



# **FM Registrations**

## **License codes for your FileMaker Apps**

Karsten Risseuw, Kursiv Consulting, Netherlands

# Copyright and contact

## FM Registrations

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Manual to FM Registrations, by Karsten Risseeuw

FM Registrations, including concepts, manuals and additional files:

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Kursiv Consulting

Bizet 117

2671XT Naaldwijk

Netherlands

Before purchase: [office@kursiv.com](mailto:office@kursiv.com)

Support: [support@kursiv.com](mailto:support@kursiv.com)

Product informations: [fmstarter.com](http://fmstarter.com)

## **About FM Registrations**

FM Registrations is a commercial product and was developed by Karsten Risseeuw. FM Registrations is distributed via the website [fmstarter.com](http://fmstarter.com). There you can also find the documentation and further help.

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# 1 Introduction

Basic information about the product FM registrations. If the product is new to you, read this chapter. It is like the manual in a nutshell. You can use the other chapters as reference if you need them.

## **Video**

Introductory videos are available on [fmstarter.com](https://fmstarter.com).

# Short introduction

## The manual in a nutshell

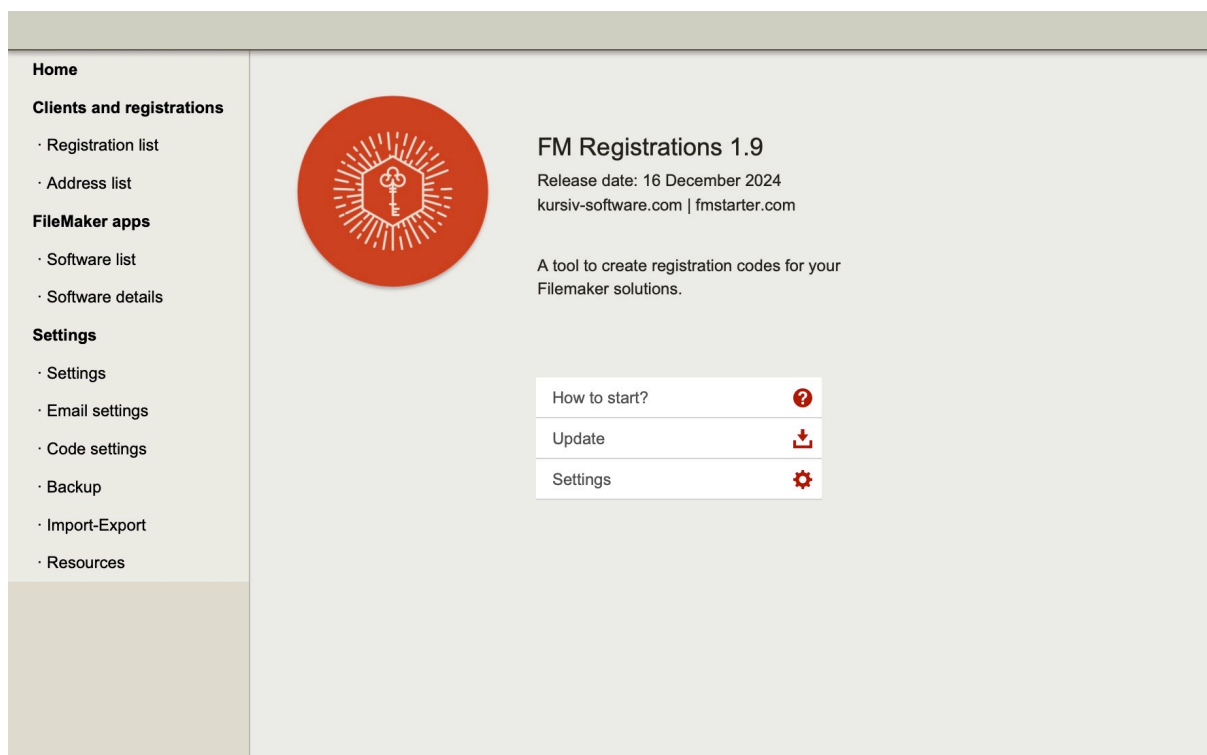
### What is the role of FM Registrations?

With FM Registrations you create license codes for your FileMaker-based solutions. This will help you to protect and license your software and keep track of licensees and licenses.

### What you get

FM Registrations comes with several files. The application "FM Registrations" is the code generator. With it you create and encrypt license codes. The license codes must be decrypted again for validation in your software. This task is done by the module "FM Unlock", which is included in the sample file and also as an add-on.

1. FM Registrations, the code generator:



2. FM Unlock, the add-on to decrypt licenses in your solution:

Startup	Registration	FM Unlock	Landing page
---------	--------------	-----------	--------------

The Startup script ("FM Unlock startup") checks if there is a valid registration. If there is not, it leads to this registration page. **This shows that – in your solution – you need a similar workflow and a registration page like this one. Learn more about this on the layout "FM Unlock".**

**Please register your software**

Unlock Name: Extra Code

Unlock Code: Registration Code

Register

## Minimal Requirements

Both files are FileMaker Pro files and require a regular version of FileMaker Pro 19.1 or later to run and function properly. We always advise to use the latest versions.

## Encryption and decryption

The solution is all about encrypting and decrypting information. The license code carries the information in an encrypted "license key" with an optional "username". When the user enters their registration information into your solution (use the sample file to test this), you get back exactly the same information.

## **Implementation**

The implementation is quite simple. Decryption is configured like a FileMaker module (modular-filemaker.org), and this module is part of the sample file. It can be integrated into your solution by following a few well-described steps. Once you have implemented the workflow of the sample file into your application, you can decrypt any license code. As a result, you will get the original information. Apart from the module, you also need to look at the workflow at startup and the security of your file, just like any other FileMaker project.

## **Customization is key**

The next step is to define the necessary checks and logic you want to have for your file. For example, if your code embeds a number of users, you can implement a check in a start script to evaluate the current number of active users and decide what to do if this number is exceeded. If you are working with an expiration date, you need to create a check to compare the expiration date with the current date.

## **Security**

FM Registrations requires the user to open the file to get to the registration process and register the application. At this moment, you grant users a certain type of access, which is a potential security problem. To overcome this problem, you need to implement a security strategy that restricts access until the registration process is complete. If the registration is successful, create a re-login script to grant access to the file and get to the correct landing page. These are all basic FileMaker security considerations that are not specific to FM Registrations, but are relevant to any application. The sample file shows you how to implement this. Also read the 10 Security chapter.

## **Data belongs to the enduser**

You use FM Registrations to restrict access to a file and grant usage rights. In this situation, you should be aware that the user has the right to his own data. Imagine a scenario where a user does not want to renew a license after the expiration date. He still needs to have full access to his data. For this reason, it is suggested to implement a workflow for this scenario where the user can at least export his data or alternatively enter a new license code to update his license.

## **You define the implementation**

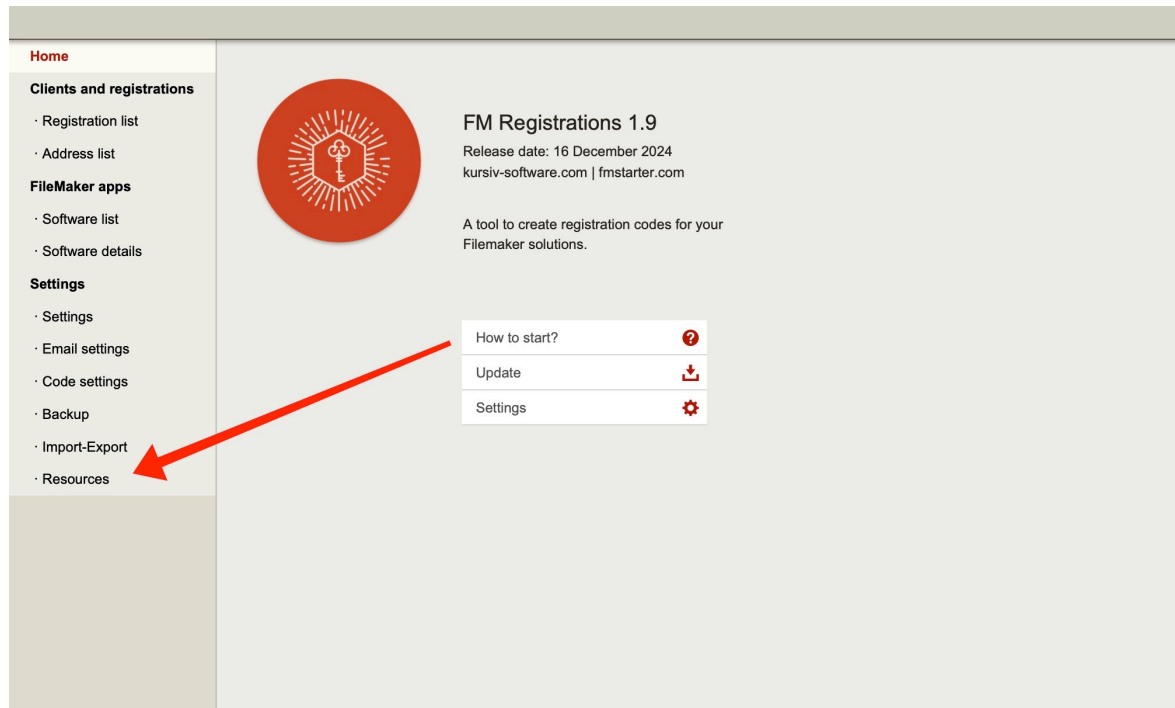
FM Registrations is not magic: the purchase alone does not automatically solve all the requirements for your solution. You get a tool that allows you to register new users, assign license codes to meet specific requirements and use these codes in your FileMaker application. **How you check the codes is up to you. This requires FileMaker development.**

## Resources

Where do you find your resources for FM Registrations?

### Within the app

When you open FM Registrations for the first time, you will see three buttons on the home page. Clicking on "How to start?" will lead to the page "Resources".



On the Resources page you can find additional files and the manuals, ready for export.

### Online

Check the website [fmstarter.com](https://fmstarter.com) for videos, new articles and the like.

## Licensing and marketing

**FM Registrations allows you to sell the same software multiple times to different customers by providing different personalized unlock codes.**

FM Registrations is a tool for issuing and managing licenses. However, due to the various functions included, FM Registrations can do more than just "unlock" a solution.

Because of the properties that can be included in the unlock code, you can also use the code to configure your solution. This requires programming, but after implementation you can create different versions of the same solution, block or unlock certain features, allow a certain number of users to access the solution simultaneously, or restrict certain tables to create more than the allowed number of records.

### Some examples

Suppose you have a software that you offer in two versions: a free trial and a full version. The free trial version has some limitations. FM Registrations allows you to use the same file, but create different versions. You can configure your solution based on the information from the decrypted license code. Here are some suggestions that you can implement with FM registrations:

- 1 user maximum
- Maximum 5 records in the Addresses table
- Access that expires after 30 days (or any other number of days).
- An expiration date set for December 31 of that year (select the date).
- Hide some advanced functions
- the free version uses an account where the export of data is not possible
- etc.

Now let's assume that the customer using this trial version wants to unlock the full version. You then generate a new code that is picked up by your configuration script after the customer enters it. Based on the information in the code, you can create any updates for the customer, such as:

- Activation of the full version, with all functions and using an account that enables data export
- Upgrade a full version to 5 users, or 20, or 100, or...
- Set an expiration date for 1 month, 1 year or something else
- Triggering an advertisement about another product
- etc.

Because of the configuration options, you can **leverage your product strategy and marketing** to reflect different needs. You can create a cheaper entry version, charge customers for extra users or additional functionality. This will give you the option to tailor the software to the need of the customer and as a result you have the option to define the value and price of the change to accomodate as many customers as possible.



## 2 Discover how it works

This chapter will help you understand the different parts of FM Registrations.

FM Registrations is a code generator that is able to generate unlock codes and link them to customer addresses. The sample file shows you how to decrypt unlock codes. This is the module what should be integrated into your solution later.

Let's proceed step by step.

## Getting started

FM Registrations is easy to implement, but requires some development on your end. We recommend the following steps:

1. get familiar with the process (start with the Example File).
2. check your unlock codes in the sample file (License Codes)
3. implement the FM Unlock module in your application.

## The Example file

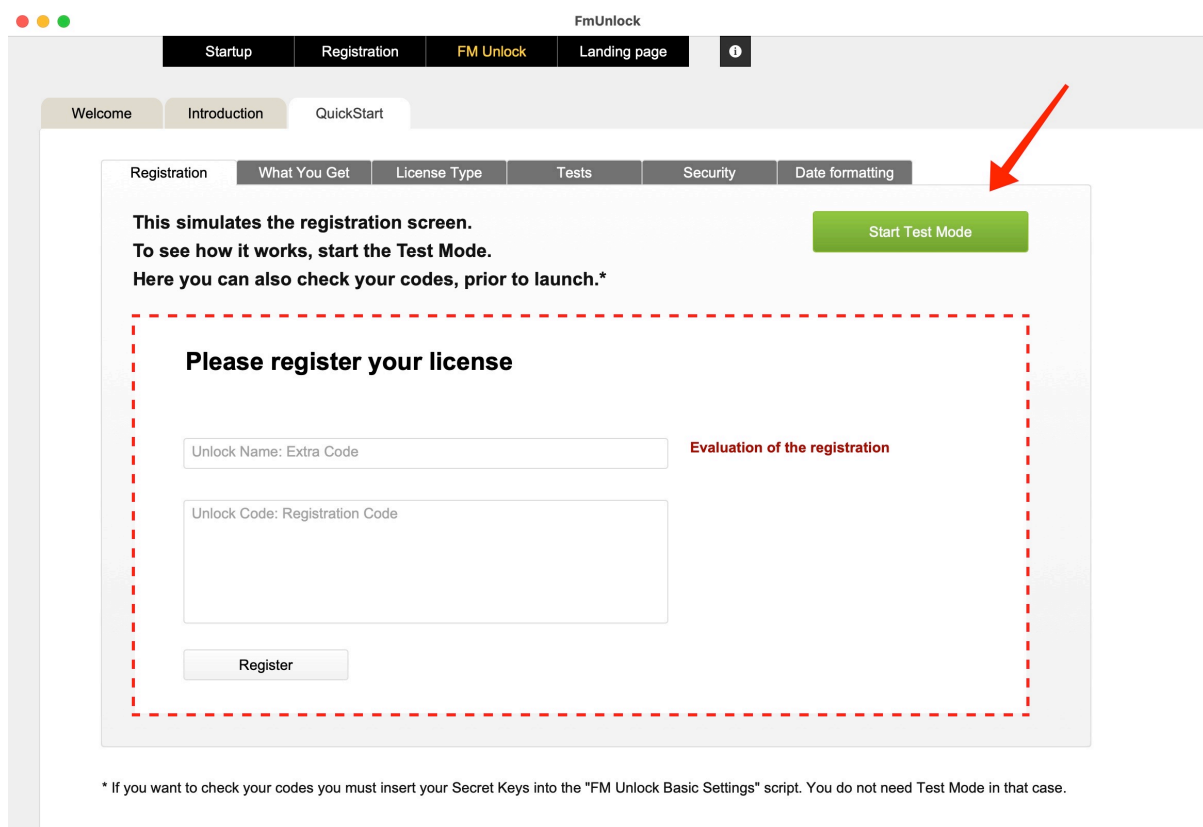
To get a first understanding of how FM Registrations works, use the sample file. It already has a test workflow built in to quickly show you how an implementation should work.

### Tip

First, make a backup copy of your sample file.

### The test mode shows the procedure

Open the sample file and you will land on the page named FM Unlock > Registration. On this page you will see a green button with the text "Start Test Mode". Click this button to fill in the registration fields with a test code:

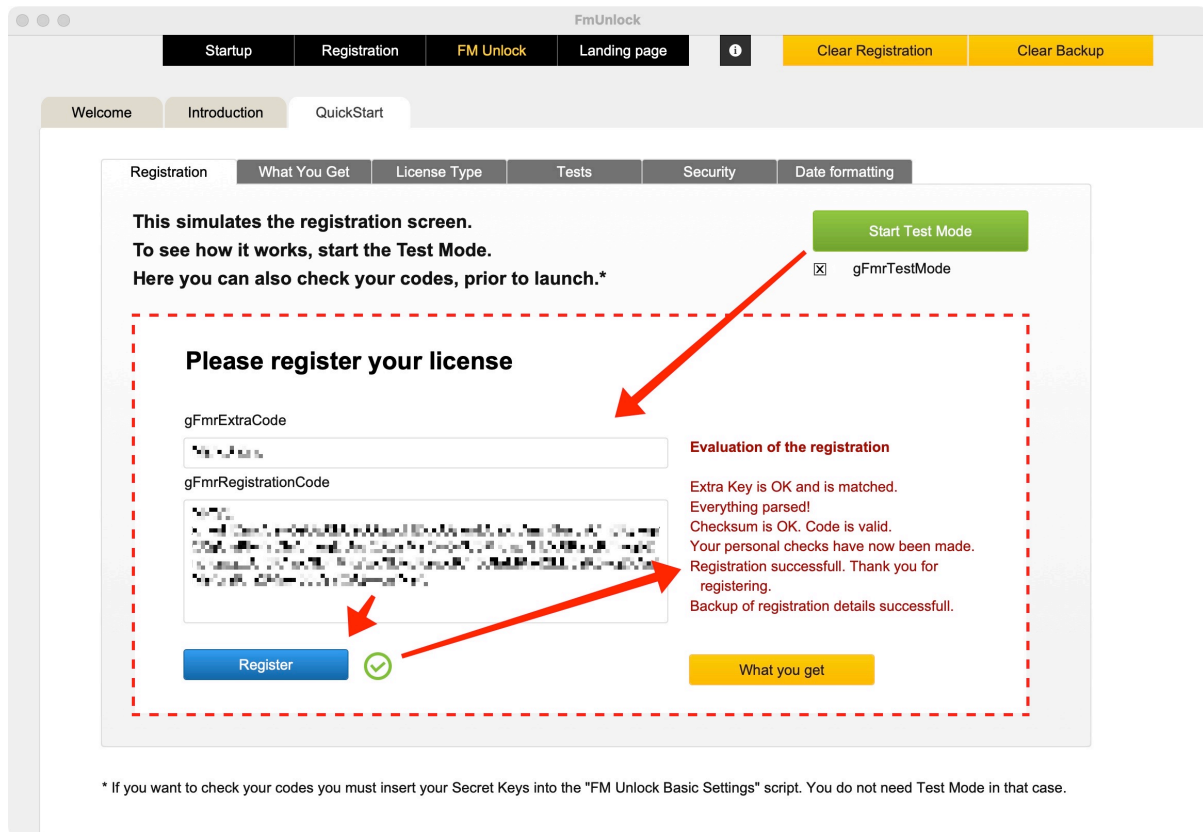


### Registering

Now click on "Register" to start the registration process. This is the procedure for the user. As a result, you will see a feedback about what has been done.

### Feedback

During registration, the module provides feedback on all steps of the exam.



For the end user, registration is a familiar process. As a developer, registration gives you access to all the details so that you can unlock or configure the solution based on the license data.

What exactly you get in terms of information can be queried under "What You Get".

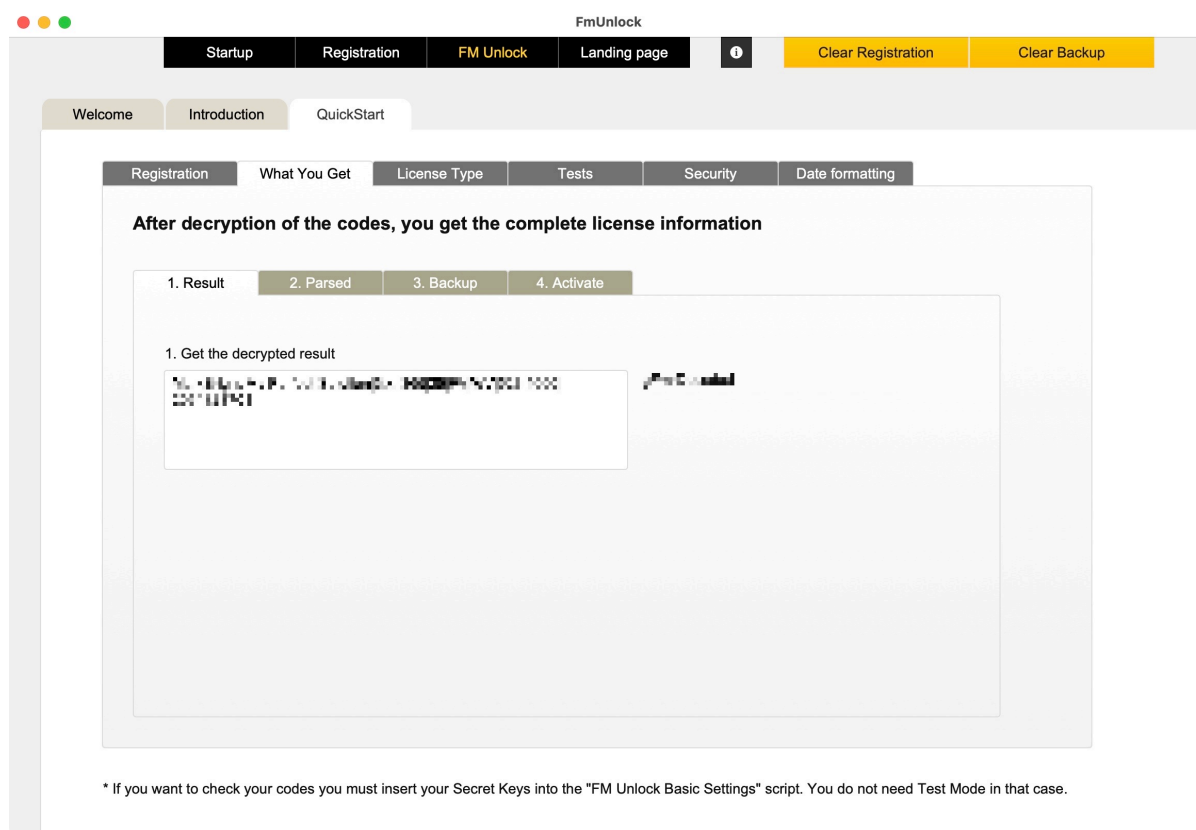
# What You Get

The sample file has a tab called "What you get". After you decrypt a license, you get the full decrypted string. In several sub-tabs you can see the parsed information. Check the sample file to see the decrypted result, the parsed result, the backup fields, and the final activation.

