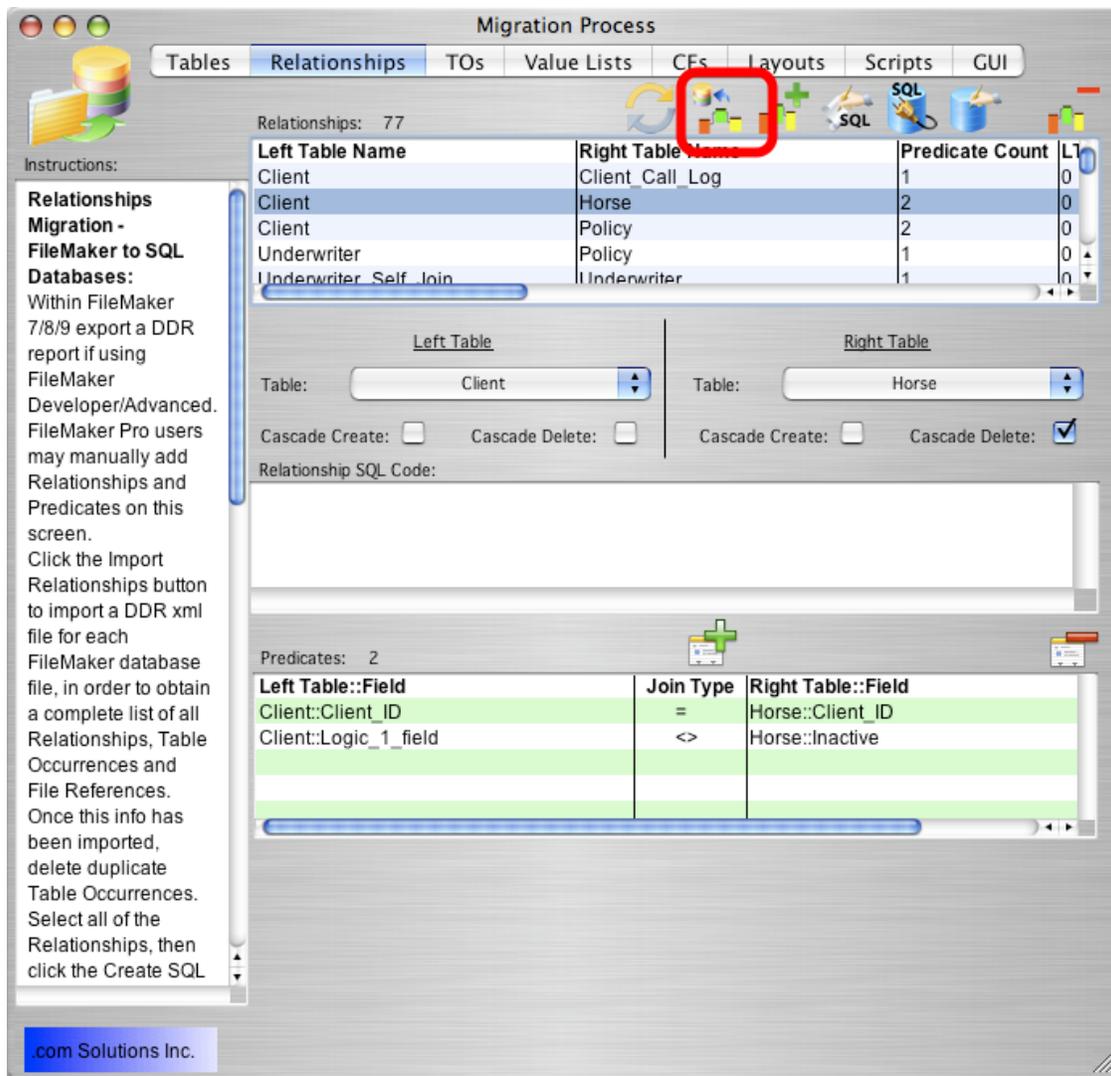
migrated into the consolidated database file.

It won't generally be necessary to make changes on either the Relationships or TOs tab when performing a Table Consolidation project. But changes made on both of these tabs and will be reflected within the destination database file.

