



4.3

Release Notes

Overview

About the Release Notes

The Release Notes are a comprehensive user guide for the latest release of Mambu. The Mambu Release Notes give you everything you need to get up and running with the new features and enhancements in the latest release.

What's Included in the Release Notes

For every new major enhancement, the Release Notes provide:

- A high-level description of the functionality
- Implementation tips to help you get started with setup and administration
- Tips to help you maximize the benefits

Beyond the major new features, the Additional Enhancements section include a list and brief description of every other enhancement or functional change included in the latest release—everything from email, to new report types, to security and packaging.

The release notes also cover any changes to existing functionality that you and your users should be aware of. We highly recommend exploring both the changes and the new features in your sandbox environment before the production go-live date.

Your Feedback Matters

We know how important the Release Notes, online help, and documentation are to your company's success with Mambu. To continually improve the service we deliver to you, we want to know what works and what doesn't. Let us know by contacting support@mambu.com or your account manager.

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Release Details

Please see below the release dates for this version:

Event	Date
Development Start	June 26, 2016
Sandbox Release	September 14, 2016
Production Release	October 2, 2016

Development Start

Date when development on the new release started. The Development process includes SW development, QA Testing, Automated Regression Testing, Code Review.

Sandbox Release

Date when the new Mambu version was released on Sandbox. This release allows you to test the new features in your Sandbox environment, see in what way it impacts your business and how you can implement the new features, to suit your needs best.

Production Release

Date when the new Mambu version was deployed into Production. The new version is now live and the new features are available to be used on your live environment.

1. Changes in Existing Functionality

1.1 Loan Accounts

All dynamic schedules include applied Fees

All schedules for following products include applied fees on the schedule: Dynamic Loans, Revolving Credit, Payment Plan, Tranched Loan. The fees applied will also be included in the total due amount for each installment.

In product documents, when using placeholder REPAYMENT_SCHEDULE, the fees will also be displayed on the schedule.

Partial Interest is not applied any more after first disbursement (revolving credit and tranched loans)

Until now, when disbursements were performed on Revolving Credit and Tranched Loans, the interest accrued until the disbursement date was automatically applied. Now Mambu applies the interest that is accrued until the last installment due date. You can still manually apply the interest accrued until the disbursement date, before performing the disbursement action.

Label Changes

- The option to “Reduce Due” fees or penalties is renamed to “Reduce Balance”

1.2 Loan Products

Accounting Methodology was changed to None for products with Funding Sources enabled (P2P)

Action Required

Cash accounting option for P2P loan products was replaced with Accruals Accounting method. As part Mambu 4.3 release, we'll disable the accounting option for your P2P products and afterwards you can re-enable the new Accruals method and setup all the new receivable GL Accounts on the product.

Label Changes

- The option “Arrears Non Working Days Method” is renamed to “Tolerance Period Non Working Days Method”

1.3 Deposit Products

Label Changes

- The option “Interest Is Applied to the Account” is renamed to “Interest paid into account”

1.4 Trial Balance and Profit and Loss Reports

Label Changes

- The option “Hide Zero Balance Accounts” is renamed to “Hide Zero Debits/Credits Accounts”

1.5 Users and Roles

Permission Changes

- New Permissions:
 - Edit Interest Rate - allows users to edit the interest rate on active Revolving Credit loan accounts, permission under Loan Accounts
- Renamed Permissions:
 - Permission to “Apply Fee” for loans is renamed to “Apply Loan Account Fee”

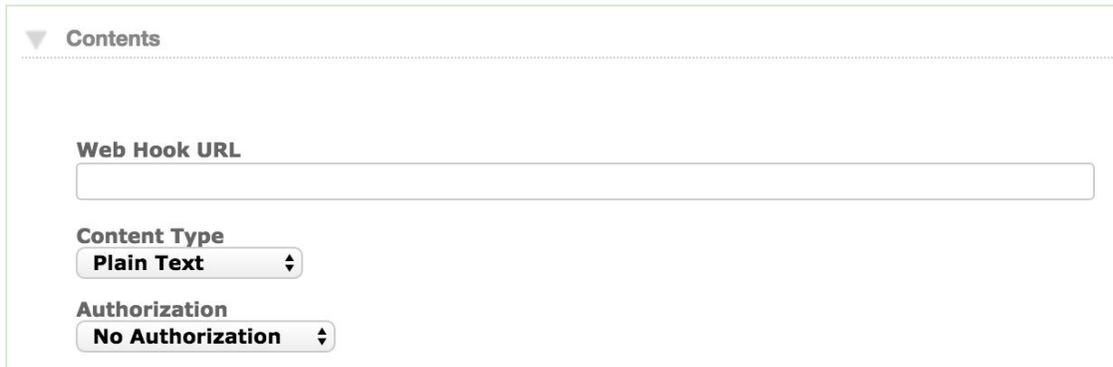
2. New Features

General

2.1 Add request header fields when defining a WebHook

When defining a Webhook, you can now also select the Content-Type and Authorisation, which enables out of the box behavior for the integration apps on payload deserialization processes, authentication and more.

