

fintech

OS

Banking Product Factory 4.0

User Guide

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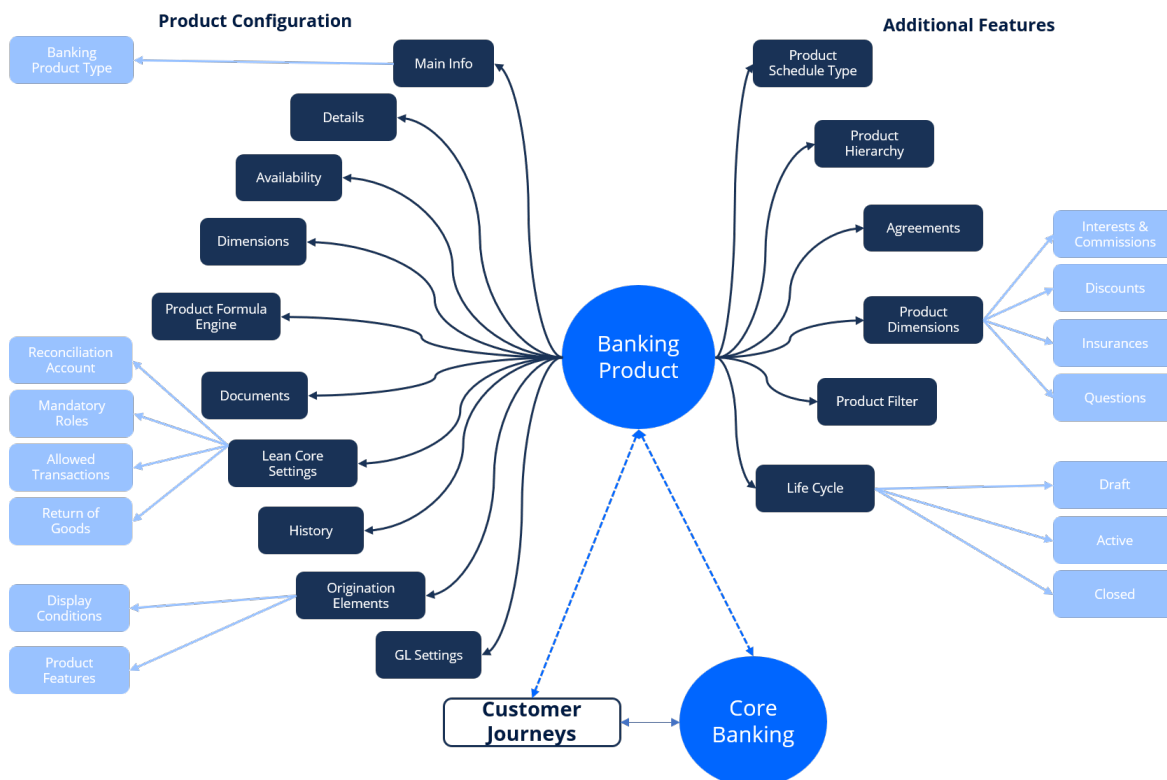
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Overview

The **Banking Product Factory** facilitates a wide range of business processes, including but not limited to digital onboarding, loan origination, product portfolio management, and approval flows. Financial institutions can create banking products such as bank accounts, term and mortgage loans, overdrafts, deposits, cards, and credit cards to offer the best service to their customers.

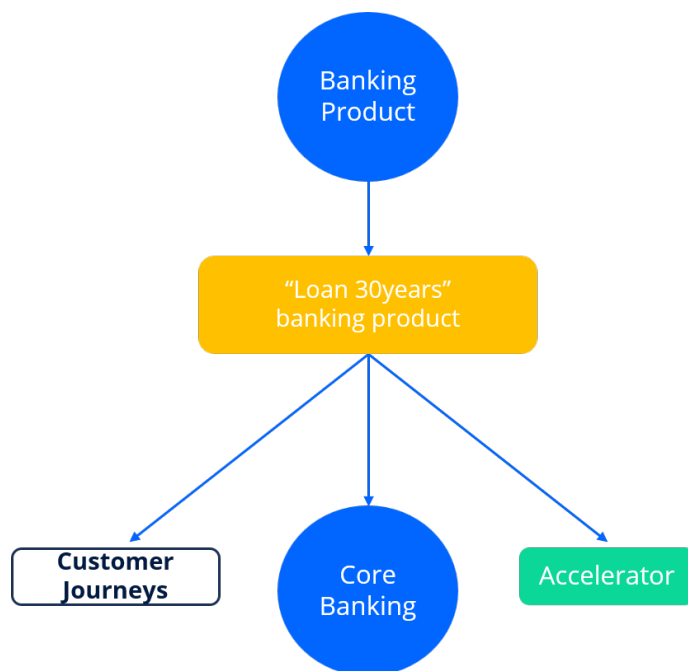
The diagram below shows the **Banking Product Factory** capabilities to create complex banking products to meet your business requirements.



Additional features are available when **Banking Product Factory** is implemented along with **Core Banking**, for example, transactions that can be performed on a banking product, reconciliation account associated with the product, mandatory roles for contract approval, payment allocation settings, or closing contract settings. Also, you can set the specific accounts to be used by **Operational Ledger** for transactions performed on contracts based on a banking product.

You can use **Banking Product Factory** to create a loan type with a specific amount interval, availability period, interest rate, commission, credit scoring criteria, etc. Then you can use this type of loan as one of the options that are available to the applicant in a loan application customer journey. Used in conjunction with [Core Banking](#), you can create banking contracts for your customers based on the previously defined products.

Products defined with **Banking Product Factory** can be used in your customer journeys or you can edit existing customer journeys created in our accelerators such as [Buy Now, Pay Later](#).



As your product portfolio evolves and you add new types of loans, modify some of the conditions for your products, or retire products, the options that show up (or no longer show up) in the loan application customer journey change automatically.

HINT

If you want to learn more about designing your banking product, check the [Banking Product Factory](#) course, available through the [FintechOS Academy](#).

Installing Banking Product Factory

Follow the steps described below to perform an automatic installation of the Banking Product Factory. This is a process of running a script, the `install_SysPack.bat` file, on your environment. The script automatically imports the content of the **Banking Product Factory v4.0** into your FintechOS Studio.

IMPORTANT!

You must run the script on the machine where FintechOS Studio is installed. Make sure you have access rights to Studio's database.

Dependencies

In order to install **Banking Product Factory v4.0**, first you need to install the following:

- **FintechOS Studio** version **v22.1.4**
- **SySDigitalSolutionPackages v22.1.4000**

IMPORTANT!

If you are installing **Banking Product Factory v4.0** on top of another version of Banking Product then you must previously run a **correction package**, named `BPFixInit.zip`. Find this package in the same **Banking Product Factory v4.0** archive file.

Pre-Installation Checklist

The SysPack has unique constraints on some of the standard entities like: FTOS_DFP_FlowSettings , FTOS_DFP_ProcessorSettings, FTOS_VersionSettings, FTOS_VersionSettingsItem, FTOS_EntityStatusSettings, FTOS_MKT_AudienceSegments, FTOS_MKT_Audience, and for all Banking Product entities.

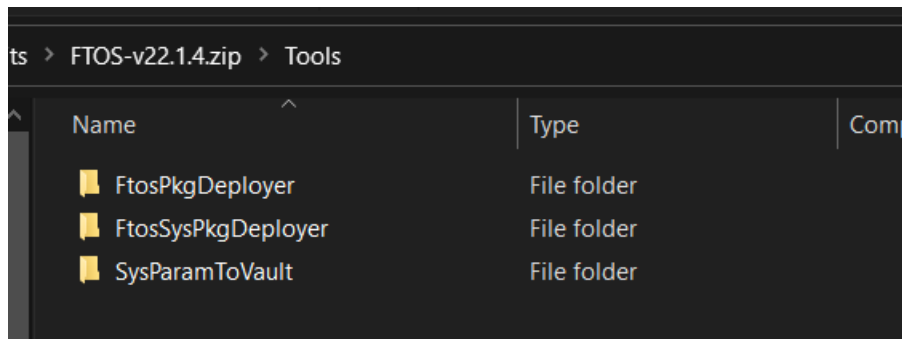
If you have already moved data using the **Configuration Data Deployment Package** menu, then you probably have already configured some unique constraints.

Before running the script, make sure you:

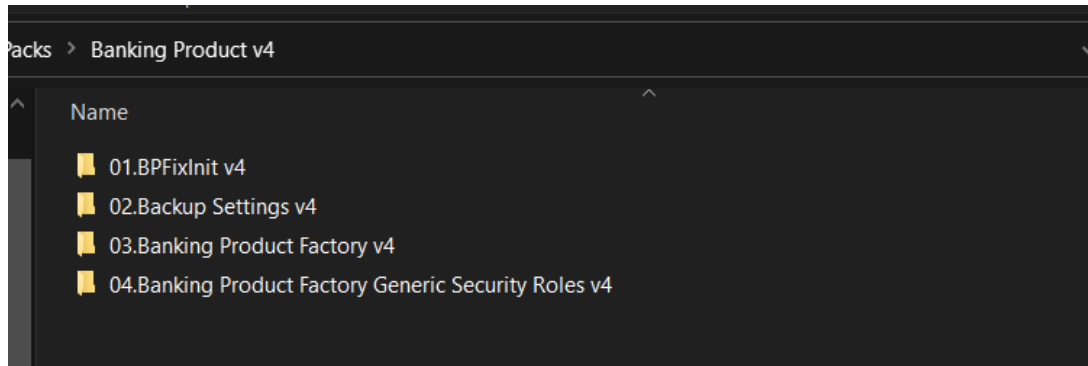
1. Disable the constraints that you have created on your environment, allowing the system to create the new ones after the Banking Product Factory v4.0 is imported.
2. Use the new **Configuration Data Definitions** imported with the Banking Product Factory v4.0 file when you export the data.

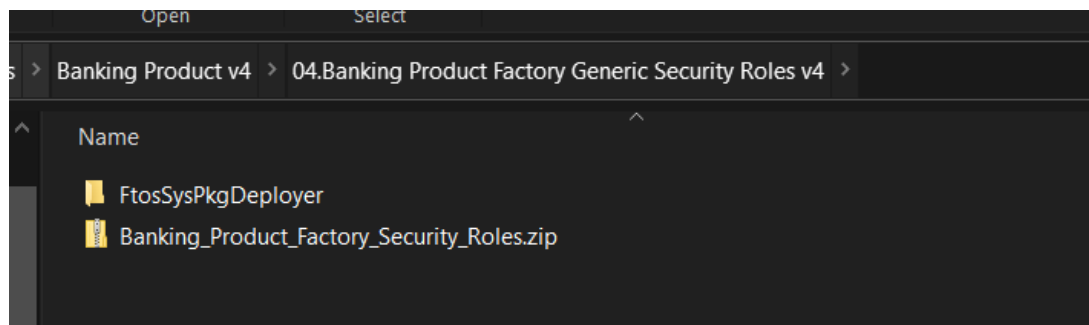
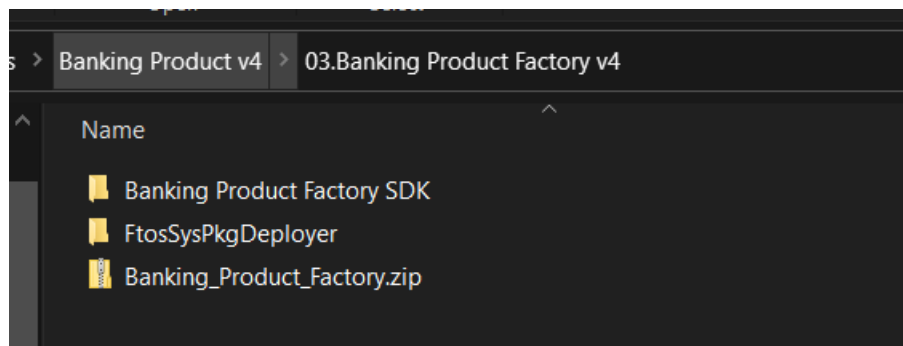
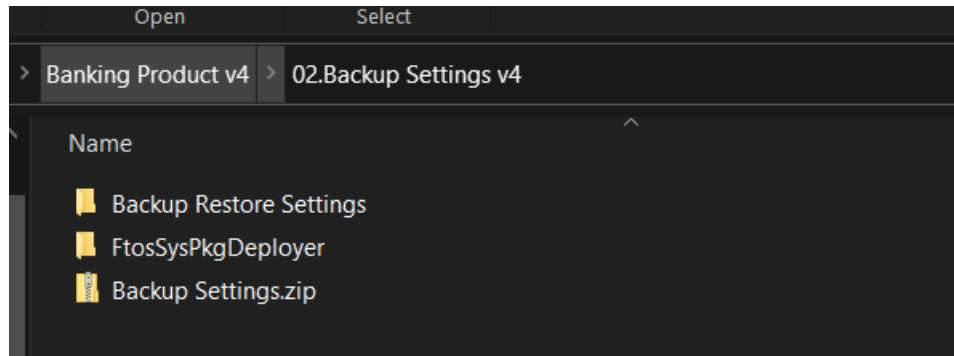
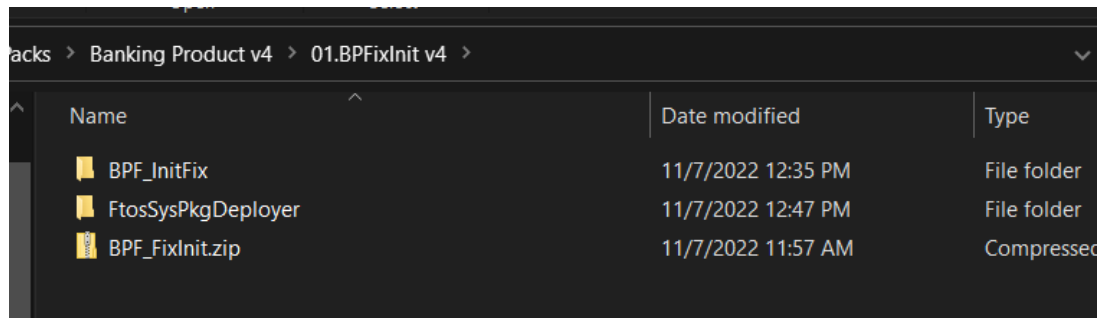
Installation Steps

1. Unzip your Banking Product v4.0.zip archive file.
2. Locate the *FtosSysPkgDeployer* folder in the FintechOS installation kit (the path is <unzipped_install_archive>\Tools\FtosSysPkgDeployer). You need it to install the Banking Product Factory v4.0.



3. Select and copy the *FtosSysPkgDeployer* folder.
4. Navigate to the location where you have unzipped the Banking Product v4.0.zip (let's call this location *<pkg_deployer_dir>*), then paste the *FtosSysPkgDeployer* folder there, within each and every zip file that comes with the package.





IMPORTANT!

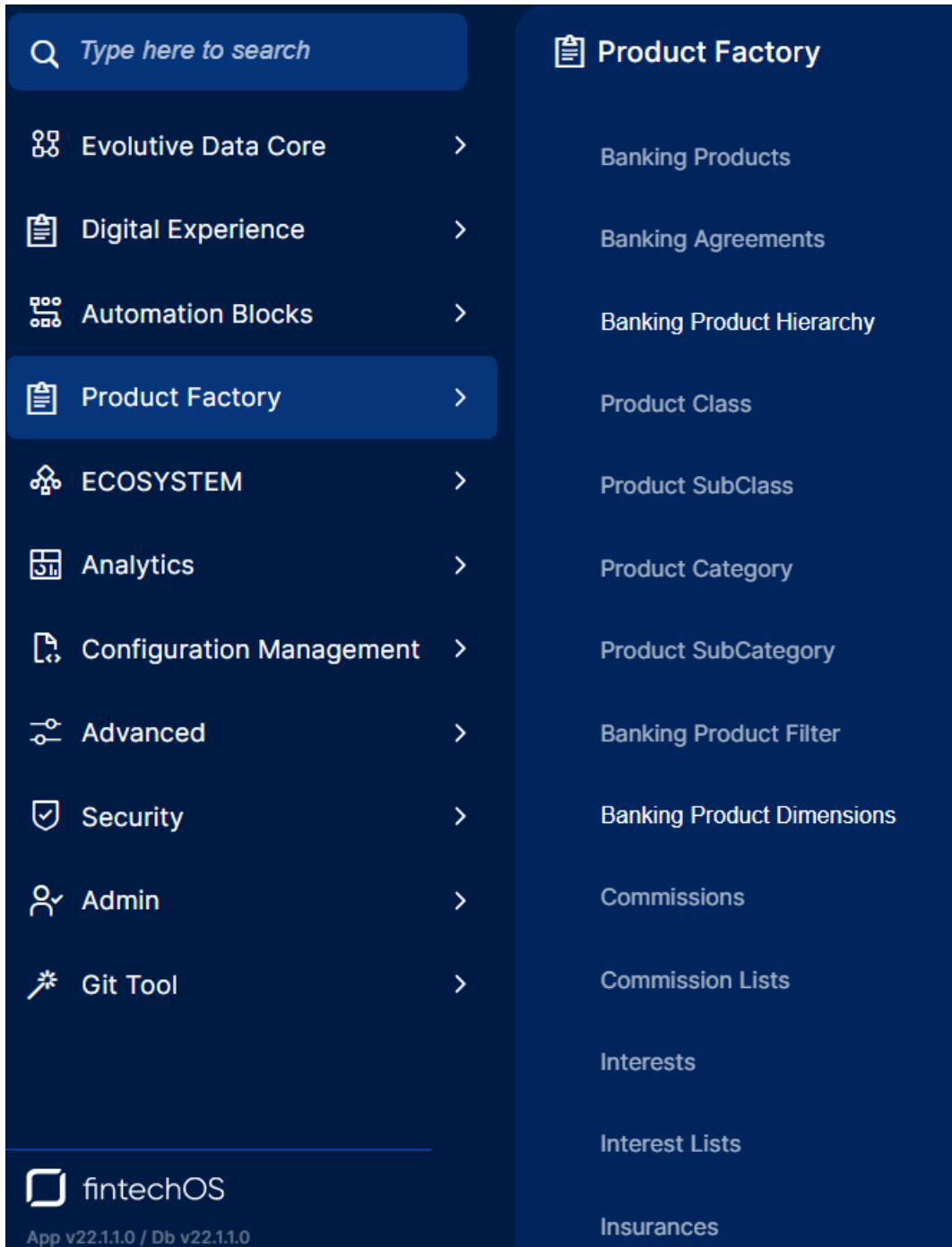
Each zip file within the **Banking Product v4.0.zip** must be extracted and

installed separately, in the given order!

If you decide not to use the default security roles that come with the package, simply skip the Banking Product Factory Generic Security Roles zip file.

5. Create a new or edit a previous `install_Syspack.bat` file. Replace the parameters described in the "[install_SysPack.bat Parameters Explanation](#)" on [page 14](#) section with your own values. Save and close the file.
6. Right-click `install_SysPack.bat` » **Run**, for each package.

The script starts running in your Windows console. Wait for it to finish. If your parameter values were correct, FintechOS Studio has the **Banking Product** menu items visible after a refresh:



The `install_SysPack.bat` file allows you to import both the data model and the data:

install_SysPack.bat syntax for Data Model import

```
FtosSysPkgDeployer.exe -i -s "<StudioLink>" -u <AdminStudioUser> -p
<user_password> -z <DataBaseServer> -v <DB_user> -k <DB_user_
password> -d "<TheNameOfTheDataBase>" -r "<sypack_path>\01
DeploymentPackages\*.zip"
```

install_SysPack.bat syntax for Data import

```
FtosSysPkgDeployer.exe -g -s "<StudioLink>" -u <AdminStudioUser> -p
<user_password> -r "<sypack_path>\02
ConfigurationDataDeploymentPackages\*.zip"
```

NOTE

The syntax presented here is for information purposes only. Please run the actual `install_SysPack.bat` file.

install_SysPack.bat Parameters Explanation

- `<StudioLink>` - The web URL of the FintechOS Studio installation, for example *http://localhost/ftos_studio*.
- `<AdminStudioUser>` - The username of the FintechOS Studio user under which this import is executed. The user has to exist in FintechOS Studio prior to this operation.
- `<user_password>` - The password for the FintechOS Studio user.
- `<DataBaseServer>` - The name of the database server where the FintechOS installation database was created.
- `<DB_user>` - The username of the SQL Server user with administration rights on the FintechOS installation database.
- `<DB_user_password>` - The password for the above mentioned SQL user.
- `<TheNameOfTheDataBase>` - The name of the database where the Banking Product v4.0 is deployed.

- <syspack_path> - The physical path to the unzipped Banking Product v4.0 previously downloaded.

NOTE

For more information about the script, please run `FtosSysPackageDeployer.exe` without any arguments to see the built-in help.

IMPORTANT!

If you're using **SQL Server Integrated Authentication**, make sure that the Windows user used for running the script has access to the FTOS database, with read/ write rights. Run the command without the SQL username/ password parameters.

If you're using **SQL Server Build In Authentication**, make sure that the SQL Server user has read/ write access to the FTOS database. Run the command with the SQL username/ password parameters.

Security Roles for Banking Product Factory

A security role is a set of privileges and levels of access to various actions/ functions within the FintechOS Platform. Read the [Security Roles topic](#) for detailed information.

Banking Product Factory has a predefined security role specific for banking-related business needs. Financial institutions can use the security roles to grant their employees access rights within its systems. Read the [Users topic](#) for information about associating security roles to users in FintechOS Studio.

You can also create new security roles to fit your financial institution's business needs.

Predefined Banking Product Factory Security Roles

Banking Product Factory comes with the following predefined security roles that grant specific access rights to the users associated with such a role to the FintechOS Platform's actions and functions:

- **Banking Product Admin** - Users with this security role have read, insert, update and delete access rights to the banking product records within their organization. They can access and update all the entities related to the definition of banking products, and they can access all the banking menu items within the **Product Factory** menu.

IMPORTANT!

If your user has more than one role, then your access rights are cumulative and you are granted the highest access right.

Read the following sections for detailed information about each security role's access rights to entities and endpoints within the FintechOS Platform:

Banking Product Admin

A user with this security role has the following access rights to records in FintechOS Platform's entities:

Entity	Insert	Read	Update	Delete
Account	No	Yes	No	No
approvalTask	Yes	Yes	Yes	No
AssociatedTransactions	Yes	Yes	Yes	Yes
attribute	No	Yes	No	No
entity	Yes	Yes	Yes	Yes
entitystatus	Yes	Yes	Yes	No
Log_sp_exec	Yes	Yes	Yes	Yes
Agreement	Yes	Yes	Yes	Yes
BandedInterest	No	Yes	No	No
BankingProduct	Yes	Yes	Yes	Yes
BankingProduct_BW	Yes	Yes	Yes	Yes
BankingProduct_BWA	Yes	Yes	Yes	Yes
BankingProduct_X_ProductQuestion	Yes	Yes	Yes	Yes
BankingProductAgreement	Yes	Yes	Yes	Yes
BankingProductDiscount	Yes	Yes	Yes	Yes
BankingProductDocument	Yes	Yes	Yes	Yes
BankingProductMandatoryRoles	Yes	Yes	Yes	Yes
BankingProductType	No	Yes	No	No
BankingProductXBankingProduct	Yes	Yes	Yes	Yes
BankingProductXInterestCalcType	Yes	Yes	Yes	Yes
BankingProductXPaymentSchedType	Yes	Yes	Yes	Yes
BankingProductXProductDestType	Yes	Yes	Yes	Yes
BankingProductXProductGuarantee	Yes	Yes	Yes	Yes
Category	Yes	Yes	Yes	Yes
Class	Yes	Yes	Yes	Yes
ClassificationType	Yes	Yes	Yes	Yes
CollateralType	Yes	Yes	Yes	Yes
Commission	Yes	Yes	Yes	Yes
CommissionList	Yes	Yes	Yes	Yes
CommissionListXCommission	Yes	Yes	Yes	Yes
CommissionSchema	Yes	Yes	Yes	Yes

Entity	Insert	Read	Update	Delete
CommissionType	Yes	Yes	Yes	Yes
CommissionValue	Yes	Yes	Yes	Yes
Covenant	Yes	Yes	Yes	Yes
Discount	Yes	Yes	Yes	Yes
Feature	Yes	Yes	Yes	Yes
Filter	Yes	Yes	Yes	Yes
FilterValue	Yes	Yes	Yes	Yes
Formula	Yes	Yes	Yes	Yes
FormulaType	Yes	Yes	Yes	Yes
GLAccounts	Yes	Yes	Yes	Yes
Insurance	Yes	Yes	Yes	Yes
InsuranceItem	Yes	Yes	Yes	Yes
InsuranceItemFilter	Yes	Yes	Yes	Yes
InsuranceList	Yes	Yes	Yes	Yes
InsuranceValue	Yes	Yes	Yes	Yes
InsuranceXInsuranceList	Yes	Yes	Yes	Yes
Interest	Yes	Yes	Yes	Yes
InterestCalculationType	Yes	Yes	Yes	Yes
InterestCommissionFilter	Yes	Yes	Yes	Yes
InterestCommissionFilterValue	Yes	Yes	Yes	Yes
InterestCommissionItem	Yes	Yes	Yes	Yes
InterestCommissionItemFilter	Yes	Yes	Yes	Yes
InterestList	Yes	Yes	Yes	Yes
InterestListXInterest	Yes	Yes	Yes	Yes
InterestRateMatrix	No	Yes	No	No
InterestValue	Yes	Yes	Yes	Yes
PaymentScheduleType	Yes	Yes	Yes	Yes
PaymentScheduleType_BW	Yes	Yes	Yes	No
PaymentScheduleTypeDetail	Yes	Yes	Yes	Yes
PaymentScheduleTypeDetailSource	Yes	Yes	Yes	Yes
ProductAdminConfiguration	Yes	Yes	Yes	Yes
ProductAvailabilityItemFilter	Yes	Yes	Yes	Yes
ProductClassification	Yes	Yes	Yes	Yes
ProductCovenant	Yes	Yes	Yes	Yes
ProductDestinationType	Yes	Yes	Yes	Yes
ProductDisbursement	Yes	Yes	Yes	Yes
ProductDiscountItemFilter	Yes	Yes	Yes	Yes

Entity	Insert	Read	Update	Delete
ProductGrace	Yes	Yes	Yes	Yes
ProductGuarantee	Yes	Yes	Yes	Yes
ProductGuaranteeStructure	Yes	Yes	Yes	Yes
ProductQuestion	Yes	Yes	Yes	Yes
ProductQuestion_BW	Yes	Yes	Yes	Yes
ProductQuestion_BWA	Yes	Yes	Yes	Yes
ScheduleElementClass	Yes	Yes	Yes	Yes
ScheduleTypeColumn	Yes	Yes	Yes	Yes
SubCategory	Yes	Yes	Yes	Yes
SubClass	Yes	Yes	Yes	Yes
SubClass_x_Account	Yes	Yes	Yes	Yes
TestScenario	Yes	Yes	Yes	Yes
TestScenarioOutput	Yes	Yes	Yes	Yes
Formula	No	Yes	No	No
FormulaInput	No	Yes	No	No
AllocationMethod	Yes	Yes	Yes	Yes
AllocationMethodDetail	Yes	Yes	Yes	Yes
Bank	Yes	Yes	Yes	Yes
BankAccount	Yes	Yes	Yes	Yes
BankAccountOperation	Yes	Yes	Yes	Yes
BankAccountOperationType	Yes	Yes	Yes	Yes
BankAccountTransaction	Yes	Yes	Yes	Yes
CalendarHoliday	Yes	Yes	Yes	Yes
ControlPanel	No	Yes	No	No
Holiday	Yes	Yes	Yes	Yes
OperationItem	Yes	Yes	Yes	Yes
PeriodicityType	Yes	Yes	Yes	Yes
TransactionFee	Yes	Yes	Yes	Yes
TransactionFeeItem	Yes	Yes	Yes	Yes
TransactionFeeItemFilter	Yes	Yes	Yes	Yes
TransactionFeeList	Yes	Yes	Yes	Yes
TransactionFeeValue	Yes	Yes	Yes	Yes
TransactionOperationType	Yes	Yes	Yes	Yes
TransactionProcessor	Yes	Yes	Yes	Yes
WeekDay	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes
Currency	Yes	Yes	Yes	Yes
EntityStatusSettings	Yes	Yes	Yes	Yes

Entity	Insert	Read	Update	Delete
AccountingChart	No	Yes	No	No
AccountingScope	No	Yes	No	No
AccountingSystem	No	Yes	No	No
TransactionAccountingModel	No	Yes	No	No
TransactionItemAccountingConfig	No	Yes	No	No
TransactionType	Yes	Yes	Yes	Yes
TransactionValueType	No	Yes	No	No
VersionSettings	No	Yes	No	No
VersionSettingsItem	No	Yes	No	No
HolidayShiftCountries	Yes	Yes	Yes	Yes
optionset	No	Yes	No	No
optionsetitem	Yes	Yes	Yes	Yes
report	No	Yes	No	No

A user with this security role can access the following endpoints:

Endpoints
FTOS_BP_CallFormula
FTOS_BP_CheckFromToDates
FTOS_BP_CheckMandatoryRoleXLimitType
FTOS_BP_CommissionSchemaDetail
FTOS_BP_EntityVersion
FTOS_BP_Formula_CreateDataMapping
FTOS_BP_GetAvailabilityFiltersOnProduct
FTOS_BP_GetAvailablePaymentsSchedule
FTOS_BP_GetAvailableProductDiscounts
FTOS_BP_GetAvailableProductFeatures
FTOS_BP_GetAvailableProductImage
FTOS_BP_GetAvailableProducts
FTOS_BP_GetAvailableProductsExtra
FTOS_BP_GetBankingProductDetails
FTOS_BP_GetBankingProductTypeValues
FTOS_BP_GetCommissionDetail
FTOS_BP_GetCommissionInfo
FTOS_BP_GetInterestDetail
FTOS_BP_GetMainBank
FTOS_BP_GetPeriodicityTypeInfo
FTOS_BP_GetPrimaryAttribute
FTOS_BP_GetProductDocuments
FTOS_BP_GetProductInsuranceList

Endpoints
FTOS_BP_GetProductInterestCommissionList
FTOS_BP_GetProductType
FTOS_BP_GetScheduleFields
FTOS_BP_GetSubClassInfo
FTOS_BP_IsEditableForm
FTOS_BP_Simulate
FTOS_BP_TestCallFormula
FTOS_CB_CountQuestionsOnProduct
FTOS_CB_GetQuestionsOnProduct
FTOS_CB_SaveCustomQuestion
FTOS_CheckGL
FTOS_CheckLicense
FTOS_Entity Version
FTOS_EntityDuplicate
FTOS_IsRelatedEntities
FTOS_TPM_GetTransactionTypesForClawback

Managing Banking Products

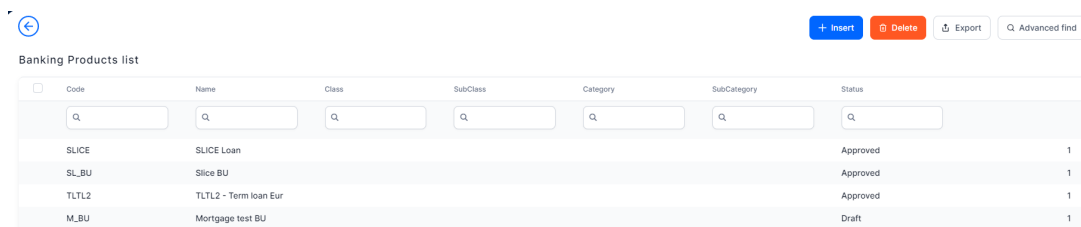
The Banking Product Factory allows you to create, adjust and maintain banking products such as bank accounts, term and mortgage loans, overdrafts, deposits, cards, and credit cards.

NOTE

Banking Product Factory enables you to manage banking products via the user interface or via integration through APIs. For information about the available endpoints, please visit the [Banking Product Factory Developer Guide](#). For information about managing banking products via the user interface, continue reading this page.

Below you can see how to manage these banking products and how to change their statuses through their life cycle.

1. In the main menu, click **Product Factory > Banking Product Factory**, and the **Banking Products List** page opens.



<input type="checkbox"/>	Code	Name	Class	SubClass	Category	SubCategory	Status	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	SLICE	SLICE Loan					Approved	1
	SL_BU	Slice BU					Approved	1
	TLTL2	TLTL2 - Term loan Eur					Approved	1
	M_BU	Mortgage test BU					Draft	1

2. On the **Banking Products List** page, you can **create** a new banking product, **edit** an existing banking product from the list by double-clicking it, **delete**, **export** or **find** a product.
3. Once you have created the banking product, you can **duplicate** it, **create a new**

version, or open the **banking product workflow transition list**.

The screenshot shows the 'Main Information' tab of the Banking Product Factory interface. At the top, there's a header with navigation links: 'Main Info', 'Details', 'Availability', 'Dimensions', 'Product Formula Engine', 'Documents', 'Lean Core Settings', 'History', 'Origination Elements', and 'GL Settings'. Below this, the 'Main Information' section contains several input fields:

- Banking Product Type:** Term Loan
- Currency:** RON
- Banking Product Code:** SLICE
- External Code:** SLICE
- Start Date:** 05/09/2020
- End Date:** 31/12/2030
- Name:** SLICE Loan
- Class:** (empty)
- SubClass:** (empty)
- Category:** (empty)
- SubCategory:** (empty)


At the top right, there are buttons for 'Save and reload' and 'Business Transactions'.

NOTE

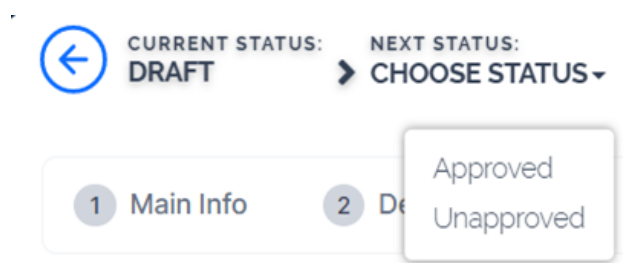
For banking products in **Active** status, you can't change any of their related entities (such as features, discounts, product guarantee, interest or commission item, formula, test scenario, product covenant, product disbursement, product availability item filter). To change any of the product's related entities, create a new version of the banking product record.

Duplicating a Product

If you want to duplicate a new product, basically creating a clone of the existing one that you can customize according to your needs and save time during this process, follow the steps below:

1. On the **Banking Product list** page, select and open the product you want to duplicate.
2. Click the  **Duplicate** button available on the page, and the duplicated product is created containing all the settings of the pre-existing one.
3. Customize the duplicated product according to your needs, editing the settings already populated. The **Banking Product code** and **Name** should be changed according to your business needs.
4. Click the **Save and Reload** button.
5. Approve the product to use it in your customer journeys or in **Core**


Banking right away.

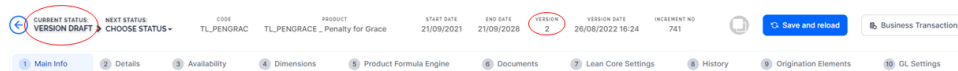


Versioning an Approved Product

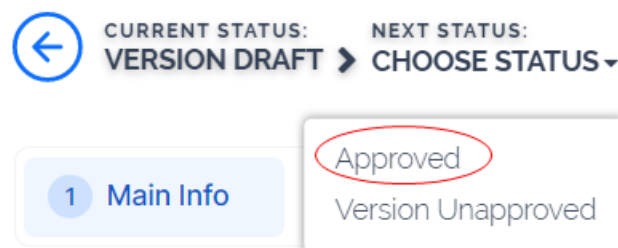
In Banking Product Factory, the products are set up for versioning. Thus, if you want to update the details of an approved product, that is already in use, then you must create a new version of the product.

To create a new version for a product with the **Approved** status, follow these steps:

1. Open the product that you want to update and click the  **New Version** button.
2. View the new version of the product created by Banking Product Factory, with **Version Draft** status.



3. Edit the desired fields.
4. Approve the new version before you start using it. If it is not approved, then the initial version can still be used.



If you approve the product in **Version Draft** status, then the original record transitions into the **Version Closed** status and the secondary version becomes the **Approved** currently active product record.

