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FmPro Migrator - MySQL to FileMaker Migration Procedure

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Overview

Overview - MySQL to FileMaker

This document shows how to perform a MySQL to FileMaker migration project using FmPro Migrator. This migration process includes the migration of Tables/Fields and data for all columns except BLOB columns.

The MySQL to FileMaker conversion process works equally well on macOS or Windows, even though most of the screenshots in this manual will be shown on macOS.

Revision 1

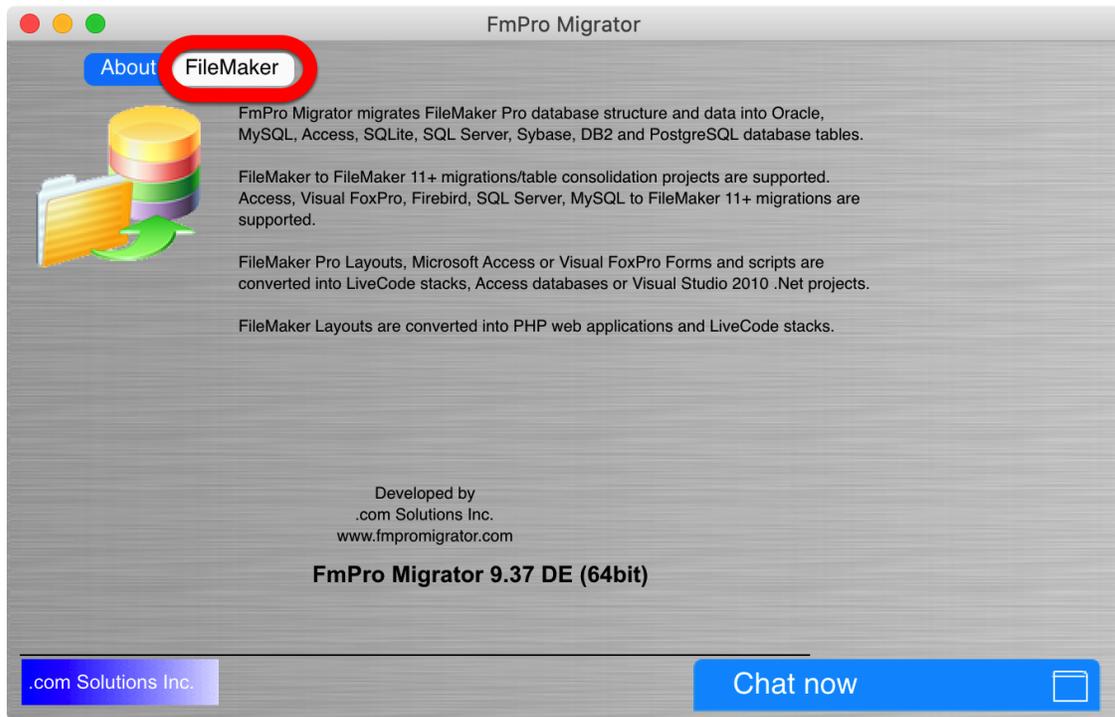
FmPro Migrator 9.37

8/31/2021

Step 1

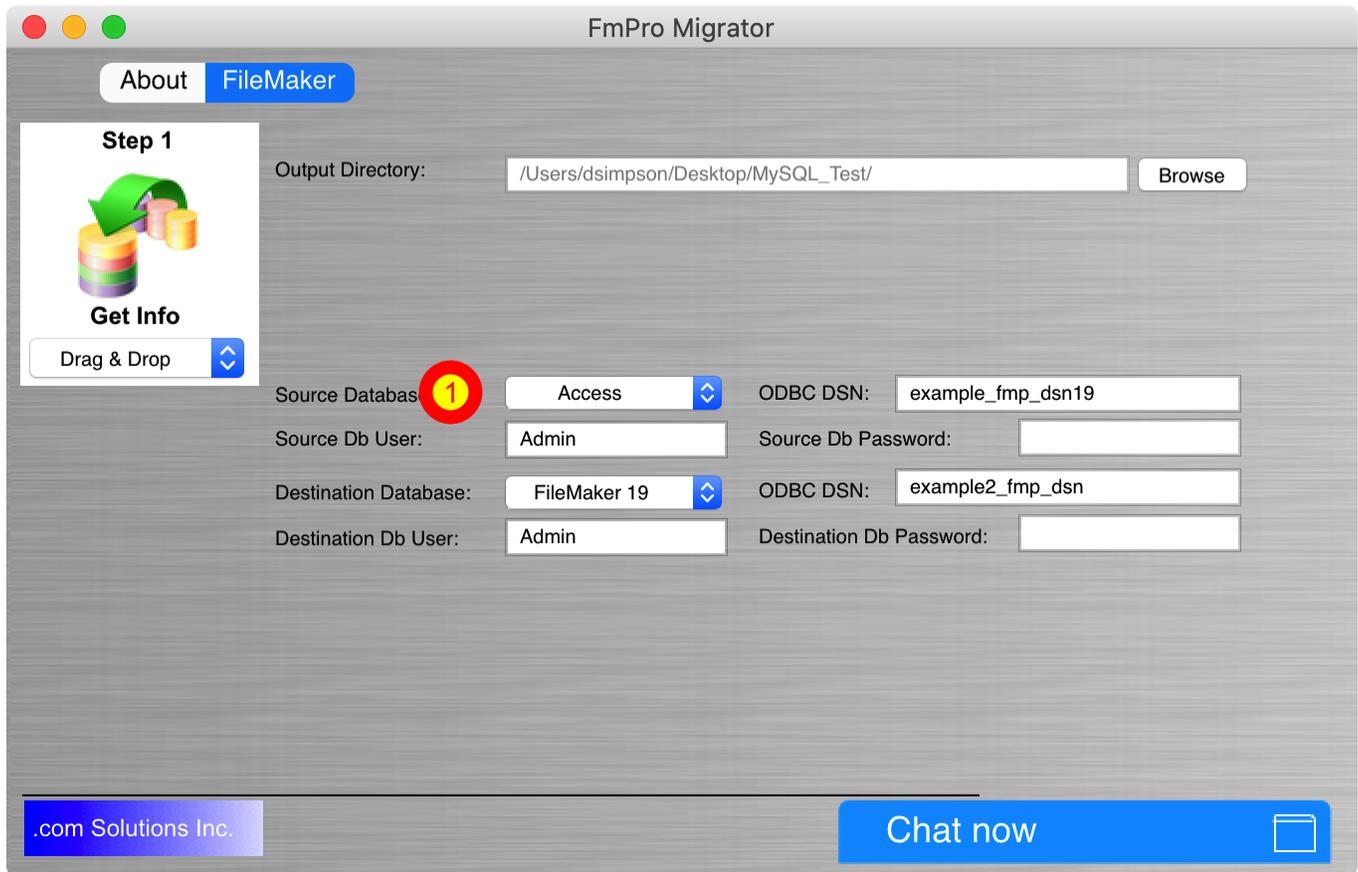
Step 1 - MySQL to FileMaker - Get Info

Click FileMaker Tab



FmPro Migrator will first open to the About tab. Click the FileMaker tab to select the source/destination database types and enter connection info.

Select MySQL as Source Database



Select MySQL from the Source Database menu.

Enter MySQL Database Connection Info

The screenshot shows the 'FmPro Migrator' application window. At the top, there are tabs for 'About' and 'FileMaker'. Below the tabs, a 'Step 1' section contains a 'Get Info' icon and a dropdown menu currently set to 'MySQL'. The main configuration area includes the following fields:

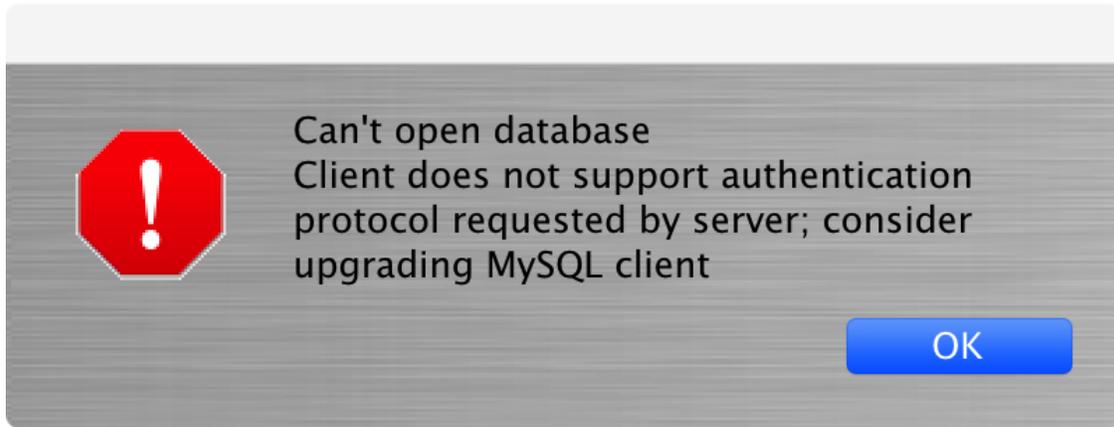
- Output Directory:
- Source Database:
- Destination Database: ODBC DSN:
- Destination Db User: Destination Db Password:
- Src. DB Hostname: (1)
- Src. DB Port: (2)
- Source DB Name: (3)
- Source DB Username: (4) Src. DB Password: (5)

At the bottom left, there is a logo for '.com Solutions Inc.' and at the bottom right, a blue 'Chat now' button with a chat icon.

After MySQL has been selected as the source database, the Step 1 Get Info icon and drop down menu will change to MySQL

Enter the (1) Hostname, (2) Port, (3) Database Name, (4) Username, (5) Password for the MySQL database server.

Note: The login security for the MySQL database needs to be configured to allow connections from the computer running FmPro Migrator.



At this time, MySQL versions up to 5.7 are supported by FmPro Migrator.

FmPro Migrator 9.37 and earlier versions are not able to connect to MySQL 8 database servers.

MySQL Tables List - Shown in Navicat

The screenshot displays the Navicat Premium interface. On the left, a tree view shows the database structure, with the 'test' database selected. The central pane shows a list of 20 tables with their respective row counts and data lengths. The right-hand panel indicates that the 'test' database is currently opened.

Name	Rows	Data Length	Engine
address_book	1	0.07 KB	MyISAM
asset_management2	5	264.20 KB	MyISAM
asset_management2_repeating	8	0.20 KB	MyISAM
companies	6	0.30 KB	MyISAM
companies_2	0	0.00 KB	MyISAM
contact_management	1	0.36 KB	MyISAM
contacts	1	77.27 KB	MyISAM
contacts_uuid	2	30.03 KB	MyISAM
locationtest	8	0.36 KB	MyISAM
maintenance_record	3	10.74 KB	MyISAM
members	30	3.26 KB	MyISAM
members_3	3	0.40 KB	MyISAM
notes	1	0.11 KB	MyISAM
tbl_assets	4	103.13 KB	MyISAM
tbl_assets_repeating	8	0.20 KB	MyISAM
tbl_assets_v1	4	0.21 KB	MyISAM
tbl_maintenance_records	7	0.76 KB	MyISAM
tbl_value_list_data_items	2	0.04 KB	MyISAM
tokens	2	0.96 KB	MyISAM
users	2	0.29 KB	MyISAM

This screenshot shows the list of tables which will be imported into FileMaker Pro by FmPro Migrator.

Click Step #1 Get Info Button

FmPro Migrator

About FileMaker

Step 1

Get Info

MySQL

Output Directory: /Users/dsimpson/Desktop/MySQL_Test/ Browse

Source Database: MySQL

Destination Database: FileMaker 19 ODBC DSN: example2_fmp_dsn

Destination Db User: Admin Destination Db Password:

Src. DB Hostname: localhost

Src. DB Port: 3306

Source DB Name: test

Source DB Username: user1 Src. DB Password: *****

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Click the Step #1 button, FmPro Migrator will read the table structure info from the MySQL database.

Importing MetaData

FmPro Migrator

About FileMaker

Continue...

Step 1

Get Info

MySQL

Output Directory: /Users/dsimpson/Desktop/MySQL_Test/ Browse

Source Database: MySQL

Destination Database: FileMaker 19 ODBC DSN: example2_fmp_dsn

Destination Db User: Admin Destination Db Password:

Src. DB Hostname: localhost

Src. DB Port: 3306

Source DB Name: test

Source DB Username: user1 Src. DB Password: *****

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FmPro Migrator displays an importing dialog, as it is reading the metadata from the MySQL database. The yellow Continue button will be enabled once processing has been completed. Click the Continue button to see the imported tables listed in the Migration Process window.

MySQL Tables in Migration Process Window

Migration Process

Tables: 20

Original Table	New Table	Source	Destination	Fields	Records
address_book	address_book	MySQL		63	
asset_management2	asset_management2	MySQL		42	
asset_management2_re	asset_management2_r	MySQL		4	
companies	companies	MySQL		5	
companies 2	companies 2	MvSOI		5	

Fields: 63

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	middle_name	0			middle_name
2	phonetic_last_name	0			phonetic_last_nam
3	name	0			name
4	organization	0			organization
5	department	0			department

Step 2
Create Table
Not Started

Step 3
Transfer Data
Not Started

Optional
Image Transfer

Instructions:

Step 2:
Install the FileMaker ODBC driver.
Create an ODBC DSN matching the DSN name listed in the Table Details window.
Turn on ODBC Sharing within FileMaker.
Menu: File > Sharing > ODBC/JDBC
Click the Get FieldSize icon.