When defining or editing a Webhook, you can find the new section under Contents:



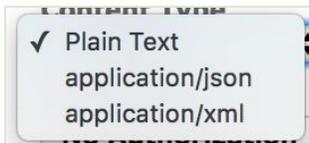
▼ Contents

Web Hook URL

Content Type
Plain Text ▾

Authorization
No Authorization ▾

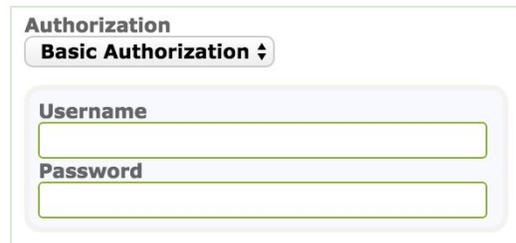
You can select between several content types which will be included in the header request:



Content Type

- ✓ Plain Text
- application/json
- application/xml

You can also input authentication details which will also go in the header request:



Authorization
Basic Authorization ▾

Username

Password

Reference: APP-412

2.2 Sending notifications to system users

Users are now able to send notifications (SMS or Email) to other users the same way as they can now be sent to clients. This can be useful to users since some changes in clients' accounts need to be known by other users as well, and therefore a notification can be sent not only to the client but also to the user managing the account, for example.

When defining an SMS or Email template you will see a new drop-down which allows selecting the User link as Recipient.

Target	Available Recipients
Client	Client
	Credit Officer
	All Client-Type custom fields of type User Link
Group	All group roles (previous Group Recipient options)
	Credit Officer
	All Group-Type custom fields of type User Link

When a user-target is selected (Credit Officer or User), you can add any of the following placeholders:

1. Recipient ID (User) - the ID the user
2. First Names (User) - user's first name
3. Last Names (User) - user's last name
4. Full Name (User) - user's full name
5. Mobile Phone (User) - user's mobile phone number
6. Email Address (User) - user's email

A user can subscribe to notifications from User Overview, from the More button by selecting Set Notifications, and then ticking the notifications:

Notification Requests

- Client Activity (EMail)
- Deposit Account Activity (SMS)
- Loan Disbursement (SMS)
- Withdrawal (Reversal) (SMS)
- Loan Account Created (SMS)
- Loan Disbursement (Web Hook)

Cancel
Save Changes

You can also see the notifications a user is subscribed to, on user overview.

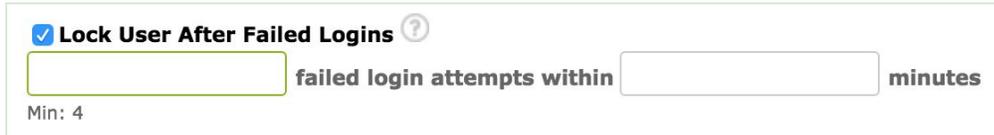
The notification will be sent to the user only if it is subscribed to it. If the user doesn't have an email address (for email notifications) or mobile phone number (for SMS notifications), the notification will be marked as failed.

Reference: APP-252

2.3 Automatically Deactivate a User After Failed Login Attempts

Mambu has added an option under the Security setup to automatically lock a User after "X" consecutive failed attempts to login.

In order to enable this option, go to Administration → Security and enable Lock User After Failed Logins.



Lock User After Failed Logins ?

failed login attempts within minutes

Min: 4

 **Note:** A minimum of 4 consecutive login attempts are required for the user to be deactivated.

When the user exceeds the number of failed logins within the specified constraints, the user will be locked and an error message will be displayed "Your account is locked. Please contact your administrator to unlock your account". An activity that the user was locked will also be logged, visible on the Dashboard.

Only administrators can unlock users, from Administration → Users section, by clicking Unlock from the Actions button.

Reference: APP-365

2.4 Client and Group Activity Notifications

Mambu has added two new types of notification events, which are useful for such situations when organisations need to be notified on any change made over their accounts.

"Client Activity"

"Group Activity"

If the recipient is registered to the notification, Mambu will send it when any client activity, or respectively, any group activity is logged. There is also a new placeholder available, `ACTIVITY_TYPE`, to be used in the notification templates.

Reference: APP-418

Loans

2.5 Fees on Schedule for Dynamic Loans

Mambu introduced a new enhancement to Loan Products, specifically showing applied fees on dynamic loan schedules. This functionality being already available for Fixed Term Loans is now extended to all loan products.