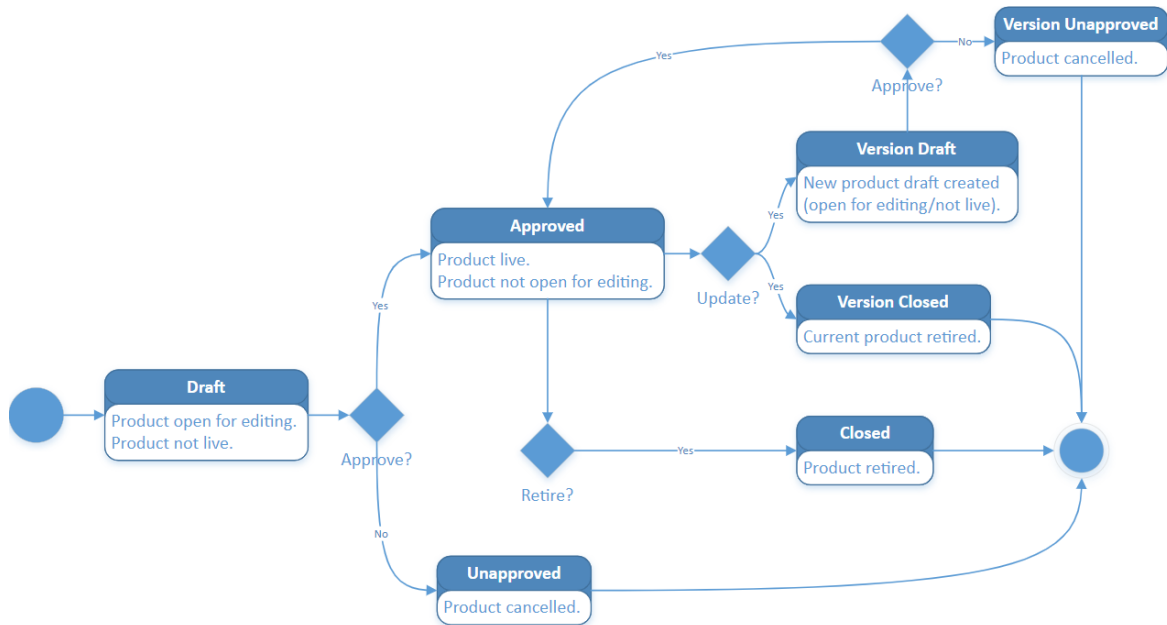
Read more details about versioning a record on the [How to Version an Entity Record](#) page.

Changing Banking Products Statuses

You can manage a banking product's life cycle by changing its status from the top left corner of the screen.

CURRENT STATUS: **DRAFT** NEXT STATUS: **CHOOSE STATUS** ▾

The product status transitions are illustrated below:

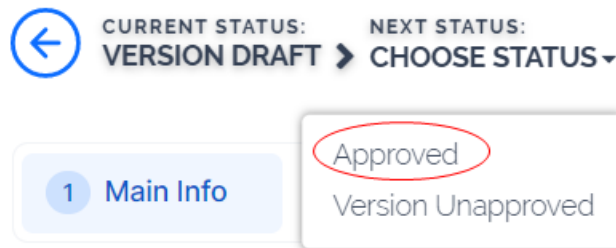


- Every product version starts in **Draft** status and must go through an approval process before going live.
- Once a product is **Approved**, its settings can no longer be modified.
- If you want to update an approved product, you must [create a new product version](#).
- When you create a new product version, the current version is retired. The new version has to be approved before you start using it. If it is not approved, then the initial version can still be used.
- Only one version of a product can be live at one time.

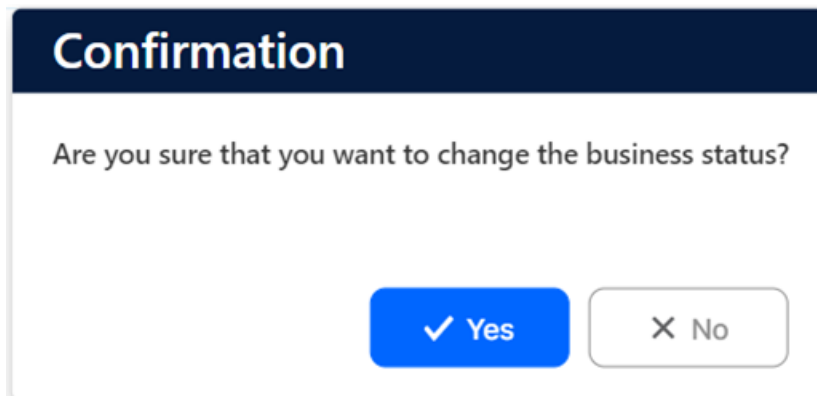
Approving a Product

To approve a product, follow the steps below:

1. Select a product in **Draft** (or **Version Draft**) status.
2. Change its status into **Approved**.



3. Click **Yes** to confirm your action.



If Banking Product Factory performs all the validations successfully, then the current status of the product changes to **Approved** and you can't perform any other changes. Now you can use your product in customer journeys or **Core Banking**.

Term Loans

A term loan is a banking product which defines a loan for a specific amount that has a repayment schedule and either a fixed or floating interest rate.

Creating Term Loans

To create a new term loan from scratch, navigate to main menu > **Banking Product Factory** > **Banking Products**, and click the **Insert** button. A new page opens, with a series of tabs that assist you in configuring the banking product. Or, you can create banking products directly from the [product category](#) level, allowing Banking Product Factory to automatically fill in the information inherited from the product category.

NOTE

Alternatively, you can create a term loan by [duplicating](#) an existing one. Click the **Duplicate** button on the **Banking Products List** page. Make sure you change the **Banking Product Code** and **Name** according to your business needs.

1. Enter Basic Information

You can set the basic elements for creating the product, such as name, code, currency, validity, or product classification, in the **Main Info** tab.

NOTE

Your product type selection influences the next steps and many of the fields are automatically completed with values inherited from the selected product type definition. For term loans, in **Banking Product Type** select the **Unsecured Loan** option for unsecured term loans, **Secured Loan** for secured term loans, **BNPL** for "buy now, pay later" type loans, or **Working Capital** for revolving loans.

Main Information

1. In the **Main Information** section, select the **Banking Product Type** from the available list.

NOTE

If you choose to create banking products directly from the [product category](#) level, then Banking Product Factory automatically fills in the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

2. The **Currency** is automatically completed from the default value defined within the "[DefaultCurrencyBankingProduct](#)" on [page 506](#) Banking Product Factory system parameter. You can change it for the newly created product by selecting another currency from the drop-down list.
3. Banking Product Factory automatically generates the code based on the code of the product type + a sequencer. For example, the TLU854 code corresponds to a banking product based on an Unsecured Loan product type. You can modify the product code in the **Banking Product Code** field. It can have 10 characters.
4. Set the product validity by selecting the date when the product becomes available (**Start Date**) and the last date from when the product is available (**End Date**).
5. Enter the product **Name**.
6. Optionally you can set the following fields:
 - **External Code:** Select the code of the product imported from an external system, if applicable. It can have 10 characters and it is not used in the contract.
 - **Description:** Enter any description or additional text related to your new product.
 - **Class, Subclass, Category, and Subcategory:** Select the desired values to set the desired hierarchy for your product. For more information, see "[Product Hierarchy](#)" on [page 406](#)
7. Click the **Save and Reload** button. The product is now saved and you can further edit it for your needs.

Product Classification

After saving the product, the **Product Classification** section is populated with more options for your product. You can insert or remove existing product classification items.

1. To add a product classification item, click **Insert Existing** and select an already existing item.

Product Classification

<input type="checkbox"/>	Code	Name	Classification Type	Valid From	Valid To
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	REG1	Classification ...	Regulatory	01/01/2020	31/12/2030

2. You can also create a new product classification item by clicking the **Insert existing** button and then the **Insert** button.
3. On the newly displayed **Add Product Classification** page, fill in the fields:

⏪ | ✓ |

Add Product Classification

Main Information

Name	Code	Valid From	Valid To	Classification Type	Is Default
Classification Restructuring Level	RESTRUCT1	20/04/2022	30/04/2028	Restructuring	<input type="checkbox"/>

[Classified Banking Products](#)

- **Name:** Enter the name of the classification item.
- **Code:** Enter the unique code of the classification item.
- **Valid From:** Select the date from which the product classification item is valid.
- **Valid To:** Select the date until when the product classification item is valid.
- **Classification Type:** Choose the classification type of the item. Possible values: Regulatory, Restructuring.
- **Is Default:** Select the checkbox if this classification item is default.

The **Classified Banking Products** section is displayed after you save the classification item record and allows you to insert existing banking products. The following information is displayed here: **Code, Name, Class, SubClass, Category, SubCategory** and **Status**.

For more information on how to create a new product classification, see [Banking Product Classification](#).

4. Click the **Save and Reload** button.

2. Add Details

You can set elements such as general data, disbursement settings, payment schedule types and templates, product guarantees, tranches, and holiday settings in the **Details** tab. Most of the values within this tab, already completed, are inherited from the selected banking product type level definition, but you can change them according to your needs.

1 Main Info 2 Details 3 Availability 4 Dimensions 5 Product Formula Engine 6 Documents 7 Loan Core Settings 8 History 9 Origination Elements 10 GL Settings

General Data

Is Revolving ☐ Allow Refinancing ☒ Allow Restructuring ☐ Allow CoDebtor ☒ Max No. Of CoDebtors

Disburse Settings

Autodisbursement ☒ Max No Disbursements Active Tranche On Doc Submission ☐

Product Tranches

+ Insert X Delete Export Refresh

Name	Tranche P...	Start Month From ...	Interest Percent
Transa 1	50.0000		2.0000
Transa 2	50.0000		2.0000

Product Guarantees

Is Guaranteed ☒ Collateral Cover Percent Allow Collateral Partial Release ☒

Allowed Guarantee Types

+ Insert X Delete Export Refresh

Guarantee Type	Max Accepted Covering Percent
FixDeposit	100.00

Payment Schedule Types

Period Type Periodicity Type Grace Type Product Grace

Schedule Templates

+ Insert existing X Remove existing

Name
Equal Installment Monthly 360
Equal Installment Monthly 365
Equal Installment Monthly Actual/Actual
Equal principal Monthly 30/360
Equal principal Monthly 30/365
Equal principal Monthly Actual/Actual

Holiday Settings

Holiday Shift For Repayment Installments ☒ Defer Due Date ☒ Holiday Shift Method

Country Calendars

+ Insert existing X Remove existing

Name
Thailand

Product Behavior

- In the **General Data** section, you can optionally set the following fields:
 - Is Revolving:** If selected, allows a business to borrow money as needed for funding working capital needs and continuing operations such as meeting payroll and payable.

NOTE

If a term loan is revolving, its attached limit must also be revolving, meaning that the Available Amount of the limit is replenished

either on each repayment of the principal or on loan contract closure.

- **Allow Refinancing:** Select if the account can be refinanced for this product.
- **Allow Restructuring:** Select if the loan can be restructured.
- **Allow CoDebtor:** Select if another debtor exists for this product.
- **Max No. of CoDebtors:** Set the maximum number of co-debtors possible for this product.

2. Click the **Save and Reload** button.

Disbursement

1. In the **Disburse Settings** section, check the **Auto Disbursement** box, and the disbursement is automatically performed when the contract is approved.
2. You can optionally set the following fields:
 - **Max No Disbursements:** Enter the maximum number of disbursements that can be configured for this product.
 - **Active Tranche On Doc:** If you select this checkbox, then the tranches are activated (disbursements are created and approved) after certain documents are submitted. It is the Financial Institution's responsibility to verify the content of the submitted documents.
3. Click the **Save and Reload** button.

Product Tranches

The **Product Tranches** section is displayed if you selected the **Active Tranche On Doc** checkbox. You can insert existing disbursement tranches or create new ones, configured to fit the product. Usually used for corporate loans, such dividend payments or cash outflows are not done in equal amounts and usually trigger a recalculation in terms of interest.

Product Tranches

+ Insert

✕ Delete

📄 Export

🔄 Refresh

<input type="checkbox"/>	Name	Tranche Percent	Start Month From Acti...	Interest Percent
	🔍	🔍	🔍	🔍
	Tranche 1	50.0000		2.0000
	Tranche 2	50.0000		2.0000

- To add multiple such disbursements, Click the **Insert** button. The Add Product Disbursement section is displayed and you can set the following fields:
 - **Name:** Enter the name of the new disbursement.
 - **Tranche Percent (%):** Enter the percentage of the final amount that goes towards the disbursement.
 - **Start Month From Activation:** Enter the start month for the disbursement. It can be any month in the loan availability period.
 - **Interest Percent (%):** Enter the interest percent for that particular disbursement.
 - **Unusage Commission Percent (%):** Enter a commission paid for the loan amount unused.
- Click the **Save and Reload** button.

Product Guarantees and Allowed Guarantee Types

Product Guarantees

Is Guaranteed ☒ Collateral Cover Percent Allow Collateral Partial Release ☐

Allowed Guarantee Types

+ Insert X Delete Export Refresh

<input type="checkbox"/> Guarantee Type	Max Accepted Covering Percent
<input type="text" value="FixDeposit"/>	<input type="text" value="85.00"/>

- In the **Product Guarantees** section, set the following fields:
 - Is Guaranteed:** If selected marks the product as secured.

NOTE

The **Collateral Cover Percent**, **Allow Collateral Partial Release** fields, and the **Allowed Guarantee Types** section appear when you select the Is Guaranteed checkbox.

- Collateral Cover Percent:** Enter the percent that the collateral person on the contract pays. It usually is over 100%.
- Allow Collateral Partial Release:** A partial release is a mortgage provision that allows some of the collateral to be released from a mortgage after the borrower pays a certain amount of the loan.

The **Allowed Guarantee Types** section is displayed after you check the **Is Guaranteed** option. You can insert or delete allowed guarantee types:

2. To insert a guarantee type, Click the **Insert** button and fill in the name, maximum accepted covering percent, and select the guarantee type.

Add Product Guarantee Structure

Product Guarantee Structure			
Banking Product	Card	Guarantee Type	FixDeposit
Max Accepted Covering Percent	85	Name	Deposit

3. Click the **Save and Reload** button.

Payment Schedule Types

Payment Schedule Types

Period Type	Periodicity Type	Grace Type	Product Grace
Months	Monthly	Both	GracePeriod

1. Select the regularity of payments in the **Periodicity Type**. You can choose: **Once** (the whole amount is paid at maturity), **Weekly, Monthly, Bimonthly, Trimestrial, 4 Weeks, Semestrial, Annual** or **30Days**.

NOTE

If the measurement unit of the selected Periodicity Type = Days, then Holiday Shift For Repayment Installments = False and it cannot be changed.

2. Optionally you can set the following fields:
 - **Period Type:** Select the period of availability for the product: **Days, Weeks, Months, Years** or **Once**.

NOTE

The period type must be the same as the measurement unit of the Periodicity Type.

- **Grace Type:** Select whether the product grace should apply to the principal, the interest, or both. Select an option from the list: **Both, Principal** or **Interest**.
- **Product Grace:** Select an option from the list. This is the amount of time that the bank can offer to a customer at the beginning of the contract without repayments of principal or principal + interest (however, most probably the bank capitalizes the interest for that period).

3. Click the **Save and Reload** button.

Schedule Templates

In the **Schedule Templates** section, you can associate/ delete payment schedule types to/ from the banking product.

Schedule Templates

☐

Name

Credit Card Installments

One principal installment

1. To associate a payment schedule type to the banking product, click **Insert Existing** and select one of the already defined types. Go to "[Payment Schedule Types](#)" on page 413 to read more about this.

IMPORTANT!

When creating a new Term Loan, Mortgage, or Overdraft banking product, you must select at least one payment schedule type, otherwise you can't approve the product. If the **Schedule Templates** section has no records, an error message is displayed upon transitioning the product into the **Approved** status.

2. Click the **Save and Reload** button.

Holiday Settings

In the **Holiday Settings** section, the following fields are available:

Holiday Settings

Holiday Shift For Repayment Installments



Defer Due Date



Holiday Shift Method

Forward

Country Calendars

+ Insert existing

✕ Remove existing



Name



Romania

1. Select the **Holiday Shift For Repayment Installments** checkbox for holidays to be taken into consideration when calculating the maturity program.

NOTE

The **Country Calendars** section and the **Defer Due Date** and **Holiday Shift Method** fields appear if you select the **Holiday Shift For Repayment Installments** checkbox.

The **Defer Due Date** option is selected by default. If selected, the payment schedule calculates the next payment amount as if the due date has not changed even when the due date falls on a holiday.

2. From the **Holiday Shift Method**, you can select the method to be used when calculating the due date if that date falls on a holiday. The due date can be shifted before or after the holiday. The possible values you can choose are:
 - **None** - the due date is not shifted.
 - **Forward** - the due date is shifted to the next working day after the initially calculated due date.
 - **Backward** - the due date is shifted to the last working day before the initially calculated due date.

IMPORTANT!

The **Holiday Shift Method** doesn't work if you selected **Periodicity Type = Days**.

Country Calendars

In the **Country calendars** section, you can insert or delete calendars. You can work with multiple calendars as well. To insert a calendar:

1. Click the **Insert Existing** button and add the country's name. If the maturity date coincides with a holiday, it is allocated automatically on the next business day.
2. Click the **Save and Reload** button.

3. Configure Availability

You can determine the monetary range and the time frame when the product is available for customers in the **Availability** tab.

Product Availability

Minimum Amount: 1,500 Maximum Amount: 400,000 Minimum Period: 1 Maximum Period: 240 Minimum Advance: 0 Maximum Advance: 60

Start Period For Usage After Activation(Months): 1 Maximum Period Disburse After Activation (Months): 12 Minimum Principal For Early Repayment: 1,000

Availability Rules

Product Availability Item Filters: + Insert X Delete Export Refresh

Description: No data

Product Covenants: + Insert X Delete Export Refresh

Type	Covenant	Valid From	Valid to	Value
Affirmati...	Borrowers should perform tax obligations	01/01/2021	31/01/2030	
Financial	Lender can monitor borrower's current r...	30/12/2020	31/01/2040	
Negative	Lender poses the right to prevent merg...	01/01/2021	31/01/2040	

Product Availability

1. Fill in the following fields:
 - **Minimum Amount** and **Maximum Amount:** Enter the minimum and the maximum amount of the product for which the bank opens a contract.
 - **Minimum Period** and **Maximum Period:** Enter the minimum and the maximum duration of the product mentioned in the contract.

- **Minimum Advance and Maximum Advance:** Enter the minimum and maximum advance percentage from the contract's financed value applicable at the contract level.
- **Start Period For Unusage After Activation (Months):** Enter the start period for unused amount after the activation, in months.
- **Maximum Period For Disbursement After Activation (Months):** Enter the maximum period of disbursement after the this option is set, in months. The number of months during which the disbursement must be made.
- **Minimum Principal For Early Repayment:** Enter the minimum principal for when early repayments are made.

2. Click the **Save and Reload** button.

Availability Rules

In the **Availability Rules** section you can select the item filters for your banking product.

Availability Rules

Product Availability Item Filters

+ Insert × Delete 📄 Export 🔄 Refresh

☐

Description

CA >< 1 - 50000

1. Click the **Insert** button, the **Add Product Availability Item Filter** is displayed.
2. Select the desired filter from the Filter option.
3. Add the attributes of the selected filter.

4. Optionally, add a description for the added item filter.
5. Click the **Save and Reload** button.

For more details, see ["Product Filter" on page 472](#).

Product Covenants

In the **Product Covenants** section you can set certain conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements.

Product Covenants

<input type="checkbox"/>	Type	Covenant	Valid From	Valid to	Value
<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>
	Affirmati...	Borrowers should perform tax obligations	19/04/2022	20/04/2030	
	Financial	Lender can monitor borrower's current r...	19/04/2022	20/04/2030	

1. Click the **Insert** button to add a covenant to the product. Each covenant can be attributed a value, an availability period, and a review frequency in months. Read more about covenants in the ["Covenant" on page 495](#) page.
2. Click the **Save and Reload** button.

4. Manage Dimensions

You can insert, delete or export interest, commissions, insurances, discounts or questions valid for your product in the **Manage Dimensions** tab.

The screenshot shows the 'Dimensions' menu with four sub-sections:

- Interest & Commissions:** Includes a search bar, a list with 'MCA', and buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.
- Insurances:** Includes a search bar, a list with 'House Insurance', and buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.
- Discounts:** Includes a table with columns: Name, Discount, End Date, Start Date, and Value Discount. The table is currently empty with 'No data' at the bottom. Buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh' are present.
- Questions:** Includes a search bar, a list with 'Question1' and 'Question2', and buttons for '+ Insert existing' and 'X Remove existing'.

To add a new one, click **Insert** and fill-in the fields detailed in the sections below.

NOTE

To configure the interest and commissions separately, navigate to **Main > Product Factory > Banking Product Dimensions menu** which contains several other embedded menus.

Interest & Commissions

1. To add an **interest** or a **commission**, click **Insert** in the **Interest & Commissions** section. The **Add Interest & Commission Item** page is displayed.
2. Select the banking product from the **Banking Product** list.
3. Enter the **Item Name**.
4. Enter the **Start Date** when the interest/ commission becomes effective and the **End Date** for the interest/ commission.
5. Fill in the following fields:
 - **Code:** Enter a code for this particular interest/ commission.
 - **Interest List:** Select from which list the interest is a part of.

- **Commissions List:** Select from which list the commission is a part of.
 - **Minimum Interest Rate (%):** Enter the percent applicable as a minimum interest rate at the contract level.
 - **Is Negotiable:** Select the checkbox to specify that every interest, commission or margin field at the contract level is negotiable and can be edited.
6. Click the **Save and Reload** button.
 7. In the **Interest & Commission Item Filters** section, click **Insert** to insert an [item filter](#).
 8. Select a filter created earlier in the "[Product Filter](#)" on [page 472](#).
 9. Set the following fields:
 - **Value/ Date:** Select the beginning value/ date for the filter.
 - **Until Value/ Until Date:** Select the maximum value/ date for the filter.
 - **Description:** This field is automatically filled in after clicking the **Save and Reload** button. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter Entity:** Entity on which the filter was defined.
 - **Description:** It is left blank. Add a description if needed.
 - **Grid of Options:** This field is automatically filled in after clicking the **Save and Reload** button. The values of the option set are displayed. Select the Boolean for the values you wish to include in the filter.
10. Click the **Save and Reload** button.

← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓ ✎

Value 1 Until Value 50,000

Description

AL_Amount > 1 - 50000

Insurances

For any banking product, you can select a pre-existing insurance or create a new one.

- To add a new **insurance**, in the **Insurances** section, Click the **Insert** button and set the following fields:
 - **Banking Product:** Select the banking product.
 - **Code:** Insert a code for this particular insurance.
 - **Item Name:** Insert a name.
 - **Start Date:** Enter the start date when the insurance becomes effective.
 - **End Date:** Enter the end date for the insurance.
 - **Details:** It is left blank. Add a description if needed.
 - **Insurance List:** Select from which list the insurance is a part of.
- Click the **Save and Reload** button.
- In the **Insurance Item Filters** section, click **Insert** and fill in the following fields:

- **Filter:** The name inserted earlier.
- **Value:** The starting value for the attribute.
- **Until Value:** The ending value of the interval.
- **Description:** Insert the proper description for the availability filter.

4. Click the **Save and Reload** button.

Discounts

For any banking product, you can add discounts of any nature. You can select a pre-existing discount or create a new one.

1. To add a new [discount](#), Click the **Insert** button in the **Discounts** section.
2. In the **Details Page**, insert the appropriate **Name** for the discount.
3. Choose one of the pre-configured types of discounts available in the **Discount** field, or create a new one. According to the selected type, new fields appear on the page requiring to be filled in.
4. Insert the value of the discount to be applied, e.g. 15.
5. Set the start date when the discount becomes effective (**Start date**), and the end date for the discount (**End date**).

6. Optionally, you can fill in the following fields:
- **Applied to dimension:** Specifies for which product dimension this discount is applicable (interest, commission or insurance). This is autocompleted by the selected discount's dimension.
 - **Commission type:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission type this discount is applicable. This is autocompleted by the selected discount's default commission type.
 - **Commission:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission this discount is applicable. This is autocompleted by the selected discount's default commission.
 - **Insurance class:** This field appears if the selected discount = Discount Life Insurance or Interest Discount. Specifies for which insurance class this discount is applicable (credit, home, life or other insurance class). This is autocompleted by the selected discount's insurance class.
 - **Insurance:** This field appears if the selected discount = Discount Life Insurance. Specifies for which insurance this discount is applicable. This is autocompleted by the selected discount's insurance.
 - **Interest type:** This field appears if the selected discount = Interest discount. Specifies for which interest type this discount is applicable.
 - **Use Banking Formula:** If you select this checkbox, the discount is calculated using the Banking Formula engine.

- **Is optional discount?** : Selecting this checkbox results in the discount being applied only if the customer agrees to the discount.
 - **Is percentage:** If you select this checkbox, the discount is calculated as a percentage from the contract's amount.
 - **Destination entity:** Select the entity where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
 - **Destination entity attribute:** Select the attribute where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
7. Click the **Save and Close** button.
 8. In the **Product Discount Item Filter** section, click **Insert** and fill in the fields as specified in the **Product Filter page**. The fields displayed depend on the selected filter.
 9. Click the **Save and Close** button.

Questions

You can choose one or more questions to add to the banking product, or insert a new one.

1. To insert a new **question**, in the **Questions** section, Click the **Insert existing** button, then click **Insert**.
2. In the **Add Banking Product Question** page, fill in the following fields:
 - **Question:** Enter the appropriate name.
 - **Answer Type:** Select the type of answer the customer has to give: text, numeric or option set.

- **Answer Entity:** Select the entity where the answer is stored.
- **Answer Field:** Select the attribute where the answer is stored.

3. Click the **Save and Reload** button.

The **Banking Products List** shows where the question is used.

IMPORTANT!

The question has to be activated in order for it to be added to the banking product.

4. Click the **Save and Close** button.

For example, this is how a question is displayed in a customer journey in the FintechOS Portal:

The screenshot shows a mobile application interface. At the top, there's a navigation bar with a back arrow, 'CURRENT STATUS: INITIALIZED', and 'NEXT STATUS: CHOOSE STATUS'. Below this is a blue header bar that says 'EDIT LOAN APPLICATION'. The main content area is titled 'Eligibility Questions' and includes a sub-header: 'We ask for this information so that we can carry out the checks needed to consider you for a mortgage'. There are three input fields: 'DEPOSIT SOURCE' with a dropdown menu showing 'Select...', 'RETIREMENT DATE' with a date picker, and 'RETIRED' with radio buttons for 'Yes' and 'No' (where 'No' is selected). A blue 'Finish' button is at the bottom right.

5. Configure Product Formula Engine

The **Product Formula Engine** tab keeps formulas built with [Formula Engine](#) for the banking product. Such formulas can be used to determine the eligibility of a customer.

Banking Product Formulas

In the **Banking Product Formulas** section, choose an already defined formula or click **Insert** to configure a new one, for example a formula for eligibility or scoring purposes. For information on how to build a formula, see [Define Formula Inputs](#).

1. In the **Add Banking Product Formula** page, fill in the following fields:

- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

The name of the banking product is inserted automatically in **Banking Product**.

- After selecting the desired formula, click **Save and reload**, then click **Map Data**.
- In the **Formula Mapping** page, click **Input** and configure the input data for the formula.
- Click **Output** and configure the output for the formula.

- Click the **Save and Close** button.

Such formulas can be used in customer journey steps, for example when the customer inserts their financial data.

Test Scenarios

A good practice is to test the formula before displaying it in a customer journey. You can do that in the **Test Scenarios** section:

1. Click the **Insert** button to open the **Add Test Scenario** page.
2. Insert a **Test Scenario Type** from the option set. The keys and the values are shown.
3. Click the **Save and Reload** button.
4. Click the **Calculate** button. The outputs are displayed in the **Test Scenario Outputs** section.
5. You can save these outputs by selecting the **Save Output Data** checkbox next to **Calculate**.

6. Add Documents

You can manage all the attached documents available for a product and all the agreements that a customer needs to go through in the **Documents** tab.

The screenshot shows the 'Documents' tab selected in the top navigation bar. Below the navigation bar, there are two main sections: 'Banking Product Documents' and 'Banking Product Agreements'.

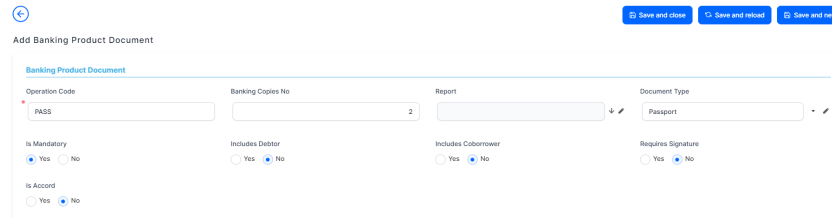
Banking Product Documents: This section has a toolbar with '+ Insert', 'X Delete', '■ Export', and '↻ Refresh'. Below the toolbar, there is a 'Report' checkbox and three search filters: 'Banking Copies No' and 'Operation Code'. The main area displays a table with columns for 'Status overview of the queues', '2', and 'TC'. The table is currently empty.

Banking Product Agreements: This section has a toolbar with '+ Insert', 'X Delete', '■ Export', and '↻ Refresh'. Below the toolbar, there is a search filter for 'Code'. The main area displays a table with the text 'No data'.

Banking Product Documents

Any previously associated documents are displayed in the **Banking Product Documents** section.

1. To attach a new document to the banking product, in the **Banking Product Documents** section, click **Insert**. The **Add Banking Product Document** page is displayed.



⏪ Save and close Save and reload Save and new

Add Banking Product Document

Banking Product Document

Operation Code Banking Copies No Report Document Type

Is Mandatory ☒ Yes ☐ No Includes Debtor ☐ Yes ☒ No Includes Coborrower ☐ Yes ☒ No Requires Signature ☐ Yes ☒ No

Is Accord ☐ Yes ☒ No

2. Set the following fields:
 - **Operation Code:** Enter a code for the document.
 - **Banking Copies:** Insert the number of copies made.
 - **Report:** Select a document from the list.
 - **Document Type:** Select a document type from the list.
 - **Is Mandatory:** Select if the document is mandatory.
 - **Includes Debtor:** Select if the document includes the debtor.
 - **Includes Coborrower:** Select if the document includes the co-borrower.
 - **Requires Signature:** Select if the document requires to be signed.
 - **Is accord:** Select if the document represents the accord.
3. Click the **Save and Reload** button.

Banking Products Agreements

The agreements that a customer needs to go through are displayed in the **Banking Products Agreements** section.

1. To attach a new agreement to the banking product, in the **Banking Products Agreements** section, click **Insert**. The **Add Banking Products Agreements** page is displayed.

2. Fill in the following fields:
 - **Agreements:** Select an agreement from the list.
 - **Banking Product:** It is automatically filled in.
 - **Code:** Insert the corresponding code.
 - **Is Mandatory:** Select if the agreement is mandatory for the product.
3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the [Digital Document Processor](#).

7. Configure Lean Core Settings

NOTE

The **Lean Core Settings** tab is available only when Banking Product Factory is implemented along with Core Banking.

Transactions types that are performed to and from a banking product are displayed in the **Lean Core Settings** tab. The tab also holds information about the reconciliation account associated with the products, mandatory roles for contract approval, payment allocation settings, the treatment of returned goods for contracts based on this banking product (only for Term Loans and Mortgage banking products), and closing contract settings.

The screenshot displays the 'Lean Core Settings' tab in the Banking Product Factory. The 'Self Bank Account Associated With The Product' section is active, showing a 'Reconciliation Account' dropdown set to 'Reconciliation EUR' and a 'Negative balance treatment' dropdown set to 'NoMessage'. Below this, there are sections for 'Mandatory Roles for Contract Approval' (with buttons for Insert, Delete, Export, Refresh), 'Allowed Transactions' (with buttons for Insert existing, Remove existing), and 'Closing Contract Settings' (with checkboxes for Buffer Close Days, Close Real Time, and Closing Is Flexible, and a checkbox for Contract Is Closed Automatically).

Reconciliation Account Associated With The Product

1. In the **Self Bank Account Associated with the Product**, for each banking product, you must select a reconciliation account, which is the bank account to be used for transactions, for money movements.

Self Bank Account Associated With The Product

Reconciliation Account Negative balance treatment

Reconciliation EUR NoMessage

NOTE

This account must have the same currency as the product, because the conversions are performed from and into this account.

2. Select a value for the **Negative Value Treatment** drop-down to specify how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a

disbursement event would be approved. The possible values are:

- **Error** - there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero. Select this value if you want to block any transactions that would result in a negative balance of the reconciliation account associated to the banking product.
- **Warning** - there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- **NoMessage** - there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.

NOTE

Core Banking also has a system parameter, `ReconciliationAccountTreatment`. That is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value). Thus, if the value is specified

at the banking product level, then that value takes precedence over the system parameter's setting.

If you associate the same reconciliation account to more than one banking product, then the setting selected in banking product A is applied for contract events based on banking product A, while for the banking product B, Core Banking would apply the setting selected at the level of banking product B.

Payment Allocation Settings

In the **Payment Allocation Settings** section you can decide which allocation method should be used to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on. You can also define the grace period settings.

Payment Allocation Settings

Repayment Allocation Method	Grace Days for Repayment	Penalty for grace period
<div>CostOrder</div> <div>↓ ✎</div>	<div>5</div>	<input type="checkbox"/>
Direct Debit Settlement Account		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Payment Allocation Method:** The payment allocation method represents the recovery order of amounts from payment notifications. Select a payment allocation method from the list.
- **Grace Days for Repayment:** Insert the number of days for which the bank expects a payment without calculating penalty.

- **Penalty for grace period:** If you select the checkbox, the penalty interest is applied on the loan contract without taking into consideration the grace period defined at contract level, being calculated for the difference between system date - due date, if the grace period passed and the customer didn't pay the due amounts. If you leave this checkbox unselected, the penalty interest is applied on the loan contract taking into consideration the grace period defined at contract level, being calculated for system date - due date + grace days for repayment.
- **Direct Debit Settlement Account:** If you select the checkbox, the banking product has the automated settlement of repayment notification functionality (the payment allocation) turned on by default at the contract level. You can turn the automated settlement off either at the banking product level or at the contract level in Core Banking. Default value: true.

NOTE The automated settlement of repayment notification, or direct debit settlement account, is the functionality whereby, if funds are available on the settlement account and the contract has repayment notifications pending for recovery, Core Banking automatically uses the available balance up to full settlement of repayment notifications.

In Core Banking, the automated settlement of Installment type repayment notification

functionality (the payment allocation) can be turned on or off, thus allowing the financial institution to manage the contracts in case of blocked accounts and control the allocation of funds to outstanding notifications in case of need to impose a block on the settlement account, or manage the settlement of multiple loans from the same settlement account when short on funds and exceptional rules might apply.

If the functionality is turned off, the contract is pending for manual allocation. You can turn it back on and leave Core Banking to allocate the funds according to its automated processes, using any funds that become available in the settlement account in order to cover pending notifications.

2. Click the **Save and Reload** button.

Mandatory Roles for Contract Approval

In the **Mandatory Roles** section you can add the roles of the participants that are mandatory to exist at the contract level for contracts based on this banking product. In other words, when creating contracts based on banking products with Merchant role in this section, you must add a customer with the same Merchant role as contract participant, otherwise, the contract cannot be approved. When **Search Limit** is selected for a role on a banking

product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role, in this case Merchant Exposure.

Mandatory Roles for Contract Approval

+ Insert

× Delete

Export

Refresh

☐

Role

Search Limit

(All)

Beneficiary

☐

1. In the **Mandatory Roles** section, click **Insert** and fill in the following fields:

⬅

Save and close

Save and reload

Save and new

Add Mandatory Role

Main Information

Banking Product

Duplicate

Role

Merchant

Search Limit

☒

- **Banking Product:** The banking product for which you define mandatory roles. This is automatically completed with the current banking product.
- **Role:** Select the role of the participants that are mandatory to exist at the contract level for contracts based on this banking product.
- **Search Limit:** When Search Limit is selected for a role on a banking product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role. If you select a role not associated with a customer limit type in Core Banking, the Search Limit field becomes read-only and unselected.

2. Click the **Save and Reload** button.

Return Of Goods

In the **Return Of Goods**, you can define whether a contract based on the banking product can have Returned Amount or Goods transactions or not, and the specific conditions for these transactions. The Returned Amount or Goods transaction type can be used when a customer returns all or part of a loan or mortgage in a short while after contract creation, if the banking product was defined to allow such transactions. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.

