

Margill Loan Manager

Automatic Data Import via JSON/Excel files and Windows Service

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MLM Version 5.6 (and Beta 5.6 not yet available)

Last updated: April 2, 2024

General Concept

These API (Application Programming Interface) allow the automatic creation and update of Loans and Borrowers as well as the import of new Transactions (Payments or other) in the Results table. So far, three APIs are available as well as a Salesforce API: https://www.margill.com/margill-loan-manager/Margill_API_Salesforce.pdf.

The Borrower API and Loan/Borrower API are very similar. The Loan/Borrower API does what the Borrower API does, so could be used if you wish to create/import/update both Loan and Borrower data. If only Borrower data was needed, then you should use the Borrower API on its own as opposed to the Loan/Borrower API since a Record must be included in the import/update. The Borrower/Loan API offers much greater flexibility in the long term. Both APIs can be used simultaneously but some subtleties must be understood (explained below).

The Loan/Borrower API allows the simultaneous creation of the Loan and Borrower directly from a JSON or Excel file located in what is often called a "hot folder". The API eliminates the need to manually create the Borrower and then the Loan or the need to manually import an Excel sheet for Borrower data and another sheet for Loan data. All can be done (version 5.4) with a single file and automatically from your other information system such as a CRM.

If more than one API is used for import, you MUST create one folder per API type to which to send the files (JSON or Excel). You cannot have different API files in the same folder. Ideally, create one main folder called

for example MLM_Auto_Imports and subfolders named: MLM_Borrower, MLM_Loan_Borrower, MLM_Transactions.

Creditors cannot be created or updated with this tool since in most situations, there is only one or a few Creditors in the system. Creditors can be created manually or via an Excel sheet in Tools > Settings > Special > Import Data (Borrower, etc.).

For new Transactions import, this can only be done via an Excel file, not a JSON file.

Definitions:

API (Application Programming Interface): a software intermediary that allows two applications to talk to each other.

Windows Service: a core component of the Microsoft Windows operating system and enable the creation and management of long-running processes.

JSON file: file that stores simple data structures and objects in JavaScript Object Notation (JSON) format, which is a standard data interchange format. It is primarily used for transmitting data between a web application and a server. JSON files are lightweight, text-based, human-readable, and can be edited using a text editor.

Entry: all data corresponding to a single Borrower or Loan.

MLM Windows Service

A Windows Service was created by the Margill team that checks, every two minutes, in the specified folder, if a new file is present and if so, taking the data from this file, the data will automatically be imported or updated if the Loan or Borrower already exist.

The import will take place whether the Margill software is running or not, as long as the proper permissions are provided (Service "Connection" settings).

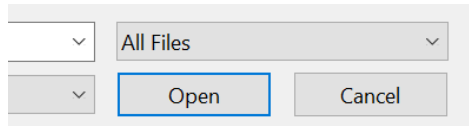
For highly secure environments, the JSON file may be encrypted and decrypted in Margill. This requires the installation of Kleopatra, a certificate manager and GUI for GnuPG. The software stores your OpenPGP certificates and keys. Margill will read encrypted files in .ASC format. The encryption aspects are not covered in this text. Please consult the Margill team for more information on this topic.

Service Setup

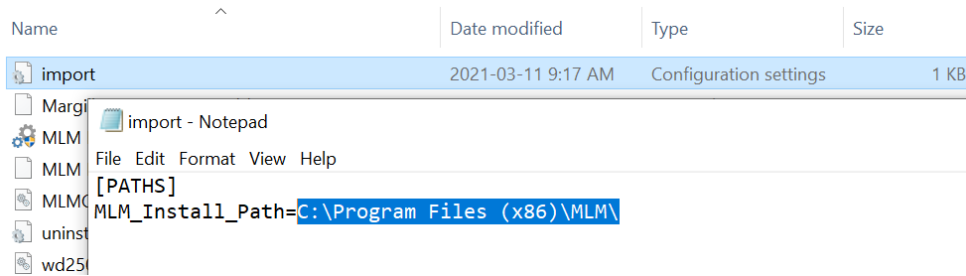
Install the "MLM_Automatic_Imports_SERVICE_version.exe" on the same server as that where Margill Loan Manager is installed.

Once installed, open the Service installation folder (by default called "MLMImports"). In this folder is a file named "import.ini" (may show only as "import" if the view "File name extension" is not checked). With Notepad, open import.ini and enter the Margill Loan Manager installation path. This is where the MLM.exe file is located. If you are not a Windows administrator for your computer, you may have to run Notepad as

an Administrator (right click on the application). Notice in Wordpad that the file must be set to all (not only TXT, the default file type) to find and open the .ini file.



Enter the proper path after the = sign (see in blue below):



For a network installation, the path can remain the local machine's (server's) drive (C, D, E, etc.) as opposed to the server's name, since the Service is executed by the local machine.

NOTE: When saving the .ini file, make sure the extension is .ini, not .txt.

This path will then appear in the "Automated Import Configuration" window (under Tools > Settings > Special > "Automated Import"), thus allowing you to make sure this is the proper path. If the path indicated in the import.ini file does not match the current instance of MLM, when the module is configured in Margill, the "Data Path (import.ini)" status item will appear in red as opposed to green when correct.

Automated Import Status

✗ Windows Service

Status **Running**
Data Path (import.ini)
C:\Program Files (x86)\MLM56.1\

✓ Borrowers

- ✓ Import Folder
- ✓ Valid Mapping

Windows Service

Unlike regular software that is launched by the end user and only runs when the user is logged on, Windows Services can start without user intervention and may continue to run long after the user has logged off. The services run in the background and will usually start when the machine is booted.

The Service called "MLM Import Service" must first be installed in a shared drive, the MLM path defined (see above instructions) and may have to be started if you see the Status (data to the left) other than "Running".

Automated Import Status

✗ Windows Service
Status **Stopped**
Data Path (import.ini)
C:\Program Files (x86)\MLM52.1\

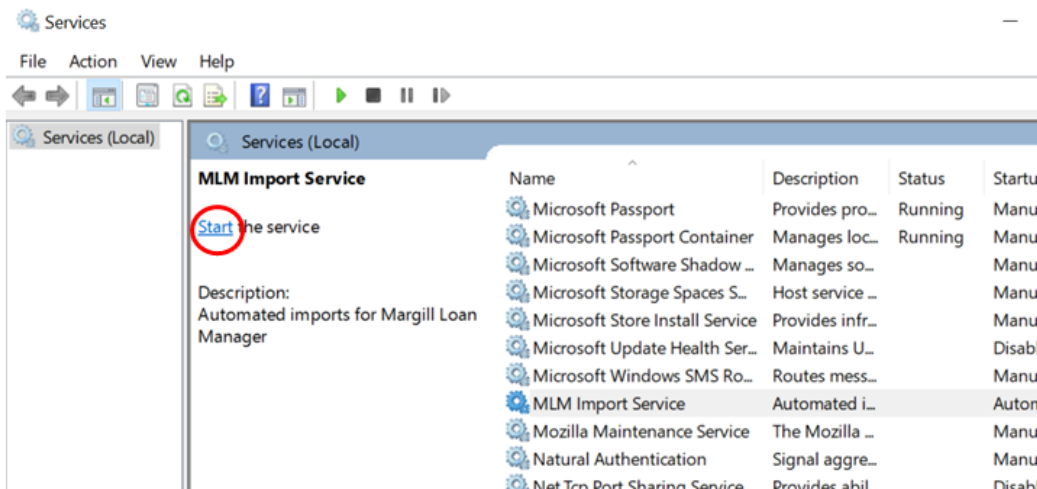
✓ Borrowers
✓ Import Folder
✓ Valid Mapping

To Start the Service, search for "Service" in the Windows Search tool. The Service App will appear. Click to run the Services App.

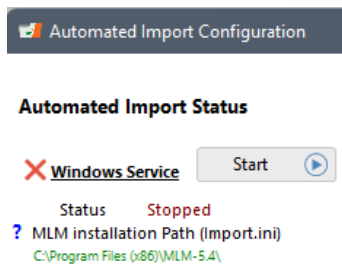


Services
Application

Scroll down to the "MLM Import Service" and click on it (highlights in blue). This window will appear. Click on "Start the service".



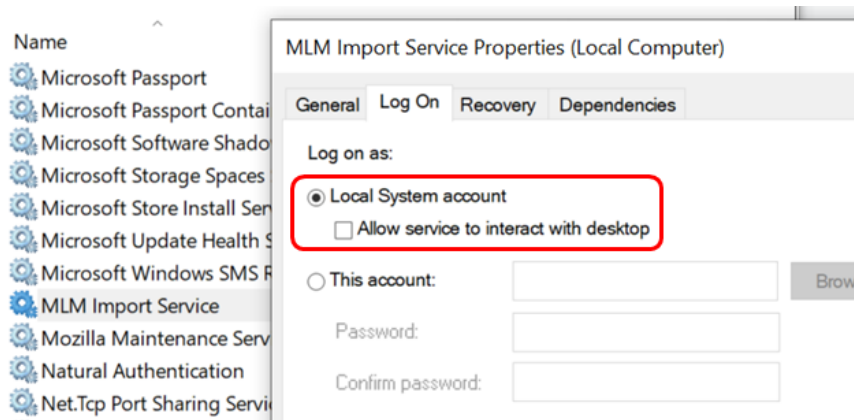
It is also possible to start and stop the Service with the "Start" (or "Stop") button directly in the setup window:



If the Service is running and all components show that all is set properly, yet the file does not get imported, an issue may be the “Log On” account that runs the service. Right click on the Service, go to “Properties” and go to the “Run as” tab. Two options are available in order to “Log On”. The “Log On” defines who, which Windows user, will run the Service whether this user is logged into or not logged into the machine (server or local machine) and whether MLM is running or not.

The “Local System account” is used by default by the MLM Import Service. If you wish to run the Service under a different security context (like a service account you create), you would want to grant that service account *Log on as a Service* rights so that it could run your service without the need for a user to be logged in. If file encryption is used, you may need to change this account to a Windows user account (like the account you use to open your Windows session). “Allow service to interact with desktop” needs not be checked.

Your system administrator must manage these options if the choice is other than “Local System account”. The MLM team cannot intervene at this level for security reasons among others.





CRITICAL ASPECTS!

These two situations must be managed with great care:

1) Existing but wrong data path (import.ini)



The Service will import the file even if the "Data Path (import.ini)" is wrong if another instance of Margill Loan Manager exists, for example when the software is copied from one folder to another but where the old installation is not deleted. This error will not be identified in the active MLM log but in the old one, making one believe, mistakenly, that everything has imported correctly.

2) Files exported to Margill import folder but remaining dormant

If the third-party software generates the files correctly and places them in the "Import Folder" yet the Service is not running, the files will simply accumulate in this folder. The log will not identify the errors since no operation is performed (and error emails will not be generated). It is therefore important to occasionally check that no file is present in the "Import Folder" (for more than a minute or two) and to make sure that all components are active , not in alert status .

Import Files and Destination Folder for these Files

In order to use this API, the third-party software must be able to generate, usually on a regular basis, a JSON file or an Excel file (.xls or .xlsx) with changes in Borrower data or new Loans or Borrowers to be imported to Margill. The third-party software must save the file to the proper folder (Borrower or Loan Import folder), at which point Margill checks for the presence of a file every two minutes and if present, imports the data. The file is then copied to a subfolder called “processed” and deleted from the Import folder. If the file is rejected (improper file type added to folder by error for example), the file will go to the “not imported” folder.

-  not imported
-  processed

A very important Log, that should be consulted regularly, is created that will show what data is imported properly and if there are any errors. Errors will NOT stop the import. All valid data will be imported, invalid data will not and since this process is automated and seamless, the errors will only be reported in the Log that must be consulted regularly and the errors fixed upstream, in the third-party software that exports the data. The logs can also be sent by email (and Email to SMS) thus not avoiding the need to consult the Log on a regular basis.

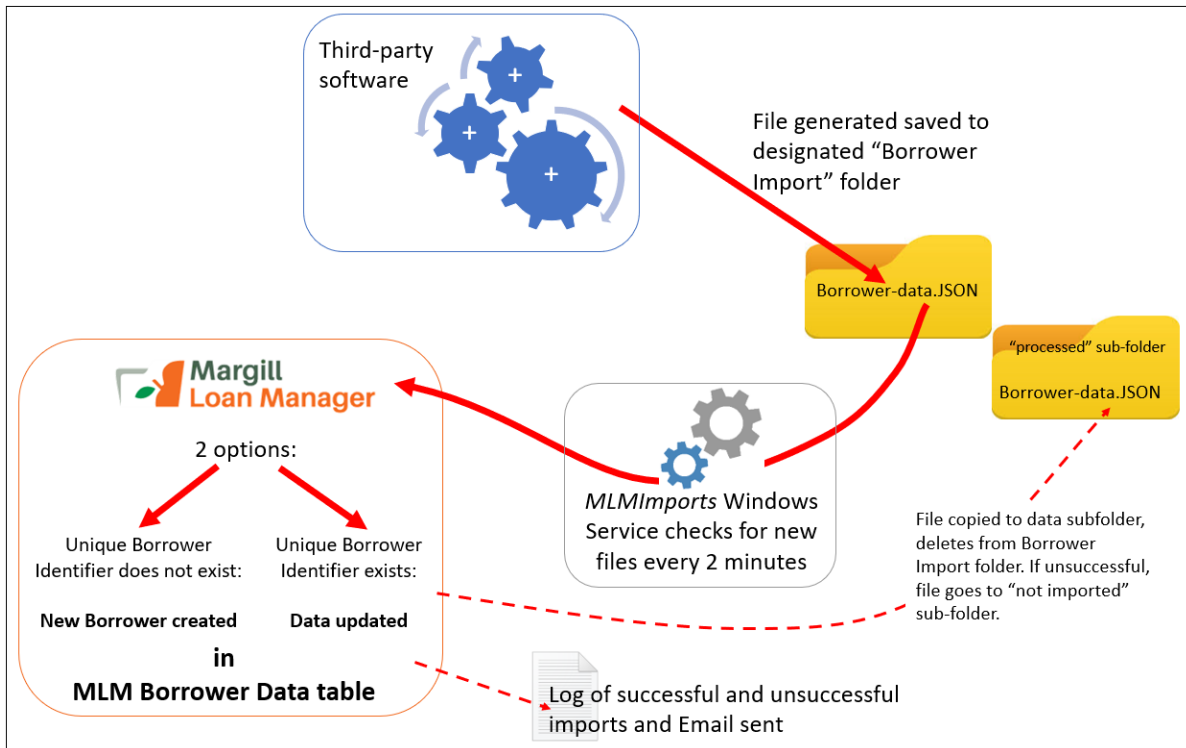


Diagram also applies for Loan/Borrower import and Transactions import (changing the word “Borrower” to “Loan/Borrower” or “Transactions”)

MLM in the Cloud (SAAS version)

If you are using MLM in the Margill Cloud in Azure, basic Service setup will be done by the Margill team (fees will apply).

