

FmPro Migrator - Bento to FileMaker Pro Migration Procedure

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Overview

This document provides an explanation of the steps required to perform a Bento(TM) to FileMaker® Migration project using FmPro Migrator EE or FmPro Migrator Developer Edition.

Documentation Conventions:

FileMaker Pro/FileMaker Pro Advanced - refers to FileMaker Pro or FileMaker Pro Advanced version 8.5 or higher. In general, the term FileMaker Pro may refer to either FileMaker Pro or FileMaker Pro Advanced, unless specifically noted otherwise.



Bento - refers to Bento database versions 1.x or 2.x

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Feature Comparison

FmPro Migrator & FileMaker Pro Feature Comparison Table

Version of FileMaker Pro Software Installed	Feature	FmPro Migrator	FmPro Migrator Developer Edition
FileMaker Pro 	Paste Table XML via ClipBoard	No	No
	Create Tables via ODBC	Yes	Yes
	Automated Relationship Creation	No	Yes
	Automated Layout Creation	No	Yes
FileMaker Pro Advanced 	Paste Table XML via ClipBoard	Yes (Recommended)	Yes (Recommended)
	Create Tables via ODBC	Yes	Yes
	Automated Relationship Creation	No	Yes
	Automated Layout Creation	No	Yes

This table compares the features available with FmPro Migrator/FmPro Migrator Developer Edition compared with the version of FileMaker Pro software installed. FileMaker Pro Advanced versions 8.0

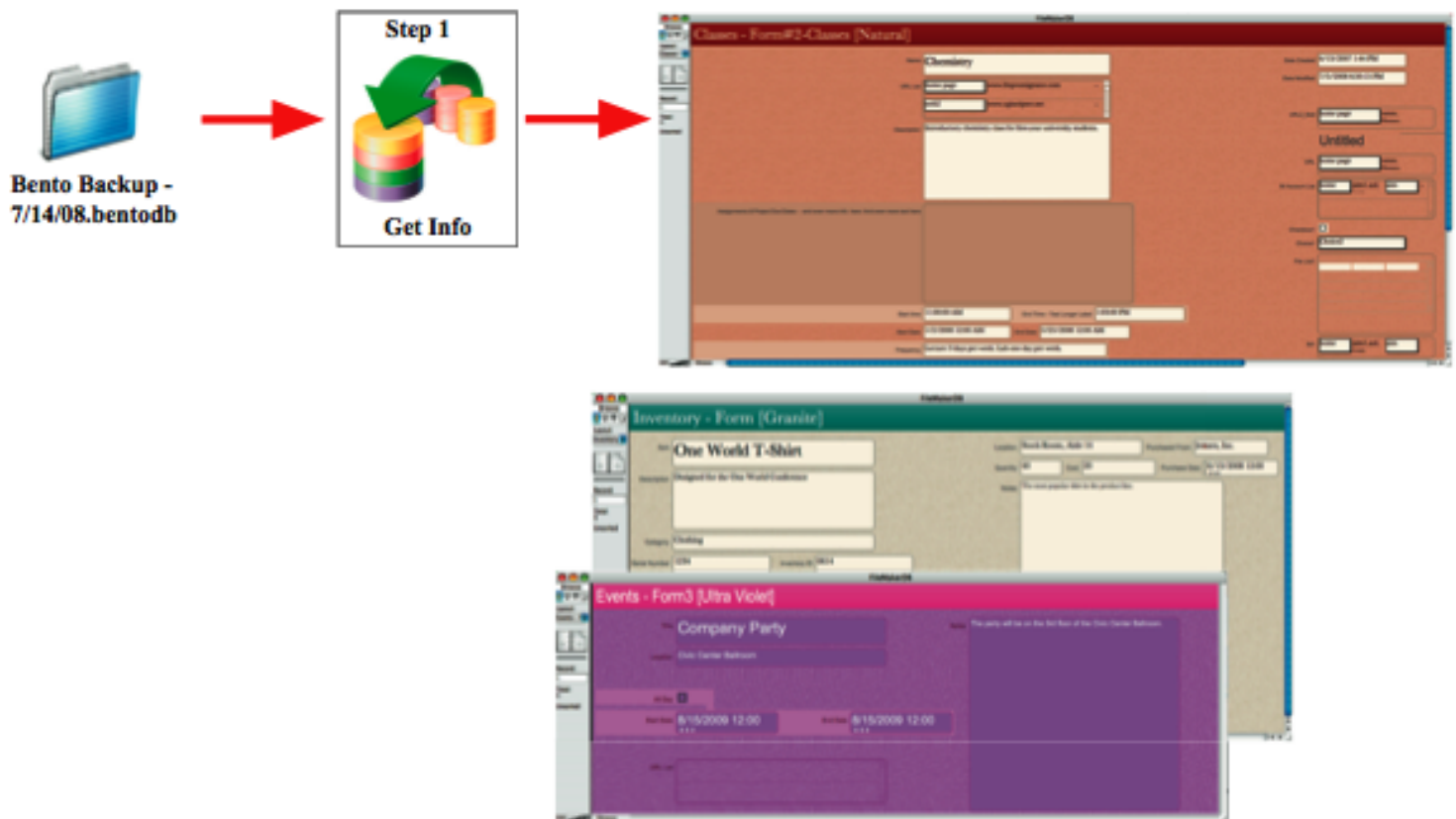


and higher allow for copy/pasting of Table XML code via the clipboard. This method of creating tables during the Bento to FileMaker Pro migration process is the recommended method. Pasting table XML code via the clipboard retains the Auto Enter SN/Next Value field parameters gathered by FmPro Migrator from the original Bento database backup file.

When using FileMaker Pro (instead of FileMaker Pro Advanced), each new table is created by using an ODBC connection to the local FileMaker Pro database. The configuration of Auto Enter SN and Next Value parameters must then be completed manually within the Define/Manage Database dialog.

FmPro Migrator Developer Edition includes the added features of automating the creation of Relationships and Layouts within the new FileMaker Pro/FileMaker Pro Advanced database file. FmPro Migrator Developer Edition utilizes QuickKeys(MacOSX)/WinAutomation(Windows) shortcuts to drive the FileMaker user interface in order to automate the creation of Relationships and Layouts. FmPro Migrator Developer Edition also includes a complete FileMaker Table Consolidation feature, which is documented in detail within a separate PDF file.

Migration Process Overview





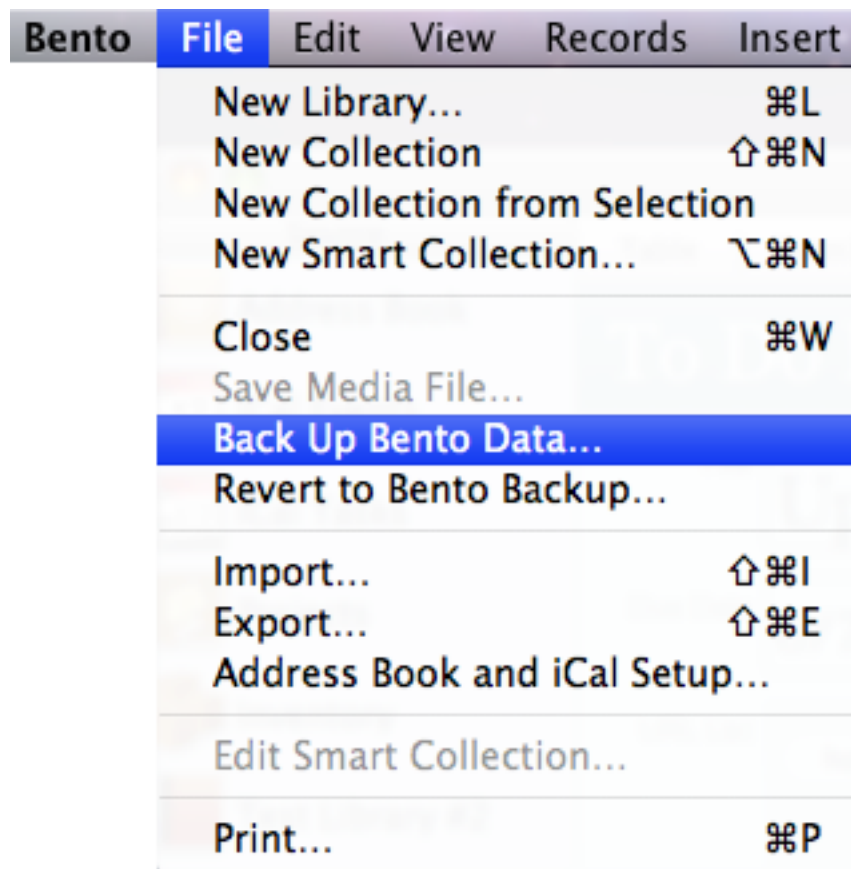
FmPro Migrator gathers schema info, relationships, data and forms directly from a Bento Backup .bentodb file - on Mac OS X or Windows. Bento tables are created in FileMaker Pro by copying/pasting the table definitions or via ODBC. Bento forms are instantly converted into Layouts which can be pasted directly into FileMaker Pro/Advanced. Data from the original Bento database backup file is transferred into FileMaker Pro via exporting/importing the data via a CSV/TAB delimited Unicode (UTF8) file.



Step 1 - Get Info - Bento

FmPro Migrator uses the information within the Bento Backup .bentodb folder to perform the conversion of tables, data, relationships and forms from Bento to FileMaker Pro. FmPro Migrator can be running on MacOS X (10.3, 10.4, 10.5) or Windows in order to perform the conversion. It is not necessary to have a copy of Bento running on the computer which is being used to perform the conversion.

Step 1 - Create Bento Backup



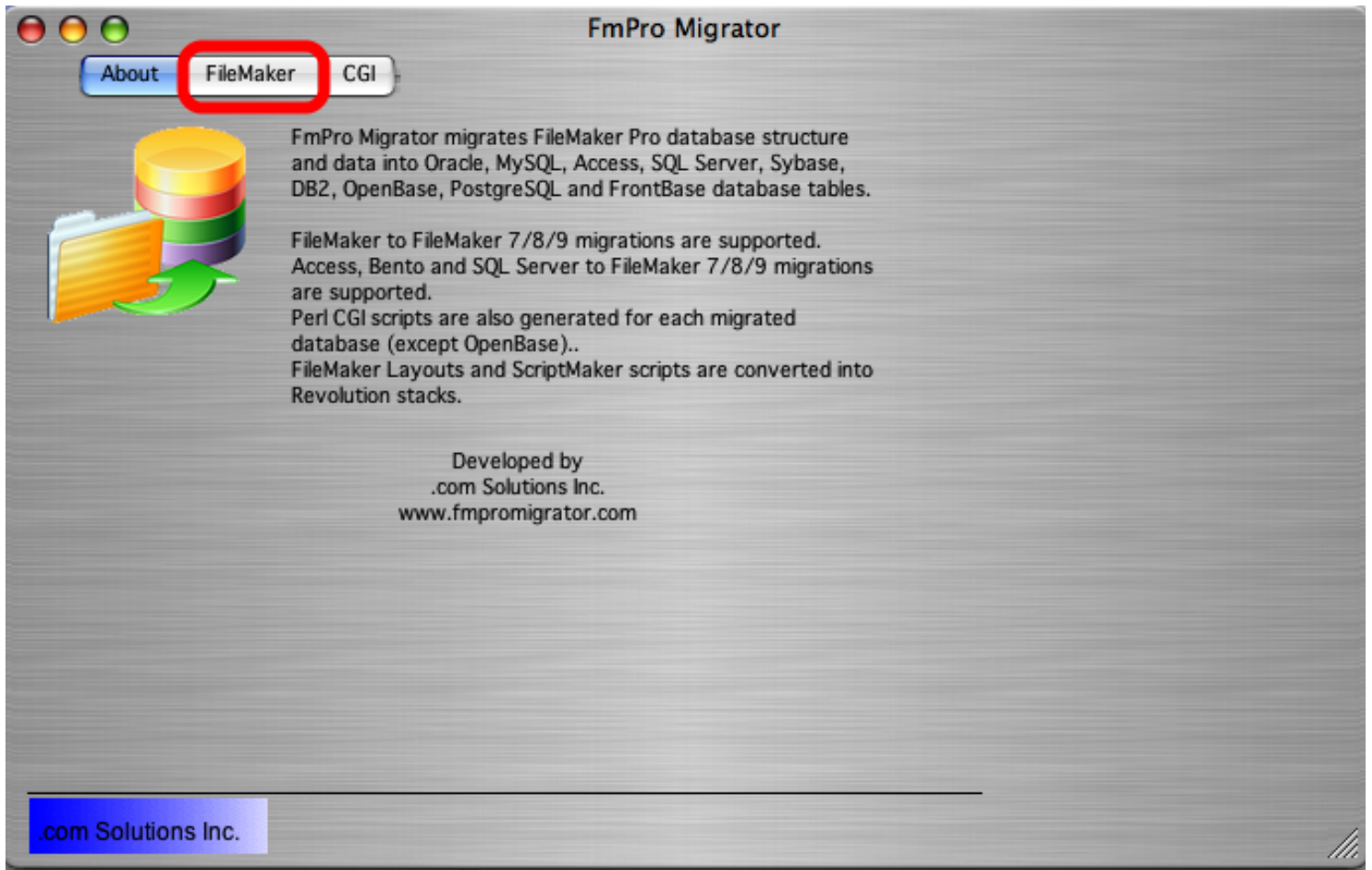
The Bento backup will be given a default name having the format: Bento Backup MM/DD/YY.bentodb. This backup will only contain the data stored within the Bento database file. Address Book and iCal data is not stored within the Bento SQLite database file, therefore this info will need to be exported separately.

Cross-Platform Note: Since the default Bento backup folder name may contain the "/" date separator character, the Bento backup folder might not be read on Windows. Changing the date separator character to any other character which is compatible with Windows, will resolve this problem. The



Windows version of FmPro Migrator can be used to convert the Bento database in exactly the same manner shown here on MacOS X.

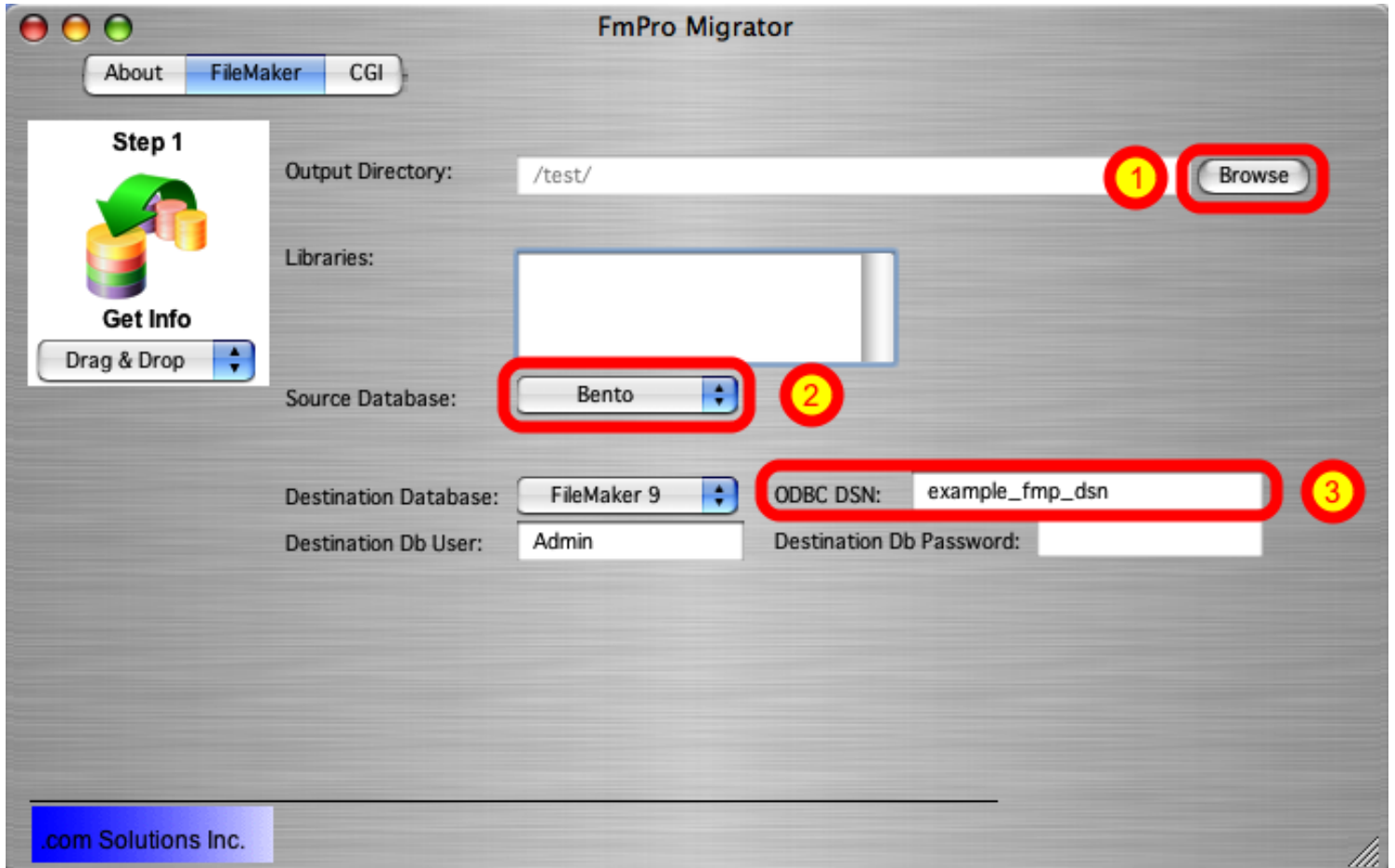
Step 1 - Click FileMaker Tab



Launch FmPro Migrator, then click on the FileMaker tab at the top of the window.



Step 1 - Get Info - Select Output Directory



FmPro Migrator stores migration process information within a SQLite database file named MigrationProcess.db3. This file contains the metadata for the source Bento database backup file, including tables, fields, table creation SQL code, forms and status info. Therefore the first step in the migration process is to click the Browse button to select the output folder FmPro Migrator will use when creating the MigrationProcess.db3 file.

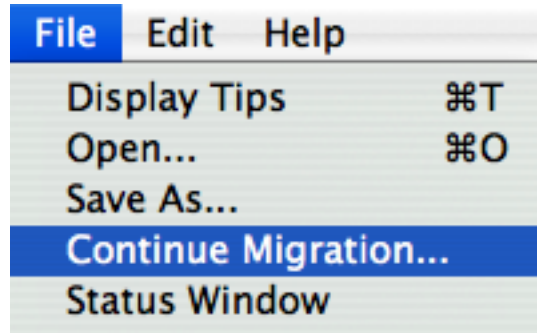
FmPro Migrator also creates a Themes folder within the output directory, which is used to convert the Bento forms into FileMaker Pro layouts. These themes files can be modified to change how the new FileMaker Pro layouts will be created.

(1) Select the output directory, then (2) select Bento from the Source Database menu.

(3) Either use the existing ODBC DSN name "example_fmp_dsn" or change this name to reflect the name of a System ODBC DSN you will create on your computer.



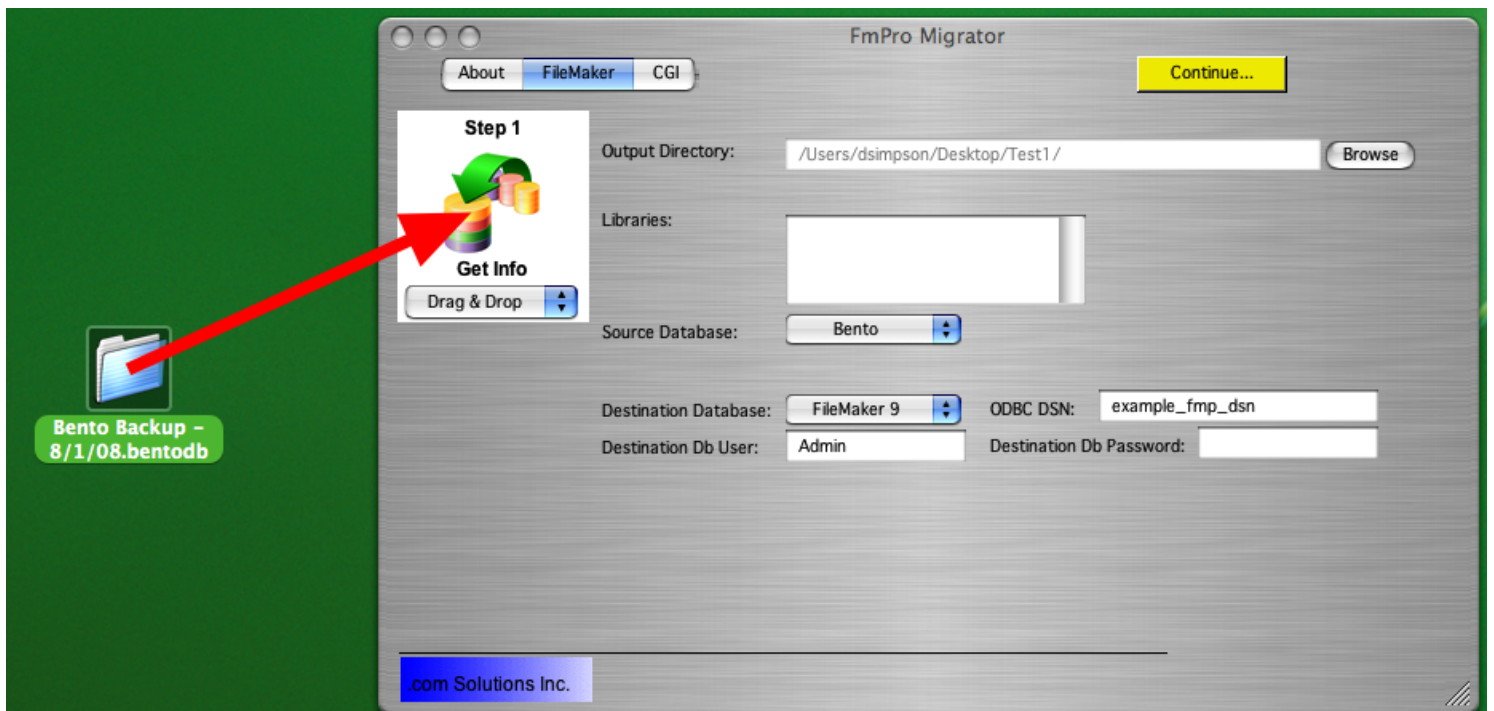
Continue Migration...



Tip: To restart an existing migration project, select the output directory, then select Continue Migration... from the File menu.

Click the yellow Continue button to open the Migration Process window.

Step 1 - Get Info - Drag & Drop Bento Backup File



Drag & Drop the Bento Backup .bentodb file onto the Step 1 Get Info icon.