Return Of Goods

Allow Return Of Goods	Accepted Days For Return	Return Message
<input checked="" type="checkbox"/>	<input type="text" value="15"/>	<input type="text" value="Warning"/>

1. Fill in the following fields:

- **Allow Return Of Goods:** Select this checkbox if the contracts based on this banking product accept Return of Goods transactions. Default value: False. If selected, the Accepted Days For Return and Return Message fields are displayed, otherwise, these fields are not visible.
- **Accepted Days For Return:** Specify the number of days after contract creation during which the return of goods transaction can be created and approved.
- **Return Message:** Select the behavior of messages generated by Core Banking for situations when the Returned Amount or Goods transaction's approval date + the number of accepted days for return \geq the current date. Possible values are taken from the Warning Error Treatment option set. According to the desired behavior, choose:

- Error, if the transaction should not be approved and an error message should be displayed;
- Warning, if the transaction can be approved, but a warning message should be displayed;
- NoMessage, if the transaction can be approved without any messages.

2. Click the **Save and Reload** button.

NOTE If Allow Return Of Goods = True, then the Returned Amount of Goods transaction is automatically added to the **Transaction Types** section.

Closing Contract Settings

In the **Closing Contract Settings** section, you can configure the default closure settings for contracts based on this banking product.

Closing Contract Settings

Buffer Close Days	Close Real Time	Closing Is Flexible
<input type="text" value="10"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Is Closed Automatically		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Buffer Close Days:** Enter the number of days used as buffer before automatically closing the contract when the contract reaches maturity and its balance reaches zero. If Buffer Close Days > 0, then Contract Is Closed Automatically = False.

- **Close Real Time:** If you select this checkbox, the contract based on this banking product is closed in real-time, when the contract reaches maturity and its balance reaches zero, without waiting for the end of day processes. If `Close Real Time = True`, then `Buffer Close Days = 0` and `Contract Is Closed Automatically = True`.
- **Closing Is Flexible:** If you select this checkbox, the closure details of the contract based on this banking product can be modified at the contract creation.
- **Contract Is Closed Automatically:** If you select this checkbox, the contract based on this banking product is closed automatically at maturity, if the balance reaches zero. If `Contract Is Closed Automatically = False`, then `Close Real Time = False`.

2. Click the **Save and Close** button.

Allowed Transactions

Banking Product Factory automatically displays in the **Allowed Transactions** section the transaction types associated at the selected banking product type level. If you need to associate other transaction types with the selected banking product, follow these steps:

1. Click **Insert existing** and select the desired transaction types to be associated.
2. Double-click a selected transaction type to edit it.

Edit Transaction Type

Settings

Name: Disbursement Transaction Code: DSB Process Type: Disbursement Edit Form: FTOS_CB_EventDisbursement Transaction Operation Type: Disbursement Is System Transaction: ☐

Is Automatic Transaction: ☐ Real Time Process: ☐ Only One Draft: ☒ Generate New Contract Version: ☐ Commission Type: Return Commission Type:

Is Clueback Transaction: ☒

Accounting Configurations

Generates Accounting Entry: ☒ QL Master Entry: FTOS_CB_ContractEvent

Purge Configurations

To Be Purged: ☒ Purge Number of Days: 30 Master Purge Entry: FTOS_CB_ContractEvent

Transaction Value Types

Transaction Type	Type	Value Type Name	Is Header	Value Type Attribute
Disbursement	Numeric	EventValue	<input checked="" type="checkbox"/>	eventValue
Disbursement	Text	ContractEventId	<input type="checkbox"/>	FTOS_CB_Contr...

Transaction Item Accounting Configurations

Transaction	Accounting	Accounting	Chart Acco...	Currency	Operational...	Take From ...
Disburse...	0001	OFFBLoa...	90300 C...			
Disburse...	0001	Provision...	66211 Im...			

3. In the **Edit Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE There is no integration at this point with a payment gateway.

- **Edit Form:** Select the form used to edit this transaction type. You can choose only from the forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.

- **Is System Transactions:** If you select this checkbox the transaction is marked as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting.
- **Is Automatic Transaction:** If you select this checkbox here, then you cannot select it within the contract operations. The **Is Automatic Transaction** checkbox marks the transaction as automatic.
- **Real Time Process:** This checkbox marks the transaction as to be processed in real-time. If selected, then the transaction is processed right away. If not selected, then the transaction is inserted as a [bank account transaction queue](#) record.
- **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
- **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
- **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
- **Return Commission Type:** Select the return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
- **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.

4. In the **Edit Transaction Type > Accounting Configurations** section, fill in the following fields:
 - **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.
5. In the **Edit Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If you select it, you can purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
6. You can also edit the information in the **Transaction Value Types, Transaction Item Accounting Configurations** and **Transaction Accounting Models** sections. Read more details about Transaction Types in the [Operational Ledger](#) User Guide.
7. Click the **Save and Close** button.

Transaction types typically used for term loans

- **Accruals and Provisions** - System transaction.
If added at banking product level, the accruals and provisions for contracts can be calculated on a daily basis.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Disbursement** - If added at banking product level, the requested funds are transferred into the customer's account.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Early repayment** - If added at banking product level, the customer can make a payment earlier than the stated maturity date of the contract.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Payment Holiday** - If added at banking product level, the official bank holidays are considered when calculating a payment schedule.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Repayment** - If added at banking product level, the customer can make a payment to cover the scheduled repayment amount.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.

- **Repayment Notification** - If added at banking product level, the system generates and displays in the contract a repayment notification after each disbursement, containing the total amount to be paid off.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Reschedule Overdues** - If added at banking product level, the system extends or adds extra time to an existing contract.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Reschedule Debt** - If added at banking product level, the system recalculates the entire payment schedule by extending the time period for loan repayment.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Returned Amount or Goods** - If added at banking product level, the Returned Amount of Goods transaction type can be used when a customer returns all or part of a loan in a short while after contract creation. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.
This transaction type is not added automatically.
Make sure you select the Allow Return Of Goods checkbox in the **Return of Goods** section within the **Associated Transactions** tab.

- **Revert Disbursement** - If added at banking product level, disbursements performed at contract level can be reverted after being performed. This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.
- **Revert Transfer between my bank accounts** - System transaction. If added at banking product level, transfers between the same customer's bank account can be reverted after being performed. This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.
- **Transfer between my bank accounts** - If added at banking product level, the customer is allowed to move funds between their accounts at the contract level.

8. View History

You can find the versions of the banking product, their workflow status and the user who modified the product in the **History** tab.

Label	Name	attributeVersionDate	attributeVersion	Modified by user
Draft	Duplicate	19/04/2022 10:29	1	[User Icon]

Here you can track the product's life cycle and review older versions that are no longer active (for details, see [Banking Products' Life Cycle](#)).

9. Manage Origination Elements

You can set the elements required in the origination journey, such as product benefits, display conditions, features, destination types, or associated products in the **Origination Elements** tab.

- Fill in the following fields:
 - Product Image:** Insert an image representative for the product.
 - Document:** Insert the document representative for the product.
 - Benefits:** Insert the advantages of owning the banking product. You can format the text in the text editor window.
 - Display Conditions:** Insert the conditions for the applicant, e.g. age limit, annual turnover, education level, income, registration documents.
- Click the **Save and Reload** button.

Product Features

In the **Product Features** section, you can insert, delete or export features.

- To add a feature, Click the **Insert** button and fill in the following fields:

- **Feature:** Enter the name of the product feature.
 - **Is Main Feature:** Select the checkbox if it is the major feature.
 - **Display Name:** Enter the display name of the feature.
2. Click the **Save and Reload** button.

Product Destination Types

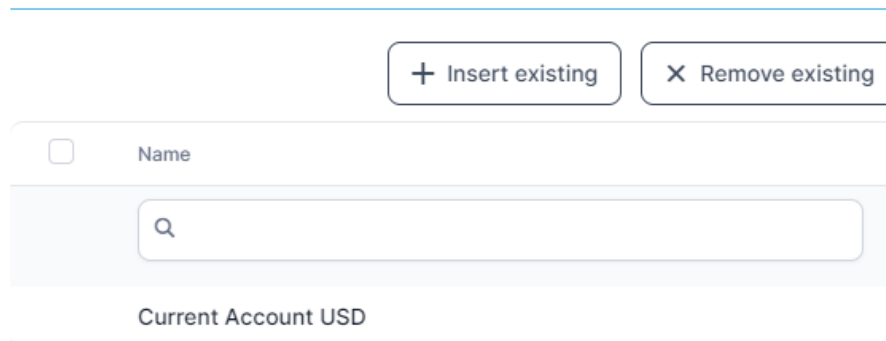
In the **Product Destination Types** section , you can insert or remove the existing product destination types:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. To create a new destination type, insert a name and specify if it is default. For this case, the following have been configured: **Loan Collateral, Loan disbursements, Personal, Repayments.**

Associated Products

In the **Associated Products** section you can insert or remove an existing products. It is especially useful when you wish to create a link between two products.

Associated Products



The interface for 'Associated Products' includes two buttons at the top: '+ Insert existing' and 'X Remove existing'. Below these is a search bar with a magnifying glass icon. Under the search bar, a list of products is displayed, with 'Current Account USD' visible at the bottom.

To insert or remove a product from the list or create a new one:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. Click the **Save and Reload** button.

10. Configure Operational Ledger Settings

NOTE

The **OL Settings** tab is available only when Banking Product Factory is implemented along with **Operational Ledger Add-On**.

In the **Banking Product GL Accounts** section, you can set specific accounts to be used by the Operational Ledger system for transactions performed on contracts based on this banking product. Thus, you can overwrite the generic settings of the Operational Ledger, instructing it to use the accounts specified at banking product level.

Banking Product GL Accounts

Buttons: + Insert, X Delete, Export, Refresh

Product	Accounting System	Accounting Scope	Item	GL Account
Duplicate	0001	FixDeposit	Loan Admin Fee	20110 Commercial loans

1. To add specific accounts to be used by **Operational Ledger**, click **Insert** and fill in the following fields in the displayed **Add Banking Product GL Account** page::

Add Banking Product GL Account

Buttons: Save and close, Save and reload, Save and new

Main Information

Product	Accounting System	Accounting Scope	Item	GL Account
Duplicate	0001	FixDeposit	Loan Admin Fee	20110 Commercial loans

- **Product:** Select from the list the banking product. Automatically completed with the banking product you are currently editing.

- **Accounting System:** Select from the list the desired accounting system. The list contains the records created in the Accounting System entity.
 - **Accounting Scope:** Select from the list the corresponding accounting scope. The list contains the records created in the Accounting Scope entity.
 - **Item:** Select from the list the corresponding transaction item. The list contains the records created in the Transaction Item Accounting Config entity.
 - **GL Account:** Select from the list the corresponding GL account. The list is filtered based on the previously selected accounting system. It contains the accounts defined in the Accounting Chart entity that were added to the chosen accounting system record.
2. Click the **Save and Reload** button.

Mortgage Loans

A mortgage is a type of financial product in the form of a loan taken out to buy property or land. In general, mortgages run for a period of 25 or 30 years, but that depends on the applicant applying for the loan. Such types of loans are secured against the value of the property or land until it's paid off.

Creating Mortgage Loans

To create a new mortgage loan from scratch, navigate to main menu > **Banking Product Factory** > **Banking Products**, and click the **Insert** button. A new page opens, with a series of tabs that assist you in configuring the banking product. Or, you can create banking products directly from the [product category](#) level, allowing Banking Product Factory to automatically fill in the information inherited from the product category.

NOTE

Alternatively, you can create a mortgage loan by [duplicating](#) an existing one. Click the **Duplicate** button on the **Banking Products List** page. Make sure you change the **Banking Product Code** and **Name** according to your business needs.

1. Enter Basic Information

You can set the basic elements for creating the product, such as name, code, currency, validity, or product classification, in the **Main Info** tab.

The screenshot shows the 'Main Information' tab of the Banking Product Factory interface. At the top is a navigation bar with tabs: 1 Main Info, 2 Details, 3 Availability, 4 Dimensions, 5 Product Formula Engine, 6 Documents, 7 Loan Core Settings, 8 History, 9 Origination Elements, and 10 GL Settings. The 'Main Information' section contains several input fields: 'Banking Product Type' (set to 'Mortgage'), 'Currency' (set to 'EUR'), 'Banking Product Code' (set to 'M_BU'), 'External Code' (empty), 'Start Date' (set to '01/03/2022'), and 'End Date' (set to '31/03/2022'). Below these are 'Name' (set to 'Mortgage test BU'), 'Class' (empty), 'SubClass' (empty), 'Category' (empty), and 'SubCategory' (empty). There is a 'Description' text area and a 'Product Classification' section with a table. The table has columns: Code, Name, Classification Type, Valid From, and Valid To. Above the table are buttons for '+ Insert existing' and 'X Remove existing'. The table itself contains search icons in each column.

NOTE

Your product type selection influences the next steps and many of the fields are automatically completed with values inherited from the selected product type definition. For mortgage loans, select the **Mortgage** option in **Banking Product Type**.

Main Information

1. In the **Main Information** section, select the **Banking Product Type** from the available list.

NOTE

If you choose to create banking products directly from the [product category](#) level, then Banking Product

Factory automatically fills in the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

2. The **Currency** is automatically completed from the default value defined within the "[DefaultCurrencyBankingProduct](#)" on [page 506](#) Banking Product Factory system parameter. You can change it for the newly created product by selecting another currency from the drop-down list.
3. Banking Product Factory automatically generates the code based on the code of the product type + a sequencer. For example, the TLU854 code corresponds to a banking product based on an Unsecured Loan product type. You can modify the product code in the **Banking Product Code** field. It can have 10 characters.
4. Set the product validity by selecting the date when the product becomes available (**Start Date**) and the last date from when the product is available (**End Date**).
5. Enter the product **Name**.
6. Optionally you can set the following fields:
 - **External Code:** Select the code of the product imported from an external system, if applicable. It can have 10 characters and it is not used in the contract.
 - **Description:** Enter any description or additional text related to your new product.
 - **Class, Subclass, Category, and Subcategory:** Select the desired values to set the desired hierarchy for your

product. For more information, see ["Product Hierarchy" on page 406](#)

7. Click the **Save and Reload** button. The product is now saved and you can further edit it for your needs.

Product Classification

After saving the product, the **Product Classification** section is populated with more options for your product. You can insert or remove existing product classification items.

1. To add a product classification item, click **Insert Existing** and select an already existing item.

Product Classification

+ Insert existing ✕ Remove existing

<input type="checkbox"/>	Code	Name	Classification Type	Valid From	Valid To
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	REG1	Classification ...	Regulatory	01/01/2020	31/12/2030

2. You can also create a new product classification item by clicking the **Insert existing** button and then the **Insert** button.
3. On the newly displayed **Add Product Classification** page, fill in the fields:

⏪ ⏩ ✓ Save and close Save and reload Save and new

Add Product Classification

Main Information

Name	Code	Valid From	Valid To	Classification Type	Is Default
Classification Restructuring Level	RESTRUCTL1	20/04/2022	30/04/2028	Restructuring	<input type="checkbox"/>

[Classified Banking Products](#)

- **Name:** Enter the name of the classification item.
- **Code:** Enter the unique code of the classification item.
- **Valid From:** Select the date from which the product classification item is valid.

- **Valid To:** Select the date until when the product classification item is valid.
- **Classification Type:** Choose the classification type of the item. Possible values: Regulatory, Restructuring.
- **Is Default:** Select the checkbox if this classification item is default.

The **Classified Banking Products** section is displayed after you save the classification item record and allows you to insert existing banking products. The following information is displayed here: **Code, Name, Class, SubClass, Category, SubCategory** and **Status**.

For more information on how to create a new product classification, see [Banking Product Classification](#).

4. Click the **Save and Reload** button.

2. Add Details

You can set elements such as general data, disbursement settings, payment schedule types and templates, product guarantees, tranches, and holiday settings in the **Details** tab. Most of the values within this tab, already completed, are inherited from the selected banking product type level definition, but you can change them according to your needs.

The screenshot displays the 'Details' tab of the Banking Product Factory interface. It features a top navigation bar with tabs: Main Info, Details (active), Availability, Dimensions, Product Formula Engine, Documents, Loan Core Settings, History, Origination Elements, and OL Settings.

General Data

- Is Revolving: ☐
- Allow Refinancing: ☒
- Allow Restructuring: ☐
- Allow CoDebtor: ☒
- Max No. Of CoDebtors:

Disburse Settings

- Autodisbursement: ☒
- Max No Disbursements:
- Active Tranche On Doc Submission: ☒

Product Tranches

Buttons: + Insert, X Delete, Export, Refresh

Name	Tranche Percent	Start Month From A...	Interest Percent
No data			

Product Guarantees

- Is Guaranteed: ☒
- Collateral Cover Percent:
- Allow Collateral Partial Release: ☒

Allowed Guarantee Types

Buttons: + Insert, X Delete, Export, Refresh

Guarantee Type	Max Accepted Covering Percent
Residential Real Estate	80.00

Payment Schedule Types

- Period Type:
- Periodicity Type:
- Grace Type:
- Product Grace:

Schedule Templates

Buttons: + Insert existing, X Remove existing

Name
No data

Holiday Settings

- Holiday Shift For Repayment Installments: ☒
- Defer Due Date: ☒
- Holiday Shift Method:

Country Calendars

Buttons: + Insert existing, X Remove existing

Name
Romania

Product Behavior

- In the **General Data** section, you can optionally set the following fields:
 - Is Revolving:** If selected, allows a business to borrow money as needed for funding working capital needs and continuing operations such as meeting payroll and payable.
 - Allow Refinancing:** Select if the account can be refinanced for this product.
 - Allow Restructuring:** Select if the loan can be restructured.
 - Allow CoDebtor:** Select if another debtor exists for this product.
 - Max No. of CoDebtors:** Set the maximum number of co-debtors possible for this product.

2. Click the **Save and Reload** button.

Disbursement

1. In the **Disburse Settings** section, check the **Auto Disbursement** box, and the disbursement is automatically performed when the contract is approved.
2. You can optionally set the following fields:
 - **Max No Disbursements:** Enter the maximum number of disbursements that can be configured for this product.
 - **Active Tranche On Doc:** If you select this checkbox, then the tranches are activated (disbursements are created and approved) after certain documents are submitted. It is the Financial Institution's responsibility to verify the content of the submitted documents.
3. Click the **Save and Reload** button.

Product Tranches

The **Product Tranches** section is displayed if you selected the **Active Tranche On Doc** checkbox. You can insert existing disbursement tranches or create new ones, configured to fit the product. Usually used for corporate loans, such dividend payments or cash outflows are not done in equal amounts and usually trigger a recalculation in terms of interest.

Product Tranches

+ Insert
✕ Delete
📄 Export
🔄 Refresh

<input type="checkbox"/>	Name	Tranche Percent	Start Month From Acti...	Interest Percent
	🔍	🔍	🔍	🔍
	Tranche 1	50.0000		2.0000
	Tranche 2	50.0000		2.0000

1. To add multiple such disbursements, click the **Insert** button. The Add Product Disbursement section is displayed and you can set the following fields:
 - **Name:** Enter the name of the new disbursement.
 - **Tranche Percent (%):** Enter the percentage of the final amount that goes towards the disbursement.
 - **Start Month From Activation:** Enter the start month for the disbursement. It can be any month in the loan availability period.
 - **Interest Percent (%):** Enter the interest percent for that particular disbursement.
 - **Unusage Commission Percent (%):** Enter a commission paid for the loan amount unused.
2. Click the **Save and Reload** button.

Product Guarantees and Allowed Guarantee Types

Product Guarantees

Is Guaranteed
☒

Collateral Cover Percent

Allow Collateral Partial Release
☐

Allowed Guarantee Types

+ Insert

× Delete

📄 Export

🔄 Refresh

<input type="checkbox"/>	Guarantee Type	Max Accepted Covering Percent
	<input type="text" value="FixDeposit"/>	<input type="text" value="85.00"/>

1. In the **Product Guarantees** section, set the following fields:
 - **Is Guaranteed:** If selected marks the product as secured.

NOTE

The **Collateral Cover Percent**, **Allow Collateral Partial Release** fields, and the **Allowed Guarantee Types** section appear when you select the **Is Guaranteed** checkbox.

- **Collateral Cover Percent:** Enter the percent that the collateral person on the contract pays. It usually is over 100%.
- **Allow Collateral Partial Release:** A partial release is a mortgage provision that allows some of the collateral to be released from a mortgage after the borrower pays a certain amount of the loan.

The **Allowed Guarantee Types** section is displayed after you check the **Is Guaranteed** option. You can insert or delete allowed guarantee types:

2. To insert a guarantee type, click the **Insert** button and fill in the name, maximum accepted covering percent, and select the guarantee type.

Add Product Guarantee Structure

Product Guarantee Structure			
Banking Product	Card	+	Guarantee Type
			FixedDeposit
Max Accepted Covering Percent	85	Name	Deposit

3. Click the **Save and Reload** button.

Payment Schedule Types

Payment Schedule Types

Period Type	Periodicity Type	Grace Type	Product Grace
Months	Monthly	Both	GracePeriod

1. Select the regularity of payments in the **Periodicity Type**. You can choose: **Once** (the whole amount is paid at maturity), **Weekly, Monthly, Bimonthly, Trimestrial, 4 Weeks, Semestrial, Annual** or **30Days**.

NOTE

If the measurement unit of the selected Periodicity Type = Days, then Holiday Shift For Repayment Installments = False and it cannot be changed.

2. Optionally, you can set the following fields:
 - **Period Type:** Select the period of availability for the product: **Days, Weeks, Months, Years** or **Once**.

NOTE

The period type must be the same as the measurement unit of the Periodicity Type.

- **Grace Type:** Select whether the product grace should apply to the principal, the interest, or both. Select an option from the list: **Both, Principal** or **Interest**.
 - **Product Grace:** Select an option from the list. This is the amount of time that the bank can offer to a customer at the beginning of the contract without repayments of principal or principal + interest (however, most probably the bank capitalizes the interest for that period).
3. Click the **Save and Reload** button.

Schedule Templates

In the **Schedule Templates** section, you can associate/ delete payment schedule types to/ from the banking product.

Schedule Templates

<input type="checkbox"/>	Name
<input type="text"/>	
	Credit Card Installments
	One principal installment

1. To associate a payment schedule type to the banking product, click **Insert Existing** and select one of the already defined types. Go to "[Payment Schedule Types](#)" on page 413 to read more about this.

IMPORTANT!

When creating a new Term Loan, Mortgage, or Overdraft banking product, you must select at least one payment schedule type, otherwise you can't approve the product. If the **Schedule Templates** section has no records, an error message is displayed upon transitioning the product into the **Approved** status.

2. Click the **Save and Reload** button.

Holiday Settings

In the **Holiday Settings** section, the following fields are available:

Holiday Settings

Holiday Shift For Repayment Installments



Defer Due Date



Holiday Shift Method

Forward

**Country Calendars**

+ Insert existing

✕ Remove existing

<input type="checkbox"/>	Name
	<input type="text"/>
	Romania

1. Select the **Holiday Shift For Repayment Installments** checkbox for holidays to be taken into consideration when calculating the maturity program.

NOTE

The **Country Calendars** section and the **Defer Due Date** and **Holiday Shift Method** fields appear if you select the **Holiday Shift For Repayment Installments** checkbox.

The **Defer Due Date** option is select by default. If selected, the payment schedule calculates the next payment amount as if the due date has not changed even when the due date falls on a holiday.

2. From the **Holiday Shift Method**, you can select the method to be used when calculating the due date if that date falls on a holiday. The due date can be shifted before or after the holiday. The possible values you can choose are:

- **None** - the due date is not shifted.
- **Forward** - the due date is shifted to the next working day after the initially calculated due date.
- **Backward** - the due date is shifted to the last working day before the initially calculated due date.

Default value: Forward.

Country Calendars

In the **Country calendars** section, you can insert or delete calendars. You can work with multiple calendars as well. To insert a calendar:

1. Click the **Insert Existing** button and add the country's name. If the maturity date coincides with a holiday, it is allocated automatically on the next business day.
2. Click the **Save and Reload** button.

3. Configure Availability

You can determine the monetary range and the time frame when the product is available for customers in the **Availability** tab.

The screenshot displays the 'Product Availability' configuration page. At the top, a navigation bar includes tabs for Main Info, Details, Availability (selected), Dimensions, Product Formula Engine, Documents, Lean Core Settings, History, Origination Elements, and GL Settings.

Product Availability section:

- Minimum Amount: 1,500
- Maximum Amount: 400,000
- Minimum Period: 1
- Maximum Period: 240
- Minimum Advance: 0
- Maximum Advance: 60
- Start Period For Usage After Activation(Months): 1
- Maximum Period Disburse After Activation (Months): 12
- Minimum Principal For Early Repayment: 1,000

Availability Rules section:

Product Availability Item Filters: + Insert, X Delete, Export, Refresh

Product Covenants: + Insert, X Delete, Export, Refresh

Type	Covenant	Valid From	Valid to	Value
Affirmati...	Borrowers should perform tax obligations	01/01/2021	31/01/2030	
Financial	Lender can monitor borrower's current r...	30/12/2020	31/01/2040	
Negative	Lender possesses the right to prevent merg...	01/01/2021	31/01/2040	

Product Availability

1. Fill in the following fields:
 - **Minimum Amount** and **Maximum Amount**: Enter the minimum and the maximum amount of the product for which the bank opens a contract.
 - **Minimum Period** and **Maximum Period**: Enter the minimum and maximum duration of the product mentioned in the contract.
 - **Minimum Advance** and **Maximum Advance**: Enter the minimum and maximum advance percentage from the contract's financed value applicable at the contract level.
 - **Start Period For Unusage After Activation (Months)**: Enter the start period for unused amount after the activation, in months.
 - **Maximum Period For Disbursement After Activation (Months)**: Enter the maximum period of disbursement after the this option is set, in months. The number of months during which the disbursement must be made.
 - **Minimum Principal For Early Repayment**: Enter the minimum principal for when early repayments are made.
2. Click the **Save and Reload** button.

Availability Rules

In the **Availability Rules** section you can select the item filters for your banking product.

Availability Rules

Product Availability Item Filters

+ Insert × Delete 📄 Export 🔄 Refresh

☐ Description

CA >< 1 - 50000

1. Click the **Insert** button, the **Add Product Availability Item Filter** is displayed.
2. Select the desired filter from the Filter option.
3. Add the attributes of the selected filter.
4. Optionally, add a description for the added item filter.
5. Click the **Save and Reload** button.

For more details, see "[Product Filter](#)" on page 472.

Product Covenants

In the **Product Covenants** section you can set certain conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements.

Product Covenants

+ Insert × Delete 📄 Export 🔄 Refresh

<input type="checkbox"/>	Type	Covenant	Valid From	Valid to	Value
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Affirmati...	Borrowers should perform tax obligations	19/04/2022	20/04/2030	
	Financial	Lender can monitor borrower's current r...	19/04/2022	20/04/2030	

1. Click the **Insert** button to add a covenant to the product. Each covenant can be attributed a value, an availability period, and a review frequency in months. Read more about covenants in the ["Covenant" on page 495](#) page.
2. Click the **Save and Reload** button.

4. Manage Dimensions

You can insert, delete or export interest, commissions, insurances, discounts or questions valid for your product in the **Manage Dimensions** tab.

The screenshot displays the 'Manage Dimensions' tab with the following sections:

- Interest & Commissions:** Includes a search bar, a list with 'MCA', and buttons for Insert, Delete, Export, and Refresh.
- Insurances:** Includes a search bar, a list with 'House Insurance', and buttons for Insert, Delete, Export, and Refresh.
- Discounts:** Includes a search bar, a list with 'No data', and buttons for Insert, Delete, Export, and Refresh.
- Questions:** Includes a search bar, a list with 'Question1' and 'Question2' (both 'Active'), and buttons for Insert existing and Remove existing.

To add a new one, click **Insert** and fill-in the fields detailed in the sections below.

NOTE

To configure the interest and commissions separately, navigate to **Main > Product Factory > Banking Product Dimensions menu** which contains several other embedded menus.

Interest & Commissions

1. To add an [interest](#) or a [commission](#), click **Insert** in the **Interest & Commissions** section. The **Add Interest & Commission Item** page is displayed.
2. Select the banking product from the **Banking Product** list.
3. Enter the **Item Name**.
4. Enter the **Start Date** when the interest/ commission becomes effective and the **End Date** for the interest/ commission.
5. Fill in the following fields:
 - **Code:** Enter a code for this particular interest/ commission.
 - **Interest List:** Select from which list the interest is a part of.
 - **Commissions List:** Select from which list the commission is a part of.
 - **Minimum Interest Rate (%):** Enter the percent applicable as a minimum interest rate at the contract level.
 - **Is Negotiable:** Select the checkbox to specify that every interest, commission or margin field at the contract level is negotiable and can be edited.
6. Click the **Save and Reload** button.
7. In the **Interest & Commission Item Filters** section, click **Insert** to insert an [item filter](#).
8. Select a filter created earlier in the "[Product Filter](#)" on [page 472](#).
9. Set the following fields:

- **Value/ Date:** Select the beginning value/ date for the filter.
- **Until Value/ Until Date:** Select the maximum value/ date for the filter.
- **Description:** This field is automatically filled in after clicking the **Save and Reload** button. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter Entity:** Entity on which the filter was defined.
- **Description:** It is left blank. Add a description if needed.
- **Grid of Options:** This field is automatically filled in after clicking the **Save and Reload** button. The values of the option set are displayed. Select the Boolean for the values you wish to include in the filter.

10. Click the **Save and Reload** button.

← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓ ✎

Value 1 Until Value 50,000

Description

AL_Amount > < 1 - 50000

Insurances

For any banking product, you can select a pre-existing insurance or create a new one.

1. To add a new [insurance](#), in the **Insurances** section, Click the **Insert** button and set the following fields:
 - **Banking Product:** Select the banking product.
 - **Code:** Insert a code for this particular insurance.
 - **Item Name:** Insert a name.
 - **Start Date:** Enter the start date when the insurance becomes effective.
 - **End Date:** Enter the end date for the insurance.
 - **Details:** It is left blank. Add a description if needed.
 - **Insurance List:** Select from which list the insurance is a part of.
2. Click the **Save and Reload** button.
3. In the **Insurance Item Filters** section, click **Insert** and fill in the following fields:
 - **Filter:** The name inserted earlier.
 - **Value:** The starting value for the attribute.
 - **Until Value:** The ending value of the interval.
 - **Description:** Insert the proper description for the availability filter.
4. Click the **Save and Reload** button.

Discounts

For any banking product, you can add discounts of any nature. You can select a pre-existing discount or create a new one.

1. To add a new [discount](#), Click the **Insert** button in the **Discounts** section.
2. In the **Details Page**, insert the appropriate **Name** for the discount.
3. Choose one of the pre-configured types of discounts available in the **Discount** field, or create a new one. According to the selected type, new fields appear on the page requiring to be filled in.
4. Insert the value of the discount to be applied, e.g. 15.
5. Set the start date when the discount becomes effective (**Start date**), and the end date for the discount (**End date**).
6. Optionally, you can fill in the following fields:
 - **Applied to dimension:** Specifies for which product dimension this discount is applicable (interest, commission or insurance). This is autocompleted by the selected discount's dimension.
 - **Commission type:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission type this

discount is applicable. This is autocompleted by the selected discount's default commission type.

- **Commission:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission this discount is applicable. This is autocompleted by the selected discount's default commission.
- **Insurance class:** This field appears if the selected discount = Discount Life Insurance or Interest Discount. Specifies for which insurance class this discount is applicable (credit, home, life or other insurance class). This is autocompleted by the selected discount's insurance class.
- **Insurance:** This field appears if the selected discount = Discount Life Insurance. Specifies for which insurance this discount is applicable. This is autocompleted by the selected discount's insurance.
- **Interest type:** This field appears if the selected discount = Interest discount. Specifies for which interest type this discount is applicable.
- **Use Banking Formula:** If you select this checkbox, the discount is calculated using the Banking Formula engine.
- **Is optional discount?** : Selecting this checkbox results in the discount being applied only if the customer agrees to the discount.
- **Is percentage:** If you select this checkbox, the discount is calculated as a percentage from the contract's amount.
- **Destination entity:** Select the entity where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.

- **Destination entity attribute:** Select the attribute where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
7. Click the **Save and Close** button.
 8. In the **Product Discount Item Filter** section, click **Insert** and fill in the fields as specified in the **Product Filter page**. The fields displayed depend on the selected filter.
 9. Click the **Save and Close** button.

Questions

You can choose one or more questions to add to the banking product, or insert a new one.

1. To insert a new **question**, in the **Questions** section, Click the **Insert existing** button, then click **Insert**.
2. In the **Add Banking Product Question** page, fill in the following fields:
 - **Question:** Enter the appropriate name.
 - **Answer Type:** Select the type of answer the customer has to give: text, numeric or option set.
 - **Answer Entity:** Select the entity where the answer is stored.
 - **Answer Field:** Select the attribute where the answer is stored.
3. Click the **Save and Reload** button.

The **Banking Products List** shows where the question is used.

IMPORTANT!

The question has to be activated in order for it to be added to the banking product.

4. Click the **Save and Close** button.

For example, this is how a question is displayed in a customer journey in the FintechOS Portal:

The screenshot shows a mobile application interface for editing a loan application. At the top, there's a progress bar with 'CURRENT STATUS: INITIALIZED' and 'NEXT STATUS: CHOOSE STATUS'. Below this is a modal titled 'EDIT LOAN APPLICATION'. Inside the modal, the section is titled 'Eligibility Questions' with a subtext: 'We ask for this information so that we can carry out the checks needed to consider you for a mortgage'. There are three input fields: 'DEPOSIT SOURCE' (a dropdown menu), 'RETIREMENT DATE' (a date picker), and 'RETIRED' (radio buttons for 'Yes' and 'No', with 'No' selected). A blue 'Finish' button is located at the bottom right of the modal.

5. Configure Product Formula Engine

The **Product Formula Engine** tab keeps formulas built with **Formula Engine** for the banking product. Such formulas can be used to determine the eligibility of a customer.

The screenshot displays the 'Product Formula Engine' configuration page. At the top, there's a navigation bar with tabs: Main Info, Details, Availability, Dimensions, **Product Formula Engine** (selected), Documents, Loan Core Settings, History, Origination Elements, and GL Settings. Below the navigation bar, there are two main sections: 'Banking Product Formulas' and 'Test Scenarios'. Each section has a table with columns for Name, Formula Type, and Formula. The 'Banking Product Formulas' table has a single row with 'CA' as the Name, 'CommissionFormula' as the Formula Type, and 'commissionByAmount' as the Formula. The 'Test Scenarios' table has a single row with 'Duplicate-19-04-2022_11-07-57' as the Name and 'CommissionFormula' as the Test Formula Type. Both tables have search bars and buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.

Banking Product Formulas

In the **Banking Product Formulas** section, choose an already defined formula or click **Insert** to configure a new one, for example a formula for eligibility or scoring purposes. For information on how to build a formula, see [Define Formula Inputs](#).

1. In the **Add Banking Product Formula** page, fill in the following fields:

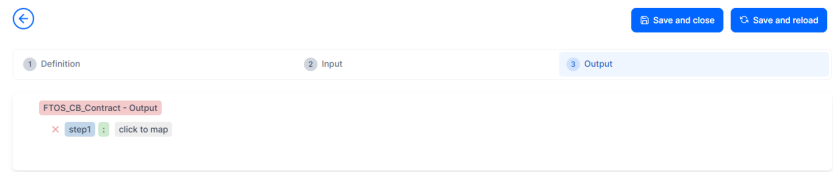
- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

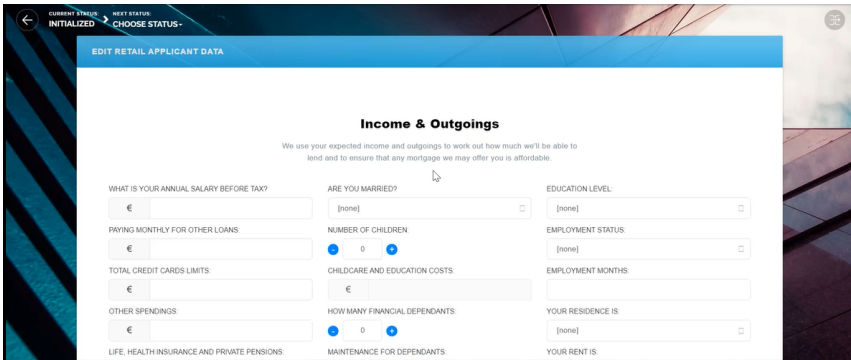
The name of the banking product is inserted automatically in **Banking Product**.