If there are fees associated with a product you will now be able to view them:

- At account creation, all Fees are listed under Disbursement Details
- At account creation, under Schedule Preview
- On the loan account schedule
- In product documents, for placeholder REPAYMENT_SCHEDULE

For example:

A Dynamic Loan with an Upfront Disbursement fee of \$25 and a Late Repayment fee of \$3 has a total of \$28 added to the first instalment on the schedule.

<input type="button" value="Details"/> <input type="button" value="Schedule"/> <input type="button" value="Transactions"/> <input type="button" value="Activity"/> <input type="button" value="Attachments"/> <input type="button" value="Comments"/> <input type="button" value="Enter Repayment"/> <input type="button" value="Close"/> <input type="button" value="Send"/> <input type="button" value="More"/> 															
<input checked="" type="checkbox"/> Paid Repayments <input checked="" type="checkbox"/> Empty Repayments <input checked="" type="checkbox"/> Amount Expected <input checked="" type="checkbox"/> Amount Paid <input checked="" type="checkbox"/> Amount Due															
#	Due	Principal Expected	Interest Expected	Fees Expected	Total Expected	Principal Paid	Interest Paid	Fees Paid	Total Paid	Paid Date	Principal Due	Interest Due	Fees Due	Total Due	State
1	08-09-2016	\$1,000.00	\$83.33	\$28.00	\$1,111.33	-	-	-	-		\$1,000.00	\$83.33	\$28.00	\$1,111.33	Late
2	10-10-2016	\$1,000.00	\$80.00	-	\$1,080.00	-	-	-	-		\$1,000.00	\$80.00	-	\$1,080.00	Pending
3	08-11-2016	\$1,000.00	\$62.22	-	\$1,062.22	-	-	-	-		\$1,000.00	\$62.22	-	\$1,062.22	Pending

As can be noticed from above screenshot, now that fees are added to the schedule, they will also be included in the total instalment calculations, if a fee is associated to a particular instalment. Fees are shown on next the installment due after the fee applied date and will be marked as paid when payments are posted on the account.

When fees balance is reduced on the account, they will be removed from the schedule as well, starting from the first installment that's not yet paid.

Mambu will update all the existing loan accounts in your organisation to display the fees that are already applied and paid on the schedule.

Reference: APP-447

2.6 Payment Due Fees for Dynamic Loan Products

Payment Due fees are now available for Dynamic Loans. The specificity with these fees is that they are calculated in advance and added to the loan's repayment schedule, along with the interest and principal due with each installment.

Name

Type
 Payment Due

Fee Payment
 Flat (\$)

Amount
 \$

Show Inactive Fees **ADD FEE**

The payment due fees will be logged on the account in a “Fee” Applied transaction after the account is disbursed. That transaction contains the fees amounts for all the due installments.

Reference: APP-408

2.7 Include Interest in the Floor of Repayments for Revolving Credit

Interest can now be included in the floor of the repayment amount for Revolving Credit products, on top of the Principal Amount when % of Outstanding Principal is selected. For organisations working with revolving credit products that require their clients to pay a minimum amount per month, the interest can now be optionally validated against the minimum payment, therefore not running the risk for the due amount to be higher than the minimum payment agreed upon.

Principal Payment
 % of Outstanding Principal

Amount Constraints (%)
 Default Min Max

Repayment Amount Floor ? \$

Principal Amount Ceiling ? \$

Include Interest in Floor Amount

When "Include Interest in Floor Amount" is checked, Mambu will ensure that interest will be included in instalment calculations, decreasing or increasing principal amount set under "Principal Amount Constraints" so as to make sure the "Repayment Amount Floor" is matched and to include the whole Interest amount due.

Reference: APP-451

2.8 Option to change Interest Rate on active Revolving Credit accounts

It is now possible to change the Interest Rate on active Revolving Credit accounts by selecting at account level, under the More button the new "Edit Interest Rate" action.

Editing Interest Rate
For Revolving Credit MISS681 - Monica Test

Current Rate
9%

New Rate
 % per year
Min: 1% Max: 10%

Entry Date

When editing the Interest Rate, the user will be able to input the new rate within the product constraints, if any. The user can also select the date from which the new interest rate should be taken into account under Entry Date. Interest Rate changes can be postdated, having no limitations on a future date, or backdated up to the last Applied Interest transaction. When backdating an interest rate change, the current interest accrued will also be updated to reflect the new rate. See below example of interest calculation in between Interest Applied transactions:

Example:

1. Current Interest Rate 15%
2. Rate changed to 17% on Jan 10th
3. Interest for Jan 1 - Jan 31 will be calculated as: $15\% * 9 \text{ days (Jan1-Jan 9)} + 17\% * 22 \text{ days (Jan10 - Jan31)}$

In order to be able to edit the Interest Rate on an active Revolving Credit, the user must have the new permission "Edit Interest Rate" enabled, under Loan Accounts.