Tasks which can be performed on the Relationships tab include:

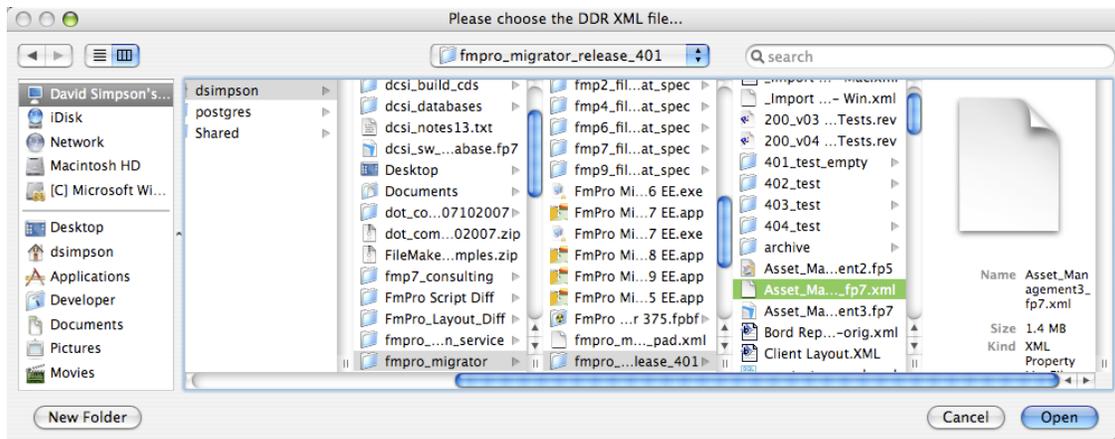
- [1] importing Relationships, TOs, Custom Functions and Value Lists from a DDR XML file,
- [2] manually adding one relationship at a time,
- [3] generating SQL code to represent a relationship in a SQL database (not used for Table Consolidation projects),
- [4] creating relationships within a SQL database (not used for Table Consolidation projects),
- [5] creating relationships within a FileMaker Advanced database,
- [6] deleting selected relationships,
- [7] changing Left Table name,
- [8] changing Left Table Cascade Create status,
- [9] changing Left Table Cascade Delete status,
- [10] changing Right Table name,
- [11] changing Right Table Cascade Create status,
- [12] changing Right Table Cascade Delete status,
- [13] manually changing relationship predicate parameters,
- [14] manually adding a relationship predicate,
- [15] manually deleting a selected relationship predicate.

## Step 4 - Click Import Relationships Button



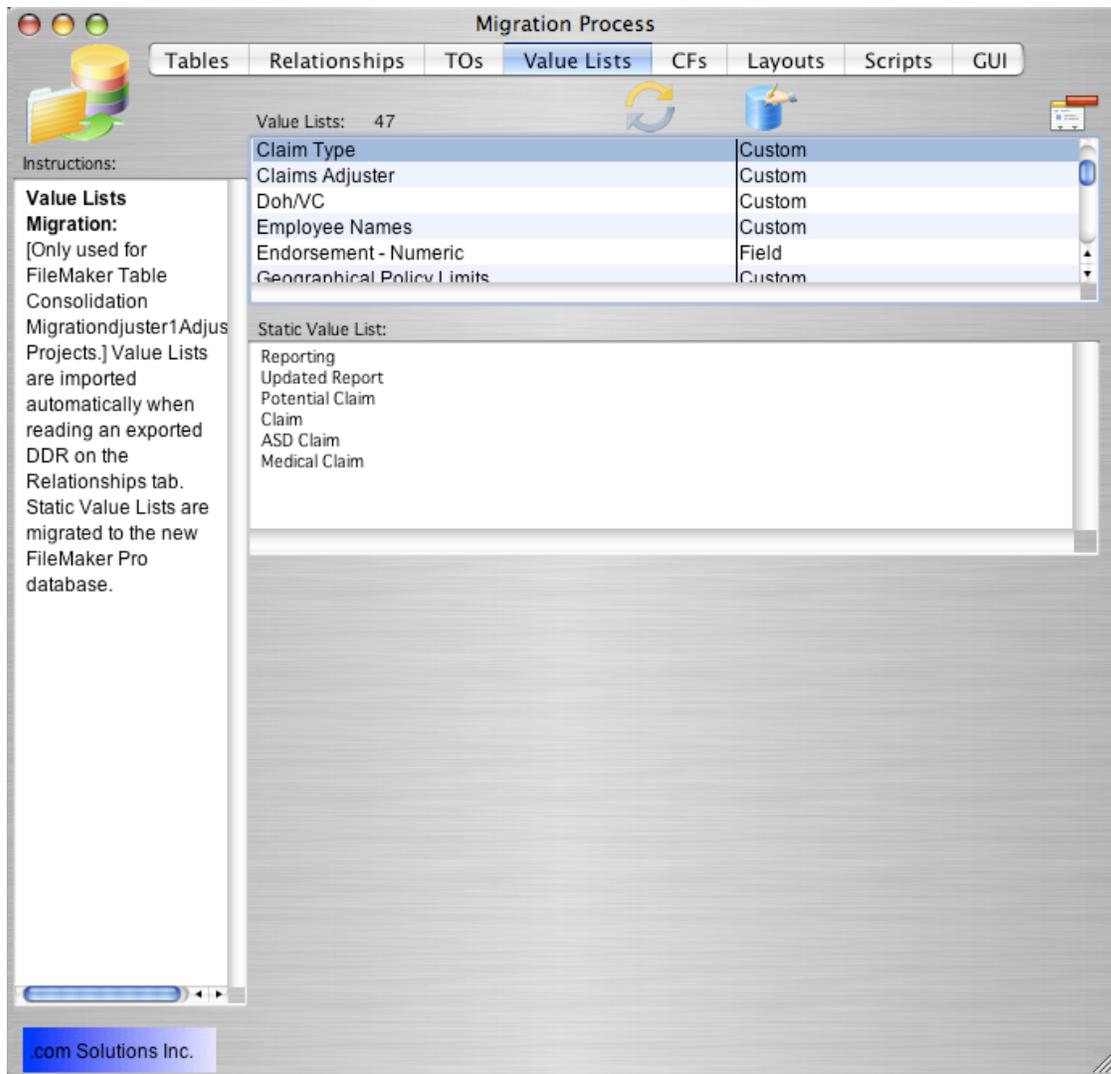
Click the Import Relationships button to import relationships from the DDR XML file for the source database file.