Implementation requires quite a bit of file testing which should be done with the "Manual Import" button that will allow you to select the test file (Excel or JSON only) from your local machine.

Manual Import

The Manual import is a true import so file data should be limited to a few Records where corrections can easily be done if required.

Once the manual import is successful, then the automatic import via the Service can be done going forward.

The automatic file import from your system to the Margill Cloud will be done with another Service (MLM-Remote-file-transfer.exe) that checks if a file is present every x minutes (see with the Margill team). You will be able to specify the remote location of the import files with the "Remote Server" link (only available in SAAS mode).

The remote server must be FTP and the various other data to access this server will be required as indicated in the window below:

Remote File Transfer Setup

FTP Server Setup Start

Address

User Port number

Password Test connection

Loan and Borrower API

Remote FTP Folder

* Then move to this folder (Opt.)

Borrower API

Remote FTP Folder

* Then move to this folder (Opt.)

Transactions API

Remote FTP Folder

* Then move to this folder (Opt.)

* If no folder is entered above, file will be deleted after transfer

Save Cancel

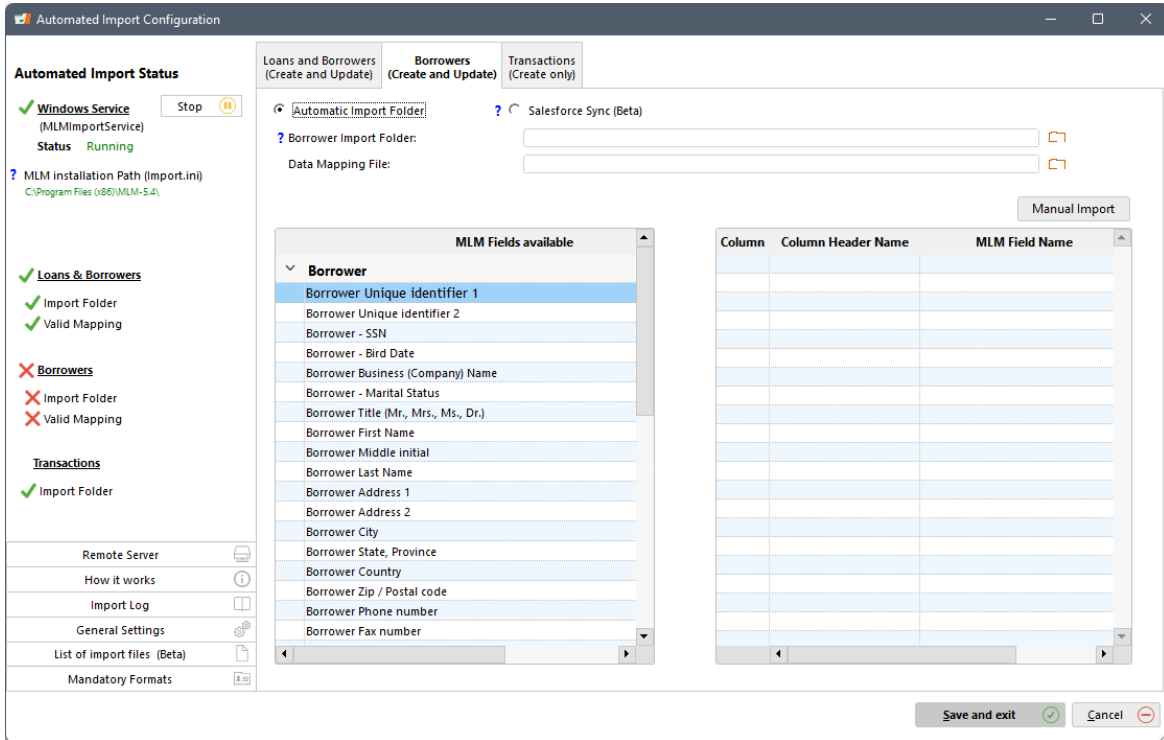
Since three APIs are available (Borrower, Loan/Borrower and Transactions) by file transfer, the file transfer module includes three file locations for FTP download (distant server) and three separate file locations on the Margill server for file upload (these file locations on the Margill server will be configured according to your needs by the Margill team). You must specify only the location(s) you need depending on the API(s) to be used.

The "Then move to this folder" option and allows, once the file has been uploaded to the Margill server, to move the file to another folder on the remote server in order to keep the file. If no location is specified, the file will be deleted on the remote server once uploaded to the Margill server.


API 1a - Automatic Borrower Creation and Update

Only Borrower data may be imported (a Co-Borrower and a Guarantor are actually Borrowers (in the same data table) and thus can also be imported and updated) with this API. No Loan information (such as Custom fields linked to the Loan itself), Creditor or Employer data may be imported with this API. Use the Loan/Borrower API if this was required. There is also a Salesforce API (API 1b) with documentation in a separate document.

Under Tools > Settings > Special > click on “Automated Import”. This window will appear:



You will need to:

- a) Specify the Borrower Import folder – this is where the third-party software saves the updated files with new or updated Borrower data.
- b) Select the “Data Mapping File”. This is the template file that allows the user to match (“Map”) the fields from the import file to the corresponding Margill fields. You should use an actual file for this mapping.
- c) “Map” the data from the “Data Mapping File” to the Borrower fields in Margill. Use the arrow  to indicate which Margill fields on the left correspond to the fields from the import file (on the right).

For the mapping, a critical element is to choose the Borrower Unique Identifier. This is called the “Key” that identifies the Borrower (for example, if you have two Borrowers called “John Smith” the Key will identify who is who). The Key can be one of these two fields:

- Borrower Unique ID 1 (user-defined)
- Borrower Unique ID 2 (user-defined)

A file MUST contain, for each Borrower, one of the two Unique ID above otherwise the Borrower will not be imported nor its data updated.

Notion of "Key"

A Key allows the creation of a link between two systems or more in order to specifically identify this person, this entity, this loan, etc. In Margill, three fields can be used as Keys for the Borrower and for the Loan:

- 1) Borrower ID (and MLM Record ID, for the Loan), automatically generated by MLM. These IDs are not usually used unless they are then entered in the third-party software as a key.

Borrower ID: 40007

- 2) Borrower Unique Identifier 1 / Record Unique Identifier 1 that can be renamed
- 3) Borrower Unique Identifier 2 / Record Unique Identifier 1 that can be renamed

Unique Identifier 1
Unique Identifier 2

A key must always be unique; otherwise there will be a conflict. Two Borrowers or two Loans cannot have the same key.

Using more than one Unique Identifier

It is possible to include more than one Borrower Unique Identifier (or for a Loan) in the import file. This would be required, for example, when data needs to be extracted or updated in two third-party systems containing distinct unique identifiers.

The system will treat the "key" as follows:

- File contains ID 1 and ID 2 and none of these data are present in MLM - creation of new Borrower.
- ID 1 exists in MLM (but not ID 2). File contains ID 1 (identical with MLM ID 1) and new ID 2 data in the file. ID 1 is the key and ID 2 will be added in MLM. Same scenario for inverse IDs.
- ID 1 and ID 2 exist in MLM. File containing ID 1 (unmodified) and ID 2 modified. ID 1 will serve as the key and ID 2 will be updated.
- ID 1 and ID 2 exist in MLM. File containing ID 1 (modified) and ID 2 unmodified. ID 2 will serve as the key and ID 1 will be updated.

Example:

ID in import file		ID in MLM for one Borrower/Loan		Other Loan/Borrower		Result		Other comment
ID 1	ID 2	ID 1	ID 2	ID 1	ID 2	ID 1	ID 2	
111	222	Not present	Not present			New 111	New 222	New Loan or Borrower created.
111	222	111	Empty			111	Update to 222	111 is the Key
111	222	Empty	222			Update to 111	222	222 is the Key
111	333	111	222			111	Update to 333	111 is the Key
444	222	111	222			Update to 444	222	222 is the Key
444	333	111	222			New 444	New 333	New Borrower or Loan created (ID 111 and 222 are not relevant even if outside system wanted to update the ID for that specific Borrower or Loan - 444 and 333 are not in MLM, thus creation). Same scenario as if ID 1 and 2 were not present.
111	333	111	222		333	No New, No Update	No New, No Update	Fatal error since unique ID cannot be used for two Borrowers/Loans
444	222	111	222	444		No New, No Update	No New, No Update	Fatal error since unique ID cannot be used for two Borrowers/Loans

If the module is used to import new Borrowers (as opposed to only updating existing Borrower data), then these fields must be included:

- i. Borrower First Name and Last Name

Or

- ii. Borrower Business name





For new Borrowers, if i. OR ii. is not filled out, an error message will result. The data for this Borrower will not be imported. Data in these two fields is not required if the Borrower already exists in Margill.

To the right of the window, the “Automated Import Status” section allows the user to see if:

1. the Windows Service is running;
2. Windows Service path corresponds to the MLM installation path;
3. the Borrower Import Folder is defined;
4. the mapping is valid.

If any of the four requirements above are not met, the module will not work.

Automated Import Status

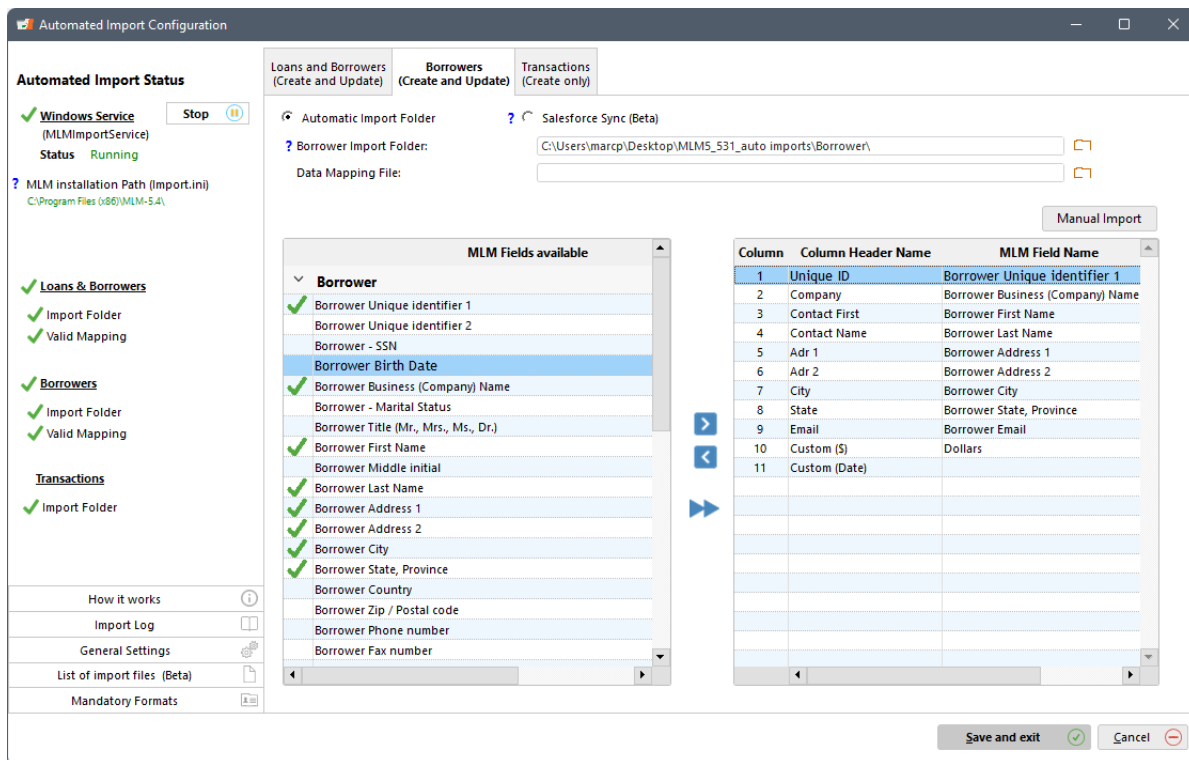
-  **Windows Service**
 Status Running
 Data Path (import.ini)
 C:\Program Files (x86)\MLM52.1\
-  **Borrowers**
 -  Import Folder
 -  Valid Mapping

Notice to the left of the image below that “Valid Mapping” is still indicated as incomplete (✗) even if all fields seem to be mapped properly to the right.

Column	Column Header Name	MLM Field
1	Unique ID	Borrower ID
2	Company	Borrower Business (C
3	Contact First	Borrower First Name
4	Contact Name	Borrower Last Name
5	Adr 1	Borrower Address 1
6	Adr 2	Borrower Address 2
7	City	Borrower City
8	State	Borrower State, Provi
9	Zip/PC	Borrower Zip / Posta
10	Email	Borrower Email
11	Fiscal year (custom scroll)	Fiscal Year End
12	Custom (S)	Dollars
13	Custom (Date)	Date

In this example, the error is still present because Borrower Middle Initial is a mandatory field yet is not included in the data. Either add this field to the data or remove this as a mandatory field.

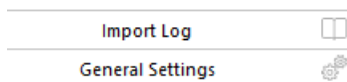
With the Windows Service now Running and the green checkmarks (✓) on the left, the module should now be working.



Import/ Update Rules

If a Borrower entry contains one error among the multiple fields, the whole entry (for this particular Borrower) will be ignored but the other Borrowers will be imported or their data updated. An error can occur on several levels, for example: missing key, invalid date format, invalid format (text instead of currency), data submitted in the file that is not in the MLM drop-down menu, no Key submitted for the Borrower, mandatory data, etc...

- For **new** Borrowers: all data for this Borrower will thus need to be re-entered. Data should be fixed in the upstream system.
- For **existing** Borrowers, all updated data is ignored, not only the error data. Data should be fixed in the upstream system.
- Entries without errors will be imported/updated in the system. One or multiple errors in the whole file, unless otherwise noted in the Log, will not invalidate the other data.
- All errors are logged in the "Import Log" (see specific section on this lower down), available from the Automated Import Configuration window. You may also choose to enable "Email Notifications" from the same window.