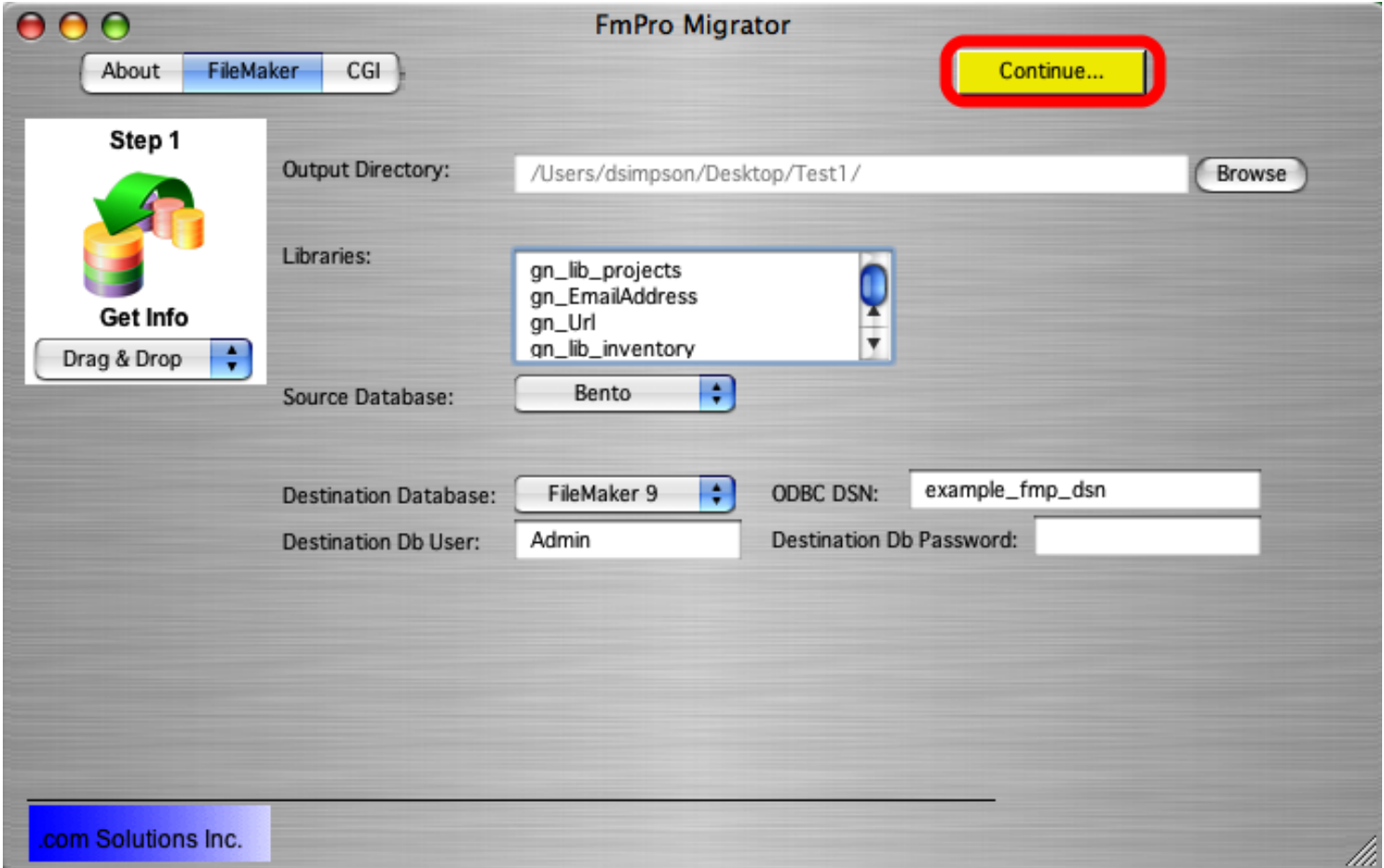
Step 1 - Get Info - Progress Dialog



FmPro Migrator will display progress dialog boxes as the file is being read and processed.



Step 1 - Get Info - Click Continue... Button



After the Converting Bento Forms... dialog disappears, click the yellow Continue... button.

Step 1 - Time Saving Tip

If you are using FileMaker Pro Advanced, then you can create tables in FileMaker Pro by copying and pasting the tables from FmPro Migrator to FileMaker Pro Advanced. You may skip the following step in this documentation which describes how to install the FileMaker ODBC driver, since the data will be imported via importing a CSV/TAB delimited file into the database.

If you are using FileMaker Pro instead of FileMaker Pro Advanced, then you should install the FileMaker ODBC driver in order to automate the creation of each of the tables/fields and field types within the FileMaker Pro database. If you create the table by importing the CSV/TAB data file, the FileMaker Pro database may not always be able to accurately determine the type of field to create for

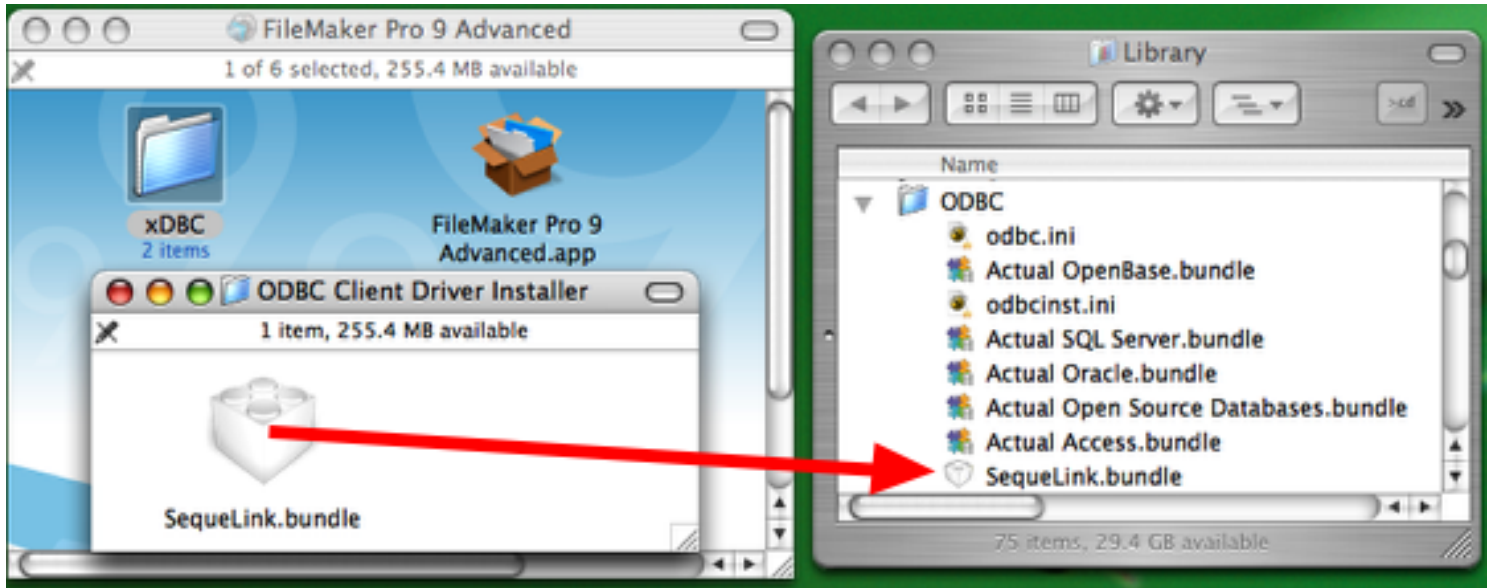


each imported field. FmPro Migrator uses the ODBC connection to create each field as the correct type based upon the data stored within the original Bento database table.



Install FileMaker ODBC Driver - MacOS X

Copy SequeLink.bundle File to /Library/ODBC



For FileMaker 7+ Databases on MacOS X:

Manually copy the SequeLink.bundle file from the ODBC Client Driver folder on the FileMaker application CD or ESD dmg to the /Library/ODBC folder within MacOS X.

Note: Using the FileMaker ODBC driver with FileMaker Pro/Advanced 7+ requires the FileMaker database file and ODBC driver to be open locally on the same computer where FmPro Migrator is running. The exception to this requirement is when the database file is opened with FileMaker Server Advanced.

Download & Install iODBC Driver Administrator from OpenLink Software

Download and install the iODBC Data Source Administrator, provided by OpenLinkSoftware, available from (www.openlinksw.com). Downloading the iODBC framework or any trial version of an OpenLink Software ODBC driver for MacOS X will provide you with the iODBC Driver Manager. The iODBC driver manager does not stop working after the trial software expires. The iODBC driver manager provides a test feature which enables you to quickly test ODBC driver connections after creating or updating an ODBC DSN.



Add the Driver

iODBC Data Source Administrator

User DSN System DSN File DSN **ODBC Drivers** Connection Pooling Tracing About

ODBC Drivers that are installed on your system

Name	Version	File
Actual Access	1.8c	/Library/OD
Actual Open Source Databases	2.8d	/Library/OD
Actual OpenBase	2.2	/Library/OD
Actual Oracle	2.9b	/Library/OD
Actual SQL Server	2.8e	/Library/OD
FileMaker 9 ODBC	5.50	/Library/OD
FrontBase	01.20.0092	/Library/Frc
MySQL 3 ODBC	##.##	/usr/lib/libi

2 Add a driver Remove the driver Configure the driver

An ODBC driver allows ODBC-enabled programs to get information from ODBC data sources. To install new drivers, use the drivers setup program if available, or add it with the Add button.

Cancel OK

Open the OpenLink ODBC Administrator application, (1) click on the ODBC Drivers tab, then (2) click the Add a driver button.



Specify Name and Pathname to Driver

ODBC Driver Add/Setup

Description of the driver **1** FileMaker 9 ODBC

Driver file name **2** macos/ivslk20.dylib Browse

Setup file name Browse

Driver defined as User System

Keyword	Value
---------	-------

Keyword Add

Value Update

Cancel **3** OK

(1) Enter a descriptive name for the driver, this is a name which you will select when creating an ODBC DSN which uses the driver. (2) Enter the full pathname to the ivslk component within the SequeLink.bundle file.



This image shows part of the pathname to use for a FileMaker 9 ODBC driver, with the full pathname listed below:

/Library/ODBC/sequelink.bundle/contents/macos/ivslk20.dylib

The name of the ivslk component changes with each revision of the DataDirect SequeLink driver file. You can't count on it staying the same, so it is recommended that you navigate to the location of the SequeLink.bundle file and select Ctrl + Show Package Contents to view the contents of the MacOS folder. Clicking the Browse button to the right of the Driver file name field doesn't allow the selection of individual components within bundle files. You always need to manually type in this pathname.

(3) Click the Ok button, and the driver will be added to the list of available ODBC Drivers.

If the driver doesn't get added, try to close, then reopen the ODBC Administrator program.



Add a System DSN

The screenshot shows the iODBC Data Source Administrator window. The 'System DSN' tab is selected and highlighted with a red circle and the number 1. The 'Add' button is also highlighted with a red circle and the number 2. The table below lists the existing System Data Sources.

Name	Description	Driver
example_acs_dsn	-	Actual Access
example_fmp_dsn	-	FileMaker 9 ODBC
FMSR_DSN	SQLite ODBC DSN	Actual Open Source Data
frontbase_dsn	-	FrontBase
mysql_dsn	-	Actual Open Source Data
openbase_dsn	-	Actual OpenBase
oracle_dsn	-	Actual Oracle
pg_pv360_dsn	PostgreSQL on pv360	Actual Open Source Data
pv360_oracle_dsn	-	Actual Oracle

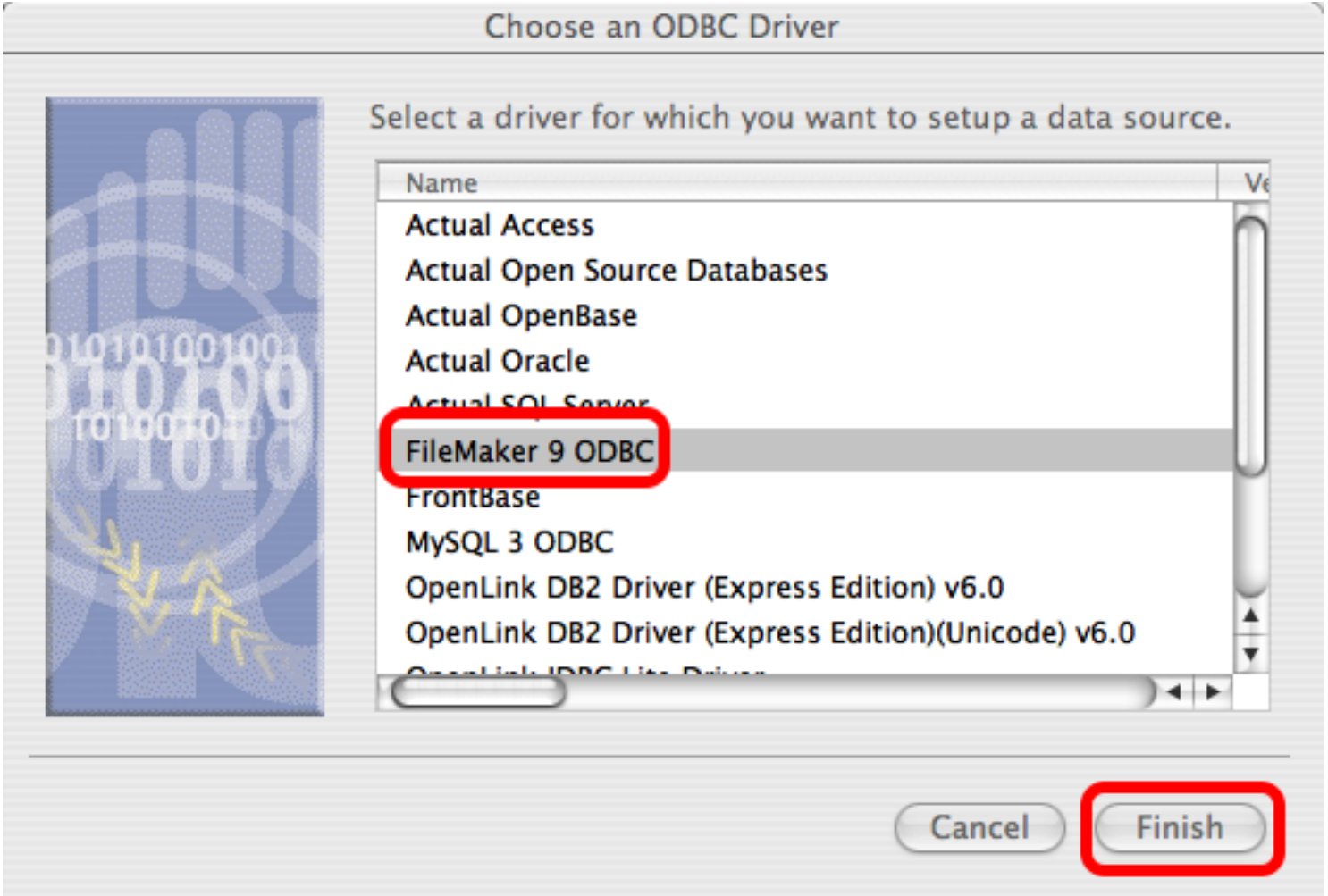
An ODBC System data source stores information about how to connect to the indicated data provider. A System data source is visible to all users and processes on this machine.

Buttons: Cancel, OK

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



Choose FileMaker ODBC Driver



(1) Select the FileMaker 9 ODBC driver from the list, (2) click the Finish button.



Enter System DSN Parameters

Keyword	Value
Port	2399
Host	localhost
ServerDataSource	Default
ServerDataName	Default

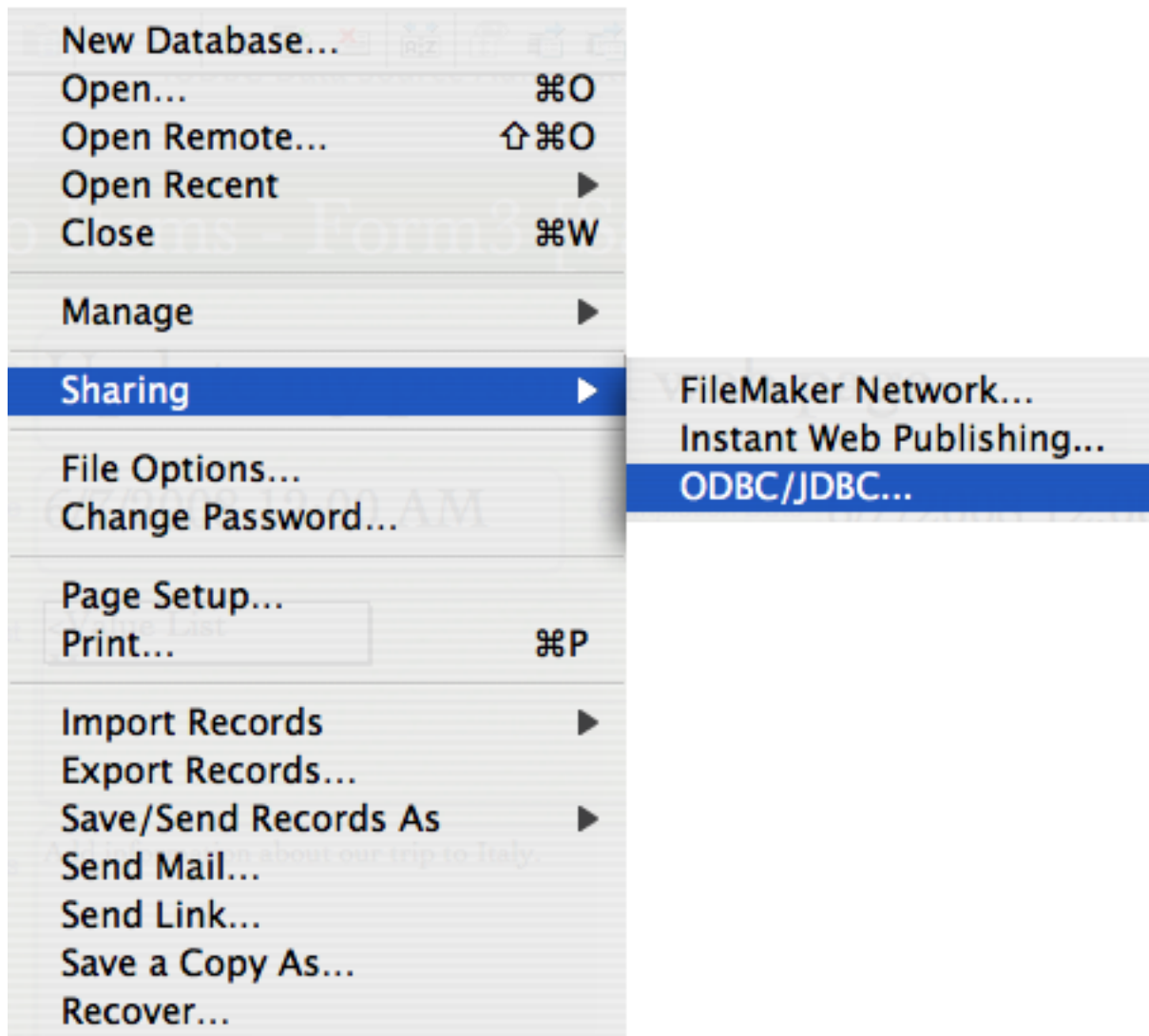
(1) Enter the name of the DSN, this name must match the name shown within FmPro Migrator for the FileMaker Pro database. (2) Enter the Port, (3) Host, (4) ServerDataSource and (5) ServerDataName. Each Keyword and Value needs entered manually in the Keyword and Value fields. (6) After entering each Keyword/Value pair, click the Add button and the values will appear in the list of Keyword/Value pairs.

(7) Click the Ok button to create the System DSN.



Note: Setting up the ServerDataSource and ServerDataName values with "Default" values, enables multiple individual FileMaker Pro files to be used with the driver, without requiring a change to be made to the ODBC DSN parameters. However the limitation associated with this configuration is that only one FileMaker Pro database file can be used at one time with the ODBC driver. Having two database files open at the same time confuses the ODBC driver (even if a tablename is specified to the driver) causing none of the tables within any of the open files to be found by the ODBC driver.

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

FileMaker ODBC/JDBC Settings

ODBC/JDBC Settings

Turn on ODBC/JDBC Sharing to publish all shared open files using this protocol.

ODBC/JDBC Sharing: Off On

File access via ODBC/JDBC

Currently open files

- FileMakerDB.fp7

ODBC/JDBC access to file

File: FileMakerDB.fp7

All Users

Specify users by privilege set

No users

(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.



Test ODBC DSN

iODBC Data Source Administrator

User DSN | System DSN | File DSN | ODBC Drivers | Connection Pooling | Tracing | About

System Data Sources

Name	Description	Driver
example_acc_dsn	-	Actual Access
example_fmp_dsn	-	FileMaker 9 ODBC
fmsik_dsn	SQLite ODBC DSN	Actual Open Source Data
frontbase_dsn	-	FrontBase
mysql_dsn	-	Actual Open Source Data
openbase_dsn	-	Actual OpenBase
oracle_dsn	-	Actual Oracle
pg_pv360_dsn	PostgreSQL on pv360	Actual Open Source Data
pv360_oracle_dsn	-	Actual Oracle

An ODBC System data source stores information about how to connect to the indicated data provider. A System data source is visible to all users and processes on this machine.

Cancel OK

(1) Click the System DSN which has just been created, (2) click the Test button.