## Step 4 - Select DDR XML File



The relationships will be imported from the DDR file and added to the list of relationships on the Relationships tab. TOs, Value Lists and Custom Functions will also be imported from the DDR XML file at the same time, and displayed under the Value Lists and CFs tabs. A dialog will be displayed if there are no Custom Functions or Value Lists found within the DDR XML file.

## Step 4 - Value List - Details



Clicking on the Value Lists tab displays the Value Lists which were imported from the DDR XML file. Value Lists shown with a type of Custom, are static value lists having a manually edited list of values (as shown in this screenshot). Value Lists displayed with a type of Field, are dynamically generated value lists which get their value from a field within the database.

Static value list items can be manually edited by clicking on the Value List and changing the values. Changes are saved automatically when clicking out of the Static Value List field.

## Troubleshooting - Duplicate Value List Names

Within a multi-file solution, it is possible to have the same value list located within several files. However duplicate value lists are not allowed within the new single file FileMaker database. When duplicate value lists are created in the new consolidated database file, the duplicated value list will be renamed with an incrementing numeric suffix. There are a couple of options available to solve this situation.

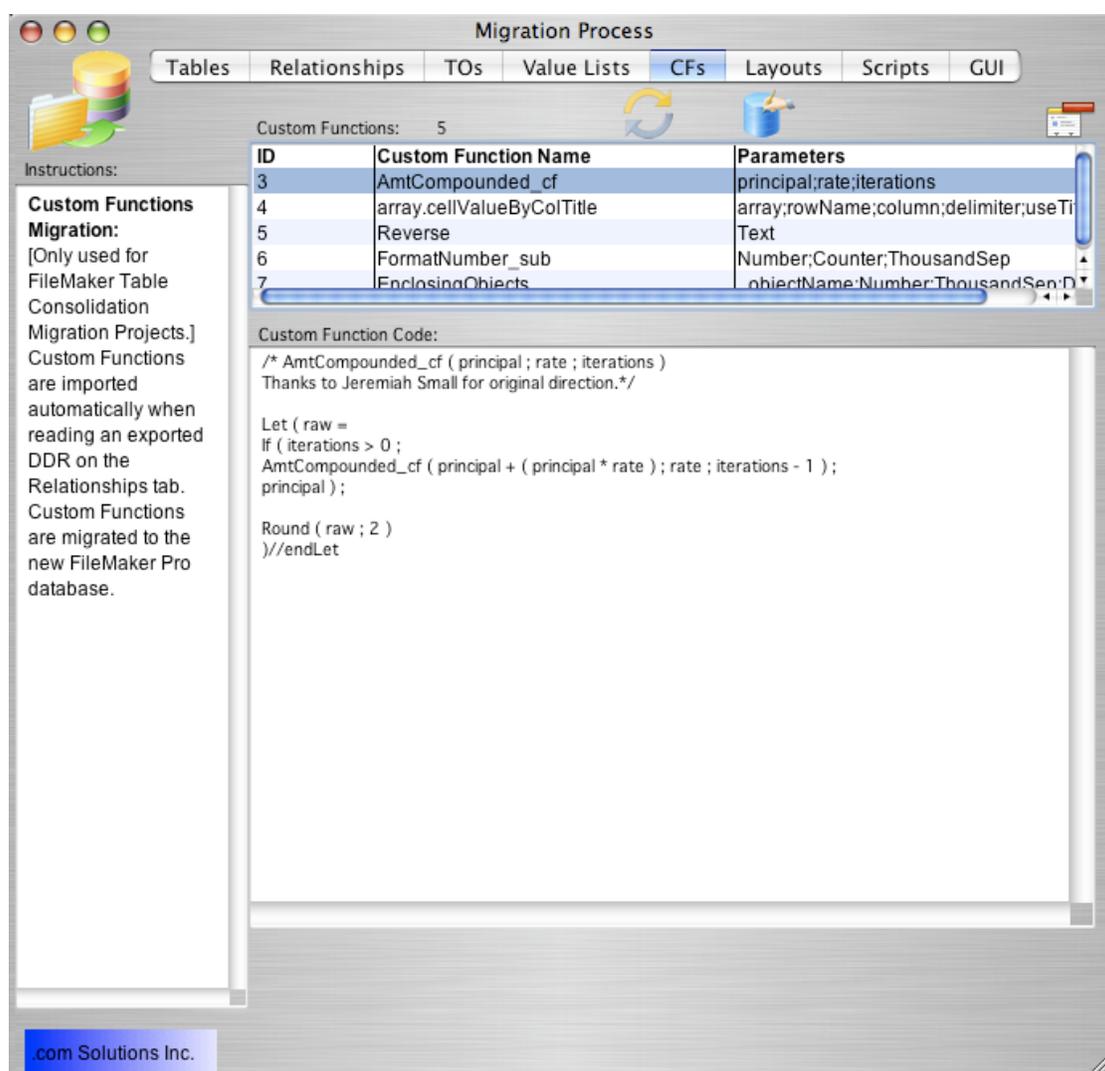
### Option #1:

If duplicated value lists contain the same values, just delete the duplicated value lists within the FmPro Migrator Value Lists window.

### Option #2:

If the duplicated value lists contain different values, they should be renamed before copying either the value lists or layouts into FmPro Migrator. One technique could be to add a file referencing prefix to each duplicated value list to indicate the source of the value list. This will insure that references between the value list and layout objects will be maintained throughout the migration process.

## Step 4 - Custom Function - Details



Clicking on the CFs tab displays the Custom Functions which were imported from the DDR XML file. Custom Functions and their parameter lists are displayed.

The Custom Function Code can be manually edited by clicking on the Custom Function and

changing contents of the Custom Function Code field. Changes are saved automatically when clicking out of the Custom Function Code field.

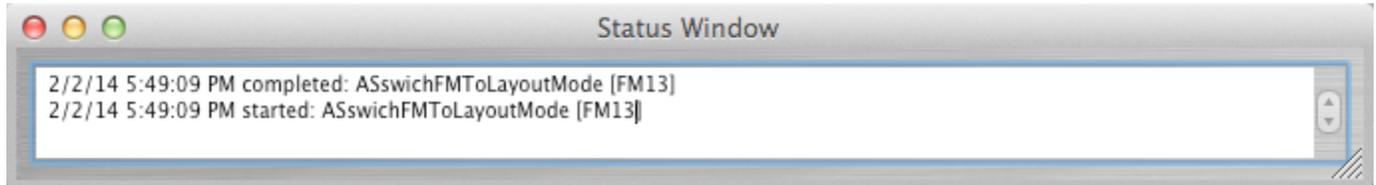
# Troubleshooting

## Troubleshooting AppleScript GUI Automation [macOS]

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FmPro Migrator uses embedded AppleScript code to automate importing Layouts, and building Custom Functions, Value Lists, Table Occurrences, Relationships, Scripts and Layouts in FileMaker database files. Detailed info about this AppleScript code is included in this section of the manual.