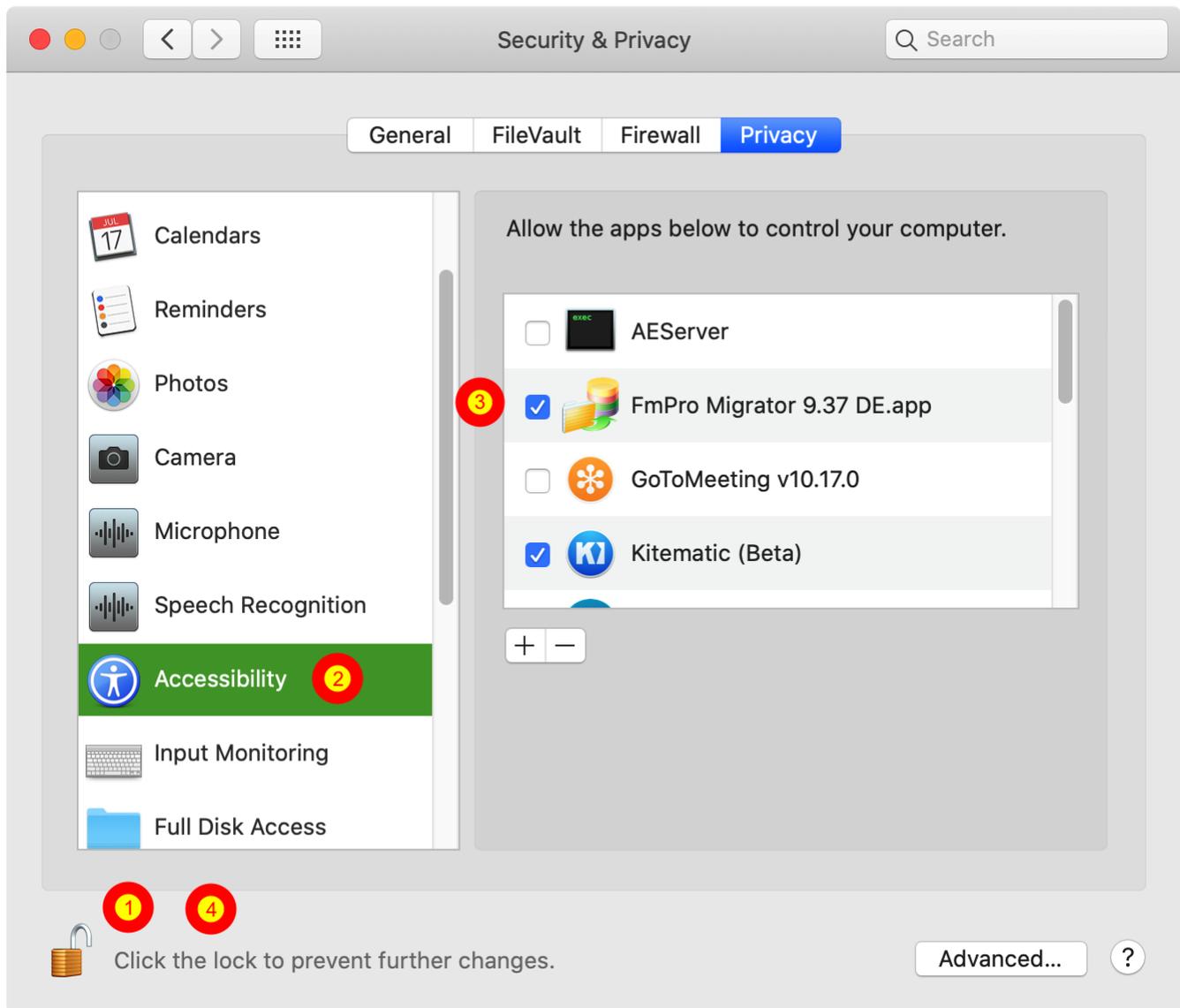
Troubleshooting:
Make sure the specified ODBC DSN

The metadata for the 20 tables from the MySQL database server have been imported into FmPro Migrator and displayed in the Migration Process window.

Step 2

Step 2 - MySQL to FileMaker - Create Tables in FileMaker Pro

Enable Security & Privacy - Accessibility for FmPro Migrator (macOS)

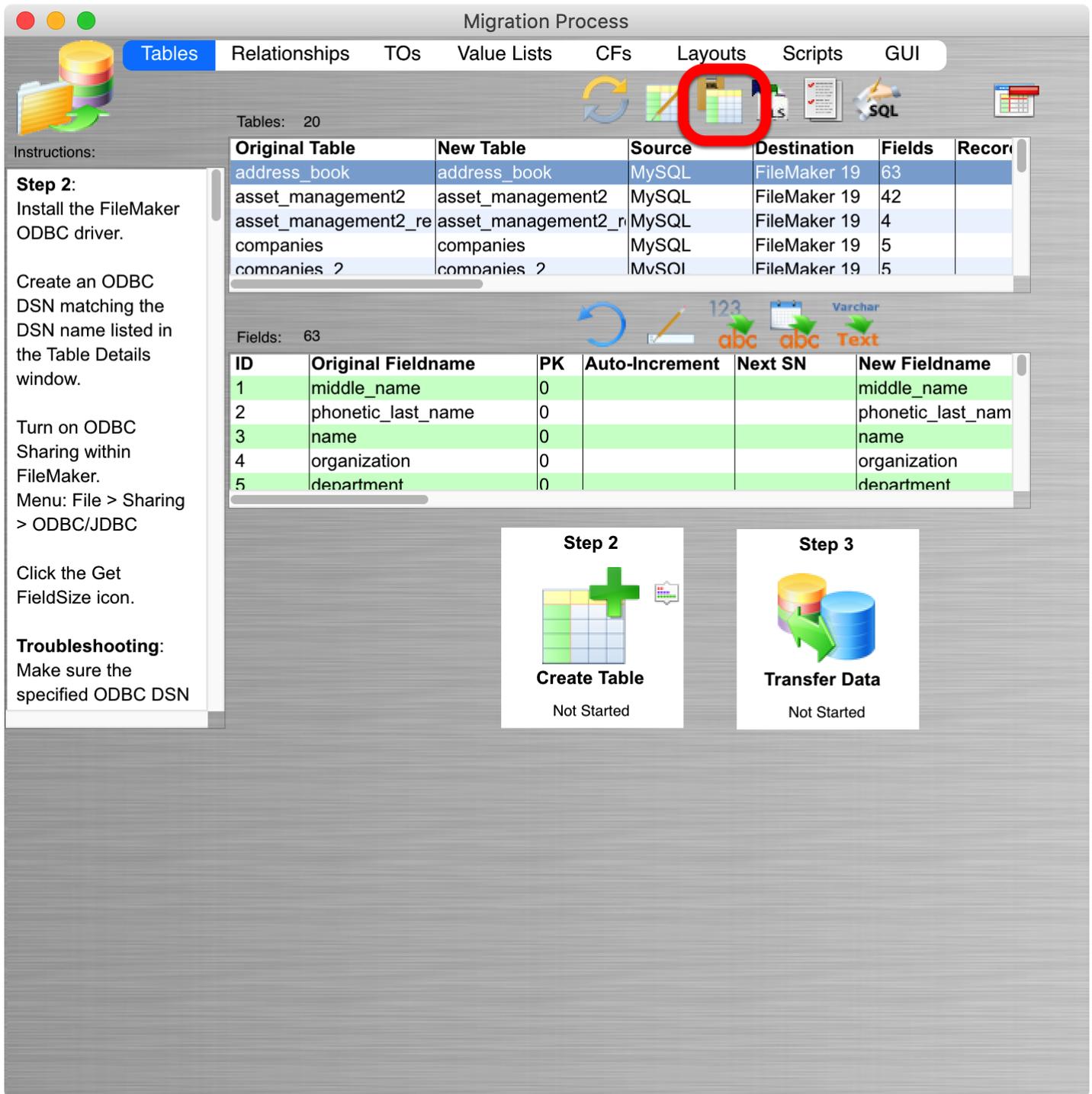


On macOS, FmPro Migrator will attempt to automatically open the FileMaker Manage Database window using AppleScript. FmPro Migrator needs to be enabled under the Accessibility section of the Security & Privacy section of System Preferences.

(1) Unlock preferences to allow changes, (2) click the Accessibility item then (3) click on FmPro Migrator so that it has a checkmark next to its name. (4) Click the lock button again to insure that the changes are updated.

If FmPro Migrator isn't enabled under the Accessibility preferences, you can always open the Manage Database window manually.

Click Copy All Tables to Clipboard Button



Migration Process

Tables Relationships TOs Value Lists CFs Layouts Scripts GUI

Tables: 20

Instructions:

Step 2:
Install the FileMaker ODBC driver.
Create an ODBC DSN matching the DSN name listed in the Table Details window.
Turn on ODBC Sharing within FileMaker.
Menu: File > Sharing > ODBC/JDBC
Click the Get FieldSize icon.

Troubleshooting:
Make sure the specified ODBC DSN

Original Table	New Table	Source	Destination	Fields	Records
address_book	address_book	MySQL	FileMaker 19	63	
asset_management2	asset_management2	MySQL	FileMaker 19	42	
asset_management2_re	asset_management2_r	MySQL	FileMaker 19	4	
companies	companies	MySQL	FileMaker 19	5	
companies 2	companies 2	MvSOI	FileMaker 19	5	

Fields: 63

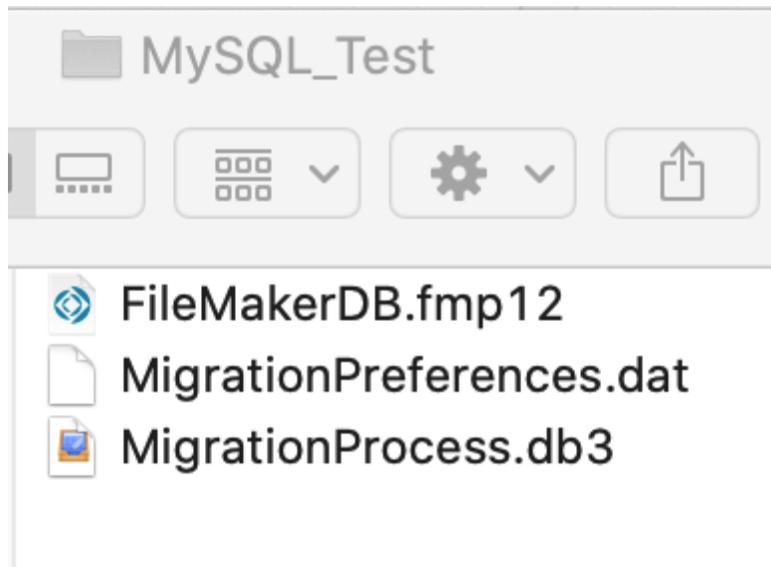
ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	middle_name	0			middle_name
2	phonetic_last_name	0			phonetic_last_nam
3	name	0			name
4	organization	0			organization
5	department	0			department

Step 2: Create Table (Not Started)

Step 3: Transfer Data (Not Started)

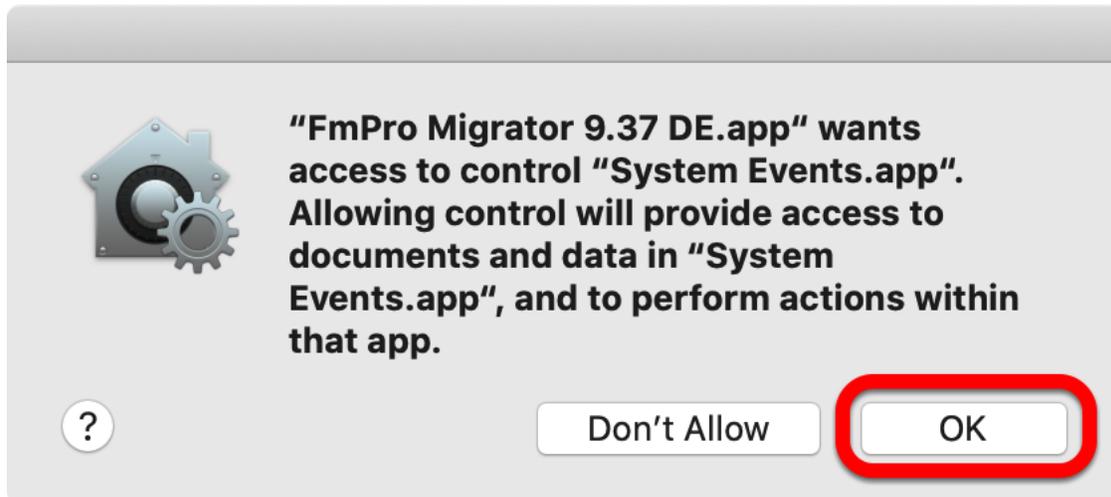
FmPro Migrator will copy the FileMaker table creation XML code onto the clipboard, ready for pasting into FileMaker Pro. The status menu of the Step 2 button will change from Not Started to Completed.

FileMakerDB.fmp12 Created & Opened



Since the conversion type is from MySQL into FileMaker Pro, an empty FileMakerDB.fmp12 file will be created in the output directory and opened automatically.

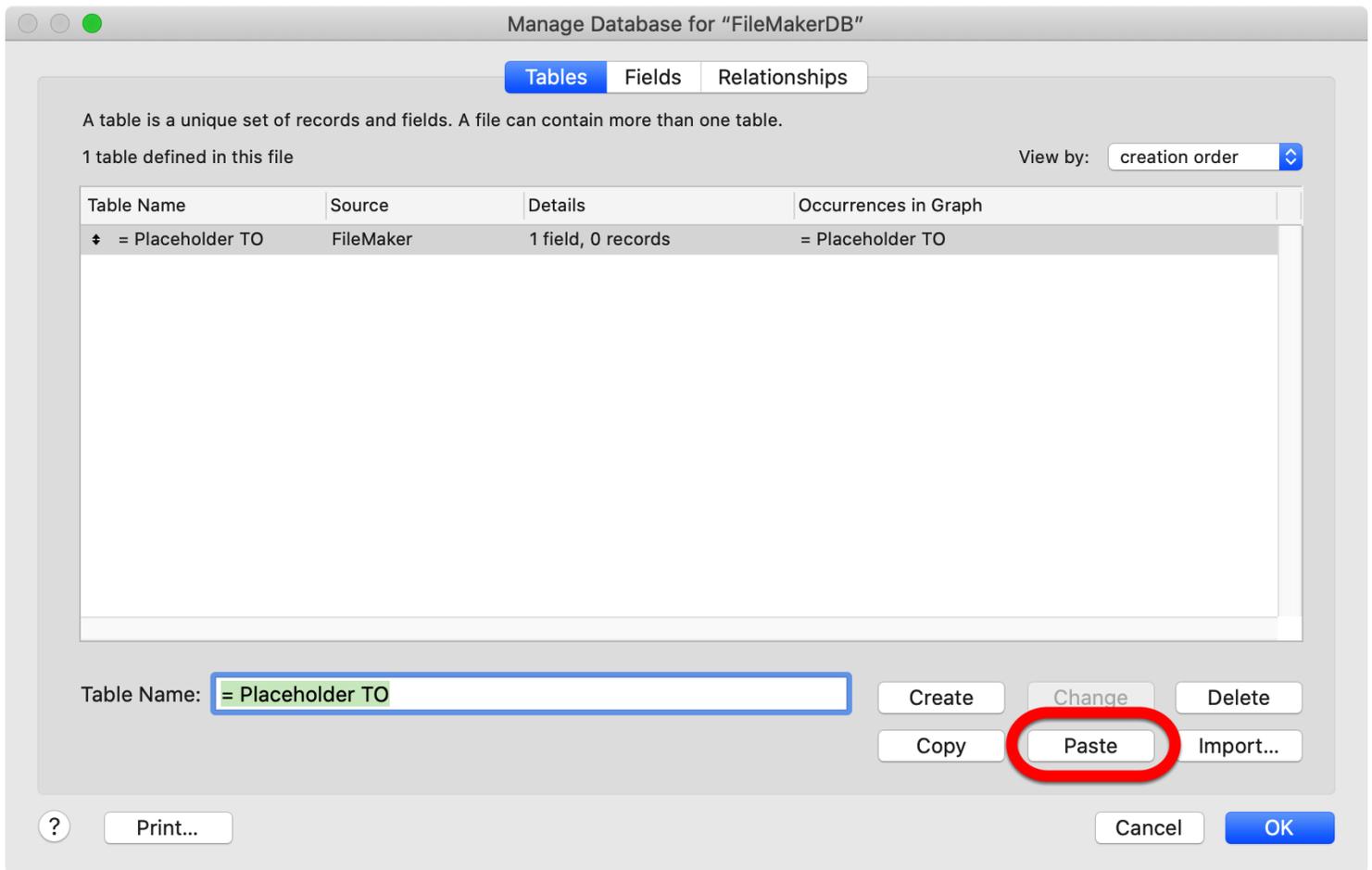
Accessibility Permissions Dialog - macOS



FmPro Migrator will attempt to open the Manage Database dialog within FileMaker Pro. Click the Ok button in the access control dialog to permit FmPro Migrator to control the FileMaker application.