If you install the FM Unlock module as in the sample file, you will have all the parsed information right at your fingertips.

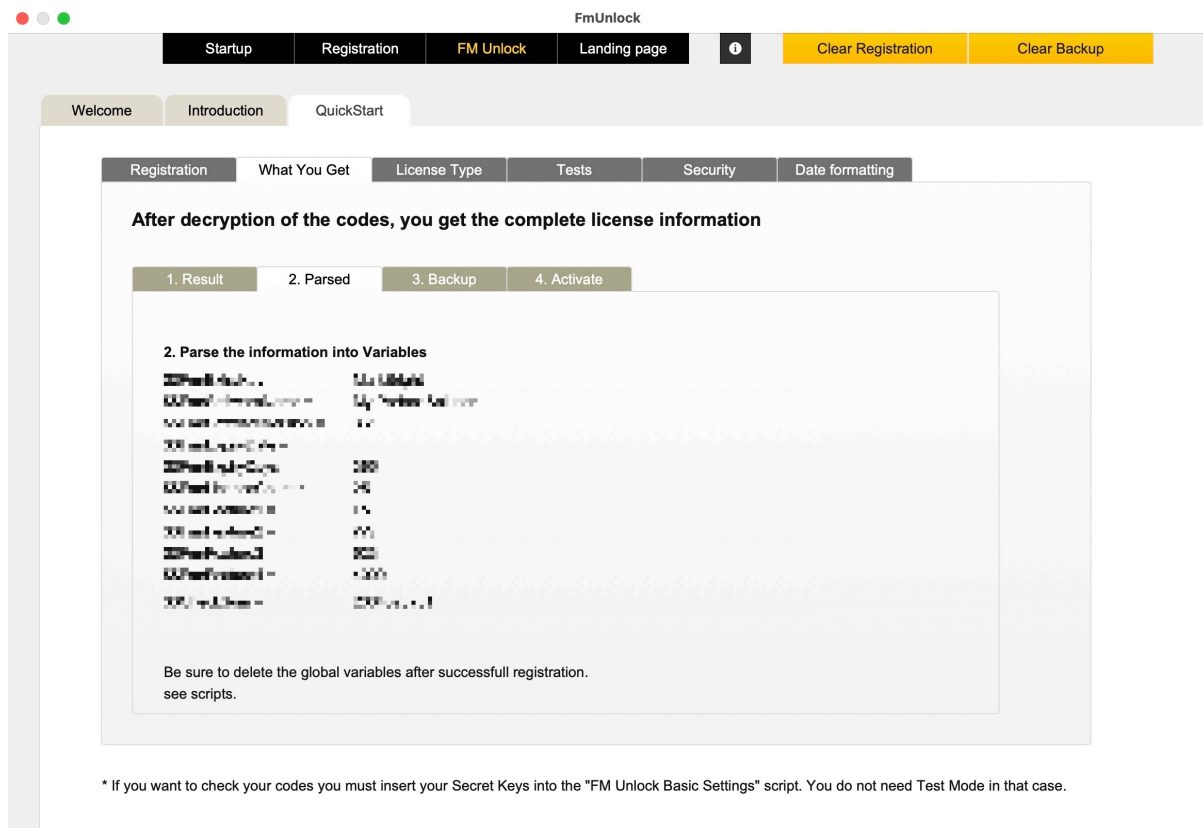
## 1. Result

You will receive the **decrypted license key** (hidden in the screenshot, but look at the sample file!). That license information is then parsed, to make it easy for you to use and refer to the single bits of information.



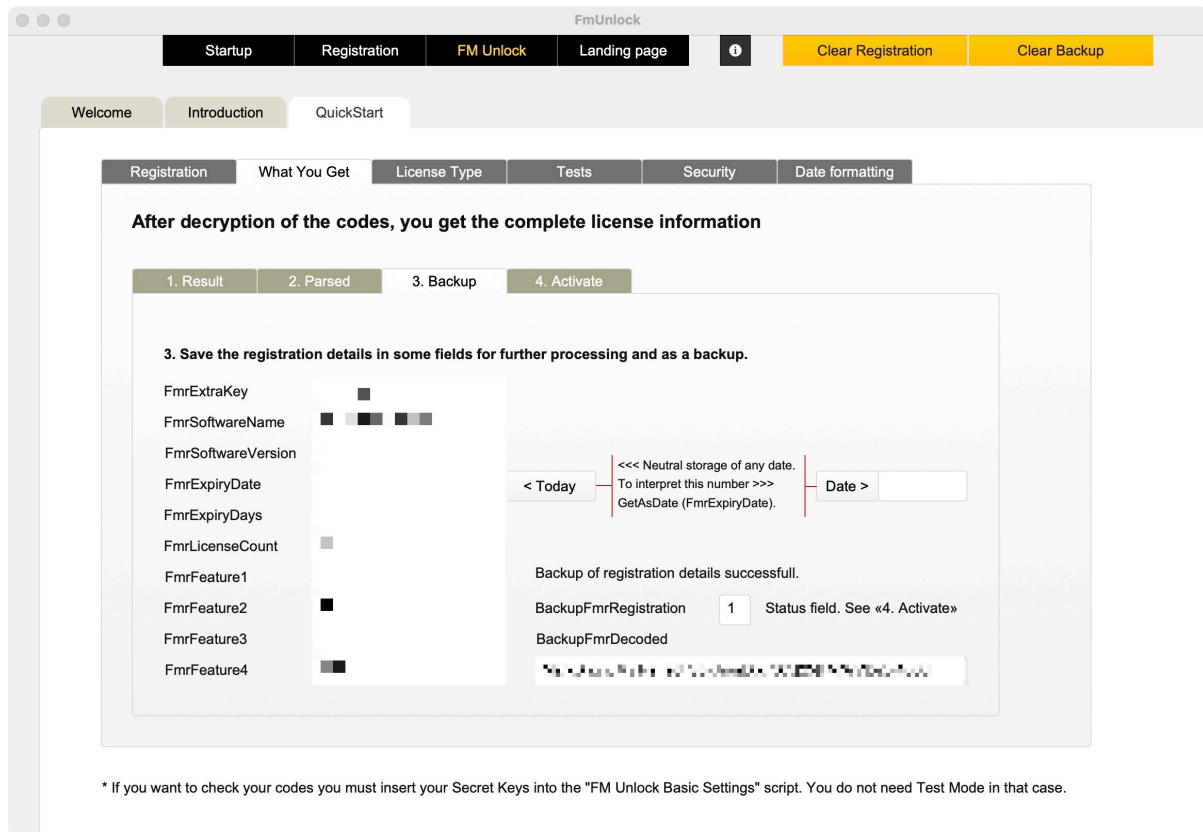
## 2. Parsed

All information will be parsed into global variables (temporarily. The variables are hidden in the screenshot) and will be available for any checks or processes you want to run now.



### 3. Backup

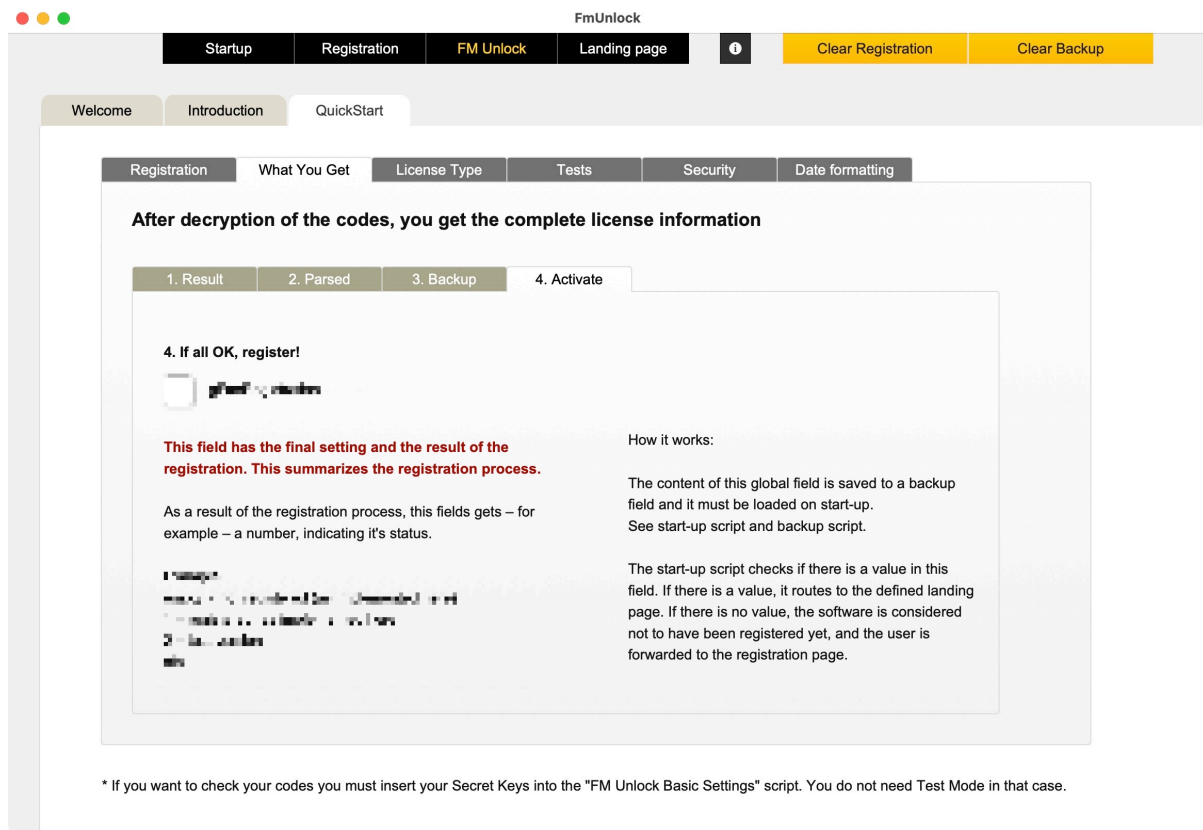
A full backup is created of all registration details. Each detail is stored in its own field. This allows you to use this information at any time for reviews, comparisons, etc.



#### 4. Activate

If everything is in order, the software is now unlocked. This is confirmed by setting a single flag in a field. This field is like a summary and the result of the registration process. In words it could look something like "Registration OK", but we suggest using a simple number that is easier to manipulate. Since it is a simple status field, it is easy information to check, for example with a startup script when opening a file.

**The resulting status field** is important because you do not want to register the software every time you start it. To do this, you need to save some information about the result of the registration process.



## All information is available

When you decode a license code, you get a fully parsed set of information - that's all you had defined for the code. You can now use that information to do whatever you want. Be aware that you will need to take this information and create your own checks to make it work. For example, a check for an expiration date or a check for specific functions.

Use the information from the decrypted code to configure your solution with appropriate scripts.

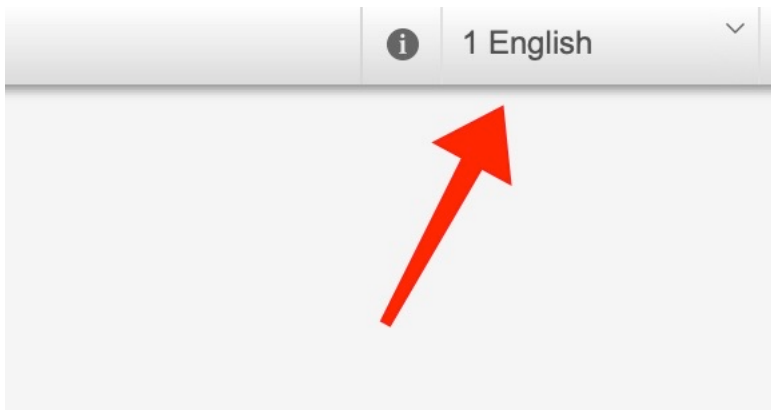


## 3 A first try

Everything you need to know to create your own first license code can be found in this chapter. Use the sample file together with FM Registrations to see how to...

- List your applications in FM registrations
- create the characteristic settings for the product and its license codes
- use the sample file to test your first license code
- it works!

*Preliminary note: All screenshots in this manual are in English. However, you can switch the language in FM Registrations at any time. The language switch can be found on the top bar of every page. The example file is in English only.*

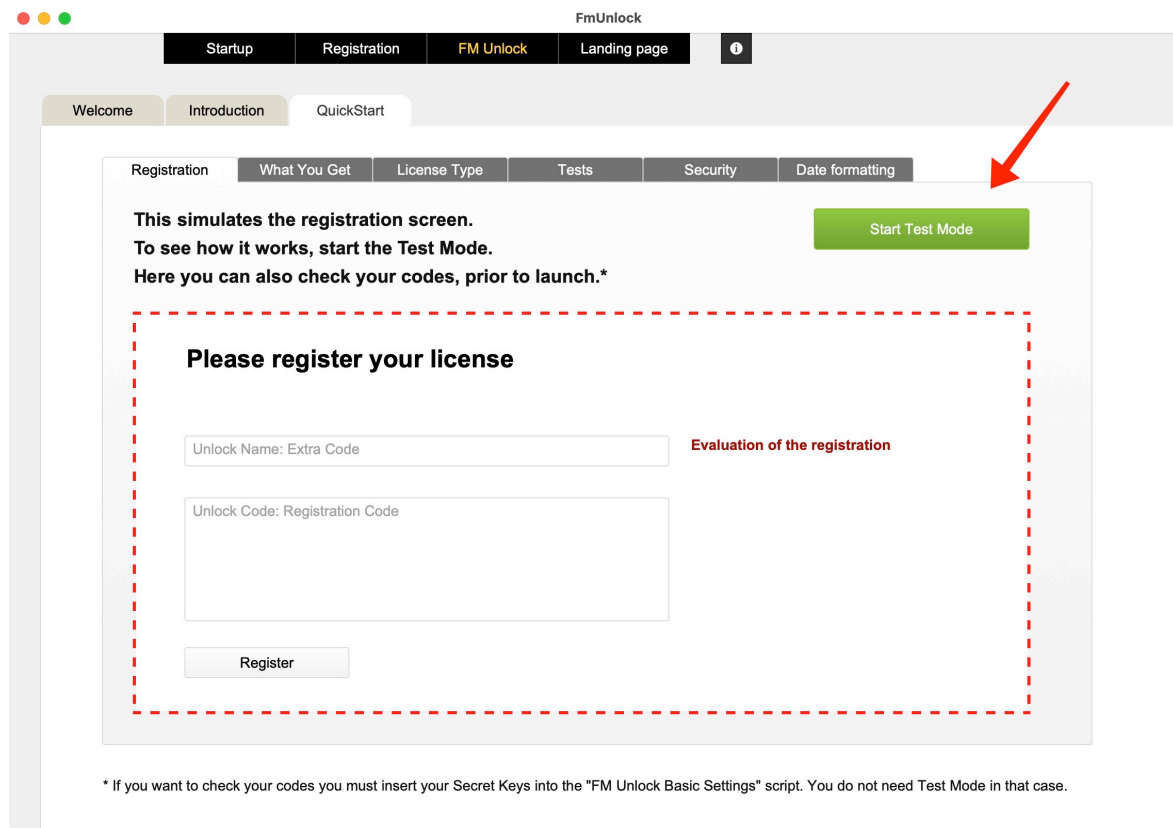


## Test mode

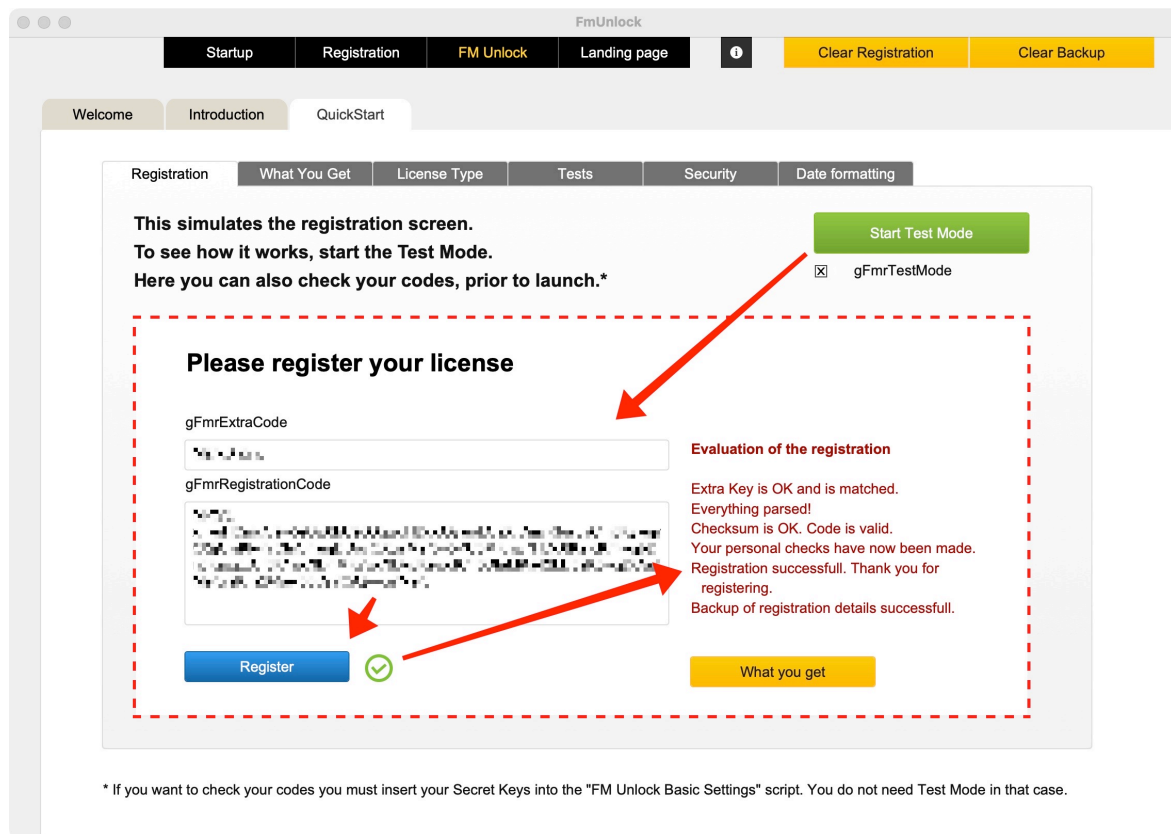
We recommend you start with the sample file, called FM Unlock. This sample file works well, has all the scripts included and can be used in a test mode and with real license codes from FM Registrations.

Open FM Unlock and switch to:  
FM Unlock > QuickStart > Registration.

On this page, click on the green button to start the test mode.

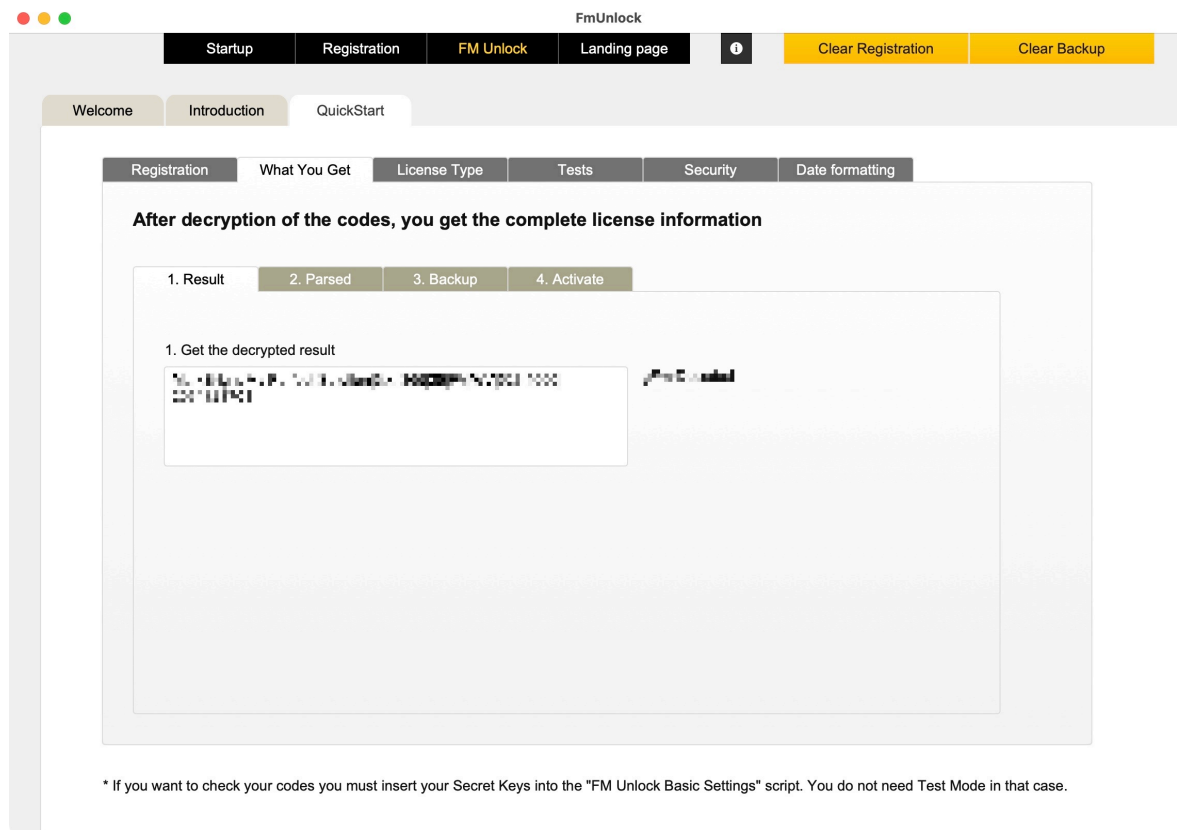


Test codes will be inserted in the fields and just click on the blue button to run all the scripts. Right next to the fields, under the title "Evaluation of the registration", each step of the registration process will be commented.