### Troubleshooting - Locks Up with No Processing Completed [macOS]



If a batch processing task starts, but appears to lock up with no activity, then force quit and re-launch FmPro Migrator from the Finder and open the Status Window by selecting the File -> Status Window menu item. Click the batch processing button again, and review the results in the Status Window.

FmPro Migrator will continue to log the results of its AppleScript processing handlers in the Status Window as long as the window is open.

As shown above, the ASswichFMToLayoutMode handler has run, but nothing else has completed. This type of problem can be due to having 2 copies of FileMaker Pro open at the same time. Some of the commands might get sent to one copy of FileMaker and other commands could get sent to the 2nd copy of FileMaker.

If a single copy of FileMaker Pro is running, but the FileMakerDB.fp7/FileMakerDB.fmp12 file is not open, a similar problem might also occur.

Generally, FmPro Migrator should detect these types of situations and warn you automatically at the start of automated process.

### Troubleshooting - List of AppleScript Handlers

FmPro Migrator uses the following handlers containing dynamically compiled AppleScript code:

**ASCheckFMVersion** - check the currently running FileMaker version to make sure it matches the selected version

**AScheckGUIScriptingMode** - Checks to determine if GUI Scripting is enabled for use by AppleScript. If false, it will issue the command to enable macOS Accessibility features on macOS 10.8 or below. For macOS 10.9, the user will be prompted to open System Preferences to enable

Accessibility for FmPro Migrator.

**AScloseFMCustomFunctionsWindow** - Closes the “Manage Custom Functions...” window by clicking the Ok button.

**AScloseFMManageScriptsWindow** - Closes the “Manage Scripts...” window by clicking on the close button, selects first script in list in preparation for creating the next script.

**AScloseFMRelationshipGraphWindow** - Sends a return keystroke to close the FileMaker Relationship Graph window.

**AScloseFMValueListsWindow** - Closes the “Manage Value Lists...” window by clicking the Ok button.

**AScopyFMLayout** - Copies the current FileMaker layout into FmPro Migrator.

**AScopyLayout2FM** - Creates a new empty layout in FileMaker (Pass #1), sets layout name, sets TO Name for new layout, deletes layout header, footer parts, pastes the layout XML already on the clipboard, clicks Yes to extend objects dialog #1, #2.

**AScreateFMCustomFunction** - Reads Custom Function creation parameters from the Clipboard. Creates a new FileMaker Custom Function, having the proper name, parameters and code, then saves it.

**AScreateFMCustomValueList** - Creates a FileMaker custom value list and saves it. Field based value lists are also created, but the properties need to be set manually.

**AScreateFMRelationship** - Reads relationship creation parameters from the Clipboard, storing info in 10 variables, creates a new relationship or a predicate for an existing relationship which is already being worked on.

**AScreateFMTO** - Gets the TOName and Base Table Name from the Clipboard then creates a new FileMaker TO. Note: Setting the TO color is not supported.

**ASdeleteFMLayoutParts** (function) - Deletes the Header and Footer layout parts from a new empty layout, leaving the Body part.

**ASgetTOListPosition** (function) - Returns the position number of a TO name within a list of TOs. The returned value is used for selecting a specific line (TO name) within a popup menu. This needs to be done with a numeric index to the TO name instead of passing in the actual TO name via keystrokes.

**ASglobalsAndHandlers** (function) - returns the AppleScript code having the global variables and

commonly used handlers

**ASgotoNextFMLayout** (function) - Advances to the next FileMaker layout while in layout mode, by sending the control down arrow keystroke.

**ASopenFMCustomFunctionsWindow** - Opens the “Manage Custom Functions” window using the File menu.

**ASopenFMEditRelationshipWindow** - Opens Edit Relationship window using command shift r keystroke, waits for window to open.

**ASopenFMEditRelationshipWindow** - Opens Edit Relationship window, waits for window to open.

**ASopenFMManageScriptsWindow** - Opens the “Manage Scripts...” window using the Command Shift S keystroke.

**ASopenFMManageTablesWindow** - Opens “Manage Database” window, clicks on the Tables tab.

**ASopenFMRelationshipGraphWindow** - Opens “Manage Database” window, clicks on the Relationship Graph tab. NOTE: Doesn't work with 8,9,10 because window doesn't refresh when Relationship Graph tab is clicked.