2. After selecting the desired formula, click **Save and reload**, then click **Map Data**.
3. In the **Formula Mapping** page, click **Input** and configure the input data for the formula.
4. Click **Output** and configure the output for the formula.

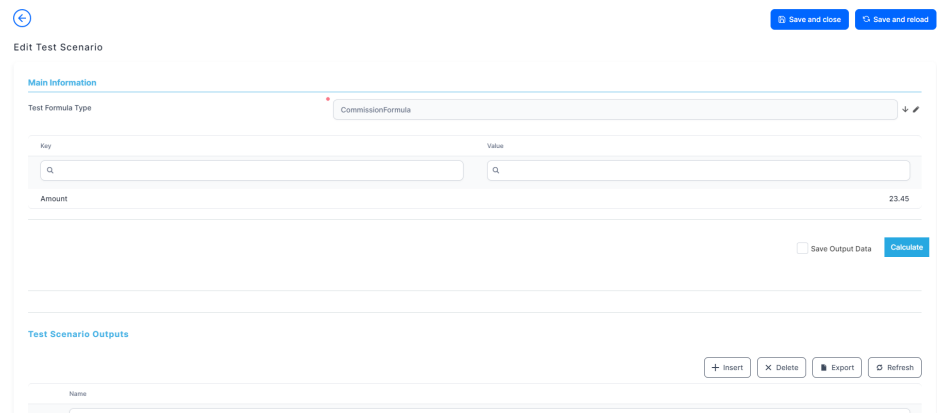


5. Click the **Save and Close** button.

Such formulas can be used in customer journey steps, for example when the customer inserts their financial data.



Test Scenarios



A good practice is to test the formula before displaying it in a customer journey. You can do that in the **Test Scenarios** section:

1. Click the **Insert** button to open the **Add Test Scenario** page.
2. Insert a **Test Scenario Type** from the option set. The keys and the values are shown.
3. Click the **Save and Reload** button.
4. Click the **Calculate** button. The outputs are displayed in the **Test Scenario Outputs** section.
5. You can save these outputs by selecting the **Save Output Data** checkbox next to **Calculate**.

6. Add Documents

You can manage all the attached documents available for a product and all the agreements that a customer needs to go through in the **Documents** tab.

The screenshot shows the 'Documents' tab in the Banking Product Factory interface. It contains two main sections: 'Banking Product Documents' and 'Banking Product Agreements'.

Banking Product Documents: This section has a toolbar with '+ Insert', 'X Delete', 'Export', and 'Refresh' buttons. Below the toolbar, there are three search filters: 'Report' (with a dropdown arrow), 'Banking Copies No' (with a search icon), and 'Operation Code' (with a search icon). The main area displays a table with the following data:

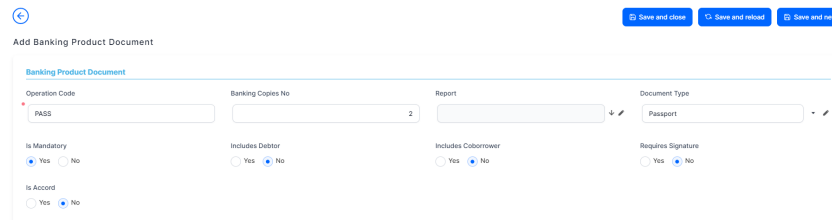
Report	Banking Copies No	Operation Code
Status overview of the queues	2	TC

Banking Product Agreements: This section also has a toolbar with '+ Insert', 'X Delete', 'Export', and 'Refresh' buttons. Below the toolbar, there is a search filter 'Code' (with a search icon). The main area displays 'No data'.

Banking Product Documents

Any previously associated documents are displayed in the **Banking Product Documents** section.

1. To attach a new document to the banking product, in the **Banking Product Documents** section, click **Insert**. The **Add Banking Product Document** page is displayed.



Add Banking Product Document

Banking Product Document

Operation Code: PASS

Banking Copies No: 2

Report:

Document Type: Passport

Is Mandatory: ☒ Yes ☐ No

Includes Debtor: ☐ Yes ☒ No

Includes Coborrower: ☐ Yes ☒ No

Requires Signature: ☐ Yes ☒ No

Is Accord: ☐ Yes ☒ No

2. Set the following fields:
 - **Operation Code:** Enter a code for the document.
 - **Banking Copies:** Insert the number of copies made.
 - **Report:** Select a document from the list.
 - **Document Type:** Select a document type from the list.
 - **Is Mandatory:** Select if the document is mandatory.
 - **Includes Debtor:** Select if the document includes the debtor.
 - **Includes Coborrower:** Select if the document includes the co-borrower.
 - **Requires Signature:** Select if the document requires to be signed.
 - **Is accord:** Select if the document represents the accord.
3. Click the **Save and Reload** button.

Banking Products Agreements

The agreements that a customer needs to go through are displayed in the **Banking Products Agreements** section.

1. To attach a new agreement to the banking product, in the **Banking Products Agreements** section, click **Insert**. The **Add Banking Products Agreements** page is displayed.

2. Fill in the following fields:
 - **Agreements:** Select an agreement from the list.
 - **Banking Product:** It is automatically filled in.
 - **Code:** Insert the corresponding code.
 - **Is Mandatory:** Select if the agreement is mandatory for the product.
3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the [Digital Document Processor](#).

7. Configure Lean Core Settings

NOTE

The **Lean Core Settings** tab is available only when Banking Product Factory is implemented along with Core Banking.

Transactions types that are performed to and from a banking product are displayed in the **Lean Core Settings** tab. The tab also holds information about the reconciliation account associated with the products, mandatory roles for contract approval, payment allocation settings, the treatment of returned goods for contracts based on this banking product (only for Term Loans and Mortgage banking products), and closing contract settings.

The screenshot shows the 'Lean Core Settings' tab in the Banking Product Factory. The 'Self Bank Account Associated With The Product' section is highlighted, showing a dropdown for 'Reconciliation Account' set to 'Reconciliation EUR' and a dropdown for 'Negative balance treatment' set to 'NoMessage'. Below this is the 'Mandatory Roles for Contract Approval' section with a table for roles. To the right, the 'Payment Allocation Settings' section includes fields for 'Repayment Allocation Method' (set to 'CostOrder'), 'Grace Days for Repayment', and 'Penalty for grace period'. Below that is the 'Allowed Transactions' section with a list of transactions. At the bottom, the 'Closing Contract Settings' section includes a 'Buffer Close Days' field (set to 15), a 'Close Real Time' checkbox, and a 'Closing Is Flexible' checkbox (checked). A 'Contract Is Closed Automatically' checkbox is also checked.

Reconciliation Account Associated With The Product

1. In the **Self Bank Account Associated with the Product**, for each banking product, you must select a reconciliation account, which is the bank account to be used for transactions, for money movements.

This is a close-up of the 'Self Bank Account Associated With The Product' section. It shows two dropdown menus: 'Reconciliation Account' with 'Reconciliation EUR' selected, and 'Negative balance treatment' with 'NoMessage' selected.

NOTE

This account must have the same currency as the product, because the conversions are performed from and into this account.

2. Select a value for the **Negative Value Treatment** drop-down to specify how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a

disbursement event would be approved. The possible values are:

- **Error** - there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero. Select this value if you want to block any transactions that would result in a negative balance of the reconciliation account associated to the banking product.
- **Warning** - there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- **NoMessage** - there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.

NOTE

Core Banking also has a system parameter, `ReconciliationAccountTreatment`. That is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value). Thus, if the value is specified

at the banking product level, then that value takes precedence over the system parameter's setting.

If you associate the same reconciliation account to more than one banking product, then the setting selected in banking product A is applied for contract events based on banking product A, while for the banking product B, Core Banking would apply the setting selected at the level of banking product B.

Payment Allocation Settings

In the **Payment Allocation Settings** section you can decide which allocation method should be used to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on. You can also define the grace period settings.

Payment Allocation Settings

Repayment Allocation Method	Grace Days for Repayment	Penalty for grace period
<div>CostOrder</div> <div>↓ ✎</div>	<div>5</div>	<input type="checkbox"/>
Direct Debit Settlement Account		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Payment Allocation Method:** The payment allocation method represents the recovery order of amounts from payment notifications. Select a payment allocation method from the list.
- **Grace Days for Repayment:** Insert the number of days for which the bank expects a payment without calculating penalty.

- **Penalty for grace period:** If you select the checkbox, the penalty interest is applied on the loan contract without taking into consideration the grace period defined at contract level, being calculated for the difference between system date - due date, if the grace period passed and the customer didn't pay the due amounts. If you leave this checkbox unselected, the penalty interest is applied on the loan contract taking into consideration the grace period defined at contract level, being calculated for system date - due date + grace days for repayment.
- **Direct Debit Settlement Account:** If you select the checkbox, the banking product has the automated settlement of repayment notification functionality (the payment allocation) turned on by default at the contract level. You can turn the automated settlement off either at the banking product level or at the contract level in Core Banking. Default value: true.

NOTE The automated settlement of repayment notification, or direct debit settlement account, is the functionality whereby, if funds are available on the settlement account and the contract has repayment notifications pending for recovery, Core Banking automatically uses the available balance up to full settlement of repayment notifications.

In Core Banking, the automated settlement of Installment type repayment notification

functionality (the payment allocation) can be turned on or off, thus allowing the financial institution to manage the contracts in case of blocked accounts and control the allocation of funds to outstanding notifications in case of need to impose a block on the settlement account, or manage the settlement of multiple loans from the same settlement account when short on funds and exceptional rules might apply.

If the functionality is turned off, the contract is pending for manual allocation. You can turn it back on and leave Core Banking to allocate the funds according to its automated processes, using any funds that become available in the settlement account in order to cover pending notifications.

2. Click the **Save and Reload** button.

Mandatory Roles for Contract Approval

In the **Mandatory Roles** section you can add the roles of the participants that are mandatory to exist at the contract level for contracts based on this banking product. In other words, when creating contracts based on banking products with Merchant role in this section, you must add a customer with the same Merchant role as contract participant, otherwise, the contract cannot be approved. When **Search Limit** is selected for a role on a banking

product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role, in this case Merchant Exposure.

Mandatory Roles for Contract Approval

1. In the **Mandatory Roles** section, click **Insert** and fill in the following fields:

- **Banking Product:** The banking product for which you define mandatory roles. This is automatically completed with the current banking product.
- **Role:** Select the role of the participants that are mandatory to exist at the contract level for contracts based on this banking product.
- **Search Limit:** When Search Limit is selected for a role on a banking product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role. If you select a role not associated with a customer limit type in Core Banking, the Search Limit field becomes read-only and unselected.

2. Click the **Save and Reload** button.

Return Of Goods

In the **Return Of Goods**, you can define whether a contract based on the banking product can have Returned Amount or Goods transactions or not, and the specific conditions for these transactions. The Returned Amount or Goods transaction type can be used when a customer returns all or part of a loan or mortgage in a short while after contract creation, if the banking product was defined to allow such transactions. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.

Return Of Goods

Allow Return Of Goods	Accepted Days For Return	Return Message
<input checked="" type="checkbox"/>	<input type="text" value="15"/>	<input type="text" value="Warning"/>

1. Fill in the following fields:

- **Allow Return Of Goods:** Select this checkbox if the contracts based on this banking product accept Return of Goods transactions. Default value: False. If selected, the Accepted Days For Return and Return Message fields are displayed, otherwise, these fields are not visible.
- **Accepted Days For Return:** Specify the number of days after contract creation during which the return of goods transaction can be created and approved.
- **Return Message:** Select the behavior of messages generated by Core Banking for situations when the Returned Amount or Goods transaction's approval date + the number of accepted days for return \geq the current date. Possible values are taken from the Warning Error Treatment option set. According to the desired behavior, choose:

- Error, if the transaction should not be approved and an error message should be displayed;
- Warning, if the transaction can be approved, but a warning message should be displayed;
- NoMessage, if the transaction can be approved without any messages.

2. Click the **Save and Reload** button.

NOTE If Allow Return Of Goods = True, then the Returned Amount of Goods transaction is automatically added to the **Transaction Types** section.

Closing Contract Settings

In the **Closing Contract Settings** section, you can configure the default closure settings for contracts based on this banking product.

Closing Contract Settings

Buffer Close Days	Close Real Time	Closing Is Flexible
<input type="text" value="10"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Is Closed Automatically		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:
 - **Buffer Close Days:** Enter the number of days used as buffer before automatically closing the contract when the contract reaches maturity and its balance reaches zero. If Buffer Close Days > 0, then Contract Is Closed Automatically = False.

- **Close Real Time:** If you select this checkbox, the contract based on this banking product is closed in real-time, when the contract reaches maturity and its balance reaches zero, without waiting for the end of day processes. If `Close Real Time = True`, then `Buffer Close Days = 0` and `Contract Is Closed Automatically = True`.
- **Closing Is Flexible:** If you select this checkbox, the closure details of the contract based on this banking product can be modified at the contract creation.
- **Contract Is Closed Automatically:** If you select this checkbox, the contract based on this banking product is closed automatically at maturity, if the balance reaches zero. If `Contract Is Closed Automatically = False`, then `Close Real Time = False`.

2. Click the **Save and Close** button.

Allowed Transactions

Banking Product Factory automatically displays in the **Allowed Transactions** section the transaction types associated at the selected banking product type level. If you need to associate other transaction types with the selected banking product, follow these steps:

1. Click **Insert existing** and select the desired transaction types to be associated.
2. Double-click a selected transaction type to edit it.

Settings

Name: Disbursement Transaction Code: DSB Process Type: Disbursement Edit Form: FTOS_CB_EventDisbursement Transaction Operation Type: Disbursement Is System Transaction: ☐

Is Automatic Transaction: ☐ Real Time Process: ☐ Only One Draft: ☒ Generate New Contract Version: ☐ Commission Type: Return Commission Type:

Is Clueback Transaction: ☒

Accounting Configurations

Generates Accounting Entry: ☒ QL Master Entry: FTOS_CB_ContractEvent

Purge Configurations

To Be Purged: ☒ Purge Number of Days: 30 Master Purge Entity: FTOS_CB_ContractEvent

Transaction Value Types

Transaction Type	Type	Value Type Name	Is Header	Value Type Attribute
Disbursement	Numeric	EventValue	<input checked="" type="checkbox"/>	eventValue
Disbursement	Text	ContractEventId	<input type="checkbox"/>	FTOS_CB_Contr...

Transaction Item Accounting Configurations

Transac...	Accounting...	Accounting...	Chart Acco...	Currency	Operational...	Take From ...
Disburse...	0001	OFFBLoa...	90300 C...			
Disburse...	0001	Provision...	66211 Im...			

3. In the **Edit Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE There is no integration at this point with a payment gateway.

- **Edit Form:** Select the form used to edit this transaction type. You can choose only from the forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.

- **Is System Transactions:** If you select this checkbox the transaction is marked as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting.
- **Is Automatic Transaction:** If you select this checkbox here, then you cannot select it within the contract operations. The **Is Automatic Transaction** checkbox marks the transaction as automatic.
- **Real Time Process:** This checkbox marks the transaction as to be processed in real-time. If selected, then the transaction is processed right away. If not selected, then the transaction is inserted as a [bank account transaction queue](#) record.
- **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
- **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
- **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
- **Return Commission Type:** Select the return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
- **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.

4. In the **Edit Transaction Type > Accounting Configurations** section, fill in the following fields:
 - **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.
5. In the **Edit Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If you select it, you can purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
6. You can also edit the information in the **Transaction Value Types, Transaction Item Accounting Configurations** and **Transaction Accounting Models** sections. Read more details about Transaction Types in the [Operational Ledger](#) User Guide.
7. Click the **Save and Close** button.

Transaction types typically used for mortgage loans

- **Accruals and Provisions** - System transaction.
If added at banking product level, the accruals and provisions for contracts can be calculated on a daily basis.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Disbursement** - If added at banking product level, the requested funds are transferred into the customer's account.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Early repayment** - If added at banking product level, the customer can make a payment earlier than the stated maturity date of the contract.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **LoanContract** - If added at banking product level, the loan contract accounting entries are generated automatically by the system when the contract is approved.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Payment Holiday** - If added at banking product level, the official bank holidays are considered when calculating a payment schedule.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.

- **Repayment** - If added at banking product level, the customer can make a payment to cover the scheduled repayment amount.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Repayment Notification** - If added at banking product level, the system generates and displays in the contract a repayment notification after each disbursement, containing the total amount to be paid off.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Returned Amount or Goods** - If added at banking product level, the Returned Amount of Goods transaction type can be used when a customer returns all or part of a loan in a short while after contract creation. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.
This transaction type is not added automatically.
Make sure you select the Allow Return Of Goods checkbox in the **Return of Goods** section within the **Associated Transactions** tab.
- **Reschedule Overdues** - If added at banking product level, the system extends or adds extra time to an existing contract.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.

- **Reschedule Debt** - If added at banking product level, the system recalculates the entire payment schedule by extending the time period for loan repayment.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Revert Disbursement** - If added at banking product level, disbursements performed at contract level can be reverted after being performed.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Revert Transfer between my bank accounts** - System transaction. If added at banking product level, transfers between the same customer's bank account can be reverted after being performed.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.
- **Transfer between my bank accounts** - If added at banking product level, the customer is allowed to move funds between their accounts at the contract level.

8. View History

You can find the versions of the banking product, their workflow status and the user who modified the product in the **History** tab.

Label	Name	attributeVersionDate	attributeVersion	Modified by user
Draft	Duplicate	19/04/2022 10:29	1	

Here you can track the product's life cycle and review older versions that are no longer active (for details, see [Banking Products' Life Cycle](#)).

9. Manage Origination Elements

You can set the elements required in the origination journey, such as product benefits, display conditions, features, destination types, or associated products in the **Origination Elements** tab.

Feature	DisplayName	Show Order
NMNOTFEES	No Management ...	1

Display Name
Personal

Name
Current Account USD

1. Fill in the following fields:

- **Product Image:** Insert an image representative for the product.
- **Document:** Insert the document representative for the product.
- **Benefits:** Insert the advantages of owning the banking product. You can format the text in the text editor window.

- **Display Conditions:** Insert the conditions for the applicant, e.g. age limit, annual turnover, education level, income, registration documents.
2. Click the **Save and Reload** button.

Product Features

In the **Product Features** section, you can insert, delete or export features.

1. To add a feature, Click the **Insert** button and fill in the following fields:
 - **Feature:** Enter the name of the product feature.
 - **Is Main Feature:** Select the checkbox if it is the major feature.
 - **Display Name:** Enter the display name of the feature.
2. Click the **Save and Reload** button.

Product Destination Types

In the **Product Destination Types** section , you can insert or remove the existing product destination types:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. To create a new destination type, insert a name and specify if it is default. For this case, the following have been configured: **Loan Collateral, Loan disbursements, Personal, Repayments.**

Associated Products

In the **Associated Products** section you can insert or remove an existing products. It is especially useful when you wish to create a link between two products.

Associated Products

+ Insert existing

X Remove existing

☐

Name

Current Account USD

To insert or remove a product from the list or create a new one:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. Click the **Save and Reload** button.

10. Configure Operational Ledger Settings

NOTE

The **OL Settings** tab is available only when Banking Product Factory is implemented along with **Operational Ledger Add-On**.

In the **Banking Product GL Accounts** section, you can set specific accounts to be used by the Operational Ledger system for transactions performed on contracts based on this banking product. Thus, you can overwrite the generic settings of the Operational Ledger, instructing it to use the accounts specified at banking product level.

1 Main Info

2 Details

3 Availability

4 Dimensions

5 Product Formula Engine

6 Documents

7 Loan Core Settings

8 History

9 Origination Elements

10 GL Settings

Banking Product GL Accounts

+ Insert

X Delete

■ Export

↻ Refresh

☐

Product

Accounting System

Accounting Scope

Item

GL Account

Duplicate

0001

FixDeposit

Loan Admin Fee

20110 Commercial loans

1. To add specific accounts to be used by **Operational Ledger**, click **Insert** and fill in the following fields in the displayed **Add Banking Product GL Account** page::

Add Banking Product GL Account

Save and close Save and reload Save and new

Main Information

Product	Accounting System	Accounting Scope	Item	GL Account
Duplicate	0001	FixDeposit	Loan Admin Fee	20110 Commercial loans

- **Product:** Select from the list the banking product. Automatically completed with the banking product you are currently editing.
 - **Accounting System:** Select from the list the desired accounting system. The list contains the records created in the Accounting System entity.
 - **Accounting Scope:** Select from the list the corresponding accounting scope. The list contains the records created in the Accounting Scope entity.
 - **Item:** Select from the list the corresponding transaction item. The list contains the records created in the Transaction Item Accounting Config entity.
 - **GL Account:** Select from the list the corresponding GL account. The list is filtered based on the previously selected accounting system. It contains the accounts defined in the Accounting Chart entity that were added to the chosen accounting system record.
2. Click the **Save and Reload** button.

Bank Accounts

The basic product for any bank is an account. Below are the possible configurations for a complete account, functional in any customer journey.

Creating Bank Accounts

To create a new bank account from scratch, navigate to main menu > **Banking Product Factory** > **Banking Products**, and click the **Insert** button. A new page opens, with a series of tabs that assist you in configuring the banking product. Or, you can create banking products directly from the [product category](#) level, allowing Banking Product Factory to automatically fill in the information inherited from the product category.

NOTE

Alternatively, you can create a bank account by [duplicating](#) an existing one. Click the **Duplicate** button on the **Banking Products List** page. Make sure you change the **Banking Product Code** and **Name** according to your business needs.

1. Enter Basic Information

You can set the basic elements for creating the product, such as name, code, currency, validity, or product classification, in the **Main Info** tab.

Main Information

Banking Product Type: Bank Account

Currency: EUR

Banking Product Code: REGD_BAEUR

External Code:

Start Date: 19/10/2021

End Date: 19/10/2030

Name: Bank Account EUR

Class:

SubClass:

Category:

SubCategory:

Description:

Product Classification

+ Insert existing X Remove existing

Code	Name	Classification Type	Valid From	Valid To
REGD	Classification ...	Regulatory	01/01/2020	31/12/2030

NOTE

Your product type selection influences the next steps and many of the fields are automatically completed with values inherited from the selected product type definition. For bank accounts, select the **Current Account** option in the **Banking Product Type**.

Main Information

1. In the **Main Information** section, select the **Banking Product Type** from the available list.

NOTE

If you choose to create banking products directly from the [product category](#) level, then Banking Product Factory automatically fills in the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

2. The **Currency** is automatically completed from the default value defined within the "[DefaultCurrencyBankingProduct](#)" on [page 506](#) Banking Product Factory system parameter. You can change it for the newly created product by selecting another currency from the drop-down list.
3. Banking Product Factory automatically generates the code based on the code of the product type + a sequencer. For example, the TLU854 code corresponds to a banking product based on an Unsecured Loan product type. You can modify the product code in the **Banking Product Code** field. It can have 10 characters.
4. Set the product validity by selecting the date when the product becomes available (**Start Date**) and the last date from when the product is available (**End Date**).
5. Enter the product **Name**.
6. Optionally you can set the following fields:
 - **External Code:** Select the code of the product imported from an external system, if applicable. It can have 10 characters and it is not used in the contract.

- **Description:** Enter any description or additional text related to your new product.
 - **Class, Subclass, Category, and Subcategory:** Select the desired values to set the desired hierarchy for your product. For more information, see ["Product Hierarchy" on page 406](#)
7. Click the **Save and Reload** button. The product is now saved and you can further edit it for your needs.

Product Classification

After saving the product, the **Product Classification** section is populated with more options for your product. You can insert or remove existing product classification items.

1. To add a product classification item, click **Insert Existing** and select an already existing item.

Product Classification

<input type="checkbox"/>	Code	Name	Classification Type	Valid From	Valid To
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	REG1	Classification ...	Regulatory	01/01/2020	31/12/2030

2. You can also create a new product classification item by clicking the **Insert existing** button and then the **Insert** button.
3. On the newly displayed **Add Product Classification** page, fill in the fields:

⏪ ✓

Add Product Classification

Main Information

Name	Code	Valid From	Valid To	Classification Type	Is Default
Classification Restructuring Level	RESTRUCTL1	20/04/2022	30/04/2028	Restructuring	<input type="checkbox"/>

[Classified Banking Products](#)

- **Name:** Enter the name of the classification item.
- **Code:** Enter the unique code of the classification item.
- **Valid From:** Select the date from which the product classification item is valid.
- **Valid To:** Select the date until when the product classification item is valid.
- **Classification Type:** Choose the classification type of the item. Possible values: Regulatory, Restructuring.
- **Is Default:** Select the checkbox if this classification item is default.

The **Classified Banking Products** section is displayed after you save the classification item record and allows you to insert existing banking products. The following information is displayed here: **Code, Name, Class, SubClass, Category, SubCategory** and **Status**.

For more information on how to create a new product classification, see [Banking Product Classification](#).

4. Click the **Save and Reload** button.

2. Add Details

You can set elements such as interest, payment type, top-ups and withdrawals in the **Details** tab. Most of the values within this tab, already completed, are inherited from the selected banking product type level definition, but you can change them according to your needs.

The screenshot shows the 'Details' tab selected in the 'Banking Product Factory' interface. The 'General Data' section contains the following settings:

- Auto Roll Over:** ☐
- Allow Top Ups:** ☒
- Allow Withdrawals:** ☒
- Allow negotiated IR:** ☐
- Allow Overdraft:** ☐
- Interest is Capitalized:** ☒
- Interest Payment Type:**

1. In the **General Data** section, set the following fields:
 - **Auto Roll Over:** If you select this checkbox, the contract is automatically prolonged. This is used mostly for deposits or any product that can undergo the extension of contract.
 - **Allow Top Ups:** Select if the amount can be topped up with a sum of money.
 - **Allow Withdrawals:** Select the checkbox if the customer can withdraw money for this product.
 - **Allow negotiated IR:** Select the checkbox if the interest rate is negotiable for this product.
 - **Allow Overdraft:** Only displayed for current account type bank accounts. Select the checkbox if the current account has an overdraft functionality attached to it. Follow the information available on the [Current Account with Overdraft](#) page.
 - **Interest Is Capitalized:** Only applicable if there is an interest rate. Select the checkbox if true.
 - **Interest Payment Type:** Select the regularity of interest payments: Monthly, Maturity, Yearly, Daily or Quarterly.
2. Click the **Save and Reload** button.

NOTE

If you select the **Allow Top Ups** and **Allow Withdrawals** checkboxes, then the Top Up Account, Transfer between my bank accounts and Withdraw transaction types are automatically attached in the **Associated Transactions** tab.

3. Configure Availability

You can determine the monetary range and the time frame when the product is available for customers in the **Availability** tab.

Product Availability

- Fill in the following fields:
 - Minimum Period** and the **Maximum Period**: Enter the minimum and the maximum duration of the product mentioned in the contract.
 - Minimum Amount** and the **Maximum Amount**: Enter the minimum and the maximum amount of the product for which the bank opens a contract.
- Click the **Save and Reload** button.

Availability Rules

In the **Availability Rules** section you can select the item filters for your banking product.

- Click the **Insert** button, the **Add Product Availability Item Filter** is displayed.

2. Select the desired filter from the Filter option.
3. Add the attributes of the selected filter.
4. Optionally, add a description for the added item filter.
5. Click the **Save and Reload** button.

For more details, see ["Product Filter" on page 472](#).

Product Covenants

In the **Product Covenants** section you can set certain conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements.

Product Covenants

+ Insert
× Delete
■ Export
↻ Refresh

<input type="checkbox"/>	Type	Covenant	Valid From	Valid to	Value
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Affirmati...	Borrowers should perform tax obligations	19/04/2022	20/04/2030	
	Financial	Lender can monitor borrower's current r...	19/04/2022	20/04/2030	

1. Click the **Insert** button to add a covenant to the product. Each covenant can be attributed a value, an availability period, and a review frequency in months. Read more about covenants in the ["Covenant" on page 495](#) page.
2. Click the **Save and Reload** button.

4. Manage Dimensions

You can insert, delete or export interest, commissions, insurances, discounts or questions valid for your product in the **Manage Dimensions** tab.

The screenshot shows the 'Dimensions' menu with four sub-sections:

- Interest & Commissions:** Includes an 'Item Name' search bar with the value 'MCA' and buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.
- Insurances:** Includes an 'Item Name' search bar with the value 'House Insurance' and buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.
- Discounts:** Includes a table with columns: Name, Discount, End Date, Start Date, and Value Discount. The table is currently empty, showing 'No data'. Buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh' are present.
- Questions:** Includes a 'Question' search bar and a 'Business Status' search bar. Below them are two rows: 'Question1' with status 'Active' and 'Question2' with status 'Active'. Buttons for '+ Insert existing' and 'X Remove existing' are present.

To add a new one, click **Insert** and fill-in the fields detailed in the sections below.

NOTE

To configure the interest and commissions separately, navigate to **Main > Product Factory > Banking Product Dimensions menu** which contains several other embedded menus.

Interest & Commissions

1. To add an **interest** or a **commission**, click **Insert** in the **Interest & Commissions** section. The **Add Interest & Commission Item** page is displayed.
2. Select the banking product from the **Banking Product** list.
3. Enter the **Item Name**.
4. Enter the **Start Date** when the interest/ commission becomes effective and the **End Date** for the interest/ commission.
5. Fill in the following fields:
 - **Code:** Enter a code for this particular interest/ commission.
 - **Interest List:** Select from which list the interest is a part of.

- **Commissions List:** Select from which list the commission is a part of.
 - **Minimum Interest Rate (%):** Enter the percent applicable as a minimum interest rate at the contract level.
 - **Is Negotiable:** Select the checkbox to specify that every interest, commission or margin field at the contract level is negotiable and can be edited.
6. Click the **Save and Reload** button.
 7. In the **Interest & Commission Item Filters** section, click **Insert** to insert an [item filter](#).
 8. Select a filter created earlier in the "[Product Filter](#)" on [page 472](#).
 9. Set the following fields:
 - **Value/ Date:** Select the beginning value/ date for the filter.
 - **Until Value/ Until Date:** Select the maximum value/ date for the filter.
 - **Description:** This field is automatically filled in after clicking the **Save and Reload** button. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter Entity:** Entity on which the filter was defined.
 - **Description:** It is left blank. Add a description if needed.
 - **Grid of Options:** This field is automatically filled in after clicking the **Save and Reload** button. The values of the option set are displayed. Select the Boolean for the values you wish to include in the filter.
10. Click the **Save and Reload** button.

← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓ ✎

Value 1 Until Value 50,000

Description

AL_Amount > 1 - 50000

Insurances

For any banking product, you can select a pre-existing insurance or create a new one.

- To add a new **insurance**, in the **Insurances** section, Click the **Insert** button and set the following fields:
 - **Banking Product:** Select the banking product.
 - **Code:** Insert a code for this particular insurance.
 - **Item Name:** Insert a name.
 - **Start Date:** Enter the start date when the insurance becomes effective.
 - **End Date:** Enter the end date for the insurance.
 - **Details:** It is left blank. Add a description if needed.
 - **Insurance List:** Select from which list the insurance is a part of.
- Click the **Save and Reload** button.
- In the **Insurance Item Filters** section, click **Insert** and fill in the following fields:

- **Filter:** The name inserted earlier.
- **Value:** The starting value for the attribute.
- **Until Value:** The ending value of the interval.
- **Description:** Insert the proper description for the availability filter.

4. Click the **Save and Reload** button.

Discounts

For any banking product, you can add discounts of any nature. You can select a pre-existing discount or create a new one.

1. To add a new [discount](#), Click the **Insert** button in the **Discounts** section.
2. In the **Details Page**, insert the appropriate **Name** for the discount.
3. Choose one of the pre-configured types of discounts available in the **Discount** field, or create a new one. According to the selected type, new fields appear on the page requiring to be filled in.
4. Insert the value of the discount to be applied, e.g. 15.
5. Set the start date when the discount becomes effective (**Start date**), and the end date for the discount (**End date**).

6. Optionally, you can fill in the following fields:

- **Applied to dimension:** Specifies for which product dimension this discount is applicable (interest, commission or insurance). This is autocompleted by the selected discount's dimension.
- **Commission type:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission type this discount is applicable. This is autocompleted by the selected discount's default commission type.
- **Commission:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission this discount is applicable. This is autocompleted by the selected discount's default commission.
- **Insurance class:** This field appears if the selected discount = Discount Life Insurance or Interest Discount. Specifies for which insurance class this discount is applicable (credit, home, life or other insurance class). This is autocompleted by the selected discount's insurance class.
- **Insurance:** This field appears if the selected discount = Discount Life Insurance. Specifies for which insurance this discount is applicable. This is autocompleted by the selected discount's insurance.
- **Interest type:** This field appears if the selected discount = Interest discount. Specifies for which interest type this discount is applicable.
- **Use Banking Formula:** If you select this checkbox, the discount is calculated using the Banking Formula engine.

- **Is optional discount?** : Selecting this checkbox results in the discount being applied only if the customer agrees to the discount.
 - **Is percentage:** If you select this checkbox, the discount is calculated as a percentage from the contract's amount.
 - **Destination entity:** Select the entity where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
 - **Destination entity attribute:** Select the attribute where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
7. Click the **Save and Close** button.
 8. In the **Product Discount Item Filter** section, click **Insert** and fill in the fields as specified in the **Product Filter page**. The fields displayed depend on the selected filter.
 9. Click the **Save and Close** button.

Questions

You can choose one or more questions to add to the banking product, or insert a new one.

1. To insert a new **question**, in the **Questions** section, Click the **Insert existing** button, then click **Insert**.
2. In the **Add Banking Product Question** page, fill in the following fields:
 - **Question:** Enter the appropriate name.
 - **Answer Type:** Select the type of answer the customer has to give: text, numeric or option set.

- **Answer Entity:** Select the entity where the answer is stored.
- **Answer Field:** Select the attribute where the answer is stored.

3. Click the **Save and Reload** button.

The **Banking Products List** shows where the question is used.

IMPORTANT!

The question has to be activated in order for it to be added to the banking product.

4. Click the **Save and Close** button.

For example, this is how a question is displayed in a customer journey in the FintechOS Portal:

The screenshot displays a mobile application interface. At the top, a navigation bar shows 'CURRENT STATUS: INITIALIZED' and 'NEXT STATUS: CHOOSE STATUS'. Below this is a blue header for 'EDIT LOAN APPLICATION'. The main content area is titled 'Eligibility Questions' and contains the text: 'We ask for this information so that we can carry out the checks needed to consider you for a mortgage'. There are three input fields: 'DEPOSIT SOURCE' with a dropdown menu showing 'Select...', 'RETIREMENT DATE' with a date picker, and 'RETIRED' with radio buttons for 'Yes' and 'No'. A blue 'Fresh' button is located at the bottom right of the form.

5. Configure Product Formula Engine

The **Product Formula Engine** tab keeps formulas built with [Formula Engine](#) for the banking product. Such formulas can be used to determine the eligibility of a customer.

Banking Product Formulas

In the **Banking Product Formulas** section, choose an already defined formula or click **Insert** to configure a new one, for example a formula for eligibility or scoring purposes. For information on how to build a formula, see [Define Formula Inputs](#).

1. In the **Add Banking Product Formula** page, fill in the following fields:

- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

The name of the banking product is inserted automatically in **Banking Product**.

- After selecting the desired formula, click **Save and reload**, then click **Map Data**.
- In the **Formula Mapping** page, click **Input** and configure the input data for the formula.
- Click **Output** and configure the output for the formula.

- Click the **Save and Close** button.

Such formulas can be used in customer journey steps, for example when the customer inserts their financial data.

Test Scenarios

A good practice is to test the formula before displaying it in a customer journey. You can do that in the **Test Scenarios** section:

1. Click the **Insert** button to open the **Add Test Scenario** page.
2. Insert a **Test Scenario Type** from the option set. The keys and the values are shown.
3. Click the **Save and Reload** button.
4. Click the **Calculate** button. The outputs are displayed in the **Test Scenario Outputs** section.
5. You can save these outputs by selecting the **Save Output Data** checkbox next to **Calculate**.