Editing the interest rate on active revolving credits is also available through APIs.

Reference: APP-411

2.9 Fixed Loans - Interest Accrual after maturity date

Mambu now allows accruing interest on Fixed Loans after reaching maturity.

You can enable this at product level, by ticking the checkbox "Accrue Interest After Maturity", which when checked, Mambu will continue accruing interest after maturity date is reached (ie. Last due date).

▼ Interest Rate

Interest Calculation Method [?]
Flat

Accrued Interest Posting Frequency [?]
On Disbursement

Accrue Interest After Maturity

This option is enabled by default on new products and it can be enabled on existing products as well. When enabling this option on existing products, a validation dialog opens, giving the option to apply this for new accounts only, or for new and existing ones as well.

At account level you can add the interest accrued after maturity by clicking on "Apply Accrued Interest". Any Interest Applied transaction logged after the maturity date will create a new installment on the schedule, due right away, which contains the interest accrued that was just applied.

Mambu will log Journal Entries for the accrued interest if Accruals Accounting method is enabled, to the corresponding GL account (Daily/Monthly).

Reference: APP-405

2.10 EIR for Capitalized Disbursement fee type

Mambu introduced fee amortisation, with Effective Interest Rate method, for Capitalized Disbursement fees. Mambu already allows fees amortisation in Accounting, based on the EIR method, for all the other fee types.

Name <input type="text"/>	Type Capitalized Disbursement
Fee Payment Flat (\$)	Amount <input type="text"/> \$
Fee Application Required	
Amortization Profile Effective Interest Rate	Amortization Frequency Account Installments Due Dates
Fee Income	Use Product Default Any GL Account
Deferred Fee Income	Use Product Default Liability
<input type="checkbox"/> Show Inactive Fees ADD FEE	

The Fee amount will be amortized based on loan amount and on the installment due dates, and Mambu will log journal entries for the fees that are not yet amortized. On the last installment due date, Mambu will amortize the remaining fees amount, to make sure that the whole fees amount is booked. When the account is closed in any state, Mambu will amortize the fees that are not amortized

Reference: APP-444

Deposits

2.11 Risk Levels & Provisioning for Overdrafts in Arrears

Deposit accounts with Overdraft enabled will be included in the Risk Level provision calculations, displaying therefore the Risk Level on the account overview and including these accounts in the Risk Report.

To view the Risk Report for Overdrafts, all you need to do is go to the report and select the new tab for Overdrafts. The reporting options available are the same as for Loans.

Reporting

Indicators
Portfolio
Organization
Earnings
Cashflow
Outreach
Risk
Other Reports

Loans
Overdrafts

\$810.00

Total Overdraft At Risk

\$53.70

Provision Amount

All Branches
All Products
By Risk Level
All Risk Levels
Generate Report

P2P - Lending

2.12 P2P Accounting

Mambu is introducing accounting for Funding accounts. As part of this feature Mambu introduced:

Accrual Accounting Methodology for loan products with Funding

Mambu will log journal entries for accrual accounting methodology

When applying fees/penalties on a loan account with funds enabled, Mambu will log the journal entries as of now:

Type	GL Account	Amount	Transaction
Debit	Fee Receivable	Fee amount	Fee Applied
Credit	Fee Income	Fee amount	Fee Applied
Debit	Penalty Receivable	Penalty amount	Penalty Applied
Credit	Penalty Income	Penalty amount	Penalty Applied

When applying interest on a loan account with funds enabled, Mambu will calculate the organization commission and log the journal entries for it:

Type	GL Account	Amount	Transaction
Debit	Interest Receivable	Organization commission	Interest Applied
Credit	Interest Income	Organization commission	Interest Applied

When interest is reduced or the account is written off, only the percentage of interest applied that belongs to the organization will be marked as written off in accounting.

When paying the fees and penalties, Mambu will log the journal entries as of now, and when the transactions are reversed, Mambu will log reversals.

Cash accounting methodology for Funding Account product type

Mambu will log journal entries for transactions made over a Funding Account:

Type	GL Account	Transaction
Debit	Transaction Source	Deposit
Credit	Savings Control	Deposit
Debit	Savings Control	Withdrawal
Credit	Transaction Source	Withdrawal
Debit	Savings Control	Fee Applied
Credit	Fee Income	Fee Applied

Mambu will also log reversal journal entries when the transactions are reversed.

Action Required

Cash accounting option for P2P loan products was replaced with Accruals Accounting method. As part of Mambu 4.3 release, we'll disable the accounting option for your P2P products and afterwards you can re-enable the new Accruals method and setup all the new receivable GL Accounts on the product.

Reference: APP-477

2.13 Configurable Locking of Funding Allocation

Mambu now allows locking the funds on the Funding Account at loan account approval, to prevent them from over-committing to multiple loans, and at disbursement moment, the user can be sure that there are enough funds to cover the loan amount.