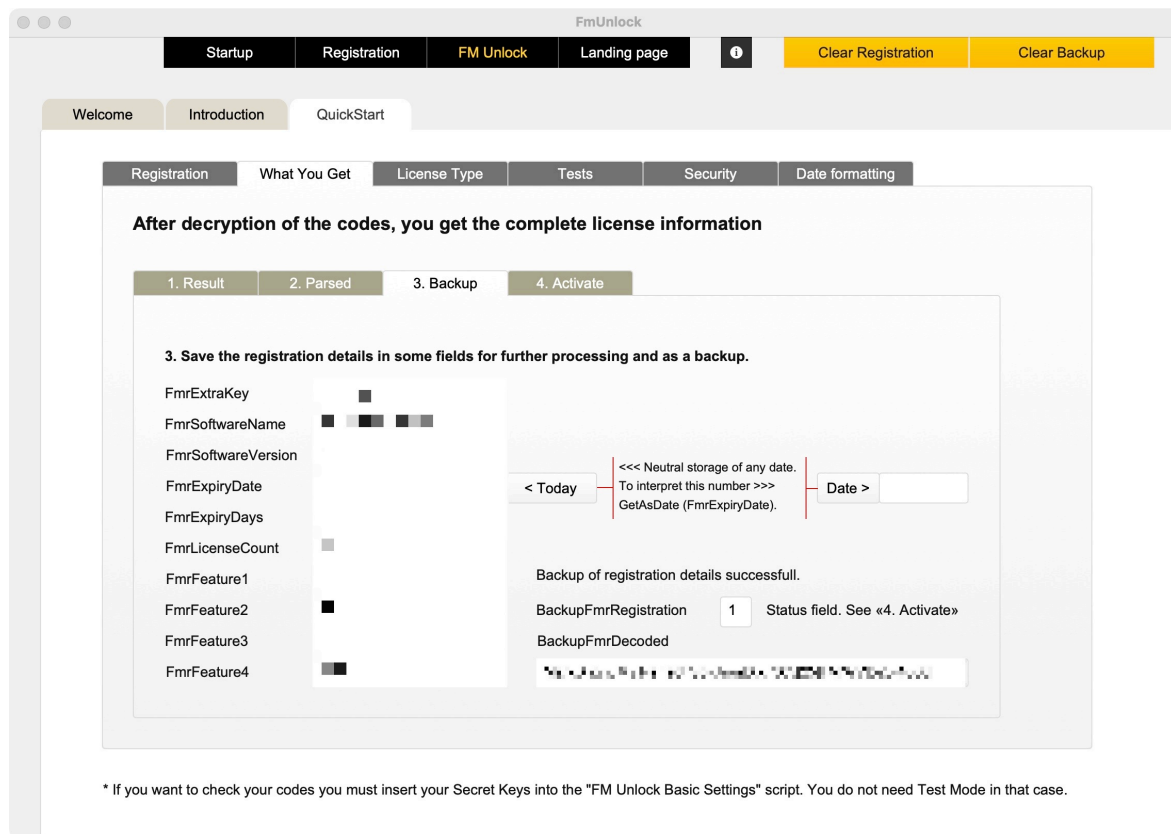
At the end of the registration all should be OK. You can now click the yellow button "What you Get" to see the results of the registration.

1. You first get the decrypted result



2. You also get the parsed results in variables for you to use.





#### 4. Final activation

If the registration is OK, a final field is set, which confirms the registration. It is this field, which is checked in a startup script to define if the solution already has been registered.



## Full workflow

This chapter describes a full workflow within a testing environment. This is step by step the correct procedure, but using FM Unlock as a testing ground for your solution first. FM Unlock is here the sample file. You probably will use the FM Unlock add-on to integrate in your solution later. At this point, we are just playing around and seeing how it works in the test file.

Here is the overview, step by step:

### 1. FM Registrations (create a record for your software and generate secret keys)

1. Open FM Registrations
2. Go to "FileMaker apps"
3. Click on "+" to add a new record for your solution (I.e. "My Software" as a name)
4. Click on "Secret Keys" to add new secret keys to that new record

### 2. FM Unlock (insert the secret keys in the proper script)

These steps are intended for testing purposes with your own key. You only use FM Unlock at first. This simulates how it should look later in your application.

1. Create a duplicate of the file "FM Unlock" to play with
2. Open that duplicated sample file
3. Open the script window and the script "FM Unlock Basic Settings"
4. Add your newly created secret keys to that script. Save.

### 3. FM Registrations (now create a few license codes)

Now generate a few license codes with FM Registrations, which you will use to decode within FM Unlock (as you just prepared).

1. Go back to FM Registrations > Clients and Registrations
2. Create or choose an address
3. From the list, select your newly created software
4. Add license details and generate the license keys.

### 4. FM Unlock (test the license codes)

With the newly created license codes, you will now see if they can be used to unlock the sample file FM Unlock.

1. You can now test these license keys in the sample file, where you added your secret keys just before. You test these codes on the layout for testing (FM Unlock > QuickStart). **Be sure to deactivate the test mode, though you will use the same layout.**
2. Enter your license codes for testing and press "Register". This should now work.

As the secret keys are the same in both the sample file and FM Registrations, the encrypting and decrypting should now match.

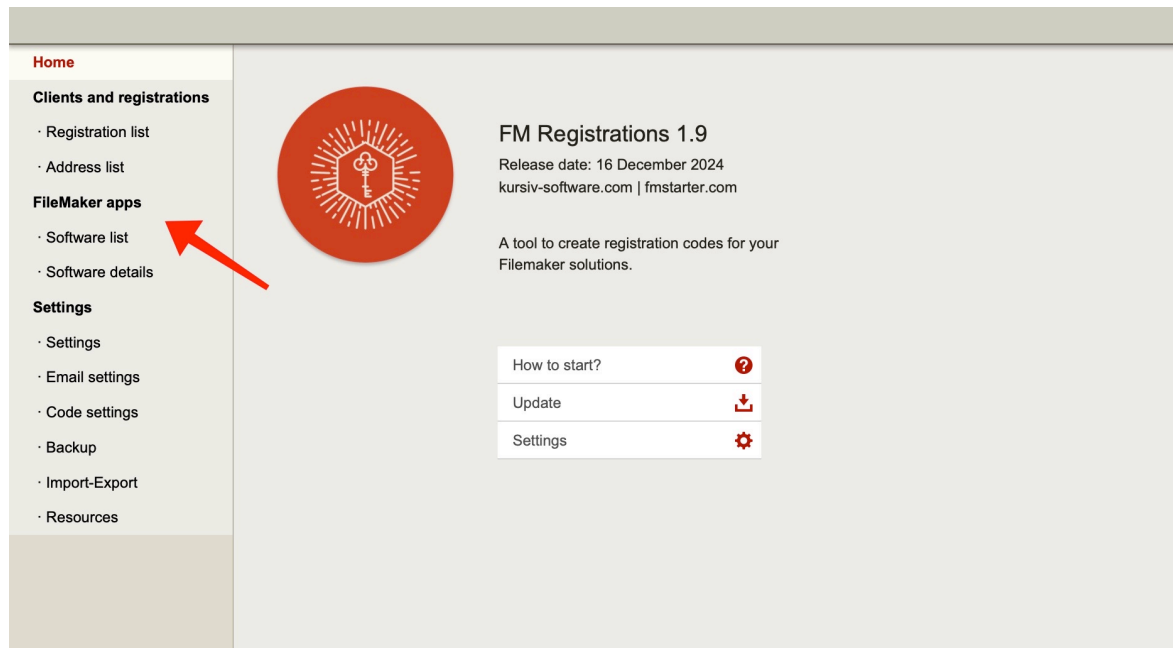


Let's go!

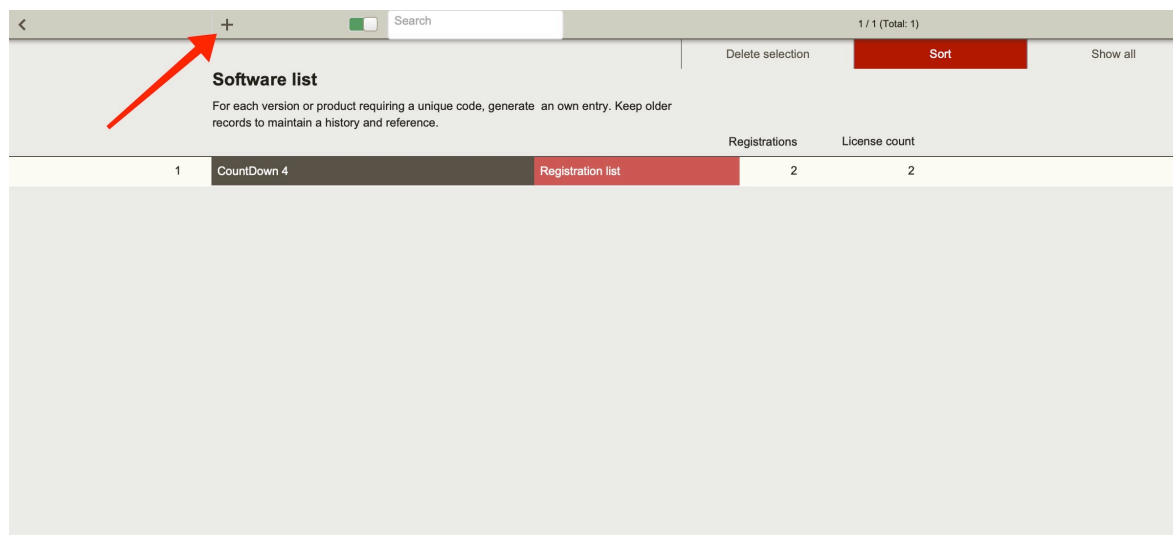
## FileMaker apps

In a first move, you have to add your FileMaker apps as a record to FM Registrations.

In the left navigation, click on "FileMaker apps":



You will now see a list of currently available apps. If you just started, you might see one or more sample entries, fictitious software products, in a list.



Click on any line to edit that app, or click on Plus to add a new record for one of your apps. You will automatically switch to the layout for Software Details.

The screenshot shows a web application interface for managing software. On the left is a sidebar with a navigation menu. The main area on the right contains a form for 'Software details' under the 'Software' tab. The browser's address bar shows '45' and the page number '2 / 2 (Total: 2)'.

**Navigation Menu:**

- Home
- Clients and registrations
  - Registration list
  - Address list
- FileMaker apps
  - Software list
  - Software details (highlighted)
- Settings
  - Settings
  - Email settings
  - Code settings
  - Backup
  - Import-Export
  - Resources

**Software details form:**

Basic software settings

Software name:

Version:

Prefix: ☒ NS3

Beta: ☐ Use beta key

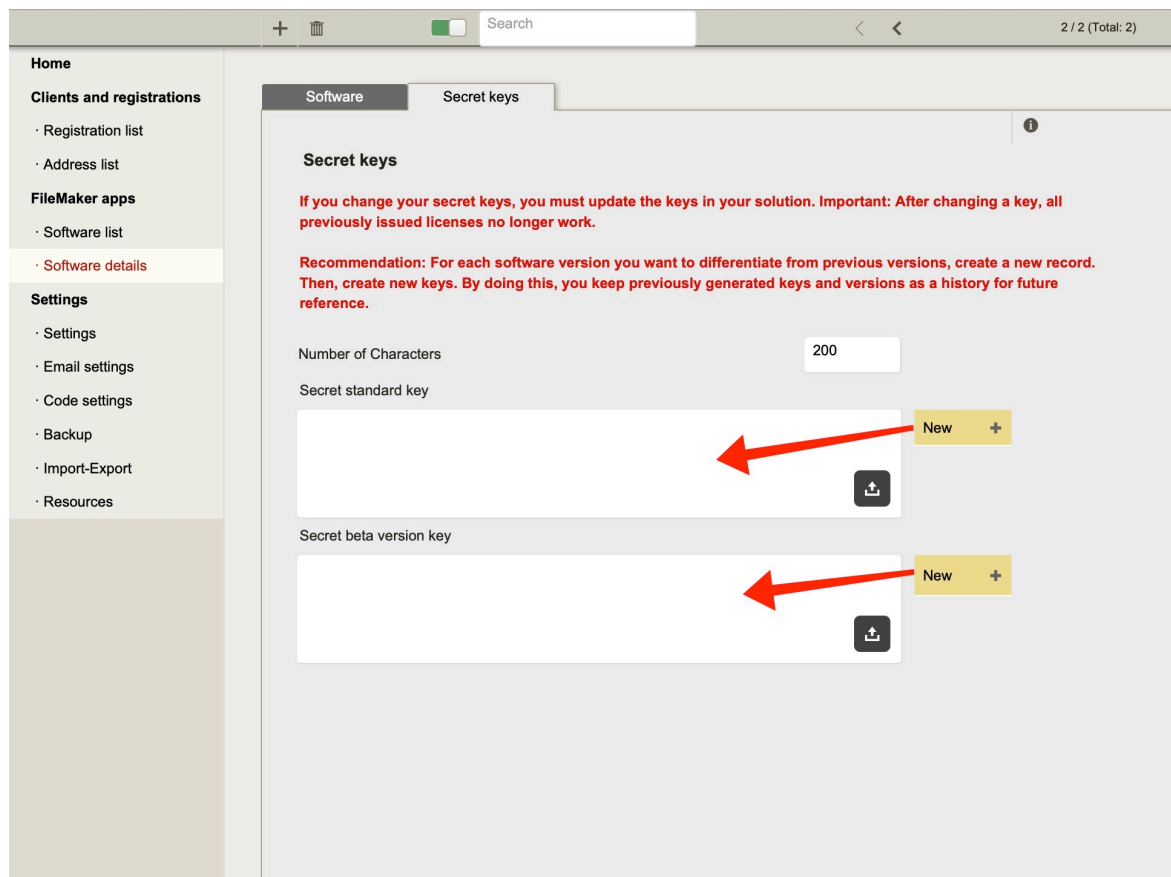
Code type: ☒ Random code  
☐ Features (Add date, number of users, other features)

Use Unlock Name: ☒

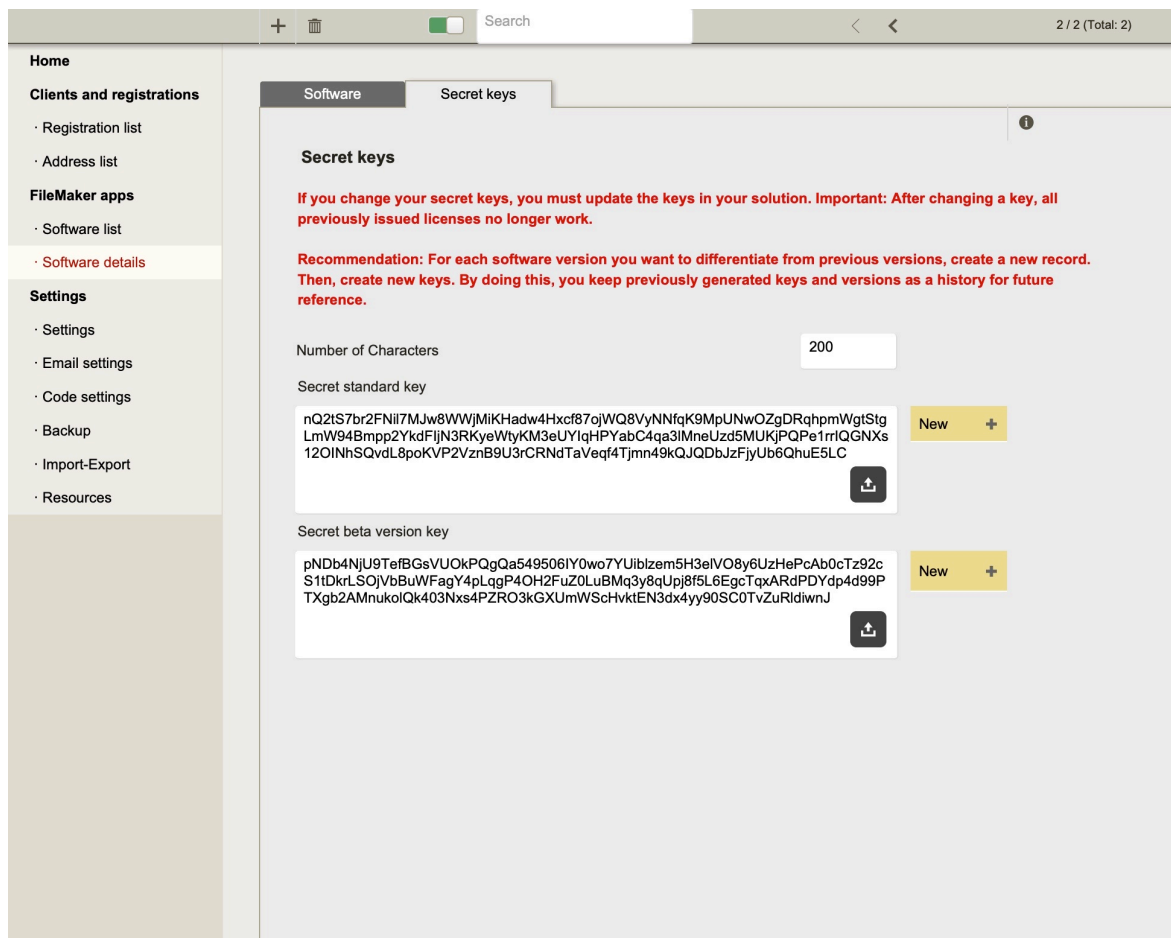
If this is a new record, just fill in the form. More about the Software Details can be found [here](#).

For the simplest start, keep your Code Type to "Random code".

Next, switch to the tab "Secret keys" to add your secret keys. These are used later to encrypt and decrypt your license codes.



The codes are random and use the settings from "Code settings". Each time you click on "New", a new random code will be generated. It will look something like this:



Be careful not to change the secret keys once you start issuing licenses.

Everything is setup within FM Registrations now. You can start creating license codes. Be aware though, that this just the workflow within FM Registrations. It is not yet a fully implemented workflow for FM Unlock (or: your application).

## Creating a first license code

We now can create a first license, because:

1. We have created a software record and details in FM Registrations
2. We have created secret keys in FM Registrations.

Within FM Registrations all works well. I still have to make it work in my own application or within FM Unlock, but let's do that later. First, we can learn how to create a license for the app we just listed.

In the navigation at your left, click on "Clients and registrations". Choose or create an address of a fictitious client. To add a new address, click the "+" button as indicated. Fill out the address.

The screenshot shows a web application interface for managing clients and registrations. On the left is a sidebar with navigation links: Home, Clients and registrations (highlighted), Registration list, Address list, FileMaker apps, Software list, Software details, Settings, Email settings, Code settings, Backup, Import-Export, and Resources. The main content area has tabs for Address, Remarks, and History. The 'Address' tab is active, showing a form for a client named 'Wonderful Enterprises'. The form includes fields for Company 1, Street 1, ZIP, City, Country (United States), Reseller, Department 1, First name (Mark), Last name (Maze), Email (mm@wonderful.io), Phone (+1 - (715) 442-6961), Created (Tue, 17 Dec 2024), and Modified (Thu, 19 Dec 2024). Below the form is a section titled 'Create Multiple Codes' with a 'Choose software' dropdown and a table with empty rows for adding licenses.

The lower part of this screen has all the licenses for this particular client. The list is empty still. To add a new software license, check an empty row (here: the first row) and select a software from the popup menu in that line. This will create a new license, which still has to be configured. It will look something like this:

Home

Clients and registrations

- Registration list
- Address list

FileMaker apps

- Software list
- Software details

Settings

- Settings
- Email settings
- Code settings
- Backup
- Import-Export
- Resources

Address

Remarks

History

Company 1

2

Street 1

2

ZIP

City

Country

Reseller

Wonderful Enterprises

3102 County Cc Rd

WI 54769

Stockholm

United States

Department 1

2

First name

Last name

Email

Phone

Created

Modified

Mark

Maze

mm@wonderful.io

+1 - (715) 442-6961

Tue, 17 Dec 2024

Thu, 19 Dec 2024

Create Multiple Codes

Software

User / Key

Features or random code

Qty Beta

Purchased at

Generate

Edit and share

Deactivate

Name your Software 3

Unlock name

1

Website

Generate

19 Dec 2024

From left to right, walk through this line to adjust all settings. Note the colorful headings to see what the settings are for.

There is an Unlock Name and an Unlock Code. **The Unlock Name can be used or left out. The Unlock Code is the very minimum you have to define.** The Unlock code can be switched between features (up to 4) and a random code. Click the switch icon to switch. For this first try, keep it simple and select "Random code" for the Unlock code. Click the arrow to create a random code.







Select or Switch Code type:









License codes			
Purchased at		Keys	Edit and share
Website	▼	OK	  
Website	▼	Generate	  

There is not much more to show. These are the basics on how to create a new unlock key for a new license.

## Implementing secret keys

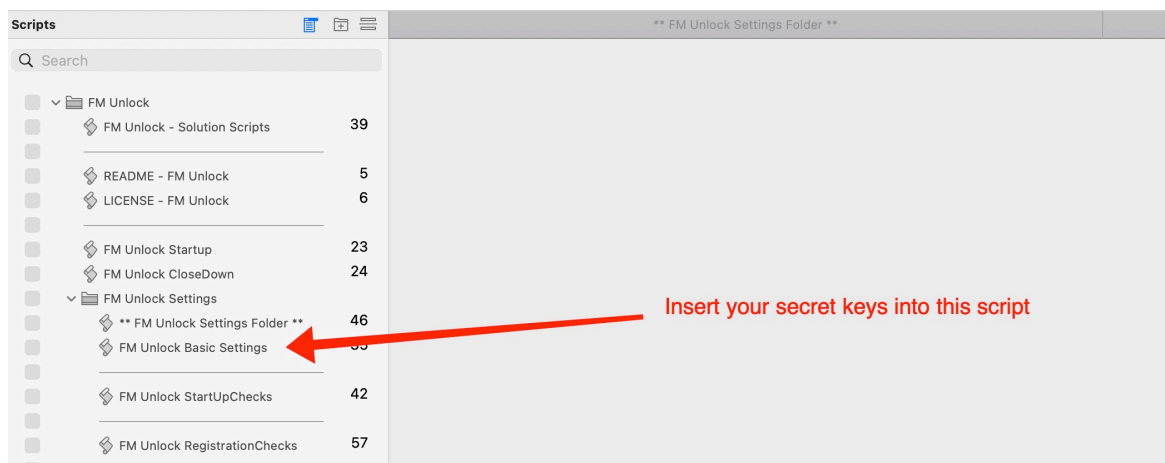
In the last section we saw how to create secret keys in FM Registrations. In this section I describe how to easily test these keys in the sample file. Since the sample file in itself is already a working solution, everything is there to test your own keys with a real registration code. This will also ensure that the solution works before you start implementing it in your own solution.