You will need to click the Copy All Tables button again after clicking the Ok button in this dialog.

Paste Tables into FileMaker Pro



Click the Paste button to create the tables within the FileMaker database.

Tables Created in FileMaker Database

The screenshot shows the 'Manage Database for FileMakerDB' window with the 'Tables' tab selected. A text box explains that a table is a unique set of records and fields, and a file can contain more than one table. It indicates that 21 tables are defined in this file, with a 'View by' dropdown set to 'creation order'. A table lists the following information for each table:

Table Name	Source	Details	Occurrences in Graph
asset_management2	FileMaker	42 fields, 0 records	asset_management2
contacts	FileMaker	42 fields, 0 records	contacts
contacts_uuid	FileMaker	13 fields, 0 records	contacts_uuid
members	FileMaker	17 fields, 0 records	members
contact_management	FileMaker	43 fields, 0 records	contact_management
tbl_maintenance_recor...	FileMaker	29 fields, 0 records	tbl_maintenance_records
members_3	FileMaker	17 fields, 0 records	members_3
companies	FileMaker	5 fields, 0 records	companies
address_book	FileMaker	63 fields, 0 records	address_book
locationtest	FileMaker	4 fields, 0 records	locationtest
tokens	FileMaker	5 fields, 0 records	tokens
tbl_assets_v1	FileMaker	5 fields, 0 records	tbl_assets_v1
users	FileMaker	12 fields, 0 records	users

Below the table is a 'Table Name:' input field and buttons for 'Create', 'Change', 'Delete', 'Copy', 'Paste', and 'Import...'. At the bottom are 'Print...', 'Cancel', and 'OK' buttons.

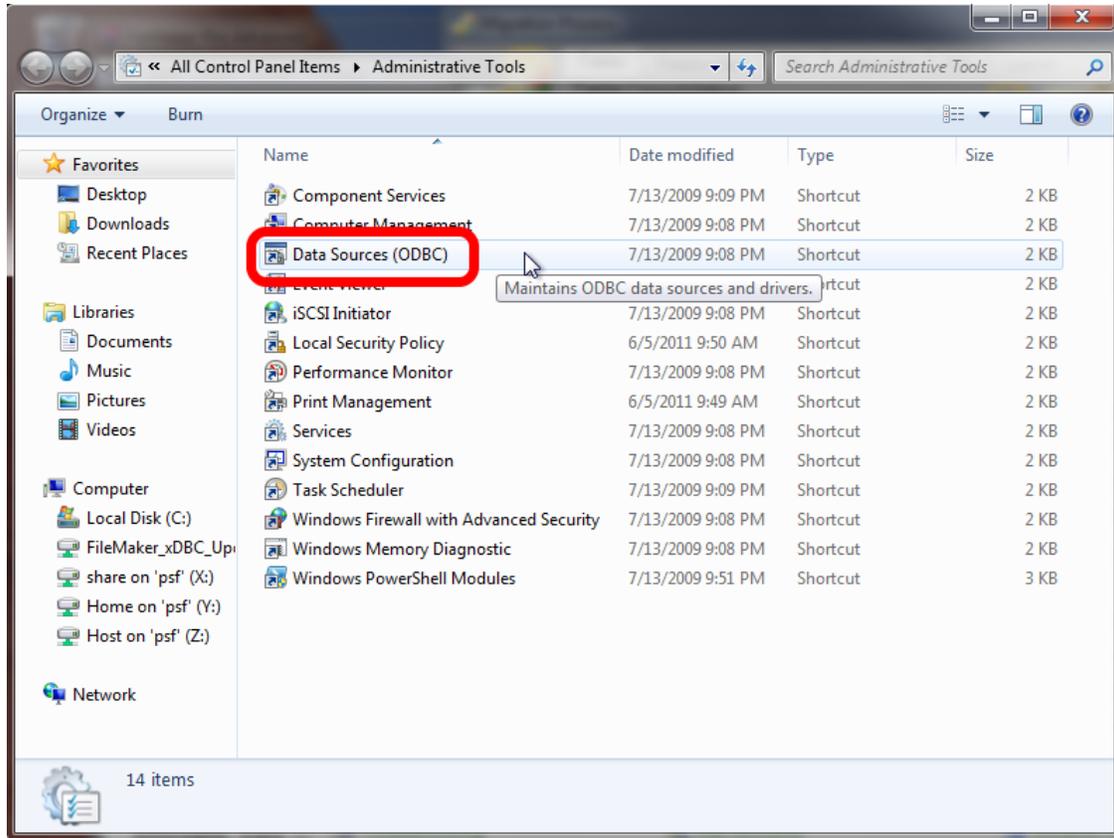
The new tables will be displayed in the Manage Database window.

Step 3

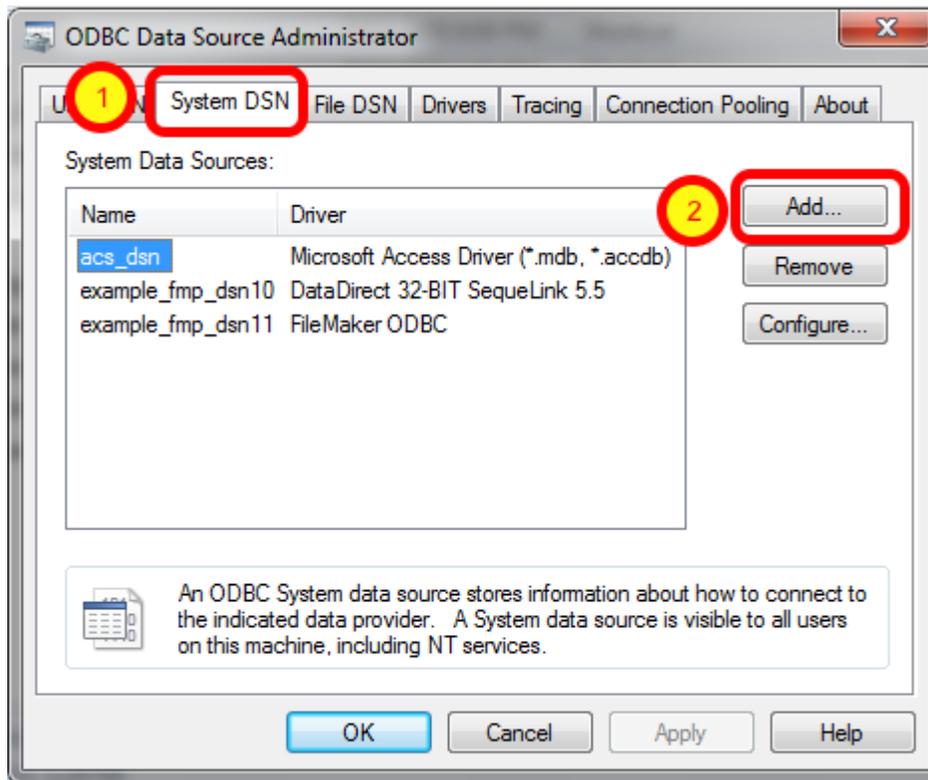
Install FileMaker ODBC Driver - Windows - FileMaker 11+

Install the FileMaker ODBC driver from within the xDBC folder on the installation CD or CD image file.

Create ODBC DSN - Windows

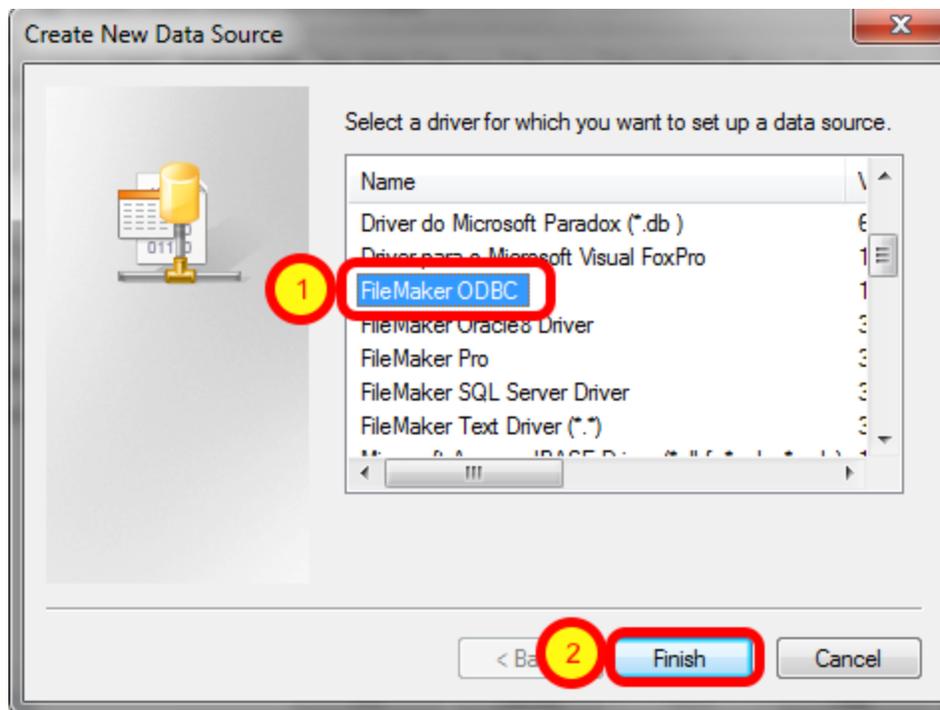


To create a new System ODBC DSN, open the Control Panel > Administrative Tools > Data Sources (ODBC) Control Panel.



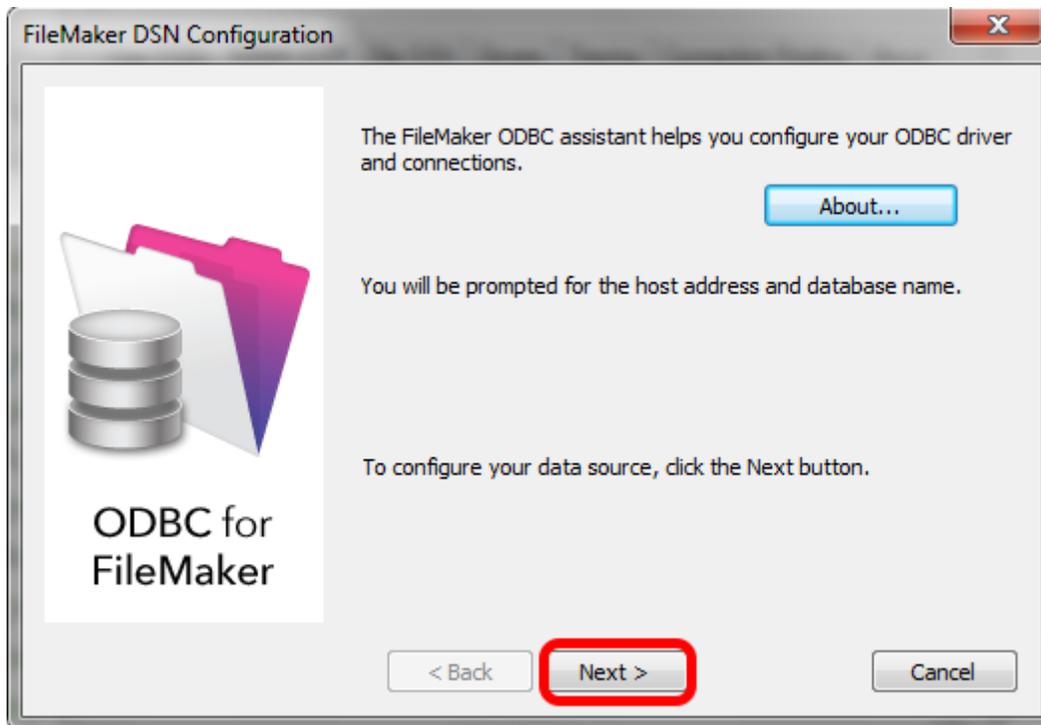
(1) Click the System DSN tab, then (2) click the Add button.

Select ODBC Driver - FileMaker 11 - Windows



(1) Select the FileMaker ODBC driver, then (2) click the Finish button.

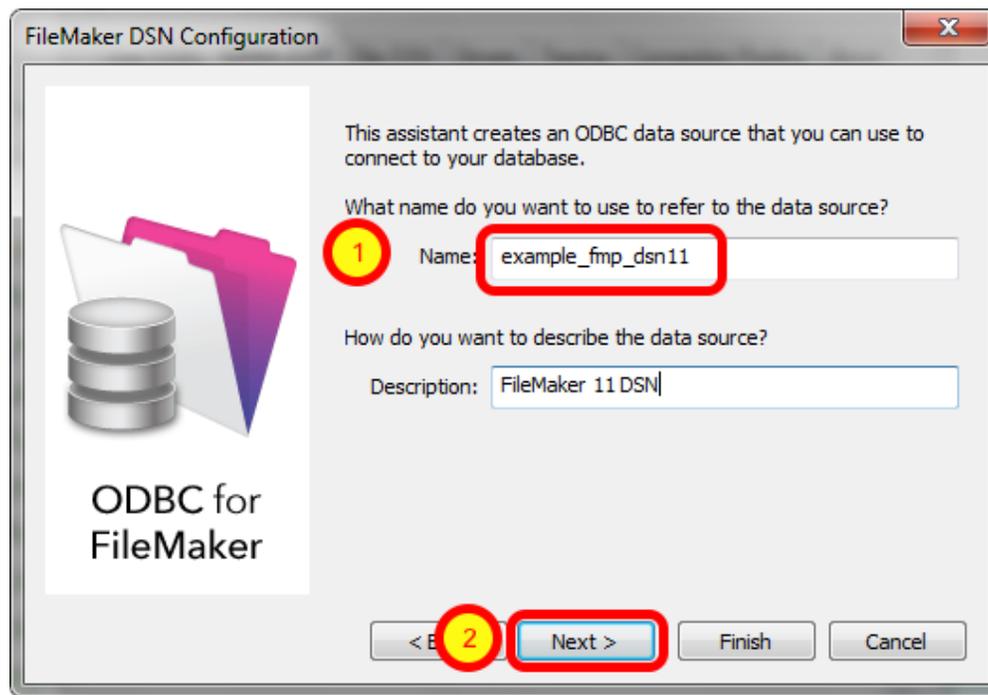
ODBC Driver Configuration - FileMaker 11+ - Windows (1)



Click Next button.