In order to do so, under product settings, section Funding Sources, when enabling Funding Sources you can tick the checkbox to "Lock funds on Funding Account at Approval".

▼ Funding Sources

Enable Funding Sources ?

Organization Interest Commission (%) ?

Default

Min

Max

Funder Interest Commission Allocation

Percentage of loan funding ↕

Lock funds on Funding Account at Approval

Please see below a description of what the locking functionality implies:

1. Mambu will validate that 100% of the loan amount is funded by investors, when the loan is approved
2. Mambu will validate that the deposit balance without the locked amount is greater or equal to the invested amount. An error message will otherwise be shown.
3. Mambu will unlock the funds amount when:
 1. the loan account approval is Undone
 2. the loan account is deleted
 3. the loan account is closed (withdrawn)
 4. the loan account is disbursed
4. Mambu will mark the funds amount as locked on the deposit account, when the loan account is approved
5. If funds are committed (locked), Mambu will allow withdrawal on that amount, from the funding account.

If the new option "Lock funds on Funding Account at Approval" is not checked, the current functionality applies.

Reference: APP-448

3. Major Improvements

1. Formatting Date Placeholders In Templates

Mambu now allows formatting date placeholders in templates. When selecting a date-type placeholder you are allowed to enter the formatting to be used. By default Mambu will load the organisation format, and the same applies if the time format is not defined or invalid.



Placeholder Clients (Custom Field) - Date	Display dd-MM-yyyy
---	------------------------------

Reference: APP-356

2. Option to disable "Other" Document ID templates

When creating a new Client, users can select one of the predefined ID Templates or add "Other" and populate it with custom information. For those organisations that don't wish to collect other documents than those predefined in the system, and who wish to avoid human error in handling custom ID templates, Mambu introduced an option to disable the customisable "Other" IDs.

In order to disable or enable Other ID Templates, go to Administration - ID Templates and hit the toggle button according to your preferences:

ID Type	Issuing Authority
Some ID Type	Some Issuing Authority
ID Type	Andreea
Mambu ID Type	Mambu Issuing Authority
<input checked="" type="checkbox"/> Enable Other Custom Templates	

Reference: APP-400

3. Adding / Editing custom fields for closed accounts

Some organization's processes might require adding information to a closed account, such as editing of previously collected account information. Therefore, Mambu now allows adding and editing fields for closed accounts.

Reference: APP-455

4. Other Changes

4.1 Minor Improvements

- [MBU-14154] - Allow adding/editing custom fields for closed accounts
- [MBU-14389] - Do not apply interest along with the disbursement transaction for active revolving credit and tranching loans
- [MBU-13585] - Allow moving the paid installments from the end of the schedule for a Reduce Number Of Installments account, when changing the meeting day
- [MBU-13733] - Rename "Reduce Due" option to "Reduce Balance"

4.2 Bug Fixes

- [MBU-8333] - Due amounts are not reset from the account when closing it
- [MBU-13968] - Days in arrears are not correct calculated when cron job should mark the account into arrears and makes an automated transfer
- [MBU-14013] - The last set into arrears days date is not reset when the account gets out of arrears
- [MBU-14358] - Loan accounts can be approved multiple times by concurrent users
- [MBU-12859] - Disbursements can be performed for closed loan accounts (revolving credit/tranching)
- [MBU-13600] - Total due is not correct calculated when principal amount is 100% of outstanding balance for a revolving credit loan account
- [MBU-14357] - Cannot disburse revolving credit loan account after it was rescheduled
- [MBU-13519] - Cannot create a loan account if the product has a settlement account deposit product with tiered interest rates
- [MBU-12417] - Applying fees to a grace installment creates unexpected behaviour
- [MBU-14349] - Incorrect schedule for dynamic accounts with option Recalculate the Schedule, Keep the Same Total Repayment Amount when making late payments after last installment due date with interest applied
- [MBU-14031] - When first repayment due date is changed by a holiday, next due installments are rescheduled after making a repayment
- [MBU-14440] - Arrears Tolerance Period is not saved when editing a solidarity loan account
- [MBU-14075] - Loan accounts are not created when new clients are added to an existing solidarity loan
- [MBU-11809] - Filtering Tasks by "Overdue" status is not bringing the correct results both on interface and API call
- [MBU-14264] - Error is logged in the log files when a deposit account is edited.
- [MBU-12777] - First repayment date is not validated to not contain timestamp when posting json loan
- [MBU-14257] - Linked Custom Fields Filters are ignored when returning custom view data
- [MBU-13739] - In Client Overview, client name doesn't have the order selected in General Custom fields set
- [MBU-13132] - Group custom fields that are not available for an entity type are displayed in Add Field dialog
- [MBU-14141] - Remove the recipient from the webhook notification templates
- [MBU-11824] - Incorrect validation message is displayed when SMTP settings are enabled and the credentials are invalid
- [MBU-14468] - Unable to access the Transactions tab of Credit Arrangement (line of credit)
- [MBU-12704] - Disbursement fees are not displayed in documents template for the accounts that are not disbursed