The secret keys are used to encrypt your information when creating the unlock code and to decrypt it when registering. Therefore, the same secret keys must be present and used for the same solution, both in the FM Registrations code generator and in your solution. The keys can be easily copy-and-pasted into the sample file (or later into your own application) in a script.

### Secret keys are the key

Copy the secret keys from FM Registrations to your solution or the sample file. To do this:

1. Open the sample file (or your solution, if you have already implemented FM Unlock)
2. Open the script environment
3. Open the "FM Unlock Basic Settings" script
4. Copy and paste the secret keys to the script steps (indicated in the script)
5. Save the script.



The secret keys are not stored in a table, but only in scripts, which increases security.

You are now ready to run a test with real (your) license codes.

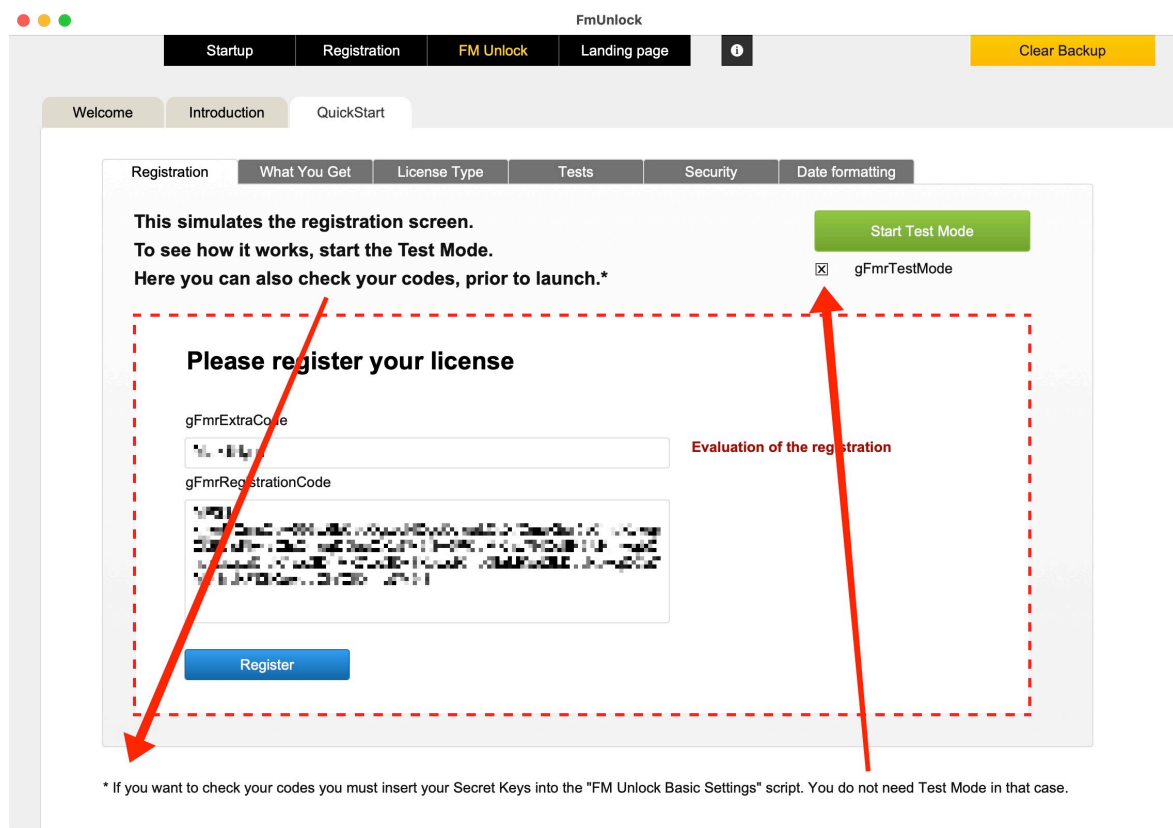
## Test the registration

Now it's time to check all we've done and to test codes and workflows.

### Testing Unlock Codes

At this stage, I assume you have added your software app to FM Registrations, defined some characteristics and the secret keys. You also have implemented FM Unlock into your solution and added the secret keys from FM Registrations for this app. To test if the codes now work, you should test the registration script directly in your app, but first in the test environment.

Check FM Unlock, as implemented in your software solution.  
Go to FM Unlock > QuickStart > Registration.



#### A) Basic test mode

Click "Start Test Mode", then click the blue button "Register". This is the simplest test and should secure that your implementation is right. This works flawlessly in the sample file. If it doesn't work in your solution, something went wrong in an early stage. **Make sure that this included Test Mode works perfectly before you move on.**

## B) Test your codes

Now it's time to test your codes. First deactivate the official Test Mode by removing the checkmark below the green button. If deactivated, the official secret keys will be used, not the test keys.

Now add your Extra Key and License Key and click Register. At the right side, below "Evaluation of the registration" it should perform just like the previous Test Mode.

If this runs well, you can see all details under "What You Get". Is that OK, then your secret keys have been added properly. You can head over to the next stage. If it doesn't go well, you might have had an issue with installing the secret keys properly. Check!

## Test a real life scenario

The real case scenario for testing is not just the registration part. You must also be guided towards the registration when opening the file.

### Assumed workflow

Assume someone purchased a license and downloaded the file. He will then open the file, at which stage a check should be made, whether this file has been properly licensed already. If that is not the case, it should be detected and the user should be presented a registration layout. Also, at that stage, he should not have any access to the file.

### Startup script

The magic lies in a startup script. FM Unlock, the sample file or addon, already has two scripts to refer to. One must add these scripts through Script Triggers under

FileMaker dropdown menus > File > File Options > Script Triggers

For the Script Trigger [OnFirstWindowOpen] select: "FM Unlock Startup".

For the Script Trigger [OnLastWindowClose] select: "FM Unlock CloseDown".

It will look like this:

## File Options for "FmUnlock"

Open | Icon | Spelling | Text | Script Triggers

Specify a script to be run for an event

Event	Script
<input checked="" type="checkbox"/> OnFirstWindowOpen	"FM Unlock Startup"
<input checked="" type="checkbox"/> OnLastWindowClose	"FM Unlock CloseDown"
<input type="checkbox"/> OnWindowOpen	
<input type="checkbox"/> OnWindowClose	
<input type="checkbox"/> OnFileAVPlayerChange	
<input type="checkbox"/> OnWindowTransaction	

Script Trigger Properties

Event: OnFirstWindowOpen  
The script will be run after the first window of a file is opened.

Script: Select... "FM Unlock Startup"

Cancel OK

In case you already have your own startup and close down scripts, just add these scripts to your existing scripts.

The Startup Script will test if the file already is properly licensed. If not, a registration screen will be presented.

### FM Starter and FrankCRM



In case you work with FM Starter or FrankCRM, our starter files, the above has already been taken care of. These two solutions have FM Unlock integrated. That also counts for the integration in the startup script and the close down script.

If you work with either of our starter files, you have to make sure that you activate the module in the Developer Dashboard > Startup Script.

Dashboard

Startup script

English

Main window

x 0 Width 1410

y 0 Height Get ( WindowDesktopHeight )

Layouts used

Start screen Start Screen The first layout you see when starting the application

Registration FM Unlock Registration Screen Registration page (FMR License Registration must be active)

Login UserLogin Login page (UAC UserAccounts must be active)

Landing page Home 1 Standard landing page (only if the module UAC User Accounts is **not** active)

Developer Home 1 Destination layout, when logging in as a developer

Optional modules / Add-ons

☐ Activate FM Unlock  
FM Unlock is the counterpart of FM Registrations. Where FM Registrations encrypts license information, FM Unlock decrypts this information. FM Registration allows you to create unlock codes for your own FileMaker solutions. If you own a license for FM Registrations, you can activate this option, add your secret keys in the script "FM Unlock Settings" and you are ready to go!

☒ UAC User Accounts. Manage user accounts and access to the application.

☐ SQRE Swiss QR Bill Enhanced

Save settings

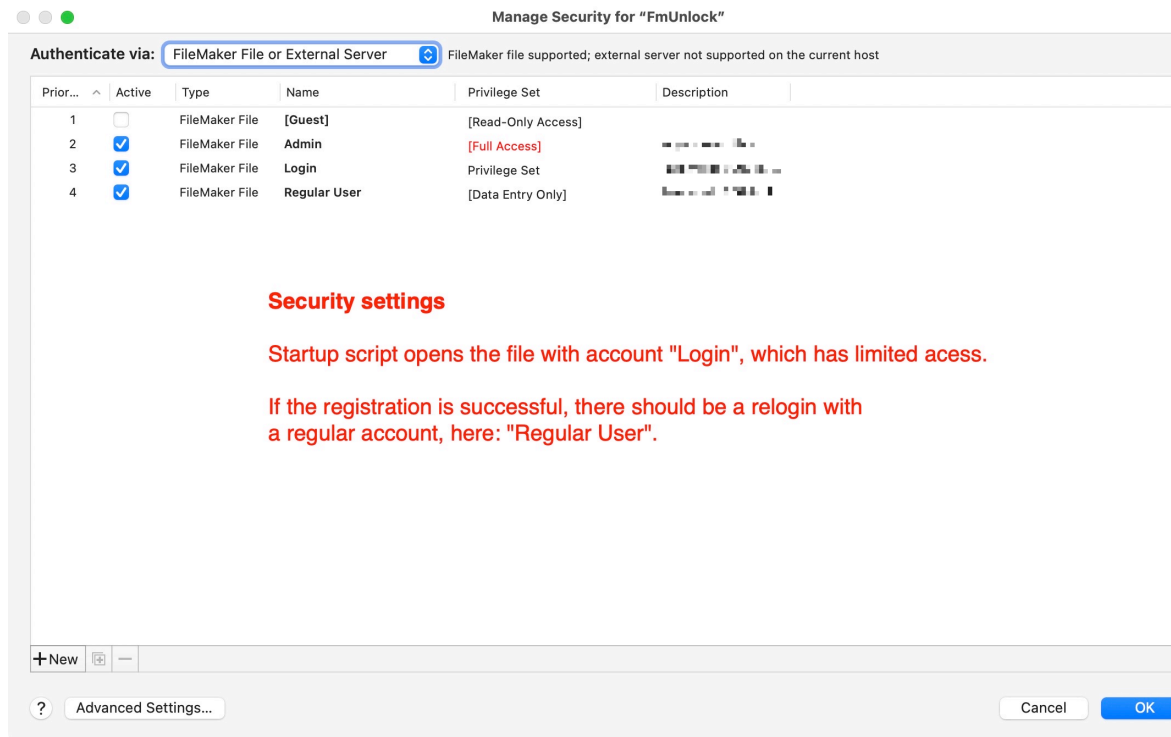
Load settings

Learn more about FM Registrations

## Enhance Security settings

Security is of main concern, when you want to implement a licensing solution. The sample file and add-on do not take this into account, as the sample file should be just an open file and addons cannot handle accounts and security.

This is the idea: The file options of your app should be set to open with a limited account. This account gives just enough access to check for registration and/or login. I usually use a dedicated account for this, called "Login". Once the registration is successful, there should be a relogin to a regular account.



This relogin is available in the script FM Unlock Startup, but should be enhanced, once part of your solution.

```

61      # In the next step add your account name and password following a proper registration
62      Re-Login [ With dialog: Off ]
63      # In the next step choose any layout you want users to land following a proper registration
64      Go to Layout [ "FM Unlock Landing Page" (YourSolutionTable) ; Animation: None ]
65  End If
66

```

## Final testing

All the basics have been sorted out. The registration process works in the test environment. Now you want to test the real life scenario: Open your app as a regular user, and the registration screen should appear. Enter your Unlock Name and Unlock Code to unlock the file.



## 4 FM Unlock Integration

This chapter focusses on the implementation of the FM Unlock module (or: addon).

## When do you need FM Unlock?

FM Unlock decrypts license codes created with FM Registrations. This module must be part of your solution to verify the issued license codes.

### When you use FM Starter or FrankCRM

If you already work with our startup solution "FM Starter" or "FrankCRM", then you don't need to integrate FM Unlock. It is already part of the startup file. You just need to activate it in the developer dashboard and insert the appropriate secret keys in the appropriate script.

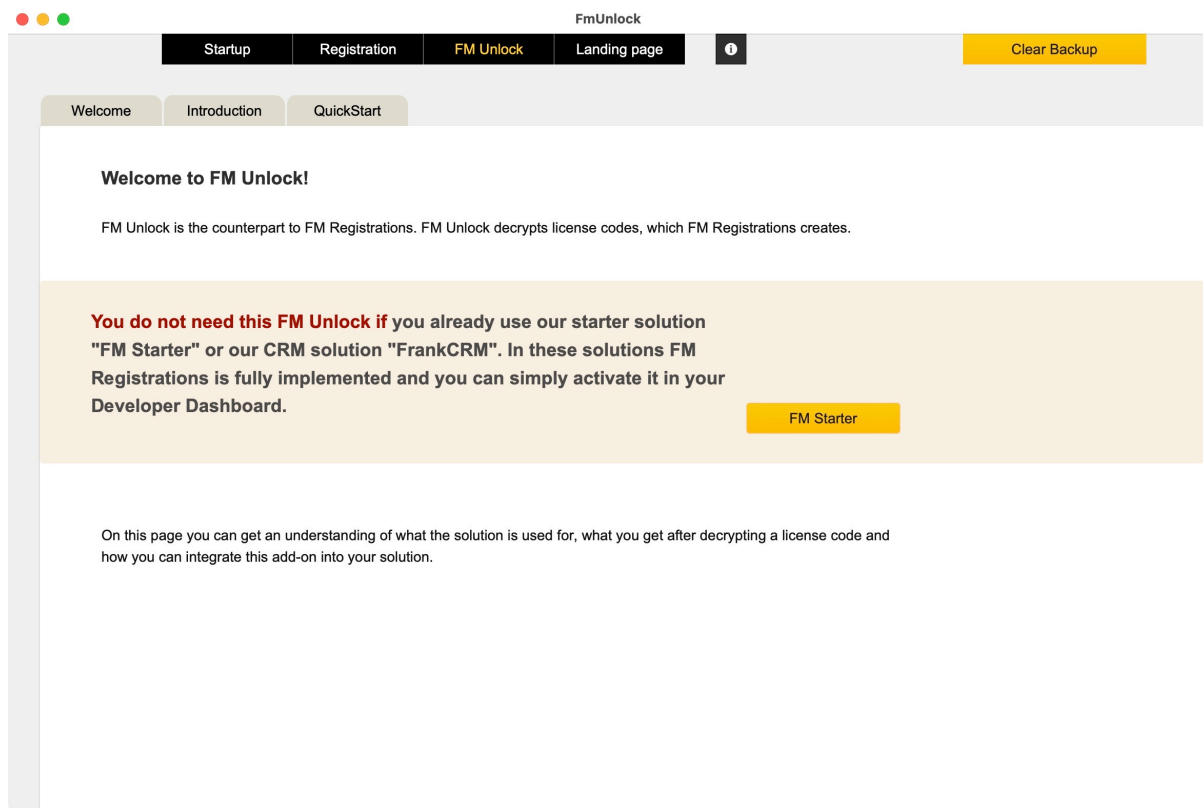
The screenshot shows the 'Startup script' configuration window. It includes fields for 'Main window' (x, y, width, height), a section for 'Layouts used' (Start screen, Registration, Login, Landing page, Developer), and a section for 'Optional modules / Add-ons'. A red arrow points to the 'Activate FM Unlock' checkbox, which is currently unchecked. Below it, 'UAC User Accounts' is checked, and 'SQRE Swiss QR Bill Enhanced' is unchecked. There are 'Save settings' and 'Load settings' buttons at the bottom. A yellow box on the right says 'Learn more about FM Registrations'.

### Integrating into your solution

If you want to use FM Registrations with your own solution, you need to integrate the FM Unlock module in your FileMaker solution. There are two ways to do this: You import the FM Unlock module from the sample file, or you import the add-on. The easiest solution is to integrate it as an add-on. However, this requires that you work at least with FileMaker Pro 19.1.

1. You are working with FileMaker Pro 19.0 or older: Import the module
2. You are working with FileMaker Pro 19.1 or later: Import the add-on.

In the following pages, these two options are presented in detail.



## **FileMaker 19.0 or older: Module**

The sample file has the "FM Unlock" module (formerly called "FMR License Registration"). This is the unlock module that you need to implement in your solution. If you are working with FileMaker Pro 19.1 or higher, it is recommended to use the add-on for this. You can then skip this section.

### **Modular FileMaker**

FileMaker modules are a concept developed by Todd Geist to make it easier to integrate FileMaker functionalities into other solutions. The structure of a FileMaker module is always the same. How to import what and in what order is described directly in a script.

### **Script folder**

As with any FileMaker module, there is a Read Me script within the module script folder that explains how to implement the module in your solution. The following steps are required for this module (and check this against the Read Me script):

### **Step by step**

1. Import custom functions
2. Import table "FmUnlock" and create 1 record in it
3. Import all layouts based on the "FmUnlock" table (make sure to use only the same names). Do not copy any objects yet!
4. Import the scripts
5. Copy all objects from the layouts in the sample file to the same layouts in your solution file
6. Look at the settings script and set the secret keys correctly
7. First check the result and then add more checks as you deem necessary.

The sequence of steps is chosen so that no links are torn off. Please make sure that all scripts are correct and check the functionality as in the section "Test in the Example file".

## FileMaker 19.1 or later: Add-on

The sample file is also available as an add-on. As an add-on, the FM Unlock module can be integrated into other solutions particularly easily.

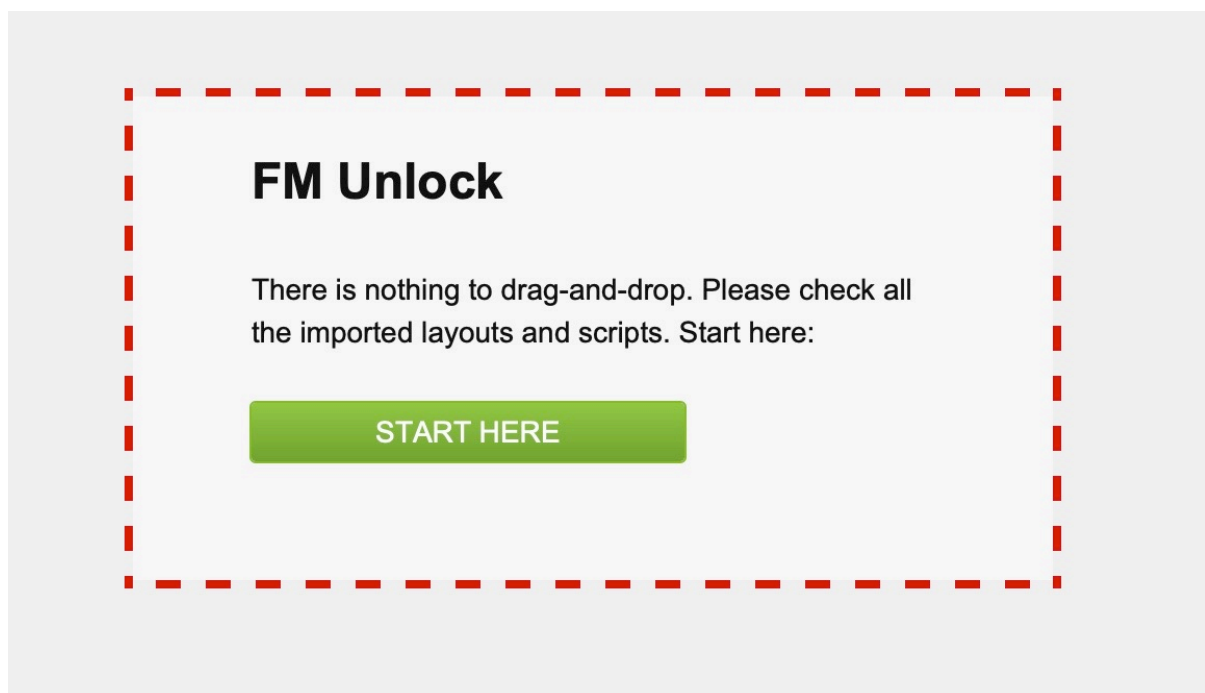
### Requirements

FileMaker supports add-ons from version 19.1, so you need at least this version to use the add-on. If you work with an older version of FileMaker, please use the sample file and import the FM Unlock module from there. How you install add-ons is described in the Claris Help.