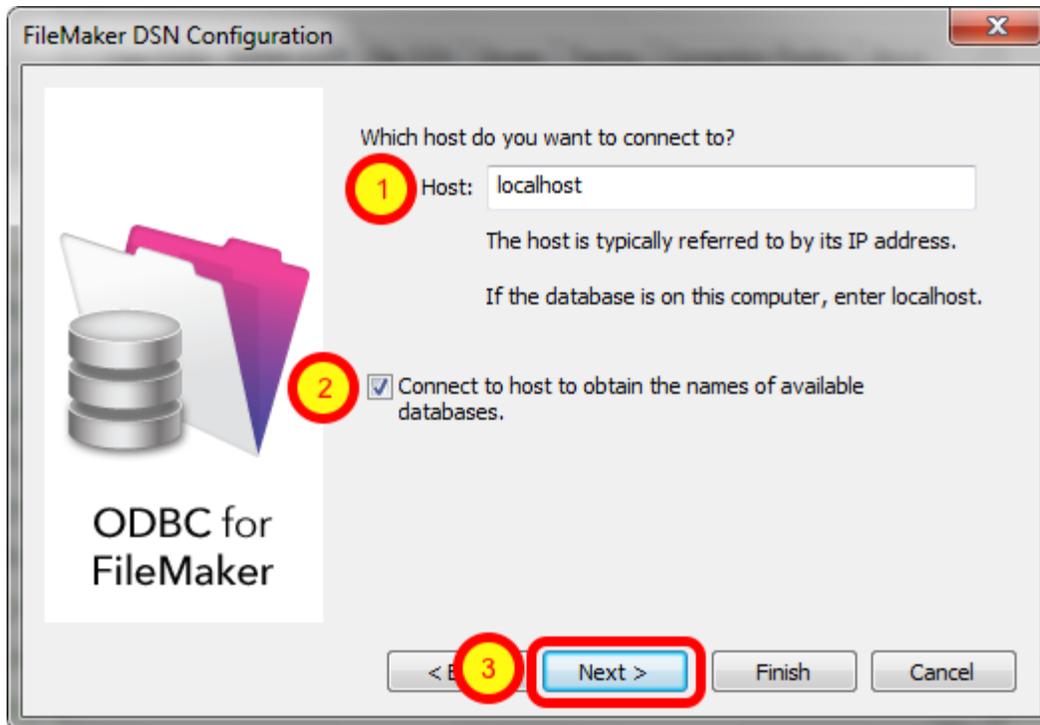
Click the About button if you need to find the version number for the driver.

ODBC Driver Configuration - FileMaker 11+ - Windows (2)



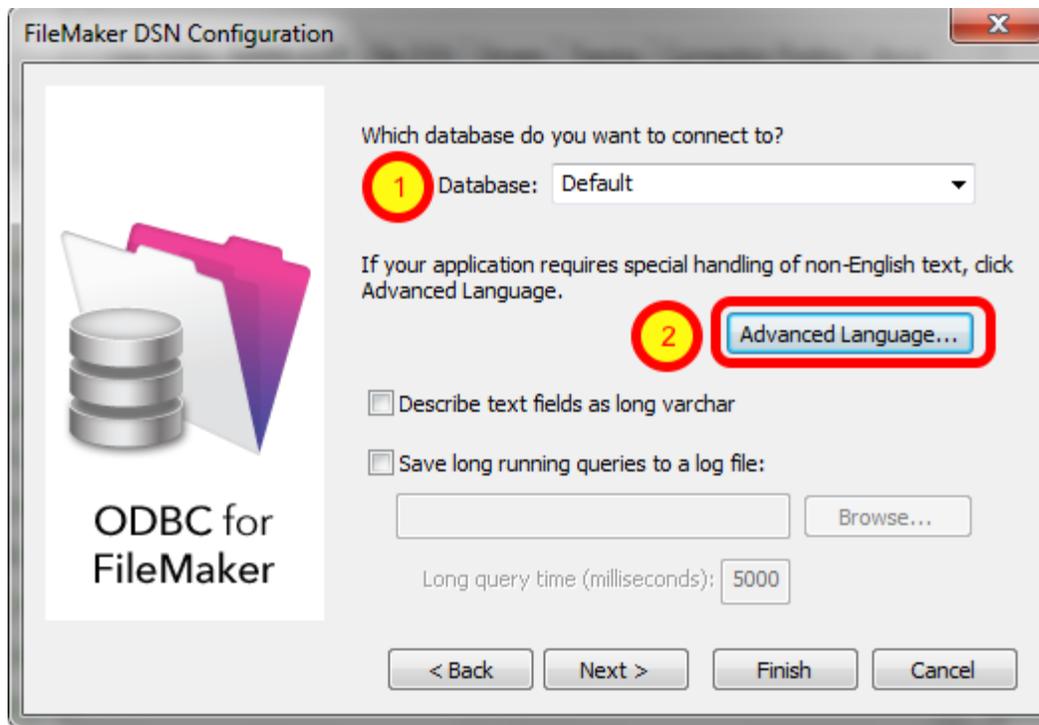
1) Enter a name for the ODBC DSN, (2) click the Next button.

ODBC Driver Configuration - FileMaker 11+ - Windows (3)

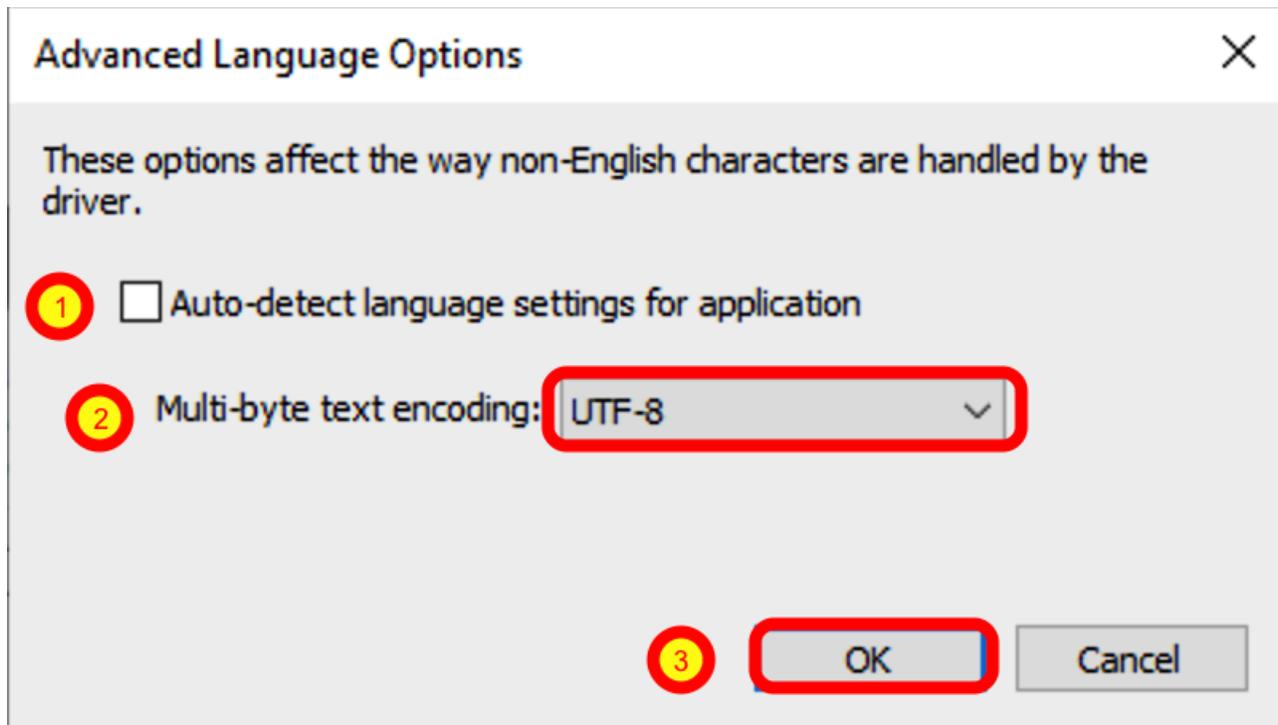


- 1) If you are using a local copy of FileMaker Pro or FileMaker Pro Advanced, then use "localhost" as the host name. Otherwise use the IP address or hostname of the FileMaker Advanced Server.
- 2) You may optionally click the "Connect to host ..." button to get a list of database files.
- 3) Click the Next button.

ODBC Driver Configuration - FileMaker 11+ - Windows (4)



- 1) Enter "Default" as the database name. Or if you have multiple database files open locally or on the server, then select the database name from the list or enter the name of the database. Using the Default keyword means that you can avoid changing the setup of the ODBC DSN when using different database files - but it means that only one file can be open at a time.
- 2) Click the Advanced Language button.

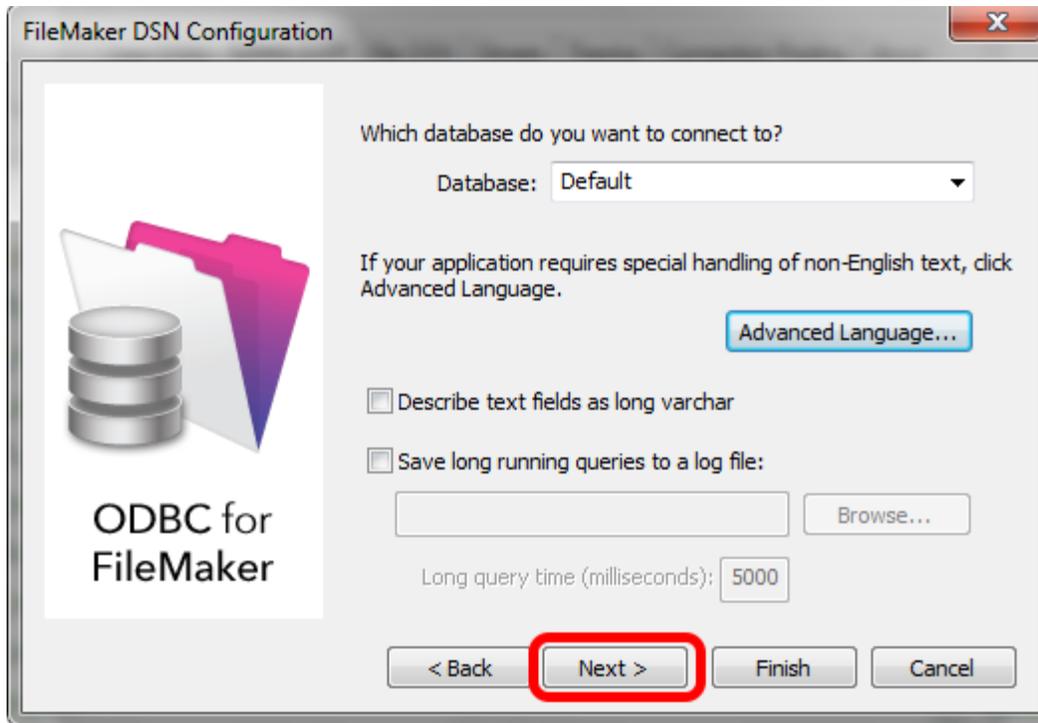


1) Uncheck the "Auto-detect language settings" button, 2) select System (WinLatin1) for the text encoding, 3) click the Ok button.

It has been found that for proper character encoding, the following configuration works well:

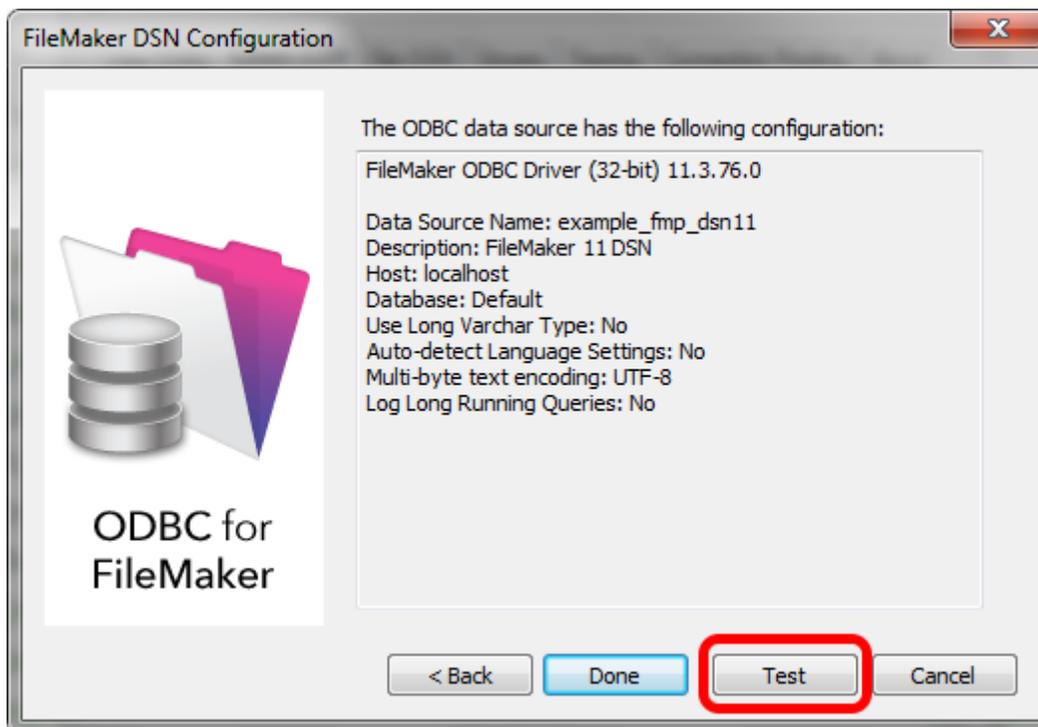
- 1) Install the FileMaker database and FmPro Migrator on Windows. If using a 64-bit version of Windows, use the ODBC Administrator - 32 bit (not the 64 bit) to create your ODBC DSN when using FileMaker Pro or FileMaker Pro Advanced.
- 2) In the FileMaker ODBC driver, disable the Auto-Detect Language checkbox in the Advanced Language dialog.
- 3) Set the Multi-byte Text Encoding menu to UTF-8 in the Advanced Language dialog.
- 4) Enable the Perform Translation for Character Data checkbox on the last panel of the SQL Server ODBC DSN configuration.