4.3 Technical Tasks

- [MBU-14260] - Use the default max inactive timeout minutes when priming a tenant
- [MBU-11819] - Divide method from Money considers the total count of digits as precision instead of considering only the decimals count
- [MBU-13688] - Create a Migration Script to update all the existing dynamic schedules to reflect the fees applied
- [MBU-9743] - Upgrade all environments to MySQL 5.7
- [MBU-10868] - Execute Opt-Out Notifications Subscriptions on the Background Servers in a Queued Manner
- [MBU-14123] - Don't lock the tables when dumping a database
- [MBU-12221] - Remove V4.2 Migration Scripts & Deprecated Fields

5. API Enhancements

5.1 Editing Dynamic Schedules

Mambu 4.3 allows patching dynamic schedule type loans via APIs. Mambu already allowed editing schedules for fixed term loans, therefore you can use the same PATCH API to endpoint: **`/api/loans/<id>/repayments`**

The following items are allowed for editing:

- only principal and due dates on the schedule
- adding a new installment on the schedule
 - When a repayment is posted without an encoded key, it will be added on the schedule, according to its due date
 - If the due date already exists, the new installment will be added after the existing one
- deleting an unpaid installment from the schedule

Mambu will log activities and field change items when the schedule is edited.

Update the schedule for an account. Edit an existing installment and add a new one

```
PATCH {
  "repayments": [
    {
      "encodedKey": "ff808081562b730901562cdfbd950009",
      "parentAccountKey": "ff808081562b730901562cdfbc3d0003",
      "dueDate": "2016-09-30",
      "principalDue": 700
    },
    {
      "parentAccountKey": "ff808081562b730901562cdfbc3d0003",
      "dueDate": "2016-09-27",
      "principalDue": 100
    }
  ]
} /api/loans/ABC123/repayments
```

Reference: APP-123

5.2 Editing Interest Rate for an Active Revolving Credit

Mambu now allows editing the interest rate on active revolving credit loan accounts.

When POSTing transactions via API for these accounts, in order to change interest rate use "INTEREST_RATE_CHANGED" type.

Change the interest rate for a revolving credit loan

```
POST "{
  "type": "INTEREST_RATE_CHANGED",
```

```

    "date": "2016-08-27",
    "rate": "10",
    "Notes": "new account rate"
  }" /api/loans/ABC123/transactions

```

Reference: APP-411

5.3 Working with Deposit Accounts

In Mambu 4.1, two new inner models were added for storing with positive and overdraft interest rate settings. Until Mambu 4.5 release, Mambu APIs will offer full backwards compatibility on the interest rate fields, but we suggest updating the API calls to use the new API structure.

Action Required

Please update your APIs for Creating (POST), Editing (PATCH) and Retrieving (GET) deposits accounts and update the following fields definition:

Old Field	New Field
<code>interestRate</code>	Same field name, but should be placed under <code>interestSettings</code> object
<code>interestChargeFrequency</code>	Same field name, but should be placed under <code>interestSettings</code> object
<code>interestChargeFrequencyCount</code>	Same field name, but should be placed under <code>interestSettings</code> object
<code>overdraftInterestRate</code>	Renamed to <code>interestRate</code> and should be placed under <code>overdraftInterestSettings</code>
<code>overdraftInterestChargeFrequency</code>	Renamed to <code>interestChargeFrequency</code> and should be placed under <code>overdraftInterestSettings</code>
<code>overdraftInterestChargeFrequencyCount</code>	Renamed to <code>interestChargeFrequencyCount</code> and should be placed under <code>overdraftInterestSettings</code>
<code>overdraftInterestRateSource</code>	Renamed to <code>interestRateSource</code> and should be placed under <code>overdraftInterestSettings</code>
<code>overdraftInterestSpread</code>	Renamed to <code>interestSpread</code> and should be placed under <code>overdraftInterestSettings</code>
<code>overdraftInterestRateReviewUnit</code>	Renamed to <code>interestRateReviewUnit</code> and should be placed under <code>overdraftInterestSettings</code>
<code>overdraftInterestRateReviewCount</code>	Renamed to <code>interestRateReviewCount</code> and should be placed under <code>overdraftInterestSettings</code>