1. Install the add-on by placing it in the add-on directory
2. Restart FileMaker
3. Add the add-on to your solution.

### After import

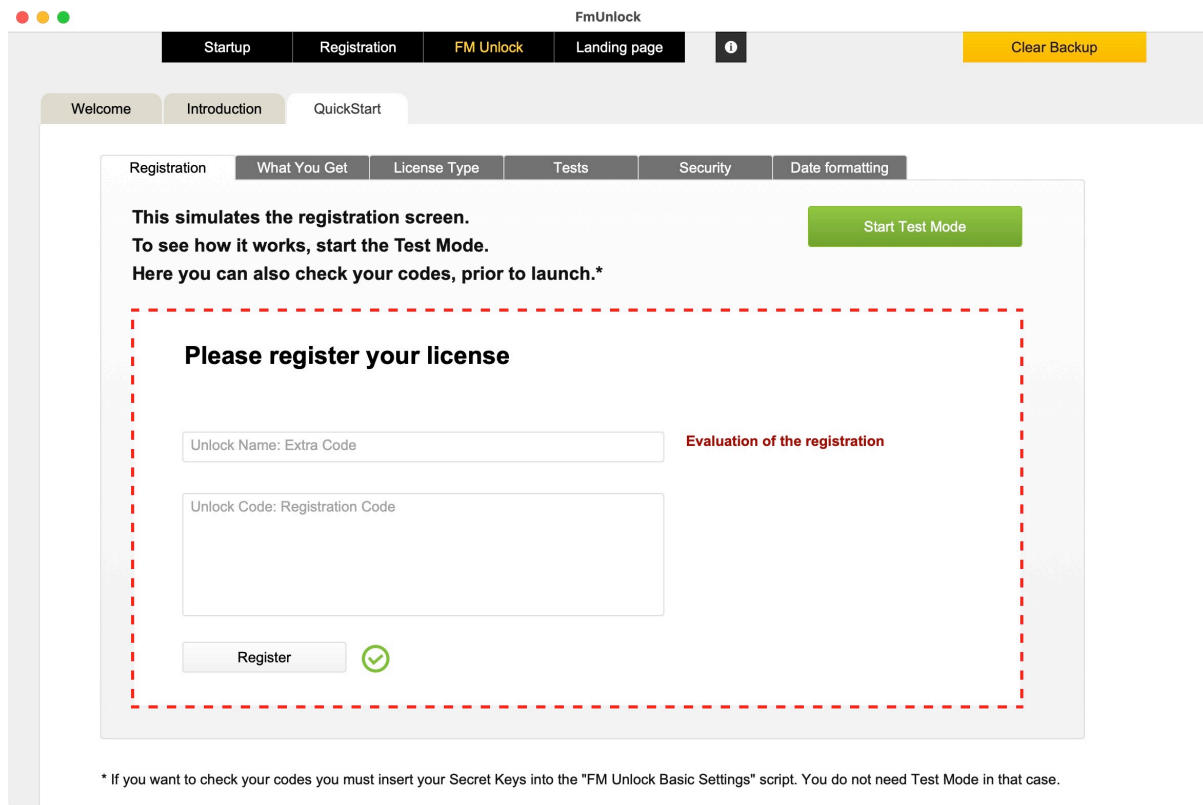
Once you import the add-on, all the layouts, scripts, custom functions, and flows are available in your solution. Many add-ons have elements that you can drag and drop onto the layout. There is no need for this within FM Unlock. The element you drag onto the layout only points to the configuration page - which can be accessed in a different way.



### Testing the configuration



Once the add-on is loaded, the functionality can be used. You should now use the test mode of the configuration page to see if everything works. If the test mode works, next you can use the secret keys of your software. This way you can already create real license codes in FM Registrations and check them in your solution.

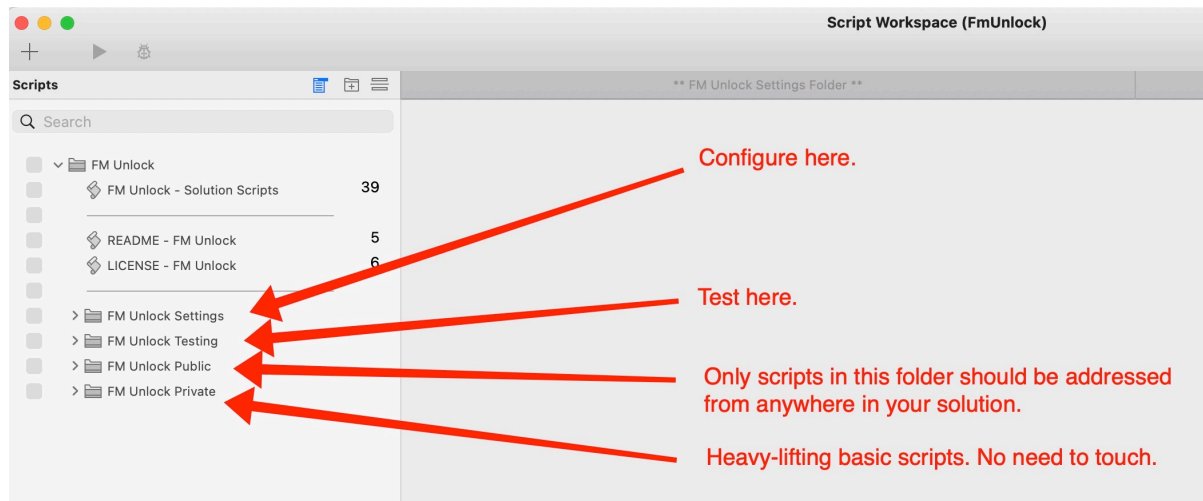


## Enhancing the configuration

After the configuration is working, you can continue with the script settings.

## Script settings

FM Unlock separates settings from functionality. This simplifies the integration. To see how this works, open the script environment and check the scripts. All scripts are neatly organized in folders and subfolders:



**Usually, you will not have to touch any of these scripts. Tip: Do not start by changing things, but start by using and understanding the test mode.**

The following scripts are part of the Settings folder:

- **FM Unlock Basic Settings** (Secret codes must be inserted here)
- **FM Unlock StartUpChecks** (Your checks! This script is included in the startup script and performs the checks when a user starts the file).
- **FM Unlock RegistrationChecks** (The details you want to check during the registration process. This script is part of the registration script).

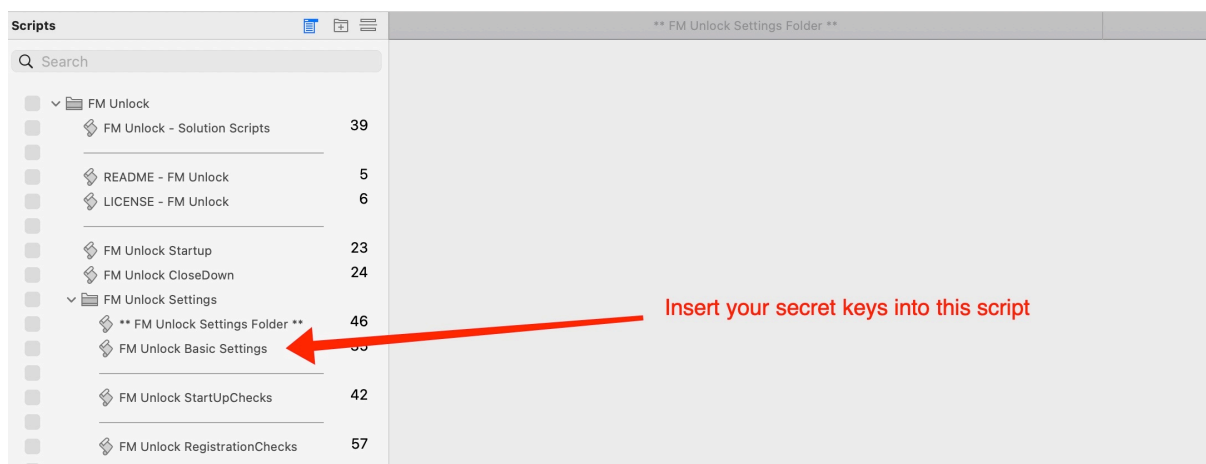
## Where to add the secret codes?

Secret codes help you to encrypt and decrypt license keys.

- Secret codes are generated in FM Registrations
- Secret codes are inserted in FM Unlock.

Once you have created a record for your software application in FM Registrations, and created your secret keys, you need to copy those keys to FM Unlock.

Insert your secret keys to the script "FM Unlock Basic Settings". Save your script.



The secret keys are not stored outside a script for enhanced security.

Check the section "Implementing secret keys".

## Issues during implementation

If you run into problems, there is a simple trick: Always compare with the sample file. If your solution does not work, but the sample file works, you can be sure that you changed something in your implementation.

Compare: Test in the example file.

## **Include additional tests**

**If you have followed the manual, you have succeeded in implementing the basics of FM Registrations. Congratulations!**

The next step is to develop your own checks. FM Registrations helps you encrypt and decrypt information, but it does not automatically know what to do with it. Here you need to implement your own logic to achieve your goals. In the settings scripts, you add your customizations.

For example: When you choose an expiration date, you get (as information) this expiration date during the registration process back. What to do with it? There is no logic that automatically compares this date with the current date. This is something you have to implement yourself and customize to your needs.

There are two types of settings available to you: Constraints and Configurations.

### **Constraints**

You can set constraints on your licenses, such as a maximum number of people who can use the solution at the same time, or a maximum number of records in a table, an expiration date, or a number of days until expiration.

### **Configurations**

Apart from constraints, you can also create configurations for your solution. Let's say you have a solution, but you want to distinguish between a trial version, a light version, and a full version. If you know what the differences are, you can configure these differences by creating a script that sets the options for each version. After the registration is successfully completed, you could call a script with the information from the registration to configure the solution details according to the information from the license code.

## 5 Define licensing requirements

Not every software license is the same. FM Registrations supports many options for your license codes. Each software (version) can have different settings. Use them.

## Setting the license details

The registration code that you create in FM Registrations combines several pieces of information. You can adjust these. Once you have decrypted the code in your solution, the same information is available to you again. This information can be evaluated with a script to trigger a configuration.

The registration code can be either random or include features.

The screenshot shows the 'Software details' configuration page. The 'Code type' section at the bottom has two radio buttons: 'Random code' and 'Features (Add date, number of users, other features)'. A red arrow points from the text '2 code types' to the 'Features' radio button.

### Example with Features

You have 1 product file that you want to offer in 3 different versions. Consider each version as a "property" and name it like this, for example:

1. Testversion
2. Standard Version
3. Professional Version

To enable this, choose the code type "Features". Each of these varieties is created as an option in FM Registrations and provided with a shortcode. See the screenshot below for the variants mentioned above.

1. Under "Features" you have your internal label.
2. Under "Triggers" you will see the code that will appear as part of your final license information.
3. The "Version" is for your information and
4. the "Slot" defines where the feature should be displayed (there are 4 slots available).

FM Registrations 1.9

2 / 2 (Total: 2)

English

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Clients and registrations

- Registration list
- Address list

FileMaker apps

- Software list
- Software details

Settings

- Settings
- Email settings
- Code settings
- Backup
- Import-Export
- Resources

Software

Secret keys

Software details

Basic software settings

Software name: Name your Software

Version: 3

Prefix: ☒ NS3

Beta: ☐ Use beta key

Use Unlock Name: ☒ The Unlock Name is a second part of the code, used for example to include the name of the client in the code

Code type: ☐ Random code ☒ Features (Add date, number of users, other features)

Features

Each feature lets you create a "trigger", which you can evaluate in your solution to configure your app.

Active	Feature	Trigger (Anything; keep it simple)	Version	Slot (1...4)
<input checked="" type="checkbox"/>	Full version	F	1	1
<input checked="" type="checkbox"/>	Light version	L	1	1
<input checked="" type="checkbox"/>	Trial version	T	1	1
	Add text label			

Default for new registrations

Feature 1: Light version

Feature 2:

Feature 3:

Feature 4:

Days: 365 Number of days till expiration of the software

Remarks

- "F" as a trigger for the full version (Professional version)
- "L" as a trigger for the Light-Version (Standard Version)
- "T" as a trigger for the Testversion

All these features are configured (in the screenshot) for Slot 1. That means, that you only can choose 1 version to be active for that slot, which makes sense. All the options for that slot will appear in a popup list when creating a license. You just choose one. You have either a full version, a light version or a trial version, never a combination of these.

It will look like this when creating a license:



Unlock name		Unlock code		Settings	
Software	User / Key	Feature	License code	Qty	Beta
CountDown 4	<input checked="" type="checkbox"/> Bright Living	Basic ✓ Full Test	Combi	Newsletter	1 <input type="checkbox"/>
Choose software					

### How do you define the content for each slot?

Up to 4 slots are available. Each slot can have several entries from which you can choose in a pop-up menu. To see how this works, take a look at the Software Details page.

It is up to you to decide how many slots you want to use and how many entries each slot has. Just cover the options you would like to implement.

### How to implement these options in your solution?

In FM Registrations you define the options. This information will be encrypted in a license code and decrypted during registration by the end user. What you get is a set of information. For example, if the client receives a license code for the "light version" as defined above, what will that do?

In itself, it will do nothing. You have to define what that means. After registration, you have to pick up the information bits and pieces, and configure your file with this information.

For example, if the light version does not have a certain functionality included, you have to remove access to that functionality in some way or another.

## Software details

When you add a FileMaker application, you can configure the license type. All details about this license are listed in the screen window named Software Details, as you find it in the navigation menu.

Configuring the license means that here you create the basics as needed for each license. You define the structure.

The screenshot shows the 'Software details' configuration window in 'FM Registrations 1.9'. The window has a sidebar on the left with a navigation menu. The main area is divided into two tabs: 'Software' (selected) and 'Secret keys'. The 'Software' tab contains the following sections:

- Software details**  
Basic software settings
- Software name**: A text input field with the placeholder 'Name your Software'.
- Version**: A text input field with the value '3'.
- Prefix**: A checkbox labeled 'NS3' which is checked.
- Beta**: A checkbox labeled 'Use beta key' which is unchecked.
- Use Unlock Name**: A checkbox which is checked, with a description: 'The Unlock Name is a second part of the code, used for example to include the name of the client in the code'.
- Code type**: Two radio buttons. 'Random code' is selected, and 'Features (Add date, number of users, other features)' is unselected.
- Features**  
Each feature lets you create a "trigger", which you can evaluate in your solution to configure your app.
- Default for new registrations**  
A section with four features (Feature 1 to Feature 4) and a 'Days' field set to '365'.

The 'Features' section contains a table with the following data:

Active	Feature	Trigger (Anything; keep it simple)	Version	Slot (1...4)
✓	Full version	F	1	1
✓	Light version	L	1	1
✓	Trial version	T	1	1

The 'Default for new registrations' section includes a dropdown menu for 'Feature 1' (set to 'Light version') and a 'Days' field set to '365'.

- Software name
- Software version
- Activate Prefix
  - It will be generated from capital letters and numbers from Software Name and Version
  - The Prefix will be used as the start for any license code for quick recognition
- Activate beta (only if needed)
  - A beta key will be used in any versions set as "beta"
  - Codes can be generated specific for beta versions
  - Regular keys will not work in beta versions
  - If you change from beta to regular, create new license codes to match that change
- Code type
  - Random code = random code, ideal if you just want to unlock your solution without further details
  - Features = You define expiry date, number of users or other features to be encrypted and decrypted at verification. Check the tab "Features" for settings.
- Use Unlock Name
  - Activates a second code you can define yourself.
  - By activating, you can, for example, make your customers name or company part of the unlock mechanism for enhanced protection (discourage sharing codes).

# Features

Features (Properties) can be used if they are enabled under the > Software tab.

The screenshot shows the FileMaker software configuration interface. The left sidebar contains navigation links: Home, Clients and registrations, FileMaker apps, and Settings. The main content area is divided into two tabs: 'Software' and 'Secret keys'. The 'Software' tab is active, showing 'Software details' and 'Basic software settings'. A red arrow points to the 'Features' option under 'Code type'. Below this, the 'Features' section is highlighted with a red box. It includes a table of features and a section for default new registrations.

**Software details**  
Basic software settings

Software name:

Version:

Prefix: ☒ NS3

Beta: ☐ Use beta key

Code type: ☐ Random code ☒ **Features (Add date, number of users, other features)**

Use Unlock Name: ☒

**Features**  
Each feature lets you create a "trigger", which you can evaluate in your solution to configure your app.

Active	Feature	Trigger (Anything; keep it simple)	Version	Slot (1...4)
<input checked="" type="checkbox"/>	Full version	F	1	1 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Light version	L	1	1 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Trial version	T	1	1 <input checked="" type="checkbox"/>
<input type="text" value="Add text label"/>				

**Default for new registrations**

Feature 1

Feature 2

Feature 3

Feature 4

Days  Number of days till expiration of the software

The Features part is all about triggers. These features are properties you use to configure your solution. You can add as many features as you like, with any name. One feature per line. Each feature should have unique trigger information and be assigned to a specific slot.

When you create a license with features for a customer, you have 4 slots to choose from. Each slot can have multiple entries to choose from, but there is a maximum of 4 slots or opportunities that can be selected. This provides incredible flexibility in options and many more choices than I have ever seen in any other software solution or registration.

*Tip: Do not overdo. Simpler is usually better.*

This is what it looks like when defining a license for a customer. The screenshot is from the > Customers and Registrations screen.

The screenshot shows a web application interface for 'Customers and Registrations'. On the left is a sidebar with navigation links: Home, Clients and registrations (active), Registration list, Address list, FileMaker apps, Software list, Software details, Settings, Email settings, Code settings, Backup, Import-Export, and Resources. The main area displays a customer profile for 'Wonderful Enterprises'. The profile includes fields for Address (Company 1, Street 1, ZIP, City, Country), Remarks, History, Department (1, 2), First name (Mark), Last name (Maze), Email (mm@wonderful.io), Phone (+1 - (715) 442-6961), Created (Tue, 17 Dec 2024), and Modified (Thu, 19 Dec 2024). Below the profile is a section titled 'Create Multiple Codes' with a table for license codes. The table has columns: Software, Unlock name, User / Key, Features or random code, Qty Beta, Purchased at, Generate, Edit and share, and Record. The first row shows 'Name your Software 3' with a dropdown menu, a toggle switch, 'Unlock name', 'Features or random code', '1', 'Website', 'Generate', 'Edit and share', and 'Deactivate'.

If you have multiple options, such as a basic version and a full version, these are not simultaneous options. Only one of these options is selected. Therefore, it is best to put these options in a single slot. In the first screenshot, all properties have been set for slot 1. It looks like this:

This screenshot is a close-up of the 'Create Multiple Codes' table. It shows the 'Unlock name' column with 'CountDown 4' and a dropdown menu. The 'User / Key' column has a toggle switch and 'Bright Living'. The 'Features or random code' column has a dropdown menu with a red arrow pointing to it. The dropdown menu is open, showing three options: 'Basic', 'Full' (which is selected with a checkmark), and 'Test'. The 'Settings' column shows 'Qty Beta' with a value of '1' and a checkbox.

## Default Settings

To speed up the creation of new licenses, you can set some defaults for properties as presets. If you select a software for a new license, these default values will be copied as a starting point for the license.

The following defaults have been changed to: Feature 1 = Light version, and the license should expire 365 days after registration. There is more information about 6 Working with expiration dates.

Default for new registrations

×

Feature 1

Light version

▼

Feature 2

▼

Feature 3

▼

Feature 4

▼

Days

365

Number of days till expiration of the software

## Secret keys

The second tab contains the information of the secret keys as they are used to encrypt and decrypt the license information. This information is the backbone of encryption and decryption and makes the license codes unique to a specific software and version.

The screenshot shows the 'FM Registrations 1.9' application window. The 'Secret keys' tab is active, displaying the following content:

- Secret keys**  
Secret keys make your codes unique. They are used to encode and decode your license details.
- Important:** If you change your secret keys, you must update the keys in your solution. After changing a key, all previously issued licenses no longer work.
- Recommendation:** For each software version you want to differentiate from previous versions, create a new record. Then, create new keys. By doing this, you keep previously generated keys and versions as a history for future reference.
- Number of Characters:** 200
- Secret standard key:** A text input field with a 'New +' button.
- Secret beta version key:** A text input field with a 'New +' button.

Two red arrows point to the 'New +' buttons for both the 'Secret standard key' and 'Secret beta version key' fields, with the text 'Click to (re)create a new secret key'.

When you create a new record for a new FileMaker application, the basic settings for codes are copied to these fields. This includes the length of this code, as well as the characters used in the randomized string. You can change the settings under: Settings > Code settings, in the left navigation.

Home

Clients and registrations

- Registration list
- Address list

FileMaker apps

- Software list
- Software details

Settings

- Settings
- Email settings
- Code settings
- Backup
- Import-Export
- Resources

Standard settings for codes

	Secret keys	Unlock name	Unlock code	Save / Restore
Length	<input type="text" value="200"/>	<input type="text" value="8"/>	<input type="text" value="48"/>	<div><div></div><div></div></div>
Backup	200	8	48	

Characters used for the Secret Keys

abcdefghijklmnopqrstuvwxyzABCDEFGH  
IJKLMNOPQRSTUVWXYZ012345678  
9

Standard

66



## **6 Working with expiration dates**

With FM Registrations you can use expiration dates for your solutions. To use them correctly, especially if you intend to distribute your solution across continents, some knowledge about handling data in FileMaker is required. That is the topic of this chapter.

## Two date options

There are two ways to include information about a date in your license code. These ideas are designed to be useful for defining an expiration date. The license itself can contain two types of date information:

1. An expiry **date**
2. A **number of days** till the license expires.

Access these two fields by clicking on the **Edit** button in the license list of a client.

The screenshot shows a software interface with a sidebar on the left containing navigation links: Home, Clients and registrations, FileMaker apps, Settings, and Resources. The main area displays client information for 'Bright Living' with fields for Company, Department, Street, First name, Last name, Email, Phone, ZIP, City, Country, and Reseller. Below this, there is a section for 'Create Multiple Codes' with tabs for 'Unlock name', 'Unlock code', 'Settings', and 'License codes'. The 'License codes' tab is active, showing a table with columns for 'Software', 'User / Key', 'Features or random code', 'Qty Beta', 'Generate', 'Edit', 'Deactivate', and '11 Sep 2020'. A red arrow points to the 'Edit' button in the 'License codes' section.

When you click on this button, a card window opens showing all the options for this license, including the date fields:

If you want to embed the end date, it must be set manually in this window. If you want to set a number of days until expiry, it can be set in the description of the software license (Software Details) as the default value for each new registration.

### Number of days till expiry

The number field can be set to any value. You can think of a license for just one month or a subscription for a year. Anything you have in mind can be defined here. Think of a 30-day trial version or a subscription for 1 year (365 days). In this example, the values 30 or 365 are encoded in the license.

To interpret this value, you must have implemented logic after the registration process that interprets the information from the license code. Similar to the example above: The FM Unlock module gives you the value 30 or 365 after decrypting the registration code, but you need to define what to do with these values.

## Date calculation

If you use expiry dates in your solution, read this chapter carefully!

When creating a license code, there are two settings for an expiration date:

1. Expiry date
2. Number of days till the expiry of the license.

Both settings are available when you click on “Edit” when creating a license. A card window opens.

FM Registrations 1.9

Home

Clients and registrations

- Registration list
- Address list

FileMaker apps

- Software list
- Software details

Settings

- Settings
- Email settings
- Code settings
- Backup
- Import-Export
- Resources

Address

Company 1: Bright Living

Street 1: Bright way 123

ZIP: 00001

City: Splendour

Country: United States

Reseller: Reseller

Department 1: Department of ideas

First name: Mark

Last name: Bright

Email: mark@brightliving.com

Phone:

Created: Fri, 11 Sep 2020

Modified: Mon, 16 Dec 2024

Create Multiple Codes

Software	Unlock name	Unlock code	Settings	License codes	Record
CountDown 4	User / Key	Features or random code	Qty Beta	Purchased at	Generate
Choose software	Bright Living	Full	1	fmstarter.com	Generate

Edit

The card window has all the details of the license, including the date options:

×

English

Software

CountDown 4

✎

Licensee

Bright Living, Splendour, Mark Bright

✎

Code type

Features

Random code

Feature 1

Full

Feature 2

Combi

Feature 3

Newsletter

Feature 4

Software Expiry Date

Number of days till expiration of the software

↑

Calculate the expiration date when the code is created, based upon Current Date + Number of Days till Expiry.