ODBC Driver Configuration - FileMaker 11+ - Windows (6)



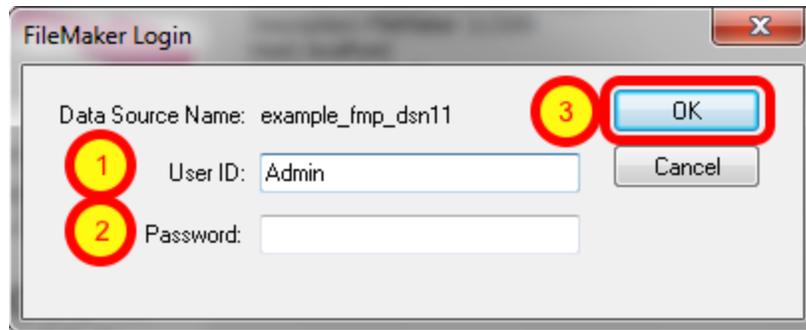
Click the Next button.

ODBC Driver Configuration - FileMaker 11+ - Windows (7)



Click the Test button.

ODBC Driver Configuration - FileMaker 11+ - Windows (8)



1) Enter Username, 2) Password (if needed), 3) click the Ok button.

Review the test results, make corrections as necessary until the test passes.

ODBC Error Troubleshooting Steps:

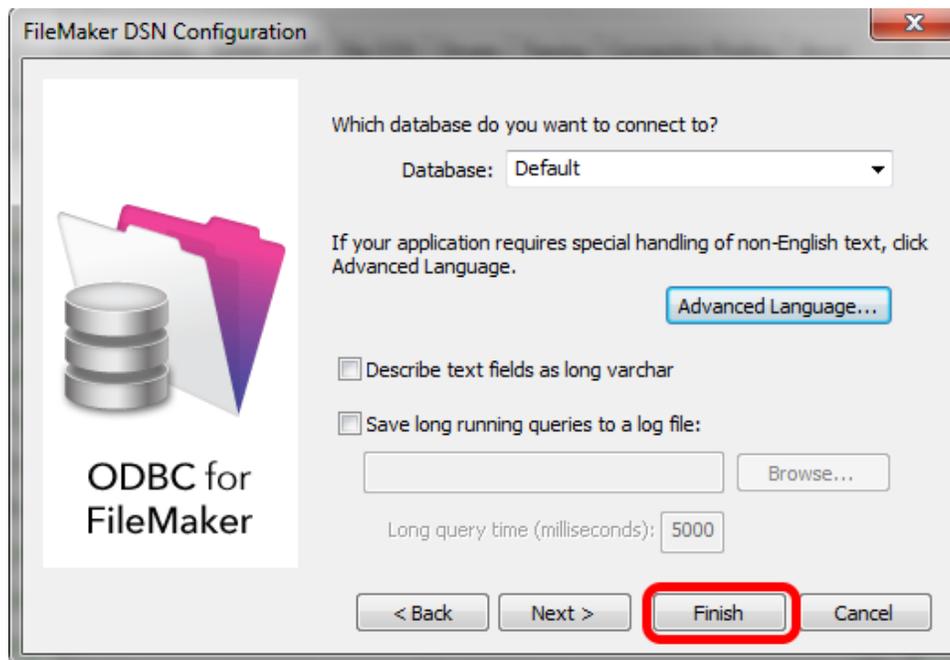
1) Verify that the FileMaker database file is open.

2) Verify that ODBC sharing is enabled for the account entered in the connection test dialog prompt.

3) Make sure that there aren't two different copies of FileMaker running at the same time. Both older and current versions of FileMaker use TCP/IP Port# 2399 for ODBC connectivity. If this type of conflict occurs, close both versions of the FileMaker application, and only open the one copy you want to serve the database file being migrated.

4) Try rebooting the computer (after clicking Ok to save changes and close this ODBC dialog). Then test the DSN again after rebooting.

ODBC Driver Configuration - FileMaker 11+ - Windows (9)



Click the Finish button.

Install FileMaker ODBC Driver - macOS (FileMaker 11+)

Download ODBC Manager



Download and install the free ODBC Administrator for macOS from www.odbcmanager.net

You will use the ODBC Administrator to create and manage your ODBC DSNs on macOS.

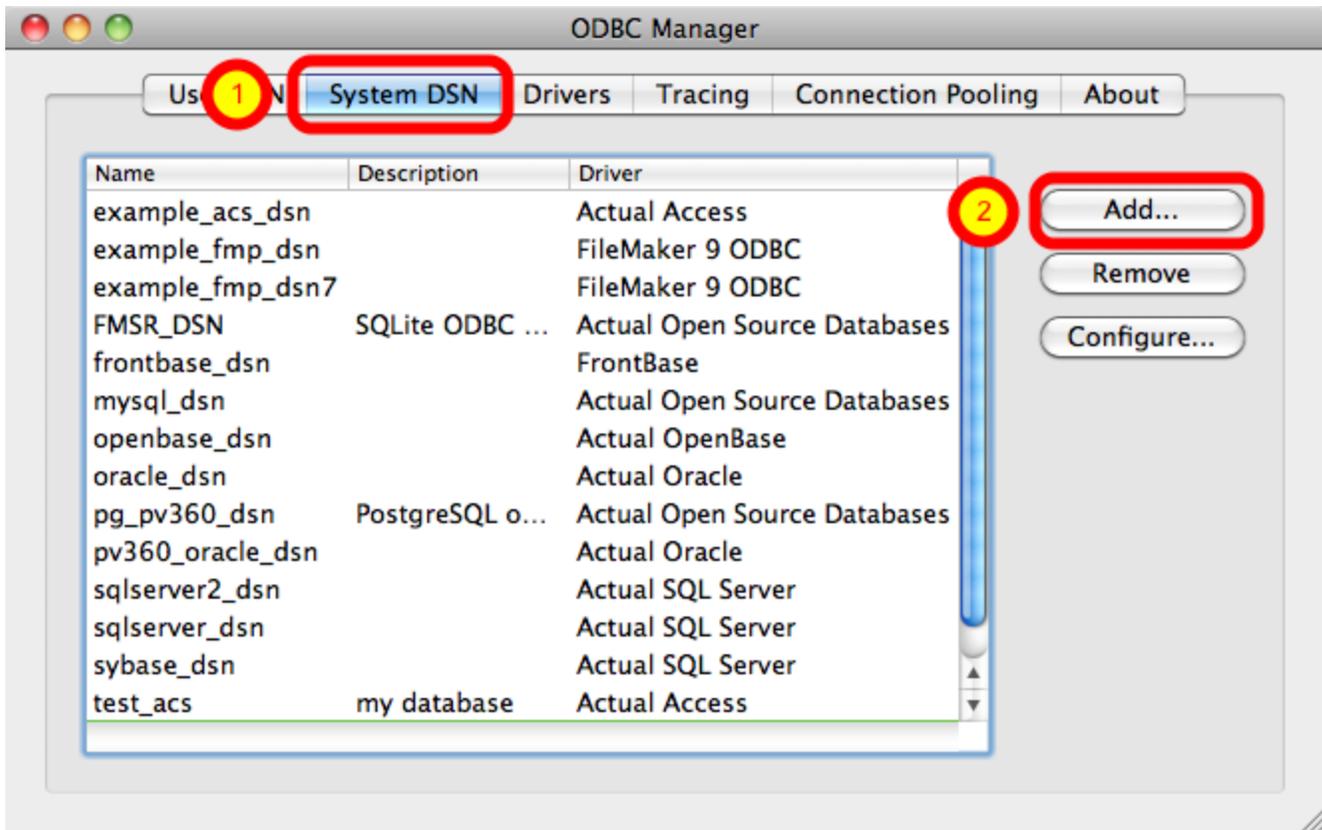
Install the FileMaker ODBC Driver



(1) Open the xDBC folder on the FileMaker install CD (or installer image DMG file).

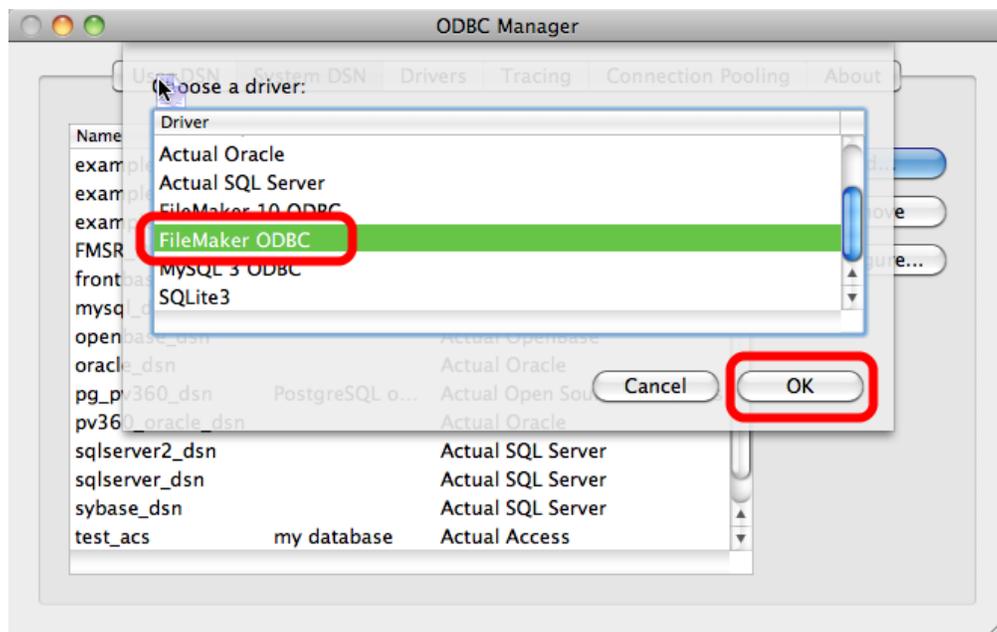
(2) Double-click the FileMaker ODBC.mpkg installer to install the FileMaker ODBC driver. Follow the insular prompts.

Add a System DSN

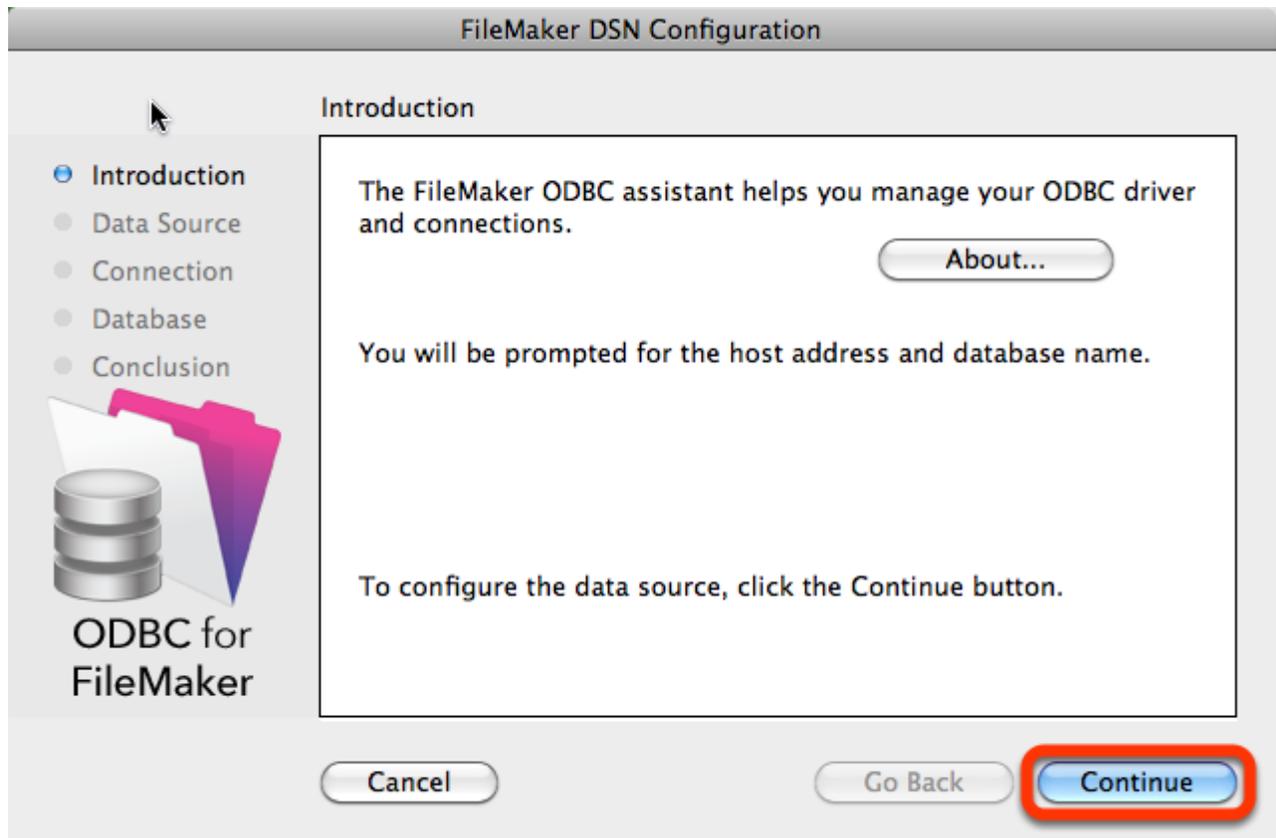


(1) Click the System DSN tab, then (2) click the Add button.