6. Add Documents

You can manage all the attached documents available for a product and all the agreements that a customer needs to go through in the **Documents** tab.

The screenshot shows the 'Documents' tab selected in the top navigation bar. Below the navigation bar, there are two main sections: 'Banking Product Documents' and 'Banking Product Agreements'.

Banking Product Documents: This section has a toolbar with '+ Insert', 'X Delete', '■ Export', and '↻ Refresh'. Below the toolbar, there is a 'Report' checkbox and three search filters: 'Banking Copies No' (with a search icon and input field), 'Operation Code' (with a search icon and input field), and 'Code' (with a search icon and input field). Below the filters, there is a table with the following data:

Status overview of the queues	2	TC
No data		

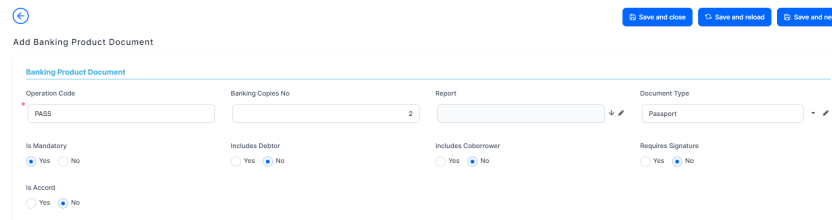
Banking Product Agreements: This section has a toolbar with '+ Insert', 'X Delete', '■ Export', and '↻ Refresh'. Below the toolbar, there is a search filter 'Code' (with a search icon and input field). Below the filter, there is a table with the following data:

No data
No data

Banking Product Documents

Any previously associated documents are displayed in the **Banking Product Documents** section.

1. To attach a new document to the banking product, in the **Banking Product Documents** section, click **Insert**. The **Add Banking Product Document** page is displayed.



⏪ Save and close Save and reload Save and new

Add Banking Product Document

Banking Product Document

Operation Code Banking Copies No Report Document Type

Is Mandatory ☒ Yes ☐ No Includes Debtor ☐ Yes ☒ No Includes Coborrower ☐ Yes ☒ No Requires Signature ☐ Yes ☒ No

Is Accord ☐ Yes ☒ No

2. Set the following fields:
 - **Operation Code:** Enter a code for the document.
 - **Banking Copies:** Insert the number of copies made.
 - **Report:** Select a document from the list.
 - **Document Type:** Select a document type from the list.
 - **Is Mandatory:** Select if the document is mandatory.
 - **Includes Debtor:** Select if the document includes the debtor.
 - **Includes Coborrower:** Select if the document includes the co-borrower.
 - **Requires Signature:** Select if the document requires to be signed.
 - **Is accord:** Select if the document represents the accord.
3. Click the **Save and Reload** button.

Banking Products Agreements

The agreements that a customer needs to go through are displayed in the **Banking Products Agreements** section.

1. To attach a new agreement to the banking product, in the **Banking Products Agreements** section, click **Insert**. The **Add Banking Products Agreements** page is displayed.

2. Fill in the following fields:
 - **Agreements:** Select an agreement from the list.
 - **Banking Product:** It is automatically filled in.
 - **Code:** Insert the corresponding code.
 - **Is Mandatory:** Select if the agreement is mandatory for the product.
3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the [Digital Document Processor](#).

7. Configure Lean Core Settings

NOTE

The **Lean Core Settings** tab is available only when Banking Product Factory is implemented along with Core Banking.

Transactions types that are performed to and from a banking product are displayed in the **Lean Core Settings** tab. The tab also holds information about the reconciliation account associated with the products, mandatory roles for contract approval, payment allocation settings, the treatment of returned goods for contracts based on this banking product (only for Term Loans and Mortgage banking products), and closing contract settings.

The screenshot displays the 'Lean Core Settings' tab in the Banking Product Factory. The 'Self Bank Account Associated With The Product' section is active, showing a 'Reconciliation Account' dropdown set to 'Reconciliation EUR' and a 'Negative balance treatment' dropdown set to 'NoMessage'. Below this, there are sections for 'Mandatory Roles for Contract Approval' (with buttons for Insert, Delete, Export, Refresh), 'Allowed Transactions' (with buttons for Insert existing, Remove existing), and 'Closing Contract Settings' (with checkboxes for Buffer Close Days, Close Real Time, and Closing Is Flexible, and a checkbox for Contract Is Closed Automatically).

Reconciliation Account Associated With The Product

1. In the **Self Bank Account Associated with the Product**, for each banking product, you must select a reconciliation account, which is the bank account to be used for transactions, for money movements.

Self Bank Account Associated With The Product

Reconciliation Account Negative balance treatment

Reconciliation EUR NoMessage

NOTE

This account must have the same currency as the product, because the conversions are performed from and into this account.

2. Select a value for the **Negative Value Treatment** drop-down to specify how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a

disbursement event would be approved. The possible values are:

- **Error** - there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero. Select this value if you want to block any transactions that would result in a negative balance of the reconciliation account associated to the banking product.
- **Warning** - there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- **NoMessage** - there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.

NOTE

Core Banking also has a system parameter, `ReconciliationAccountTreatment`. That is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value). Thus, if the value is specified

at the banking product level, then that value takes precedence over the system parameter's setting.

If you associate the same reconciliation account to more than one banking product, then the setting selected in banking product A is applied for contract events based on banking product A, while for the banking product B, Core Banking would apply the setting selected at the level of banking product B.

Payment Allocation Settings

In the **Payment Allocation Settings** section you can decide which allocation method should be used to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on. You can also define the grace period settings.

Payment Allocation Settings

Repayment Allocation Method	Grace Days for Repayment	Penalty for grace period
<div>CostOrder</div> <div>↓ ✎</div>	<div>5</div>	<input type="checkbox"/>
Direct Debit Settlement Account		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Payment Allocation Method:** The payment allocation method represents the recovery order of amounts from payment notifications. Select a payment allocation method from the list.
- **Grace Days for Repayment:** Insert the number of days for which the bank expects a payment without calculating penalty.

- **Penalty for grace period:** If you select the checkbox, the penalty interest is applied on the loan contract without taking into consideration the grace period defined at contract level, being calculated for the difference between system date - due date, if the grace period passed and the customer didn't pay the due amounts. If you leave this checkbox unselected, the penalty interest is applied on the loan contract taking into consideration the grace period defined at contract level, being calculated for system date - due date + grace days for repayment.
- **Direct Debit Settlement Account:** If you select the checkbox, the banking product has the automated settlement of repayment notification functionality (the payment allocation) turned on by default at the contract level. You can turn the automated settlement off either at the banking product level or at the contract level in Core Banking. Default value: true.

NOTE The automated settlement of repayment notification, or direct debit settlement account, is the functionality whereby, if funds are available on the settlement account and the contract has repayment notifications pending for recovery, Core Banking automatically uses the available balance up to full settlement of repayment notifications.

In Core Banking, the automated settlement of Installment type repayment notification

functionality (the payment allocation) can be turned on or off, thus allowing the financial institution to manage the contracts in case of blocked accounts and control the allocation of funds to outstanding notifications in case of need to impose a block on the settlement account, or manage the settlement of multiple loans from the same settlement account when short on funds and exceptional rules might apply.

If the functionality is turned off, the contract is pending for manual allocation. You can turn it back on and leave Core Banking to allocate the funds according to its automated processes, using any funds that become available in the settlement account in order to cover pending notifications.

2. Click the **Save and Reload** button.

Mandatory Roles for Contract Approval

In the **Mandatory Roles** section you can add the roles of the participants that are mandatory to exist at the contract level for contracts based on this banking product. In other words, when creating contracts based on banking products with Merchant role in this section, you must add a customer with the same Merchant role as contract participant, otherwise, the contract cannot be approved. When **Search Limit** is selected for a role on a banking

product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role, in this case Merchant Exposure.

Mandatory Roles for Contract Approval

+ Insert

× Delete

Export

Refresh

☐

Role

Search Limit

(All)

Beneficiary

☐

1. In the **Mandatory Roles** section, click **Insert** and fill in the following fields:

⬅

Save and close

Save and reload

Save and new

Add Mandatory Role

Main Information

Banking Product

Duplicate

Role

Merchant

Search Limit

☒

- **Banking Product:** The banking product for which you define mandatory roles. This is automatically completed with the current banking product.
- **Role:** Select the role of the participants that are mandatory to exist at the contract level for contracts based on this banking product.
- **Search Limit:** When Search Limit is selected for a role on a banking product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role. If you select a role not associated with a customer limit type in Core Banking, the Search Limit field becomes read-only and unselected.

2. Click the **Save and Reload** button.

Return Of Goods

In the **Return Of Goods**, you can define whether a contract based on the banking product can have Returned Amount or Goods transactions or not, and the specific conditions for these transactions. The Returned Amount or Goods transaction type can be used when a customer returns all or part of a loan or mortgage in a short while after contract creation, if the banking product was defined to allow such transactions. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.

Return Of Goods

Allow Return Of Goods	Accepted Days For Return	Return Message
<input checked="" type="checkbox"/>	<input type="text" value="15"/>	<input type="text" value="Warning"/>

1. Fill in the following fields:

- **Allow Return Of Goods:** Select this checkbox if the contracts based on this banking product accept Return of Goods transactions. Default value: False. If selected, the Accepted Days For Return and Return Message fields are displayed, otherwise, these fields are not visible.
- **Accepted Days For Return:** Specify the number of days after contract creation during which the return of goods transaction can be created and approved.
- **Return Message:** Select the behavior of messages generated by Core Banking for situations when the Returned Amount or Goods transaction's approval date + the number of accepted days for return \geq the current date. Possible values are taken from the Warning Error Treatment option set. According to the desired behavior, choose:

- Error, if the transaction should not be approved and an error message should be displayed;
- Warning, if the transaction can be approved, but a warning message should be displayed;
- NoMessage, if the transaction can be approved without any messages.

2. Click the **Save and Reload** button.

NOTE If Allow Return Of Goods = True, then the Returned Amount of Goods transaction is automatically added to the **Transaction Types** section.

Closing Contract Settings

In the **Closing Contract Settings** section, you can configure the default closure settings for contracts based on this banking product.

Closing Contract Settings

Buffer Close Days	Close Real Time	Closing Is Flexible
<input type="text" value="10"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Is Closed Automatically		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Buffer Close Days:** Enter the number of days used as buffer before automatically closing the contract when the contract reaches maturity and its balance reaches zero. If Buffer Close Days > 0, then Contract Is Closed Automatically = False.

- **Close Real Time:** If you select this checkbox, the contract based on this banking product is closed in real-time, when the contract reaches maturity and its balance reaches zero, without waiting for the end of day processes. If `Close Real Time = True`, then `Buffer Close Days = 0` and `Contract Is Closed Automatically = True`.
- **Closing Is Flexible:** If you select this checkbox, the closure details of the contract based on this banking product can be modified at the contract creation.
- **Contract Is Closed Automatically:** If you select this checkbox, the contract based on this banking product is closed automatically at maturity, if the balance reaches zero. If `Contract Is Closed Automatically = False`, then `Close Real Time = False`.

2. Click the **Save and Close** button.

Allowed Transactions

Banking Product Factory automatically displays in the **Allowed Transactions** section the transaction types associated at the selected banking product type level. If you need to associate other transaction types with the selected banking product, follow these steps:

1. Click **Insert existing** and select the desired transaction types to be associated.
2. Double-click a selected transaction type to edit it.

Settings

Name: Disbursement Transaction Code: DSB Process Type: Disbursement Edit Form: FTOS_CB_EventDisbursement Transaction Operation Type: Disbursement Is System Transaction: ☐

Is Automatic Transaction: ☐ Real Time Process: ☐ Only One Draft: ☒ Generate New Contract Version: ☐ Commission Type: Return Commission Type:

Is Clueback Transaction: ☒

Accounting Configurations

Generates Accounting Entry: ☒ QL Master Entry: FTOS_CB_ContractEvent

Purge Configurations

To Be Purged: ☒ Purge Number of Days: 30 Master Purge Entity: FTOS_CB_ContractEvent

Transaction Value Types

Transaction Type	Type	Value Type Name	Is Header	Value Type Attribute
Disbursement	Numeric	EventValue	<input checked="" type="checkbox"/>	eventValue
Disbursement	Text	ContractEventId	<input type="checkbox"/>	FTOS_CB_Contr...

Transaction Item Accounting Configurations

Transac...	Accounting...	Accounting...	Chart Acco...	Currency	Operational...	Take From ...
Disburse...	0001	OFFBLoa...	90300 C...			
Disburse...	0001	Provision...	66211 Im...			

3. In the **Edit Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE There is no integration at this point with a payment gateway.

- **Edit Form:** Select the form used to edit this transaction type. You can choose only from the forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.

- **Is System Transactions:** If you select this checkbox the transaction is marked as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting.
- **Is Automatic Transaction:** If you select this checkbox here, then you cannot select it within the contract operations. The **Is Automatic Transaction** checkbox marks the transaction as automatic.
- **Real Time Process:** This checkbox marks the transaction as to be processed in real-time. If selected, then the transaction is processed right away. If not selected, then the transaction is inserted as a [bank account transaction queue](#) record.
- **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
- **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
- **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
- **Return Commission Type:** Select the return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
- **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.

4. In the **Edit Transaction Type > Accounting Configurations** section, fill in the following fields:
 - **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.
5. In the **Edit Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If you select it, you can purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
6. You can also edit the information in the **Transaction Value Types, Transaction Item Accounting Configurations** and **Transaction Accounting Models** sections. Read more details about Transaction Types in the [Operational Ledger](#) User Guide.
7. Click the **Save and Close** button.

Transaction types typically used for bank accounts

- **Top Up Account** - If added at banking product level, the customer is allowed to make top ups at the contract level. When a top up transaction is recorded in a contract, at the next maturity date the customer receives the interest for the initial amount up until the top up date, plus the interest for the full amount (initial amount + top up amount) proportional from top up to payment date.
This transaction type is automatically added in the **Associated Transactions** tab if Allow Top Ups was selected in the [Details tab](#).
- **Withdraw** - If added at banking product level, the customer is allowed to make withdrawals at the contract level.
This transaction type is automatically added in the **Associated Transactions** tab if Allow Withdrawals was selected in the [Details tab](#).
- **Transfer between my bank accounts** - If added at banking product level, the customer is allowed to move funds between their accounts at the contract level.
This transaction type is automatically added in the **Associated Transactions** tab if Allow Withdrawals was selected in the [Details tab](#).
- **Accruals and Provisions** - System transaction.
If added at banking product level, the accruals and provisions for contracts can be calculated on a daily basis.
This transaction type is not added automatically.
Make sure you insert it in the **Associated Transactions** tab.

- **Revert Transfer between my bank accounts**
- System transaction. If added at banking product level, transfers between the same customer's bank account can be reverted after being performed. This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

NOTE

If you selected the **Allow Top Ups** and **Allow Withdrawals** checkboxes within the **Details** tab, then the Top Up Account, Transfer between my bank accounts and Withdraw transaction types are automatically attached in the **Associated Transactions** tab.

8. View History

You can find the versions of the banking product, their workflow status and the user who modified the product in the **History** tab.

1 Main Info	2 Details	3 Availability	4 Dimensions	5 Product Formula Engine	6 Documents	7 Lean Core Settings	8 History	9 Origination Elements	10 GL Settings
-------------	-----------	----------------	--------------	--------------------------	-------------	----------------------	-----------	------------------------	----------------

History				
<input type="button" value="Refresh"/> <input type="button" value="Export"/>				
<input type="checkbox"/>	Label	Name	attributeVersionDate	attributeVersion
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
				Modified by user
				<input type="text"/>
	Draft	Duplicate	19/04/2022 10:29	1

Here you can track the product's life cycle and review older versions that are no longer active (for details, see [Banking Products' Life Cycle](#)).

9. Manage Origination Elements

You can set the elements required in the origination journey, such as product benefits, display conditions, features, destination types, or associated products in the **Origination Elements** tab.

The screenshot shows the 'Origination Elements' tab in the Banking Product Factory user interface. The interface is divided into several sections:

- Product Image:** A text box containing 'ProductPIC.JPG' with a red 'x' icon and an 'Add file' button.
- Document:** A text box containing 'ProductPresentationDoc.pdf' with a red 'x' icon and an 'Add file' button.
- Benefits:** A rich text editor with a menu bar (File, Edit, Insert, View, Format, Table, Tools) and a text area containing 'Quick Approval' and 'Low Interest Rates'.
- Display Conditions:** A rich text editor with a menu bar (File, Edit, Insert, View, Format, Table, Tools) and an empty text area.
- Product Features:** A table with columns 'Feature', 'Display Name', and 'Show Order'. It contains one row: 'NMNGTFEES', 'No Management ...', and '1'. Buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh' are above the table.
- Product Destination Types:** A table with columns 'Display Name' and 'Show Order'. It contains one row: 'Personal' and '1'. Buttons for '+ Insert existing' and 'X Remove existing' are above the table.
- Associated Products:** A table with columns 'Name' and 'Show Order'. It contains one row: 'Current Account USD' and '1'. Buttons for '+ Insert existing' and 'X Remove existing' are above the table.

- Fill in the following fields:
 - Product Image:** Insert an image representative for the product.
 - Document:** Insert the document representative for the product.
 - Benefits:** Insert the advantages of owning the banking product. You can format the text in the text editor window.
 - Display Conditions:** Insert the conditions for the applicant, e.g. age limit, annual turnover, education level, income, registration documents.
- Click the **Save and Reload** button.

Product Features

In the **Product Features** section, you can insert, delete or export features.

- To add a feature, Click the **Insert** button and fill in the following fields:

- **Feature:** Enter the name of the product feature.
 - **Is Main Feature:** Select the checkbox if it is the major feature.
 - **Display Name:** Enter the display name of the feature.
2. Click the **Save and Reload** button.

Product Destination Types

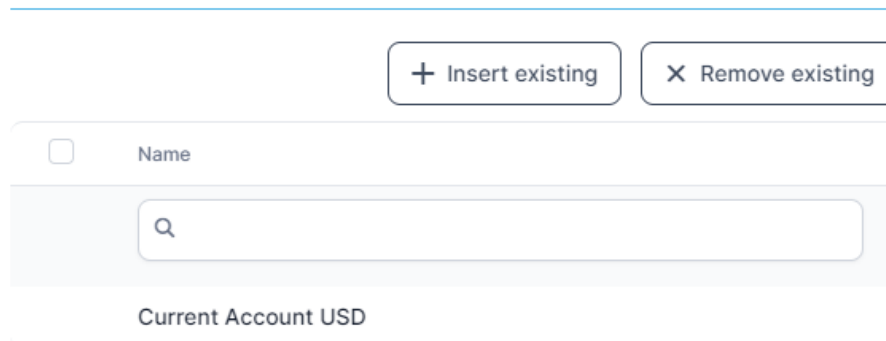
In the **Product Destination Types** section , you can insert or remove the existing product destination types:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. To create a new destination type, insert a name and specify if it is default. For this case, the following have been configured: **Loan Collateral, Loan disbursements, Personal, Repayments.**

Associated Products

In the **Associated Products** section you can insert or remove an existing products. It is especially useful when you wish to create a link between two products.

Associated Products



The screenshot shows the 'Associated Products' interface. At the top, there are two buttons: '+ Insert existing' and 'X Remove existing'. Below these is a search bar with a magnifying glass icon. Under the search bar, a list of products is displayed, with 'Current Account USD' visible at the bottom.

To insert or remove a product from the list or create a new one:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. Click the **Save and Reload** button.

10. Configure Operational Ledger Settings

NOTE

The **OL Settings** tab is available only when Banking Product Factory is implemented along with **Operational Ledger Add-On**.

In the **Banking Product GL Accounts** section, you can set specific accounts to be used by the Operational Ledger system for transactions performed on contracts based on this banking product. Thus, you can overwrite the generic settings of the Operational Ledger, instructing it to use the accounts specified at banking product level.

Product	Accounting System	Accounting Scope	Item	GL Account
Duplicate	0001	FixDeposit	Loan Admin Fee	20110 Commercial loans

1. To add specific accounts to be used by **Operational Ledger**, click **Insert** and fill in the following fields in the displayed **Add Banking Product GL Account** page::

- **Product:** Select from the list the banking product. Automatically completed with the banking product you are currently editing.

- **Accounting System:** Select from the list the desired accounting system. The list contains the records created in the Accounting System entity.
 - **Accounting Scope:** Select from the list the corresponding accounting scope. The list contains the records created in the Accounting Scope entity.
 - **Item:** Select from the list the corresponding transaction item. The list contains the records created in the Transaction Item Accounting Config entity.
 - **GL Account:** Select from the list the corresponding GL account. The list is filtered based on the previously selected accounting system. It contains the accounts defined in the Accounting Chart entity that were added to the chosen accounting system record.
2. Click the **Save and Reload** button.

Current Accounts with Overdraft

A current account with an attached overdraft functionality allows customers to withdraw funds from the account even if the available balance goes below zero. If there is a prior agreement with the account provider for an overdraft, and the amount overdrawn is within the authorized overdraft limit, then interest is normally charged at the agreed rate. If the negative balance exceeds the agreed terms, then additional fees may be charged and higher interest rates may apply. The customer may use the account beyond their available balance (credit balance) and may have a debit balance as low as the approved overdraft/ limit. The overdraft can be added on top of existing current accounts.

Creating Current Accounts with Overdraft

To create a new current accounts with overdraft from scratch, navigate to main menu > **Banking Product Factory** > **Banking Products**, and click the **Insert** button. A new page opens, with a series of tabs that assist you in configuring the banking product.

Or, you can create banking products directly from the [product category](#) level, allowing Banking Product Factory to automatically fill in the information inherited from the product category.

NOTE

Alternatively, you can create a current account with overdraft by [duplicating](#) an existing one. Click the **Duplicate** button on the **Banking Products List** page. Make sure you change the **Banking Product Code** and **Name** according to your business needs.

1. Enter Basic Information

You can set the basic elements for creating the product, such as name, code, currency, validity, or product classification, in the **Main Info** tab.

NOTE

Your product type selection influences the next steps and many of the fields are automatically completed with values inherited from the selected product type definition. For current accounts with overdraft functionality, select the **Current Account Overdraft** option in **Banking Product Type**.

Main Information

1. In the **Main Information** section, select the **Banking Product Type** from the available list.

NOTE

If you choose to create banking products directly from the [product category](#) level, then Banking Product Factory automatically fills in the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

2. The **Currency** is automatically completed from the default value defined within the "[DefaultCurrencyBankingProduct](#)" on [page 506](#) Banking Product Factory system parameter. You can change it for the newly created product by selecting another currency from the drop-down list.
3. Banking Product Factory automatically generates the code based on the code of the product type + a sequencer. For example, the TLU854 code corresponds to a banking product based on an Unsecured Loan product type. You can modify the product code in the **Banking Product Code** field. It can have 10 characters.
4. Set the product validity by selecting the date when the product becomes available (**Start Date**) and the last date from when the product is available (**End Date**).
5. Enter the product **Name**.
6. Optionally you can set the following fields:
 - **External Code:** Select the code of the product imported from an external system, if applicable. It can have 10 characters and it is not used in the contract.
 - **Description:** Enter any description or additional text related to your new product.

- **Class, Subclass, Category, and Subcategory:** Select the desired values to set the desired hierarchy for your product. For more information, see ["Product Hierarchy" on page 406](#)
7. Click the **Save and Reload** button. The product is now saved and you can further edit it for your needs.

Product Classification

After saving the product, the **Product Classification** section is populated with more options for your product. You can insert or remove existing product classification items.

1. To add a product classification item, click **Insert Existing** and select an already existing item.

Product Classification

<input type="checkbox"/>	Code	Name	Classification Type	Valid From	Valid To
<input type="checkbox"/>	REG1	Classification ...	Regulatory	01/01/2020	31/12/2030

2. You can also create a new product classification item by clicking the **Insert existing** button and then the **Insert** button.
3. On the newly displayed **Add Product Classification** page, fill in the fields:

⏪ ✓

Add Product Classification

Main Information

Name	Code	Valid From	Valid To	Classification Type	Is Default
Classification Restructuring Level	RESTRUCT1	20/04/2022	30/04/2028	Restructuring	<input type="checkbox"/>

[Classified Banking Products](#)

- **Name:** Enter the name of the classification item.
- **Code:** Enter the unique code of the classification item.

- **Valid From:** Select the date from which the product classification item is valid.
- **Valid To:** Select the date until when the product classification item is valid.
- **Classification Type:** Choose the classification type of the item. Possible values: Regulatory, Restructuring.
- **Is Default:** Select the checkbox if this classification item is default.

The **Classified Banking Products** section is displayed after you save the classification item record and allows you to insert existing banking products. The following information is displayed here: **Code, Name, Class, SubClass, Category, SubCategory** and **Status**.

For more information on how to create a new product classification, see [Banking Product Classification](#).

4. Click the **Save and Reload** button.

2. Add Details

You can set elements such as interest, payment type or product destination types in the **Details** tab. Most of the values within this tab, already completed, are inherited from the selected banking product type level definition, but you can change them according to your needs.

Product Behavior

1. In the **General Data** section, set the following fields:
 - **Auto Rollover:** If the checkbox is selected here at banking product level, the contract is renewed at maturity date in exactly the same conditions. If the checkbox remains unchecked, the contract is automatically closed at maturity date.
 - **Allow Top Ups:** Select if the amount can be topped up with a sum of money.

NOTE

If you select the **Allow Top Ups** checkbox, the Top Up Account transaction is automatically loaded in the **Allowed Transactions section**, which means that the customer is allowed to make top ups at the contract level. When a top up transaction is recorded in a contract, at the next maturity

date the interest is calculated for the initial amount up until the top up date, plus the interest for the full amount (initial amount + top up amount) proportional from top up to payment date.

If you do not select the **Allow Top Ups** checkbox, the top up transaction is not allowed at the contract level.

- **Allow Withdrawals:** Select if the customer can take out money for this product.

NOTE

If you select the **Allow Withdrawals** checkbox, the Withdraw and Transfer between my bank accounts transactions are automatically loaded in the **Allowed Transactions section**, which means that the customer is allowed to make withdrawals at the contract level.

If you do not select the **Allow Withdrawals** checkbox, the Withdraw and Transfer between my bank accounts transactions are not loaded, thus these transaction types are not allowed at the contract level.

- **Allow negotiated IR:** Select if the interest rate is negotiable for this product at the contract level.

NOTE

If you select the **Allow negotiated IR** checkbox, the Total Interest Rate field from the banking contract is automatically completed with the value configured on the banking product, but it is editable, so that the bank can change this value and insert the negotiated one.

If you do not select the **Allow negotiated IR** checkbox, the Total Interest Rate field from the banking contract is automatically completed with the value configured on the banking product, but the value is read-only and cannot be changed.

- **Allow Overdraft:** Only displayed for current account type bank accounts. This is where you specify that the account has an overdraft functionality attached to it, so select the checkbox. The [Payment Schedule Types section](#) is displayed after selecting this checkbox.
- **Interest is capitalized:** Only applicable if there is an interest rate.

NOTE

If you do not select the **Interest is capitalized** checkbox, the interest is paid in the account specified on the contract.

If you select the **Interest is capitalized** checkbox, then the interest is added over the product amount, so that on the next

payment date the customer receives the interest applied on both interest and product amount.

- **Interest Payment Type:** Select the regularity of interest payments: Monthly, Maturity, Yearly, Daily or Quarterly.

NOTE

If you select the **Allow Top Ups** and **Allow Withdrawals** checkboxes, then the Top Up Account, Transfer between my bank accounts and Withdraw transaction types are automatically attached in the **Lean Core Settings** tab.

2. Click the **Save and Reload** button.

Payment Schedule Types

1. Select the regularity of payments in the **Periodicity Type**. You can choose: **Once** (the whole amount is paid at maturity), **Weekly, Monthly, Bimonthly, Trimestrial, 4 Weeks, Semestrial, Annual** or **30Days**.

NOTE

If the measurement unit of the selected Periodicity Type = Days, then Holiday Shift

For Repayment Installments = False and it cannot be changed.

2. Optionally, in the **Period Type**, you can select the period of availability for the product: **Days, Weeks, Months, Years** or **Once**.

NOTE

The period type must be the same as the measurement unit of the Periodicity Type.

3. Click the **Save and Reload** button.

Schedule Templates

In the **Schedule Templates** section, you can associate/ delete payment schedule types to/ from the banking product.

Schedule Templates

<input type="checkbox"/>	Name
<input type="checkbox"/>	Credit Card Installments
<input type="checkbox"/>	One principal installment

1. To associate a payment schedule type to the banking product, click **Insert Existing** and select one of the already defined types. Go to "[Payment Schedule Types](#)" on [page 413](#) to read more about this.

IMPORTANT!

When creating a new Term Loan, Mortgage, or Overdraft banking product, you must select at least one payment schedule type, otherwise you can't approve the product. If the **Schedule Templates** section has no records, an error message is displayed upon transitioning the product into the **Approved** status.

2. Click the **Save and Reload** button.

Holiday Settings

In the **Holiday Settings** section, the following fields are available:

Holiday Settings

Holiday Shift For Repayment Installments



Defer Due Date



Holiday Shift Method

Forward

Country Calendars

+ Insert existing

✕ Remove existing



Name



Romania

1. Select the **Holiday Shift For Repayment Installments** checkbox for holidays to be taken into consideration when calculating the maturity program.

NOTE

The **Country Calendars** section and the **Defer Due Date** and **Holiday Shift Method** fields appear if you select the **Holiday Shift For Repayment Installments** checkbox.

The **Defer Due Date** option is select by default. If selected, the payment schedule calculates the next payment amount as if the due date has not changed even when the due date falls on a holiday.

2. From the **Holiday Shift Method**, you can select the method to be used when calculating the due date if that date falls on a holiday. The due date can be shifted before or after the holiday. The possible values you can choose are:
 - **None** - the due date is not shifted.
 - **Forward** - the due date is shifted to the next working day after the initially calculated due date.
 - **Backward** - the due date is shifted to the last working day before the initially calculated due date.

Default value: Forward.

Country Calendars

In the **Country calendars** section, you can insert or delete calendars. You can work with multiple calendars as well. To insert a calendar:

1. Click the **Insert Existing** button and add the country's name. If the maturity date coincides with a holiday, it is allocated automatically on the next business day.
2. Click the **Save and Reload** button.

3. Configure Availability

You can determine the monetary range and the time frame when the product is available for customers in the **Availability** tab.

Product Availability

Minimum Amount: 1,000 Maximum Amount: 100,000 Minimum Period: Maximum Period:

Start Period For Unusage After Activation(Months): 3 Expire period for Overdraft (Months): 5

Availability Rules

Product Availability Item Filters Product Covenants

Buttons: + Insert, X Delete, Export, Refresh

Tables:

Description
Q

Type	Covenant	Valid From	Valid to	Value
Q	Q	Q	Q	Q

Product Availability

- Fill in the following fields:
 - Minimum Period** and **Maximum Period:** Enter the minimum and maximum duration of the product mentioned in the contract.
 - Minimum Amount** and **Maximum Amount:** Enter the minimum and the maximum amount of the product for which the bank opens a contract.
 - Start Period For Unusage After Activation (Months):** Enter the number of months after contract activation when the amount unused from the contract starts to be charged with unusage fees.
 - Expire period for Overdraft (Months):** Enter the number of months after which the overdraft feature of the current account expires and the banking product starts behaving like a simple current account.
- Click the **Save and Reload** button.

Availability Rules

In the **Availability Rules** section you can select the item filters for your banking product.

Availability Rules

Product Availability Item Filters

+ Insert ✕ Delete 📄 Export 🔄 Refresh

☐ Description

CA >< 1 - 50000

1. Click the **Insert** button, the **Add Product Availability Item Filter** is displayed.
2. Select the desired filter from the Filter option.
3. Add the attributes of the selected filter.
4. Optionally, add a description for the added item filter.
5. Click the **Save and Reload** button.

For more details, see "[Product Filter](#)" on page 472.

Product Covenants

In the **Product Covenants** section you can set certain conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements.

Product Covenants

+ Insert ✕ Delete 📄 Export 🔄 Refresh

<input type="checkbox"/>	Type	Covenant	Valid From	Valid to	Value
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Affirmati...	Borrowers should perform tax obligations	19/04/2022	20/04/2030	
	Financial	Lender can monitor borrower's current r...	19/04/2022	20/04/2030	

1. Click the **Insert** button to add a covenant to the product. Each covenant can be attributed a value, an availability period, and a review frequency in months. Read more about covenants in the ["Covenant" on page 495](#) page.
2. Click the **Save and Reload** button.

4. Manage Dimensions

You can insert, delete or export interest, commissions, insurances, discounts or questions valid for your product in the **Manage Dimensions** tab.

The screenshot displays the 'Manage Dimensions' tab with the following sections:

- Interest & Commissions:** Includes an 'Item Name' search bar and buttons for Insert, Delete, Export, and Refresh. A sample entry 'MCA' is visible.
- Insurances:** Includes an 'Item Name' search bar and buttons for Insert, Delete, Export, and Refresh. A sample entry 'House Insurance' is visible.
- Discounts:** Includes an 'Item Name' search bar and buttons for Insert, Delete, Export, and Refresh. Below the search bar is a table with columns: Name, Discount, End Date, Start Date, and Value Discount. The table currently shows 'No data'.
- Questions:** Includes an 'Item Name' search bar and buttons for Insert existing and Remove existing. Below the search bar is a table with columns: Question and Business Status. The table shows two entries: 'Question1' with status 'Active' and 'Question2' with status 'Active'.

To add a new one, click **Insert** and fill-in the fields detailed in the sections below.

NOTE

To configure the interest and commissions separately, navigate to **Main > Product Factory > Banking Product Dimensions menu** which contains several other embedded menus.

Interest & Commissions

1. To add an [interest](#) or a [commission](#), click **Insert** in the **Interest & Commissions** section. The **Add Interest & Commission Item** page is displayed.
2. Select the banking product from the **Banking Product** list.
3. Enter the **Item Name**.
4. Enter the **Start Date** when the interest/ commission becomes effective and the **End Date** for the interest/ commission.
5. Fill in the following fields:
 - **Code:** Enter a code for this particular interest/ commission.
 - **Interest List:** Select from which list the interest is a part of.
 - **Commissions List:** Select from which list the commission is a part of.
 - **Minimum Interest Rate (%):** Enter the percent applicable as a minimum interest rate at the contract level.
 - **Is Negotiable:** Select the checkbox to specify that every interest, commission or margin field at the contract level is negotiable and can be edited.
6. Click the **Save and Reload** button.
7. In the **Interest & Commission Item Filters** section, click **Insert** to insert an [item filter](#).
8. Select a filter created earlier in the "[Product Filter](#)" on [page 472](#).
9. Set the following fields:

- **Value/ Date:** Select the beginning value/ date for the filter.
- **Until Value/ Until Date:** Select the maximum value/ date for the filter.
- **Description:** This field is automatically filled in after clicking the **Save and Reload** button. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter Entity:** Entity on which the filter was defined.
- **Description:** It is left blank. Add a description if needed.
- **Grid of Options:** This field is automatically filled in after clicking the **Save and Reload** button. The values of the option set are displayed. Select the Boolean for the values you wish to include in the filter.

10. Click the **Save and Reload** button.

← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓ ✎

Value 1 Until Value 50,000

Description

AL_Amount > < 1 - 50000

Insurances

For any banking product, you can select a pre-existing insurance or create a new one.

1. To add a new [insurance](#), in the **Insurances** section, Click the **Insert** button and set the following fields:
 - **Banking Product:** Select the banking product.
 - **Code:** Insert a code for this particular insurance.
 - **Item Name:** Insert a name.
 - **Start Date:** Enter the start date when the insurance becomes effective.
 - **End Date:** Enter the end date for the insurance.
 - **Details:** It is left blank. Add a description if needed.
 - **Insurance List:** Select from which list the insurance is a part of.
2. Click the **Save and Reload** button.
3. In the **Insurance Item Filters** section, click **Insert** and fill in the following fields:
 - **Filter:** The name inserted earlier.
 - **Value:** The starting value for the attribute.
 - **Until Value:** The ending value of the interval.
 - **Description:** Insert the proper description for the availability filter.
4. Click the **Save and Reload** button.