Mandatory fields and formats

- The MLM Administrator can also specify that other Borrower fields are mandatory (this is set in Tools > Settings > Mandatory fields). If a field is mandatory but is not entered, an error message will appear in the log. Mandatory fields must also appear in the fields being imported (see above).
- Note: Mandatory fields (Loans and Borrowers) are currently not managed when importing with the “Automatic Loan/Borrower creation and date update” API (see next section).

Furthermore, for Zip/Postal codes, for phone numbers and for social insurance numbers, mandatory formats may be set. Again, if the precise format is not followed, the error will appear in the log files and the whole Borrower entry will be ignored (see Import/Update Rules). Log files must be checked and data fixed in the upstream system. If no data is included in the file, the default data will be imported automatically.

Mandatory Formats

For letters (small or capital)	x or X
For a number	9
For a space	Space
Other special characters allowed	() - . , % #

Example of a US Zip: 99999 (option 1), 99999-9999 (option 2)
Canadian postal code: X9X 9X9
Example of a US SSN: AAA-GG-SSS
Canadian SIN: 999-999-999

Formats:

Mandatory formats are for the import only.
Two formats are allowed for Zip / Postal code and Social sec.
The number of letters, numbers and special characters must be exact.

ZIP / Postal code (option 1):

ZIP / Postal code (option 2):

Phone/Fax/Mobile:

Social Sec. (option 1):

Social Sec. (option 2):

Save Cancel

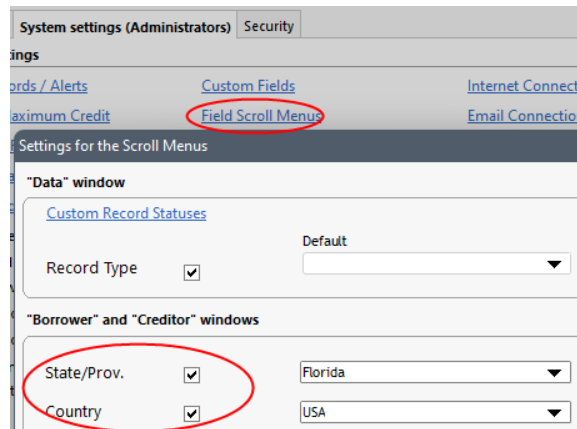
For fields that include special formats (date, number, money, integer) or for which scroll menus are present, if the data does not correspond to the proper format or the available menu choices, the whole Borrower data will be ignored. Log files must be checked and data fixed in the upstream system.

Date formats **must be** YYYYMMDD (this is the ISO format). Any other format will be rejected. Even for Excel files, the YYYYMMDD must be respected without any dashes (-) or backslashes (/). If the Excel format is, for example MM/DD/YYYY or even YYYY-MM-DD, this will be rejected. The cells must thus be changed to the precise format allowed, either as a DATE or TEXT field in Excel.

Error	13-03-2021 10:54:06	Testr-Emptunteur_v2 [entry #2] - [Custom (Date): 20121414] - Date format expected YYYYMMDD.
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Special cases for Borrower Province/State and Country: a Margill Administrator could have created, in Tools > Settings > System settings > Drop-down menu fields > “Borrower” and “Creditor” window section, drop-down menus including default values (example: all your clients are in the US or the UK). Only these choices

can be included in the automatic import. An error will occur if this data is not respected and the entire entry will not be imported. If no data is included in the file, this default data will be imported automatically.



API 2 - Automatic Loan/Borrower Creation and Data Update

This section will cover the specifics for the Loan/Borrower creation and data update.

This API allows:

- 1) Creation of new Loans* and of new Borrowers (that may “act” as Co-Borrower** or Guarantors**)
- 2) Update of existing Loan and Borrower information (but not all Loan data elements since some cannot be changed)

* Loans or Lines of credit, mortgages, leases and other financial instruments. The word “Loan” is used to simplify the wording. We often use the word “Record” to mean a loan but a Record consists of Loan data and all other elements tied to the loan (Borrower, Creditor, etc.).

** Co-Borrowers and Guarantors are really Borrowers. They are located in the Borrower *table* (or Borrower *database* if you wish). A Borrower can act as a Borrower, as a Co-Borrower and as a Guarantor in another loan. We call these “Roles”.

Loans associated		
Business		
First Name	Marc	
Last Name	Campo	
MLM Record identification	Record Status	Role
10097	Active	Borrower
10205	Closed	Borrower
10313	Active	Borrower
10421	Active	Borrower
10487	Active	Guarantor
10492	Active	Co-Borrower

Borrower “Marc Campo” is a Borrower in 4 loans, is a Guarantor in one and also Co-Borrower in another

This can be seen under File > Borrower tab > bottom, center [Records \(6\)](#)

The tool also allows to link a Loan to one Borrower, one Co-Borrower, one Guarantor and one Creditor. Active and non active Loans (any Status) can be updated with this API. **NOTE: In the current version, Co-Borrowers and Guarantors cannot be imported/updated along with the Loan. This will be added in a later version of 5.5 or 5.6. The documentation has nevertheless been drafted to reflect this option coming up later.**

Configuration

Setting up automatic import is relatively simple once you understand the basic concepts. However, this task is usually done by an IT technician who understands these fundamental concepts:

- What is a unique identifier (Key)
- What is data mapping
- Special mapping data (number corresponding to a data item – for example, Active Loan = 3 as opposed to the word “Active”)
- Default data when it’s always the same (therefore does not need to be included in the import file)
- Mandatory data
- Loan or Borrower creation (initial import) versus data update
- Importance of error verification (import and error Log)

Data Mapping

First choose the file template that can or not contain data. The JSON or Excel file must contain the data types (headers in Excel) to be imported:

Loans and Borrowers (Create and Update)	Borrowers (Create and Update)	Transactions (Create only)
<p>? Loan Import Folder: <input type="text" value="C:\Users\marcp\Desktop\MLM5_531_auto imports\Loans-Borrowers\"/></p> <p>Data Mapping File: <input type="text"/></p>		


Once the file is chosen and mapped, it is no longer of value and will not be shown in the above box since it could have been deleted in the meantime. A green checkmark will appear if this step is complete.

Loans and Borrowers (Create and Update)	Borrowers (Create and Update)	Transactions (Create only)
<p>? Loan Import Folder: <input type="text" value="C:\Users\marcp\OneDrive\Bureau\MLM5_531_auto imports\Loans_Borrowers\"/></p> <p>? Data Mapping File: <input checked="" type="checkbox"/> <input type="text"/></p>		

Mapping is different in this module than in the Auto import Borrower module described above. A little less intuitive maybe, but for a good reason: "Default settings" as will be explained below.

The following themes are included in the import. Use the "expand" icon (>) to see the fields included in each theme.

- > Loan
- > Advanced
- > APR
- > Column Fees
- > Custom Fields Unlimited (Record)
- > Custom Fields 1 to 9 (Record)
- > Borrower
- > Custom Fields Unlimited (Borrower)
- > Custom Fields 1 to 9 (Borrower)
- > Creditor

You will then be able to map the import file field to the proper Margill field by clicking on "Pick an item..." or on the three horizontal lines . All fields from your import file will be shown and those already mapped will be progressively deleted from the "Import File Element" window in order to find the appropriate fields more easily.

The very first item to map is usually the "Key" for the loan that can be Record Unique ID 1 or 2 (these could have been renamed in Tools > Settings > System Settings (Administrators) > Personalized Standard Fields).

This Identifier will be the Key from your other information system and will then link the proper data.

Loan

Record - Unique Identifier 1

Maps to *Pick an item...*

Record - Unique Identifier 2

Maps to *Pick an item...*

Record Status

Maps to *Pick an item...*

Import File Element

	A	B	C	D	E	F
	Borrower ID Link-	Loan ID Link-	Record Status	Loan Date	Loan First pmt	Princip
1	New	New				
2		15000B	1			
3		12345A	2			
4	JulieB100	50006Y	3	20210505	20210601	7
5

Result of the selection above shows the import field name in green:

Record - Unique Identifier 1 **Default Value**

Maps to **Loan ID Link-New** *Not Available*

If some data never changes, there is no need to include this data in the import file. Instead, set a Default value for this field. For example, if all loans that are imported are Active loans and nothing else, then set "Active" as the Default in the import mapping and do NOT "Pick an item":

Loan

Record - Unique Identifier 1 **Default Value**

Maps to **Loan ID Link-New** *Not Available*

Record - Unique Identifier 2 **Default Value**

Maps to *Pick an item...* *Not Available*

Record Status **Default Value**

Maps to *Pick an item...* Draft

Origination Date Draft

Maps to **Loan Date** Pending

Active

On Hold

For many Margill clients, a single Creditor provides the loans. Thus, under the Creditor theme, choose the name of the organization that is the lender for all loans as the Default Value.

Creditor

? Record/Creditor link – MLM Creditor ID **Default Value**


Maps to *Pick an item...* XYZ inc.

If a different Creditor is used from one Loan to another, do not enter a default value. In the import file, enter either the Nnique identifier for this Creditor (created by MLM and included in the 30000) or enter one of the

two other Unique identifiers that you entered for each Creditor. Creditors must be entered in MLM (mass import is available but manually via an Excel sheet) in order to be able to carry out this mapping.

When importing, if a value is left blank (by error or not), the default value will be entered in Margill for this Loan or Borrower. However, this default value will be ignored when a Loan or Borrower is **updated**.

The screenshot shows two input fields. The first is labeled 'Record Status' and contains the text 'Maps to Record Status'. The second is labeled 'Default Value' and contains a dropdown menu with 'Pending' selected. Both fields have a red box around them.

When all data that must be imported is selected, the “Import File Element” window will no longer appear with “Pick an item”. It can still be viewed with the three horizontal lines  but it will be empty.

The screenshot shows a window titled 'Item Selector' with a sub-header 'Import File Element'. Below the header are several empty rows, indicating that no items are currently selected.

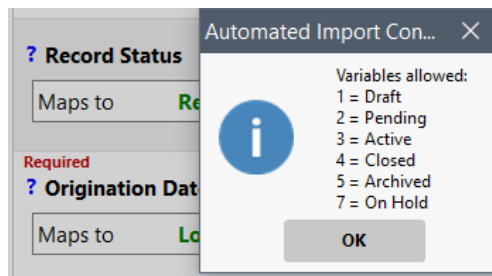
If a mapping error was made, click on the circled X to “unmap” the field and reselect the proper field.

The screenshot shows a mapping field labeled 'Project cost' with the text 'Maps to L - Security value'. To the right of the text is a three-line menu icon and a circled X icon, which is highlighted with a red box.

For the following fields:

- Record Type
- Compounding Period
- Payment Frequency
- Payment Method (Normal P&I, Interest-only, Fixed Principal, etc.)
- Calculation Method (Simple, Compound, etc.)
- Day count
- Automatic Column Fees activated or not
- Last payment adjusted to give a final balance = 0.00 or X when the Payment amount is specified
- APR Fees – Calculate and Payment timing
- Column Fees (1 to 6) with or without interest
- US Bank Account Type (Consumer or Business)(under Borrower theme)

a number, as opposed to the name of the value must be selected. For example, an Active loan should be 3, and a Draft, 1. The corresponding number is available in a mouse-over on the ? or by clicking on the ?:



If this data is to be imported to Margill, your information system must be configured to import these numbers, not the actual field values or names. If your information system cannot be programmed to do this, please consult with Margill Support. Customization may be required.

Importance of import file consistency

Once the mapping has been established between the import file and the Margill data, it is critical that the import files contain all these columns (Excel) and each of the variables (JSON) that were mapped. An Excel sheet can include extra columns and a JSON file extra variables than were mapped, but files cannot contain fewer variables. Additional columns or variables will be ignored. If columns or variables are missing, then the entire Excel or JSON file will be refused.

Common rules for initial Import and update of Loan/Borrower/Co-Borrower/Guarantor

If a Loan/Borrower/Co-Borrower/Guarantor (for short: LBCG) entry contains what we call a "fatal" error among any of the fields, the whole entry (entire line) will be ignored but the other lines)(the other entries) will be imported or updated.

- For **new** LBCG: all data for LBCG will thus need to be re-entered. Data should be corrected in the upstream system.
- For **existing** LBCG, all data to be updated or added are ignored when there is a fatal error, not only the erroneous data. Data should be fixed in the upstream system.
 - In some cases, the data already entered cannot be modified (for example, the Origination Date) and therefore a change of one of these fields or this field returned empty will generate a "non-fatal" error nevertheless allowing for other data to be updated.
- Entries without errors will be added/updated in the system. One or multiple errors in the whole file, unless otherwise noted in the Log, will not invalidate the other data.
- **CRITICAL: For data updates, an empty field will delete the existing Margill data for that field (if it is a field that can be updated; this is ignored for fields that cannot be updated). It is therefore important to re-enter, in the import file, ALL the data and not only the new or modified data.**
 - Exception to this rule: non-updatable data can be left blank for updates. This would have no effect on other data updates.
 - It is best to leave all data in the import files, even data fields that cannot be updated.

- It is IMPERATIVE to consult the log file or obtain the errors by email or SMS ("Email to SMS" if available with your mobile provider – direct SMS not yet available for this module).

Detailed import and update rules are described below taking into account the specific fields and their influence. Here are the main guidelines, followed by a fields table:

New Loans / Borrowers / Co-Borrowers / Guarantors

- A new Loan, Borrower, Co-Borrower or Guarantor (LBCG) will be created if the Key of this *entity* does not exist in MLM.
 - Warning: a Borrower, a Co-Borrower or a Guarantor cannot be created alone with this API. Loan data **must** be included in the import file.
 - If no key is specified for the Loan (or Borrower), then each import will create a new Loan or Borrower. It is thus critical to always include a key for the LBCG.

Data update:

- Several fields **cannot** be modified. Therefore, a change in the import file will have no impact on the following fields:
 - Most of the fields in the Data tab
 - All fields in the Advanced tab
 - All fields in the EFT tab
 - All Column fees
 - Creditor data
 - The Interest rate or the Interest rate table

IMPORTANT: If the file submitted contains a change to a field that cannot be modified, a message will show up (this is a non-critical error) in the Import Log and the data will simply be ignored, but the other changes allowed will be made for this entry.