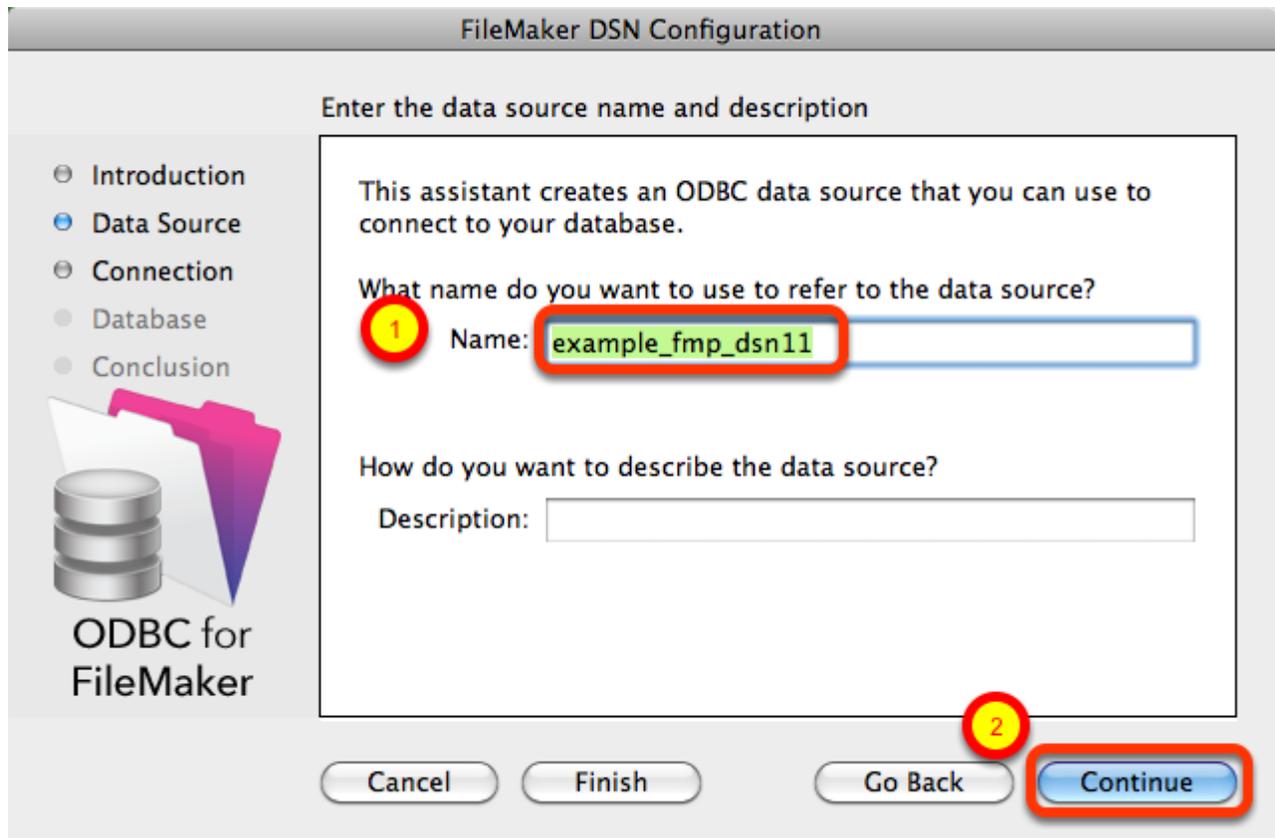
Choose the FileMaker ODBC Driver



(1) Select the FileMaker ODBC driver from the list, (2) click the Ok button.



Click the Continue button.

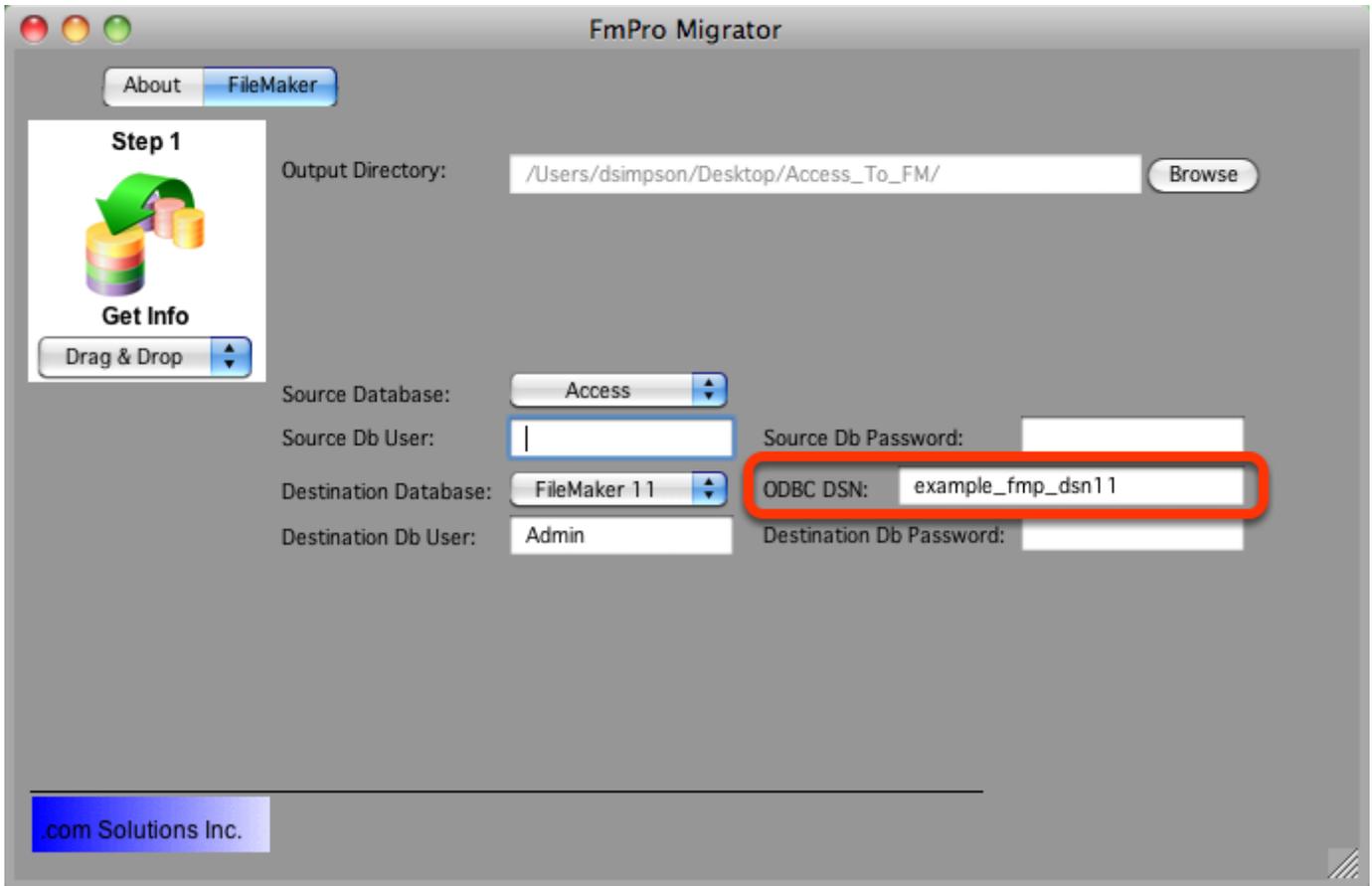


(1) Enter a name for the FileMaker ODBC DSN. The name used here needs to be exactly the same as the ODBC DSN Name you enter into FmPro Migrator.

(2) Click the Continue button.

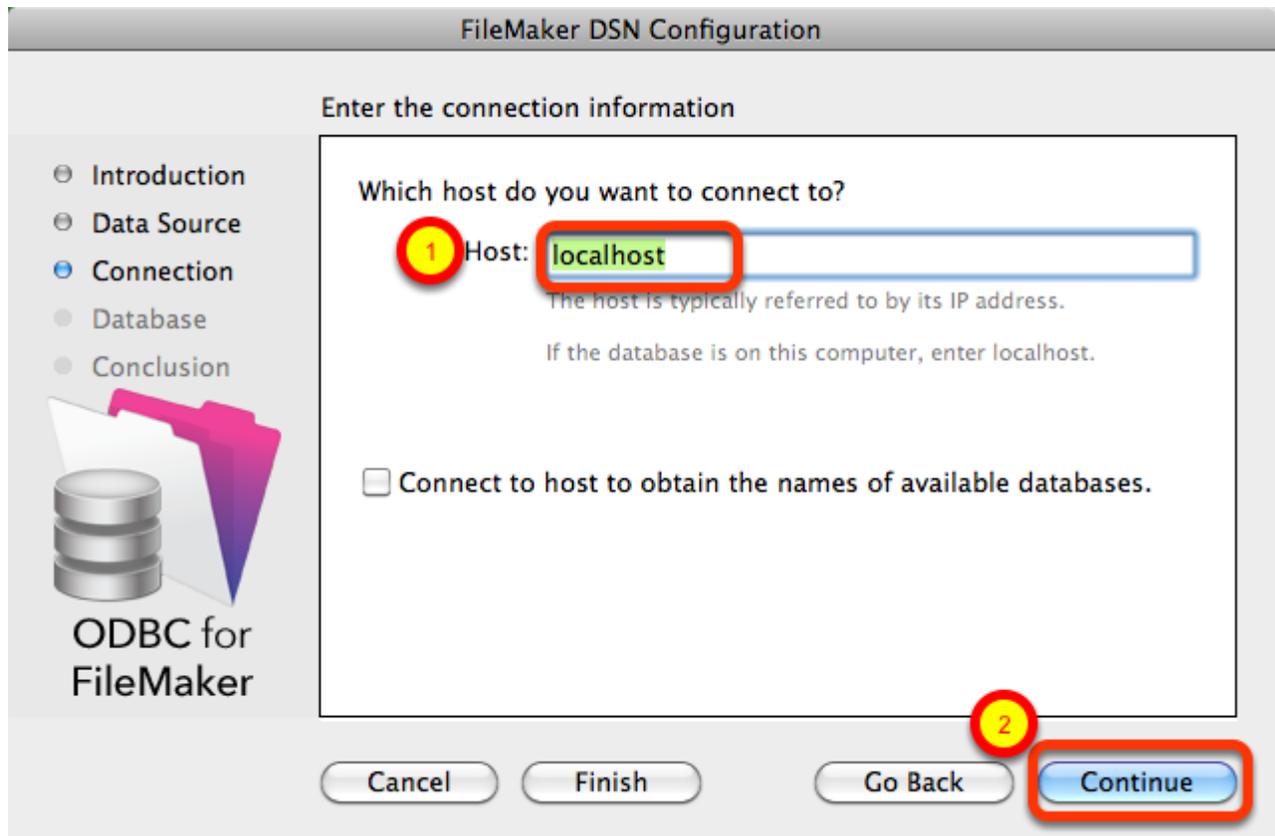
Note: You can pick a different name than you see here, just make sure that you enter exactly the same name into FmPro Migrator.

FileMaker ODBC DSN Configuration - ODBC DSN Field in FmPro Migrator



In this screenshot, the FileMaker 11 database is the destination database, therefore the FileMaker ODBC DSN name is entered in the Destination Database ODBC DSN field.

If the FileMaker database was the source database, and the data was being copied to a different database server, then the FileMaker ODBC DSN would be entered into the ODBC DSN field for the Source Database (not shown in this screenshot).

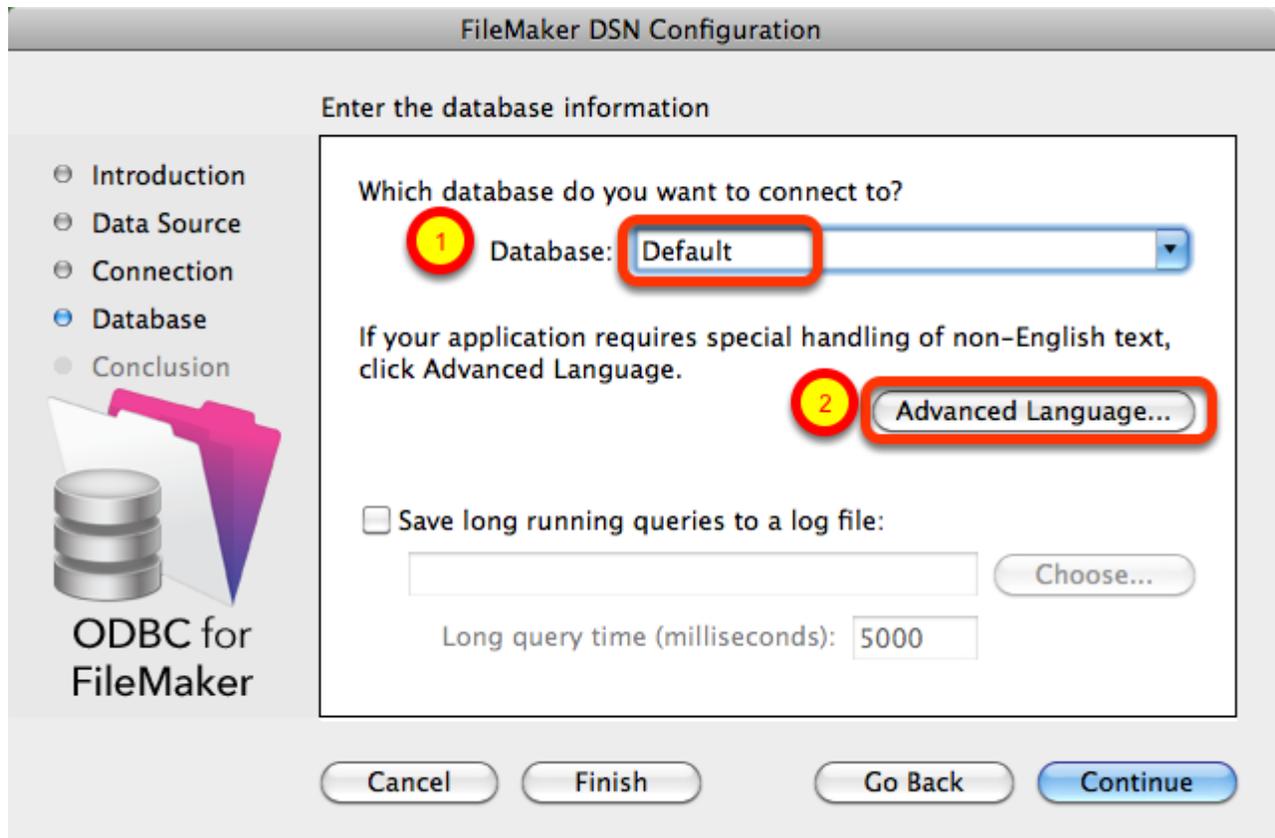


(1) Enter the hostname for the FileMaker database (default is localhost).

(2) Click the Continue button.

For a file which has been opened on your local desktop machine, leave the default setting of localhost.