Edit Insurance Item

[Save and close](#) [Save and reload](#)

Main Information

Banking Product Code Item Name Insurance List Start Date End Date

Details

Insurance Item Filters

Discounts

For any banking product, you can add discounts of any nature. You can select a pre-existing discount or create a new one.

1. To add a new [discount](#), Click the **Insert** button in the **Discounts** section.
2. In the **Details Page**, insert the appropriate **Name** for the discount.
3. Choose one of the pre-configured types of discounts available in the **Discount** field, or create a new one. According to the selected type, new fields appear on the page requiring to be filled in.
4. Insert the value of the discount to be applied, e.g. 15.
5. Set the start date when the discount becomes effective (**Start date**), and the end date for the discount (**End date**).
6. Optionally, you can fill in the following fields:
 - **Applied to dimension:** Specifies for which product dimension this discount is applicable (interest, commission or insurance). This is autocompleted by the selected discount's dimension.
 - **Commission type:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission type this

discount is applicable. This is autocompleted by the selected discount's default commission type.

- **Commission:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission this discount is applicable. This is autocompleted by the selected discount's default commission.
- **Insurance class:** This field appears if the selected discount = Discount Life Insurance or Interest Discount. Specifies for which insurance class this discount is applicable (credit, home, life or other insurance class). This is autocompleted by the selected discount's insurance class.
- **Insurance:** This field appears if the selected discount = Discount Life Insurance. Specifies for which insurance this discount is applicable. This is autocompleted by the selected discount's insurance.
- **Interest type:** This field appears if the selected discount = Interest discount. Specifies for which interest type this discount is applicable.
- **Use Banking Formula:** If you select this checkbox, the discount is calculated using the Banking Formula engine.
- **Is optional discount?** : Selecting this checkbox results in the discount being applied only if the customer agrees to the discount.
- **Is percentage:** If you select this checkbox, the discount is calculated as a percentage from the contract's amount.
- **Destination entity:** Select the entity where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.

- **Destination entity attribute:** Select the attribute where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
7. Click the **Save and Close** button.
 8. In the **Product Discount Item Filter** section, click **Insert** and fill in the fields as specified in the **Product Filter page**. The fields displayed depend on the selected filter.
 9. Click the **Save and Close** button.

Questions

You can choose one or more questions to add to the banking product, or insert a new one.

1. To insert a new **question**, in the **Questions** section, Click the **Insert existing** button, then click **Insert**.
2. In the **Add Banking Product Question** page, fill in the following fields:
 - **Question:** Enter the appropriate name.
 - **Answer Type:** Select the type of answer the customer has to give: text, numeric or option set.
 - **Answer Entity:** Select the entity where the answer is stored.
 - **Answer Field:** Select the attribute where the answer is stored.
3. Click the **Save and Reload** button.

The **Banking Products List** shows where the question is used.

IMPORTANT!

The question has to be activated in order for it to be added to the banking product.

4. Click the **Save and Close** button.

For example, this is how a question is displayed in a customer journey in the FintechOS Portal:

The screenshot shows a mobile application interface for editing a loan application. At the top, there's a navigation bar with 'CURRENT STATUS: INITIALIZED' and 'NEXT STATUS: CHOOSE STATUS'. Below this is a modal window titled 'EDIT LOAN APPLICATION'. Inside the modal, the section is titled 'Eligibility Questions' with a subtext: 'We ask for this information so that we can carry out the checks needed to consider you for a mortgage'. The form contains three questions: 'DEPOSIT SOURCE' with a dropdown menu, 'RETIREMENT DATE' with a date picker, and 'RETIRED' with radio buttons for 'Yes' and 'No'. A 'Finish' button is located at the bottom right of the modal.

5. Configure Product Formula Engine

The **Product Formula Engine** tab keeps formulas built with [Formula Engine](#) for the banking product. Such formulas can be used to determine the eligibility of a customer.

The screenshot displays the 'Product Formula Engine' configuration interface. At the top, there's a navigation bar with tabs: 1 Main Info, 2 Details, 3 Availability, 4 Dimensions, 5 Product Formula Engine (selected), 6 Documents, 7 Loan Core Settings, 8 History, 9 Origination Elements, and 10 GL Settings. Below the navigation bar, there are two main panels. The left panel is titled 'Banking Product Formulas' and contains a table with columns: Name, Formula Type, and Formula. It has buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. The table lists one formula: 'CA' of type 'CommissionFormula' with the formula 'commissionByAmount'. The right panel is titled 'Test Scenarios' and contains a table with columns: Name and Test Formula Type. It also has buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. The table lists one scenario: 'Duplicate-19-04-2022_11-07-57' of type 'CommissionFormula'.

Banking Product Formulas

In the **Banking Product Formulas** section, choose an already defined formula or click **Insert** to configure a new one, for example a formula for eligibility or scoring purposes. For information on how to build a formula, see [Define Formula Inputs](#).

1. In the **Add Banking Product Formula** page, fill in the following fields:

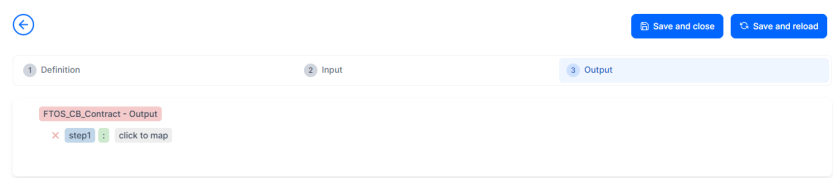
- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

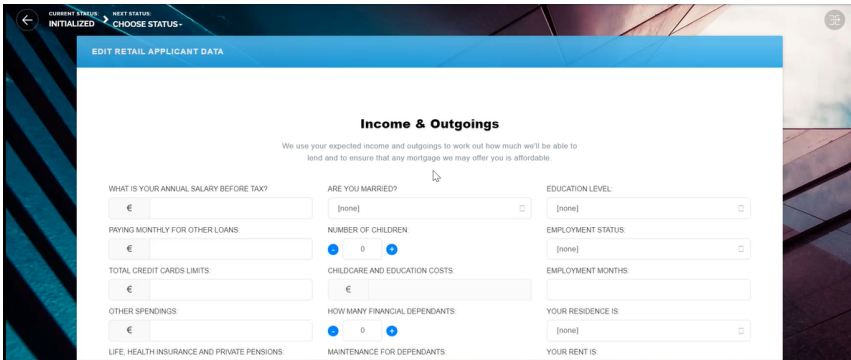
The name of the banking product is inserted automatically in **Banking Product**.

2. After selecting the desired formula, click **Save and reload**, then click **Map Data**.
3. In the **Formula Mapping** page, click **Input** and configure the input data for the formula.
4. Click **Output** and configure the output for the formula.

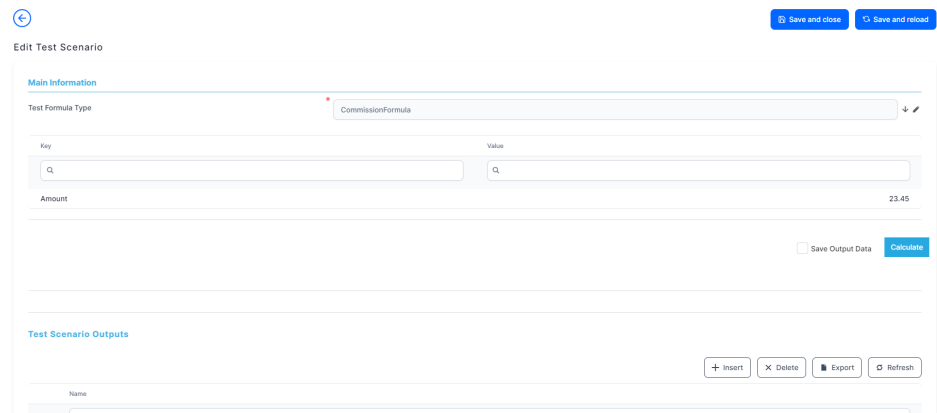


5. Click the **Save and Close** button.

Such formulas can be used in customer journey steps, for example when the customer inserts their financial data.



Test Scenarios



A good practice is to test the formula before displaying it in a customer journey. You can do that in the **Test Scenarios** section:

1. Click the **Insert** button to open the **Add Test Scenario** page.
2. Insert a **Test Scenario Type** from the option set. The keys and the values are shown.
3. Click the **Save and Reload** button.
4. Click the **Calculate** button. The outputs are displayed in the **Test Scenario Outputs** section.
5. You can save these outputs by selecting the **Save Output Data** checkbox next to **Calculate**.

6. Add Documents

You can manage all the attached documents available for a product and all the agreements that a customer needs to go through in the **Documents** tab.

The screenshot shows the 'Documents' tab in the Banking Product Factory interface. It contains two main sections: 'Banking Product Documents' and 'Banking Product Agreements'.

Banking Product Documents: This section has a toolbar with buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. Below the toolbar, there are three search filters: 'Report' (with a dropdown arrow), 'Banking Copies No' (with a search icon), and 'Operation Code' (with a search icon). Below these filters, there is a table with the following data:

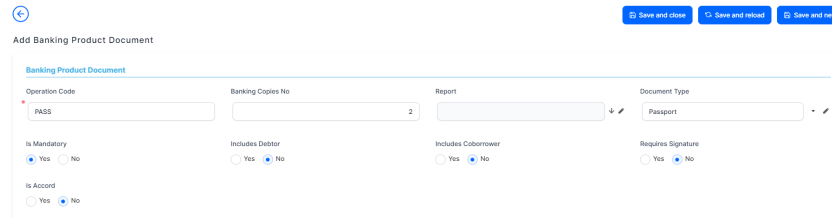
Report	Banking Copies No	Operation Code
Status overview of the queues	2	TC

Banking Product Agreements: This section has a toolbar with buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. Below the toolbar, there is a search filter 'Code' (with a search icon). Below this filter, there is a message: 'No data'.

Banking Product Documents

Any previously associated documents are displayed in the **Banking Product Documents** section.

1. To attach a new document to the banking product, in the **Banking Product Documents** section, click **Insert**. The **Add Banking Product Document** page is displayed.



⏪ Save and close Save and reload Save and new

Add Banking Product Document

Banking Product Document

Operation Code: PASS Banking Copies No: 2 Report: Document Type: Passport

Is Mandatory: ☒ Yes ☐ No Includes Debtor: ☐ Yes ☒ No Includes Coborrower: ☐ Yes ☒ No Requires Signature: ☐ Yes ☒ No Is Accord: ☐ Yes ☒ No

2. Set the following fields:
 - **Operation Code:** Enter a code for the document.
 - **Banking Copies:** Insert the number of copies made.
 - **Report:** Select a document from the list.
 - **Document Type:** Select a document type from the list.
 - **Is Mandatory:** Select if the document is mandatory.
 - **Includes Debtor:** Select if the document includes the debtor.
 - **Includes Coborrower:** Select if the document includes the co-borrower.
 - **Requires Signature:** Select if the document requires to be signed.
 - **Is accord:** Select if the document represents the accord.
3. Click the **Save and Reload** button.

Banking Products Agreements

The agreements that a customer needs to go through are displayed in the **Banking Products Agreements** section.

1. To attach a new agreement to the banking product, in the **Banking Products Agreements** section, click **Insert**. The **Add Banking Products Agreements** page is displayed.

2. Fill in the following fields:
 - **Agreements:** Select an agreement from the list.
 - **Banking Product:** It is automatically filled in.
 - **Code:** Insert the corresponding code.
 - **Is Mandatory:** Select if the agreement is mandatory for the product.
3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the [Digital Document Processor](#).

7. Configure Lean Core Settings

NOTE

The **Lean Core Settings** tab is available only when Banking Product Factory is implemented along with Core Banking.

Transactions types that are performed to and from a banking product are displayed in the **Lean Core Settings** tab. The tab also holds information about the reconciliation account associated with the products, mandatory roles for contract approval, payment allocation settings, the treatment of returned goods for contracts based on this banking product (only for Term Loans and Mortgage banking products), and closing contract settings.

Reconciliation Account Associated With The Product

1. In the **Self Bank Account Associated with the Product**, for each banking product, you must select a reconciliation account, which is the bank account to be used for transactions, for money movements.

NOTE

This account must have the same currency as the product, because the conversions are performed from and into this account.

2. Select a value for the **Negative Value Treatment** drop-down to specify how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a

disbursement event would be approved. The possible values are:

- **Error** - there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero. Select this value if you want to block any transactions that would result in a negative balance of the reconciliation account associated to the banking product.
- **Warning** - there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- **NoMessage** - there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.

NOTE

Core Banking also has a system parameter, `ReconciliationAccountTreatment`. That is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value). Thus, if the value is specified

at the banking product level, then that value takes precedence over the system parameter's setting.

If you associate the same reconciliation account to more than one banking product, then the setting selected in banking product A is applied for contract events based on banking product A, while for the banking product B, Core Banking would apply the setting selected at the level of banking product B.

Payment Allocation Settings

In the **Payment Allocation Settings** section you can decide which allocation method should be used to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on. You can also define the grace period settings.

Payment Allocation Settings

Repayment Allocation Method	Grace Days for Repayment	Penalty for grace period
<div>CostOrder</div> <div>↓ ✎</div>	<div>5</div>	<input type="checkbox"/>
Direct Debit Settlement Account		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Payment Allocation Method:** The payment allocation method represents the recovery order of amounts from payment notifications. Select a payment allocation method from the list.
- **Grace Days for Repayment:** Insert the number of days for which the bank expects a payment without calculating penalty.

- **Penalty for grace period:** If you select the checkbox, the penalty interest is applied on the loan contract without taking into consideration the grace period defined at contract level, being calculated for the difference between system date - due date, if the grace period passed and the customer didn't pay the due amounts. If you leave this checkbox unselected, the penalty interest is applied on the loan contract taking into consideration the grace period defined at contract level, being calculated for system date - due date + grace days for repayment.
- **Direct Debit Settlement Account:** If you select the checkbox, the banking product has the automated settlement of repayment notification functionality (the payment allocation) turned on by default at the contract level. You can turn the automated settlement off either at the banking product level or at the contract level in Core Banking. Default value: true.

NOTE The automated settlement of repayment notification, or direct debit settlement account, is the functionality whereby, if funds are available on the settlement account and the contract has repayment notifications pending for recovery, Core Banking automatically uses the available balance up to full settlement of repayment notifications.

In Core Banking, the automated settlement of Installment type repayment notification

functionality (the payment allocation) can be turned on or off, thus allowing the financial institution to manage the contracts in case of blocked accounts and control the allocation of funds to outstanding notifications in case of need to impose a block on the settlement account, or manage the settlement of multiple loans from the same settlement account when short on funds and exceptional rules might apply.

If the functionality is turned off, the contract is pending for manual allocation. You can turn it back on and leave Core Banking to allocate the funds according to its automated processes, using any funds that become available in the settlement account in order to cover pending notifications.

2. Click the **Save and Reload** button.

Mandatory Roles for Contract Approval

In the **Mandatory Roles** section you can add the roles of the participants that are mandatory to exist at the contract level for contracts based on this banking product. In other words, when creating contracts based on banking products with Merchant role in this section, you must add a customer with the same Merchant role as contract participant, otherwise, the contract cannot be approved. When **Search Limit** is selected for a role on a banking

product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role, in this case Merchant Exposure.

Mandatory Roles for Contract Approval

+ Insert

× Delete

Export

Refresh

☐

Role

Search Limit

(All)

Beneficiary

☐

1. In the **Mandatory Roles** section, click **Insert** and fill in the following fields:

⬅

Save and close

Save and reload

Save and new

Add Mandatory Role

Main Information

Banking Product

Duplicate

Role

Merchant

Search Limit

☒

- **Banking Product:** The banking product for which you define mandatory roles. This is automatically completed with the current banking product.
- **Role:** Select the role of the participants that are mandatory to exist at the contract level for contracts based on this banking product.
- **Search Limit:** When Search Limit is selected for a role on a banking product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role. If you select a role not associated with a customer limit type in Core Banking, the Search Limit field becomes read-only and unselected.

2. Click the **Save and Reload** button.

Return Of Goods

In the **Return Of Goods**, you can define whether a contract based on the banking product can have Returned Amount or Goods transactions or not, and the specific conditions for these transactions. The Returned Amount or Goods transaction type can be used when a customer returns all or part of a loan or mortgage in a short while after contract creation, if the banking product was defined to allow such transactions. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.

Return Of Goods

Allow Return Of Goods	Accepted Days For Return	Return Message
<input checked="" type="checkbox"/>	<input type="text" value="15"/>	<input type="text" value="Warning"/>

1. Fill in the following fields:

- **Allow Return Of Goods:** Select this checkbox if the contracts based on this banking product accept Return of Goods transactions. Default value: False. If selected, the Accepted Days For Return and Return Message fields are displayed, otherwise, these fields are not visible.
- **Accepted Days For Return:** Specify the number of days after contract creation during which the return of goods transaction can be created and approved.
- **Return Message:** Select the behavior of messages generated by Core Banking for situations when the Returned Amount or Goods transaction's approval date + the number of accepted days for return \geq the current date. Possible values are taken from the Warning Error Treatment option set. According to the desired behavior, choose:

- Error, if the transaction should not be approved and an error message should be displayed;
- Warning, if the transaction can be approved, but a warning message should be displayed;
- NoMessage, if the transaction can be approved without any messages.

2. Click the **Save and Reload** button.

NOTE If Allow Return Of Goods = True, then the Returned Amount of Goods transaction is automatically added to the **Transaction Types** section.

Closing Contract Settings

In the **Closing Contract Settings** section, you can configure the default closure settings for contracts based on this banking product.

Closing Contract Settings

Buffer Close Days	Close Real Time	Closing Is Flexible
<input type="text" value="10"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Is Closed Automatically		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Buffer Close Days:** Enter the number of days used as buffer before automatically closing the contract when the contract reaches maturity and its balance reaches zero. If Buffer Close Days > 0, then Contract Is Closed Automatically = False.

- **Close Real Time:** If you select this checkbox, the contract based on this banking product is closed in real-time, when the contract reaches maturity and its balance reaches zero, without waiting for the end of day processes. If `Close Real Time = True`, then `Buffer Close Days = 0` and `Contract Is Closed Automatically = True`.
- **Closing Is Flexible:** If you select this checkbox, the closure details of the contract based on this banking product can be modified at the contract creation.
- **Contract Is Closed Automatically:** If you select this checkbox, the contract based on this banking product is closed automatically at maturity, if the balance reaches zero. If `Contract Is Closed Automatically = False`, then `Close Real Time = False`.

2. Click the **Save and Close** button.

Allowed Transactions

Banking Product Factory automatically displays in the **Allowed Transactions** section the transaction types associated at the selected banking product type level. If you need to associate other transaction types with the selected banking product, follow these steps:

1. Click **Insert existing** and select the desired transaction types to be associated.
2. Double-click a selected transaction type to edit it.

Edit Transaction Type

Settings

Name: Disbursement Transaction Code: DSB Process Type: Disbursement Edit Form: FTOS_CB_EventDisbursement Transaction Operation Type: Disbursement Is System Transaction: ☐

Is Automatic Transaction: ☐ Real Time Process: ☐ Only One Draft: ☒ Generate New Contract Version: ☐ Commission Type: Return Commission Type:

Is Claback Transaction: ☒

Accounting Configurations

Generates Accounting Entry: ☒ QL Master Entry: FTOS_CB_ContractEvent

Purge Configurations

To Be Purged: ☒ Purge Number of Days: 30 Master Purge Entity: FTOS_CB_ContractEvent

Transaction Value Types

Transaction Type	Type	Value Type Name	Is Header	Value Type Attribute
Disbursement	Numeric	EventValue	<input checked="" type="checkbox"/>	eventValue
Disbursement	Text	ContractEventId	<input type="checkbox"/>	FTOS_CB_Contr...

Transaction Item Accounting Configurations

Transaction	Accounting	Accounting	Chart Acco...	Currency	Operational...	Take From ...
Disburse...	0001	OFFBLoa...	90300 C...			
Disburse...	0001	Provision...	66211 Im...			

3. In the **Edit Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE There is no integration at this point with a payment gateway.

- **Edit Form:** Select the form used to edit this transaction type. You can choose only from the forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.

- **Is System Transactions:** If you select this checkbox the transaction is marked as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting.
- **Is Automatic Transaction:** If you select this checkbox here, then you cannot select it within the contract operations. The **Is Automatic Transaction** checkbox marks the transaction as automatic.
- **Real Time Process:** This checkbox marks the transaction as to be processed in real-time. If selected, then the transaction is processed right away. If not selected, then the transaction is inserted as a [bank account transaction queue](#) record.
- **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
- **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
- **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
- **Return Commission Type:** Select the return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
- **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.

4. In the **Edit Transaction Type > Accounting Configurations** section, fill in the following fields:
 - **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.
5. In the **Edit Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If you select it, you can purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
6. You can also edit the information in the **Transaction Value Types, Transaction Item Accounting Configurations** and **Transaction Accounting Models** sections. Read more details about Transaction Types in the [Operational Ledger](#) User Guide.
7. Click the **Save and Close** button.

Transaction types typically used for current accounts with overdraft functionality

- **Top Up Account** - If added at banking product level, the customer is allowed to make top ups at the contract level.
When a top up transaction is recorded in a contract, at the next maturity date the customer receives the interest for the initial amount up until the top up date, plus the interest for the full amount (initial amount + top up amount) proportional from top up to payment date.
This transaction type is automatically added in the **Associated Transactions** tab if **Allow Top Ups** was selected in the [Details tab](#).
- **Withdraw** - If added at banking product level, the customer is allowed to make withdrawals at the contract level.
This transaction type is automatically added in the **Associated Transactions** tab if **Allow Withdrawals** was selected in the [Details tab](#).
If this transaction type is not inserted for deposits, in order to have access to the funds before maturity date, the customer has to liquidate the deposit. In this case the interest is not paid.
- **Transfer between my bank accounts** - If added at banking product level, the customer is allowed to move funds between their accounts at the contract level.
This transaction type is automatically added in the

Associated Transactions tab if Allow Withdrawals was selected in the [Details tab](#).

- **Accruals and Provisions** - System transaction. If added at banking product level, the accruals and provisions for contracts can be calculated on a daily basis. This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.
- **Overdraft Payment** - If added at banking product level, the customer can perform payments from the current account using the overdraft functionality, practically using an amount larger than the positive balance of the account, up to the overdraft limit defined at the contract level.
This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.
- **Revert Transfer between my bank accounts** - System transaction. If added at banking product level, transfers between the same customer's bank account can be reverted after being performed.
This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.
- **Interest capitalization** - System transaction. If added at banking product level, the interest for contracts can be capitalized.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

NOTE

If you selected the **Allow Top Ups** and **Allow Withdrawals** checkboxes within the **Details** tab, then the Top Up Account, Transfer between my bank accounts and Withdraw transaction types are automatically attached in the **Associated Transactions** tab.

8. View History

You can find the versions of the banking product, their workflow status and the user who modified the product in the **History** tab.

Label	Name	attributeVersionDate	attributeVersion	Modified by user
Draft	Duplicate	19/04/2022 10:29		1

Here you can track the product's life cycle and review older versions that are no longer active (for details, see [Banking Products' Life Cycle](#)).

9. Manage Origination Elements

You can set the elements required in the origination journey, such as product benefits, display conditions, features, destination types, or associated products in the **Origination Elements** tab.

The screenshot displays the 'Origination Elements' tab in the Banking Product Factory. The interface is divided into several sections:

- Product Image:** A text input field containing 'ProductPIC.JPG' with a red 'x' icon, and a button labeled 'Add file' or 'Drop file here'.
- Document:** A text input field containing 'ProductPresentationDoc.pdf' with a red 'x' icon, and a button labeled 'Add file' or 'Drop file here'.
- Benefits:** A text editor window with a menu bar (File, Edit, Insert, View, Format, Table, Tools) and a toolbar. The text area contains 'Quick Approval' and 'Low Interest Rates'.
- Display Conditions:** A text editor window with a menu bar (File, Edit, Insert, View, Format, Table, Tools) and a toolbar. The text area is empty.
- Product Features:** A table with columns 'Feature', 'Display Name', and 'Show Order'. It includes buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. The table contains one row: 'NMNGTFEES', 'No Management ...', and '1'.
- Product Destination Types:** A table with a column 'Display Name'. It includes buttons for '+ Insert existing' and 'X Remove existing'. The table contains one row: 'Personal'.
- Associated Products:** A table with a column 'Name'. It includes buttons for '+ Insert existing' and 'X Remove existing'. The table contains one row: 'Current Account USD'.

1. Fill in the following fields:

- **Product Image:** Insert an image representative for the product.
- **Document:** Insert the document representative for the product.
- **Benefits:** Insert the advantages of owning the banking product. You can format the text in the text editor window.
- **Display Conditions:** Insert the conditions for the applicant, e.g. age limit, annual turnover, education level, income, registration documents.

2. Click the **Save and Reload** button.

Product Features

In the **Product Features** section, you can insert, delete or export features.

1. To add a feature, Click the **Insert** button and fill in the following fields:

- **Feature:** Enter the name of the product feature.
- **Is Main Feature:** Select the checkbox if it is the major feature.

- **Display Name:** Enter the display name of the feature.
2. Click the **Save and Reload** button.

Product Destination Types

In the **Product Destination Types** section , you can insert or remove the existing product destination types:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. To create a new destination type, insert a name and specify if it is default. For this case, the following have been configured: **Loan Collateral, Loan disbursements, Personal, Repayments.**

Associated Products

In the **Associated Products** section you can insert or remove an existing products. It is especially useful when you wish to create a link between two products.

Associated Products

+ Insert existing
✕ Remove existing

☐ Name

Current Account USD

To insert or remove a product from the list or create a new one:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. Click the **Save and Reload** button.

10. Configure Operational Ledger Settings

NOTE

The **OL Settings** tab is available only when Banking Product Factory is implemented along with **Operational Ledger Add-On**.

In the **Banking Product GL Accounts** section, you can set specific accounts to be used by the Operational Ledger system for transactions performed on contracts based on this banking product. Thus, you can overwrite the generic settings of the Operational Ledger, instructing it to use the accounts specified at banking product level.

Product	Accounting System	Accounting Scope	Item	GL Account
Duplicate	0001	FixDeposit	Loan Admin Fee	20110 Commercial loans

- To add specific accounts to be used by **Operational Ledger**, click **Insert** and fill in the following fields in the displayed **Add Banking Product GL Account** page::

- **Product:** Select from the list the banking product. Automatically completed with the banking product you are currently editing.
- **Accounting System:** Select from the list the desired accounting system. The list contains the records created in the Accounting System entity.
- **Accounting Scope:** Select from the list the corresponding accounting scope. The list contains the records created in the Accounting Scope entity.

- **Item:** Select from the list the corresponding transaction item. The list contains the records created in the Transaction Item Accounting Config entity.
 - **GL Account:** Select from the list the corresponding GL account. The list is filtered based on the previously selected accounting system. It contains the accounts defined in the Accounting Chart entity that were added to the chosen accounting system record.
2. Click the **Save and Reload** button.

Deposits

A deposit account is a bank account maintained by a financial institution in which a customer can deposit and withdraw money. Deposit accounts can be current accounts/ transactional accounts, savings accounts, deposit collateral accounts or term deposits accounts.

Creating Deposits

To create a new deposit from scratch, navigate to main menu > **Banking Product Factory** > **Banking Products**, and click the **Insert** button. A new page opens, with a series of tabs that assist you in configuring the banking product. Or, you can create banking products directly from the [product category](#) level, allowing Banking Product Factory to automatically fill in the information inherited from the product category.

NOTE

Alternatively, you can create a deposit by [duplicating](#) an existing one. Click the **Duplicate** button on the **Banking Products List** page. Make sure you change the **Banking Product Code** and **Name** according to your business needs.

1. Enter Basic Information

You can set the basic elements for creating the product, such as name, code, currency, validity, or product classification, in the **Main Info** tab.

The screenshot displays the 'Main Information' tab of the Banking Product Factory. At the top, a navigation bar includes tabs: 1 Main Info, 2 Details, 3 Availability, 4 Dimensions, 5 Product Formula Engine, 6 Documents, 7 Loan Core Settings, 8 History, 9 Origination Elements, and 10 GL Settings. The 'Main Information' section contains several input fields: 'Banking Product Type' (set to 'Deposit'), 'Currency' (set to 'EUR'), 'Banking Product Code' (set to 'DepositTst'), 'External Code', 'Start Date' (set to '18/01/2022'), and 'End Date' (set to '18/01/2023'). Below these are 'Name' (set to 'Deposit'), 'Class', 'SubClass', 'Category', and 'SubCategory'. A 'Description' text area is also present. At the bottom right, there is a 'Product Classification' section with buttons for '+ Insert existing' and 'X Remove existing', and a table with columns for Code, Name, Classification Type, Valid From, and Valid To, each with a search icon.

NOTE

Your product type selection influences the next steps and many of the fields are automatically completed with values inherited from the selected product type definition. For deposits, select the **Deposit** option in **Banking Product Type**.

Main Information

1. In the **Main Information** section, select the **Banking Product Type** from the available list.

NOTE

If you choose to create banking products directly from the [product category](#) level, then Banking Product Factory automatically fills in the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

2. The **Currency** is automatically completed from the default value defined within the "[DefaultCurrencyBankingProduct](#)" on [page 506](#) Banking Product Factory system parameter. You can change it for the newly created product by selecting another currency from the drop-down list.
3. Banking Product Factory automatically generates the code based on the code of the product type + a sequencer. For example, the TLU854 code corresponds to a banking product based on an Unsecured Loan product type. You can modify the product code in the **Banking Product Code** field. It can have 10 characters.
4. Set the product validity by selecting the date when the product becomes available (**Start Date**) and the last date from when the product is available (**End Date**).
5. Enter the product **Name**.
6. Optionally you can set the following fields:
 - **External Code:** Select the code of the product imported from an external system, if applicable. It can have 10 characters and it is not used in the contract.
 - **Description:** Enter any description or additional text related to your new product.
 - **Class, Subclass, Category, and Subcategory:** Select the desired values to set the desired hierarchy for your product. For more information, see "[Product Hierarchy](#)" on [page 406](#)
7. Click the **Save and Reload** button. The product is now saved and you can further edit it for your needs.

Product Classification

After saving the product, the **Product Classification** section is populated with more options for your product. You can insert or remove existing product classification items.

1. To add a product classification item, click **Insert Existing** and select an already existing item.

Product Classification

<input type="checkbox"/>	Code	Name	Classification Type	Valid From	Valid To
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	REG1	Classification ...	Regulatory	01/01/2020	31/12/2030

2. You can also create a new product classification item by clicking the **Insert existing** button and then the **Insert** button.
3. On the newly displayed **Add Product Classification** page, fill in the fields:

Add Product Classification

Main Information

Name	Code	Valid From	Valid To	Classification Type	Is Default
Classification Restructuring Level	RESTRUCT1	20/04/2022	30/04/2028	Restructuring	<input type="checkbox"/>

[Classified Banking Products](#)

- **Name:** Enter the name of the classification item.
- **Code:** Enter the unique code of the classification item.
- **Valid From:** Select the date from which the product classification item is valid.
- **Valid To:** Select the date until when the product classification item is valid.
- **Classification Type:** Choose the classification type of the item. Possible values: Regulatory, Restructuring.
- **Is Default:** Select the checkbox if this classification item is default.

The **Classified Banking Products** section is displayed after you save the classification item record and allows you to insert existing banking products. The following information is displayed here: **Code, Name, Class, SubClass, Category, SubCategory** and **Status**.

For more information on how to create a new product classification, see [Banking Product Classification](#).

4. Click the **Save and Reload** button.

2. Add Details

You can set elements such as interest, payment type or product destination types in the **Details** tab. Most of the values within this tab, already completed, are inherited from the selected banking product type level definition, but you can change them according to your needs.

The screenshot shows the 'Details' tab of the Banking Product Factory interface. The 'General Data' section is expanded, displaying the following settings:

- Auto Roll Over:** ☒
- Allow Top Ups:** ☒
- Allow Withdrawals:** ☒
- Allow negotiated IR:** ☒
- Interest Is Capitalized:** ☒
- Interest Payment Type:** Monthly (dropdown menu)

Product Behavior

1. In the **General Data** section, set the following fields:
 - **Auto Roll Over:** If you select this checkbox, the contract is renewed at maturity date in exactly the same conditions. If it remains unchecked, the contract is automatically closed at maturity date. The field is used mostly for deposits or any product that can undergo the extension of contract.

- **Allow Top Ups:** Select if the amount can be topped up with a sum of money.

NOTE

If you select the **Allow Top Ups** checkbox, the Top Up Account transaction is automatically loaded in the [Associated Transactions section](#), which means that the customer is allowed to make top ups at the contract level. When a top up transaction is recorded in a contract, at the next maturity date the customer receives the interest for the initial amount up until the top up date, plus the interest for the full amount (initial amount + top up amount) proportional from top up to payment date.

If you do not select the **Allow Top Ups** checkbox, the top up transaction is not allowed at the contract level.

- **Allow Withdrawals:** Select if the customer can take out money for this product.

NOTE

If you select the **Allow Withdrawals** checkbox, the Withdraw and Transfer between my bank accounts transactions are automatically loaded in the [Associated Transactions section](#), which means that the customer is allowed to make withdrawals at the contract level.

If you do not select the **Allow Withdrawals** checkbox, the Withdraw and Transfer between my bank accounts transactions are not loaded, thus these transaction types are not allowed at the contract level. In order to have access to the funds before maturity date, the customer has to liquidate the deposit. In this case the interest is not paid.

- **Allow Negotiated IR:** Select if the interest rate is negotiable for this product at the contract level.

NOTE

If you select the **Allow negotiated IR** checkbox, the Total Interest Rate field from the banking contract is automatically completed with the value configured on the banking product, but it is editable, so that the bank can change this value and insert the negotiated one.

If you do not select the **Allow negotiated IR** checkbox, the Total Interest Rate field from the banking contract is automatically completed with the value configured on the banking product, but the value is read-only and cannot be changed.

- **Interest Is Capitalized:** Only applicable if there is an interest rate.

NOTE

If you do not select the **Interest is capitalized** checkbox, the interest is paid in the account specified on the contract.

If you select the **Interest is capitalized** checkbox, then the interest is added over the product amount, so that on the next payment date the customer receives the interest applied on both interest and product amount.

- **Interest Payment Type:** Select the regularity of interest payments: **Once** (the whole interest amount is paid at maturity), **Monthly**, **Trimester**, **Semestrial** or **Annual**.

2. Click the **Save and Reload** button.

3. Configure Availability

You can determine the monetary range and the time frame when the product is available for customers in the **Availability** tab.

The screenshot displays the 'Availability' configuration page. At the top, a navigation bar includes tabs from 1 to 10, with 'Availability' (tab 3) being the active tab. The main content area is divided into two primary sections: 'Product Availability' and 'Availability Rules'. The 'Product Availability' section features four input fields: 'Minimum Amount' (1,000), 'Maximum Amount' (50,000), 'Minimum Period' (12), and 'Maximum Period' (36). The 'Availability Rules' section is further divided into 'Product Availability Item Filters' and 'Product Covenants'. Each of these sub-sections contains a set of control buttons: '+ Insert', 'X Delete', 'Export', and 'Refresh'. Below the buttons, there are search bars for 'Description' and 'Covenant'. The 'Product Covenants' section also includes search bars for 'Type', 'Valid From', 'Valid to', and 'Value'.

Product Availability

1. Fill in the following fields:
 - **Minimum Period** and **Maximum Period:** Enter the minimum and maximum duration of the product mentioned in the contract.
 - **Minimum Amount** and **Maximum Amount:** Enter the minimum and maximum amount of the product for which the bank opens a contract.
2. Click the **Save and Reload** button.

Availability Rules

In the **Availability Rules** section you can select the item filters for your banking product.

Availability Rules

Product Availability Item Filters

+ Insert × Delete 📄 Export 🔄 Refresh

☐ Description

CA >< 1 - 50000

1. Click the **Insert** button, the **Add Product Availability Item Filter** is displayed.
2. Select the desired filter from the Filter option.
3. Add the attributes of the selected filter.
4. Optionally, add a description for the added item filter.
5. Click the **Save and Reload** button.

For more details, see ["Product Filter" on page 472](#).

Product Covenants

In the **Product Covenants** section you can set certain conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements.