- For example, one tries to change the "Day Count" (change not allowed) and the "Record Status" from "Draft" to "Active". The Day Count change will be ignored, a message will appear in the Log and the Loan will be changed to "Active".

However, if a field can be modified and that change causes an error, then the entire entry will be skipped and a critical error will be reported in the Log.

- For example, the "Record Type" (change allowed) needs to be changed; the "Record Status" is changed from "Draft" to "Active". The Record Type is wrong, for example "Personnnal loan" or even "personal loan" (lowercase p not allowed) instead of "Personal loan") then the Log would report a fatal error for the complete entry submitted (no change will be made for this Loan / Borrower / Co-Borrower / Guarantor).
- Fields that can be updated:

- Record Status
 - Record Type
 - Record number
 - Record number (numerical)
 - Accounting ID
 - Date (from the General tab)
 - Credit limit
 - All Custom fields
 - All Borrower fields
 - All Co-Borrower fields for a loan
 - All Guarantor fields for a loan
- For Borrower, Co-Borrower and Guarantor updates, the Loan data (at least the Loan Key) must be included in the file.

The mandatory formatting if specified for the Postal code and Telephone/Mobile fields must be respected in the import file.

NOTE: Even if it is indicated in this document that the Co-Borrowers and Guarantors are included in the import/update via the Loan/Borrower API, they cannot be imported or updated at this moment – they will in a later version 5.4. They can still be imported and updated as Borrowers via the Borrower API and their role (associated to the Loan) can be defined manually afterwards.

1) Creation of new Loans and of new Borrowers/Co-Borrowers and Guarantors

A new Loan will be created if Record Unique ID 1 or Record Unique ID 2 (as they may be renamed) do not exist in the database. If one of these exists, then the Loan will be updated with the new data that can be modified and no new Loan will be created. The same principle applies for Borrowers/Co-Borrowers and Guarantors with their Unique identifiers.

This first table summarizes the different scenarios and consequences when fields, included in the import file and that are mapped, contain empty or erroneous data:

Field of Field type	Included in the Excel import file	Result	Error message / Note
Creditor	Creditor Unique ID 1 or 2 empty	Record created without a Creditor	Informative error message
	Creditor Unique ID 1 or 2 does not exist in MLM	Record created without a Creditor	Informative error message
	MLM Creditor ID empty	Record created without a Creditor	Informative error message
	Wrong MLM Creditor ID	Record not created	Fatal error
Borrower	Borrower Unique ID 1 or 2 empty	Record created without a Borrower	Informative error message

	Borrower Unique ID 1 or 2 does not exist in MLM	Record created without a Borrower	Informative error message
Co-Borrower	<i>Borrower</i> Unique ID 1 or 2 empty	Record created without a Co-Borrower	Informative error message
	<i>Borrower</i> Unique ID 1 or 2 does not exist in MLM	Record created without a Co-Borrower	Informative error message
Guarantor	<i>Borrower</i> Unique ID 1 or 2 empty	Record created without a Guarantor	Informative error message
	<i>Borrower</i> Unique ID 1 or 2 does not exist in MLM	Record created without a Guarantor	Informative error message
Drop-down menus	Import file value not included in MLM	Record not created	Fatal error
Bank Account	The data must be present for the following 4 fields for US bank accounts: Description, Routing Number, Account Type, Account Number. For Canadian bank accounts: Description, Bank ID, Transit, Account Number. For Europe: Description, IBAN, BIC	Record not created	Informative error message
	Blank value but menu includes a blank	Record created	
	Empty value	Default value entered	
Origination Date	Empty or wrong	Record not created	Fatal error
First Payment Date	Empty or wrong, preceding the Origination Date	Record not created	Fatal error
Principal	Empty or at 0.00	Record created with a principal of 0.00 (and not computed)	Note: Principal is a mandatory field in the import file (must be mapped) but can be left empty.

			Note: With manual import (via an Excel sheet), Principal is computed if left at 0.00 as opposed to the automatic import.
Interest rate	Empty or at 0%	Record created with 0% rate (and not computed)	Note: Interest rate is not a mandatory field in the import file. If the field is not included, then the loan will be at 0.0%, not calculated, or the default interest rate will be used.
Fixed interest rate and Interest table	If both an interest rate and an Interest table are entered in the file	The Interest table will predominate over the interest rate that will be ignored	
Amortization (number of payments)	Empty or 0	Record created and number of payments is calculated if the other 3 variables are provided (Principal, Payment amount, Interest rate which can be 0%)	At least one payment must always be included for a Record to be created even if payment is 0.00
Term	Empty or 0	Record created	Term of 0 is ignored. Number of payments in Amortization is then used.
	If Term is larger than Amortization	Record not created	Fatal error
Payment (Amount)	Empty or 0.00	Record created and number of payments is calculated if the other 3 variables are provided (Principal, Payment amount, Interest rate which can be 0%)	

	Empty or 0.00 but with "Payment method" = 5 (pmts of 0.00)	Record created with payments of 0.00	
	Payment amount entered with "Payment method" = 5 (pmts of 0.00)	Record not created	Fatal error
Three variables: Principal / Amortization / Payment (Amount)	All at 0	Record not created	Fatal error
No Loan data is included in the file		Record not created	Fatal error This API cannot be used to create a Borrower or to update a Borrower (or Co-Borrower or Guarantor) data. Use the Borrower API to create or update Borrower data only. However, Borrower data can be updated if Loan data is included in the entry.

Import Defaults (Exceptions)

Special Operations	Note
"Interest Only" method	Option 1 is default (payment calculation to pay off the balance of all interest, not Option 2 which would only pay off the line interest). This method can include a special Line Behavior to automatically recompute the payment if the option is checked (see Behavior.... below).
"Fixed Principal" method	Option 1 is default (not Option 2 or Option 3). Option 1 will calculate payment to first repay all interest plus the determined fixed principal). This method can include a special Line Behavior to automatically recompute the payment if the option is checked (see Behavior.... below).
Normal "Principal + interest" method	This method can include a special Line Behavior to automatically recompute the payment if the option is checked (see Behavior.... below).
Default Line status – Positive payment	Due Pmt

Default Line status – Negative payment	Add. Principal (Loan)
Default "Advanced" options	Year Base Anniversary
Default "Advanced" options	Short Period Method: Same as calculation
Default "Advanced" options	Unchecked: Add an extra interest-only payment... (Adjustment date)
Default "Advanced" options	Checked: Mathematical Refund Method adapted for Special Line statuses
Default "Advanced" options	Unchecked: Use 52, 26 & 13 periods for Compounding...
Default "Advanced" options	Unchecked: Use 52, 26 & 13 periods for Payments...
Default "Advanced" options	Unchecked: No interest on Line status...
Default "Advanced" options	Unchecked: Do not use "End of the month" if...
Default "Advanced" options	Grace period would be 0 days unless a system default was set in "Field Scroll Menus" > "Advanced" section > "Grace period".
Interest table	An interest table, a percentage to add or subtract (Spread), the frequency of rate changes and its start date or do not update Payment Schedule.
Line Behavior	By default, no special Line Behavior. If "Payment Method" is Normal (principal and interest), Interest-only or Fixed Principal, if this extra criteria is added (1 to Add the Behavior; Blank or 0 for no Behavior), then a special Tag will be added to the Due Pmt Line statuses in order for these payments to be recalculated automatically to give a final balance of 0.00 (or other balance) (or interest only and Column Fees) based on the events above (interest rate change, unpaid, partial additional payments, additional principal, etc.)
Balance	When importing, Balance will be considered only if possible. If principal, payment amount, number of payments (Amortization) and interest rate are entered as well as a balance, the balance will be ignored because the calculation will be made according to the other variables. If payment is 0 or empty, then it would be calculated considering the Balance entered in the import file.
Borrower Alerts via email or SMS	Alerts for a Borrower are active by default when importing.

To find out more about the formats (text, numerical, etc.), the length of the fields, the values allowed, whether or not the data can be modified or updated and if default values can be used, see Appendix 1.

Important note regarding bank accounts: When importing bank account data, if the two strategic data fields below are modified in a file submitted after the initial bank data import, a new bank account will be created for this Borrower. The current account will NOT be updated:

- United States: Routing number AND Account number
- Canada: Transit AND Account number (Folio)
- Europe: IBAN number AND BIC number

Thus, after import and if applicable, the user will need to manually delete the invalid account for this Borrower and update the bank account used for collecting the EFT (open Record > Data > EFT tab).

This constraint comes from the fact that the Borrower could have several accounts in MLM and it is not possible to know if an account must be added, modified or which account to modify if several accounts are present.

Interest Tables:

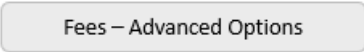
One or more of these data are required in order for an interest table to be used:

1. Table Abbreviation (mandatory)
2. A percentage to add or subtract (Spread)(optional)
3. Frequency of rate changes and date of first rate change (optional), or
4. Do not update the Payment schedule (optional).

If 3) or 4) above is not specified, then rate changes in the Payment schedule will default to any interest table change.

Column fees:

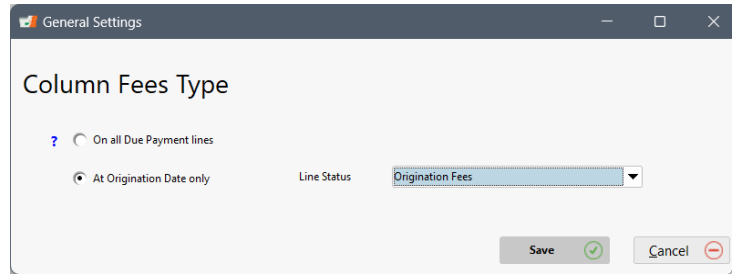
An extra button called “Fees – Advanced Options” is available in the “Column Fees” section (version 5.6.x Beta only):



This option allows the user to specify whether the Column Fees apply to each of the “Due Pmts” of the Payment schedule that will be created or only at the Origination date. With the second option, an “Other” type Line status must be chosen (it is strongly recommended to prohibit entering an amount in the Payment column: Tools > Settings > Line statuses > check “Payment = 0” – the fee amount is entered in another column, not the “Payment” column).

Description (modify)	Payment, Fees...English Description	All(2)	=0	>0	<0	Desc. Original	Expected Pmt =0 (3)	Payment=0 (4)
Origination Fees	General	✓				Other 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Only one option can be chosen for ALL Column Fees. You could not use Column Fees 1 (Origination fees for example) on the Origination date and Fees 2 (Monthly fees, for example) on each of the “Due Pmts”.



Important note in regards to the Date: Date formats **must be** YYYYMMDD (this is the ISO format). Any other format will be rejected. Even for Excel files, the YYYYMMDD must be respected without any dashes (-) or backslashes (/). If the Excel format is, for example MM/DD/YYYY or even YYYY-MM-DD, this will be rejected. The cells must thus be changed to the precise format allowed, either as a DATE or TEXT field in Excel.

Fields defined as “Mandatory” by the Margill Administrator (Tools > Settings) are not managed in this import. It is up to the upstream system to provide the data to MLM. However, when the Record (or Borrower or other) is opened manually, it will not be possible to save without entering this data.

2) Updating of existing Loan and Borrower data

If the Unique ID 1 or 2 is contained in the import file and that these identifiers are also present in Margill, no new Loan or Borrower will be created since the system will see that the Loan or Borrower already exists in the software. Only fields that are filled out with new (or unchanged) data will be imported to Margill. The field data will be updated or remain unchanged. **If a field is blank in the import file, the data that is currently in Margill for that field will be deleted and the default value will NOT replace existing data.** It is thus critical, in the JSON or Excel file, that all data for fields that can be updated, be present in the entry (Loan / Borrower) that is to be updated.

The following Loan data cannot be changed since such changes would usually affect past data and calculations:

- Origination Date
- First Payment Date
- Principal
- Compounding Period
- Payment Frequency
- Number of day(s) (for payment every x days)
- Annual Nominal Rate
- Interest rate table added or changed
- Amortization
- Term
- Balance
- Day Count
- Calculation Method (simple, compound, capitalized simple interest, etc.)
- All Column Fees

- Bank account data

If one of these data elements is changed (or is blank) in the import file (which would be rather unusual), this change will simply be ignored and an informational error message created in the import Log. For each of the entries submitted in the import/update file, changes for fields that can be updated will be made since the above error is not considered critical.

Certain constraints are outlined below:

- You cannot change or add Borrowers/Co-Borrowers/Guarantors for an existing Loan even if a Loan does not have any Borrower linked to it
 - Only the original Borrower, one Co-Borrower and one Guarantor can be created and linked to the Loan.
 - You can nevertheless add other Co-Borrowers and Guarantors manually.
- You cannot change or add Creditors for an existing Loan
 - Only the original Creditor can be linked to the Loan upon loan creation.
 - You can nevertheless add other Creditors (Participation loans) manually and add their participation amount or percentage.
- You cannot import or link Employers to Borrowers (if this feature was critical for your needs, please contact Margill Support).

The table below shows the specific rules related to the various fields:

Notes:

For a Record (Loan) or a Borrower to be updated with new data, this Record or this Borrower (or Co-Borrower or Guarantor) must have its “Key” in the import file to allow its identification. In the scenarios in this table, we assume that the Key is present in the import file and corresponds to either an existing MLM Record or Borrower.

If no Key is present in the file, a new Loan and/or Borrower (Co-Borrower and Guarantor) will be created even if this was not your intention. It is therefore imperative that the Key from the third-party system be present for the Loan/Borrower/Co-Borrower/Guarantor.

Fatal error: If fatal error occurs, all changes will be discarded for this entry from the import file.

Informational message (in Log): if an error is due to a field that cannot be updated (for example, Loan Origination Date), then the error will not be considered as fatal and an informational message will appear in the Log and the other compliant data will be updated.