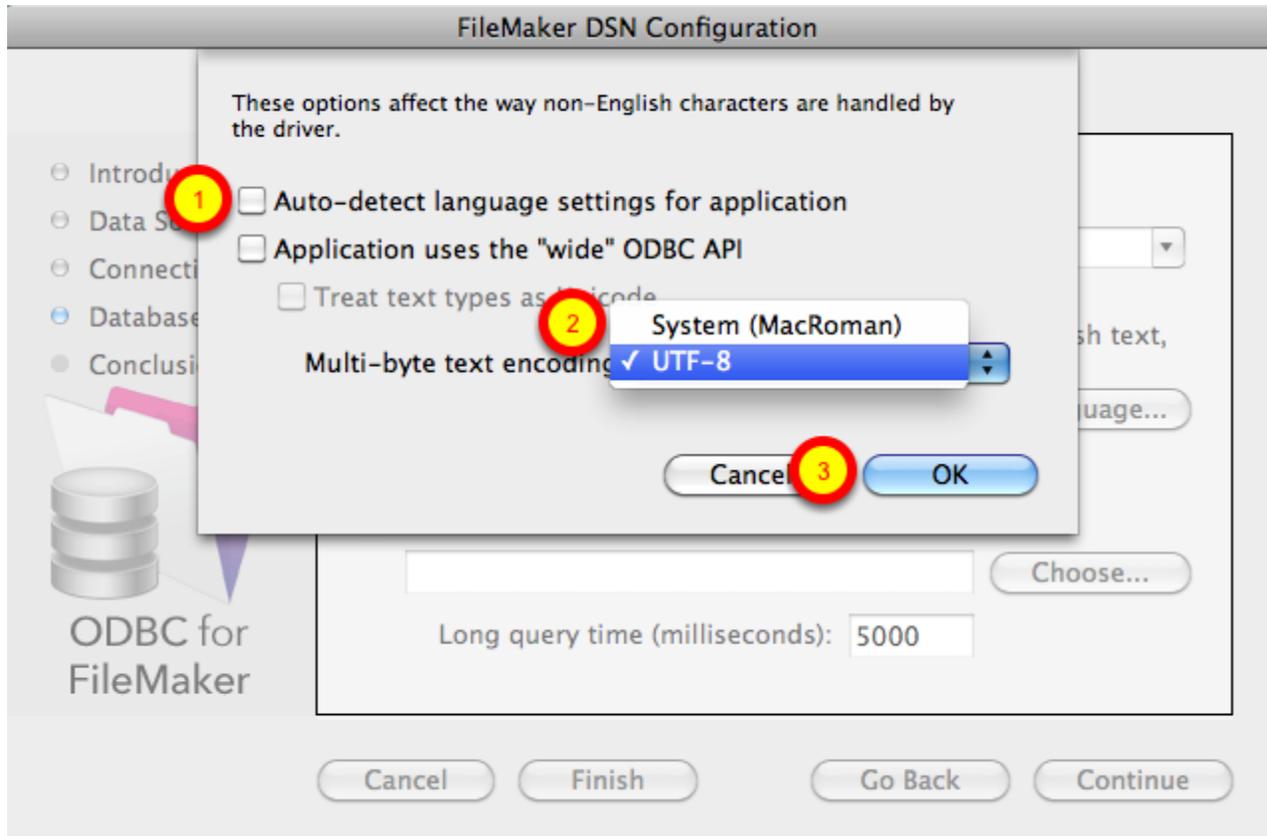
For a hosted file hosted by FileMaker Server Advanced, enter the IP Address or hostname of the FileMaker Server Advanced computer.



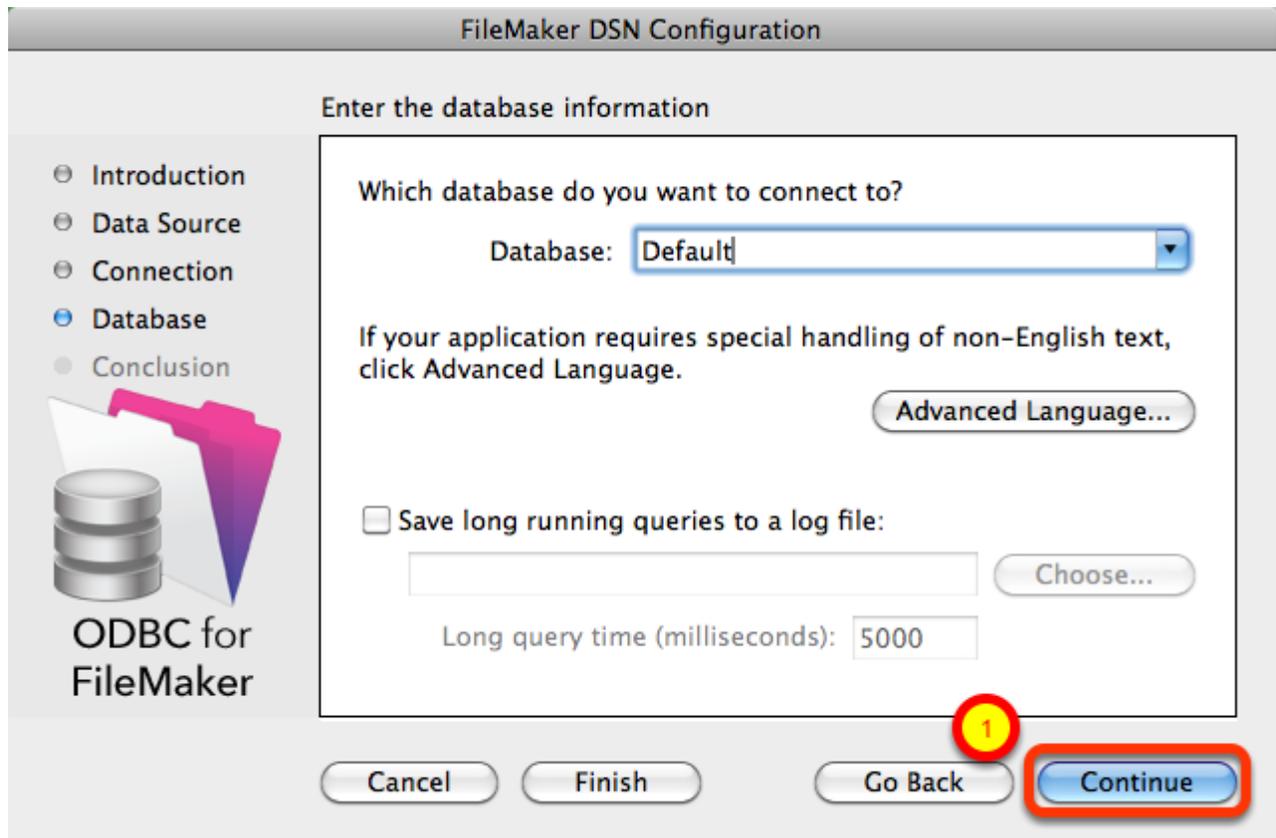
(1) For most locally hosted database files, enter the text "Default" into the Database field, instead of selecting a database from the list. This way you can use any single database file without re-selecting the database name each time you open a new file.

To use this feature, you must only have one FileMaker database file open at a time, or an error will occur when attempting to read info from the database.

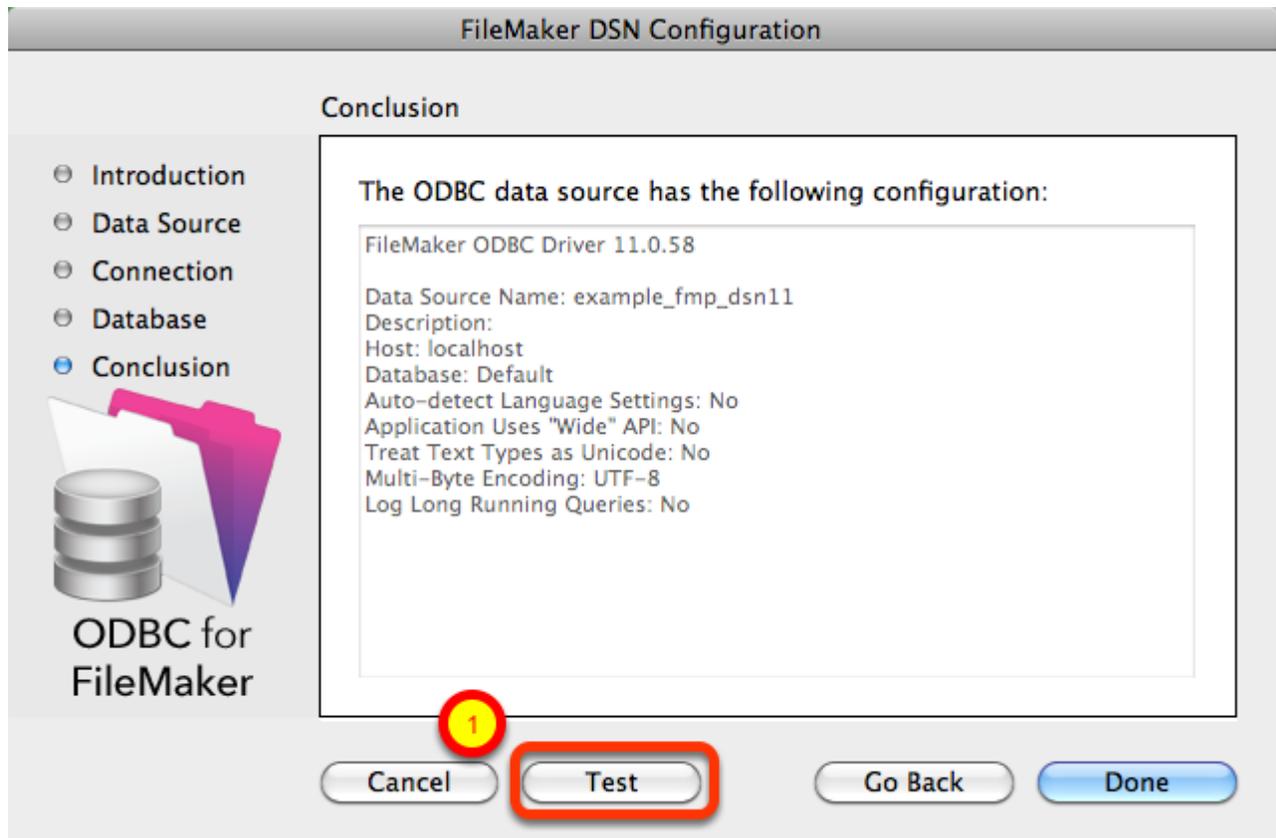
(2) Click the Advanced Language button.



- (1) Un-check the Auto-detect language settings checkbox.
- (2) Select UTF-8 from the Multi-byte text encoding menu.
- (3) Click the Ok button.



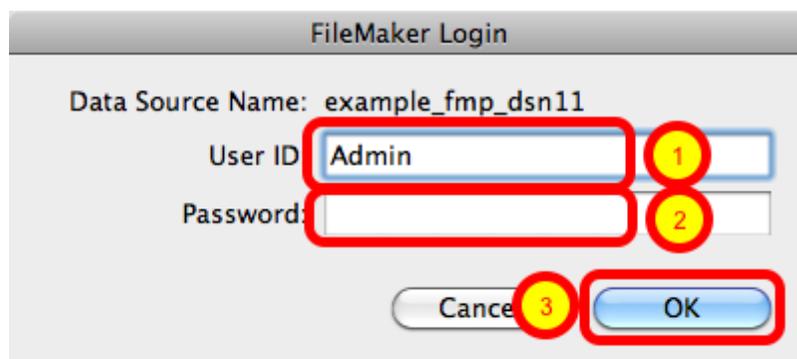
(1) Click the Continue button.



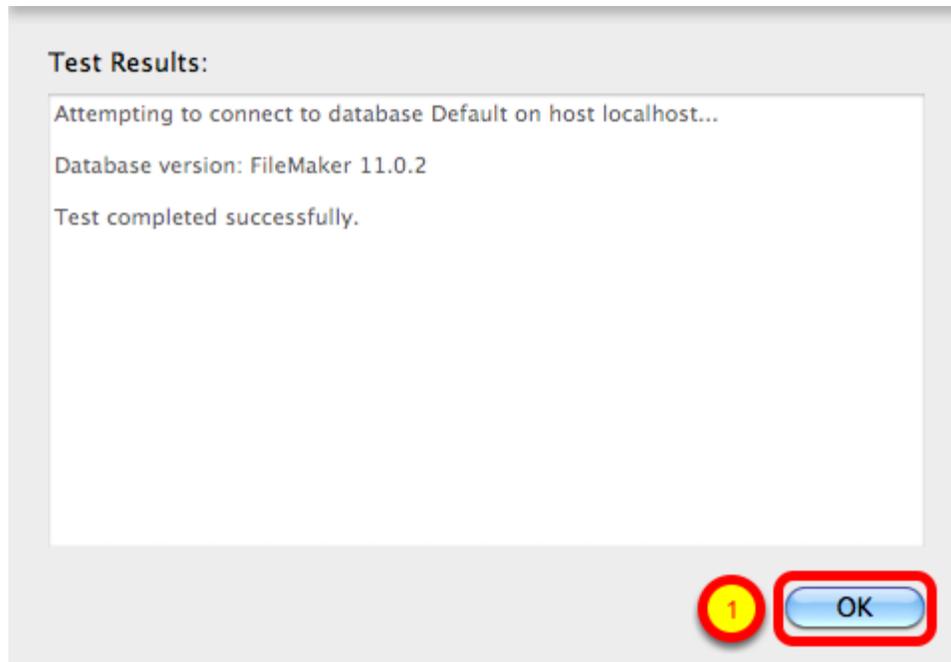
(1) Click the Test button.

If the test fails, use the following steps to enable ODBC sharing for the FileMaker database.

Note: Each FileMaker database needs to have ODBC sharing enabled individually.



Enter the (1) Username, (2) Password, then (3) click the Ok button to test the ODBC DSN.

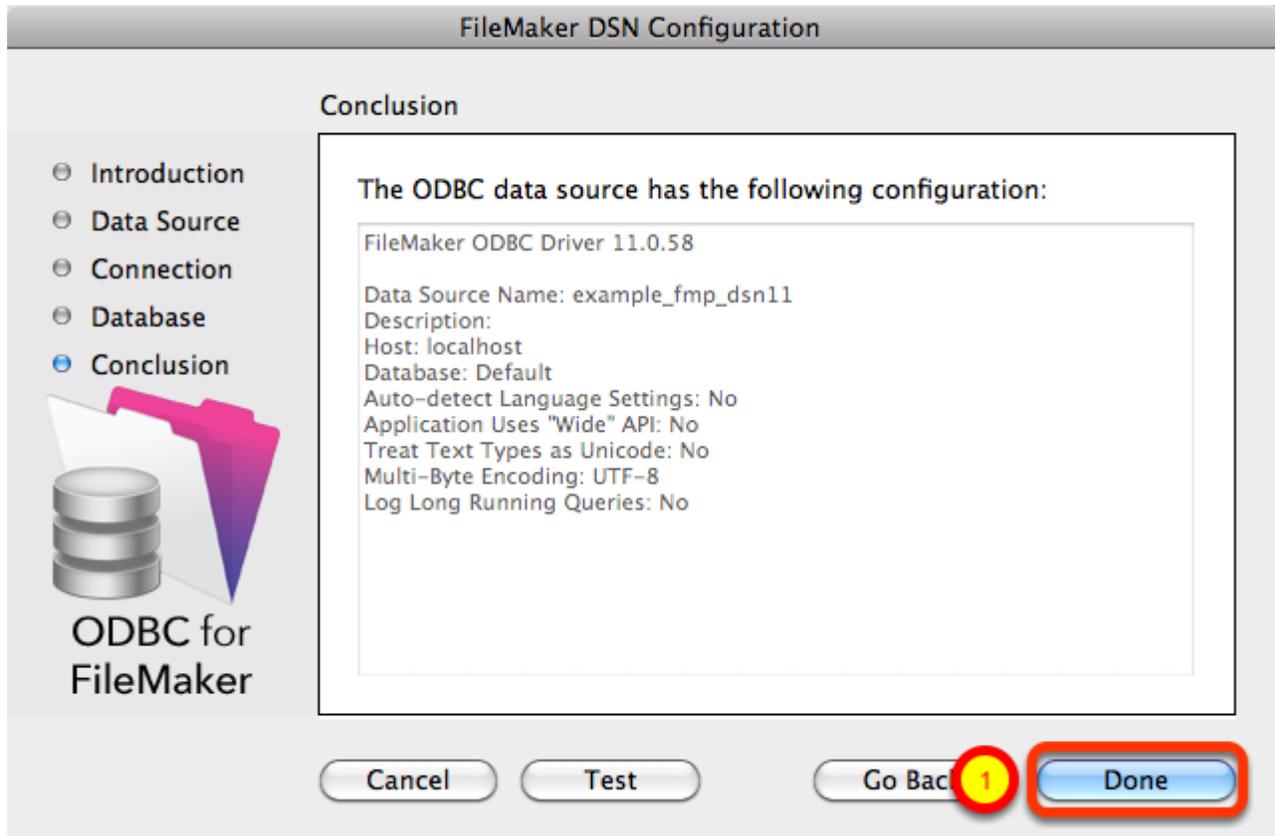


(1) Click the Ok button.