License count

1

## Date formatting

The date you put in a field is not always the date which is displayed. Each FileMaker file has a locale. This is an information about the operating system and settings the file was first created with. This setting also covers the date formatting.

Let's say the file has been created in the US, then the 10th of January would be stored as 01/10. In Europe, that date would be interpreted as the 1st of October. In a file created in the US, the locale is set to the US. The 10th of January is stored as 01/10. It is displayed as "10th of January".

If you open that same file in Europe or under a different setting, it will still have stored the date as 01/10, and it will also appear correctly in Europe (as 10th of January). However, once you click in the field of that date, it will not be shown as stored for Europe (10/01), but still as stored for the US (01/10). That is confusing, as the way it is stored is contrary to the way it actually written in a European environment.

Date formatting therefor is not worldwide synchronized or therefore reliable. It might work internally, but it tricks the eye. Also: what is happening if you export the date or make date calculations? That might become a bit confusing. To cover this properly, one must convert a date back to a universal number, then make any calculations, and return the result as a date. FileMaker has something like a universal number, which is the absolute number of days since FileMaker counts these (1st of January of the year 1). Usually, this gets the job done.

To get more information, check the last chapter and links there.

## Removing the Locale-information from a file

Because FileMaker stores a local system setting in the file when you create it, you may wonder how to remove it.

### How to create a file without file-local information

To create an "empty" file, you must save the file as an empty *clone with no data*. This will remove the local setting.

### When do you need to resolve this issue?

Under normal circumstances, this is not necessary because files are mostly used within the same date formatting zones. However, if you provide off-the-shelf solutions and want to sell globally, you should consider how you handle date formatting, especially if you calculate dates, insert dates as texts, and so on. Customers may be on different continents and have different formatting requirements that may not be reflected in your file. Creating empty files without local storage might solve this problem.

## 7 Creating licenses

From creating licenses to managing licensees – FM Registrations makes it possible. Track licenses already issued, associate each license with a unique address, or create multiple generic licenses at once.



## One record for each app

Before you can create licenses for your customers, you need to

1. List your apps in FM Registrations
  - Create the secret codes for each app
2. implement the Unlock module "FM Unlock" in your solution
  - The FM Unlock module

We strongly recommend that before implementing the FM Unlock module into your solution, you test your codes and find out how it works with the example file.

## Manage licensees

FM Registrations not only creates license codes, but also manages the addresses of your licensees. All unlock codes are linked to an address of a licensee.

Before you can add a license for a customer, you need to add the customer data. Go to "Customers and registrations" in the navigation. Click + to add a new address.

The screenshot displays the 'Clients and registrations' section of the FM Registrations application. The top part features a form for adding a new address, with tabs for 'Address', 'Remarks', and 'History'. The form includes fields for Company (Bright Living), Department (Department of Ideas), Street (Bright way 123), ZIP (00001), City (Splendour), Country (United States), and Reseller (Reseller). It also has fields for First name (Mark), Last name (Bright), Email (mark@brightliving.com), and Phone. The form is created on Fri, 11 Sep 2020 and modified on Mon, 16 Dec 2024.

Below the form is a table for creating multiple codes. The table has columns for Software, Unlock name, Unlock code, Settings, License codes, and Record. The first row shows 'CountDown 4' software, 'User / Key' unlock name, 'Features or random code' unlock code, 'Qty Beta' settings, 'Purchased at' license codes, and 'Generate' record. The table is currently empty, with a 'Choose software' dropdown at the bottom.

Tip: If you want to create generic codes, for example, with a limited license as a giveaway at shows to get people to use your solution, create a generic address for that purpose and create the codes for that address. You can also create multiple codes at once. More on this later.

After you create a new address at the top of the screen, you can start adding a license for any software you define.

In the navigation you will find two more layouts:

- Registration list – a list of all created licenses
- Address list – a list of all addresses in the database.

These additional layouts should be self-explanatory, as they are only used to navigate the database.

## Creating a license

Licenses are added to an address. If you have not yet created an address, do so first (> Manage Licensees).

Once you have entered a customer's address, you can start adding licenses. In the lower part of the screen, click the "Select software" popup and select the appropriate application:

The screenshot shows a web application interface for creating licenses. The top section is a form for entering customer details, organized into two columns. The left column contains fields for Company (Bright Living), Street (Bright way 123), ZIP (00001), City (Splendour), Country (United States), and Reseller (Reseller). The right column contains fields for Department (Department of ideas), First name (Mark), Last name (Bright), Email (mark@brightliving.com), and Phone. Below these fields are 'Created' (Fri, 11 Sep 2020) and 'Modified' (Mon, 16 Dec 2024) timestamps. The bottom section is titled 'Create Multiple Codes' and features a 'Choose software' dropdown menu. A red arrow points to this dropdown, and a red text instruction below it reads: 'Click and select a software (version) to create a new license for this address'.

The selection in this popup was previously defined in > FileMaker Apps.

When you select a software from the popup menu, it is added to this row with all the default settings. Once added, you can change all settings before creating a final license code.

## Settings for upgrades

One of the advantages of FM Registrations is that you can restrict unlock codes to specific versions. By creating new records with their own secret keys for each new version, you ensure that old license codes will not work in newer versions.

Let's say you create an initial record for your own FileMaker solution. This application is version 1.7, and you want to provide customers with license keys that work for all versions 1, but you want to change that when version 2 arrives so you can sell upgrades. Here's how it works:

- In FM Registrations, create an initial record for your software, version 1. This record has its own secret keys that are used to encrypt and decrypt the license information. You can use the same settings and the same secret keys for all version 1 updates, and your customers can use their license keys to unlock any sub-version 1.x.
- When you are about to release version 2, you do not overwrite the record of the first version, but simply create a second record for version 2. This second record has its own secret keys, which you then implement in your version 2. This keeps the license keys for each version unique – and traceable.

By creating a second record, you keep track of all previous users and licenses associated with this record. The new version 2 cannot be unlocked with a version 1 code. Therefore you can distinguish between versions and sell upgrades.

Screenshot: 1 record for each version for which you want to distinguish codes.

My Beautiful Software	
1	My Beautiful Software 2
2	My Beautiful Software 3

## Batch creation of licenses

Batch creation of licenses can be useful for several reasons:

- Provision of a range of generic licenses for distribution partners
- Provide a set of generic licenses as a prize for a contest
- etc.

All licenses are linked to one address. This also applies to batch generation of licenses. The idea is that licenses are always generated for one person, even if that person is a distributor, a magazine you run a contest with (where you provide some free license codes, for example), or something similar.

### How to create a batch of licenses

First create or select a correct address. Then click the Generate multiple codes button:

The screenshot shows a web application interface for managing licenses. The top navigation bar includes a search bar, a language selector (English), and a status indicator (1 / 3 (Total: 3)). The left sidebar contains a menu with categories: Home, Clients and registrations, FileMaker apps, and Settings. The main content area displays a form for creating a new address. The form is divided into two sections: 'Address' and 'Remarks'. The 'Address' section contains fields for Company 1 (Bright Living), Street 1 (Bright way 123), ZIP (00001), City (Splendour), Country (United States), and Reseller (Reseller). The 'Remarks' section contains fields for Department 1 (Department of ideas), First name (Mark), Last name (Bright), Email (mark@brightliving.com), Phone, Created (Fri, 11 Sep 2020), and Modified (Mon, 16 Dec 2024). Below the form, there is a button labeled 'Create Multiple Codes' with a red arrow pointing to it. A red text label 'Create multiple codes for a product for this address' is positioned next to the button. Below the button, there is a table with a 'Choose software' dropdown and several empty rows for selecting software.

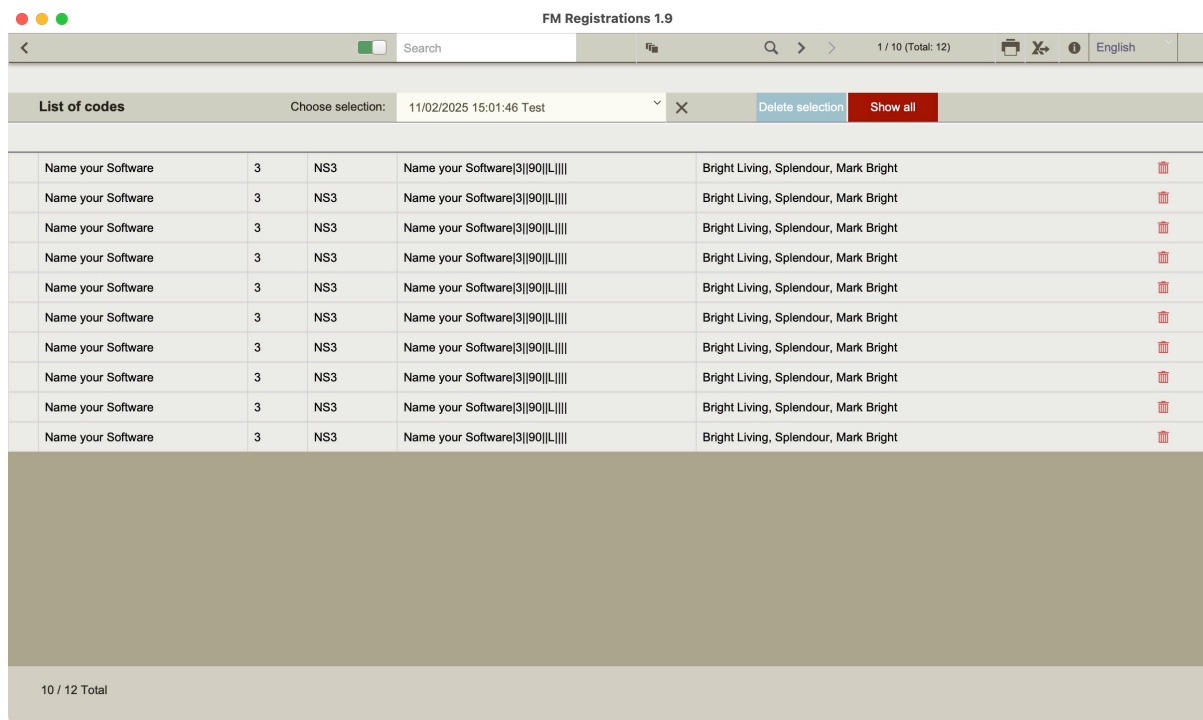
In a popup window you can define all the details:

The screenshot displays a web application interface for managing software registrations. On the left, a sidebar contains navigation links: Home, Clients and registrations (with sub-links for Registration list, Address list, FileMaker apps, Software list, and Software details), and Settings (with sub-links for Settings, Email settings, Code settings, Backup, Import-Export, and Resources). The main content area is titled 'Clients and registrations' and shows a form for a client named 'Bright Living'. The form includes fields for Company, Street, ZIP, City, Country, and Reseller. A 'Create Multiple Codes' button is visible at the bottom of the form. A 'Batch Creation' pop-up window is open, allowing the user to select software from a dropdown, specify the number of codes to create (set to 3), choose between 'Features' or 'Random code', and check the 'Use extra key (Unlock name)' option. The pop-up also has fields for 'Leave empty for Time Stamp' and 'Name this Batch', and a 'Create Multiple Codes' button.

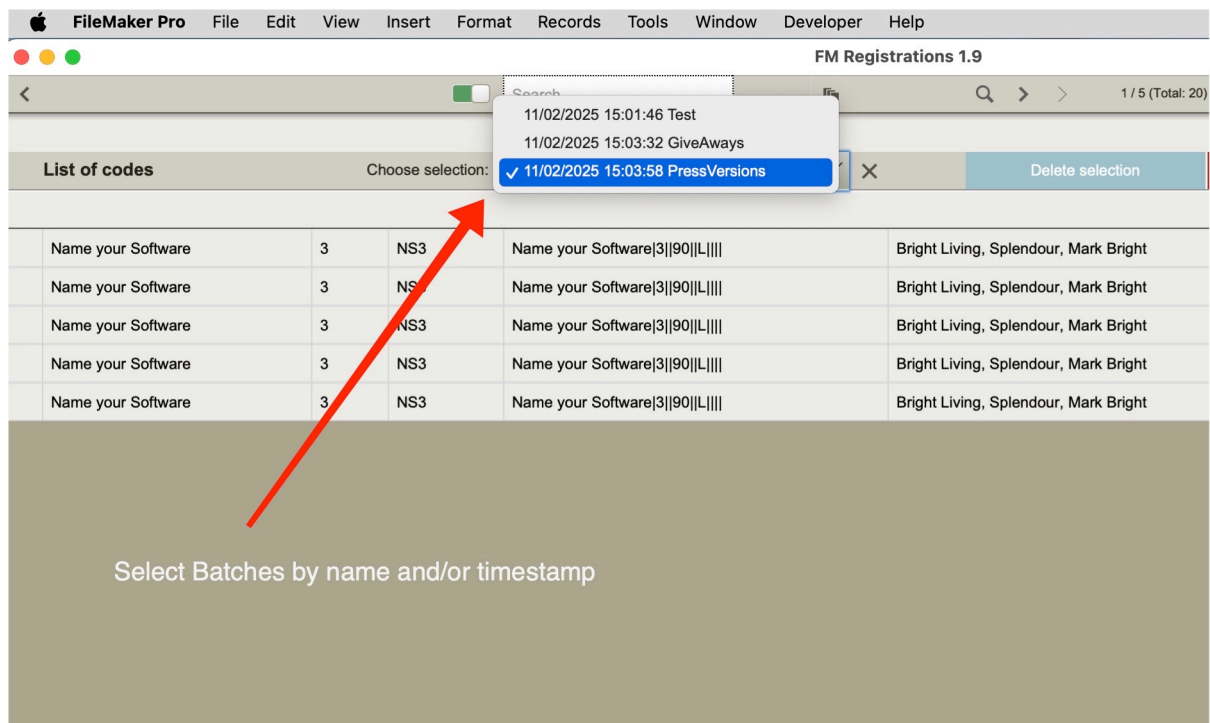
Select the software from the pop-up window, define the number of codes, the code type, whether to use an additional (random) unlock name, the number of users per license and, if necessary, a number of days until expiration or a final expiration date.

Each batch will have a batch identifier. You can either specify a name or have FM registrations generate a timestamp as an identifier.

Now create the codes. The result will be displayed in a list:



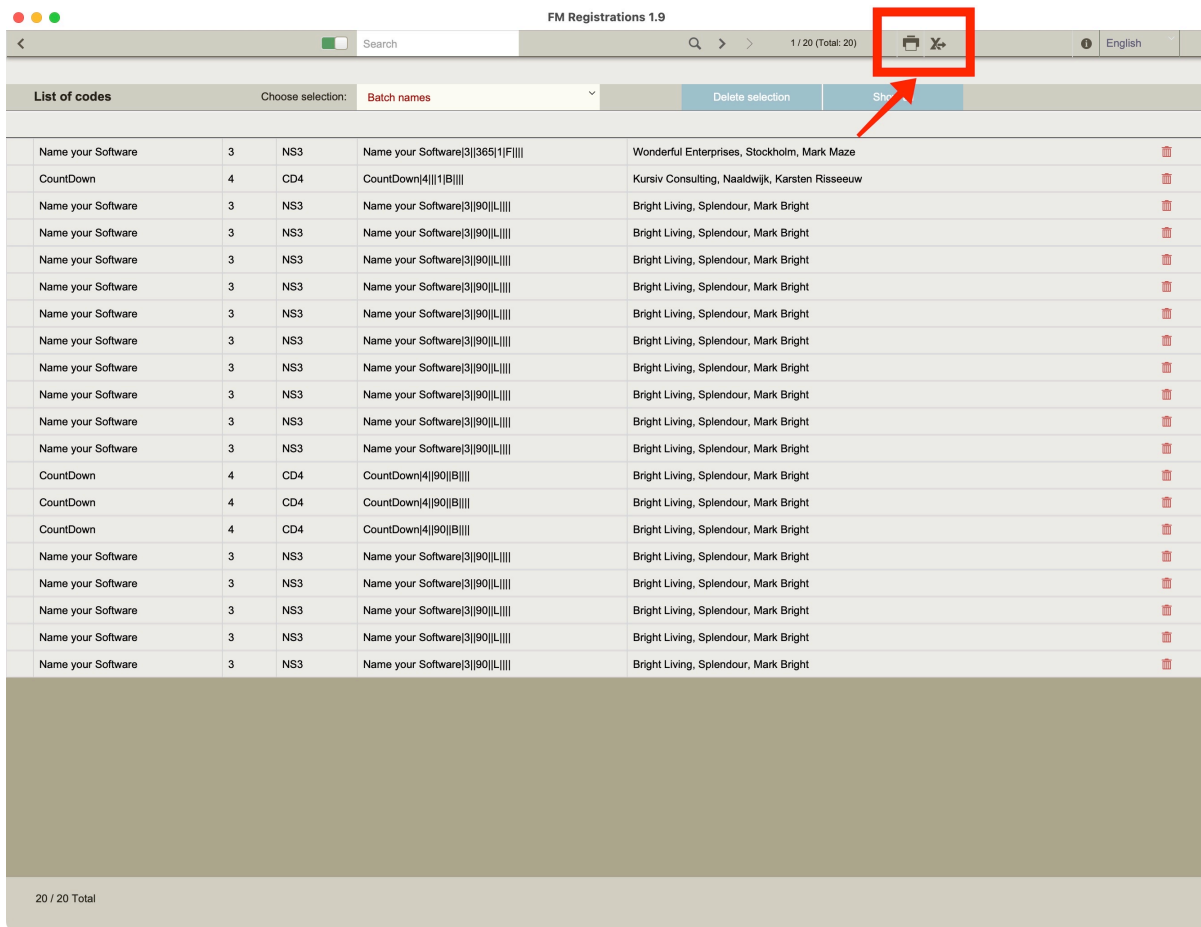
The batch name in the header of this window is a pop-up menu. If you have several batches, you can simply choose between them.



The list view is just that. Click the "<" button in the upper left corner to return to the address. The licenses are properly attached to the regular address.







FM Registrations 1.9

Search 1 / 20 (Total: 20) English

List of codes Choose selection: Batch names Delete selection Print

Name your Software	3	NS3	Name your Software[3][365][1F]	Wonderful Enterprises, Stockholm, Mark Maze	
CountDown	4	CD4	CountDown[4][1][B]	Kursiv Consulting, Naaldwijk, Karsten Risseeuw	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
CountDown	4	CD4	CountDown[4][90][B]	Bright Living, Splendour, Mark Bright	
CountDown	4	CD4	CountDown[4][90][B]	Bright Living, Splendour, Mark Bright	
CountDown	4	CD4	CountDown[4][90][B]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	
Name your Software	3	NS3	Name your Software[3][90][L]	Bright Living, Splendour, Mark Bright	

20 / 20 Total

## Print preview

A printed list can be helpful, especially in connection with batch generation of codes. The first column contains the unlock name, while the second column contains the unlock code:

## List of codes

### Bright Living, Splendour, Mark Bright

Batch: 17/09/2020 11:40:33 Marketing 2020		10 CODE/CODES			
		Version	Qty	Expiration Date	Days
1	5FhqsM1B	MPS3.x_wpl +w6LDpcKow4F5wrvCtcKaw69VwojCvMK7wpzDjsKWw4FnwbpCt8KjwqvDg8Kqw6LCpcOuwpzCu7M9i3hcOlw6/DtcKlccOGwqXDrcKtwr7Do8Ktw6vCs3nCnMKOwo/Cm8KFwoLCI2zCnA==u7M9i3			
2	RiZnRw2J	MPS3. x_wrbCpMOUw6LCh8OresODwrXCmsOvVcKlwrzCu8Kcw47ClisOBZ8KWwrfCo8Krw4PCqsOiwwX DrsKcu7M9i3woXDpcOvw7XCpXHDhsKlw63CrcK			
3	SM1Y1U41	MPS3. x_wrfChcKrw41mw4l8wqrCtcKaw69VwojCvMK7wpzDjsKWw4FnwbpCt8KjwqvDg8Kqw6LCpcOuwpzCu7M9i3hcOlw6/DtcKlccOGwqXDrcKtwr7Do8Ktw6vCs3nCmckOwovCoMKLworCmWzCqg==u7M			
4	YVfBNCK8	MPS3. x_wr3CjsOgwrBcg8K3wpCscK1wprDr1XCiMK8wrvCnMOOwpbDgWfCisK3wqPCq8ODwqrDosKl w67Cu7M9i3nMKFw6XDr8O1wqVxw4bCpcOtwq3CvsOjwq3Dq8KzeczKwojCiMKdwobCi8KVa8Kau			
5	o5HltRTN	MPS3. x_w5Ntw4LDmKpw4bCnMOHwrXCmsOvVcKlwrzCu8Kcw47ClisOBZ8KWwrfCo8Krw4PCqsOiwwX DrsKcu7M9i3woXDpcOvw7XCpXHDhsKlw63CrcK			
6	EFZLLxvp	MPS3.x_wql +w5TDgMKBw6zCvsOpwrXCmsOvVcKlwrzCu8Kcw47ClisOBZ8KWwrfCo8Krw4PCqsOiwwXDrscu 7M9i3woXDpcOvw7XCpXHDhsKlw63CrcK			
7	acTY8jtX	MPS3. x_w4XCm8OOw41tw57CvMORwrXCmsOvVcKlwrzCu8Kcw47ClisOBZ8KWwrfCo8Krw4PCqsOiwwX DrsKcu7M9i3woXDpcOvw7XCpXHDhsKlw63CrcK			
8	lpRGMhzb	MPS3. x_w5DCqMOMwrvCgsOcw4LDm8K1wprDr1XCiMK8wrvCnMOOwpbDgWfCisK3wqPCq8ODwqrDo sKlw67Cu7M9i3nMKFw6XDr8O1wqVxw4bCpcOtwq3CvsOjwq3Dq8KzesKVwojCj8KhworCiMKaZ8			
9	HsGmmHkY	MPS3. x_wqzCq8OBw6HCosK8wrPDksK1wprDr1XCiMK8wrvCnMOOwpbDgWfCisK3wqPCq8ODwqrDosK lw67Cu7M9i3nMKFw6XDr8O1wqVxw4bCpcOtwq3CvsOjwq3Dq8KzesKVwojCj8KbwobCq8KWaMK			
10	QEFTTmy5	MPS3. x_wrV9w4DCusKJw6HDgcKuwrXCmsOvVcKlwrzCu8Kcw47ClisOBZ8KWwrfCo8Krw4PCqsOiwwX rsKcu7M9i3woXDpcOvw7XCpXHDhsKlw63CrcK			