Field or Field type	Included in import file	Action	Error message / Notes	Can be modified
Creditor	Creditor Unique ID 1 or 2 or MLM ID	It is not possible to change the Creditor	Non-fatal error	No

	different from Creditor(s) associated to the Record	Regular update of other fields		
	Creditor Unique ID 1 or 2 or MLM ID empty	No impact on the Creditor Regular update of other fields	Non-fatal error	No
Borrower / Co-Borrower / Guarantor (names "B/CB/G")	B/CB/G Unique ID 1 or 2 different from B/CB/G associated to Record	It is not possible to add or modify B/CB/G Regular update of other fields New Borrower created but not associated to the Loan if this Borrower does not exist in system. If Borrower exists, then Borrower data updated	Non-fatal error	No
	B/CB/G Unique ID 1 or 2 empty	A Borrower must have a Unique ID	Fatal error	No
Data window Origination Date First Payment Date Principal Interest rate Interest rate table and its various options Amortization (number of payments) Term Payment (Amount) Compounding (capitalization) Payment frequency	Different value from the one already imported	These values cannot be modified Regular update of other fields	Non-fatal error	No

Balance				
	Empty or 0 (for numeric or percentage)	These values cannot be modified Regular update of other fields	Non-fatal error	No
Borrower / Co-Borrower / Guarantor window All fields excluding the Key	Different value from the one already imported or added value if there was none	Value will be updated		Yes
	Empty or 0	Existing value will be emptied (if allowed)		Yes
APR window Calculate APR Amount Percentage Title	Different value from the one already imported	These values cannot be modified Regular update of other fields	Non-fatal error	No
	Empty or 0 (or 0%)	No impact Regular update of other fields	Non-fatal error	No
Advanced window Method Day Count Automatic Fees Last payment adjusted for balance = 0.00 or x	Different value from the one already imported	These values cannot be modified Regular update of other fields	Non-fatal error	No
	Empty	No impact Regular update of other fields	Non-fatal error	No
Currency	Different value from the one already imported	The currency will be modified for the Loan		Yes

	Empty	The currency will be modified for the Loan (will be system default currency)		Yes
Custom Fields (Record, Borrower / Co-Borrower / Guarantor See Drop-down Menus below	Different value from the one already imported	Regular update of data		Yes
	Empty	Fields will become blank if allowed		Yes
Drop-down Menus	Import file value not included in the drop-down menu	Error so all changes for this entry will be ignored	Fatal error	Yes
	Import file value different from existing Record data (Value in drop-down menu)	Regular update		Yes
	Import file value empty (drop-down menu value)	Blank field		Yes
	Import file value empty (empty value not included in drop-down menu)	Error all changes for this entry will be ignored	Fatal error	
Colum Fees Amount With or without interest	Different value from the one already imported	These values cannot be modified Regular update of other fields	Non-fatal error	No
	Empty	No impact Regular update of other fields	Non-fatal error	No

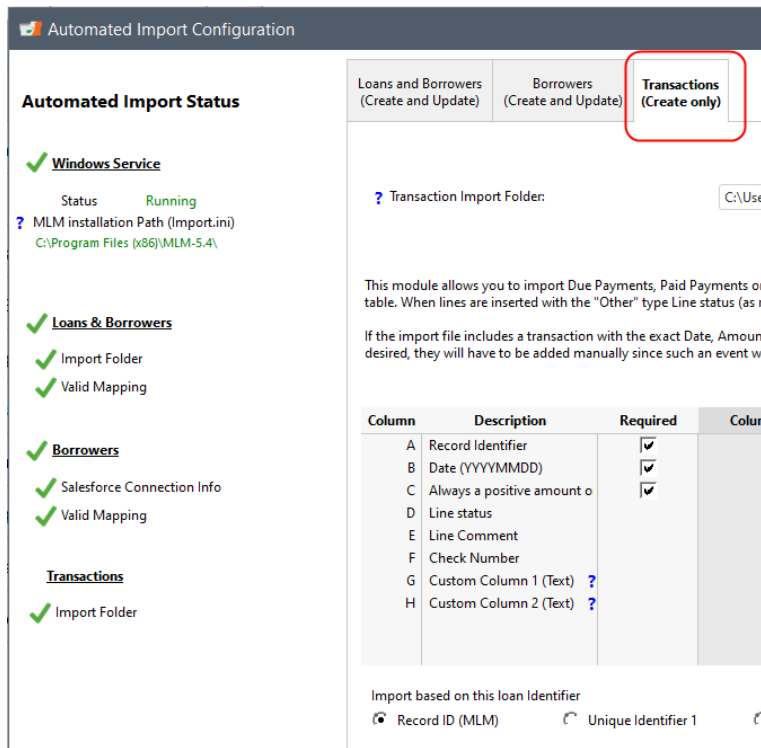
To update the Co-Borrower and Guarantor data, it is suggested to use the Borrower API, not the Loan/Borrower API. A Co-Borrower and a Guarantor are, in fact, Borrowers and are in the Borrower database.

API 3 - Automatic Transaction Creation (New Payment Import/Posting)

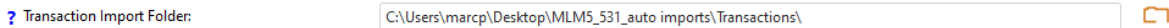
There are two ways to manage Loans in Margill Loan Manager. The most common is to create a payment schedule with all future payments. These will include Line statuses called “Due Pmts”, so the projected (expected) payment amounts and dates in the future based on the contract. The Creditor then “hopes” the Borrower will pretty much follow this schedule and update each Line status from Due Pmt to Paid, Unpaid, Partial Pmt, Late Pmt, etc.

The other option, and this is often seen in Lines of credit, is not to create a predicted payment schedule, but to import transactions as they are received. This does not allow, though, to predict cash flows in the future, so it offers a little less performance. It nevertheless allows for very easy real-time transaction booking.

The Automatic Transaction Creation must be done via an Excel sheet (not JSON). Excel is better adapted for transactions than JSON files (if another format was required, please contract Margill Customer Support).



First define the Import mapping folder:



If the Windows Service is running properly (see “Automatic Borrower creation and update” section for proper setup) and the import file properly defined, you will get the check marks and can test the import.

Automated Import Status

✓ Windows Service

Status **Running**
 ? MLM installation Path (Import.ini)
 C:\Program Files (x86)\MLM-5.4\

Transactions

✓ Import Folder

Mapping

The mapping is done exactly the same as in the “Post Payments” tool > Bulk Payment Import > Import new payments, except for the date format that must be ISO (YYYYMMDD) as opposed to the user’s Windows Short date format. The Excel sheet can consist of a minimum of three (3) columns and up to 24 columns to include many more data elements as described in the mapping below:

Column	Description	Required	Column	Description	Required	Column	Description	Required
A	Record Identifier	✓	? I	Custom Column 3 (Text)		? R	Custom Column 3 (Numerical)	
B	Date (ISO format YYYYMMDD)	✓	J	True Pmt Date (Grâce / EFT)		? S	Other Fees	
C	Always a positive amount or 0.00	✓	? K	Fixed Principal (enter 1)		? T	Returned Check (Auto)	
D	Line status		? L	Expected Payment		U	GST	
E	Line Comment		M	Custom Column 1 (Money)		V	QST	
F	Check Number		N	Custom Column 2 (Money)		W	Insurance	
? G	Custom Column 1 (Text)		O	Custom Column 3 (Money)		X	frais 6	
? H	Custom Column 2 (Text)		P	Custom Column 1 (Numerical)		Y	Expected Principal	
			Q	Custom Column 2 (Numerical)				

- Columns A, B, C – compulsory
 - Record Identifier can be the MLM ID or one of the two Record Unique ID (as renamed)
 - Date format must be the ISO format: YYYYMMDD (in Excel format cell as Text, not Date)
 - The amount must always be positive even for Additional principal
- Column D – Line status (as a number – see Definition Column D pull down menu)
- Column E – Line comment
- Column F – Check number
- Columns G, H, I, and M to R – Additional data to add in columns (for information purposes, does not affect the payment schedule mathematics)
- Column K – Fixed principal – This option allows a user to add Fixed Principal payments that will refund the principal exclusively without first refunding accrued and outstanding interest (and Column Fees). This option is only available if this Fixed Principal refund method (method 3: “Refund Principal WITHOUT refunding outstanding interest”) is accessible (activated) or is the default option. To activate these Fixed Principal refund options or to select this method as the default, go to Tools > Settings > “User Settings” tab > “Options: Interest only and Fixed Principal” link. For the automated import of new transactions, the ADMIN settings will be used.
- Column L – Enter an Expected payment if needed
- Columns S to X – Columns fees 1 to 6 as renamed (with or without interest – a checkbox allows to select ALL fees to bear interest or not)

The file MUST follow the mapping above with the data in the appropriate columns. To produce a file including all columns with headers (header names are not important and you can change these) you can click on

“Create a template file”. An “.xls” file will be created. You can change the extension to “.xlsx” if desired. Both formats are acceptable.

[Create a template file](#)

If only some data needs to be imported, you can delete the headers. Default template (partial):

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Record Id	Date (forr	Always a	Line statu	Line Com	Check Nu	Custom C	Custom C	Custom C	True Pmt	Fixed Prir	Expected	Taxes
2													
3													

Minimum required:

	A	B	C	D	E
	Record Identifier	Date (YYYYMMDD)	Always a positive amount or 0.00		
1					
2					

Loan ID selection:

One of three Unique Record Identifiers (only one) must be selected as the “key”. The MLM Record ID would rarely be used since it is not included in the third-party information system. One would usually use Unique ID 1 or 2 (as renamed).

Import based on this loan Identifier

Record ID (MLM)
 Unique Identifier 1
 Unique Identifier 2

Active Records or all Records:

The manual transaction import (Post Payment tool) only allows to add transactions to Active Records. On the other hand, the automatic import tool allows Active and all other Record statuses. Usually, only Active Records would be included, but this is up to you. We prefer giving you the flexibility.

Update these Records:

Only Active Records
 All Records, no matter the Status (Active or not)

Default Line status or named Line statuses

For the Transaction Line status to be imported, two options are available:

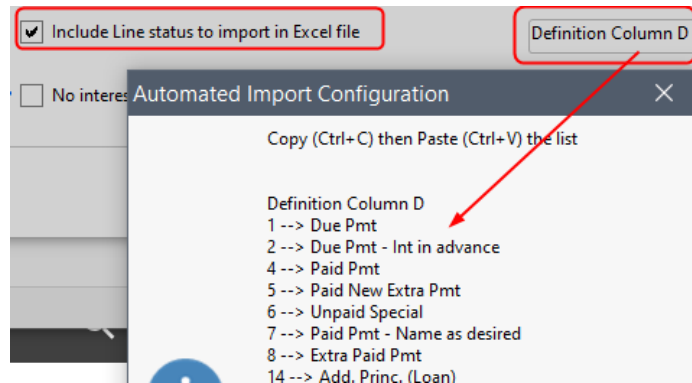
- 1) If the Transactions to import are always the same, then set a default Line status and there will be no need to enter a value in Excel column D:

Line Status to import:

Paid Pmt

Include Line Status to import in Excel file

- 2) If you wish to import various Line statuses, then check "Include Line status to import in Excel file". Enter in Excel column D, the number for the Line status you wish to import (1 for Due Pmt, 4 for Paid Pmt, etc.):



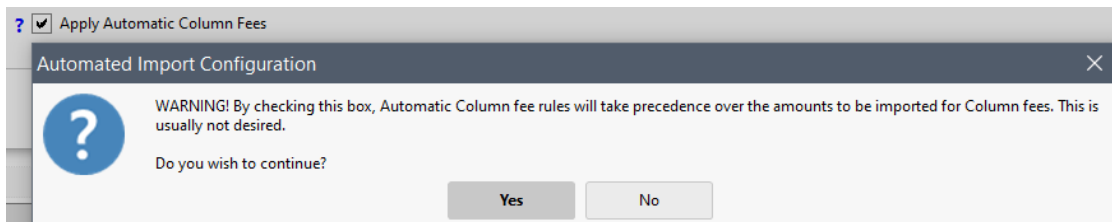
You may customize Line status names in Tools > Settings, hide if not needed and change the display order for the more common Line status. It is CRITICAL to understand how Line statuses work. The name given does not mean it will perform the required operation. Consult the User Guide for more information on Line status or consult the Margill team since there are many subtleties in this regard.

Line status types that can be imported with the Transaction API:

- Due payments
- Paid payment (cash or non-cash)
- Additional Principal
- Other (as renamed) where Payment should be 0.00 to add Column fees or Comments in the other columns
- Information (can be useful to add a line in the future for the loan to keep on calculating interest – not usually done with this automatic import)

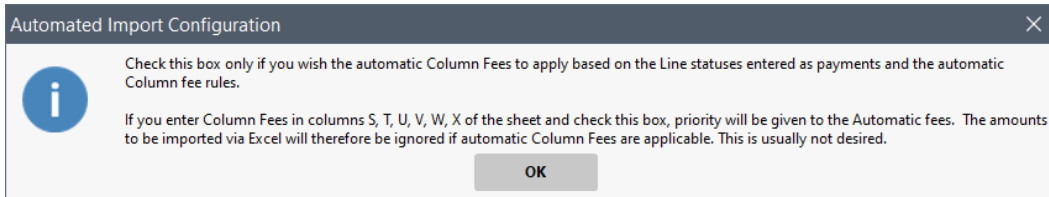
Automatic Column Fees

If Column Fee rules are used, then check the "Apply Automatic Column Fees" box if you wish the system calculate the fees to be added automatically based on the Column Fees Line status rules.



For example, when “Additional principal 2” (a new cash advance) is given to Borrower, you charge the Borrower 150.00. An automatic Column fees rule has been defined as such. When this Line status is imported, the fees will automatically follow including if these bear interest or not.

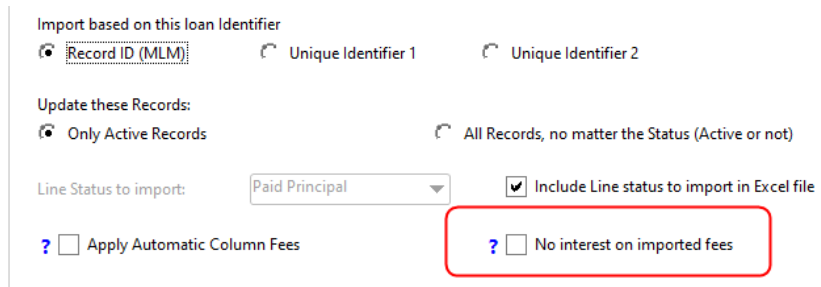
IMPORTANT: The Column fees rule will take priority over the Column fees entered in Excel Columns S to X if this box is checked. This is usually not desired since a conscious decision has been taken to add the fees in the Excel sheet.



If on the other hand you wish not to add automatic Column Fees or wish that the Fees included in the Excel sheet take precedence, then do not check the box.

Column Fees with or without interest

The six (6) Column fees can bear interest or not. With the automatic import, users' personal defaults are not considered, so a check box option is present to tell the system whether the fees are to include interest or not.