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



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

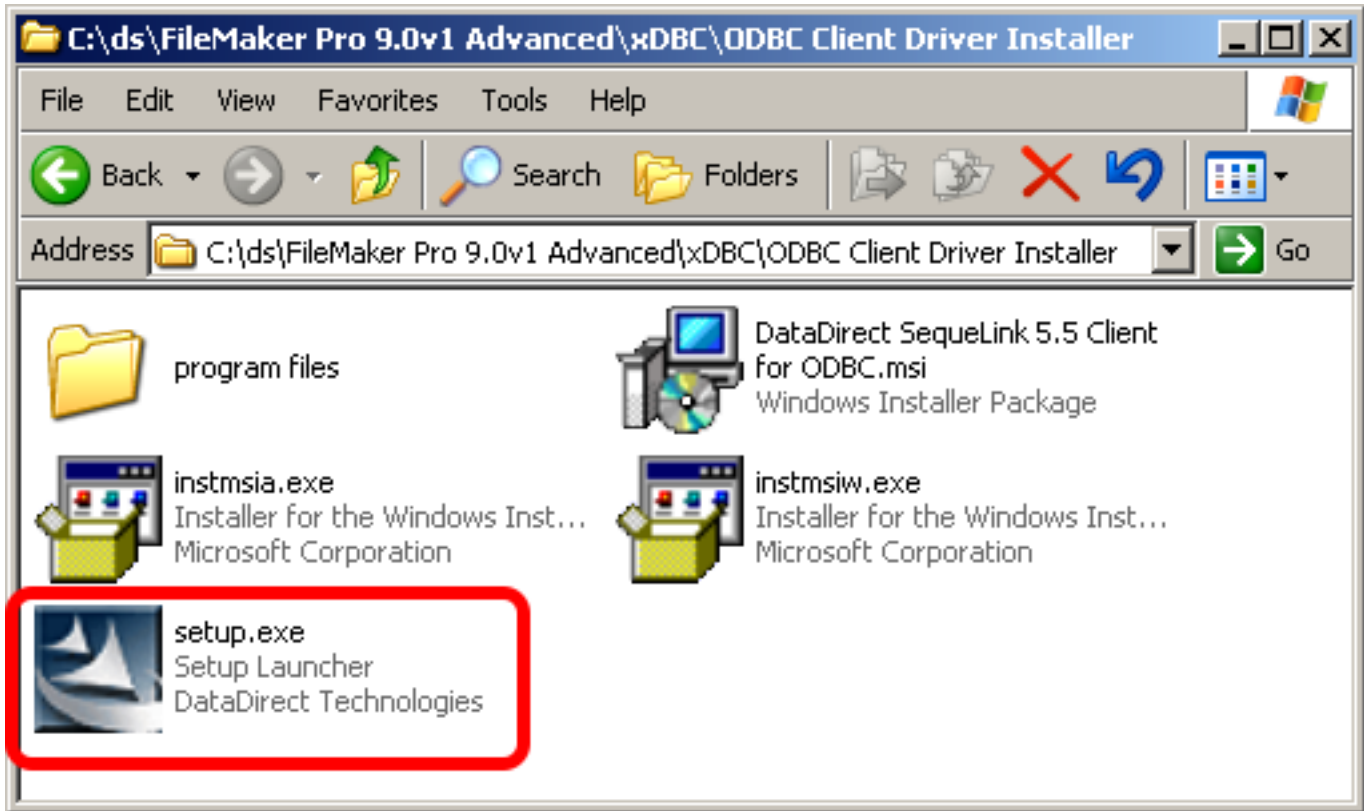
If the test fails:

- 1) Re-verify the pathname to the svlk file within the SequeLink.bundle file.
- 2) Verify that the FileMaker database file is open.
- 3) Verify that 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.



Install FileMaker ODBC Driver - Windows

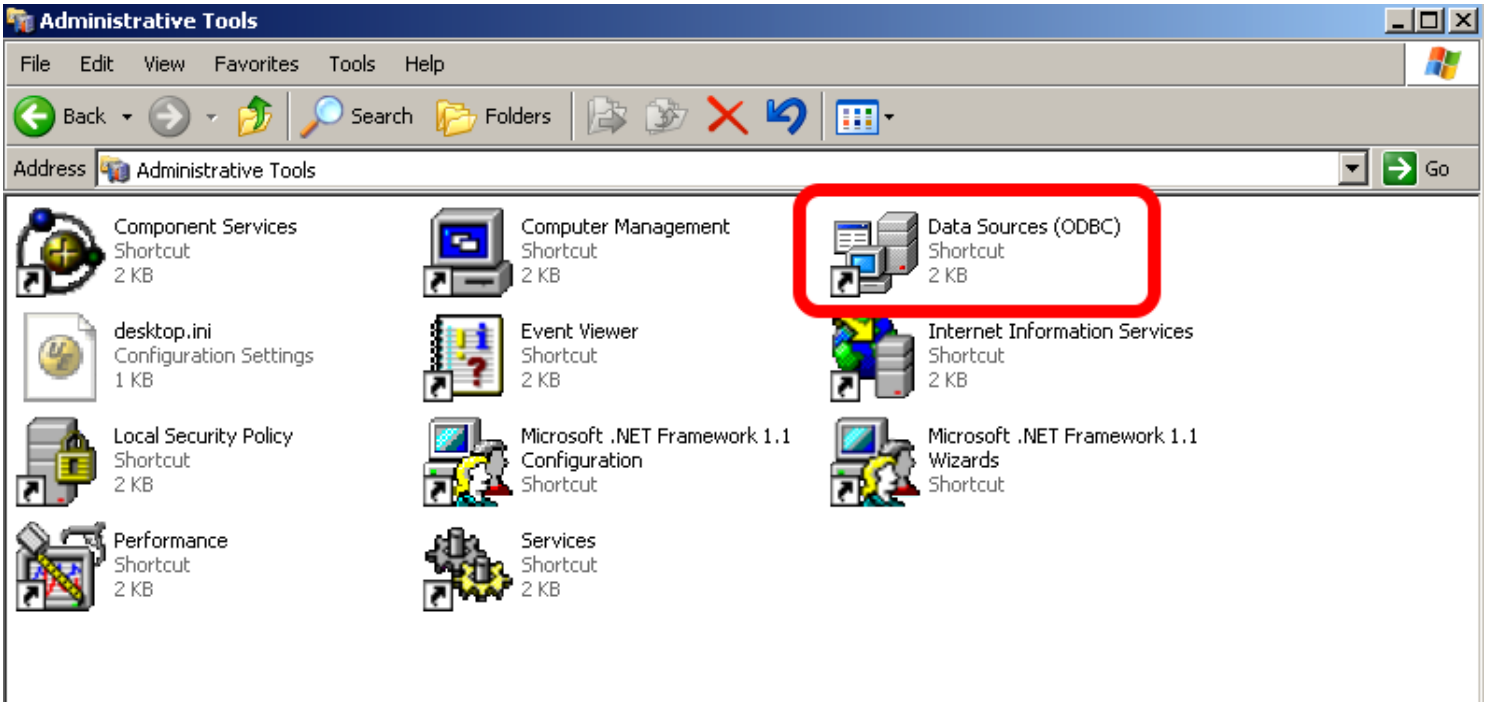
Install FileMaker ODBC Driver



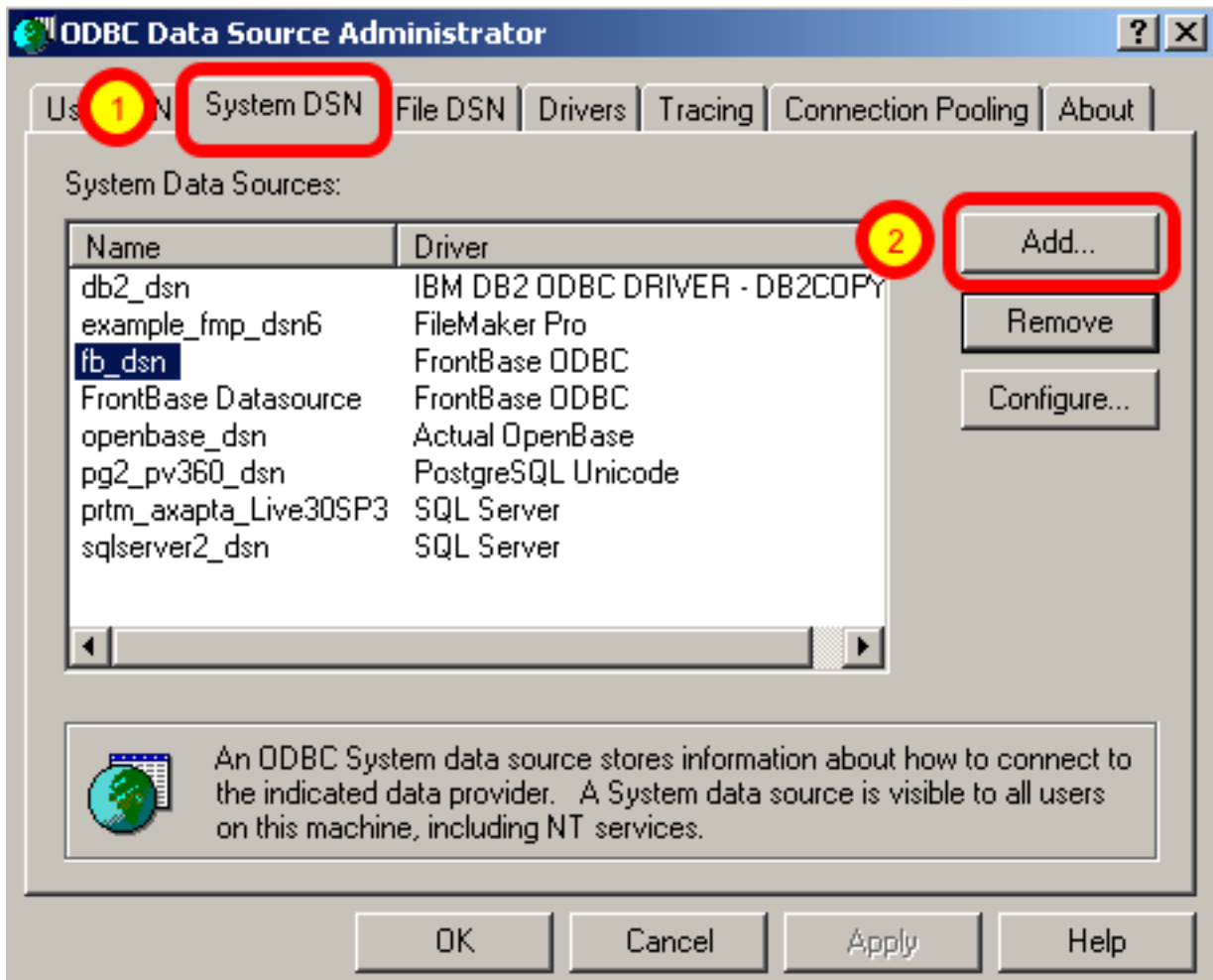
Run the DataDirect SequeLink installer, within the xDBC/ODBC Client Driver Installer folder on the FileMaker Pro installation CD. Follow the prompts to install the FileMaker ODBC Driver.



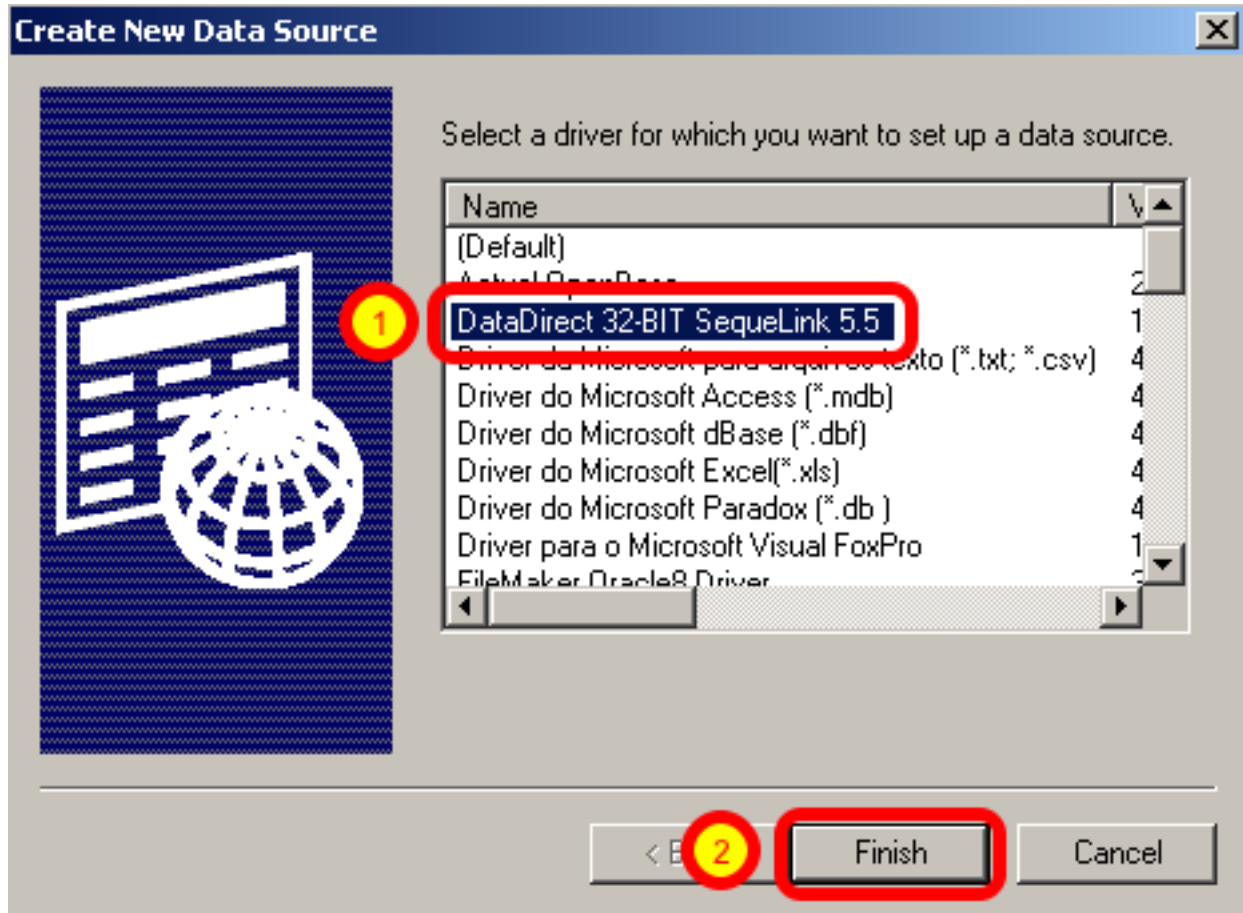
Create ODBC DSN



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

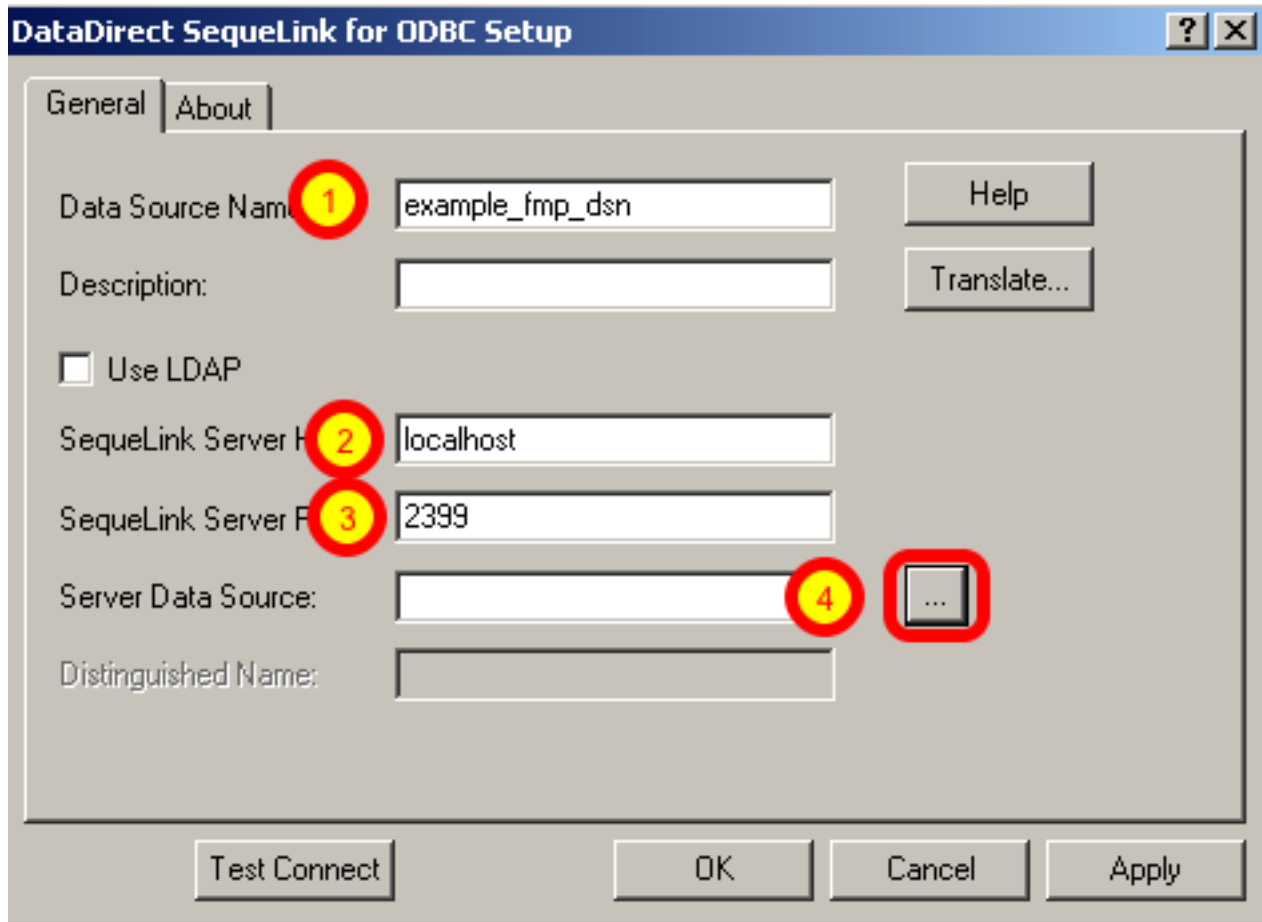


(1) Click the System DSN tab, then (2) click the Add button.



(1) Select the DataDirect 32-BIT SequeLink driver, then (2) click the Finish button.

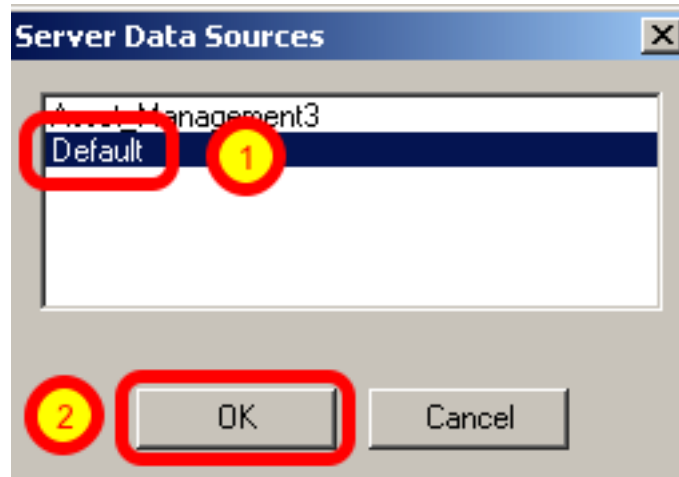
If the DataDirect 32-BIT SequeLink driver does not appear within the list of available drivers, please refer to FileMaker Technical Support Knowledge Base record #357 for more details about the driver installation process.



(1) Enter the Data Source Name, (2) SequeLink Server Host, (3) SequeLink Server Port, then (4) click on the Server Data Source button.



Set Data Source = Default

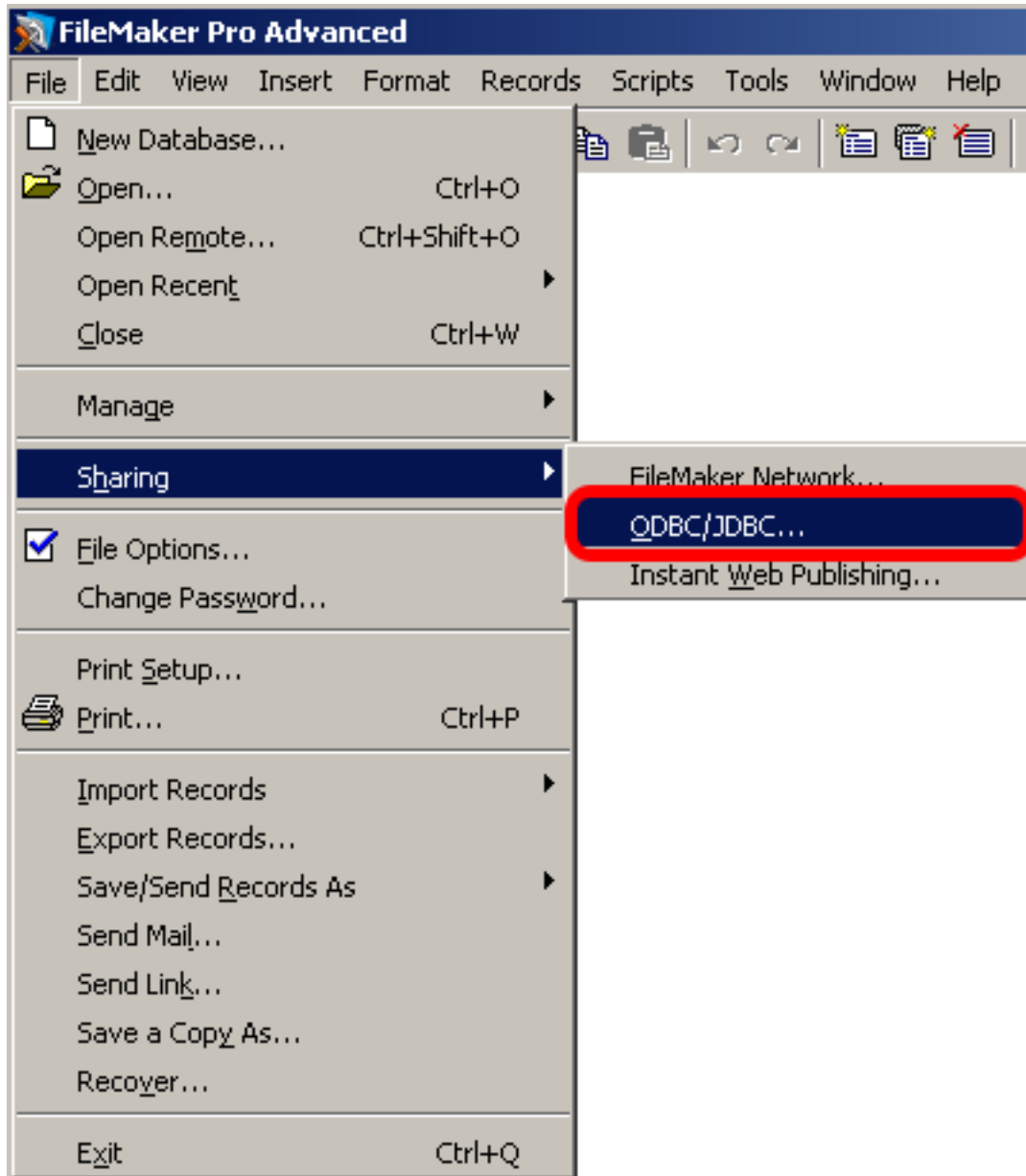


(1) Click the item named "Default", then (2) click the Ok button. Don't select the actual name of the database shown in the list, or you will have to change the database name for each individual database file which you want to use with this ODBC DSN. Selecting the Default item in the list insures that you will always be able to open any FileMaker database file regardless of its name, as long as ODBC sharing is enabled.

Note: Setting up the Server Data Source value to the "Default" value, enables multiple individual FileMaker Pro files to be used with the driver, without requiring a change to be made to the ODBC DSN parameters. However the limitation associated with this configuration is that only one FileMaker Pro database file can be used at one time with the ODBC driver. Having two database files open at the same time confuses the ODBC driver (even if a tablename is specified to the driver) causing none of the tables within any of the open files to be found by the ODBC driver.