Product Covenants

<input type="button" value="+ Insert"/> <input type="button" value="X Delete"/> <input type="button" value="Export"/> <input type="button" value="Refresh"/>					
<input type="checkbox"/>	Type	Covenant	Valid From	Valid to	Value
<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/> <input type="text" value="Q"/>	<input type="text" value="Q"/> <input type="text" value="Q"/>	<input type="text" value="Q"/>
	Affirmati...	Borrowers should perform tax obligations	19/04/2022	20/04/2030	
	Financial	Lender can monitor borrower's current r...	19/04/2022	20/04/2030	

1. Click the **Insert** button to add a covenant to the product. Each covenant can be attributed a value, an availability period, and a review frequency in months. Read more about covenants in the ["Covenant" on page 495](#) page.
2. Click the **Save and Reload** button.

4. Manage Dimensions

You can insert, delete or export interest, commissions, insurances, discounts or questions valid for your product in the **Manage Dimensions** tab.

1 Main Info
2 Details
3 Availability
4 Dimensions
5 Product Formula Engine
6 Documents
7 Loan Core Settings
8 History
9 Origination Elements
10 GL Settings

Interest & Commissions

☐ Item Name
MCA

Discounts

☐ Name
☐ Discount
☐ End Date
☐ Start Date
☐ Value Discount

No data

Insurances

☐ Item Name
House Insurance

Questions

☐ Question
Business Status

Question1
Active
Question2
Active

To add a new one, click **Insert** and fill-in the fields detailed in the sections below.

NOTE

To configure the interest and commissions separately, navigate to **Main > Product Factory > Banking Product Dimensions menu** which contains several other embedded menus.

Interest & Commissions

1. To add an **interest** or a **commission**, click **Insert** in the **Interest & Commissions** section. The **Add Interest & Commission Item** page is displayed.
2. Select the banking product from the **Banking Product** list.
3. Enter the **Item Name**.
4. Enter the **Start Date** when the interest/ commission becomes effective and the **End Date** for the interest/ commission.
5. Fill in the following fields:
 - **Code:** Enter a code for this particular interest/ commission.
 - **Interest List:** Select from which list the interest is a part of.
 - **Commissions List:** Select from which list the commission is a part of.
 - **Minimum Interest Rate (%):** Enter the percent applicable as a minimum interest rate at the contract level.
 - **Is Negotiable:** Select the checkbox to specify that every interest, commission or margin field at the contract level is negotiable and can be edited.
6. Click the **Save and Reload** button.

7. In the **Interest & Commission Item Filters** section, click **Insert** to insert an [item filter](#).
8. Select a filter created earlier in the "[Product Filter](#)" on [page 472](#).
9. Set the following fields:

- **Value/ Date:** Select the beginning value/ date for the filter.
- **Until Value/ Until Date:** Select the maximum value/ date for the filter.
- **Description:** This field is automatically filled in after clicking the **Save and Reload** button. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter Entity:** Entity on which the filter was defined.
- **Description:** It is left blank. Add a description if needed.
- **Grid of Options:** This field is automatically filled in after clicking the **Save and Reload** button. The values of the option set are displayed. Select the Boolean for the values you wish to include in the filter.

10. Click the **Save and Reload** button.

← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓ ✎

Value 1 Until Value 50,000

Description

AL_Amount > < 1 - 50000

Insurances

For any banking product, you can select a pre-existing insurance or create a new one.

1. To add a new **insurance**, in the **Insurances** section, Click the **Insert** button and set the following fields:
 - **Banking Product:** Select the banking product.
 - **Code:** Insert a code for this particular insurance.
 - **Item Name:** Insert a name.
 - **Start Date:** Enter the start date when the insurance becomes effective.
 - **End Date:** Enter the end date for the insurance.
 - **Details:** It is left blank. Add a description if needed.
 - **Insurance List:** Select from which list the insurance is a part of.
2. Click the **Save and Reload** button.
3. In the **Insurance Item Filters** section, click **Insert** and fill in the following fields:
 - **Filter:** The name inserted earlier.
 - **Value:** The starting value for the attribute.
 - **Until Value:** The ending value of the interval.
 - **Description:** Insert the proper description for the availability filter.

- Click the **Save and Reload** button.

Discounts

For any banking product, you can add discounts of any nature. You can select a pre-existing discount or create a new one.

- To add a new **discount**, Click the **Insert** button in the **Discounts** section.
- In the **Details Page**, insert the appropriate **Name** for the discount.
- Choose one of the pre-configured types of discounts available in the **Discount** field, or create a new one. According to the selected type, new fields appear on the page requiring to be filled in.
- Insert the value of the discount to be applied, e.g. 15.
- Set the start date when the discount becomes effective (**Start date**), and the end date for the discount (**End date**).
- Optionally, you can fill in the following fields:
 - Applied to dimension:** Specifies for which product dimension this discount is applicable (interest, commission or insurance). This is autocompleted by the selected discount's dimension.

- **Commission type:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission type this discount is applicable. This is autocompleted by the selected discount's default commission type.
- **Commission:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission this discount is applicable. This is autocompleted by the selected discount's default commission.
- **Insurance class:** This field appears if the selected discount = Discount Life Insurance or Interest Discount. Specifies for which insurance class this discount is applicable (credit, home, life or other insurance class). This is autocompleted by the selected discount's insurance class.
- **Insurance:** This field appears if the selected discount = Discount Life Insurance. Specifies for which insurance this discount is applicable. This is autocompleted by the selected discount's insurance.
- **Interest type:** This field appears if the selected discount = Interest discount. Specifies for which interest type this discount is applicable.
- **Use Banking Formula:** If you select this checkbox, the discount is calculated using the Banking Formula engine.
- **Is optional discount?** : Selecting this checkbox results in the discount being applied only if the customer agrees to the discount.
- **Is percentage:** If you select this checkbox, the discount is calculated as a percentage from the contract's amount.

- **Destination entity:** Select the entity where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
 - **Destination entity attribute:** Select the attribute where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
7. Click the **Save and Close** button.
 8. In the **Product Discount Item Filter** section, click **Insert** and fill in the fields as specified in the [Product Filter page](#). The fields displayed depend on the selected filter.
 9. Click the **Save and Close** button.

Questions

You can choose one or more questions to add to the banking product, or insert a new one.

1. To insert a new [question](#), in the **Questions** section, Click the **Insert existing** button, then click **Insert**.
2. In the **Add Banking Product Question** page, fill in the following fields:
 - **Question:** Enter the appropriate name.
 - **Answer Type:** Select the type of answer the customer has to give: text, numeric or option set.
 - **Answer Entity:** Select the entity where the answer is stored.
 - **Answer Field:** Select the attribute where the answer is stored.
3. Click the **Save and Reload** button.

The **Banking Products List** shows where the question is used.

IMPORTANT!

The question has to be activated in order for it to be added to the banking product.

4. Click the **Save and Close** button.

For example, this is how a question is displayed in a customer journey in the FintechOS Portal:

The screenshot shows a web interface for editing a loan application. At the top, there's a navigation bar with 'CURRENT STATUS: INITIALIZED' and 'NEXT STATUS: CHOOSE STATUS'. Below this is a modal window titled 'EDIT LOAN APPLICATION'. Inside the modal, the section is titled 'Eligibility Questions' with a subtext: 'We ask for this information so that we can carry out the checks needed to consider you for a mortgage'. There are three input fields: 'DEPOSIT SOURCE' (a dropdown menu), 'RETIREMENT DATE' (a date picker), and 'RETIRED' (radio buttons for 'Yes' and 'No', with 'No' selected). A 'Finish' button is located at the bottom right of the modal.

5. Configure Product Formula Engine

The **Product Formula Engine** tab keeps formulas built with [Formula Engine](#) for the banking product. Such formulas can be used to determine the eligibility of a customer.

The screenshot displays the 'Product Formula Engine' tab. It features a horizontal navigation bar with 10 items: 1 Main Info, 2 Details, 3 Availability, 4 Dimensions, 5 Product Formula Engine (active), 6 Documents, 7 Loan Core Settings, 8 History, 9 Origination Elements, and 10 GL Settings. Below the navigation bar, there are two main sections: 'Banking Product Formulas' and 'Test Scenarios'. Each section has a table with columns for Name, Formula Type, and Formula. The 'Banking Product Formulas' table has one entry: 'CA' (Name), 'CommissionFormula' (Type), and 'commissionByAmount' (Formula). The 'Test Scenarios' table has one entry: 'Duplicate-19-04-2022_11-07-57' (Name), 'CommissionFormula' (Type), and an empty Formula field. Both sections have buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.

Banking Product Formulas

In the **Banking Product Formulas** section, choose an already defined formula or click **Insert** to configure a new one, for example a formula for eligibility or scoring purposes. For information on how to build a formula, see [Define Formula Inputs](#).

1. In the **Add Banking Product Formula** page, fill in the following fields:

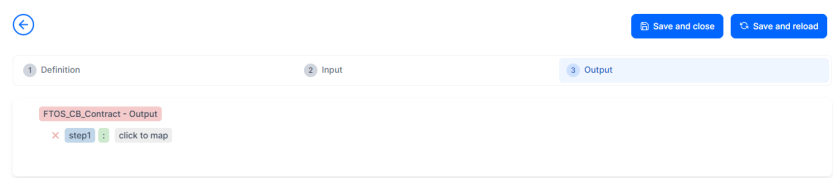
- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

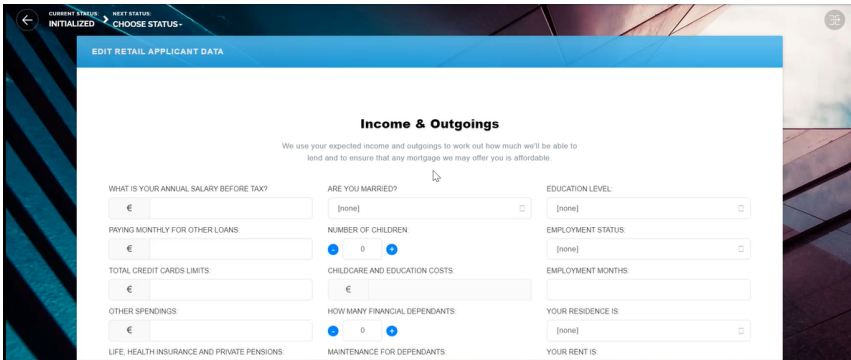
The name of the banking product is inserted automatically in **Banking Product**.

2. After selecting the desired formula, click **Save and reload**, then click **Map Data**.
3. In the **Formula Mapping** page, click **Input** and configure the input data for the formula.
4. Click **Output** and configure the output for the formula.

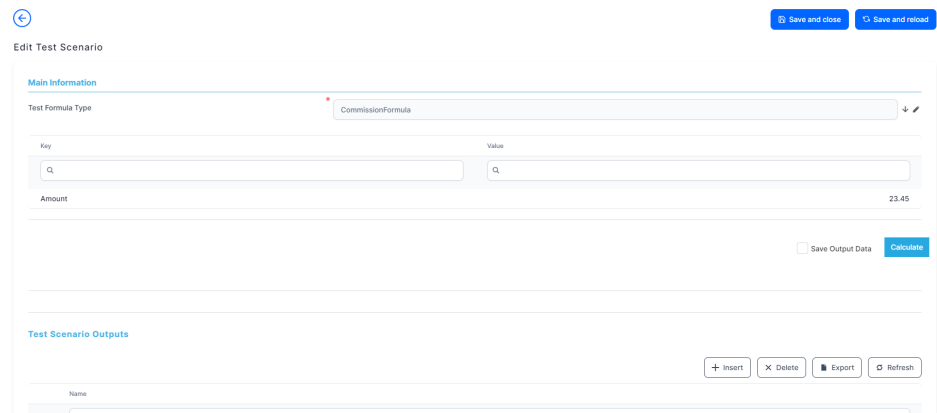


5. Click the **Save and Close** button.

Such formulas can be used in customer journey steps, for example when the customer inserts their financial data.



Test Scenarios



A good practice is to test the formula before displaying it in a customer journey. You can do that in the **Test Scenarios** section:

1. Click the **Insert** button to open the **Add Test Scenario** page.
2. Insert a **Test Scenario Type** from the option set. The keys and the values are shown.
3. Click the **Save and Reload** button.
4. Click the **Calculate** button. The outputs are displayed in the **Test Scenario Outputs** section.
5. You can save these outputs by selecting the **Save Output Data** checkbox next to **Calculate**.

6. Add Documents

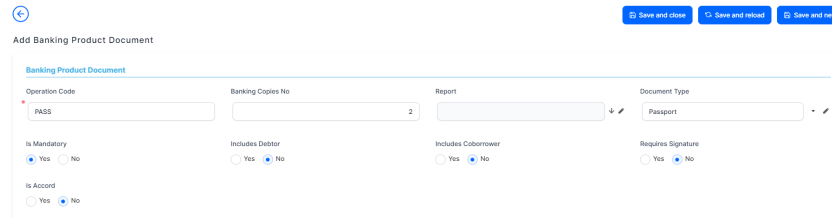
You can manage all the attached documents available for a product and all the agreements that a customer needs to go through in the **Documents** tab.

The screenshot shows the 'Documents' tab in the Banking Product Factory user interface. The interface is divided into two main sections: 'Banking Product Documents' on the left and 'Banking Product Agreements' on the right. Both sections have a header bar with buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. Below the header, the 'Banking Product Documents' section displays a table with columns for 'Report', 'Banking Copies No', and 'Operation Code'. The table shows one row with the value '2' under 'Banking Copies No' and 'TC' under 'Operation Code'. The 'Banking Product Agreements' section displays a table with a 'Code' column, which is currently empty and shows 'No data'.

Banking Product Documents

Any previously associated documents are displayed in the **Banking Product Documents** section.

1. To attach a new document to the banking product, in the **Banking Product Documents** section, click **Insert**. The **Add Banking Product Document** page is displayed.



⏪ Save and close Save and reload Save and new

Add Banking Product Document

Banking Product Document

Operation Code Banking Copies No Report Document Type

Is Mandatory ☒ Yes ☐ No Includes Debtor ☐ Yes ☒ No Includes Coborrower ☐ Yes ☒ No Requires Signature ☐ Yes ☒ No

Is Accord ☐ Yes ☒ No

2. Set the following fields:
 - **Operation Code:** Enter a code for the document.
 - **Banking Copies:** Insert the number of copies made.
 - **Report:** Select a document from the list.
 - **Document Type:** Select a document type from the list.
 - **Is Mandatory:** Select if the document is mandatory.
 - **Includes Debtor:** Select if the document includes the debtor.
 - **Includes Coborrower:** Select if the document includes the co-borrower.
 - **Requires Signature:** Select if the document requires to be signed.
 - **Is accord:** Select if the document represents the accord.
3. Click the **Save and Reload** button.

Banking Products Agreements

The agreements that a customer needs to go through are displayed in the **Banking Products Agreements** section.

1. To attach a new agreement to the banking product, in the **Banking Products Agreements** section, click **Insert**. The **Add Banking Products Agreements** page is displayed.

2. Fill in the following fields:
 - **Agreements:** Select an agreement from the list.
 - **Banking Product:** It is automatically filled in.
 - **Code:** Insert the corresponding code.
 - **Is Mandatory:** Select if the agreement is mandatory for the product.
3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the [Digital Document Processor](#).

7. Configure Lean Core Settings

NOTE

The **Lean Core Settings** tab is available only when Banking Product Factory is implemented along with Core Banking.

Transactions types that are performed to and from a banking product are displayed in the **Lean Core Settings** tab. The tab also holds information about the reconciliation account associated with the products, mandatory roles for contract approval, payment allocation settings, the treatment of returned goods for contracts based on this banking product (only for Term Loans and Mortgage banking products), and closing contract settings.

The screenshot displays the 'Lean Core Settings' tab in the Banking Product Factory. The 'Self Bank Account Associated With The Product' section is active, showing a 'Reconciliation Account' dropdown set to 'Reconciliation EUR' and a 'Negative balance treatment' dropdown set to 'NoMessage'. Below this, there are sections for 'Mandatory Roles for Contract Approval' (with buttons for Insert, Delete, Export, Refresh), 'Allowed Transactions' (with buttons for Insert existing, Remove existing), and 'Closing Contract Settings' (with checkboxes for Buffer Close Days, Close Real Time, and Closing Is Flexible, and a checkbox for Contract Is Closed Automatically).

Reconciliation Account Associated With The Product

1. In the **Self Bank Account Associated with the Product**, for each banking product, you must select a reconciliation account, which is the bank account to be used for transactions, for money movements.

This close-up view of the 'Self Bank Account Associated With The Product' section shows the 'Reconciliation Account' dropdown menu with 'Reconciliation EUR' selected, and the 'Negative balance treatment' dropdown menu with 'NoMessage' selected.

NOTE

This account must have the same currency as the product, because the conversions are performed from and into this account.

2. Select a value for the **Negative Value Treatment** drop-down to specify how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a

disbursement event would be approved. The possible values are:

- **Error** - there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero. Select this value if you want to block any transactions that would result in a negative balance of the reconciliation account associated to the banking product.
- **Warning** - there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- **NoMessage** - there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.

NOTE

Core Banking also has a system parameter, `ReconciliationAccountTreatment`. That is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value). Thus, if the value is specified

at the banking product level, then that value takes precedence over the system parameter's setting.

If you associate the same reconciliation account to more than one banking product, then the setting selected in banking product A is applied for contract events based on banking product A, while for the banking product B, Core Banking would apply the setting selected at the level of banking product B.

Payment Allocation Settings

In the **Payment Allocation Settings** section you can decide which allocation method should be used to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on. You can also define the grace period settings.

Payment Allocation Settings

Repayment Allocation Method	Grace Days for Repayment	Penalty for grace period
<div>CostOrder</div> <div>↓ ✎</div>	<div>5</div>	<input type="checkbox"/>
Direct Debit Settlement Account		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Payment Allocation Method:** The payment allocation method represents the recovery order of amounts from payment notifications. Select a payment allocation method from the list.
- **Grace Days for Repayment:** Insert the number of days for which the bank expects a payment without calculating penalty.

- **Penalty for grace period:** If you select the checkbox, the penalty interest is applied on the loan contract without taking into consideration the grace period defined at contract level, being calculated for the difference between system date - due date, if the grace period passed and the customer didn't pay the due amounts. If you leave this checkbox unselected, the penalty interest is applied on the loan contract taking into consideration the grace period defined at contract level, being calculated for system date - due date + grace days for repayment.
- **Direct Debit Settlement Account:** If you select the checkbox, the banking product has the automated settlement of repayment notification functionality (the payment allocation) turned on by default at the contract level. You can turn the automated settlement off either at the banking product level or at the contract level in Core Banking. Default value: true.

NOTE The automated settlement of repayment notification, or direct debit settlement account, is the functionality whereby, if funds are available on the settlement account and the contract has repayment notifications pending for recovery, Core Banking automatically uses the available balance up to full settlement of repayment notifications.

In Core Banking, the automated settlement of Installment type repayment notification

functionality (the payment allocation) can be turned on or off, thus allowing the financial institution to manage the contracts in case of blocked accounts and control the allocation of funds to outstanding notifications in case of need to impose a block on the settlement account, or manage the settlement of multiple loans from the same settlement account when short on funds and exceptional rules might apply.

If the functionality is turned off, the contract is pending for manual allocation. You can turn it back on and leave Core Banking to allocate the funds according to its automated processes, using any funds that become available in the settlement account in order to cover pending notifications.

2. Click the **Save and Reload** button.

Mandatory Roles for Contract Approval

In the **Mandatory Roles** section you can add the roles of the participants that are mandatory to exist at the contract level for contracts based on this banking product. In other words, when creating contracts based on banking products with Merchant role in this section, you must add a customer with the same Merchant role as contract participant, otherwise, the contract cannot be approved. When **Search Limit** is selected for a role on a banking

product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role, in this case Merchant Exposure.

Mandatory Roles for Contract Approval

1. In the **Mandatory Roles** section, click **Insert** and fill in the following fields:

- **Banking Product:** The banking product for which you define mandatory roles. This is automatically completed with the current banking product.
- **Role:** Select the role of the participants that are mandatory to exist at the contract level for contracts based on this banking product.
- **Search Limit:** When Search Limit is selected for a role on a banking product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role. If you select a role not associated with a customer limit type in Core Banking, the Search Limit field becomes read-only and unselected.

2. Click the **Save and Reload** button.

Return Of Goods

In the **Return Of Goods**, you can define whether a contract based on the banking product can have Returned Amount or Goods transactions or not, and the specific conditions for these transactions. The Returned Amount or Goods transaction type can be used when a customer returns all or part of a loan or mortgage in a short while after contract creation, if the banking product was defined to allow such transactions. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.

Return Of Goods

Allow Return Of Goods



Accepted Days For Return

15

Return Message

Warning

1. Fill in the following fields:

- **Allow Return Of Goods:** Select this checkbox if the contracts based on this banking product accept Return of Goods transactions. Default value: False. If selected, the Accepted Days For Return and Return Message fields are displayed, otherwise, these fields are not visible.
- **Accepted Days For Return:** Specify the number of days after contract creation during which the return of goods transaction can be created and approved.
- **Return Message:** Select the behavior of messages generated by Core Banking for situations when the Returned Amount or Goods transaction's approval date + the number of accepted days for return \geq the current date. Possible values are taken from the Warning Error Treatment option set. According to the desired behavior, choose:

- Error, if the transaction should not be approved and an error message should be displayed;
- Warning, if the transaction can be approved, but a warning message should be displayed;
- NoMessage, if the transaction can be approved without any messages.

2. Click the **Save and Reload** button.

NOTE If Allow Return Of Goods = True, then the Returned Amount of Goods transaction is automatically added to the **Transaction Types** section.

Closing Contract Settings

In the **Closing Contract Settings** section, you can configure the default closure settings for contracts based on this banking product.

Closing Contract Settings

Buffer Close Days	Close Real Time	Closing Is Flexible
<input type="text" value="10"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Is Closed Automatically		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Buffer Close Days:** Enter the number of days used as buffer before automatically closing the contract when the contract reaches maturity and its balance reaches zero. If Buffer Close Days > 0, then Contract Is Closed Automatically = False.

- **Close Real Time:** If you select this checkbox, the contract based on this banking product is closed in real-time, when the contract reaches maturity and its balance reaches zero, without waiting for the end of day processes. If `Close Real Time = True`, then `Buffer Close Days = 0` and `Contract Is Closed Automatically = True`.
- **Closing Is Flexible:** If you select this checkbox, the closure details of the contract based on this banking product can be modified at the contract creation.
- **Contract Is Closed Automatically:** If you select this checkbox, the contract based on this banking product is closed automatically at maturity, if the balance reaches zero. If `Contract Is Closed Automatically = False`, then `Close Real Time = False`.

2. Click the **Save and Close** button.

Allowed Transactions

Banking Product Factory automatically displays in the **Allowed Transactions** section the transaction types associated at the selected banking product type level. If you need to associate other transaction types with the selected banking product, follow these steps:

1. Click **Insert existing** and select the desired transaction types to be associated.
2. Double-click a selected transaction type to edit it.

3. In the **Edit Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE There is no integration at this point with a payment gateway.

- **Edit Form:** Select the form used to edit this transaction type. You can choose only from the forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.

- **Is System Transactions:** If you select this checkbox the transaction is marked as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting.
- **Is Automatic Transaction:** If you select this checkbox here, then you cannot select it within the contract operations. The **Is Automatic Transaction** checkbox marks the transaction as automatic.
- **Real Time Process:** This checkbox marks the transaction as to be processed in real-time. If selected, then the transaction is processed right away. If not selected, then the transaction is inserted as a [bank account transaction queue](#) record.
- **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
- **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
- **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
- **Return Commission Type:** Select the return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
- **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.

4. In the **Edit Transaction Type > Accounting Configurations** section, fill in the following fields:
 - **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.
5. In the **Edit Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If you select it, you can purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
6. You can also edit the information in the **Transaction Value Types, Transaction Item Accounting Configurations** and **Transaction Accounting Models** sections. Read more details about Transaction Types in the [Operational Ledger](#) User Guide.
7. Click the **Save and Close** button.

Transaction types typically used for deposits

- **Top Up Account** - If added at banking product level, the customer is allowed to make top ups at the contract level. When a top up transaction is recorded in a contract, at the next maturity date the customer receives the interest for the initial amount up until the top up date, plus the interest for the full amount (initial amount + top up amount) proportional from top up to payment date.
This transaction type is automatically added in the **Associated Transactions** tab if Allow Top Ups was selected in the [Details tab](#).
- **Withdraw** - If added at banking product level, the customer is allowed to make withdrawals at the contract level.
This transaction type is automatically added in the **Associated Transactions** tab if Allow Withdrawals was selected in the [Details tab](#).
If this transaction type is not inserted for deposits, in order to have access to the funds before maturity date, the customer has to liquidate the deposit. In this case the interest is not paid.
- **Transfer between my bank accounts** - If added at banking product level, the customer is allowed to move funds between their accounts at the contract level.
This transaction type is automatically added in the **Associated Transactions** tab if Allow Withdrawals was selected in the [Details tab](#).
- **Deposit Liquidation** - If added at banking product level, the deposit account can be closed and the entire amount is transferred in the current account. If the liquidation occurs at the maturity

date, the interest is also paid. If the liquidation occurs in any other day before the maturity date, the customer receives the sight interest (if applicable). This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Early Termination Deposit** - If added at banking product level, the deposit can be terminated before its maturity date.
This transaction type is not added automatically. Although not mandatory to be inserted in the **Associated Transactions** tab, please do so in order to have a better traceability of the events that can occur.
- **Payment Deposit**- These represent automatic transactions that are generated by the system. If added at banking product level, the system can perform transfers to and from the deposit within a contract.
This transaction type is not added automatically. Although not mandatory to be inserted in the **Associated Transactions** tab, please do so in order to have a better traceability of the events that can occur.

8. View History

You can find the versions of the banking product, their workflow status and the user who modified the product in the **History** tab.

Label	Name	attributeVersionDate	attributeVersion	Modified by user
Draft	Duplicate	19/04/2022 10:29	1	[User Icon]

Here you can track the product's life cycle and review older versions that are no longer active (for details, see [Banking Products' Life Cycle](#)).

9. Manage Origination Elements

You can set the elements required in the origination journey, such as product benefits, display conditions, features, destination types, or associated products in the **Origination Elements** tab.

Feature	DisplayName	Show Order
NMNOTFEES	No Management ...	1

Display Name
Personal

Name
Current Account USD

1. Fill in the following fields:

- **Product Image:** Insert an image representative for the product.
- **Document:** Insert the document representative for the product.
- **Benefits:** Insert the advantages of owning the banking product. You can format the text in the text editor window.

- **Display Conditions:** Insert the conditions for the applicant, e.g. age limit, annual turnover, education level, income, registration documents.
2. Click the **Save and Reload** button.

Product Features

In the **Product Features** section, you can insert, delete or export features.

1. To add a feature, Click the **Insert** button and fill in the following fields:
 - **Feature:** Enter the name of the product feature.
 - **Is Main Feature:** Select the checkbox if it is the major feature.
 - **Display Name:** Enter the display name of the feature.
2. Click the **Save and Reload** button.

Product Destination Types

In the **Product Destination Types** section , you can insert or remove the existing product destination types:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. To create a new destination type, insert a name and specify if it is default. For this case, the following have been configured: **Loan Collateral, Loan disbursements, Personal, Repayments.**

Associated Products

In the **Associated Products** section you can insert or remove an existing products. It is especially useful when you wish to create a link between two products.

Associated Products

+ Insert existing

X Remove existing

☐

Name

Q

Current Account USD

To insert or remove a product from the list or create a new one:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. Click the **Save and Reload** button.

10. Configure Operational Ledger Settings

NOTE

The **OL Settings** tab is available only when Banking Product Factory is implemented along with **Operational Ledger Add-On**.

In the **Banking Product GL Accounts** section, you can set specific accounts to be used by the Operational Ledger system for transactions performed on contracts based on this banking product. Thus, you can overwrite the generic settings of the Operational Ledger, instructing it to use the accounts specified at banking product level.

1 Main Info

2 Details

3 Availability

4 Dimensions

5 Product Formula Engine

6 Documents

7 Loan Core Settings

8 History

9 Origination Elements

10 GL Settings

Banking Product GL Accounts

+ Insert

X Delete

■ Export

↻ Refresh

☐

Product

Q

Accounting System

Q

Accounting Scope

Q

Item

Q

GL Account

Q

Duplicate

0001

FixDeposit

Loan Admin Fee

20110 Commercial loans

1. To add specific accounts to be used by **Operational Ledger**, click **Insert** and fill in the following fields in the displayed **Add Banking Product GL Account** page::

Add Banking Product GL Account

Save and close Save and reload Save and new

Main Information

Product	Accounting System	Accounting Scope	Item	GL Account
Duplicate	0001	FixDeposit	Loan Admin Fee	20110 Commercial loans

- **Product:** Select from the list the banking product. Automatically completed with the banking product you are currently editing.
 - **Accounting System:** Select from the list the desired accounting system. The list contains the records created in the Accounting System entity.
 - **Accounting Scope:** Select from the list the corresponding accounting scope. The list contains the records created in the Accounting Scope entity.
 - **Item:** Select from the list the corresponding transaction item. The list contains the records created in the Transaction Item Accounting Config entity.
 - **GL Account:** Select from the list the corresponding GL account. The list is filtered based on the previously selected accounting system. It contains the accounts defined in the Accounting Chart entity that were added to the chosen accounting system record.
2. Click the **Save and Reload** button.

Debit Cards

A card is a payment card issued by a bank. Cards let customers access funds in checking or savings accounts or make purchases.

Creating Debit Cards

To create a new debit card from scratch, navigate to main menu > **Banking Product Factory** > **Banking Products**, and click the **Insert** button. A new page opens, with a series of tabs that assist you in configuring the banking product. Or, you can create banking products directly from the [product category](#) level, allowing Banking Product Factory to automatically fill in the information inherited from the product category.

NOTE

Alternatively, you can create a card by [duplicating](#) an existing one. Click the **Duplicate** button on the **Banking Products List** page. Make sure you change the **Banking Product Code** and **Name** according to your business needs.

1. Enter Basic Information

You can set the basic elements for creating the product, such as name, code, currency, validity, or product classification, in the **Main Info** tab.

NOTE

Your product type selection influences the next steps and many of the fields are automatically completed with values inherited from the selected product type definition. For debit cards, select the **Debit Card** option in **Banking Product Type**

Main Information

1. In the **Main Information** section, select the **Banking Product Type** from the available list.

NOTE

If you choose to create banking products directly from

the [product category](#) level, then Banking Product Factory automatically fills in the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

2. The **Currency** is automatically completed from the default value defined within the "[DefaultCurrencyBankingProduct](#)" on [page 506](#) Banking Product Factory system parameter. You can change it for the newly created product by selecting another currency from the drop-down list.
3. Banking Product Factory automatically generates the code based on the code of the product type + a sequencer. For example, the TLU854 code corresponds to a banking product based on an Unsecured Loan product type. You can modify the product code in the **Banking Product Code** field. It can have 10 characters.
4. Set the product validity by selecting the date when the product becomes available (**Start Date**) and the last date from when the product is available (**End Date**).
5. Enter the product **Name**.
6. Optionally you can set the following fields:
 - **External Code:** Select the code of the product imported from an external system, if applicable. It can have 10 characters and it is not used in the contract.
 - **Description:** Enter any description or additional text related to your new product.

- **Class, Subclass, Category, and Subcategory:** Select the desired values to set the desired hierarchy for your product. For more information, see ["Product Hierarchy" on page 406](#)
7. Click the **Save and Reload** button. The product is now saved and you can further edit it for your needs.

Product Classification

After saving the product, the **Product Classification** section is populated with more options for your product. You can insert or remove existing product classification items.

1. To add a product classification item, click **Insert Existing** and select an already existing item.

Product Classification

<input type="checkbox"/>	Code	Name	Classification Type	Valid From	Valid To
<input type="checkbox"/>	REG1	Classification ...	Regulatory	01/01/2020	31/12/2030

2. You can also create a new product classification item by clicking the **Insert existing** button and then the **Insert** button.
3. On the newly displayed **Add Product Classification** page, fill in the fields:

Add Product Classification

Main Information

Name	Code	Valid From	Valid To	Classification Type	Is Default
Classification Restructuring Level	RESTRUCT1	20/04/2022	30/04/2028	Restructuring	<input type="checkbox"/>

[Classified Banking Products](#)

- **Name:** Enter the name of the classification item.
- **Code:** Enter the unique code of the classification item.

- **Valid From:** Select the date from which the product classification item is valid.
- **Valid To:** Select the date until when the product classification item is valid.
- **Classification Type:** Choose the classification type of the item. Possible values: Regulatory, Restructuring.
- **Is Default:** Select the checkbox if this classification item is default.

The **Classified Banking Products** section is displayed after you save the classification item record and allows you to insert existing banking products. The following information is displayed here: **Code, Name, Class, SubClass, Category, SubCategory** and **Status**.

For more information on how to create a new product classification, see [Banking Product Classification](#).

4. Click the **Save and Reload** button.

2. Add Details

You can set elements such as interest, payment type, top-ups and withdrawals in the **Details** tab. Most of the values within this tab, already completed, are inherited from the selected banking product type level definition, but you can change them according to your needs.

The screenshot displays the 'Details' tab of the Banking Product Factory interface. The top navigation bar includes tabs: 1 Main Info, 2 Details (active), 3 Availability, 4 Dimensions, 5 Product Formula Engine, 6 Documents, 7 Loan Core Settings, 8 History, 9 Origination Elements, and 10 GL Settings.

General Data

- Auto Roll Over: ☒
- Allow Refinancing: ☐
- Allow Restructuring: ☐
- Allow CoDebtor: ☐
- Max No. Of CoDebtors:
- Allow Top Ups: ☒
- Allow Withdrawals: ☒
- Allow negotiated IR: ☐
- Allow Overdraft: ☒
- Interest is Capitalized: ☐
- Interest Payment Type:

Disburse Settings

- Autodisbursement: ☐
- Max No Disbursements:

Product Guarantees

- Is Guaranteed: ☒
- Collateral Cover Percent:
- Allow Collateral Partial Release: ☐

Allowed Guarantee Types

Buttons: + Insert, X Delete, Export, Refresh

Guarantee Type	Max Accepted Covering Percent
<input type="text"/>	<input type="text"/>

No data

Payment Schedule Types

- Period Type:
- Periodicity Type:

Schedule Templates

Buttons: + Insert existing, X Remove existing

Name
<input type="text"/>

No data

Holiday Settings

- Holiday Shift For Repayment Installments: ☒
- Defer Due Date: ☒
- Holiday Shift Method:

Country Calendars

Buttons: + Insert existing, X Remove existing

Name
<input type="text"/>

Romania

Product Behavior

- In the **General Data** section, you can optionally set the following fields:
 - Auto Rollover:** If you select this checkbox, the contract is renewed at maturity date in exactly the same conditions. If it remains unchecked, the contract is automatically closed at maturity date. The field is used mostly for deposits or any product that can undergo the extension of contract.
 - Allow Refinancing:** Select if the account can be refinanced for this product.

- **Allow Restructuring:** Select if the contract can be restructured.
- **Allow CoDebtor:** Select if another debtor exists for this product.
- **Max No. of CoDebtors:** Set the maximum number of debtors possible for this product.
- **Allow Top Ups:** Select if the amount can be topped up with a sum of money.
- **Allow Withdrawals:** Select if the customer can take out money for this product.
- **Allow Negotiated IR:** Select if for this product the interest rate is negotiable.
- **Allow Overdraft:** Select if for this product allows overdrafts.
- **Interest Is Capitalized:** Only applicable if there is an interest rate. Select if true.
- **Interest Payment Type:** Select the regularity of interest payments: Once (the whole interest amount is paid at maturity), Monthly, Trimester, Semestrial or Annual.

2. Click the **Save and Reload** button.

Disbursement

1. In the **Disburse Settings** section, check the **Auto Disbursement** box, and the disbursement is automatically performed when the contract is approved.
2. You can optionally set the following fields:
 - **Max No Disbursements:** Enter the maximum number of disbursements that can be configured for this product.

- **Active Tranche On Doc:** If you select this checkbox, then the tranches are activated (disbursements are created and approved) after certain documents are submitted. It is the Financial Institution's responsibility to verify the content of the submitted documents.
3. Click the **Save and Reload** button.