The option applies to all the Column fees added via the Excel sheet. Some fees cannot bear interest and others not.

This option does not affect whether interest is added or not to the Automatic Column Fees (based on Line status rules). This is set in Tools > Settings > Admin... > Column Fees: Automatic.

Line status: Add. Princ. (7) ▼

Add fees to Column: Admin Fees ▼

? Fees based on

- None
- Record Type
- Custom Field

Percentage

- ? Of true balance of preceding line
- ? Of the line's accrued interest
- ? Of unpaid portion of the payment
- ? Of payment amount

Amount

Interest behavior

- WITH interest on these fees
- NO interest on these fees

Automatic Fees and automatic recomputation of these fees

If by automatic transaction import automatic fees are added to a line in a payment schedule, and the amount of these fees is calculated based on some percentage (of accrued interest or of previous line balance), in some situations, these fees will be recalculated based on new transactions added upstream and in other situations, fees calculated during import will no longer be calculated. This second situation is more frequent when importing transactions because generally, these transactions are historical as opposed to future transactions.

In the following example, the automatic fees rule dictates that if Line Status = Add. Princ. (3), then add Column fees 6 (which could be renamed as desired). This fee is equal to 1% of the previous line balance.

Lines 2 to 7 have been imported automatically. Notice on Line 3, that no special "Behavior" is included in the "Column Fees 6 – Pmt Type" column, while on Lines 6 and 7, we see "AutoFeesCol//0.01". This instructs lines 6 and 7 to recalculate Fee 6 based on the balance, should that previous balance change.


Why recalculate lines 6 and 7 but not line 3? Margill has a certain intelligence. When importing a Paid type Line status (line 5 in this case), if it is inserted, the software assumes that all of the lines above are historical and therefore, we would not want to recalculate fees already accrued and probably billed. On the contrary, for lines 6 and 7, no payment follows, so Margill cannot assume that these lines are historical. It is possible that a payment will be added upstream, thus reducing the balance and consequently reducing the fees for lines 6 and 7.

Line	* Line status	* Pmt Date	* Payment	True Balance	* Column Fees 6 - Accrued	Column Fees 6 - Pmt Type
1	Paid Pmt	01-01-2022	1 000,00 \$	224 018,29 \$	0,00 \$	
2	Paid New Extra Pn	15-02-2022	100,00 \$	226 490,37 \$	600,00 \$	No Interest
3	Add. Princ. (3)	15-02-2022	-500,00 \$	229 255,27 \$	2 264,90 \$	
4	Interest Paid	04-04-2022	100,00 \$	230 089,20 \$	0,00 \$	
5	Paid New Extra Pn	05-05-2022	500,00 \$	230 211,30 \$	0,00 \$	
6	Add. Princ. (3)	06-06-2022	-550,00 \$	234 976,88 \$	2 302,11 \$	AutoFeesCol//0.01
7	Add. Princ. (3)	16-07-2022	-1 000,00 \$	239 308,69 \$	2 349,77 \$	AutoFeesCol//0.01

By adding a "Paid payment" (as opposed to a "Due Pmt" that is not yet certain) on line 8, a message appears which explains that the Behavior will now be deleted for the lines above since we are quite certain that Lines 6 and 7 are historical since a payment was already made on 16-08-2022.

7	Add. Princ. (3)	16-07-2022	-1 000,00 \$	3,000000 %	759,79 \$	-1 000,00 \$
8	Paid Pmt	16-08-2022	0,00 \$	3,000000 %	578,22 \$	0,00 \$

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 With this Line status change (to a Paid payment), the automatic calculation of the Column Fees will be deleted for the line and for all preceding lines in order to conserve the original Column Fees amounts.

Do not show again OK

Line	* Line status	* Pmt Date	* Payment	* Column Fees 6 - Accrued	Column Fees 6 - Pmt Type
1	Paid Pmt	01-01-2022	1 000,00 \$	0,00 \$	
2	Paid New Extra Pn	15-02-2022	100,00 \$	600,00 \$	No Interest
3	Add. Princ. (3)	15-02-2022	-500,00 \$	2 264,90 \$	
4	Interest Paid	04-04-2022	100,00 \$	0,00 \$	
5	Paid New Extra Pn	05-05-2022	500,00 \$	0,00 \$	
6	Add. Princ. (3)	06-06-2022	-550,00 \$	2 302,11 \$	
7	Add. Princ. (3)	16-07-2022	-1 000,00 \$	2 349,77 \$	
8	Paid Pmt	16-08-2022	0,00 \$	0,00 \$	

Insert after if same date

Update these Records:

Only Active Records All Records, no matter the Status (Active or not)

Line Status to import: Include Line status to import in Excel file

Apply Automatic Column Fees No interest on imported fees Insert after if same dates

By checking this box, when lines are inserted, if a line exists and is on an that identical date, it will be inserted after, not before the existing line.

Example:

Insert a Pmt 2 on 01/01/2022, a Pmt 1 exists on the same date.

Normal insert:

Pmt 2 01/01/2022

Pmt 1 01/01/2022

Insert line after:

Pmt 1 01/01/2022

Pmt 2 01/01/2022

Transaction duplication by error

An added safety measure was added in order to prevent importing identical transactions in a subsequent file which would have, for example, been generated multiple times by the third-party system. This prevents an accidental import of hundreds or thousands of transactions. If the system figures out that the amount in the "Payment" column, the Transaction Date ("Pmt Date" column) and the Line status already exist in the Record, this transaction will be ignored and an error will be generated in the import Log. If these three data are identical but the data in the other columns is different (Comment, Column Fee, etc.), the transaction will nevertheless be refused. It will then be necessary to enter these exceptional transactions manually (or in bulk via an Excel file in Tools > Post Payments > Bulk Payment Import button) if this was desired, which is also a rather unusual situation. For example:

- File was placed in the import folder on March 5th. 500 transactions are imported into Margill.
- Another file placed in the import on March 5, but one hour later, with the same 500 transactions (therefore an upstream system error, we assume). All transactions will be declined.
- File filed on March 6 with 300 transactions, 10 of which already exist in Margill (according to three criteria established above for determining identical transactions). Only these 10 transactions will be refused (wrongly possibly). If these transactions were desired, they would therefore have to be entered manually or imported in bulk but manually via an Excel sheet.

However, it is allowed to have identical transactions in the same file. For example, you could have two Payments of 100.00 on the same day. The second payment would not be refused.

API 4 – Automatically update existing payments (from Due Pmt to Paid Pmt or other)

This tool allows the update expected or due payments ("Due Pmt" Line status types) via an Excel sheet (not with a JSON file) to be changed to their real status once the collection is made: Paid pmt, Unpaid Pmt, Partial pmt, Late pmt, etc.

With the automatic import, a third-party system will produce the required files, place them in the default folder and Margill will import the file and will manage the Due pmts (change them to the proper Line status).

Often, a Transactional report is initially produced by Margill (could be done automatically via the automatic reports / Overnight tasks – See <https://www.margill.com/margill-loan-manager/overnight-tasks.pdf>). This file should include the transactions to be collected from Borrowers (expected amount, transaction date and any other data required by the third-party system including a unique identifier). The file would then be

imported by the third-party system. Once the collection has been made (or refused or partial or late), the updated file by the third-party system would be returned to Margill (date and amounts unchanged for full payments and paid on time, different dates and/or amounts or 0.00 for late, partial or rejected payments).

Only **Active** Records can be updated.

Two methods are available:

Excel sheet containing Unique Record ID and Unique ID for each Due Pmt line

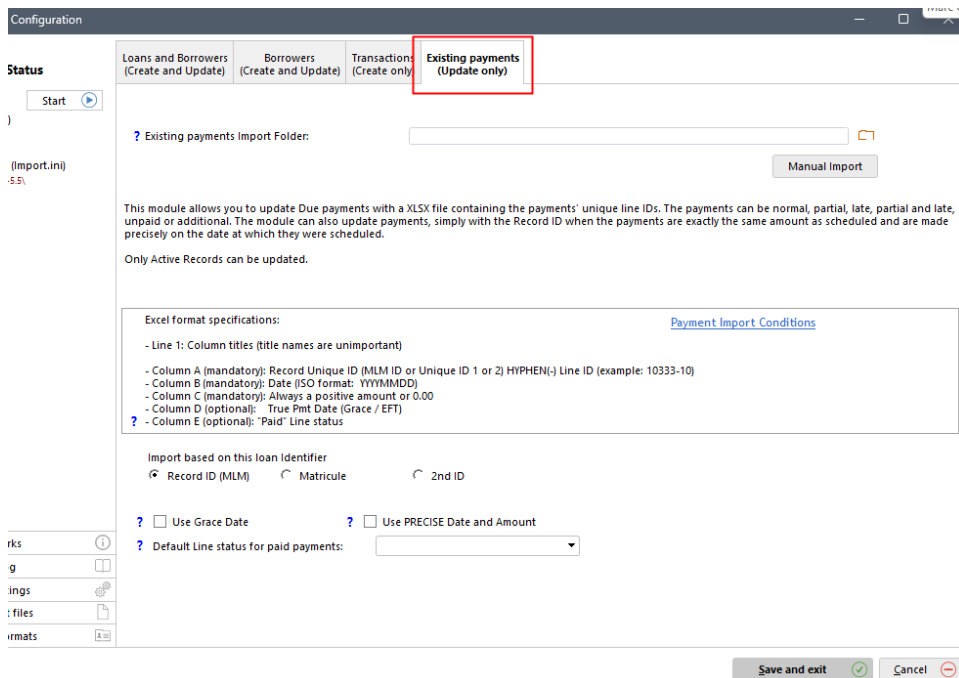
Allows to update the precisely identified line from “Due Pmt” to “Paid Pmt”, “Partial Pmt”, “Late Pmt”, etc. taking into account the conditions in the table below.

Excel sheet containing only the Unique Record ID for each Due Pmt (“Use PRECISE Date and Amount” option).

Allows to update the **next** “Due Pmt” only to “Paid Pmt” (or other chosen Payment name) if payment was made and paid at the due date in the Payment schedule. This method does not allow to change a Due Pmt to Unpaid Pmt.

This option is quite useful when due payments can only be paid or unpaid and can't be partial or late – typically when payments are submitted to a bank for batch processing. It is less practical when there is the possibility of late or partial payments. These irregular payments and rejected payments will need to be managed manually or in batches using the Post Payment tool.

Steps to follow:




First, set the import data mapping folder:

? Existing payments Import Folder: C:\Data import - Pmt update\

If the Windows Service is working (see top sections in this document for configuration) and the import file is properly defined, you will see green check marks and you can test the import.

Automated Import Status

✓ **Windows Service** Stop 
(MLMImportService)

Status **Running**

? MLM installation Path (Import.ini)
C:\Mes Projets\Jurismedia\MLM\branches
\MLM5.6_v1\Exe\MLM 64bits\

Data Mapping:

The mapping is done exactly as in the “Post Payment” tool > “Bulk Payment import” button > Update existing payments. The only exception is the date format which must be ISO (YYYYMMDD) unlike the Short Windows format. The Excel sheet can contain a minimum of three (3) columns and up to five (5) columns, as described below:

Excel format specifications:

[Payment Import Conditions](#)

- Line 1: Column titles (title names are unimportant)

- Column A (mandatory): Record Unique ID (MLM ID or Unique ID 1 or 2) HYPHEN(-) Line ID (example: 10333-10)

- Column B (mandatory): Date (ISO format: YYYYMMDD)

- Column C (mandatory): Always a positive amount or 0.00

- Column D (optional): True Pmt Date (Grace / EFT)

? - Column E (optional): "Paid" Line status

- Columns A, B, C – mandatory

A. Unique Line or Record ID:

- 1) Unique Record identifier AND Unique Line ID, OR

The Unique Line Identifier comes from the “Unique Line identifier” column in the Payment schedule (not to be confused with the “Line” column in the Payment schedule) combined with one of the Unique Record IDs. For example: Unique Line ID = 10133-12. In this example above, “10133” would be the Record unique ID (one of three possible keys) and the 12 would be the Unique Line ID.

Line	Line Unique ID	* Pmt Date
1	1	2024-03-15
2	2	2024-03-30
3	101	2024-04-12
4	3	2024-04-15
5	4	2024-04-30
6	5	2024-05-15
7	102	2024-05-17
8	6	2024-05-30
9	103	2024-06-03
10	7	2024-06-15
11	8	2024-06-30

2) Unique Record ID

The Unique Record ID may be the MLM Record ID or one of two Unique ID (as renamed)

Import based on this loan Identifier
 Record ID (MLM) Matricule 2nd ID

For this method, this option must be checked:

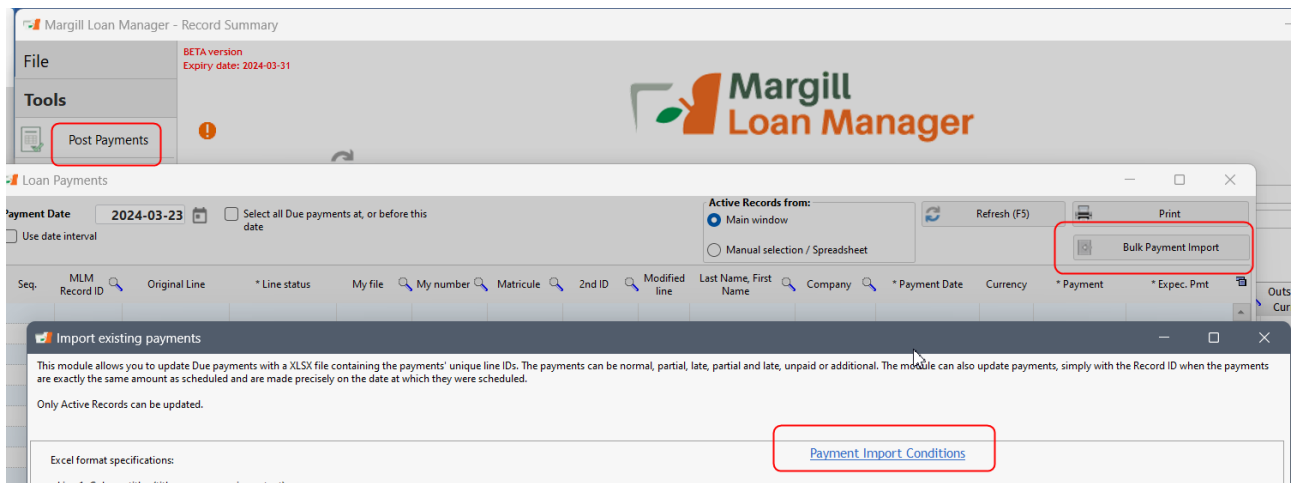
? Use PRECISE Date and Amount

B. The date format must be ISO: YYYYMMDD (in Excel, the cell format must be Text, not Date)

C. The amount must always be positive or 0.00 in the case of an unpaid payment

- Column D – Optional: Actual payment date (Grace/EFT)
- Column E – Optional “Paid Pmt” Line status. An integer code must be entered to specify the Paid Pmt type Line status that will be used. This Line status will predominate over any other “Paid” type Line status (whether full or partial payment). See the explanations in a section below and the “?” in the software for more information and codes to enter.