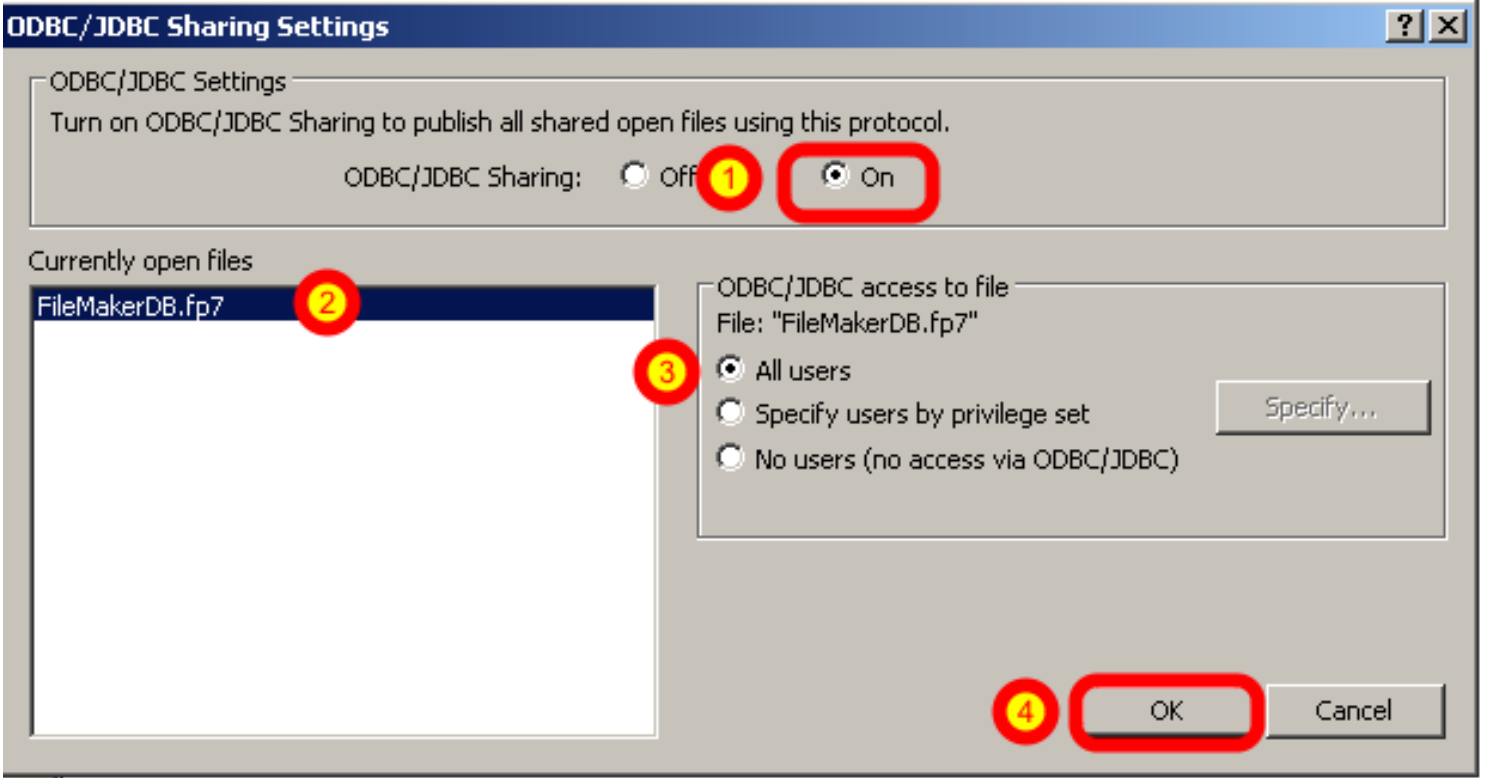
Enable ODBC/JDBC Sharing within FileMaker Pro



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



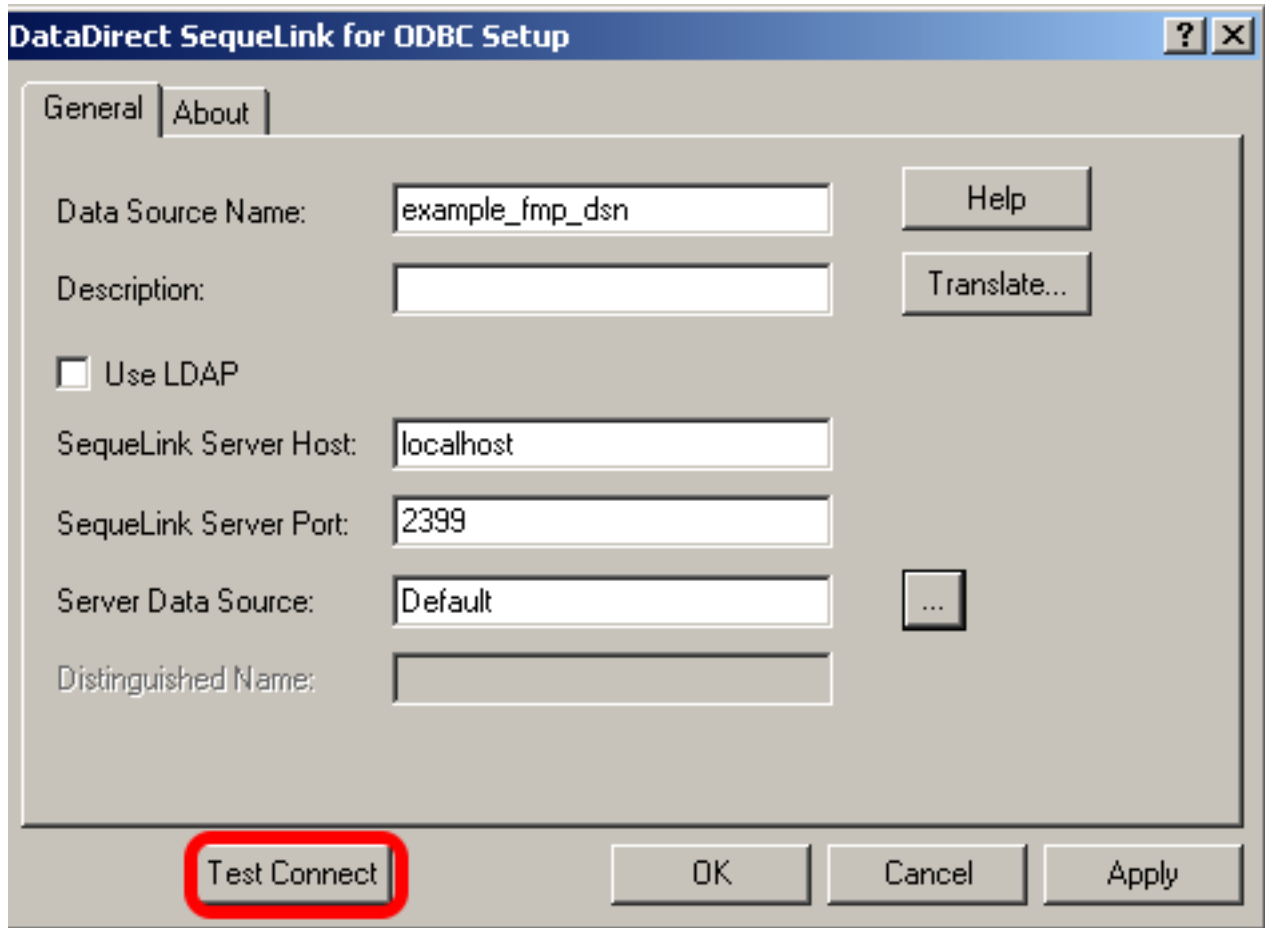
Select Sharing Parameters



(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.



Test ODBC DSN



Click the Test Connect button, enter the Username/Password to connect to the FileMaker database file which is currently open.

If the test fails:

- 1) Verify that the FileMaker database file is open.
- 2) Verify that ODBC sharing is enabled for the account entered into 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.



DataDirect SequeLink for ODBC Setup

General | About

Data Source Name: Help

Description: Translate...

Use LDAP

SequeLink Server Host:

SequeLink Server Port:

Server Data Source: ...

Distinguished Name:

Test Connect **OK** Cancel Apply

Click the Ok button to save changes and create the new System DSN.



Step 2 - Create Tables

Step 2 - Create Tables via ClipBoard - Auto Enter SN Fields

The screenshot shows the FmPro Migrator interface. At the top, a table lists Bento database tables being migrated to FileMaker Pro. Below this, a detailed view of the 'gnpk' field is shown, with its attributes highlighted by a red box.

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	gnguid	0	0		gnguid
2	gnopt	0	0		gnopt
3	gnent	0	0		gnent
1	gnpk	1	1	1094	gnpk
5	gn library				gn library

FmPro Migrator automatically determines the name and attributes for the Primary Key column within each Bento database table. Bento Primary Key fields are converted into numeric Auto Enter Serial Number fields within FileMaker Pro, having the Next Value, Unique and Not Empty field validation parameters enabled.

Bento Counter fields are also configured as Auto Enter Serial Number fields having the Next Value parameter configured, but since Counter fields are not Primary Key fields, the Unique and Not Empty validation parameters are not automatically enabled.

Pasting the Table XML code into FileMaker Pro Advanced has the advantage of automatically configuring each Primary Key or Bento Counter field as an Auto Enter Serial Number field, with the correct Next Value set for the field. If the table is created via ODBC, then these field attributes must be set manually.



Step 2 - Create Tables via ClipBoard - Using FileMaker Pro Advanced

Migration Process

Tables: 14

Original Table	New Table	Source	Destination	Fields	Records
gn_EmailAddress	Email_Address	Bento	FileMaker 9	16	
gn_File	File_	Bento	FileMaker 9	11	
gn_Im	Im_	Bento	FileMaker 9	17	
gn_Media	Media	Bento	FileMaker 9	14	
gn_PhoneNumber	Phone_Number	Bento	FileMaker 9	15	

Fields:

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname

Step 2
Get Fieldsize

Step 3
Create Table

Step 4
Transfer Data

Optional
Image Export

Step 5
Create Table (Repeating Fields)

Step 6
Transfer Data (Repeating Fields)

.com Solutions Inc.

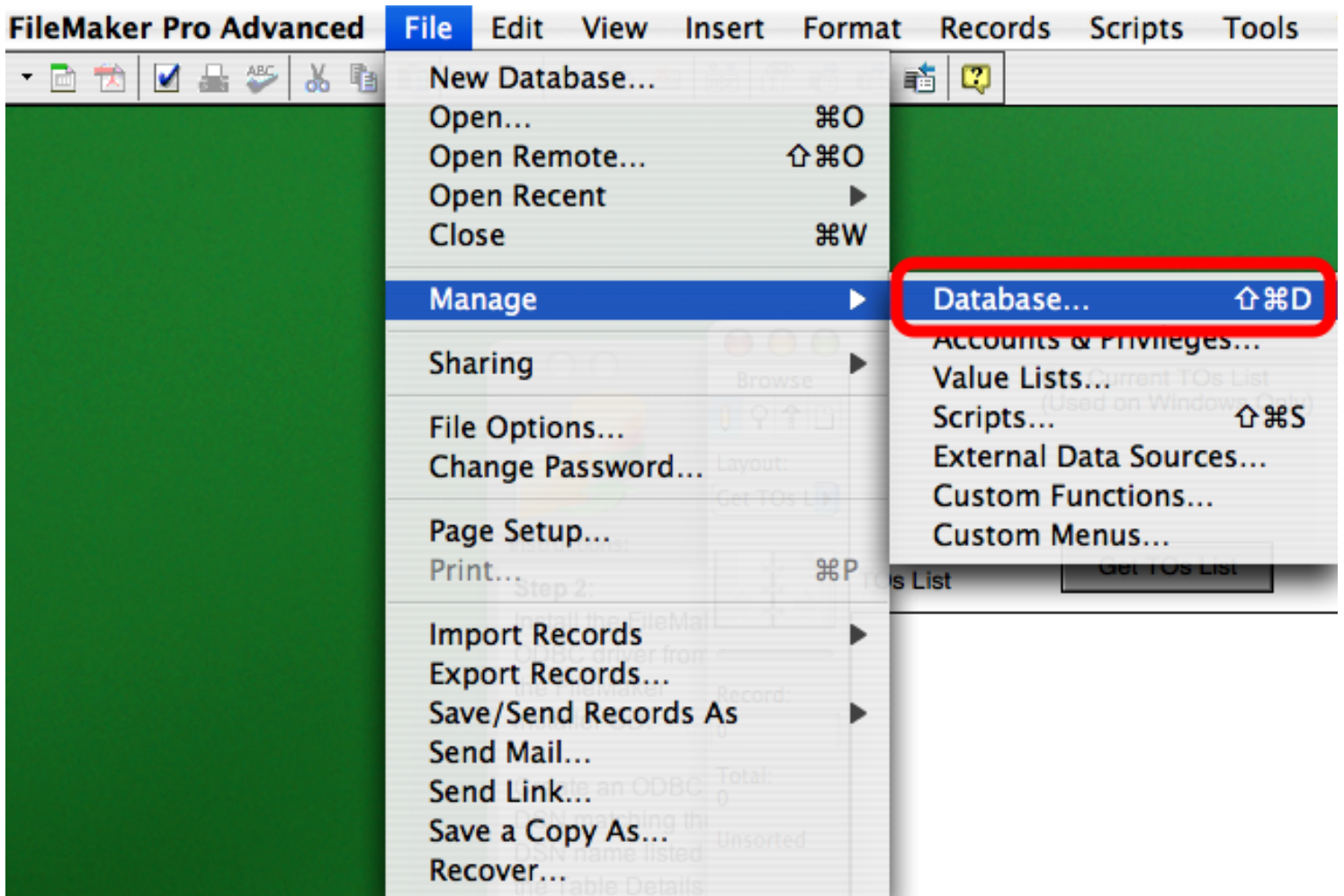
If FileMaker Pro Advanced is being used, it is faster to create the tables by pasting the Table XML code via the ClipBoard.



This process creates all of the tables at once, without requiring each table to be clicked in the list of tables. Since the Auto Enter Serial Number fields are configured automatically, this is an additional time-saving reason for creating the tables by pasting the table XML code via the ClipBoard.

Click the Copy All Tables to ClipBoard button on the Tables Tab of the Migration Process window.

Step 2 - Create Tables via ClipBoard - Define/Manage Database... Menu



While gathering info from the Bento backup file, FmPro Migrator created and opened a new empty FileMaker Pro database file named FileMakerDB.fp7 within the output directory.

Select Define/Manage Database... from the File menu within FileMaker Pro Advanced.



Step 2 - Create Tables via ClipBoard - Paste Tables

Manage Database for "FileMakerDB"

1 Tables Fields Relationships

A table is a unique set of records and fields. A file can contain more than one table.

1 table defined in this file View by: creation order

Table Name	Source	Details	Occurrences in Graph
+ = Placeholder TO	FileMaker	1 field, 0 records	= Placeholder TO

Table Name: = Placeholder TO

Create Change Delete

Copy 2 Paste Import...

Print... Cancel OK

(1) Click the Tables tab (if necessary), (2) then click on the Paste button.

Note: If the Paste button is grayed out, this means that the table XML code didn't get copied to the ClipBoard before the Define/Manage Database dialog was opened. If this happens, click the Copy All Tables to ClipBoard button again from within FmPro Migrator. Switching from the Fields tab and then switching back to the Tables tab will cause FileMaker Pro Advanced to check the ClipBoard again for Table XML info. When the Table XML code is found on the ClipBoard, the Paste button will be enabled.



Step 2 - Create Tables via Clipboard - Paste Tables Result

Manage Database for "FileMakerDB"

Tables Fields Relationships

A table is a unique set of records and fields. A file can contain more than one table.

15 tables defined in this file View by: creation order

Table Name	Source	Details	Occurrences in Graph
Projects	FileMaker	18 fields, 0 records	Projects
Email_Address	FileMaker	16 fields, 0 records	Email_Address
Url_	FileMaker	18 fields, 0 records	Url_
Inventory	FileMaker	19 fields, 0 records	Inventory
Media	FileMaker	14 fields, 0 records	Media
Test_Library__2	FileMaker	26 fields, 0 records	Test_Library__2
File_	FileMaker	11 fields, 0 records	File_
Street_Address	FileMaker	20 fields, 0 records	Street_Address
Phone_Number	FileMaker	15 fields, 0 records	Phone_Number
Im_	FileMaker	17 fields, 0 records	Im_
Classes	FileMaker	27 fields, 0 records	Classes
Contacts	FileMaker	24 fields, 0 records	Contacts
To_Do_Items	FileMaker	13 fields, 0 records	To_Do_Items
Events	FileMaker	14 fields, 0 records	Events

Table Name:

Create Change Delete

Copy Paste Import...

Print... Cancel OK

The new tables will be created and then displayed within the Tables list.



Step 2 - Create Tables via ClipBoard - Auto-Enter Serial Number Attributes

Options for Field "gnpk"

Auto-Enter Validation Storage Furigana

Automatically enter the following data into this field:

- Creation Date
- Modification Date
- Serial number
 - Generate: On creation On commit
 - next value: 1094 increment by: 1
- Value from last visited record
- Data:
- Calculated value Specify...
- Do not replace existing value of field (if any)
- Looked-up value Specify...

Prohibit modification of value during data entry

Cancel OK

You can verify that the Primary Key gnpk field has been automatically created as an Auto Enter Serial Number field having the Next Value parameter matching the value shown in the FmPro Migrator field details list.



Step 2 - Create Tables via ClipBoard - Validation Attributes

The screenshot shows a dialog box titled "Options for Field 'gnpk'". It has four tabs: "Auto-Enter", "Validation", "Storage", and "Furigana". The "Validation" tab is selected. Under "Validate data in this field:", there are radio buttons for "Always" and "Only during data entry" (selected), and a checked checkbox for "Allow user to override during data entry". Under "Require:", there are several options: "Strict data type:" with a dropdown menu set to "Numeric Only"; "Not empty" (checked and highlighted in red), "Unique value" (checked and highlighted in red), and "Existing value" (unchecked); "Member of value list:" with a dropdown menu set to "<No Lists Defined>"; "In range:" with two empty input fields and a "to" label; "Validated by calculation" with a "Specify..." button; and "Maximum number of characters:" with an input field containing "1". At the bottom, there is a "Display custom message if validation fails" checkbox and an empty text area. "Cancel" and "OK" buttons are at the bottom right.

Since the gnpk field is a Primary Key, the Not Empty and Unique Value Validation parameters are also checked automatically.



Step 2 - Create Tables via ODBC - Using FileMaker Pro

Migration Process

Tables: 14

Original Table	New Table	Source	Destination	Fields	Records
gn_EmailAddress	Email_Address	Bento	FileMaker 9	16	
gn_File	File_	Bento	FileMaker 9	11	
gn_Im	Im_	Bento	FileMaker 9	17	
gn_Media	Media	Bento	FileMaker 9	14	
gn_PhoneNumber	Phone_Number	Bento	FileMaker 9	15	

Fields: 16

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	gnguid	0	0		gnguid
2	gnopt	0	0		gnopt
3	gnent	0	0		gnent
1	gnpk	1	1	1	gnpk
5	gn_library	0	0		gn_library

Step 2
Create Table
Not Started

Step 3
Transfer Data
Not Started

Instructions:

Step 2:
Install the FileMaker ODBC driver from the FileMaker installer CD.

Create an ODBC DSN matching the DSN name listed in the Table Details window.

Turn on ODBC Sharing within FileMaker.
Menu: Edit > Sharing > ODBC/JDBC...

Click the Create Table button.

Note: If you are using FileMaker Pro

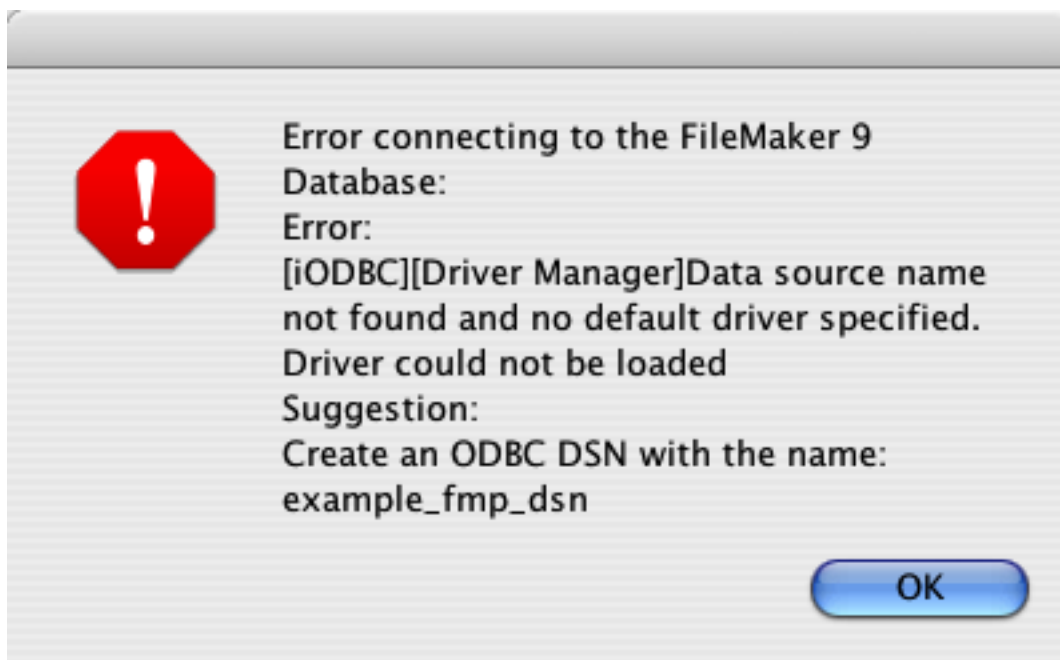
FileMaker Pro (instead of FileMaker Pro Advanced) does not have the capability of accepting Table XML code pasted into the Define/Manage Database Tables window. But FileMaker Pro does allow creating tables via an ODBC connection.



Using the previously created ODBC DSN, click on each table within the FmPro Migrator Tables list, then click the Create Table button.

Note: If you previously created tables by pasting Table XML code via the ClipBoard, the status of the Step 2 button will be "Completed", meaning that you can skip this step and proceed to Step 3 Transfer Data.

Step 2 - Create Tables via ODBC - Troubleshooting - Data Source Name Not Found



Troubleshooting: If an error occurs while attempting to create the new table in FileMaker Pro, check the following items:

Data Source Name Not Found - This error means that the ODBC DSN entered into FmPro Migrator for the FileMaker Pro Destination Database, has not been created. You may use any name you desire for the ODBC DSN, but the name of the DSN you create within the ODBC Administrator needs to match the name listed in FmPro Migrator.