**ASopenFMValueListsWindow** - Opens the “Manage Value Lists...” window using the File menu.”

**ASpasteFMScript** - Clicks the first row of the scripts displayed in the “Manage Scripts...” window. Pastes the current script XML on the clipboard using Command V keys.

**ASreplaceLayout2FMPPass2** - Selects the contents of the current layout in Layout mode, deletes the contents, pastes the layout contents already on the clipboard. Used during Pass #2 processing during Table Consolidation projects.

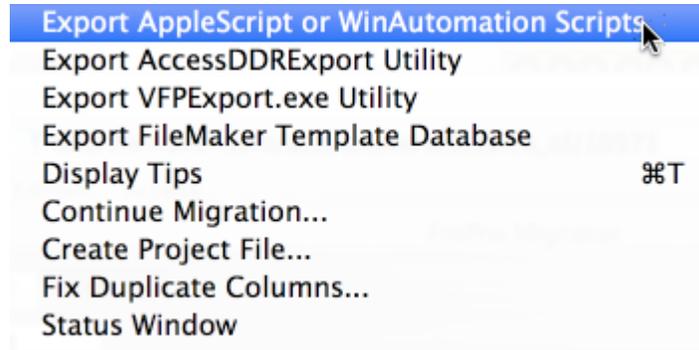
**ASsaveFMRelationship** - Sends keystroke return key to click the Ok button of the Edit Relationship window to save the current relationship.

**ASsaveFMRelationship** (function) - Sends return key keystroke to click the Ok button of the Edit Relationship window to save the current relationship. Sends another return key keystroke if the Rename TO dialog is displayed.

**ASswitchFMToBrowseMode** - Switches to Browse Mode using Command b keys.

**ASswitchFMToLayoutMode** - Switches to Layout Mode, using Command L keys, advances to layout #1.

## Export AppleScript Code



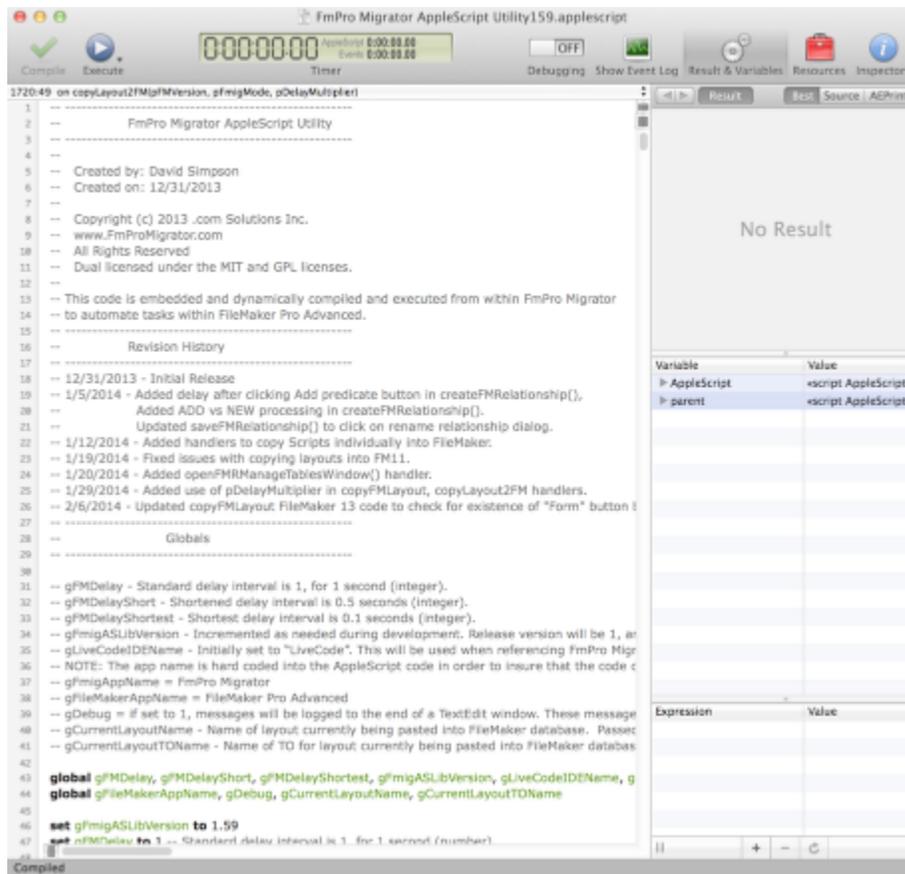
On macOS, the AppleScript code is embedded within FmPro Migrator therefore no installation is required.