## Excel export

When exporting, an Excel file is created and opened. It looks like this and contains all the information about the licenses:

RunningNumber	ns_Users UserID::Com	SoftwareName	SoftwareVersion	SoftwareShort	Softwa
1	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	
2	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	
3	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	
4	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	
5	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	
6	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	
7	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	
8	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	
9	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	
10	Bright Living, Splendour,	My Perfect Solution	3.x	MPS3.x	

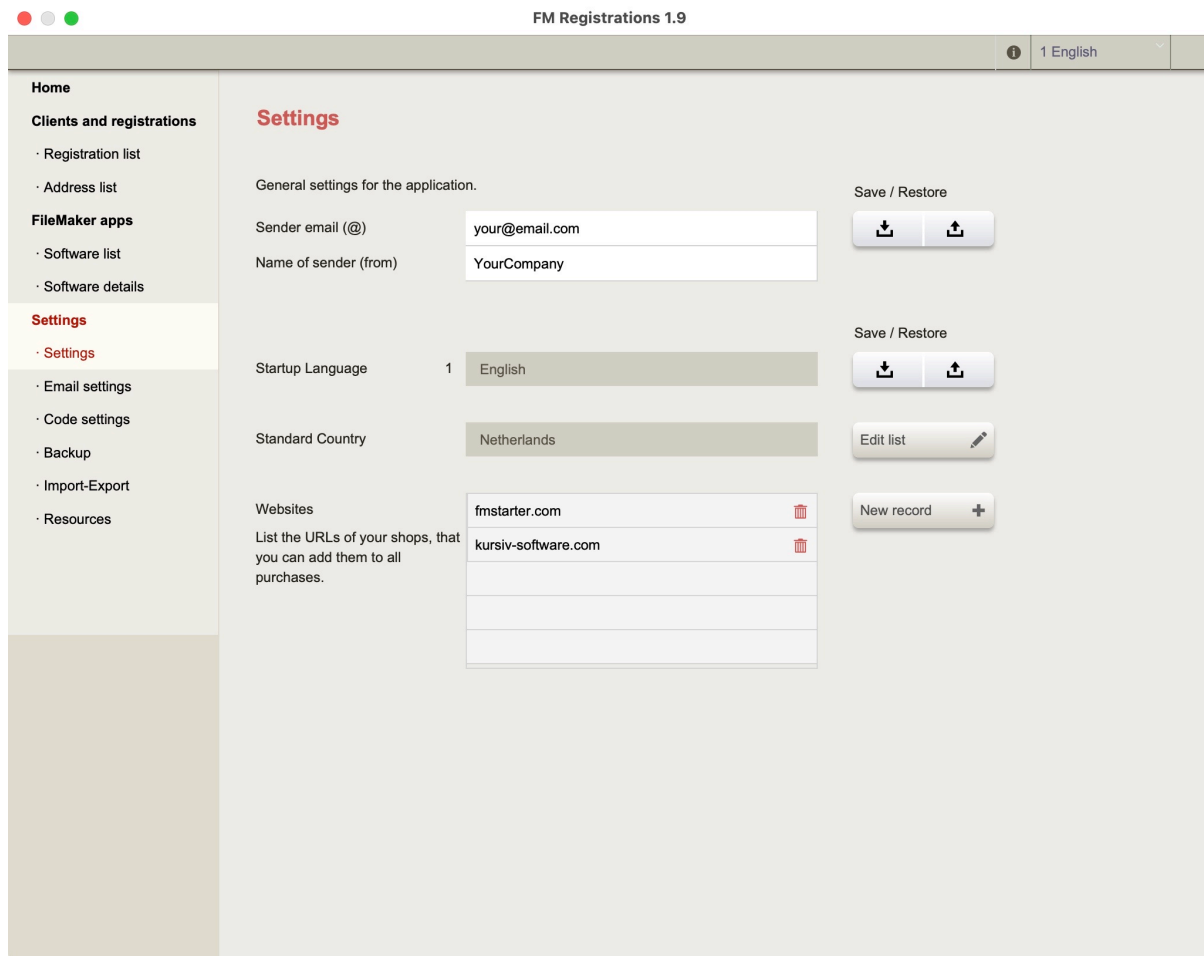
# 8 Settings

Basic settings for FM Registrations.

## General settings

In the navigation you will find various settings. The general settings are listed under "Settings". Currently there is only one option where you can choose the start language of the FM registrations.







If you change the language, you have to save the settings. The startup language is set when you open the file.



Of course, you can change the language at any time during a session by using the language switch at the top of the window.

# Preferences Emails

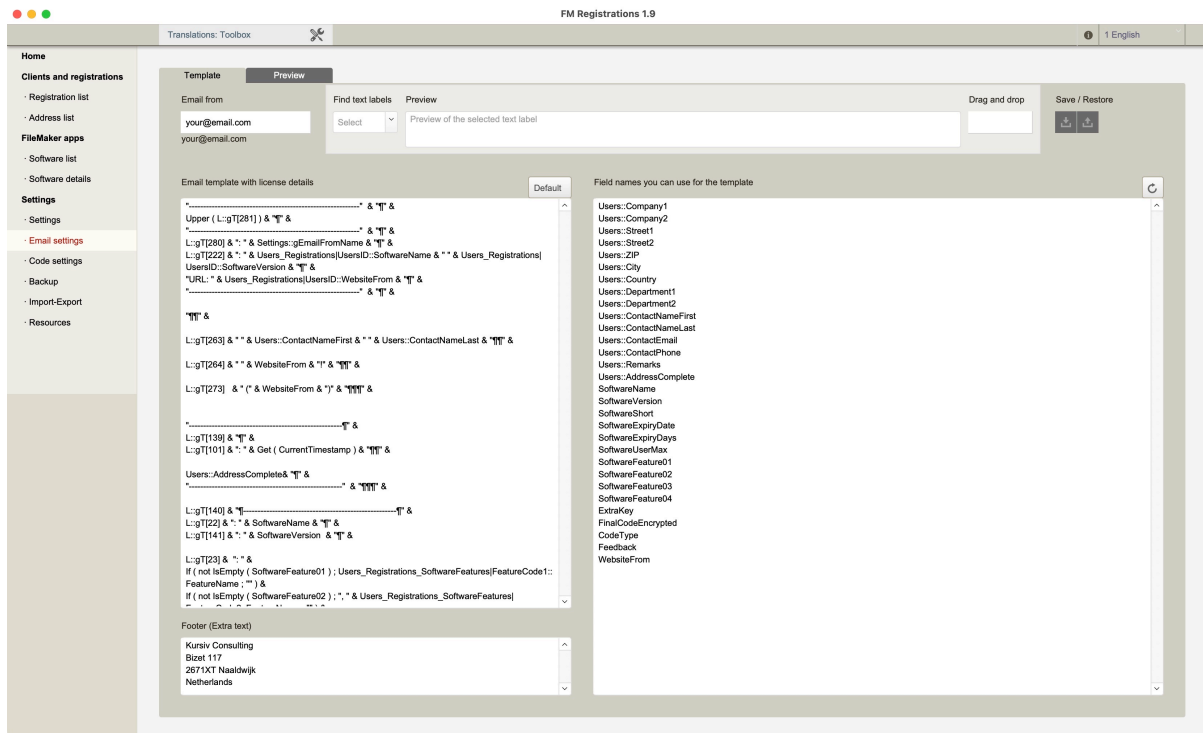
Email settings shows the settings and template with which an email with license details can be sent to the customer.

License codes		
Purchased at	Keys	Edit and share
Website	OK	  
Website	Generate	  



Once a license has been created, this license can simply be sent to the customer by email. A standard text is used, which can be customized in the email settings.

## Email Settings



This screen has an email template that is multilingual and can contain all database fields with information. The basic setting can be used or customized.

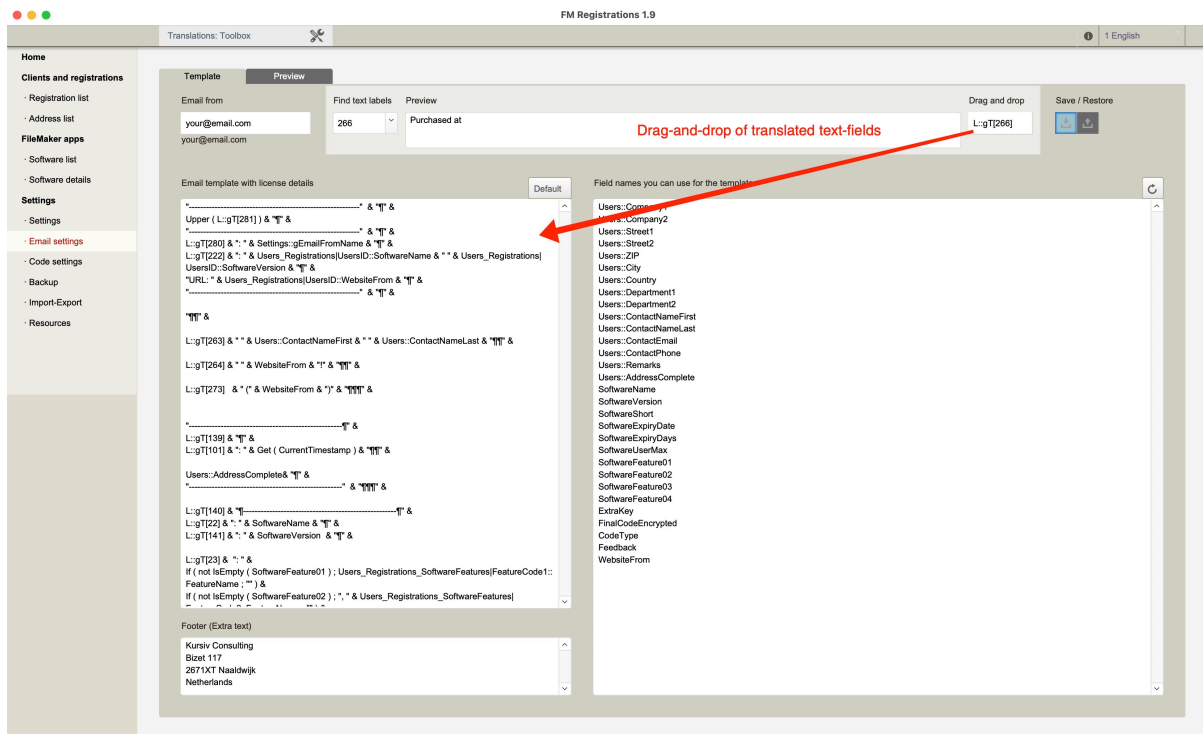
To add normal text, put it "between quotes". Carriage returns or line breaks must be inserted exactly as you have them in Filemaker calculations (¶), which is similar for other functions. This field works as if you were composing a formula for a text field (which it actually is).

## Email from

The email address from which the email should be sent.

## Find text labels

Find multilingual text labels. Click the drop-down menu and select a wording. The translation ID is displayed and a short text label is shown next to it. As a result, the field you can use for the template will be listed under drag-and-drop. Simply click in the field and drag the field name onto the template.



## Toolbox

The toolbox is the translation table. If you need your own translations, add them here. You can find more about the Toolbox in the Toolbox chapter.

## Save and restore

This saves the template or restores the template from the last saved version.

## Standard

If you click on the default button, you will again get a basic email template to work with.

## Database

Available database fields can be copied into the email template as well.

## Footer text

In the lower part of the screen there is a field that is simply added as footer text. Enter your own information here.

Footer (Extra text)

Kursiv Software  
Goldbrunnenstrasse 42  
9000 St. Gallen  
Switzerland

kursiv-software.com, fmstarter.com  
support@kursiv.com







## Preferences encryption



Random codes are generated in several places. On this screen you can specify the length and the characters used.

**Standard settings for codes**

	Secret keys	Unlock name	Random code	Save / Restore
Length	200	12	20	 
Backup	200	12	20	

Characters used for the Secret Keys

abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789

  Standard

### Length

The length settings are copied to new records as default values.

### Secret keys

The length of the secret key matters when you create a new record for a new FileMaker app. The key must be long enough to encrypt the full license description.

### **Unlock name**

The unlock name is used when creating a new license for a customer. The unlock name must be active. When active, it can have any text string, such as the username or email, but also has the option to include a random string. This is the length of this string.

### **Random code or random license code**

The random code can be used when creating a new license for a customer. The unlock code is a container that can be filled with either feature information or a random code. It depends on the type of code you define for this license. If you use a random code, it is just a random string with the length specified here.

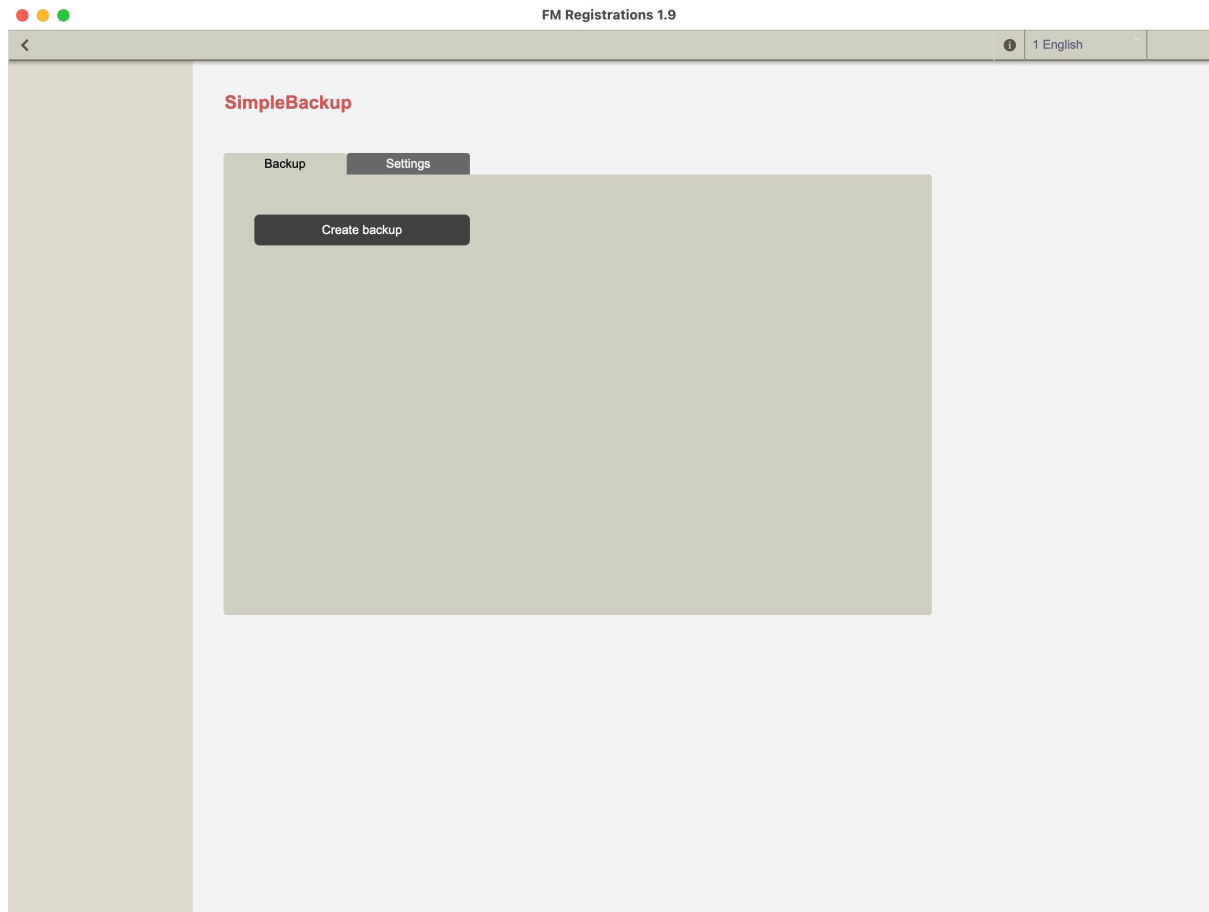
### **Characters used to create secret keys**

You can define which characters can be used for the secret keys, the unlock name and the random code. (If you want to have a binary-looking-code, you know what to do.)

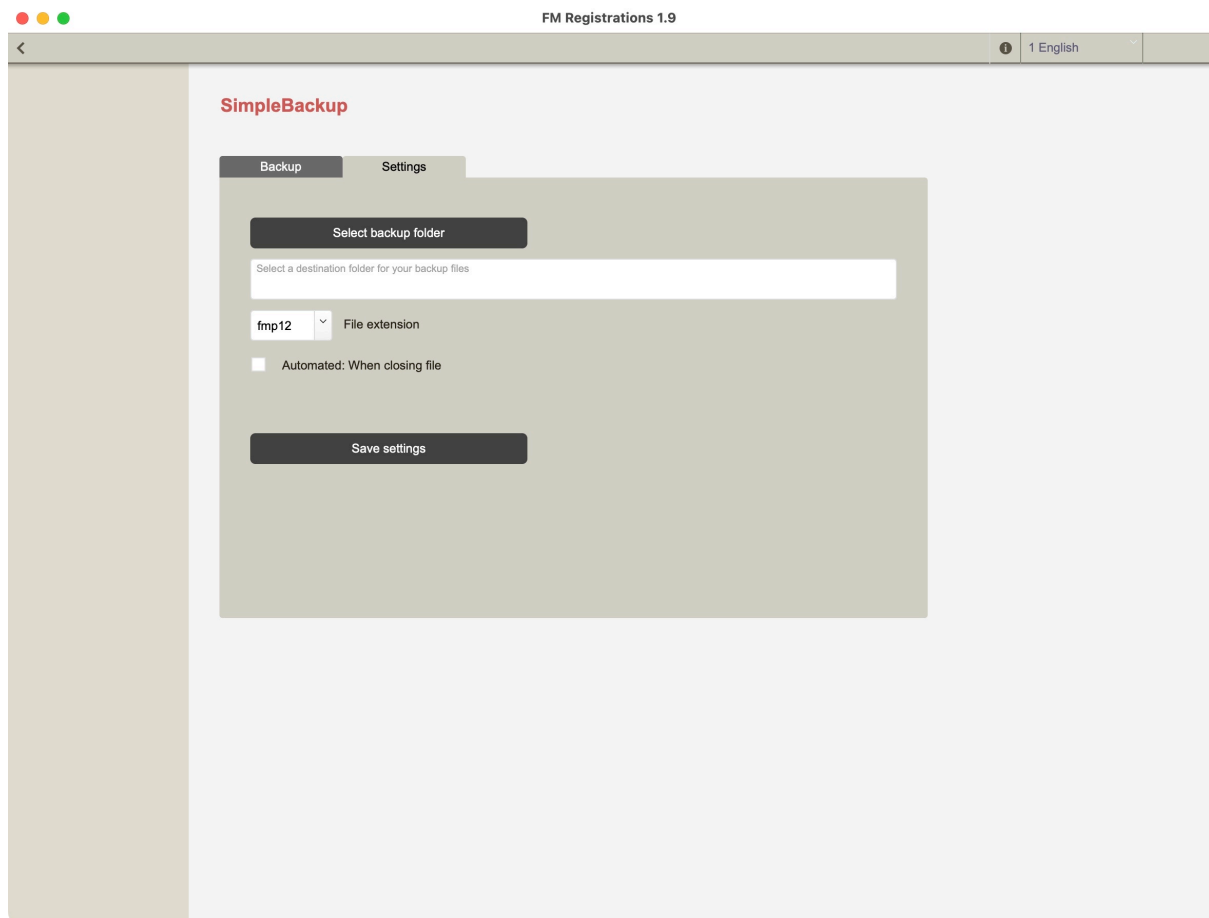
## Backup

The Backup screen provides a simple option to save a snapshot to your hard drive. This only works if you are using FM Registrations locally on your computer.

The first time you use the Backup feature, it will ask for a destination for the backup and save it for future reference.



In the Settings tab you can set various options:



### Select backup folder

Select another backup folder. If a folder has been defined, you will see a button to display that folder on your system.

### File ending

All backup files are saved with the selected extension.

### Automated: when closing the file

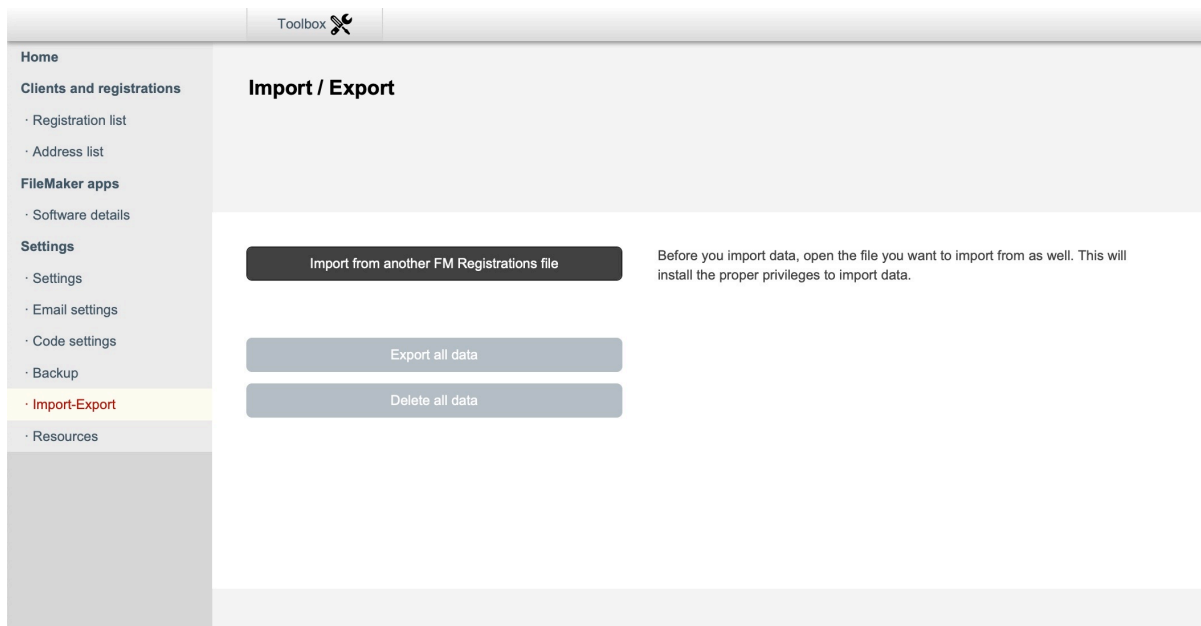
Check this box to automatically create a backup when you close the file.