Step 2 - Create Tables via ODBC - Troubleshooting - Duplicate Name



Duplicate Name - This error means that the table has already been created within the FileMaker Pro database. Hold down the Shift key when clicking the Create Table button to delete and re-create the table.



Step 3 - Transfer Data

Step 3 - Transfer Data

Migration Process

Tables Relationships TOs Layouts Scripts GUI

Tables: 14

Original Table	New Table	Source	Destination	Fields	Records
gn_EmailAddress	Email_Address	Bento	FileMaker 9	16	
gn_File	File_	Bento	FileMaker 9	11	
gn_Im	Im_	Bento	FileMaker 9	17	
gn_Media	Media	Bento	FileMaker 9	14	
gn_PhoneNumber	Phone_Number	Bento	FileMaker 9	15	

Fields: 16

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	gnguid	0	0		gnguid
2	gnopt	0	0		gnopt
3	gnent	0	0		gnent
1	gnpk	1	1	1	gnpk
5	gn_library	0	0		gn_library

Instructions:

Step 2:
Install the FileMaker ODBC driver from the FileMaker installer CD.

Create an ODBC DSN matching the DSN name listed in the Table Details window.

Turn on ODBC Sharing within FileMaker.
Menu: Edit > Sharing > ODBC/JDBC...

Click the Create Table button.

Note: If you are using FileMaker Pro

Step 2
Create Table
Not Started

Step 3
Transfer Data
Not Started

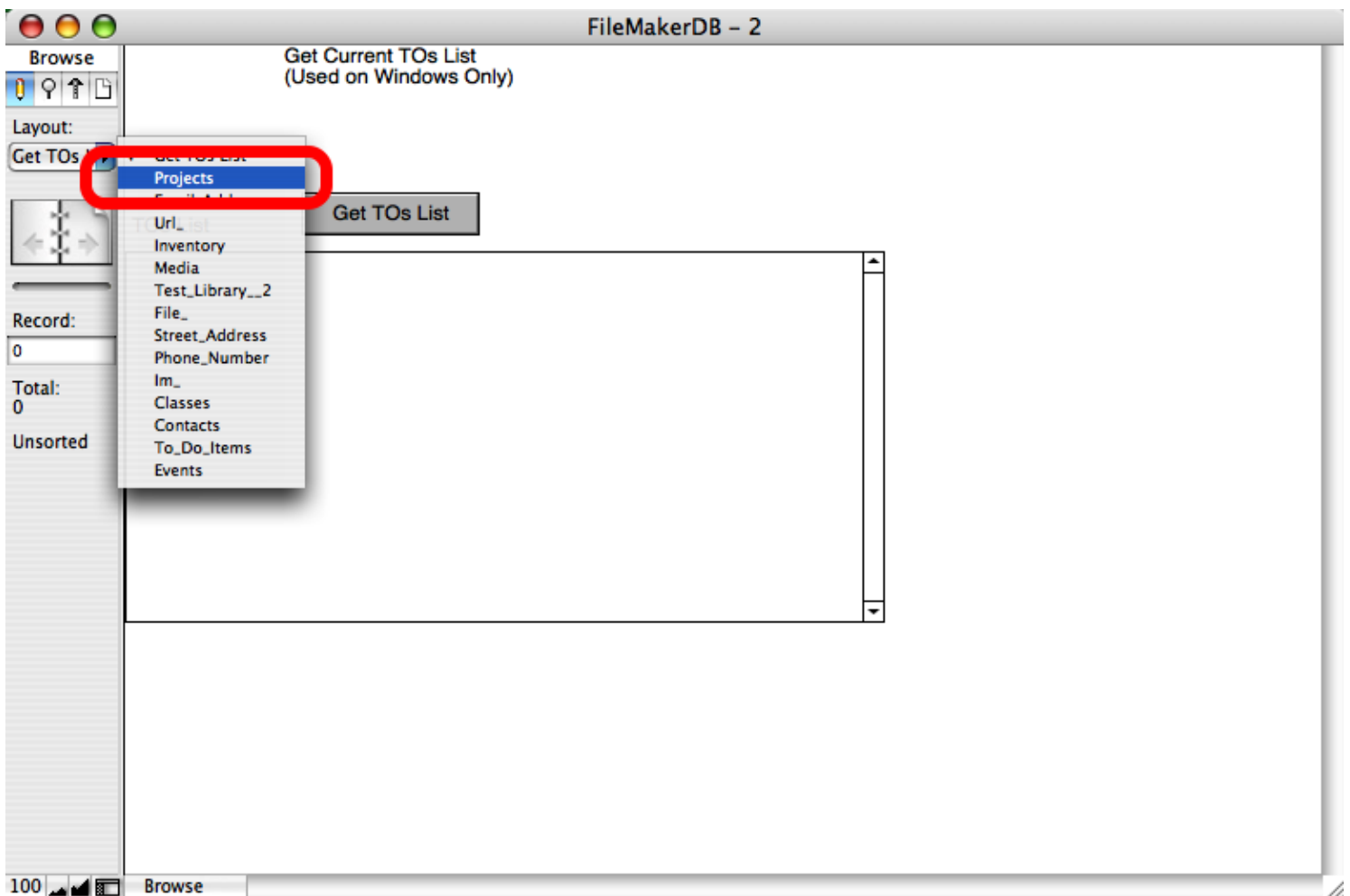
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(1) Click on a table in the list of tables, (2) select the export file type CSV/TAB (if necessary), then click the Step 3 Transfer Data button. FmPro Migrator will export all of the Bento tables as individual files into the output directory. Once the data has been transferred successfully, the status menu below the Step 3 Transfer Data button will change from "Not Started" to "Completed".

Note: Both Tab delimited and Comma Separated export file formats are supported by FmPro Migrator. The CSV file format is the default export format, as this format preserves return characters embedded within any of the fields. The TAB file format is supported in order to enable the export of data to other programs which might not support the CSV file format.

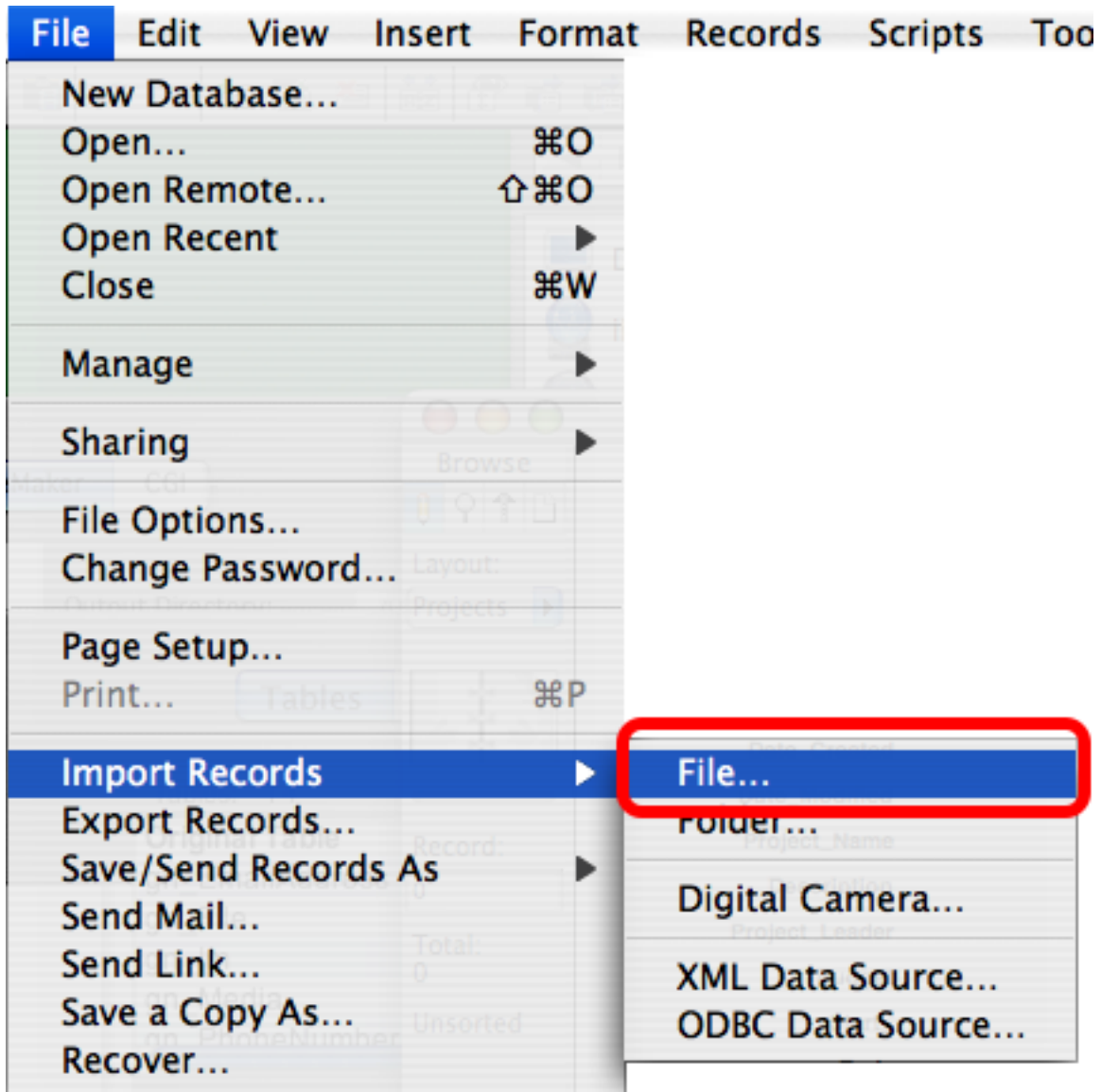
Step 3 - Transfer Data - Import CSV File



Within FileMaker Pro, select the layout for the the first table of data you want to import.



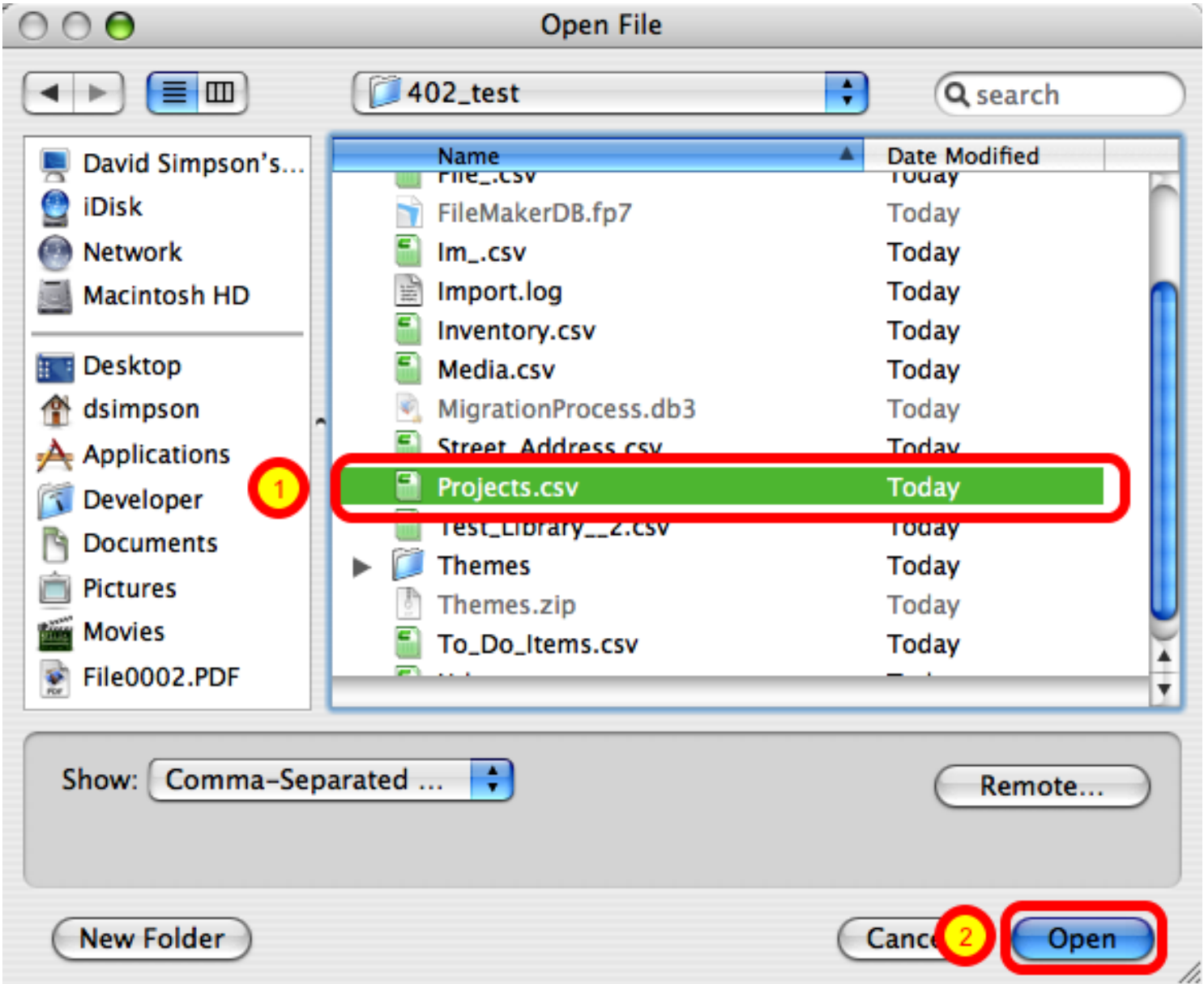
Step 3 - Transfer Data - Select Import Records



Select Import Records -> File... from the File menu.



Step 3 - Transfer Data - Select File



(1) Select the CSV file for the Bento table, (2) click the Open button.



Step 3 - Transfer Data - Import Field Mapping Dialog

The screenshot shows the 'Import Field Mapping' dialog box. At the top, 'Source: Projects.csv' and 'Target: Current Table ("Projects")' are displayed. Below this is a table with two columns: 'Source Fields' and 'Target Fields'. The table lists the following mappings:

Source Fields	Target Fields
gnguid	gnguid
gnopt	gnopt
gnent	gnent
gnpk	gnpk
gn_library	gn_library
Date_Created	Date_Created
Date_Modified	Date_Modified
Project_Name	Project_Name
Description	Description
Project_Leader	Project_Leader
Budget	Budget
Start_	Start_
End_	End_
Notes	Notes
Priority	Priority
Status_	Status_
Email_Address	Email_Address
URL_	URL_

Below the table, there are several options and buttons. A character set menu is open, showing options like 'Windows (ANSI)', 'ASCII (DOS)', 'Macintosh', 'Unicode (UTF-16, Windows)', 'Unicode (UTF-16)', 'Unicode (UTF-8)', 'Japanese (Shift_JIS)', 'Simplified Chinese (GB)', and 'Traditional Chinese (Big-5)'. The 'Unicode (UTF-8)' option is highlighted with a red circle and the number '1'. Below the menu, there is a checkbox for 'Add remaining data as new records' (unchecked) and a checked checkbox for 'Don't import first record (contains field names)'. At the bottom right, there are buttons for 'Manage Database...', 'Cancel', and 'Import'. The 'Import' button is highlighted with a red circle and the number '3'. The 'Cancel' button is also highlighted with a red circle and the number '3'.

(1) Select Unicode (UTF-8) from the Character Set menu, (2) check the "Don't Import first record" checkbox, (3) click the Import button. Since FmPro Migrator has written the field names into the first line of the CSV/TAB file, FileMaker Pro will automatically match up the data columns with the correct fields in the new FileMaker Pro database table.

Note: It is important to always select Unicode (UTF-8) as the Character Set, because this is the format FmPro Migrator uses to export records from the Bento tables. The UTF-8 encoding supports single and double-characters worldwide.



If you forget to select the "Don't Import first record" checkbox, an extra record will be written into the table containing the fieldnames, this extra record can be deleted manually if necessary.



Step 4 - Create Relationships - FmPro Migrator Developer Edition - MacOS X

FmPro Migrator Developer Edition uses QuicKeys to automate the creation of Relationships and Layouts within the FileMaker Pro database.

Step 4 - Create Relationships - MacOS X

Migration Process

Relationships: 7

Left Table Name	Right Table Name	Predicate Count	Link
Email_Address	Test_Library_2	1	1
Url_	To_Do_Items	1	1
Media	Inventory	1	1
File_	Test_Library_2	1	1
Street_Address	Test_Library_2	1	1

Left Table: Email_Address | Right Table: Test_Library_2

Cascade Create: | Cascade Delete: | Cascade Create: | Cascade Delete:

Relationship SQL Code:

Left Table::Field	Join Type	Right Table::Field
Email_Address::fmig_fk	=	Test_Library_2::gnpk

Predicates: 1

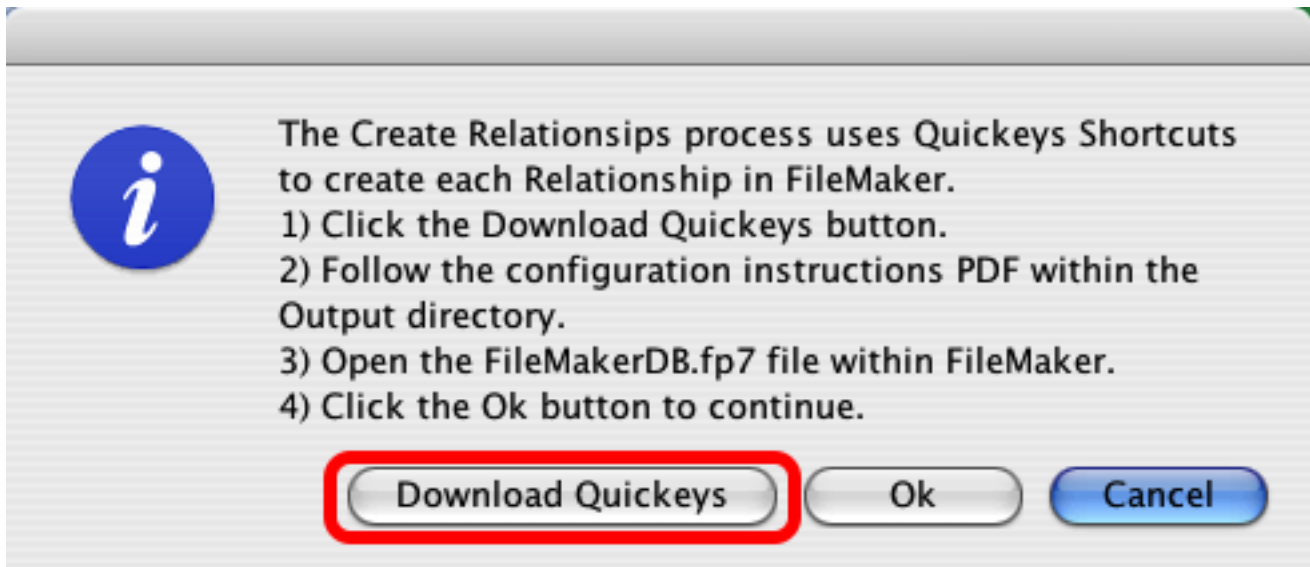
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Click the Relationships tab.

Click the Create All Relationships in FileMaker button.

Step 4 - Click Download QuicKeys Button (Mac OS X) - [1st Time Setup Step]



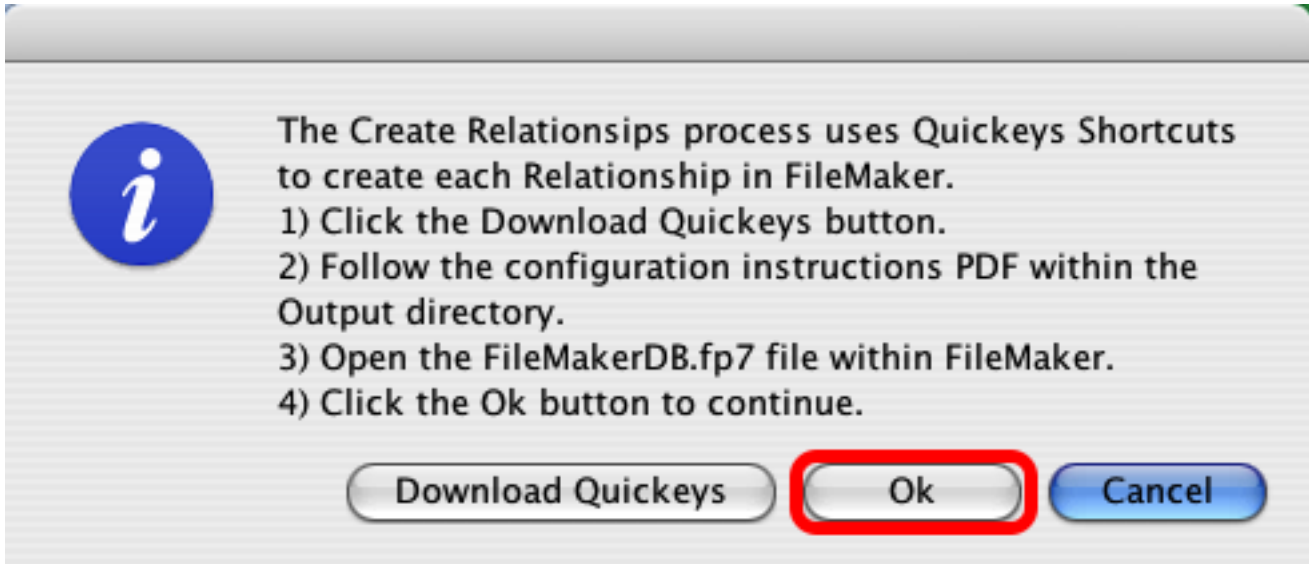
The Download QuicKeys dialog is displayed by FmPro Migrator on Mac OS X. Click the Download QuicKeys button if you don't already have QuicKeys 3.03 (or higher) installed on Mac OS X.

Click this download button even if you do have QuicKeys installed, because clicking this button triggers FmPro Migrator to create the FmPro Migrator QuicKeys Installation.pdf and FmPro Migrator QuicKeys Shortcuts - Mac.qkexport files within the output directory. Whenever the QuicKeys Shortcuts have been updated within FmPro Migrator, you will need to click on the Downloads QuicKeys button in order to extract the latest shortcuts from FmPro Migrator for installation on your computer.

Follow the instructions within the FmPro Migrator QuicKeys Installation.pdf file to import the QuicKeys shortcuts from the FmPro Migrator QuicKeys Shortcuts - Mac.qkexport file into QuicKeys and set up the QuicKeys variables. These QuicKeys shortcuts use 10 QuicKeys variables which must be created manually prior to using the shortcuts.



Step 4 - Click Ok Button (Mac OS X)



After QuicKeys and the QuicKeys shortcuts are installed, click the Create All Relationships in FileMaker button a 2nd time, then click the Ok button.