The file MUST correspond exactly as above (Excel sheet with 3 to 5 columns) and the data must be in the appropriate columns. The file must include column headers but the header names are not important.



1) Conditions for Excel sheet containing Record Unique ID and Unique Line ID for each upcoming Due Pmt

The following conditions will be followed for payment updates via the XLSX (or XLS) file when it contains a Unique Line Identifier corresponding to a line (File number – Line ID).

Definitions for the table below:

- Exact: the data (Unique Line ID, Pmt Date or Payment (Amount)) from the XLSX file matches the information on the payment line in the Payment schedule
- Higher: Higher payment than original payment amount
- Lower: Lower payment than original payment amount
- Early: Payment before the date at which it was expected
- Late: Payment after the date at which it was expected
- Any: Any Line ID, Pmt Date or Payment amount
- Unchanged: Amount indicated in the “Expect. Pmt” column remains the initial amount (thus before the payment update)
- Error message: An error message will appear in the Automated import log or in the Manual Import Table indicating that this data will not be updated.
- Resulting...: Consequence of the import or tentative import (unsuccessful line import)

The Pmt Date and Payment (Amount) will always match those from the import file when the line is updated.

Line ID	Pmt Date	Payment (Amount)	Resulting Line Status	Resulting “Expect. Pmt”	Resulting “Pmt Due Date”
Exact	Exact	Exact	Paid Pmt *	Unchanged	Blank
Exact	Exact	0.00 or Blank	Unpaid Pmt	Unchanged	Blank
Exact	Early or Late	0.00 or Blank	Error message		
Exact	Exact	Higher	Paid Pmt	Unchanged	Blank
Exact	Exact	Lower	Partial Pmt	Unchanged	Blank
Exact	Late but before next line	Exact	Late Pmt	Unchanged	Expected Pmt Date

Exact	Late but after next line	Any	Error message		
Exact	Late but before next line	Lower	Partial LatePmt	Unchanged	Expected Pmt Date
Exact	Early	Exact	Paid Pmt *	Unchanged	Expected Pmt Date
Exact	Early	Lower	Partial Pmt	Unchanged	Expected Pmt Date
Exact	Early	Higher	Paid Pmt *	Unchanged	Expected Pmt Date
Exact	Early and before previous line	Any	Error message		
Record number-0 (***_0)	Any that meets above conditions	Positive amount	Add. Pmt	0.00	
Record number only- (***_)	Any that meets above conditions	Positive amount	Add. Pmt	0.00	
Record number only (***)	Any that meets above conditions	Positive amount	Add. Pmt	0.00	
Same ID twice or more in file	Any	Any	First valid transaction (chronological order) will be accepted and line updated. Other identical IDs will give Error message		
Same ID (already updated) sent in new file	Any	Any	Error message		
Any	Invalid date format	Any	Error message		
Any	Any	Negative amount	Error message		
Empty	Any	Any	Error message		
Any	Empty	Any	Error message		
Any	Any	Empty	Error message		
Empty	Empty	Empty	Ignored		

* "Paid Pmt" is the default result for normal payments. A paid Pmt can be substituted for Paid Pmt 2 to 20 for regular payments or by Line Status Paid Interest (1 to 4) and Paid Principal (1 to 4).

Other conditions:

- Cell format (Line ID, date or monetary) must be met otherwise an error message will be given in the automated import log for the problem line in the Excel spreadsheet.
- Only Due Pmts (any of the five types) are updated. No other Line statuses. Error message for any other Line status with an update attempt.
- If Automatic column fees are included, then the normal rules will be followed by the change of Line status (Unpaid or Late would have \$25 fees for example).

- Advanced settings: If lines are “tagged” to recompute the payment amounts so they pay interest-only or fixed principal amounts and if two or more payments are included for the same Record, in the same XLSX file, then the first payment if less (or more) than the normal payment, will affect the next payment amount (since recomputed automatically) and consequently the “Expect. Pmt” column. So, the second payment may become a Partial payment even if originally a full payment since the due payment amount was influenced by the preceding payment (which would not have been paid for example).
- Advanced settings: If “Expect. Pmt” column amount is changed by user - no automatic recomputation - then this amount entered manually will always be used, no matter what is returned in XLSX file.

Other notes:

- Line order has no importance, EXCEPT when they are part of the same Record. In order for the Record to be updated, the chronological display order from the Payment schedule must be followed in the Excel file.
- Do not leave blank lines in the XLSX file because MLM will consider it has collected all the data. Subsequent lines will be ignored.

2) "Use PRECISE Data and Amount" option

This option is most useful when scheduled payments are either paid or unpaid and cannot be partial or late – typically when payments are submitted to a bank for batch processing. It is less practical when there is the possibility of late or partial payments.

The file from the third party system which contains the desired transactions will be imported into MLM and the “Due Pmt” (5 types) Line statuses will automatically be modified to Paid Pmt (or Custom Paid Pmt 2 to 20, Paid Interest (1 to 4) or Paid Principal (1 to 4)) provided that the dates and amounts correspond **EXACTLY** between the Excel sheet and the “Due Pmt” included in the MLM Payment schedule.

If the date OR the amount in the Excel sheet do not correspond EXACTLY to the next “Due Pmt” Line status of the Payment schedule, the line will then be ignored and remain with the “Due Pmt” Line stat and will have to be managed manually or with the Payment update tool.

Note: If two transactions are included in MLM on the same date and the same amount for the same Record, only the first transaction will be updated, even if in the Payment schedule two payments of the same amount on the same date are planned. The second transaction will appear in the import log as an error message and will remain as a “Due Pmt” Line status.

Other situation: If, for example, there were two transactions in MLM on the same date, one for a 250 payment and the other for a 300 payment and the Excel sheet would report a 550 payment on that same date, neither transaction would be updated because the individual amounts would not match. These lines would have to be processed manually.

Unlikely exception: If payment Dates match between the Payment schedule and the Excel sheet, but the amount in the Payment schedule is at 0.00 (rather unusual for a “Due Pmt” Line status) and the amount

returned by Excel is 0.00, the Line status will be changed to “Unpaid Pmt” as opposed to remaining “Due Pmt”.

Implementation steps to follow are the same as in the sections above.

“Use Grace Date” option

This option is useful for **automatically** managing payments to the proper payment Line status, when users do not want to penalize their Borrowers for paying later than the payment due date, but within a grace period granted to them.

When the “Use Grace Date” is activated, the date entered in the “Due Pmt” column of the Payment schedule will not be modified if the Excel payment date is within the grace period entered in the Record’s “Advanced” tab.

If a payment is made, for example, two days later than the date entered in the Payment schedule “Pmt Date” column, but the Borrower has four days of grace, the Line status will automatically be changed to “Paid Pmt” (or other default Line status) as opposed to “Paid Late Pmt”. The payment date from Excel will be displayed in the “True Pmt Date (Grace/EFT)” column.

No additional interest is therefore accrued if the payment is late but remains within the grace period. The date which will be added in the “Actual Pmt Date (Grace/EFT)” thus becomes the transaction date in the Accounting Entries report and in certain other reports, by various means.

If there is a partial late payment during the grace period, the Line status will be changed to “Partial Pmt”, not “Partial Late Pmt”. The expected payment amount (“Exp. Pmt” column) will be entered automatically in order to calculate the overdue/oustanding amount.

The other import conditions for payments remain unchanged.

It is allowed to enter a Grace Date after the last payment date of the Payment schedule.

If the “Use Grace Date” option is checked, no date must be entered in column D of the import sheet, nor in the “Actual Pmt Date (Grace/EFT)” column of the Payment schedule. The actual payment date would be in the “Pmt Date” column of the Excel file. MLM will therefore automatically enter the actual payment date in the “True Pmt Date (Grace/EFT)” column of the Payment schedule.

Option: Line status other than “Paid Pmt” (other default and Excel column E)

In order for existing Payment lines to be updates to the proper Line status, two options are available: 1) If the Line statuses are always the same, set a default Line status and it will not be necessary to enter a value in column E of your Excel sheet:

? Default Line status for paid payments:

If you wish to import different Line statuses for payments paid in full and on the due date, enter the Line status number you wish to import in column E of the Excel sheet (4 for Paid Pmt, 6 for Paid Pmt (3), 57 for Paid principal (3), etc.). This Line status will predominate over any other “Paid” type Line status whether the payments are complete or partial (payment update option can be with Unique Line ID or precise date and payment amount).

If certain lines in Column E of the spreadsheet are empty, the default Line status will be used during the import.

- Column E (optional): “Paid” Line status

Consult the very important “?” in MLM to learn more about this option and to understand the subtleties and exceptions.

Using multiple APIs for Data Import

Data that needs to be imported or updated in Margill may come from several systems: CRM for Borrower data, Accounting for loans and Banking/Accounting/ERP systems for transactions.

In these situations, it is essential to respect the import order which is **not managed by MLM**, but should be managed according to your file production timing.

1. Borrower data should always be imported first if the Borrower API is used.
 - This is not required if data are in the same file (API Loan/Borrower)
2. Loan data are subsequently imported and linked to already existing Borrowers in Margill
3. Finally, Transactional data is imported into already existing Loans in Margill.

You should therefore program the production of the JSON/Excel files of your systems according to this logical import data order. For example when the files are produced in bulk, only once a day:

- Borrowers JSON file produces at 12:05 (midnight), New Loans file at 12:15. Transactions (although transactions generally apply to already existing Loans and not to newly created Loans) at 12:25.

It is often beneficial to use the combined Loan/Borrower API for creating and updating Borrowers.

Import Log

A critical aspect of this automated import are the logs that indicate if the job (the import) was successful or not and which data was not imported.

The log below shows 4 new Borrowers were created. An entry is created for each successful new Borrower:

ID	Source	Level	Timestamp	Message
50	Borrower Auto	Information	27-02-2021 14:59:03	3uvaf-fyw5z [entry #4] - [Borrower MLM ID: 40005] - Imported/Created
49	Borrower Auto	Information	27-02-2021 14:59:03	3uvaf-fyw5z [entry #3] - [Borrower MLM ID: 40004] - Imported/Created
48	Borrower Auto	Information	27-02-2021 14:59:03	3uvaf-fyw5z [entry #2] - [Borrower MLM ID: 40003] - Imported/Created
47	Borrower Auto	Information	27-02-2021 14:59:03	3uvaf-fyw5z [entry #1] - [Borrower MLM ID: 40002] - Imported/Created

When the same file is resubmitted with data changed or not, the data that changed will not be noted, simply that the Borrower was updated:

ID	Source	Level	Timestamp	Message
54	Borrower Auto	Information	27-02-2021 15:04:12	3uvaf-fyw5z [entry #4] - [Borrower MLM ID: 40004] - Updated
53	Borrower Auto	Information	27-02-2021 15:04:12	3uvaf-fyw5z [entry #3] - [Borrower MLM ID: 40004] - Updated
52	Borrower Auto	Information	27-02-2021 15:04:12	3uvaf-fyw5z [entry #2] - [Borrower MLM ID: 40003] - Updated
51	Borrower Auto	Information	27-02-2021 15:04:12	3uvaf-fyw5z [entry #1] - [Borrower MLM ID: 40002] - Updated

In the log below we see the data elements that were refused, mostly because of formatting:

ID	Source	Level	Timestamp	Message
18	Borrower Auto	Error	26-02-2021 17:09:25	g785h-9t9wd [entry #2] - [Custom (Date): 08/15/2021] - Date format expected YYYYMMDD. g785h-9t9wd [entry #2] - [Fiscal year (custom scroll): Feb 28] - Element not found in the list of values in 'Fiscal Year End' g785h-9t9wd [entry #2] - [J6Z 4K8: Zip/PC] - ZIP Code Format not valid (Import settings) g785h-9t9wd [entry #2] - [Borrower: Borrower Country] - MANDATORY Field Missing in File (MLM User Settings) g785h-9t9wd [entry #2] - [Borrower: Borrower Middle Initial] - MANDATORY Field Missing in File (MLM User Settings)
19	Borrower Auto	Error	26-02-2021 17:09:25	g785h-9t9wd [entry #3] - [Custom (Date): NA] - Date format expected YYYYMMDD. g785h-9t9wd [entry #3] - [Fiscal year (custom scroll): Feb 26] - Element not found in the list of values in 'Fiscal Year End' g785h-9t9wd [entry #3] - [90876: Zip/PC] - ZIP Code Format not valid (Import settings) g785h-9t9wd [entry #3] - [Borrower: Borrower Country] - MANDATORY Field Missing in File (MLM User Settings) g785h-9t9wd [entry #3] - [Borrower: Borrower Middle Initial] - MANDATORY Field Missing in File (MLM User Settings)
20	Borrower Auto	Error	26-02-2021 17:09:25	g785h-9t9wd [entry #4] - [Custom (Date): NA] - Date format expected YYYYMMDD. g785h-9t9wd [entry #4] - [Fiscal year (custom scroll): Feb 26] - Element not found in the list of values in 'Fiscal Year End' g785h-9t9wd [entry #4] - [90876: Zip/PC] - ZIP Code Format not valid (Import settings) g785h-9t9wd [entry #4] - [Borrower: Borrower Country] - MANDATORY Field Missing in File (MLM User Settings)

When the whole file per se is rejected, improper format type or improper data in the file for example, this will show in the log:

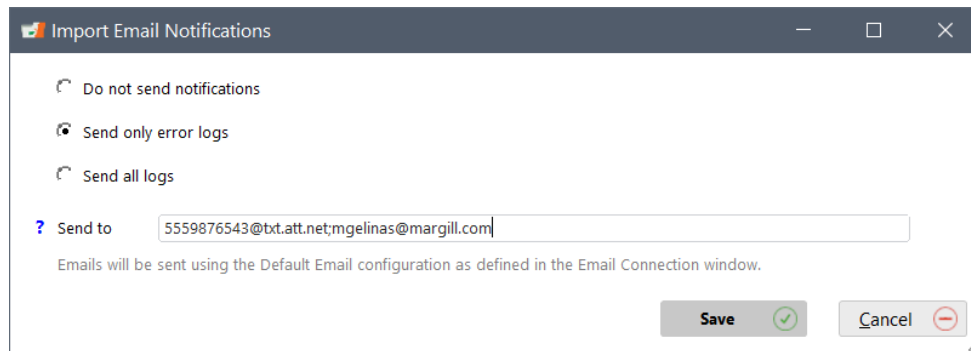
ID	Source	Level	Timestamp	Message
21	Borrower Auto	Error	27-02-2021 13:50:48	Import failed: file format not supported (Json or xls,xlsx)

The log should be consulted regularly and data fixed in the upstream system. It is recommended to activate the "Email Notification" option in order to avoid the need to consult the log on a regular basis.