Create a deposit account (before Mambu 4.1)

```

POST "{
  "id":"HOAN041",
  "accountHolderKey":"8a8086e7560385cc015603fce07202d7",
  "accountHolderType":"CLIENT",
  "name":"Current Account",
  "productTypeKey":"8a8087e55620e77b015620f3d7de009e",
  "allowOverdraft":true,
  "interestPaymentPoint":"EVERY_OTHER_WEEK",
  "interestRate":"10",
  "interestChargeFrequency":"EVERY_X_DAYS",
  "interestChargeFrequencyCount":30,
  "overdraftInterestRate":"4.5",
  "overdraftInterestChargeFrequency":"ANNUALIZED",
  "overdraftInterestChargeFrequencyCount":1
}" /api/savings/

```

Create a deposit account (current version, available until Mambu 4.5)

```

POST "{
  "id":"HOAN041",
  "accountHolderKey":"8a8086e7560385cc015603fce07202d7",
  "accountHolderType":"CLIENT",
  "name":"Current Account",
  "productTypeKey":"8a8087e55620e77b015620f3d7de009e",
  "allowOverdraft":true,
  "interestPaymentPoint":"EVERY_OTHER_WEEK",
  "interestRate":"10",
  "interestChargeFrequency":"EVERY_X_DAYS",
  "interestChargeFrequencyCount":30,
  "overdraftInterestRate":"4.5",
  "overdraftInterestChargeFrequency":"ANNUALIZED",
  "overdraftInterestChargeFrequencyCount":1,
  "interestSettings":{
    "interestRate":"10",
    "interestChargeFrequency":"EVERY_X_DAYS",
    "interestChargeFrequencyCount":30
  },
  "overdraftInterestSettings":{
    "interestRate":"4.5",
    "interestChargeFrequency":"ANNUALIZED",
    "interestChargeFrequencyCount":1
  }
}" /api/savings/

```

Create a deposit account (available after Mambu 4.5)

```

POST "{
  "id":"HOAN041",
  "accountHolderKey":"8a8086e7560385cc015603fce07202d7",
  "accountHolderType":"CLIENT",

```

```

"name":"Current Account",
"productTypeKey":"8a8087e55620e77b015620f3d7de009e",
"allowOverdraft":true,
"interestPaymentPoint":"EVERY_OTHER_WEEK",
"interestSettings":{
  "interestRate":"10",
  "interestChargeFrequency":"EVERY_X_DAYS",
  "interestChargeFrequencyCount":30
},
"overdraftInterestSettings":{
  "interestRate":"4.5",
  "interestChargeFrequency":"ANNUALIZED",
  "interestChargeFrequencyCount":1
}
}" /api/savings/

```

Reference: APP-134

5.4 Retrieving Loan and Deposit Accounts

In Mambu 4.1, two new inner models were added for storing with positive and overdraft interest rate settings. Until Mambu 4.5 release, Mambu APIs will offer full backwards compatibility on the interest rate fields, but we suggest updating the API calls to use the new API structure.

Action Required

Please update your APIs for Retrieving (GET) loan and deposit products and update the following fields definition:

Loan Products:

Old Field	New Field
<code>minInterestRate</code>	Same field name, but should be placed under <code>interestRateSettings</code> object
<code>maxInterestRate</code>	Same field name, but should be placed under <code>interestRateSettings</code> object
<code>defaultInterestRate</code>	Same field name, but should be placed under <code>interestRateSettings</code> object
<code>interestRateSource</code>	Same field name, but should be placed under <code>interestRateSettings</code> object
<code>interestRateFloorValue</code>	Same field name, but should be placed under <code>interestRateSettings</code> object
<code>interestRateCeilingValue</code>	Same field name, but should be placed under <code>interestRateSettings</code> object

<code>indexSourceKey</code>	Same field name, but should be placed under <code>interestRateSettings</code> object
-----------------------------	--

Deposit Products:

Old Field	New Field
<code>minOverdraftInterestRate</code>	Same field name, but should be placed under <code>overdraftInterestRateSettings</code> object
<code>maxOverdraftInterestRate</code>	Same field name, but should be placed under <code>overdraftInterestRateSettings</code> object

Get a loan product (before Mambu 4.1)

```
GET "{
  "encodedKey":"8a8086c35709a0f301573373c6570ffd",
  "id":"IR1",
  "productName":"Educational Loan",
  "loanProductType":"DYNAMIC_TERM_LOAN",
  "minInterestRate":"5",
  "maxInterestRate":"40",
  "defaultInterestRate":"10",
  "interestRateSource":"INDEX_INTEREST_RATE",
  "interestRateReviewUnit":"MONTHS",
  "interestRateReviewCount":3,
  "interestRateFloorValue":"10",
  "interestRateCeilingValue":"20",
  "indexSourceKey":"8a80804e535b6c9001535b74a81a001c"
}" /api/loanproducts/DEF456
```