Step 4 - Create Relationships - Controlling Automated Relationship Creation



The Relationships window will be opened within FileMaker, and each of the Relationships will be created.

It is not generally necessary for you to click any of the buttons in the status area. These buttons perform the following tasks:

Next Relationship - This button gets clicked by the QuicKeys shortcut after it creates each Relationship, in order to start the process of creating the next Relationship.

Current Relationship - If the QuicKeys shortcut gets stuck in some way and fails to create a Relationship, you can click on this button to attempt re-creating the Relationship currently being processed.



Done - Click this button if you want to cancel the Relationship creation process.

Step 4 - Create Relationships - Click OK buttons

Edit Relationship

A relationship defines the set of matching related records in one table for each record in another table. Select the pair of fields to be used to find matching records. To create complex relationship criteria, use additional pairs of fields.

Table: **Im_**

- Service
- User_
- gn_homeIMinverse
- gn_workIMinverse
- gn_otherIMinverse
- gn_imAccount1GnFieldinverse
- gn_iM1GnFieldinverse
- fmig_fk**

Table: **Test_Library__2**

- gnguid
- gnopt
- gnent
- gnpk**
- gn_library
- Date_Created
- Date_Modified
- Text__1

Im_ **Test_Library__2**

fmig_fk = **gnpk**

Im_ **Test_Library__2**

- Allow creation of records in this table via this relationship
- Delete related records in this table when a record is deleted in the other table
- Sort records Specify...

- Allow creation of records in this table via this relationship
- Delete related records in this table when a record is deleted in the other table
- Sort records Specify...

Cancel **OK**

At the end of the Create Relationships process, QuickKeys will leave the Edit Relationship and Relationship Graph windows open. Click the OK button for both of these windows.



Step 4 - Create Relationships - FmPro Migrator Developer Edition - Windows

FmPro Migrator Developer Edition uses WinAutomation to automate the creation of Relationships and Layouts within the FileMaker Pro database.

Step 4 - Create Relationships - Windows

The screenshot shows the 'Migration Process' window with the 'Relationships' tab selected. A table lists 7 relationships. The first relationship is highlighted, showing 'Email_Address' as the left table and 'Test_Library_2' as the right table with a predicate count of 1. Below this, the configuration for this relationship is shown, including 'Cascade Create' and 'Cascade Delete' checkboxes for both tables. A 'Relationship SQL Code' field is empty. Below the relationship list, a 'Predicates' table shows a single predicate: 'Email_Address::fmig_fk' joined to 'Test_Library_2::gnpk' with an equals sign (=).

Left Table Name	Right Table Name	Predicate Count
Email_Address	Test_Library_2	1
Url_	To_Do_Items	1
Media	Inventory	1
File_	Test_Library_2	1
Street_Address	Test_Library_2	1

Left Table	Right Table
Table: Email_Address	Table: Test_Library_2
Cascade Create: <input checked="" type="checkbox"/>	Cascade Create: <input type="checkbox"/>
Cascade Delete: <input checked="" type="checkbox"/>	Cascade Delete: <input type="checkbox"/>

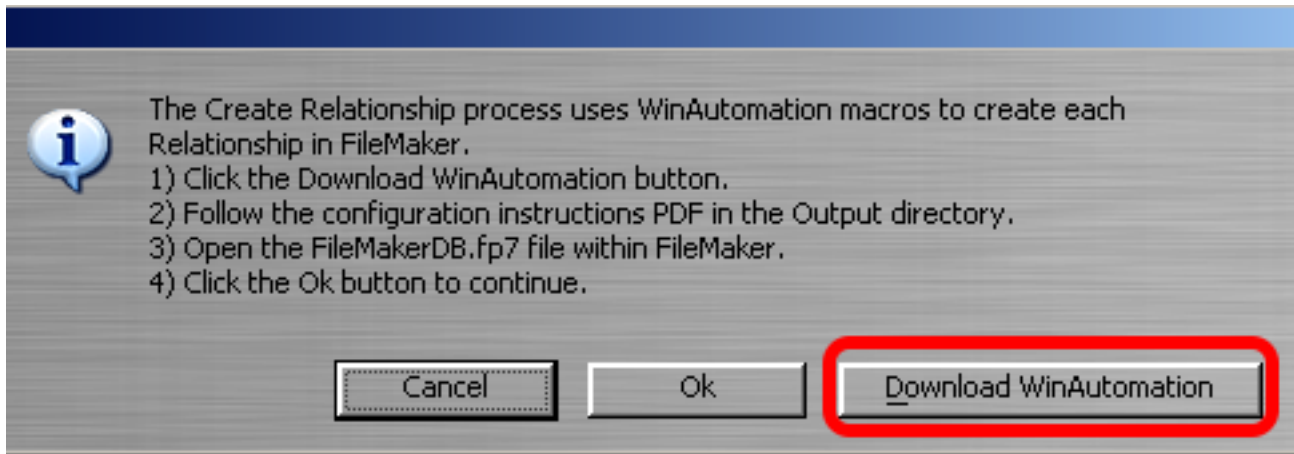
Left Table::Field	Join Type	Right Table::Field
Email_Address::fmig_fk	=	Test_Library_2::gnpk



Click the Relationships tab.

Click the Create All Relationships in FileMaker button.

Step 4 - Create Relationships - Click Download WinAutomation Button (Windows) - [1st Time Setup Step]



The Download WinAutomation dialog is displayed by FmPro Migrator on Windows. Click the Download WinAutomation button if you don't already have WinAutomation 1.2.0.622 (or higher) installed on Windows.

Click this download button even if you do have WinAutomation installed, because clicking this button triggers FmPro Migrator to create the [FmPro Migrator WinAutomation Installation.pdf](#) and [FmPro Migrator WinAutomation Jobs.zip](#) files within the output directory. Whenever the WinAutomation Jobs have been updated within FmPro Migrator, you will need to click on this button in order to extract the latest versions of these jobs from FmPro Migrator for installation on your computer.

Follow the instructions within the FmPro Migrator WinAutomation Installation.pdf file to import the WinAutomation jobs from the FmPro Migrator WinAutomation Installation Jobs.zip file into WinAutomation.



Step 4 - Create Relationships - Start WinAutomation Console (Windows) - [1st Time Setup Step]

The WinAutomation Console application will install and startup the WinAutomation Service the first time it is launched. You may close the WinAutomation Console after importing the WinAutomation jobs.



Step 4 - Click the Create All Relationships in FileMaker Button (2nd Time)

Migration Process

Relationships: 7

Left Table Name	Right Table Name	Predicate Count
Email_Address	Test_Library__2	1
Url_	To_Do_Items	1
Media	Inventory	1
File_	Test_Library__2	1
Street_Address	Test_Library__2	1

Left Table: Email_Address | Right Table: Test_Library__2

Cascade Create: | Cascade Delete: | Cascade Create: | Cascade Delete:

Relationship SQL Code:

Predicates: 1

Left Table::Field	Join Type	Right Table::Field
Email_Address::fmig_fk	=	Test_Library__2::gnpk

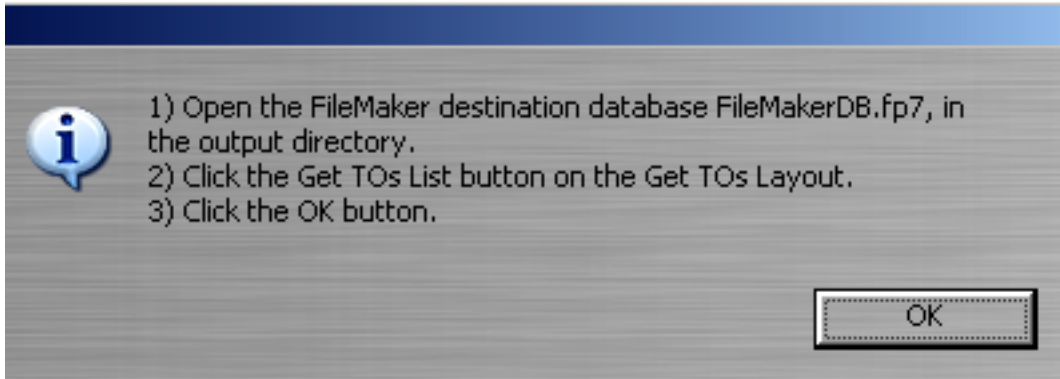
Relationships Migration - FileMaker to SQL Databases:
Within FileMaker 7/8/9 export a DDR report if using FileMaker Developer/Advanced. FileMaker Pro users may manually add Relationships and Predicates on this screen. Click the Import Relationships button to import a DDR xml file for each FileMaker database file, in order to obtain a complete list of all Relationships, Table Occurrences and File References. Once this info has been imported, delete duplicate Table Occurrences. Select all of the Relationships, then click the Create SQL

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FmPro Migrator will then use the WinAutomation shortcuts to drive the FileMaker user interface in the same manner as a user would manually create each of the Relationships in FileMaker Pro.



Step 4 - Create Relationships - Get TOs List

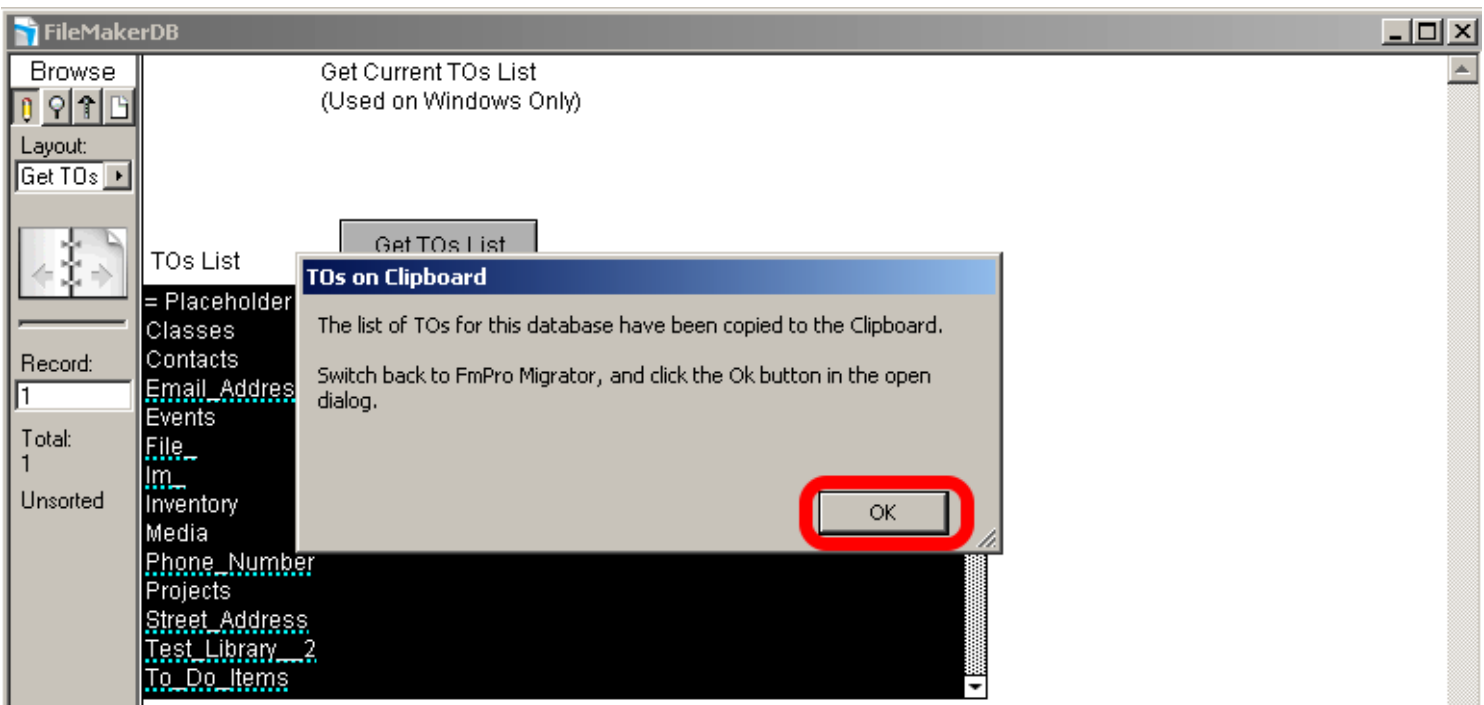


FmPro Migrator needs to gather a list of Table Occurrences from the destination database sorted in alphabetical order using FileMaker's sorting algorithm. This list of TOs will be used when selecting TOs from menus when creating each Relationship.

Switch to the FileMaker database, don't click on the Ok button yet.

Switch to the previously opened FileMakerDB.fp7 file, click the Get TOs List button.

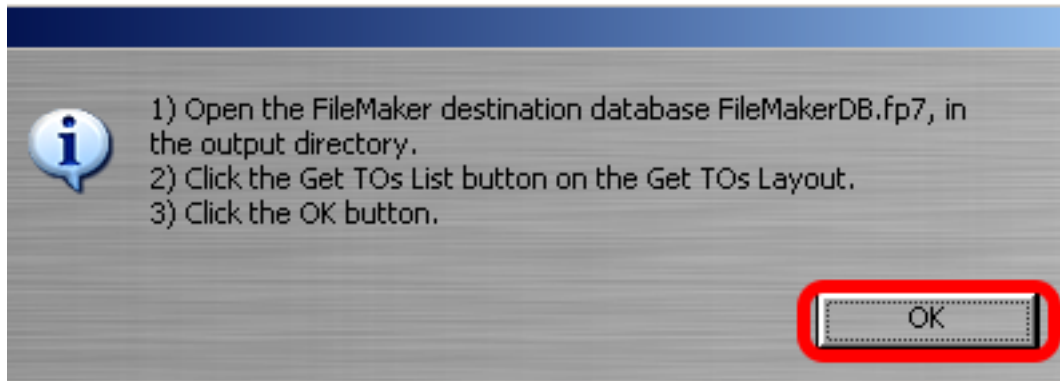
Step 4 - Create Relationships - Get TOs List





Click the Get TOs List button on the Get TOs List layout in the destination database. The TOs list is now on the ClipBoard. Click the Ok button displayed by FileMaker Pro.

Step 4 - Create Relationships - Get TOs List



Now that the alphabetical list of TOs are on the ClipBoard, click the Ok button so that FmPro Migrator can retrieve them from the ClipBoard.

Step 4 - Create Relationships - Controlling Automated Relationship Creation



The Relationships window will be opened within FileMaker, and each of the Relationships will be created.

It is not generally necessary for you to click any of the buttons in the status area. These buttons perform the following tasks:

Next Relationship - This button gets clicked by the WinAutomation job after it creates each Relationship, in order to start the process of creating the next Relationship.

Current Relationship - If the WinAutomation job gets stuck in some way and fails to create a Relationship, you can click on this button to attempt re-creating the Relationship currently being processed.



Done - Click this button if you want to cancel the Relationship creation process.



Step 4 - Create Relationships - Click OK buttons

Edit Relationship [?] [X]

A relationship defines the set of matching related records in one table for each record in another table. Select the pair of fields to be used to find matching records. To create complex relationship criteria, use additional pairs of fields.

Table: Im_ Table: Test_Library__2

Label
Service
User_
gn_homeIMinverse
gn_workIMinverse
gn_otherIMinverse
gn_imAccount1GnFieldinverse
gn_iM1GnFieldinverse
fmig_fk
gn fldImAccountinverse

=

gnguid
gnopt
gnent
gnpk
gn_library
Date_Created
Date_Modified
Text__1
Number__1
Text__2

Add Change

Im_	Test_Library__2
fmig_fk	= gnpk

Duplicate Delete

Im_
 Allow creation of records in this table via this relationship
 Delete related records in this table when a record is deleted in the other table
 Sort records Specify...

Test_Library__2
 Allow creation of records in this table via this relationship
 Delete related records in this table when a record is deleted in the other table
 Sort records Specify...

OK Cancel



At the end of the Create Relationships process, the WinAutomation job will leave the Edit Relationship and Relationship Graph windows open. Click the OK button for both of these windows.



Step 4 - Create Relationships - Manual Process

Relationships can be created manually in the FileMaker Pro database if you don't have FmPro Migrator Developer Edition or if you have a small number of relationships which might not justify buying the QuicKeys or WinAutomation software. If you have fewer than 20 relationships, you may want to create the relationships manually, as the process doesn't take very long for small numbers of relationships.

Step 4 - Create Relationships - Click Relationships Tab

Migration Process

Tables: 14

Original Table	New Table	Source	Destination	Fields	Records
gn_EmailAddress	Email_Address	Bento	FileMaker 9	16	
gn_File	File_	Bento	FileMaker 9	11	
gn_Im	Im_	Bento	FileMaker 9	17	
gn_Media	Media	Bento	FileMaker 9	14	
gn_PhoneNumber	Phone_Number	Bento	FileMaker 9	15	

Fields: 11

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	gnguid	0	0		gnguid
2	gnopt	0	0		gnopt
3	gnent	0	0		gnent
4	gnpk	1	1	1352	gnpk
5	gn_library	0	0		gn_library

Step 2: Create Table - Completed

Step 3: Transfer Data - Not Started

Instructions:

Step 2:
Install the FileMaker ODBC driver from the FileMaker installer CD.

Create an ODBC DSN matching the DSN name listed in the Table Details window.

Turn on ODBC Sharing within FileMaker.
Menu: Edit > Sharing > ODBC/JDBC...

Click the Create Table button.

Note: If you are using FileMaker Pro



Click the Relationships tab in the Migration Process window.

Step 4 - Create Relationships - View Relationship Details

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', 'Layouts', 'Scripts', and 'GUI'. The 'Relationships' tab shows a list of 7 relationships. The first relationship, 'Email_Address' to 'Test_Library__2', is highlighted with a red circle and a '1' in a yellow circle. Below the list, the details for this relationship are shown, with a red circle and a '2' in a yellow circle around the table selection area. The 'Left Table' is 'Email_Address' and the 'Right Table' is 'Test_Library__2'. Both have 'Cascade Create' and 'Cascade Delete' checked. Below this, the 'Predicates' section shows one predicate with a red circle and a '3' in a yellow circle around the fields and join type. The predicate is 'Email_Address::fmig_fk' joined to 'Test_Library__2::gnpk' with an '=' join type.

Left Table Name	Right Table Name	Predicate Count
Email_Address	Test_Library__2	1
On_	To_Do_Items	1
Media	Inventory	1
File_	Test_Library__2	1
Street_Address	Test_Library__2	1

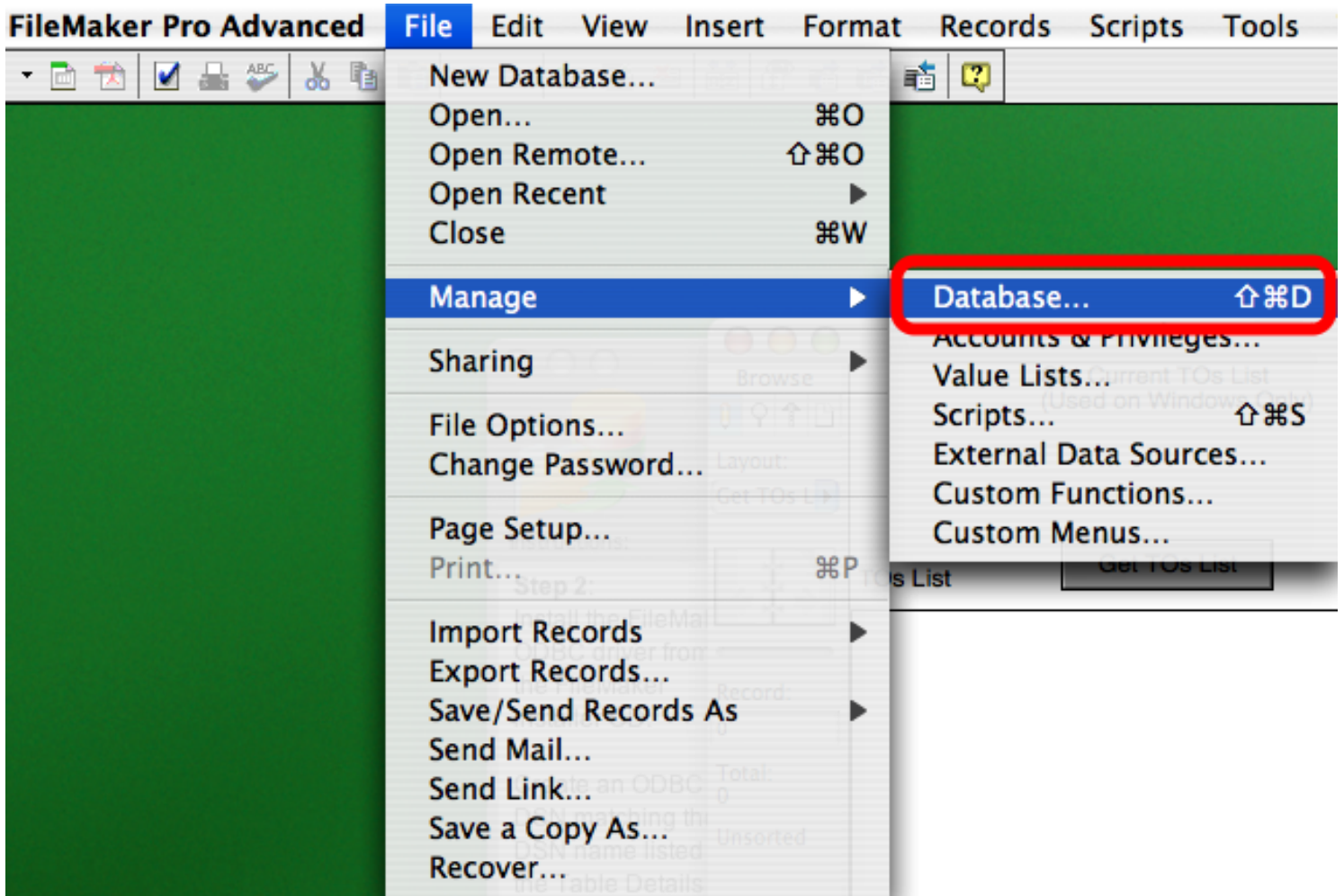
Left Table		Right Table	
Table:	Email_Address	Table:	Test_Library__2
Cascade Create:	<input checked="" type="checkbox"/>	Cascade Delete:	<input checked="" type="checkbox"/>
Cascade Create:	<input type="checkbox"/>	Cascade Delete:	<input type="checkbox"/>

Left Table::Field	Join Type	Right Table::Field
Email_Address::fmig_fk	=	Test_Library__2::gnpk



(1) Click each relationship in the list to view the relationship details (2)(3).

Step 4 - Create Relationships - Define/Manage Database... Menu



Select Define/Manage Database... from the File menu within FileMaker Pro.