Save any changes you make to the settings to keep them.

# Import-Export

There are 3 options available on this screen:

1. Import from another FM Registrations file
2. Export all data
3. Delete all data.



## Updates require an import

When you receive an update from FM Registrations, you open this file and then you can use this function to import the data from your old file. Your old file will not be deleted, nor will your data be affected. The data will only be imported into the new file.

Note the upgrade procedure.

When you get a new version of FM Registrations, you can import the data from an older file into this new file. These are the update steps:

1. Open both the old and the new file (this will install the correct rights for the import)
2. Make sure that all records in relevant tables are displayed in the old file (not required if importing from version 1.5.0.4 or newer)
3. Switch to the new file and go to Preferences > Import-Export
4. Import
5. Check results.

# Resources

On the Resources page you can find the sample file and the manuals in the available languages. Please export the files to use them.

Home

Clients and registrations

- Registration list
- Address list

FileMaker apps

- Software details

Settings


- Settings
- Email settings
- Code settings
- Backup
- Import-Export

Resources


## Resources

A short introduction to FM Registrations:

- 1. How it works**  
**FM Registrations** helps you to *create and encrypt* license information. The counterpart is the **example file**, which shows you how *decrypt* that license information in your application.
- 2. Creating license codes**  
First choose **FileMaker Apps** at the left, then create a record for each software version of your product and define the details. Next move to **Clients and Registrations**, create a **user and add a license** for app. Finalize by sending the customer the license per email.
- 3. Adaption**  
FM Registrations does not know what you want to achieve, but only *encrypts and decrypts* information. You need to interpret that information in your application. **This requires FileMaker development.**
- 4. Security**  
Be aware that registering a software with FM Registrations requires the user to open the file. You need to leverage the security in your application because of this.

  
FMR-example142.fmp12

Export example file

  
FMRegistrations-EN.pdf

Export manuals

## 9 Extra windows

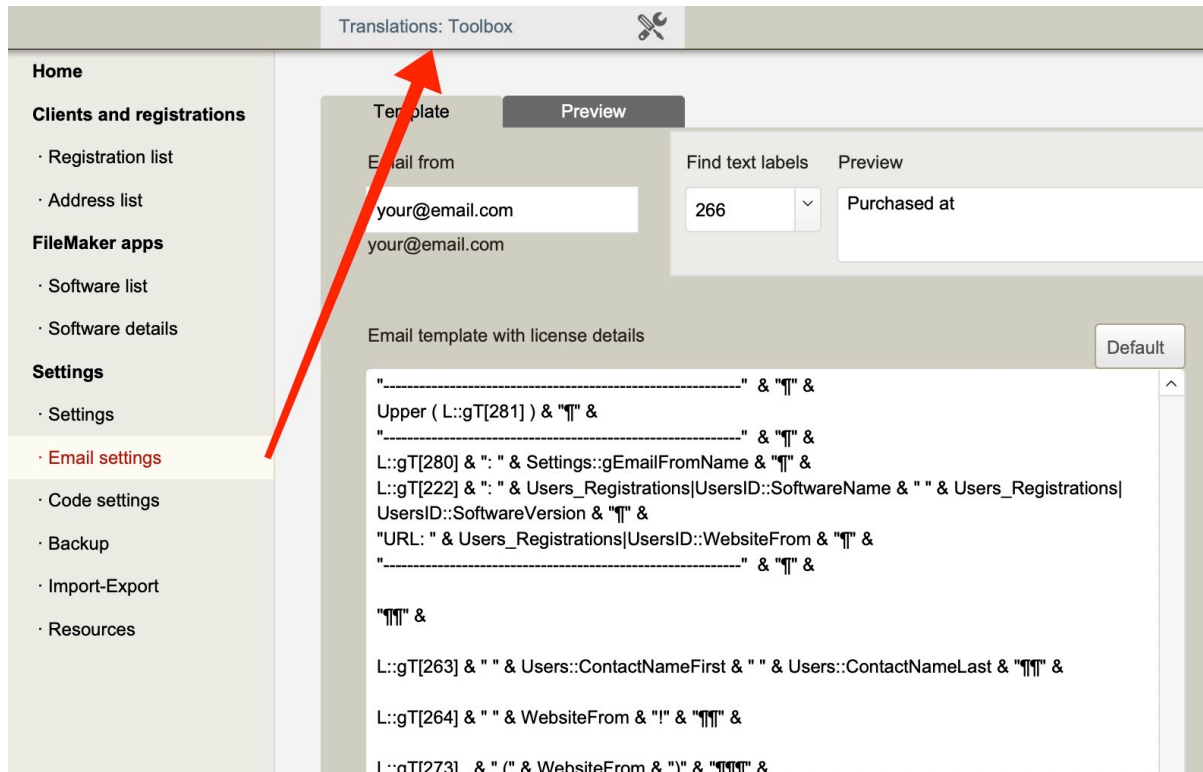
FM Registrations has a few additional windows for special purposes. What are they for and how can you use them?



## Toolbox

The Toolbox is an additional window with all translations for all texts in FM Registrations. It can also be used to create new text labels for use in the email template. Texts can also be corrected or adjusted here.

You can find the toolbox in the "Email settings" layout:



When you click the button, the Toolbox window opens. It is a list of all translations and has a search field to quickly find existing texts.

Toolbox

×

1 English

Find text labels / Translations

+

Search

	ID	Label	Edit
<<L::gT[11]>>	11	Home	
<<L::gT[12]>>	12	English	
<<L::gT[13]>>	13	German	
<<L::gT[14]>>	14	French	
<<L::gT[15]>>	15	Spanish	
<<L::gT[16]>>	16	Delete	
<<L::gT[17]>>	17	New Record	
<<L::gT[18]>>	18	Delete Record	
<<L::gT[19]>>	19	Search	

269 / 269

Copy

1 Label
  2 Translation ID
  3 Merge Field
  4 Field

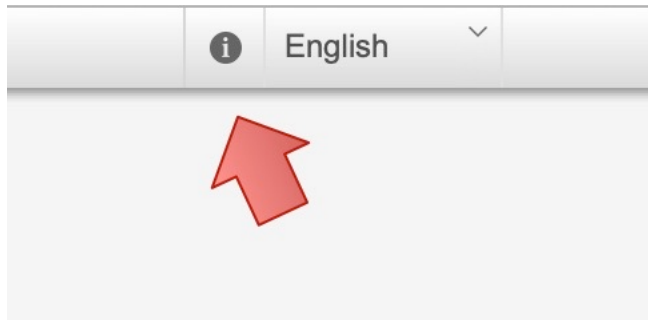
Click on "+" to add a new text label. Click the pencil icon to edit any text.

### Activate changes

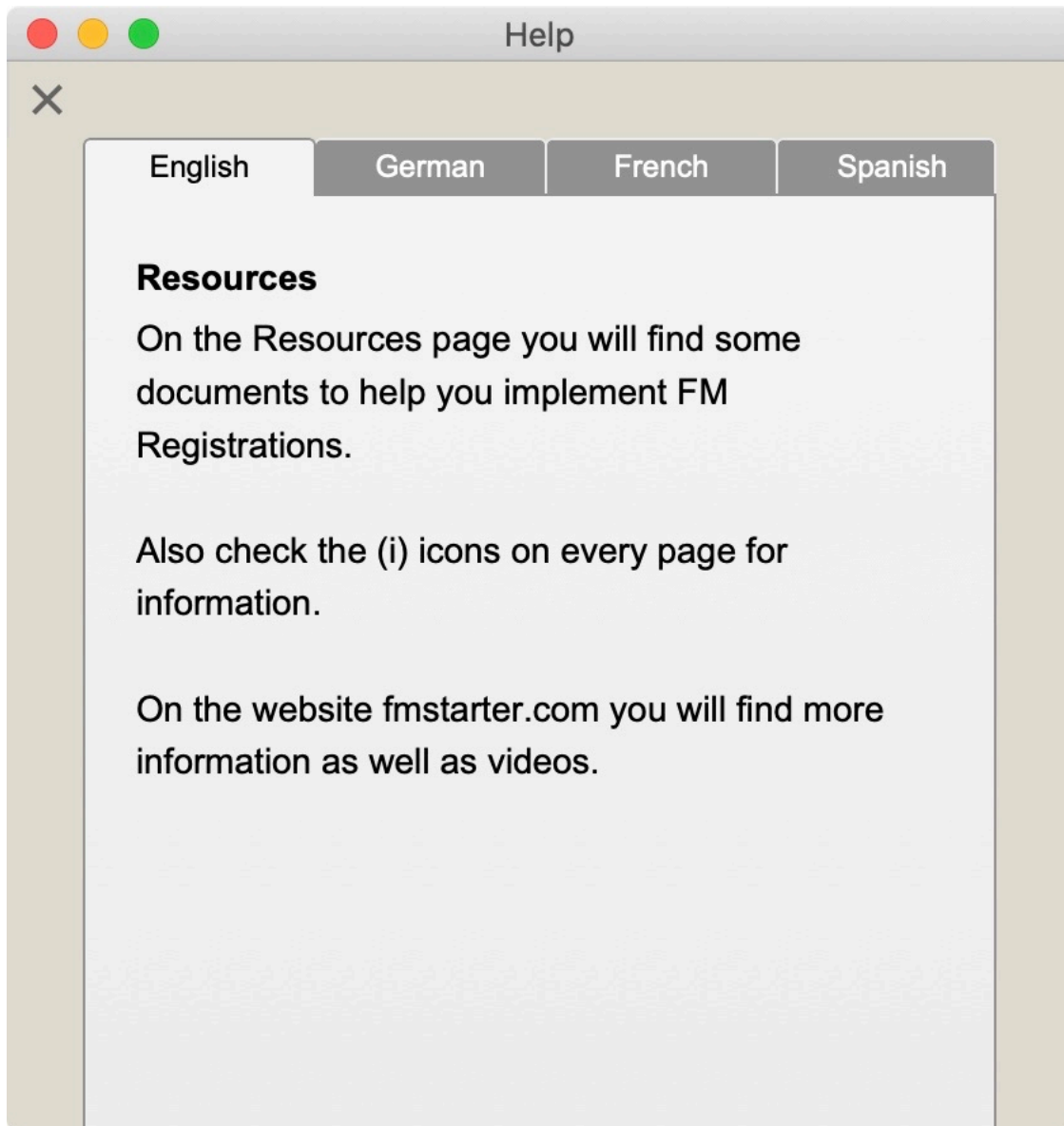
To **activate changes** or new labels, **reload the languages by selecting a language from the language popup** again.

## Help

Besides this manual, there is also a help function that is directly available on most pages. This help function is accessible by clicking on the information icon. It lists additional information for the page you are on.



The help window will open and look like this:



# 10 Security

This is not a "Everything you always wanted to know about security but were afraid to ask" type chapter. It doesn't contain all the answers. It's just an introduction to an important topic from the perspective of standalone solutions built with FileMaker (after all, that's why you bought FM Registrations, right?).

## **Security is no coincidence**

Security does not happen by accident. Security is the result of careful thought, policies, strategies, and constant evaluation. With respect to your FileMaker project, the question is not whether something is "secure." That doesn't define anything. Security is against specific threats. Therefore, you must first consider what type of security you are looking for.

It may surprise you, but security is not just about technology.

## **Safety related issues**

Let's take a look at some security-related issues:

### **Opening a file and its risks**

There is no option in FileMaker to allow a registration screen without opening the file, except for the FileMaker login screen. This screen is the only way to legitimize a user before opening a file. If you don't use this option and open the file only to include a login afterwards, it seems to many developers like you're opening the door to an attacker. And yes, that can be the case. However, this is not the whole story. FileMaker offers good options for security. The question is whether we use them and whether we are aware of the limitations of all the options. Not every solution requires the same level of security.

Two questions are important:

1. What kind of security am I looking for? What needs to be secured?
2. The strategy and tools to get there.

### **Risk management is a better description**

I have found that many developers are hesitant to use anything other than the basic FileMaker login screen. The reason for this is security. Once you grant access to a file, it can potentially be hacked. That's true, but the reality that something can be hacked doesn't depend on that issue alone. The question is how to minimize risk. Security has more to do with risk management. Since not every situation is the same, risk management does not always involve (or require) the same procedures. It is the project that defines the rules by which to play.

### **Security aspects of FM registrations**

Offering users access to a login or registration screen means that they have to open the file. Whenever users can open the file, the number of security issues explodes. Therefore, you must be aware that when implementing something like a registration screen or a self-programmed login screen, all security issues must be carefully considered.

### **There is no 100% security**

As a first line of thought, it must be made clear that there is no such thing as 100% safety, only constantly evolving best practices to minimize risk.

### **Security is not a fixed value**

Security itself is not a fixed entity, but is measured against possible threats in specific environments. For example, if your application is running in an already secured environment, the security of the file has less risks than if it is running on a server and may be accessed through web links, etc.

### **FileMaker offers security options - use them**

FileMaker has many security features. If you do not use them, they have no effect.

### **Safety is more than technology**

Developers tend to overestimate technical aspects of security. This is understandable and desirable, but it is not the total reality. If your users carelessly share their passwords, no security approach will work. Security is a mindset and is always broader than your application or any implementation of security levels in software. Defining security as a mindset means it's not just about technology, but also about awareness and education, policies and accessibility. When you combine all of these thoughts, you will find the best way to implement the security you need for each project. Different projects will have different needs. Security includes backup strategies, user management systems, a proper lock on the door to your server room, firewalls, behavioral policies, etc.

### **Securing what exactly?**

When you think about safety, consider what you mean by it. It can mean many different things, for example

- I am a developer of standard software, and I want my code to be secure, so that no one can copy it.
- I am a user and I don't want to lose my data and work. IT projects and work should be backed up because I want to work on them.
- I am the business owner and I want to make sure that only my employees have access.
- I am from the technical department and I want to make sure that no one can use this software to block my servers.
- We are dealing with sensitive data, and security is about the associated workflows, including digital and non-digital information.
- etc.

### **FM Registrations is not a security tool**

It is fundamental to understand that FM Registrations is not a security solution. However, it can be a part of a security strategy. The main goal of FM Registrations is to protect the interests of the developer who produces a single software product that can be sold multiple times and that can be unlocked using a registration code. FM Registrations is therefore more about marketing than security. There is currently no other way to do this than to use the FileMaker options after opening the file.





## **Safety and maintenance**

If you have implemented the restrictions or configurations, your application may be in the wild on the Internet. More questions apply:

- File and data security
- Export options for user data
- Upgrade strategy for later updates of the software
- etc.

These issues have nothing to do with FM Registrations itself, but relate to FileMaker development, marketing strategies and the like.

## Default settings and login

FM Registrations is intended to support the distribution of standard software. The goal is the possibility of multiple sales by creating a separate license per customer. This is a very specific situation. Therefore, consider the differences to an in-house developed solution.

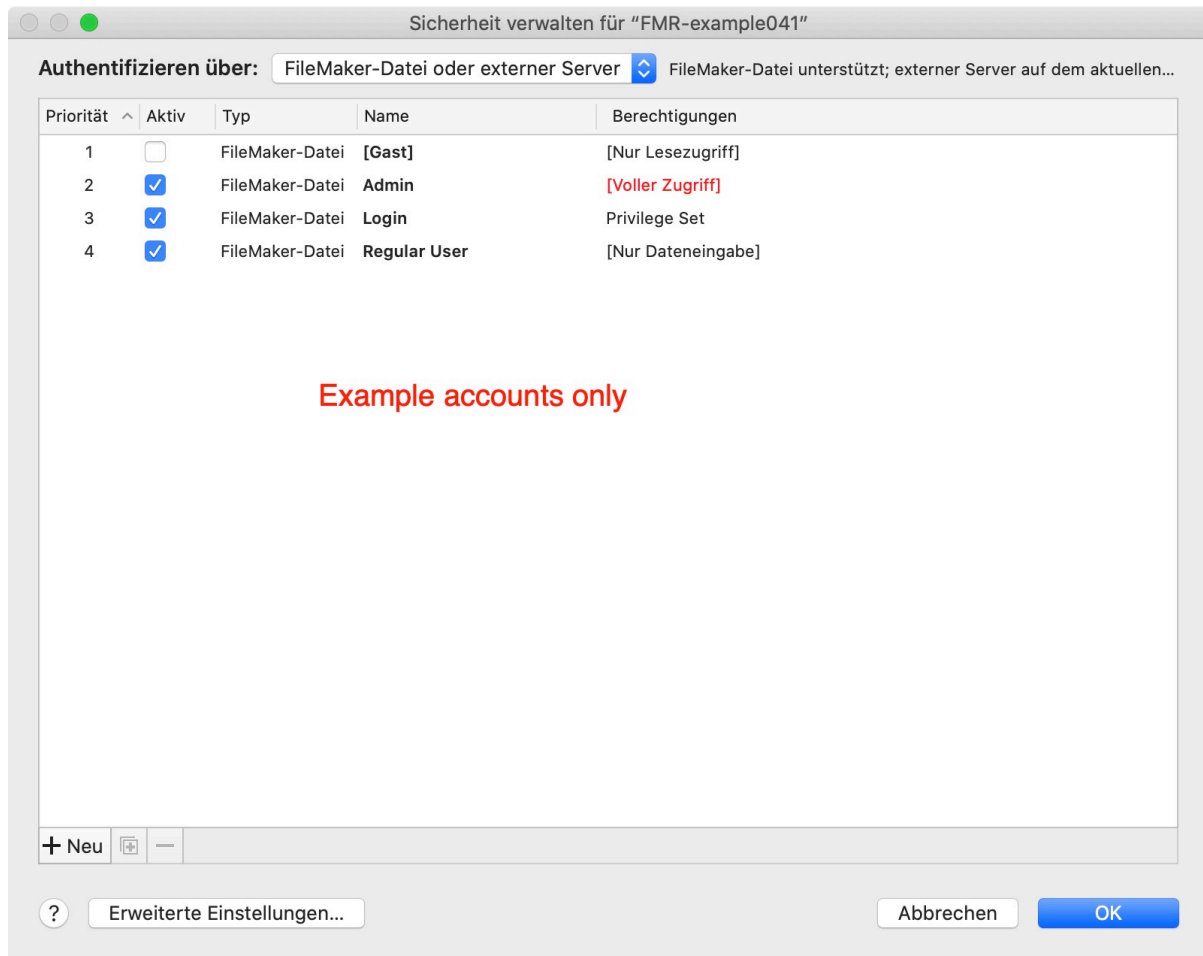
A standard software will have different vulnerabilities than an in-house solution. It is highly recommended to invest time in setting up security for your project.

One issue to consider is the opening of the file. When opening the file, the following aspects come into play:

1. Startup script.
2. Startup account.
3. Selected menu set at startup
4. FileMaker security settings.

The **Startup Script** (File Settings > Script Trigger > [OnFirstWindowOpen]) is the first script that runs automatically when the file is started. This script can make security settings before a user gets access to the software. In the sample file there is such a startup script in simple form.

The **startup account** can be defined in the file settings. Create an account with restricted access only for the registration process. FM Registrations requires you to open the file to enter the registration details. At this point, your file should be secure, which is best done with a separate account for registration (and/or login). After successful registration, you could log back in with another account with broader rights for the user.



The menu set at startup should be limited. It makes no sense to make everything available. It does not look good if menu items are still visible but cannot be selected. Create custom menu sets to suit your needs and better protect your file.

General security settings for the specific accounts can determine how the file can be accessed, with which technologies, etc.

## User accounts

FileMaker lets you create accounts "by hand" in the security settings. This is wonderfully simple if you run the files in-house. The more people who need access, the better it is to create user account solutions with scripts. Each user must have access with their own account. Who will create these accounts and how will the login process work? There are many security issues related to these questions and how you can resolve them. The basic considerations here are the same as in the "Standalone Settings and Login" chapter.

### **TIP**

If you are looking for a versatile but basic user account solution, take a look at our FM Starter product, which not only has the FM Registrations unlock module already integrated, but also provides a user account solution and many other modules. This will greatly simplify the setup of your security levels.

## **File access**

FileMaker security settings are organized per file and per account. Note that security settings are not limited to account access. In addition to the procedures that allow specific people to access the file, you can define many settings per account, including settings for accessing (or: restricting access) to the file from external sources (such as: FileMaker Server, WebDirect, etc.). It is probably advisable not to open everything, but to limit these options.

All these considerations are mentioned only because standard software solutions must be configured properly. These options are not part of FM Registrations, but must be considered for each project by each developer. To the extent that FM Registrations helps you create off-the-shelf solutions, these are things that matter.

## 11 Next steps

Now that you've covered the basics of implementing and using FM Registrations to license your buyers, it's time to get back to marketing and developing your solutions.

## Pushing development forward

Development is an ongoing process. While FM Registrations provided the options to encode and decode an information chain, you create the magic to use that information now.

It is very likely that you will adapt your implementation later. How do you keep your development lean and uncluttered? This is one of the challenges that every developer faces. When they talk to colleagues, they all point out that they do many things differently than, say, 10 or 20 years ago. Their programming style is going to change. The technology is changing. The requirements are changing.

Prepare for the change. These are proven strategies for success:

- Think modular. Build small functions, test them, and then build larger functions with them.
- Comment on your scripts in detail.
- Create inspection routines and defect detection for critical parts.
- Talk to other developers - there's a lot of experience out there.
- Have fun doing what you do.



## Other Kursiv products

You can find more products and help files on our website:

- [fmstarter.com](https://fmstarter.com)