Two options are available:

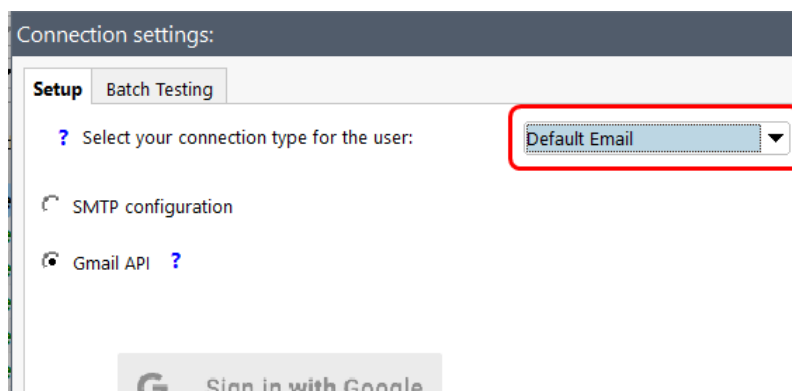
- Send only the error logs

- Send all logs



One email is sent per file imported or rejected. It is best to limit the emails only to the errors in order to easily pick up errors that must be fixed. The log can also be sent by SMS (see the ? to the left of "Send to" for more information on this). Particularly for "Email to SMS", considering there are message size limitations, only the Errors log should be sent.

In order to enable these notifications by email or by "Email to SMS", the "Default Email" connection must be set in Tools > Settings > System Settings (Administrators) tab > Email connection. This will not work if other users are used to connect.



Log of processed but rejected files (Error.txt)

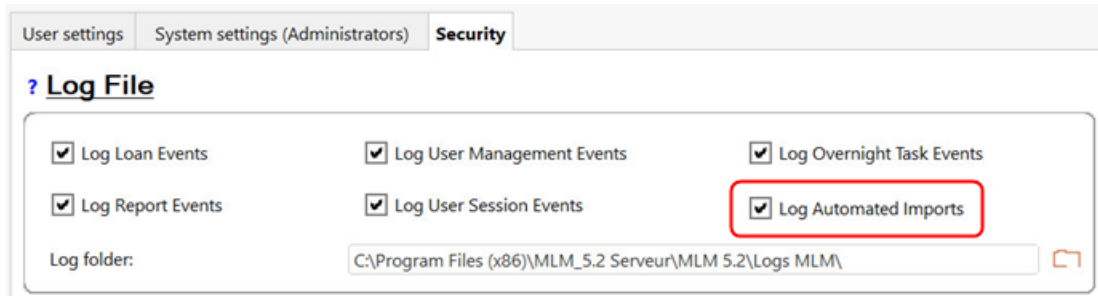
The Error.txt file contained in the "not imported" sub-folder (this sub-folder is located in the "Borrowers import folder") contains file import errors only, that is, the reason for the rejection of the entire file. It can be accessed easily and should only be deleted knowingly. An unprocessed import file will not be included in Error.txt.

False errors

If the Excel sheet includes, after the real data lines, lines with blanks in certain cells (so invisible to the eye), the automated import will try to import nonetheless because there is "something" in the lines. When such as error shows up in the log, review you third-party system export to make sure no blanks are added by error.

External logs

These logs can be accessible outside Margill. Activate external import logging from the “Security” tab in system Settings (only the ADMIN user can see this tab). The files created by these logs may be then imported by third-party log analysis systems such as *Splunk*.



The screenshot shows the 'Security' tab in the system settings. Under the 'Log File' section, there are several checkboxes for logging events: 'Log Loan Events', 'Log Report Events', 'Log User Management Events', 'Log User Session Events', 'Log Overnight Task Events', and 'Log Automated Imports'. The 'Log Automated Imports' checkbox is highlighted with a red rectangle. Below the checkboxes is a text input field for the 'Log folder' path, which is set to 'C:\Program Files (x86)\MLM_5.2 Serveur\MLM 5.2\Logs MLM\'. There is also a small icon to the right of the input field.

Appendix 1 Automated Import Data Formats

Name	Format	Comment	Data can be modified with the automated import	Can be set as Default in the "Automated Import Configuration window"
LOAN				
Record – Unique Identifier 1-2	Text max 40		X for Yes	
Record Status	Integer	System defaults: 1 = Draft 2 = Pending 3 = Active 4 = Closed 5 = Archived 7 = On hold Other custom statuses in the list available under "?" next to "Record Status" in the "Automated Import configuration window" "Bad debt" status Records cannot be imported	X	X
Origination Date <i>(Mapping Required)</i>	Date Format 20211231	ISO Format - YYYYMMDD		
First payment Date <i>(Mapping Required)</i>	Date Format 20211231	ISO Format - YYYYMMDD		
Principal Original <i>(Mapping Required)</i>	Monetary			X
Compounding period	Integer	1 = Annually 2 = Semiannually 3 = Quarterly 4 = Monthly 5 = Every 4 weeks 6 = Twice monthly 7 = Biweekly 8 = Weekly 9 = Daily		X
Payment Frequency	Integer	1 = Annually 2 = Semiannually		X

Name	Format	Comment	Data can be modified with the automated import	Can be set as Default in the "Automated Import Configuration window"
		3 = Quarterly 4 = Monthly 5 = Twice monthly 6 = By day(s) 7 = Irregular		
Number of days	Integer	1 or more if "By day(s)" above		X
Payment Method	Integer	1 = Normal 2 = Interest Only 3 = Fixed Principal 5 = Payments set to 0.00		X
Annual Nominal Rate (%)	Rate (%)	For example, enter 10.123456, not 10.123456% to give a rate of 10.123456%. If 10.123456% is entered in Excel, the rate will be 0.101235% in Margill		X
Amortization (Payments)	Integer			X
Term (Payments)	Integer	Must be = or < then the Amortization		X
Payment	Monetary			X
Balance	Monetary			X
File	Text max 20		X	X
File Number	Integer Max of 15		X	X
Type	Text	From a drop-down menu defined in MLM: the imported data must correspond EXACTLY to the menu including upper and lower case (small and capital letters), special characters, accents, spaces, etc.	X	X
Accounting ID	Text max 20		X	
Date	Date Format 20211231	ISO Format YYYYMMDD	X	
Maximum Credit	Monetary	Positive value only	X	X
Currency	Integer	0 or blank = Use Windows Settings	X	X

Name	Format	Comment	Data can be modified with the automated import	Can be set as Default in the "Automated Import Configuration window"
		Depends on Settings, list is available under "?" next to "Currency" in the "Automated Import configuration window"		
Interest table – Percentage to add or subtract (Spread)	Rate (%)	For example, enter 10.123456, not 10.1234565% to give a rate of 10.123456%. If 10.123456% is entered in Excel, the rate will be 0.101235% in Margill A negative value is allowed but the final rate (index rate minus spread) cannot be less than 0%		
Interest table – Abbreviation	Text -No special characters allowed	This is the table abbreviation		
Interest table – Frequency of changes starting on this date	Date Format 20211231	ISO Format YYYYMMDD		
Interest table – Frequence of changes every X months	Integer			
Interest table – Do not update the Payment schedule when updating the rate table	Integer	0 or blank = Update 1=Do not update		
Add Behavior – "Due Pmt" will be tagged (with the appropriate "Behaviour")	Integer	0 or blank = No behavior 1=With behavior according to the chosen method, the tag will be added in the "Pmt type" column of the Payment schedule.		

Name	Format	Comment	Data can be modified with the automated import	Can be set as Default in the "Automated Import Configuration window"
Advanced				
Method	Integer	1 = Normal (Compound, Effective Rate) Equal Periods 2 = Normal (Compound, Effective Rate) Exact Days 3 = US Rule 4 = Simple Interest 5 = Simple Interest Capitalized		X
Day Count	Integer	1 = Actual/Actual 2 = 30/360 3 = Actual/360 4 = Actual/365 5 = 30/360 U		X
Use Automatic Column Fees	Integer	0=Uncheck 1=Check		X
If Payment Amount entered, reduce or increase last payment to yield balance= 0.00 or Balance amount	Integer	0=Uncheck 1=Check		X
APR				
Calculate the APR	Integer	0=Uncheck 1=Check		X
APR Fees (1-2-3)	Monetary	Must be positive		X
APR Fees (4-5)	Rate (%)	Must be positive		X
APR Fees Payment timing (1 to 5)	Integer	1 = Paid up-front 2 = Financed 3 = Subsequently Paid		X
APR Fees (1 to 5) Titles	Text max 20	Cannot be blank once entered by auto update	X	X
Column Fees				
Column Fees (1 to 6) Amount	Monetary	Must be positive		X
Column Fees (1 to 6) with or Without interest	Integer	1= WITH interest on these fees 2 = NO interest on these fees		X
Custom Fields - Record				

Name	Format	Comment	Data can be modified with the automated import	Can be set as Default in the "Automated Import Configuration window"
Custom Fields Unlimited (Record)	Custom	From system settings Custom Fields. The imported data must correspond EXACTLY to the menu including upper and lower case (small and capital letters), special characters, accents, spaces, etc.	X	If fields are unmapped, defaults data from settings will be used.
Custom Fields 1 to 9 (Record)	Custom	From system settings Custom Fields. The imported data must correspond EXACTLY to the menu including upper and lower case (small and capital letters), special characters, accents, spaces, etc.	X	If fields are unmapped, defaults data from settings will be used.
Borrower				
Borrower Unique identifier 1-2	Text max 40	At least one of the unique Identifier is mandatory to create, update or add a Borrower.	X You cannot change or add a borrower of an existing loan using the import tool.	
Borrower Social Security number	Text max 40	If a mandatory format has been set, mandatory format must be followed.	X	
Borrower Birth Date	Date Format 19991218	ISO Format - YYYYMMDD	X	
Borrower Business (Company) Name	Text max 100	At least one of these 3 fields are mandatory when creating a new Borrower: Business (Company) Name, First name and/or Last name.	X	
Borrower Marital Status	Text	" " (blank) Single	X	

Name	Format	Comment	Data can be modified with the automated import	Can be set as Default in the "Automated Import Configuration window"
		Married Separated Divorced Widowed The imported data must correspond EXACTLY to the menu including upper and lower case (small and capital letters), special characters, accents, spaces, etc.		
Borrower Title	Text	" " (blank) Mr. Mrs. Ms. Dr. The imported data must correspond EXACTLY to the menu including upper and lower case (small and capital letters), special characters, accents, spaces, etc.	X	
Borrower First Name	Text max 40	At least one of these 3 fields are mandatory when creating a new Borrower: Business (Company) Name, First name and/or Last name.	X	
Borrower Middle initial	Text max 20		X	
Borrower Last Name	Text max 40	At least one of these 3 fields are mandatory when creating a new Borrower: Business (Company) Name, First name and/or Last name.	X	
Borrower Address 1	Text max 100		X	
Borrower Address 2	Text max 100		X	

Name	Format	Comment	Data can be modified with the automated import	Can be set as Default in the “Automated Import Configuration window”
Borrower City	Text max 100		X	
Borrower State/Province	Text max 40	If values are entered in the System settings Scroll menus, the imported data must correspond EXACTLY to the menu including upper and lower case (small and capital letters), special characters, accents, spaces, etc.	X	If fields are unmapped or empty, defaults data from settings will be used.
Borrower Country	Text max 40	If values are entered in the System settings Scroll menus, the imported data must correspond EXACTLY to the menu including upper and lower case (small and capital letters), special characters, accents, spaces, etc.	X	If fields are unmapped or empty, defaults data from settings will be used.
Borrower Zip /Postal code	Text max 40	If a mandatory format has been set, mandatory format must be followed.	X	
Borrower Phone number	Text max 40	If a mandatory format has been set, mandatory format must be followed.	X	
Borrower Fax number	Text max 40	If a mandatory format has been set, mandatory format must be followed.	X	
Borrower Mobile number	Text max 40	If a mandatory format has been set, mandatory format must be followed.	X	
Borrower Email	Text max 175	Can be more than one email address split by a “;”, no spaces in between	X	
Borrower Website	Text max 75		X	
Borrower Occupation	Text max 100		X	
Custom Fields - Borrower				

Name	Format	Comment	Data can be modified with the automated import	Can be set as Default in the "Automated Import Configuration window"
Custom Fields Unlimited (Borrower)	Various formats depending on field type defined	From system Settings > Custom Fields. If pull-down menu type, the imported data must correspond EXACTLY to the menu including upper and lower case (small and capital letters), special characters, accents, spaces, etc.	X	If fields are unmapped, default data from Settings will be used.
Custom Fields 1 to 9 (Borrower)	Various formats depending on field type defined	From system Settings > Custom Fields. If pull-down menu type, the imported data must correspond EXACTLY to the menu including upper and lower case (small and capital letters), special characters, accents, spaces, etc.	X	If fields are unmapped, default data from settings will be used.
Creditor				
Record/Creditor link – MLM Creditor ID	Integer	Can map only one of these 3 Creditor links OR use default if always same Creditor		X If Default is set, no mapping permitted for these 3 Creditor links
Record/Creditor link – Creditor Unique Identifier 1 -2	Text max 40	Can map only one of these 3 Creditor links OR use default		
Other				
Grace Period		Cannot be imported for now - In System Settings > Field scroll menus, the default value will be entered		