If the test passes, this dialog will be displayed, showing that the ODBC Driver Manger has used this ODBC DSN to successfully connect to the FileMaker database.

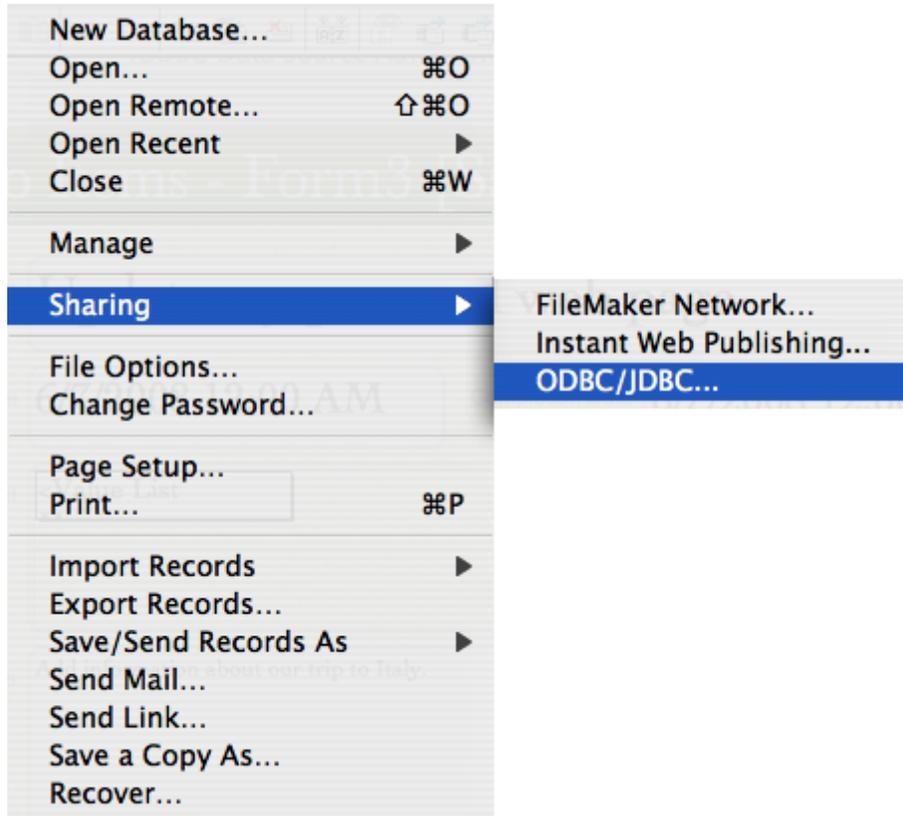
If the test fails:

- 1) Verify that the FileMaker database file is open.
- 2) Verify that FileMaker ODBC sharing is enabled for the account entered in the connection test dialog prompt.
- 4) Make sure that there aren't two different copies of FileMaker running at the same time. Both older and current versions of FileMaker use TCP/IP Port# 2399 for ODBC connectivity. If this type of conflict occurs, close both versions of the FileMaker application, and only open the one copy you want to serve the database file being migrated.
- 5) Try rebooting the computer (after clicking Ok to save changes and close this ODBC dialog). Then test the DSN again after rebooting.



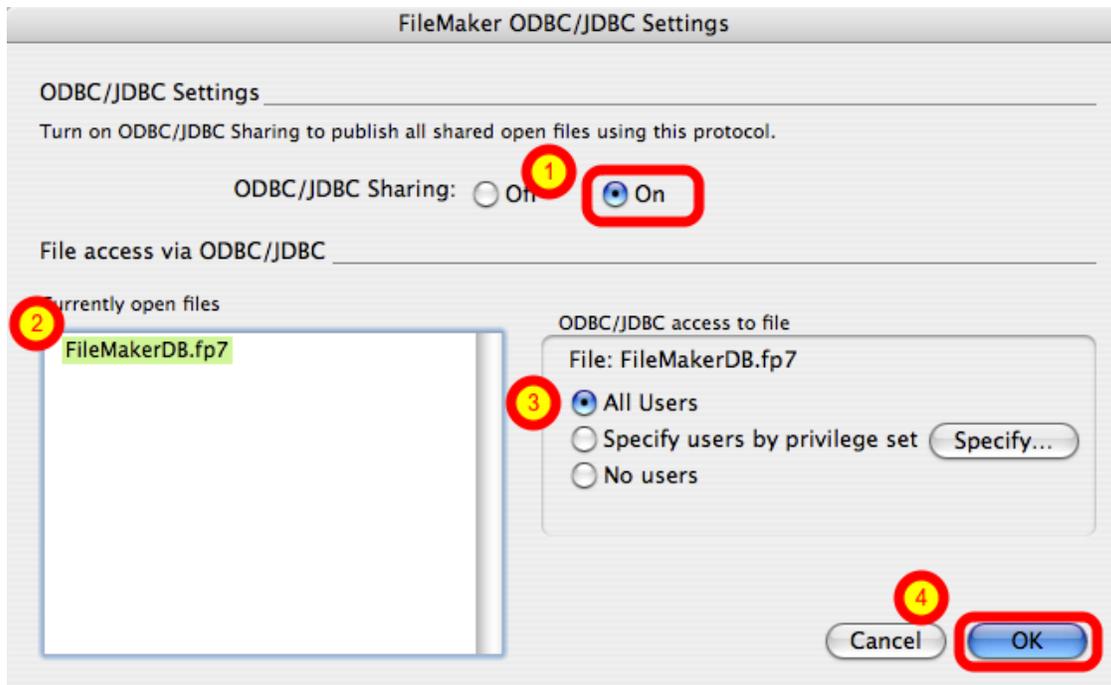
(1) Click the Done button to save the new ODBC DSN.

Enable ODBC/JDBC Sharing within FileMaker Pro



ODBC/JDBC Sharing needs to be enabled within any FileMaker Pro database file which is going to be used with the FileMaker ODBC driver.

Select Sharing Parameters



(1) Turn on ODBC/JDBC Sharing, (2) for the currently open FileMaker Pro database file, (3) for All Users, then (4) click the Ok button.

Step 3 - MySQL to FileMaker - Transfer Data

Click Step #3 - Transfer Data Button

Migration Process

Tables Relationships TOs Value Lists CFs Layouts Scripts GUI

Tables: 20

Original Table	New Table	Source	Destination	Fields	Records
address_book	address_book	MySQL	FileMaker 19	63	
asset_management2	asset_management2	MySQL	FileMaker 19	42	
asset_management2_re	asset_management2_r	MySQL	FileMaker 19	4	
companies	companies	MySQL	FileMaker 19	5	
companies 2	companies 2	MvSOI	FileMaker 19	5	

Fields: 63

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	middle_name	0			middle_name
2	phonetic_last_name	0			phonetic_last_nam
3	name	0			name
4	organization	0			organization
5	department	0			department

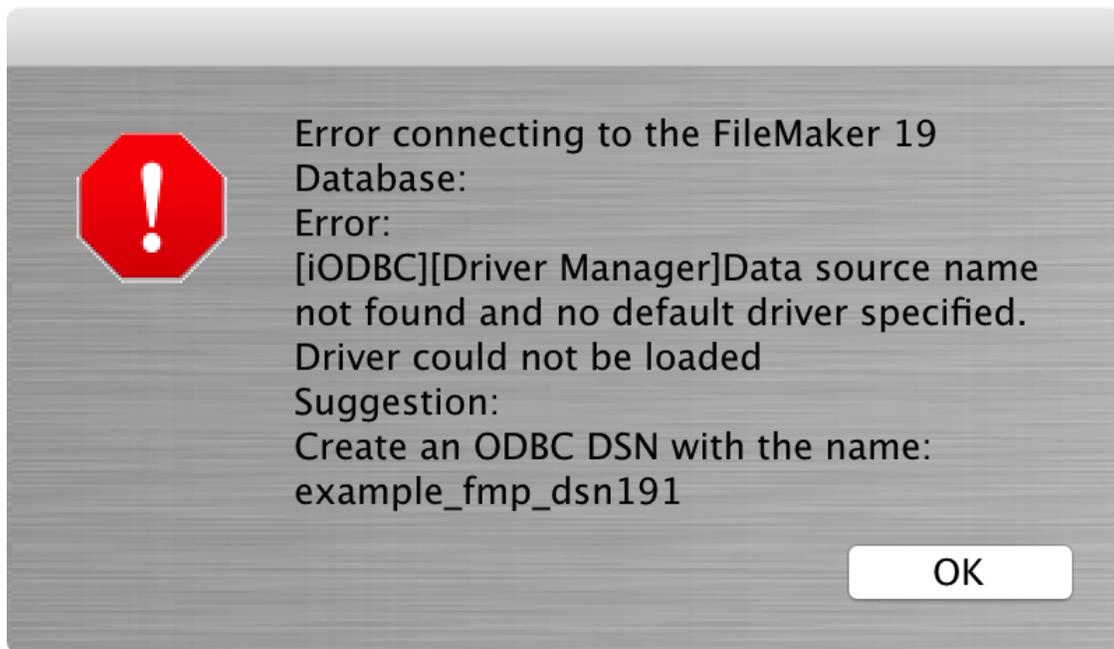
Step 2
Create Table
Completed

Step 3
Transfer Data
Not Started

If you have already opened the new FileMakerDB.fmp12 database file and configured the ODBC DSN for the FileMaker Pro database, just click on a table in the list of tables then click on the Step #3 Transfer Data button in the Migration Process window.

Repeat this process for each imported MySQL table.

ODBC DSN Error - Connecting to FileMaker Pro Database



If you get an ODBC DSN connection error, review the steps for installing the FileMaker ODBC driver and creating the ODBC DSN for connecting to the FileMaker Pro database. The FileMaker database must be open, and ODBC sharing needs to be enabled. Also, make sure that the name of the ODBC DSN you entered into FmPro Migrator for the destination database matches the name of the ODBC DSN you created.

Imported Data in FileMaker

FileMakerDB

Records: 1 / 30 Total (Unsorted)

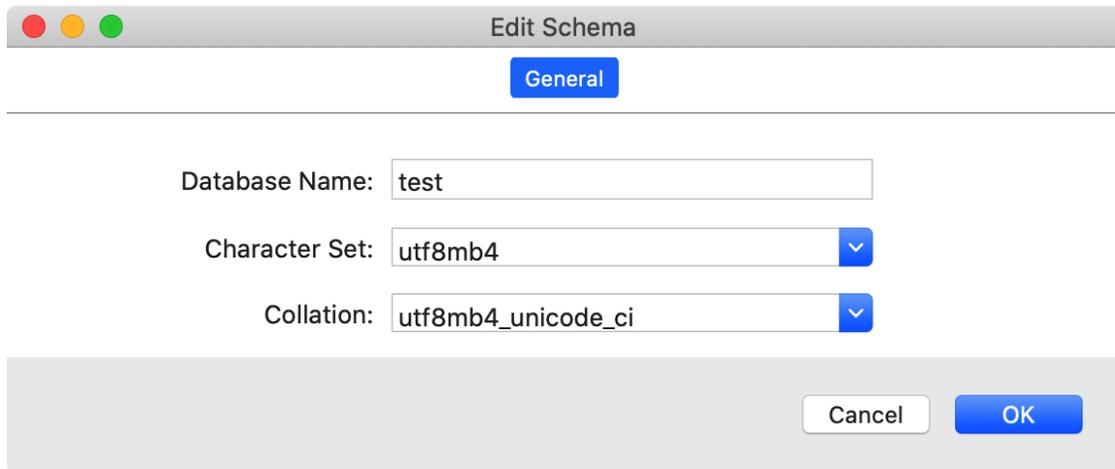
Layout: members | View As: [Table View] | Preview

first_name	last_name	home_address...	home_address...	city	country	
Andre	Common	147 White		Los Angeles	USA	AE
Steve	Williams	789 Ninth		New York	USA	AE
Kentaro ケンタ	Ogawa 小川	2-23-5 Imachi	Setagaya	Tokyo	Japan	AE
Mary	Smith	123 Elm St.		New York	USA	DE
Marie	Durand	1 rue de la		Paris	France	DE
Sophie	Tang	126, Deepwater		Kowloon	Hong Kong	DE
Juanita	Alvarez	147 Houston		New York	USA	DE
William	Johnson	852 Marsh Road		London	UK	DE
Annelies	Verhaag	Blauwburgstraat		Amsterdam	Netherlands	DE
Juan	Garcia	Calle Real	Colonia	Mexico Df	Mexico	DE
Sven	Svensson	Klammerdamms		Stockholm	Sweden	DE
Jacques	Dupont	Rue des Alpes		Lausanne	Switzerland	DE
A. N.	Other	The Cottage	Mayflower Lane	Bristol	UK	DE
Bengt	Larsen	Vogts gate 33		Oslo	Norway	DE
Michelle	Cannon	123 4th St. SW		Edmonton	Canada	XY
John	Smith	41 Mary St		Sydney	Australia	XY
Patrick	Murphy	89 Lavenworth	Castleknock	Dublin	Ireland	XY
Jean	Durand	1001 place du		Montreal	Canada	XY

After transferring the data into the FileMaker database it can be displayed like any other table. This screenshot shows a sample table containing UTF-8 data for the 3rd record having been imported and displayed correctly.

When FmPro Migrator connects to a MySQL database server, it sets the character set to UTF8MB4 to insure that all unicode characters are transferred correctly.

UTF8MB4 MySQL Database Configuration



The screenshot shows a window titled "Edit Schema" with a "General" tab selected. The "Database Name" field contains "test". The "Character Set" dropdown menu is set to "utf8mb4". The "Collation" dropdown menu is set to "utf8mb4_unicode_ci". At the bottom right, there are "Cancel" and "OK" buttons.

If unicode characters aren't being transferred properly, the character set encoding could be the cause of the problem. You could test setting up the database character set as shown in this screenshot of the Navicat Edit Schema dialog. This dialog is accessed via right clicking on the database name in the list of databases, then selecting Edit Database from the contextual menu which pops up.