Get a loan product (current version, available until Mambu 4.5)

```
GET "{
  "encodedKey":"8a8086c35709a0f301573373c6570ffd",
  "id":"IR1",
  "productName":"Educational Loan",
  "loanProductType":"DYNAMIC_TERM_LOAN",
  "minInterestRate":"5",
  "maxInterestRate":"40",
  "defaultInterestRate":"10",
  "interestRateSource":"INDEX_INTEREST_RATE",
  "interestRateReviewUnit":"MONTHS",
  "interestRateReviewCount":3,
  "interestRateFloorValue":"10",
  "interestRateCeilingValue":"20",
```

```

    "indexSourceKey": "8a80804e535b6c9001535b74a81a001c",
    "interestRateSettings": {
      "encodedKey": "8a8086c35709a0f301573373c65a0fff",
      "interestChargeFrequency": "ANNUALIZED",
      "interestChargeFrequencyCount": 1,
      "minInterestRate": "5",
      "maxInterestRate": "40",
      "defaultInterestRate": "10",
      "interestRateSource": "INDEX_INTEREST_RATE",
      "interestRateReviewUnit": "MONTHS",
      "interestRateReviewCount": 3,
      "interestRateFloorValue": "10",
      "interestRateCeilingValue": "20",
      "indexSourceKey": "8a80804e535b6c9001535b74a81a001c"
    }
  }
}"/api/loanproducts/DEF456

```

Get a loan product (available after Mambu 4.5)

```

GET "{
  "encodedKey": "8a8086c35709a0f301573373c6570ffd",
  "id": "IR1",
  "productName": "Educational Loan",
  "loanProductType": "DYNAMIC_TERM_LOAN",
  "interestRateSettings": {
    "encodedKey": "8a8086c35709a0f301573373c65a0fff",
    "interestChargeFrequency": "ANNUALIZED",
    "interestChargeFrequencyCount": 1,
    "minInterestRate": "5",
    "maxInterestRate": "40",
    "defaultInterestRate": "10",
    "interestRateSource": "INDEX_INTEREST_RATE",
    "interestRateReviewUnit": "MONTHS",
    "interestRateReviewCount": 3,
    "interestRateFloorValue": "10",
    "interestRateCeilingValue": "20",
    "indexSourceKey": "8a80804e535b6c9001535b74a81a001c"
  }
}"/api/loanproducts/DEF456

```

Reference: APP-134

5.5 Searching for transactions by transaction fields

Action Required

In Mambu 4.1 we have converted the transaction fields to custom fields. To be able to execute Post Search for transaction fields, please update your APIs to the same structure as for searching custom fields. In the update, please replace "filterSelection" value with the

encoded key of the custom field and add "dataFieldType": "CUSTOM" to the constraint JSON.

The following Filter Selections are not available any more:

- CUSTOM_TRANSACTION_IDENTIFIER
- CUSTOM_TRANSACTION_ACCOUNT_NAME
- BANK_NUMBER
- RECEIPT_NUMBER
- CHECK_NUMBER
- ACCOUNT_NUMBER
- ROUTING_NUMBER

Get all the transactions with a specific identifier (before Mambu 4.3)

```
POST "{
  "filterConstraints": [
    {
      "filterSelection": "CUSTOM_TRANSACTION_IDENTIFIER",
      "filterElement": "EQUALS",
      "value": "1"
    }
  ]
}" /api/loans/transactions/search
```

Get all the transactions with a specific identifier (starting Mambu 4.3)

```
POST "{
  "filterConstraints": [
    {
      "filterSelection": "8a8086c05494544401549455f6b90157",
      "dataFieldType": "CUSTOM",
      "filterElement": "EQUALS",
      "value": "1"
    }
  ]
}" /api/loans/transactions/search
```

6. Notable Database and Model Changes

LoanAccount

- Added ACCRUEINTERESTAFTERMATURITY

LoanTransaction

- Added INTERESTRATE

SavingsAccount

- Removed INTERESTRATE, INTERESTCHARGEFREQUENCY, INTERESTCHARGEFREQUENCYCOUNT, OVERDRAFTINTERESTRATE, OVERDRAFTINTERESTCHARGEFREQUENCY, OVERDRAFTINTERESTCHARGEFREQUENCYCOUNT, OVERDRAFTINTERESTRATESOURCE, OVERDRAFTINTERESTSPREAD, OVERDRAFTINTERESTRATEREVIEWUNIT, OVERDRAFTINTERESTRATEREVIEWCOUNT

ProductSecuritySettings

- Added LOCKFUNDSATAPPROVAL
- Removed INTERESTCOMMISSION

MessageTemplate

- Added RECIPIENTKEY, USERNAME, PASSWORD, AUTHORIZATION, CONTENTTYPE

NotificationMessage

- Added USERKEY, TEMPLATEKEY

User

- Added FAILEDLOGINDATES

GeneralSettings

- Added OTHERIDDOCUMENTSENABLED
- Removed BIRTHDATEREQUIRED