Step 4 - Create Relationships - Click Relationships Tab

The screenshot shows the 'Manage Database for "FileMakerDB"' window. At the top, there are three tabs: 'Tables', 'Fields', and 'Relationships'. The 'Relationships' tab is highlighted with a red circle. Below the tabs, there is a text box stating: 'A table is a unique set of records and fields. A file can contain more than one table.' Below this, it says '15 tables defined in this file' and 'View by: creation order'. A table lists the tables in the database. Below the table, there is a 'Table Name:' field containing '= Placeholder TO' and several buttons: 'Create', 'Change', 'Delete', 'Copy', 'Paste', 'Import...', 'Print...', 'Cancel', and 'OK'.

Table Name	Source	Details	Occurrences in Graph
✦ = Placeholder TO	FileMaker	1 field, 0 records	= Placeholder TO
✦ Projects	FileMaker	18 fields, 0 records	Projects
✦ Email_Address	FileMaker	16 fields, 0 records	Email_Address
✦ Url_	FileMaker	18 fields, 0 records	Url_
✦ Inventory	FileMaker	19 fields, 0 records	Inventory
✦ Media	FileMaker	14 fields, 0 records	Media
✦ Test_Library__2	FileMaker	26 fields, 0 records	Test_Library__2
✦ File_	FileMaker	11 fields, 0 records	File_
✦ Street_Address	FileMaker	20 fields, 0 records	Street_Address
✦ Phone_Number	FileMaker	15 fields, 0 records	Phone_Number
✦ Im_	FileMaker	17 fields, 0 records	Im_
✦ Classes	FileMaker	27 fields, 0 records	Classes
✦ Contacts	FileMaker	24 fields, 0 records	Contacts
✦ To_Do_Items	FileMaker	13 fields, 0 records	To_Do_Items

Click the Relationships tab within the Define/Manage Database window.



Step 4 - Create Relationships - Click Edit Relationship Button

The screenshot shows the 'Manage Database for "FileMakerDB"' window with the 'Relationships' tab selected. The window contains a grid of table objects. The 'Placeholder TO' table is highlighted in yellow. The 'Tables & Relationships' toolbar at the bottom has the 'Edit Relationship' button (a square with a minus sign) circled in red. The window also includes a 'Tools' section with various icons and a 'Pages' section with a grid icon. Buttons for 'Print...', 'Cancel', and 'OK' are at the bottom.

Click the Edit Relationship button.



Step 4 - Create Relationships - Add Relationship Predicate Button

Edit Relationship

A relationship defines the set of matching related records in one table for each record in another table. Select the pair of fields to be used to find matching records. To create complex relationship criteria, use additional pairs of fields.

Table: **Email_Address**

- value_
- gn_homeEmailinverse
- gn_workEmailinverse
- gn_otherEmailinverse
- gn_fldEmailAddressinverse
- gn_email1GnFieldinverse
- fmig_fk**
- gn_fldEmailAddress0inverse

Table: **Test_Library__2**

- gnguid
- gnopt
- gnent
- gnpk**
- gn_library
- Date_Created
- Date_Modified
- Text__1

Add **Change**

Email_Address **Test_Library__2**

Duplicate **Delete**

Email_Address **Test_Library__2**

- Allow creation of records in this table via this relationship
- Delete related records in this table when a record is deleted in the other table
- Sort records **Specify...**

- Allow creation of records in this table via this relationship
- Delete related records in this table when a record is deleted in the other table
- Sort records **Specify...**

Cancel **OK**

Select the table and fields to match the values displayed for the relationship within FmPro Migrator. Click the appropriate check boxes for Creation/Deletion of records via the relationship.



Step 4 - Create Relationships - Add Relationship Predicate Button

Edit Relationship

A relationship defines the set of matching related records in one table for each record in another table. Select the pair of fields to be used to find matching records. To create complex relationship criteria, use additional pairs of fields.

Table: **Email_Address** Table: **Test_Library__2**

value_		
gn_homeEmailinverse		
gn_workEmailinverse		
gn_otherEmailinverse		
gn fldEmailAddressinverse		
gn_email1GnFieldinverse		
fmig_fk	=	gnpk
gn fldEmailAddress0inverse		

Add **Change**

Email_Address		Test_Library__2
fmig_fk	=	gnpk

Duplicate **Delete**

Email_Address	Test_Library__2
<input checked="" type="checkbox"/> Allow creation of records in this table via this relationship	<input type="checkbox"/> Allow creation of records in this table via this relationship
<input checked="" type="checkbox"/> Delete related records in this table when a record is deleted in the other table	<input type="checkbox"/> Delete related records in this table when a record is deleted in the other table
<input type="checkbox"/> Sort records Specify...	<input type="checkbox"/> Sort records Specify...

Cancel **OK**

Click the Ok button.

Repeat this process for each relationship listed in the Relationships List within FmPro Migrator.



Note: If you Drag & Drop the Bento Backup file more than once, the relationships and Layouts will be duplicated each time FmPro Migrator reads the backup file. Duplicates may be removed individually by clicking the Delete Selected Relationships button within FmPro Migrator.



Step 5 - Create Layouts - FmPro Migrator Developer Edition - MacOS X

FmPro Migrator Developer Edition uses QuicKeys to automate the creation of Layouts within the FileMaker Pro database.

Step 5 - Create Layouts - Click Layouts Tab

Migration Process

Tables: 14

Original Table	New Table	Source	Destination	Fields	Records
gn_EmailAddress	Email_Address	Bento	FileMaker 9	16	
gn_File	File_	Bento	FileMaker 9	11	
gn_Im	Im_	Bento	FileMaker 9	17	
gn_Media	Media	Bento	FileMaker 9	14	
gn_PhoneNumber	Phone_Number	Bento	FileMaker 9	15	

Fields: 16

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	gnguid	0	0		gnguid
2	gnopt	0	0		gnopt
3	gnent	0	0		gnent
4	gnpk	1	1	1	gnpk
5	gn_library	0	0		gn_library

Instructions:

Step 2:
Install the FileMaker ODBC driver from the FileMaker installer CD.

Create an ODBC DSN matching the DSN name listed in the Table Details window.

Turn on ODBC Sharing within FileMaker.
Menu: Edit > Sharing > ODBC/JDBC...

Click the Create Table button.

Note: If you are using FileMaker Pro

Step 2: Create Table
Completed

Step 3: Transfer Data
Completed

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The Bento forms were converted into FileMaker Pro Layouts when FmPro Migrator read the Bento Backup file. These new Layouts are listed in the Layouts tab of the Migration Process window.

Click the Layouts tab, to create all of the layouts in the destination FileMaker database file.



Step 5 - Create Layouts - Pass#1

Migration Process

Tables Relationships TOs **Layouts** Scripts GUI

Instructions: Layouts: 22 Address Book - Table: Address_Book

Layout Migration:
[Only used for Table Consolidation Migration Projects.]
Within FileMaker 7/8/9 (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 portal name can be changed using the field above

Layout Name	Size	Fields	Portals
Address Book - Details [Natural]	1182 X 529	10	0
Address Book - Overview [Typewriter]	1158 X 474	6	0
Classes - Form [Leather]	1807 X 1081	20	0
Classes - Form#2-Classes [Natural]	2160 X 1102	34	0
Contacts - Details [Overcast]	1324 X 527	11	0

Portals:

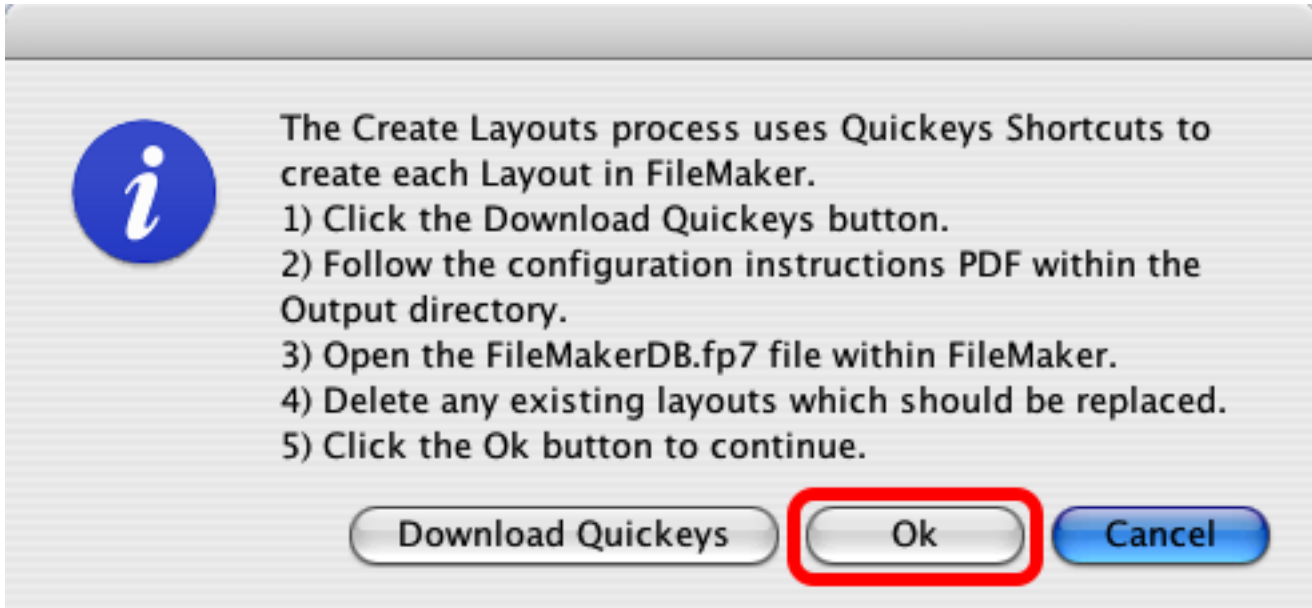
Portal Name	Fill Method	Field Titles

Layout Image

Click the Create All Layouts in FileMaker button. The Pass#1 pop-up menu should be selected under the Create All Layouts in FileMaker button. The Pass#2 option won't be used when creating the Bento converted Layouts in FileMaker Pro.

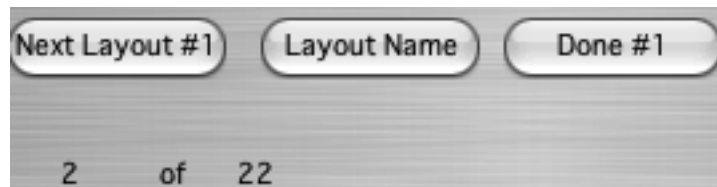


Step 5 - Create Layouts - [Mac OS X Dialog]



Click the Ok button on the Create Layouts dialog, since QuicKeys and the required shortcuts have already been installed.

Step 5 - Create Layouts - [Mac OS X Status Area]



The database window will switch to Layout mode within FileMaker Pro, and each of the Layouts will be created from the information stored within FmPro Migrator.

It is not generally necessary for you to click any of the buttons in the status area. These buttons perform the following tasks:

Next Layout - This button gets clicked by the QuicKeys shortcut after it creates each Layout, in order to start the process of creating the next Layout.

Current Layout - If the QuicKeys shortcut gets stuck in some way and fails to create a Layout, you can click on this button to attempt re-creating the Layout currently being processed.



Done - Click this button if you want to cancel the Layout creation process.



Step 5 - Create Layouts - FmPro Migrator Developer Edition - Windows

FmPro Migrator Developer Edition uses WinAutomation to automate the creation of Layouts within the FileMaker Pro database.

Step 5 - Create Layouts - Click Layouts Tab

Migration Process

Tables: 14

Original Table	New Table	Source	Destination	Fields	Records
gn_EmailAddress	Email_Address	Bento	FileMaker 9	16	
gn_File	File_	Bento	FileMaker 9	11	
gn_Im	Im_	Bento	FileMaker 9	17	
gn_Media	Media	Bento	FileMaker 9	14	
gn_PhoneNumber	Phone_Number	Bento	FileMaker 9	15	

Fields: 16

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	gnguid	0	0		gnguid
2	gnopt	0	0		gnopt
3	gnent	0	0		gnent
1	gnpk	1	1	1	gnpk
5	gn_librarv	0	0		gn_librarv

Step 2:
Install the FileMaker ODBC driver from the FileMaker installer CD.

Create an ODBC DSN matching the DSN name listed in the Table Details window.

Turn on ODBC Sharing within FileMaker.
Menu: Edit > Sharing > ODBC/JDBC...

Click the Create Table button.
Note: If you are using FileMaker Pro

Step 2
Create Table
Completed

Step 3
Transfer Data
Completed

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The Bento forms were converted into FileMaker Pro Layouts when FmPro Migrator read the Bento Backup file. These new Layouts are listed in the Layouts tab of the Migration Process window.

Click the Layouts tab, to create all of the layouts in the destination FileMaker database file.



Step 5 - Create Layouts - Pass#1

Migration Process

Tables Relationships TOs Layouts Scripts GUI

Instructions: Layouts: 22 Address Book - Table: Address_Book

Layout Migration:
[Only used for Table Consolidation Migration Projects.]
Within FileMaker 7/8/9 (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 portal name can be changed using the field above

Layout Name	Size	Fields	Portals
Address Book - Details [Natural]	1182 X 529	10	0
Address Book - Overview [Typewriter]	1158 X 474	6	0
Classes - Form [Leather]	1807 X 1081	20	0
Classes - Form#2-Classes [Natural]	2160 X 1102	34	0
Contacts - Details [Overcast]	1324 X 527	11	0

Portals:

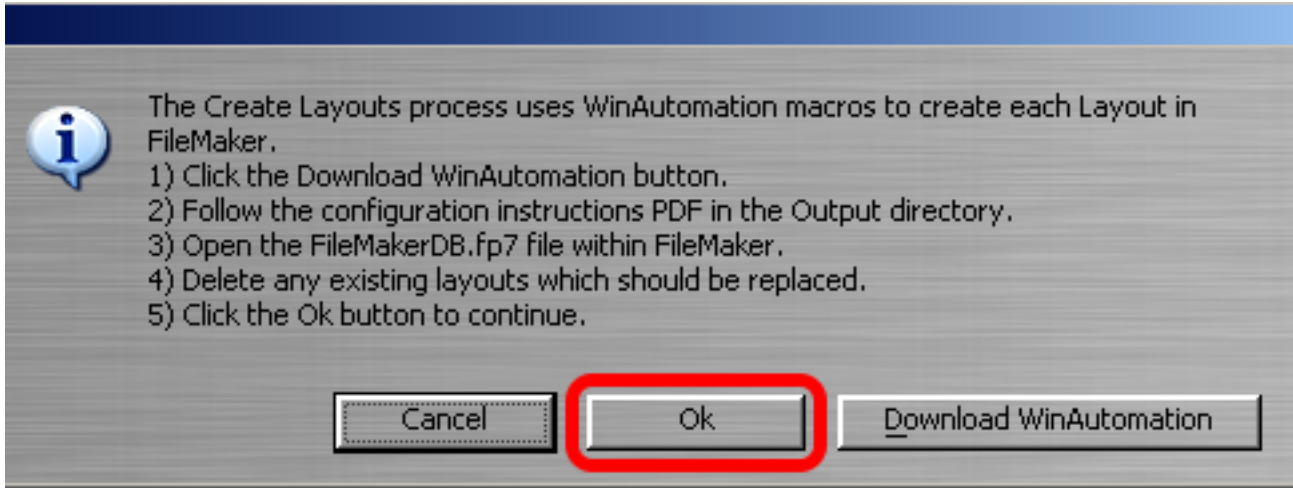
Portal Name	Fill Method	Field Titles

Layout Image

Click the Create All Layouts in FileMaker button. The Pass#1 pop-up menu should be selected under the Create All Layouts in FileMaker button. The Pass#2 option won't be used when creating the Bento converted Layouts in FileMaker Pro.

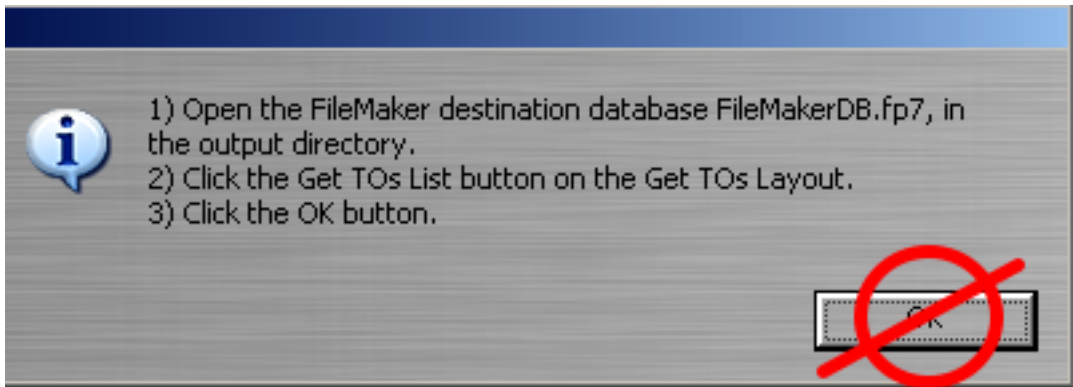


Step 5 - Create Layouts - [Windows Dialog]



Click the Ok button on the Create Layouts dialog, since WinAutomation and the required jobs have already been installed.

Step 5 - Create Layouts - [Windows Dialog #2]

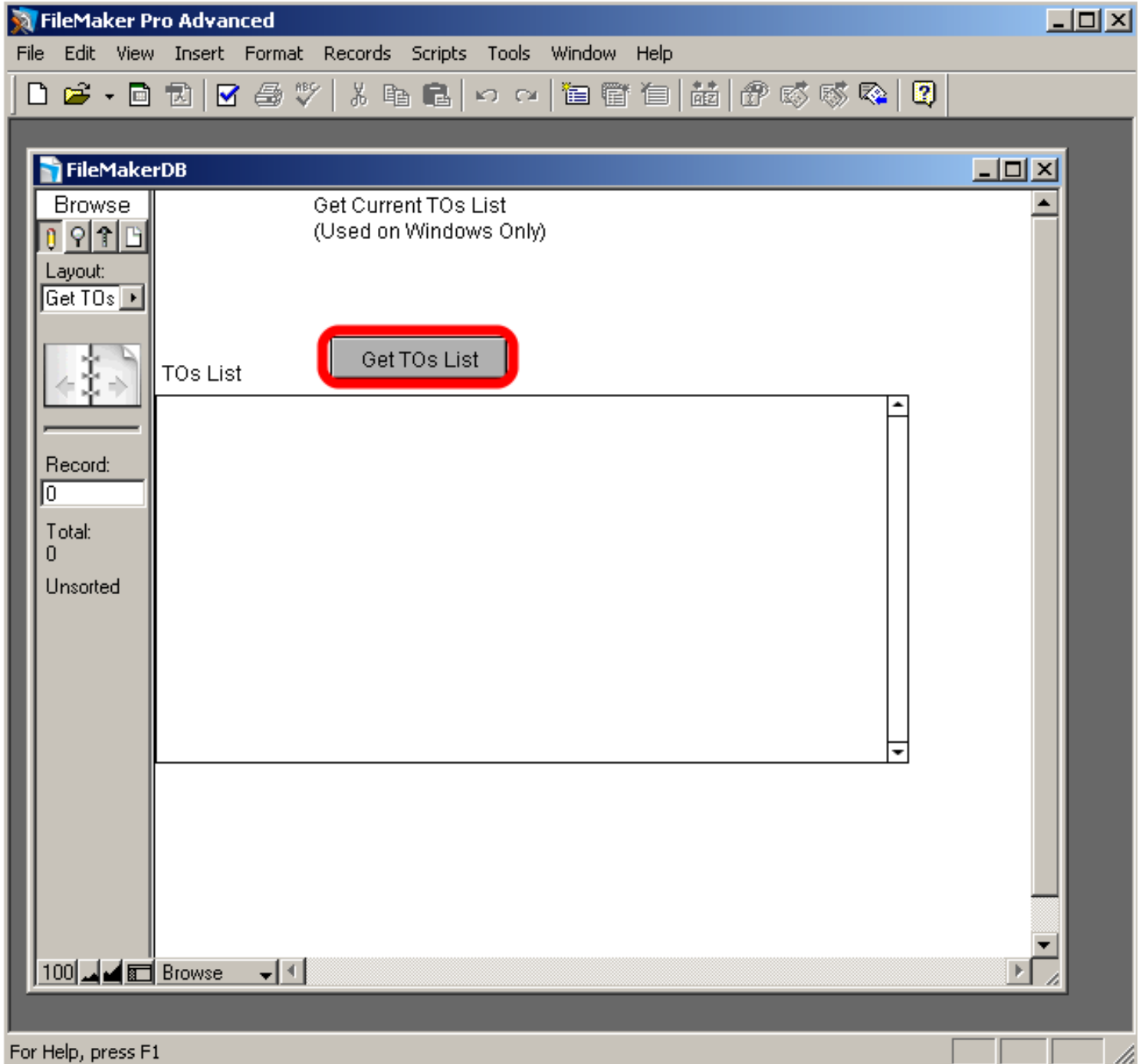


FmPro Migrator needs to gather a list of Table Occurrences from the destination database sorted in alphabetical order using FileMaker's sorting algorithm. This list of TOs will be used when selecting TOs from menus when creating each Layout.

Switch to the FileMaker database, don't click on the Ok button yet.



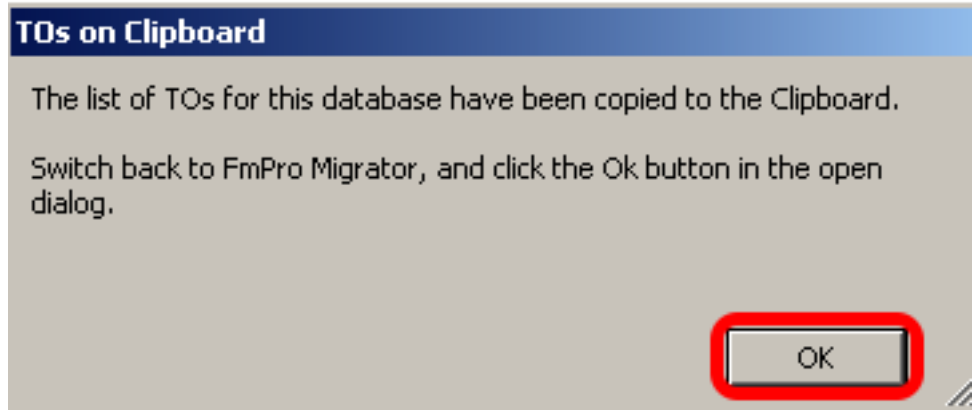
Step 5 - Create Layouts - Get TOs List [Windows]



Click the Get TOs List button on the Get TOs List layout in the destination database.