It may be helpful to review the AppleScript source code for troubleshooting purposes, therefore it can be exported to the output directory by selecting the File -> Export AppleScript or WinAutomation Scripts menu.

Selecting this menu will save a text file of AppleScript code, a LiveCode AppleScript test stack and a LiveCode performance testing stack to the output directory.

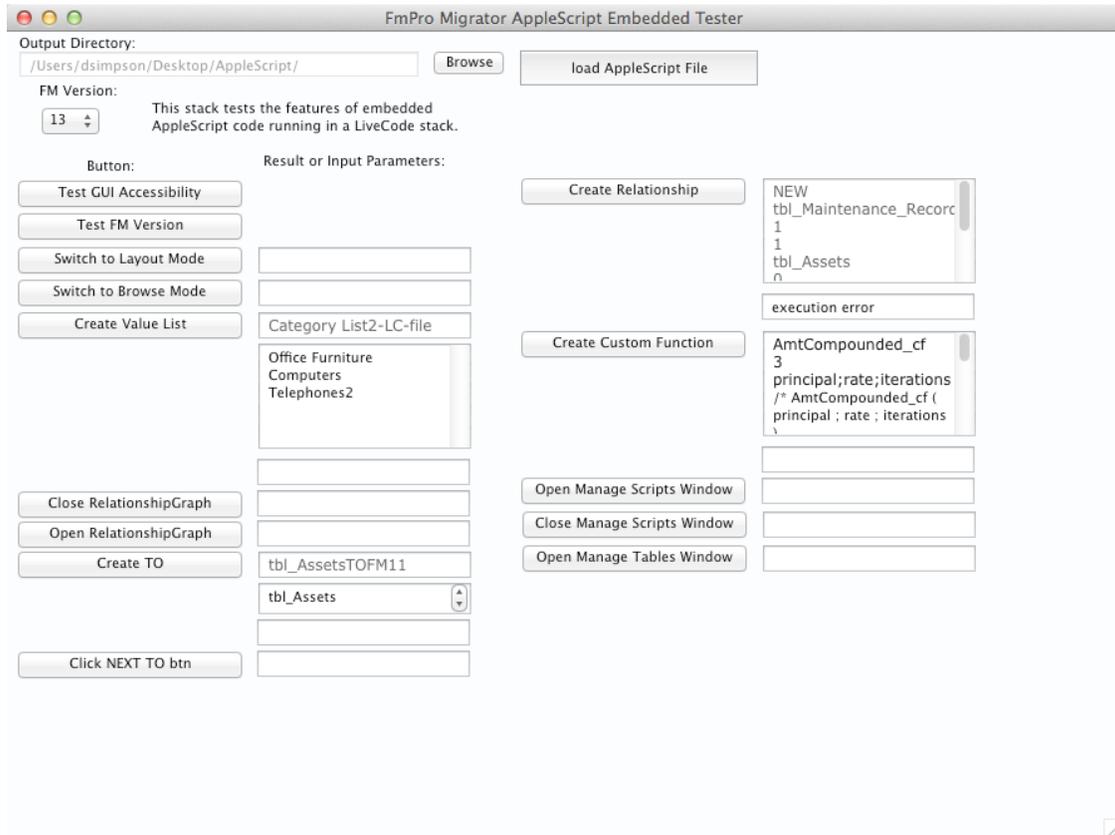
These files have been released as open source for use by the FileMaker community.

## FmPro Migrator AppleScript Utility???.applescript File



The AppleScript code embedded within FmPro Migrator follows the naming strategy used within the FmPro Migrator AppleScript Utility???.applescript text file.

## FmPro Migrator AppleScript Embedded Tester.livecode Stack



Many of the AppleScript handlers embedded within FmPro Migrator have been converted into LiveCode handlers within the FmPro Migrator AppleScript Embedded Tester stack file. This stack file serves as a test harness for testing the embedded AppleScript code, prior to implementing it within FmPro Migrator. This stack is also released as open source software.

Download a copy of LiveCode from the [www.livecode.com](http://www.livecode.com) website to open this stack file.

Right click the mouse on any of the buttons to see the code which is being called.

Select the LiveCode Object -> Stack Script menu item to see the stack level handlers.