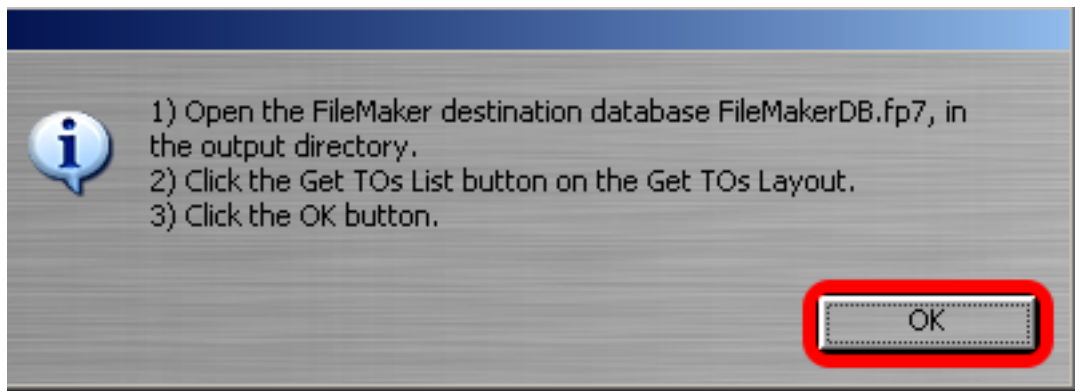


Step 5 - Create Layouts - [Windows Dialog #3]



Once the TOs list has been gathered from the destination database, click the Ok button displayed by FileMaker.

Step 5 - Create Layouts - [Windows Dialog #2]



Now that the alphabetical list of TOs are on the ClipBoard, switch back to FmPro Migrator Developer Edition and click the Ok button so that FmPro Migrator Developer Edition can retrieve them from the ClipBoard.

Once FmPro Migrator Developer Edition has retrieved the list of TOs from the ClipBoard, it will start creating the Layouts within the destination FileMaker database.



Step 5 - Create Layouts - [Windows Status Area]



The data window will be opened in Layout mode within FileMaker, and each of the Layouts will be created from the information stored within FmPro Migrator.

It is not generally necessary for you to click any of the buttons in the status area. These buttons perform the following tasks:

Next Layout - This button gets clicked by the WinAutomation job after it creates each Layout, in order to start the process of creating the next Layout.

Current Layout - If the WinAutomation job gets stuck in some way and fails to create a Layout, you can click on this button to attempt re-creating the Layout currently being processed.

Done - Click this button if you want to cancel the Layout creation process.



Step 5 - Create Layouts - Manual Process

Layouts can be created manually in the FileMaker Pro database if you don't have FmPro Migrator Developer Edition or if you have a small number of Layouts which might not justify buying the QuickKeys or WinAutomation software. If you have fewer than 20 Layouts, you may want to create the Layouts manually, as the process doesn't take very long for small numbers of Layouts.

Step 5 - Create Layouts - Click Layouts Tab

Migration Process

Tables Relationships TOs **Layouts** Scripts GUI

Tables: 14

Original Table	New Table	Source	Destination	Fields	Records
gn_EmailAddress	Email_Address	Bento	FileMaker 9	16	
gn_File	File_	Bento	FileMaker 9	11	
gn_Im	Im_	Bento	FileMaker 9	17	
gn_Media	Media	Bento	FileMaker 9	14	
gn_PhoneNumber	Phone_Number	Bento	FileMaker 9	15	

Fields: 16

ID	Original Fieldname	PK	Auto-Increment	Next SN	New Fieldname
1	gnguid	0	0		gnguid
2	gnopt	0	0		gnopt
3	gnent	0	0		gnent
1	gnpk	1	1	1	gnpk
5	gn_library	0	0		gn_library

Instructions:

Step 2:
Install the FileMaker ODBC driver from the FileMaker installer CD.

Create an ODBC DSN matching the DSN name listed in the Table Details window.

Turn on ODBC Sharing within FileMaker.
Menu: Edit > Sharing > ODBC/JDBC...

Click the Create Table button.

Note: If you are using FileMaker Pro

Step 2
Create Table
Completed

Step 3
Transfer Data
Completed

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The Bento forms were converted into FileMaker Pro Layouts when FmPro Migrator read the Bento Backup file. These new Layouts are listed in the Layouts tab of the Migration Process window.

Click the Layouts tab, to create each of the Layouts individually in the destination FileMaker database file.



Step 5 - Create Layouts - Click Copy Selected Layout to ClipBoard Button

Migration Process

Tables Relationships TOs **Layouts** Scripts GUI

Instructions: Layouts: 22 Classes - Form Table: Classes **1** Pass#1

Layout Migration:
[Only used for Table Consolidation Migration Projects.] Within FileMaker 7/8/9 (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 portal name can be changed using the field above **2**

Portal Name	Fill Method	Field Titles

Layout Image

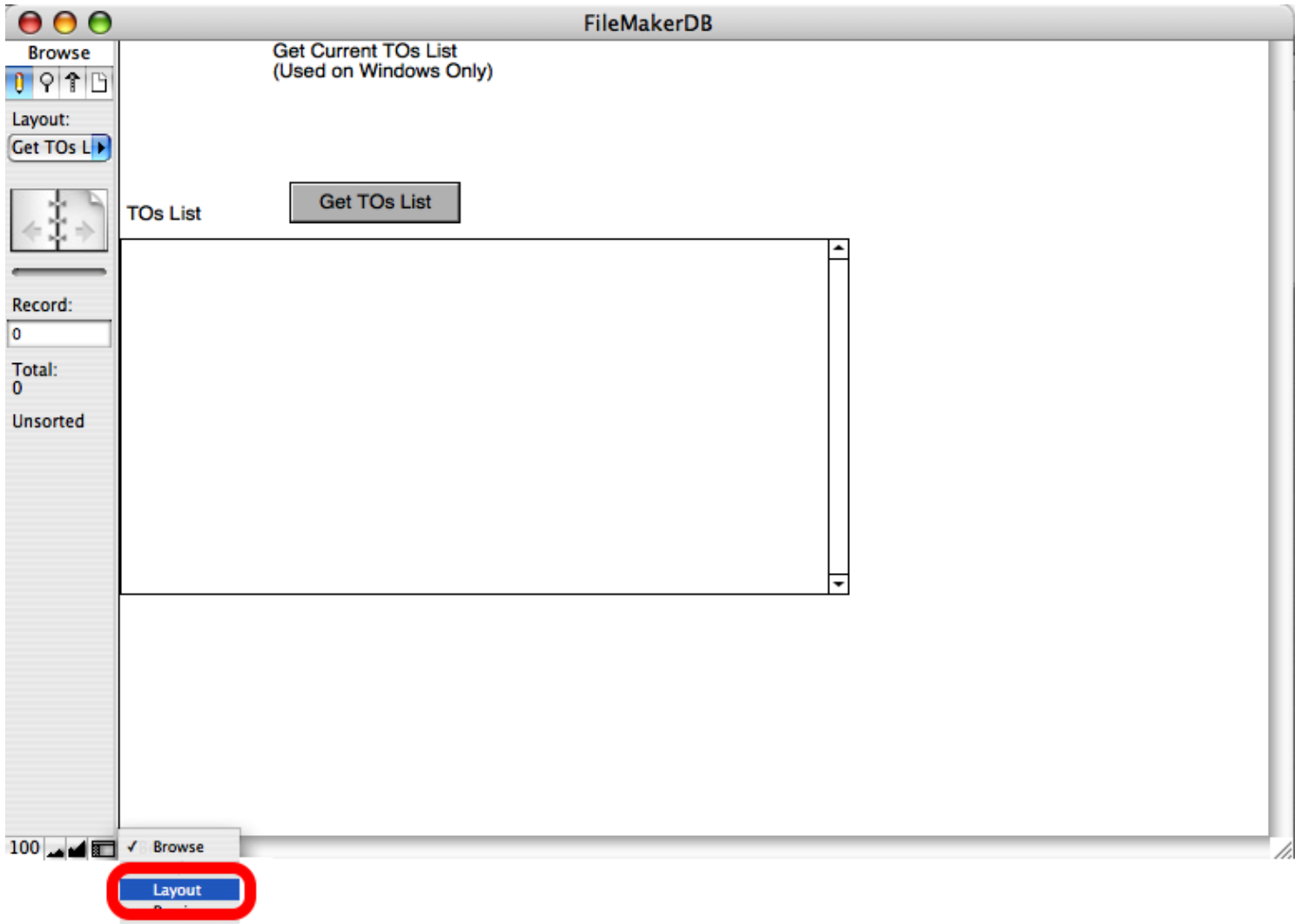
.com Solutions Inc.

Click the first Layout in the list, then click the Copy Selected Layout to ClipBoard button. The Layout info will be put onto the ClipBoard.



Note: The (1) Table/Table Occurrence name and (2) Layout name listed on this window will be used to create each Layout within the FileMaker Pro database.

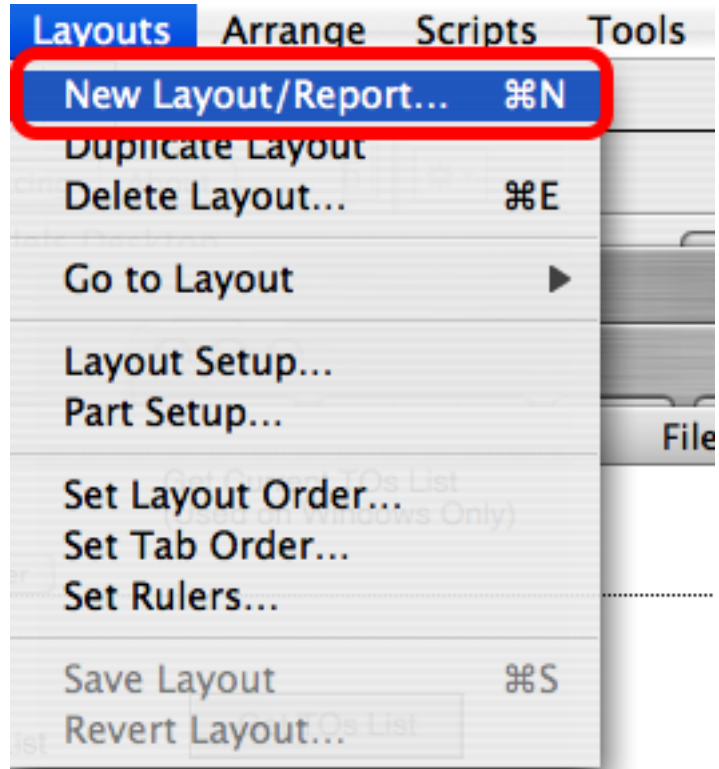
Step 5 - Create Layouts - Switch to Layout Mode



Switch to FileMaker Pro, then switch to Layout mode.



Step 5 - Create Layouts - New Layout



Select New Layout from the Layouts menu.



Step 5 - Create Layouts - New Layout

(1) Select the Table Occurrence from the list, (2) Enter the Layout Name, (3) Select Blank Layout, (4) Click the Finish button.

The Table Occurrence name and Layout name info needed to fill in these fields/menus is shown on the FmPro Migrator Layouts tab when each layout is selected.



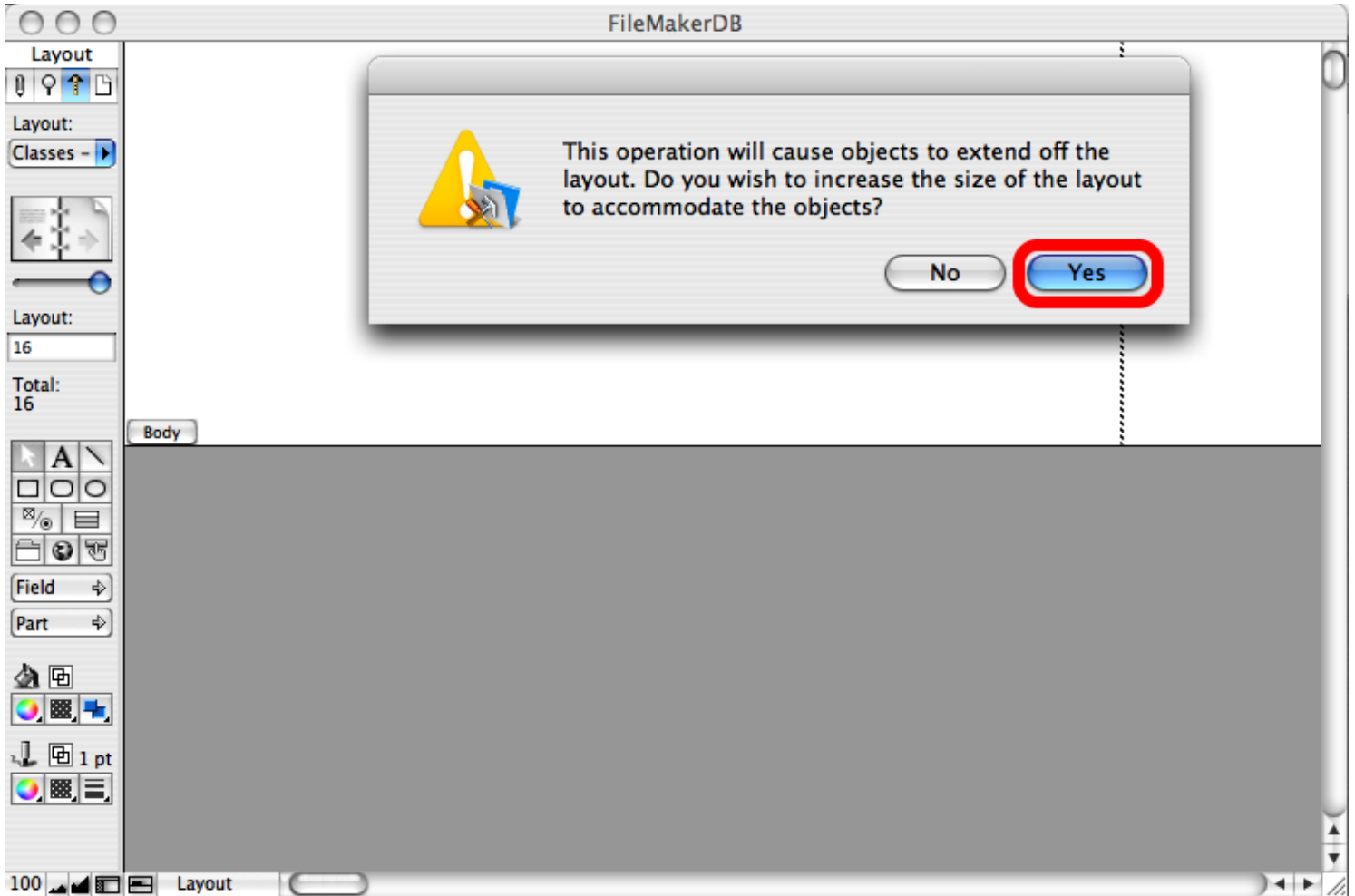
Step 5 - Create Layouts - Blank Layout



It is easier to manage the Layout parts if you delete the Header and Footer parts before pasting the Layout objects onto the blank Layout. Click the Layout part, then press the Delete key to delete it.



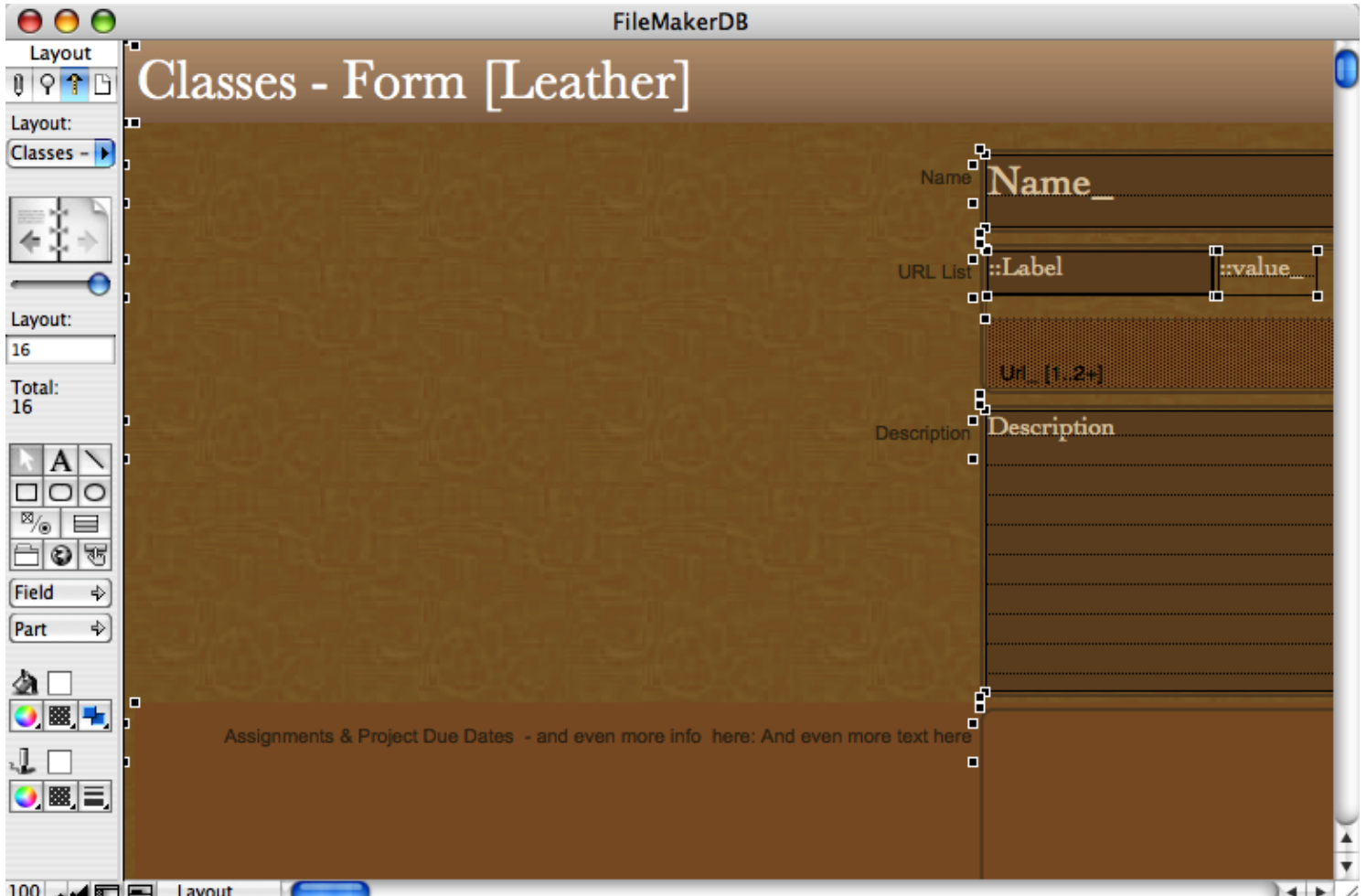
Step 5 - Create Layouts - Paste Layout



Select Paste from the Edit menu, or select Control - V (Windows) or Command - V (MacOS X). Click Yes to the "increase the size of the layout" dialog.



Step 5 - Create Layouts - Pasted Layout



The Layout objects will be pasted into the empty layout.

Repeat this process for each of the Layouts which were created from the Bento Backup file.



Manual Completion Tasks

There are some processing steps which must be completed manually when performing a Bento to FileMaker conversion.

Manual Tasks - Object Size and Position

FmPro Migrator creates new Layouts from Bento 1.x forms by putting the field labels to the left of each Layout field. However some Bento forms are designed with labels above the fields. Since the spacing around the objects is slightly different when labels are on the left versus above each field, some manual fine-tuning of object positions may be required on the new FileMaker Pro Layout.

Bento 2.x schema enhancements have made it possible for FmPro Migrator to convert Bento forms with greater precision than was previously implemented for Bento 1.x files. Bento 2.x forms having labels at the top and side are now supported along with the 10 new Bento 2.x built-in themes. Bento 1.x users may upgrade their files for free by downloading the Bento 2 Trial Edition software, in order to take advantage of the enhanced FmPro Migrator migration features.

Manual Tasks - Address Book & iCal Data

Neither Address Book or iCal records are stored within the Bento Backup file. This data can be manually exported from the Address Book and iCal and then imported into newly created tables within the FileMaker Pro database file. It will also be necessary to manually create relationships between each of the library tables and the Address Book and iCal tables.

Manual Tasks - Media & File Fields

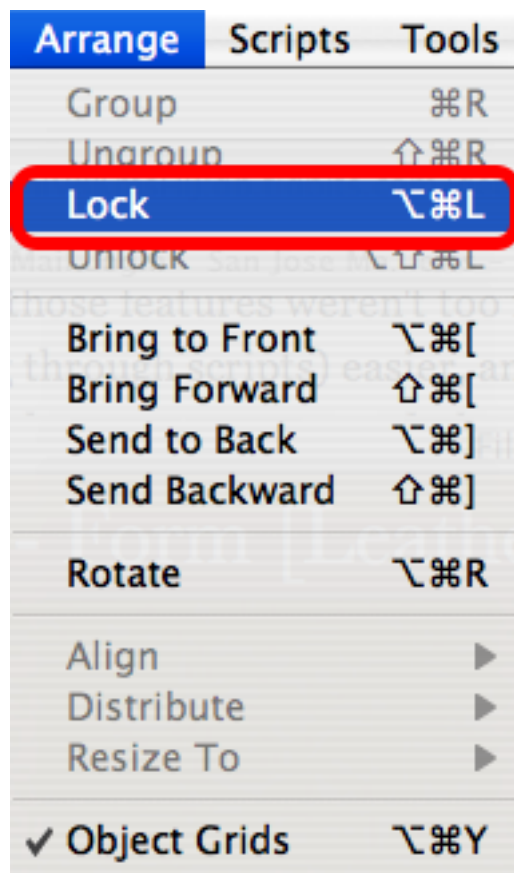
According to the Bento Backup dialog, Bento Media objects are not stored within the Bento database file. But the path to these files is stored within the File_URL field in the new FileMaker Pro database table, once the data has been transferred from Bento to FileMaker Pro. To provide similar functionality within FileMaker Pro, a container field could be created to display the contents of the File_URL field.

Then a Set Field ScriptMaker step can be run on each record to set the container field to reference a new file path to reference the data. A new file path needs to be specified for each media file because FileMaker Pro cannot read the original file path within the /Users/username/Library/Application Support/Bento/bento.bentodb bundle file. These files should be manually moved to a new folder before



they are used from within FileMaker Pro. The new pathname should be substituted for the original pathname, either thru the use of a ScriptMaker script, calculation formula or thru manually referencing the file by right-clicking on the container field to specify the new path to the file. When selecting the file manually, you can specify that only a reference to the file should be stored (recommended) or the entire file can be stored within the container field (not usually recommended).

Manual Tasks - Lock Background Graphics



Each Layout includes a PNG image which serves as the background image. There are also PNG images used to create shaded areas around fields selected for shading in the original Bento form. It is easier to select and move FileMaker Pro fields sitting on top of these background images if the background images have been locked on the Layout. In Layout mode, select the background image, then select Lock from the Arrange menu.