Product Guarantees and Allowed Guarantee Types

Product Guarantees

Is Guaranteed	Collateral Cover Percent	Allow Collateral Partial Release
<input checked="" type="checkbox"/>	<input type="text" value="100"/>	<input type="checkbox"/>

Allowed Guarantee Types

☐ Guarantee Type

Max Accepted Covering Percent

1. In the **Product Guarantees** section, set the following fields:
- **Is Guaranteed:** If selected marks the product as secured.

NOTE

The **Collateral Cover Percent**, **Allow Collateral Partial Release** fields, and the **Allowed Guarantee Types** section appear when you select the Is Guaranteed checkbox.

- **Collateral Cover Percent:** Enter the percent that the collateral person on the contract pays. It usually is over 100%.
- **Allow Collateral Partial Release:** A partial release is a mortgage provision that allows some of the collateral to be released from a mortgage after the borrower pays a certain amount of the loan.

The **Allowed Guarantee Types** section is displayed after you check the **Is Guaranteed** option. You can insert or delete allowed guarantee types:

2. To insert a guarantee type, click the **Insert** button and fill in the name, maximum accepted covering percent, and select the guarantee type.

Add Product Guarantee Structure

Product Guarantee Structure			
Banking Product	Card	Guarantee Type	FixedDeposit
Max Accepted Covering Percent	85	Name	Deposit

3. Click the **Save and Reload** button.

Payment Schedule Types

1. Select the regularity of payments in the **Periodicity Type**. You can choose: **Once** (the whole amount is paid at maturity), **Weekly, Monthly, Bimonthly, Trimestrial, 4 Weeks, Semestrial, Annual** or **30Days**.

NOTE

If the measurement unit of the selected
Periodicity Type = Days, then Holiday Shift

For Repayment Installments = False and it cannot be changed.

2. Optionally, in the **Period Type**, you can select the period of availability for the product: **Days, Weeks, Months, Years** or **Once**.

NOTE

The period type must be the same as the measurement unit of the Periodicity Type.

3. Click the **Save and Reload** button.

Schedule Templates

In the **Schedule Templates** section, you can associate/ delete payment schedule types to/ from the banking product.

Schedule Templates

<input type="checkbox"/>	Name
<input type="checkbox"/>	Credit Card Installments
<input type="checkbox"/>	One principal installment

1. To associate a payment schedule type to the banking product, click **Insert Existing** and select one of the already defined types. Go to "[Payment Schedule Types](#)" on [page 413](#) to read more about this.

IMPORTANT!

When creating a new Term Loan, Mortgage, or Overdraft banking product, you must select at least one payment schedule type, otherwise you can't approve the product. If the **Schedule Templates** section has no records, an error message is displayed upon transitioning the product into the **Approved** status.

2. Click the **Save and Reload** button.

Holiday Settings

In the **Holiday Settings** section, the following fields are available:

Holiday Settings

Holiday Shift For Repayment Installments



Defer Due Date



Holiday Shift Method

Forward

Country Calendars

+ Insert existing

✕ Remove existing



Name



Romania

1. Select the **Holiday Shift For Repayment Installments** checkbox for holidays to be taken into consideration when calculating the maturity program.

NOTE

The **Country Calendars** section and the **Defer Due Date** and **Holiday Shift Method** fields appear if you select the **Holiday Shift For Repayment Installments** checkbox.

The **Defer Due Date** option is select by default. If selected, the payment schedule calculates the next payment amount as if the due date has not changed even when the due date falls on a holiday.

2. From the **Holiday Shift Method**, you can select the method to be used when calculating the due date if that date falls on a holiday. The due date can be shifted before or after the holiday. The possible values you can choose are:
 - **None** - the due date is not shifted.
 - **Forward** - the due date is shifted to the next working day after the initially calculated due date.
 - **Backward** - the due date is shifted to the last working day before the initially calculated due date.

Default value: Forward.

Country Calendars

In the **Country calendars** section, you can insert or delete calendars. You can work with multiple calendars as well. To insert a calendar:

1. Click the **Insert Existing** button and add the country's name. If the maturity date coincides with a holiday, it is allocated automatically on the next business day.
2. Click the **Save and Reload** button.

3. Configure Availability

You can determine the monetary range and the time frame when the product is available for customers in the **Availability** tab.

- Fill in the following fields:
 - Minimum Period** and **Maximum Period**: Enter the minimum and maximum duration of the product mentioned in the contract.
 - Minimum Amount** and **Maximum Amount**: Enter the minimum and maximum amount of the product for which the bank opens a contract.
- Click the **Save and Reload** button.

Availability Rules

In the **Availability Rules** section you can select the item filters for your banking product.

- Click the **Insert** button, the **Add Product Availability Item Filter** is displayed.

2. Select the desired filter from the Filter option.
3. Add the attributes of the selected filter.
4. Optionally, add a description for the added item filter.
5. Click the **Save and Reload** button.

For more details, see ["Product Filter" on page 472](#).

Product Covenants

In the **Product Covenants** section you can set certain conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements.

Product Covenants

+ Insert × Delete ■ Export ↻ Refresh

<input type="checkbox"/>	Type	Covenant	Valid From	Valid to	Value
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Affirmati...	Borrowers should perform tax obligations	19/04/2022	20/04/2030	
	Financial	Lender can monitor borrower's current r...	19/04/2022	20/04/2030	

1. Click the **Insert** button to add a covenant to the product. Each covenant can be attributed a value, an availability period, and a review frequency in months. Read more about covenants in the ["Covenant" on page 495](#) page.
2. Click the **Save and Reload** button.

4. Manage Dimensions

You can insert, delete or export interest, commissions, insurances, discounts or questions valid for your product in the **Manage Dimensions** tab.

The screenshot shows the 'Dimensions' menu with four sub-sections:

- Interest & Commissions:** Includes an 'Item Name' search bar with the value 'MCA' and buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.
- Insurances:** Includes an 'Item Name' search bar with the value 'House Insurance' and buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.
- Discounts:** Includes a table with columns: Name, Discount, End Date, Start Date, and Value Discount. The table is currently empty, showing 'No data'. Buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh' are present.
- Questions:** Includes a 'Question' search bar and a 'Business Status' search bar. Below them are two rows: 'Question1' with status 'Active' and 'Question2' with status 'Active'. Buttons for '+ Insert existing' and 'X Remove existing' are present.

To add a new one, click **Insert** and fill-in the fields detailed in the sections below.

NOTE

To configure the interest and commissions separately, navigate to **Main > Product Factory > Banking Product Dimensions menu** which contains several other embedded menus.

Interest & Commissions

1. To add an **interest** or a **commission**, click **Insert** in the **Interest & Commissions** section. The **Add Interest & Commission Item** page is displayed.
2. Select the banking product from the **Banking Product** list.
3. Enter the **Item Name**.
4. Enter the **Start Date** when the interest/ commission becomes effective and the **End Date** for the interest/ commission.
5. Fill in the following fields:
 - **Code:** Enter a code for this particular interest/ commission.
 - **Interest List:** Select from which list the interest is a part of.

- **Commissions List:** Select from which list the commission is a part of.
 - **Minimum Interest Rate (%):** Enter the percent applicable as a minimum interest rate at the contract level.
 - **Is Negotiable:** Select the checkbox to specify that every interest, commission or margin field at the contract level is negotiable and can be edited.
6. Click the **Save and Reload** button.
 7. In the **Interest & Commission Item Filters** section, click **Insert** to insert an [item filter](#).
 8. Select a filter created earlier in the "[Product Filter](#)" on [page 472](#).
 9. Set the following fields:
 - **Value/ Date:** Select the beginning value/ date for the filter.
 - **Until Value/ Until Date:** Select the maximum value/ date for the filter.
 - **Description:** This field is automatically filled in after clicking the **Save and Reload** button. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter Entity:** Entity on which the filter was defined.
 - **Description:** It is left blank. Add a description if needed.
 - **Grid of Options:** This field is automatically filled in after clicking the **Save and Reload** button. The values of the option set are displayed. Select the Boolean for the values you wish to include in the filter.
10. Click the **Save and Reload** button.

← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓ ✎

Value 1 Until Value 50,000

Description

AL_Amount > 1 - 50000

Insurances

For any banking product, you can select a pre-existing insurance or create a new one.

- To add a new **insurance**, in the **Insurances** section, Click the **Insert** button and set the following fields:
 - **Banking Product:** Select the banking product.
 - **Code:** Insert a code for this particular insurance.
 - **Item Name:** Insert a name.
 - **Start Date:** Enter the start date when the insurance becomes effective.
 - **End Date:** Enter the end date for the insurance.
 - **Details:** It is left blank. Add a description if needed.
 - **Insurance List:** Select from which list the insurance is a part of.
- Click the **Save and Reload** button.
- In the **Insurance Item Filters** section, click **Insert** and fill in the following fields:

- **Filter:** The name inserted earlier.
- **Value:** The starting value for the attribute.
- **Until Value:** The ending value of the interval.
- **Description:** Insert the proper description for the availability filter.

4. Click the **Save and Reload** button.

Save and close Save and reload

Edit Insurance Item

Main Information

Banking Product Code Item Name Insurance List Start Date End Date

Duplicate INS H Insurance InsuranceListItem 19/04/2022 20/04/2030

Details

Insurance Item Filters

+ Insert X Delete Export Refresh

Description

Amount Insurance >= 1000 - 30000

Discounts

For any banking product, you can add discounts of any nature. You can select a pre-existing discount or create a new one.

1. To add a new [discount](#), Click the **Insert** button in the **Discounts** section.
2. In the **Details Page**, insert the appropriate **Name** for the discount.
3. Choose one of the pre-configured types of discounts available in the **Discount** field, or create a new one. According to the selected type, new fields appear on the page requiring to be filled in.
4. Insert the value of the discount to be applied, e.g. 15.
5. Set the start date when the discount becomes effective (**Start date**), and the end date for the discount (**End date**).

6. Optionally, you can fill in the following fields:

- **Applied to dimension:** Specifies for which product dimension this discount is applicable (interest, commission or insurance). This is autocompleted by the selected discount's dimension.
- **Commission type:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission type this discount is applicable. This is autocompleted by the selected discount's default commission type.
- **Commission:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission this discount is applicable. This is autocompleted by the selected discount's default commission.
- **Insurance class:** This field appears if the selected discount = Discount Life Insurance or Interest Discount. Specifies for which insurance class this discount is applicable (credit, home, life or other insurance class). This is autocompleted by the selected discount's insurance class.
- **Insurance:** This field appears if the selected discount = Discount Life Insurance. Specifies for which insurance this discount is applicable. This is autocompleted by the selected discount's insurance.
- **Interest type:** This field appears if the selected discount = Interest discount. Specifies for which interest type this discount is applicable.
- **Use Banking Formula:** If you select this checkbox, the discount is calculated using the Banking Formula engine.

- **Is optional discount?** : Selecting this checkbox results in the discount being applied only if the customer agrees to the discount.
 - **Is percentage:** If you select this checkbox, the discount is calculated as a percentage from the contract's amount.
 - **Destination entity:** Select the entity where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
 - **Destination entity attribute:** Select the attribute where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
7. Click the **Save and Close** button.
 8. In the **Product Discount Item Filter** section, click **Insert** and fill in the fields as specified in the **Product Filter page**. The fields displayed depend on the selected filter.
 9. Click the **Save and Close** button.

Questions

You can choose one or more questions to add to the banking product, or insert a new one.

1. To insert a new **question**, in the **Questions** section, Click the **Insert existing** button, then click **Insert**.
2. In the **Add Banking Product Question** page, fill in the following fields:
 - **Question:** Enter the appropriate name.
 - **Answer Type:** Select the type of answer the customer has to give: text, numeric or option set.

- **Answer Entity:** Select the entity where the answer is stored.
- **Answer Field:** Select the attribute where the answer is stored.

3. Click the **Save and Reload** button.

The **Banking Products List** shows where the question is used.

IMPORTANT!

The question has to be activated in order for it to be added to the banking product.

4. Click the **Save and Close** button.

For example, this is how a question is displayed in a customer journey in the FintechOS Portal:

The screenshot shows a mobile application interface for a mortgage application. At the top, there's a navigation bar with 'CURRENT STATUS: INITIALIZED' and 'NEXT STATUS: CHOOSE STATUS'. Below this is a blue header with 'EDIT LOAN APPLICATION'. The main content area is titled 'Eligibility Questions' and includes a sub-header: 'We ask for this information so that we can carry out the checks needed to consider you for a mortgage'. There are three input fields: 'DEPOSIT SOURCE' with a dropdown menu showing 'Select...', 'RETIREMENT DATE' with a date picker, and 'RETIRED' with radio buttons for 'Yes' and 'No' (the 'No' button is selected). A blue 'Finish' button is located at the bottom right of the form.

5. Configure Product Formula Engine

The **Product Formula Engine** tab keeps formulas built with [Formula Engine](#) for the banking product. Such formulas can be used to determine the eligibility of a customer.

Banking Product Formulas

In the **Banking Product Formulas** section, choose an already defined formula or click **Insert** to configure a new one, for example a formula for eligibility or scoring purposes. For information on how to build a formula, see [Define Formula Inputs](#).

1. In the **Add Banking Product Formula** page, fill in the following fields:

- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

The name of the banking product is inserted automatically in **Banking Product**.

- After selecting the desired formula, click **Save and reload**, then click **Map Data**.
- In the **Formula Mapping** page, click **Input** and configure the input data for the formula.
- Click **Output** and configure the output for the formula.

- Click the **Save and Close** button.

Such formulas can be used in customer journey steps, for example when the customer inserts their financial data.

Test Scenarios

A good practice is to test the formula before displaying it in a customer journey. You can do that in the **Test Scenarios** section:

1. Click the **Insert** button to open the **Add Test Scenario** page.
2. Insert a **Test Scenario Type** from the option set. The keys and the values are shown.
3. Click the **Save and Reload** button.
4. Click the **Calculate** button. The outputs are displayed in the **Test Scenario Outputs** section.
5. You can save these outputs by selecting the **Save Output Data** checkbox next to **Calculate**.

6. Add Documents

You can manage all the attached documents available for a product and all the agreements that a customer needs to go through in the **Documents** tab.

The screenshot shows the 'Documents' tab selected in the top navigation bar. Below the navigation bar, there are two main sections: 'Banking Product Documents' and 'Banking Product Agreements'.

Banking Product Documents: This section has a toolbar with buttons for '+ Insert', 'X Delete', '■ Export', and '↻ Refresh'. Below the toolbar, there is a 'Report' checkbox and three search filters: 'Banking Copies No' (with a search icon and input field), 'Operation Code' (with a search icon and input field), and 'Code' (with a search icon and input field). Below the filters, there is a table with the following data:

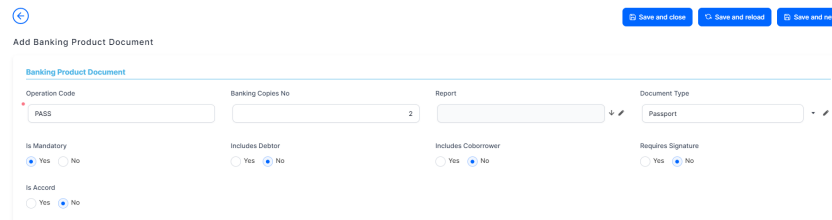
Status overview of the queues	Banking Copies No	Operation Code	Code
	2	TC	

Banking Product Agreements: This section has a toolbar with buttons for '+ Insert', 'X Delete', '■ Export', and '↻ Refresh'. Below the toolbar, there is a search filter 'Code' (with a search icon and input field). Below the filter, there is a message 'No data'.

Banking Product Documents

Any previously associated documents are displayed in the **Banking Product Documents** section.

1. To attach a new document to the banking product, in the **Banking Product Documents** section, click **Insert**. The **Add Banking Product Document** page is displayed.



Add Banking Product Document

Banking Product Document

Operation Code: PASS

Banking Copies No: 2

Report:

Document Type: Passport

Is Mandatory: ☒ Yes ☐ No

Includes Debtor: ☐ Yes ☒ No

Includes Coborrower: ☐ Yes ☒ No

Requires Signature: ☐ Yes ☒ No

Is Accord: ☐ Yes ☒ No

2. Set the following fields:
 - **Operation Code:** Enter a code for the document.
 - **Banking Copies:** Insert the number of copies made.
 - **Report:** Select a document from the list.
 - **Document Type:** Select a document type from the list.
 - **Is Mandatory:** Select if the document is mandatory.
 - **Includes Debtor:** Select if the document includes the debtor.
 - **Includes Coborrower:** Select if the document includes the co-borrower.
 - **Requires Signature:** Select if the document requires to be signed.
 - **Is accord:** Select if the document represents the accord.
3. Click the **Save and Reload** button.

Banking Products Agreements

The agreements that a customer needs to go through are displayed in the **Banking Products Agreements** section.

1. To attach a new agreement to the banking product, in the **Banking Products Agreements** section, click **Insert**. The **Add Banking Products Agreements** page is displayed.

2. Fill in the following fields:
 - **Agreements:** Select an agreement from the list.
 - **Banking Product:** It is automatically filled in.
 - **Code:** Insert the corresponding code.
 - **Is Mandatory:** Select if the agreement is mandatory for the product.
3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the [Digital Document Processor](#).

7. Configure Lean Core Settings

NOTE

The **Lean Core Settings** tab is available only when Banking Product Factory is implemented along with Core Banking.

Transactions types that are performed to and from a banking product are displayed in the **Lean Core Settings** tab. The tab also holds information about the reconciliation account associated with the products, mandatory roles for contract approval, payment allocation settings, the treatment of returned goods for contracts based on this banking product (only for Term Loans and Mortgage banking products), and closing contract settings.

The screenshot shows the 'Lean Core Settings' tab in the Banking Product Factory. The 'Self Bank Account Associated With The Product' section is highlighted, showing a dropdown for 'Reconciliation Account' set to 'Reconciliation EUR' and a dropdown for 'Negative balance treatment' set to 'NoMessage'. Below this is the 'Mandatory Roles for Contract Approval' section with a table for roles and a 'Beneficiary' checkbox. To the right, the 'Payment Allocation Settings' section includes 'Repayment Allocation Method' (CostOrder), 'Grace Days for Repayment', and 'Penalty for grace period'. Below that is the 'Allowed Transactions' section with a list of transactions: 'Top Up Account', 'Transfer between my bank accounts', and 'Withdraw'. At the bottom, the 'Closing Contract Settings' section includes 'Buffer Close Days' (15), 'Close Real Time' (unchecked), 'Closing Is Flexible' (checked), and 'Contract Is Closed Automatically' (checked).

Reconciliation Account Associated With The Product

1. In the **Self Bank Account Associated with the Product**, for each banking product, you must select a reconciliation account, which is the bank account to be used for transactions, for money movements.

This is a close-up of the 'Self Bank Account Associated With The Product' section. It shows two dropdown menus: 'Reconciliation Account' with 'Reconciliation EUR' selected, and 'Negative balance treatment' with 'NoMessage' selected.

NOTE

This account must have the same currency as the product, because the conversions are performed from and into this account.

2. Select a value for the **Negative Value Treatment** drop-down to specify how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a

disbursement event would be approved. The possible values are:

- **Error** - there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero. Select this value if you want to block any transactions that would result in a negative balance of the reconciliation account associated to the banking product.
- **Warning** - there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- **NoMessage** - there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.

NOTE

Core Banking also has a system parameter, `ReconciliationAccountTreatment`. That is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value). Thus, if the value is specified

at the banking product level, then that value takes precedence over the system parameter's setting.

If you associate the same reconciliation account to more than one banking product, then the setting selected in banking product A is applied for contract events based on banking product A, while for the banking product B, Core Banking would apply the setting selected at the level of banking product B.

Payment Allocation Settings

In the **Payment Allocation Settings** section you can decide which allocation method should be used to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on. You can also define the grace period settings.

Payment Allocation Settings

Repayment Allocation Method	Grace Days for Repayment	Penalty for grace period
<div>CostOrder</div> <div>↓ ✎</div>	<div>5</div>	<input type="checkbox"/>
Direct Debit Settlement Account		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Payment Allocation Method:** The payment allocation method represents the recovery order of amounts from payment notifications. Select a payment allocation method from the list.
- **Grace Days for Repayment:** Insert the number of days for which the bank expects a payment without calculating penalty.

- **Penalty for grace period:** If you select the checkbox, the penalty interest is applied on the loan contract without taking into consideration the grace period defined at contract level, being calculated for the difference between system date - due date, if the grace period passed and the customer didn't pay the due amounts. If you leave this checkbox unselected, the penalty interest is applied on the loan contract taking into consideration the grace period defined at contract level, being calculated for system date - due date + grace days for repayment.
- **Direct Debit Settlement Account:** If you select the checkbox, the banking product has the automated settlement of repayment notification functionality (the payment allocation) turned on by default at the contract level. You can turn the automated settlement off either at the banking product level or at the contract level in Core Banking. Default value: true.

NOTE The automated settlement of repayment notification, or direct debit settlement account, is the functionality whereby, if funds are available on the settlement account and the contract has repayment notifications pending for recovery, Core Banking automatically uses the available balance up to full settlement of repayment notifications.

In Core Banking, the automated settlement of Installment type repayment notification

functionality (the payment allocation) can be turned on or off, thus allowing the financial institution to manage the contracts in case of blocked accounts and control the allocation of funds to outstanding notifications in case of need to impose a block on the settlement account, or manage the settlement of multiple loans from the same settlement account when short on funds and exceptional rules might apply.

If the functionality is turned off, the contract is pending for manual allocation. You can turn it back on and leave Core Banking to allocate the funds according to its automated processes, using any funds that become available in the settlement account in order to cover pending notifications.

2. Click the **Save and Reload** button.

Mandatory Roles for Contract Approval

In the **Mandatory Roles** section you can add the roles of the participants that are mandatory to exist at the contract level for contracts based on this banking product. In other words, when creating contracts based on banking products with Merchant role in this section, you must add a customer with the same Merchant role as contract participant, otherwise, the contract cannot be approved. When **Search Limit** is selected for a role on a banking

product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role, in this case Merchant Exposure.

Mandatory Roles for Contract Approval

+ Insert

× Delete

Export

Refresh

☐

Role

Search Limit

(All)

Beneficiary

☐

1. In the **Mandatory Roles** section, click **Insert** and fill in the following fields:

⬅

Save and close

Save and reload

Save and new

Add Mandatory Role

Main Information

Banking Product

Duplicate

Role

Merchant

Search Limit

☒

- **Banking Product:** The banking product for which you define mandatory roles. This is automatically completed with the current banking product.
- **Role:** Select the role of the participants that are mandatory to exist at the contract level for contracts based on this banking product.
- **Search Limit:** When Search Limit is selected for a role on a banking product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role. If you select a role not associated with a customer limit type in Core Banking, the Search Limit field becomes read-only and unselected.

2. Click the **Save and Reload** button.

Return Of Goods

In the **Return Of Goods**, you can define whether a contract based on the banking product can have Returned Amount or Goods transactions or not, and the specific conditions for these transactions. The Returned Amount or Goods transaction type can be used when a customer returns all or part of a loan or mortgage in a short while after contract creation, if the banking product was defined to allow such transactions. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.

Return Of Goods

Allow Return Of Goods	Accepted Days For Return	Return Message
<input checked="" type="checkbox"/>	<input type="text" value="15"/>	<input type="text" value="Warning"/>

1. Fill in the following fields:

- **Allow Return Of Goods:** Select this checkbox if the contracts based on this banking product accept Return of Goods transactions. Default value: False. If selected, the Accepted Days For Return and Return Message fields are displayed, otherwise, these fields are not visible.
- **Accepted Days For Return:** Specify the number of days after contract creation during which the return of goods transaction can be created and approved.
- **Return Message:** Select the behavior of messages generated by Core Banking for situations when the Returned Amount or Goods transaction's approval date + the number of accepted days for return \geq the current date. Possible values are taken from the Warning Error Treatment option set. According to the desired behavior, choose:

- Error, if the transaction should not be approved and an error message should be displayed;
- Warning, if the transaction can be approved, but a warning message should be displayed;
- NoMessage, if the transaction can be approved without any messages.

2. Click the **Save and Reload** button.

NOTE If Allow Return Of Goods = True, then the Returned Amount of Goods transaction is automatically added to the **Transaction Types** section.

Closing Contract Settings

In the **Closing Contract Settings** section, you can configure the default closure settings for contracts based on this banking product.

Closing Contract Settings

Buffer Close Days	Close Real Time	Closing Is Flexible
<input type="text" value="10"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Is Closed Automatically		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Buffer Close Days:** Enter the number of days used as buffer before automatically closing the contract when the contract reaches maturity and its balance reaches zero. If Buffer Close Days > 0, then Contract Is Closed Automatically = False.

- **Close Real Time:** If you select this checkbox, the contract based on this banking product is closed in real-time, when the contract reaches maturity and its balance reaches zero, without waiting for the end of day processes. If `Close Real Time = True`, then `Buffer Close Days = 0` and `Contract Is Closed Automatically = True`.
- **Closing Is Flexible:** If you select this checkbox, the closure details of the contract based on this banking product can be modified at the contract creation.
- **Contract Is Closed Automatically:** If you select this checkbox, the contract based on this banking product is closed automatically at maturity, if the balance reaches zero. If `Contract Is Closed Automatically = False`, then `Close Real Time = False`.

2. Click the **Save and Close** button.

Allowed Transactions

Banking Product Factory automatically displays in the **Allowed Transactions** section the transaction types associated at the selected banking product type level. If you need to associate other transaction types with the selected banking product, follow these steps:

1. Click **Insert existing** and select the desired transaction types to be associated.
2. Double-click a selected transaction type to edit it.

Edit Transaction Type

Settings

Name: Disbursement Transaction Code: DSB Process Type: Disbursement Edit Form: FTOS_CB_EventDisbursement Transaction Operation Type: Disbursement Is System Transaction: ☐

Is Automatic Transaction: ☐ Real Time Process: ☐ Only One Draft: ☒ Generate New Contract Version: ☐ Commission Type: Return Commission Type:

Is Clueback Transaction: ☒

Accounting Configurations

Generates Accounting Entry: ☒ QL Master Entry: FTOS_CB_ContractEvent

Purge Configurations

To Be Purged: ☒ Purge Number of Days: 30 Master Purge Entry: FTOS_CB_ContractEvent

Transaction Value Types

Transaction Type	Type	Value Type Name	Is Header	Value Type Attribute
Disbursement	Numeric	EventValue	<input checked="" type="checkbox"/>	eventValue
Disbursement	Text	ContractEventId	<input type="checkbox"/>	FTOS_CB_Contr...

Transaction Item Accounting Configurations

Transaction	Accounting	Accounting	Chart Acco...	Currency	Operational...	Take From ...
Disburse...	0001	OFFBLoa...	90300 C...			
Disburse...	0001	Provision...	66211 Im...			

3. In the **Edit Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE There is no integration at this point with a payment gateway.

- **Edit Form:** Select the form used to edit this transaction type. You can choose only from the forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.

- **Is System Transactions:** If you select this checkbox the transaction is marked as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting.
- **Is Automatic Transaction:** If you select this checkbox here, then you cannot select it within the contract operations. The **Is Automatic Transaction** checkbox marks the transaction as automatic.
- **Real Time Process:** This checkbox marks the transaction as to be processed in real-time. If selected, then the transaction is processed right away. If not selected, then the transaction is inserted as a [bank account transaction queue](#) record.
- **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
- **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
- **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
- **Return Commission Type:** Select the return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
- **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.

4. In the **Edit Transaction Type > Accounting Configurations** section, fill in the following fields:
 - **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.
5. In the **Edit Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If you select it, you can purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
6. You can also edit the information in the **Transaction Value Types, Transaction Item Accounting Configurations** and **Transaction Accounting Models** sections. Read more details about Transaction Types in the [Operational Ledger](#) User Guide.
7. Click the **Save and Close** button.

8. View History

You can find the versions of the banking product, their workflow status and the user who modified the product in the **History** tab.

Label	Name	attributeVersionDate	attributeVersion	Modified by user
Draft	Duplicate	19/04/2022 10:29	1	[User Icon]

Here you can track the product's life cycle and review older versions that are no longer active (for details, see [Banking Products' Life Cycle](#)).

9. Manage Origination Elements

You can set the elements required in the origination journey, such as product benefits, display conditions, features, destination types, or associated products in the **Origination Elements** tab.

Feature	DisplayName	Show Order
NMNOTFEES	No Management ...	1

Display Name
Personal

Name
Current Account USD

1. Fill in the following fields:

- **Product Image:** Insert an image representative for the product.
- **Document:** Insert the document representative for the product.
- **Benefits:** Insert the advantages of owning the banking product. You can format the text in the text editor window.

- **Display Conditions:** Insert the conditions for the applicant, e.g. age limit, annual turnover, education level, income, registration documents.
2. Click the **Save and Reload** button.

Product Features

In the **Product Features** section, you can insert, delete or export features.

1. To add a feature, Click the **Insert** button and fill in the following fields:
 - **Feature:** Enter the name of the product feature.
 - **Is Main Feature:** Select the checkbox if it is the major feature.
 - **Display Name:** Enter the display name of the feature.
2. Click the **Save and Reload** button.

Product Destination Types

In the **Product Destination Types** section , you can insert or remove the existing product destination types:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. To create a new destination type, insert a name and specify if it is default. For this case, the following have been configured: **Loan Collateral, Loan disbursements, Personal, Repayments.**

Associated Products

In the **Associated Products** section you can insert or remove an existing products. It is especially useful when you wish to create a link between two products.

Associated Products

+ Insert existing

X Remove existing

☐

Name

Q

Current Account USD

To insert or remove a product from the list or create a new one:

- 1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
- 2. Click the **Save and Reload** button.

10. Configure Operational Ledger Settings

NOTE

The **OL Settings** tab is available only when Banking Product Factory is implemented along with **Operational Ledger Add-On**.

In the **Banking Product GL Accounts** section, you can set specific accounts to be used by the Operational Ledger system for transactions performed on contracts based on this banking product. Thus, you can overwrite the generic settings of the Operational Ledger, instructing it to use the accounts specified at banking product level.

1 Main Info

2 Details

3 Availability

4 Dimensions

5 Product Formula Engine

6 Documents

7 Loan Core Settings

8 History

9 Origination Elements

10 GL Settings

Banking Product GL Accounts

+ Insert

X Delete

■ Export

🔄 Refresh

☐

Product

Q

Q

Q

Q

Q

Duplicate

0001

FixDeposit

Loan Admin Fee

20110 Commercial loans

1. To add specific accounts to be used by **Operational Ledger**, click **Insert** and fill in the following fields in the displayed **Add Banking Product GL Account** page::

- **Product:** Select from the list the banking product. Automatically completed with the banking product you are currently editing.
 - **Accounting System:** Select from the list the desired accounting system. The list contains the records created in the **Accounting System** entity.
 - **Accounting Scope:** Select from the list the corresponding accounting scope. The list contains the records created in the **Accounting Scope** entity.
 - **Item:** Select from the list the corresponding transaction item. The list contains the records created in the **Transaction Item Accounting Config** entity.
 - **GL Account:** Select from the list the corresponding GL account. The list is filtered based on the previously selected accounting system. It contains the accounts defined in the **Accounting Chart** entity that were added to the chosen accounting system record.
2. Click the **Save and Reload** button.

Credit Cards

A credit card allows the customer to make purchases without bringing out any amount of cash. Instead, the customer borrows funds from the issuing bank, to make purchases.

To create a new credit card from scratch, navigate to main menu > **Banking Product Factory** > **Banking Products**, and click the **Insert** button. A new page opens, with a series of tabs that assist you in configuring the banking product. Or, you can create banking products directly from the [product category](#) level, allowing Banking Product Factory to automatically fill in the information inherited from the product category.

NOTE

Alternatively, you can create a credit card by [duplicating](#) an existing one. Click the **Duplicate** button on the **Banking Products List** page. Make sure you change the **Banking Product Code** and **Name** according to your business needs.

1. Enter Basic Information

You can set the basic elements for creating the product, such as name, code, currency, validity, or product classification, in the **Main Info** tab

The screenshot shows the 'Main Information' tab of the Banking Product Factory interface. At the top, there is a navigation bar with tabs: 1 Main Info, 2 Details, 3 Availability, 4 Dimensions, 5 Product Formula Engine, 6 Documents, 7 Loan Core Settings, 8 History, 9 Origination Elements, and 10 GL Settings. The 'Main Information' tab is active. Below the navigation bar, the form is divided into several sections. The 'Main Information' section includes fields for Banking Product Type (set to 'Credit Card'), Currency (set to 'EUR'), Banking Product Code (set to 'CRCard'), External Code, Start Date (set to '19/01/2021'), End Date (set to '26/01/2034'), Name (set to 'CreditCard'), Class (set to 'Corporate'), SubClass (set to 'Loan Term'), Category (set to 'Loan Term Unsecured'), and SubCategory. There is also a 'Description' field. The 'Product Classification' section includes buttons for '+ Insert existing' and 'X Remove existing', and a table with columns for Code, Name, Classification Type, Valid From, and Valid To.

NOTE

Your product type selection influences the next steps and many of the fields are automatically completed with values inherited from the selected

product type definition. For credit cards, select the **Credit Card** option in **Banking Product Type**.

Main Information

1. In the **Main Information** section, select the **Banking Product Type** from the available list.

NOTE

If you choose to create banking products directly from the [product category](#) level, then Banking Product Factory automatically fills in the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

2. The **Currency** is automatically completed from the default value defined within the "[DefaultCurrencyBankingProduct](#)" on [page 506](#) Banking Product Factory system parameter. You can change it for the newly created product by selecting another currency from the drop-down list.
3. Banking Product Factory automatically generates the code based on the code of the product type + a sequencer. For example, the TLU854 code corresponds to a banking product based on an Unsecured Loan product type. You can modify the product code in the **Banking Product Code** field. It can have 10 characters.
4. Set the product validity by selecting the date when the product becomes available (**Start Date**) and the last date from when the product is available (**End Date**).
5. Enter the product **Name**.

6. Optionally you can set the following fields:
 - **External Code:** Select the code of the product imported from an external system, if applicable. It can have 10 characters and it is not used in the contract.
 - **Description:** Enter any description or additional text related to your new product.
 - **Class, Subclass, Category, and Subcategory:** Select the desired values to set the desired hierarchy for your product. For more information, see ["Product Hierarchy" on page 406](#)
7. Click the **Save and Reload** button. The product is now saved and you can further edit it for your needs.

Product Classification

After saving the product, the **Product Classification** section is populated with more options for your product. You can insert or remove existing product classification items.

1. To add a product classification item, click **Insert Existing** and select an already existing item.

Product Classification

<input type="checkbox"/>	Code	Name	Classification Type	Valid From	Valid To
<input type="checkbox"/>	<input type="text" value="REG1"/>	<input type="text" value="Classification ..."/>	<input type="text" value="Regulatory"/>	<input type="text" value="01/01/2020"/>	<input type="text" value="31/12/2030"/>

2. You can also create a new product classification item by clicking the **Insert existing** button and then the **Insert** button.
3. On the newly displayed **Add Product Classification** page, fill in the fields:

- **Name:** Enter the name of the classification item.
- **Code:** Enter the unique code of the classification item.
- **Valid From:** Select the date from which the product classification item is valid.
- **Valid To:** Select the date until when the product classification item is valid.
- **Classification Type:** Choose the classification type of the item. Possible values: Regulatory, Restructuring.
- **Is Default:** Select the checkbox if this classification item is default.

The **Classified Banking Products** section is displayed after you save the classification item record and allows you to insert existing banking products. The following information is displayed here: **Code, Name, Class, SubClass, Category, SubCategory** and **Status**.

For more information on how to create a new product classification, see [Banking Product Classification](#).

4. Click the **Save and Reload** button.

2. Add Details

You can set elements such as interest, payment type, top-ups and withdrawals in the **Details** tab. Most of the values within this tab, already completed, are inherited from the selected banking product type level definition, but you can change them according to your needs.

Product Behavior

1. In the **General Data** section, you can optionally set the following fields:
 - **Is Revolving:** If selected, allows a business to borrow money as needed for funding working capital needs and continuing operations such as meeting payroll and payable.
 - **Capital Percent (%):** Enter the percent of capital that must be paid back on the selected periodicity type basis.
2. Click the **Save and Reload** button.

Payment Schedule Types

Payment Schedule Types

Period Type	Periodicity Type	Grace Type	Product Grace
Months	Monthly	Both	GracePeriod

1. Select the regularity of payments in the **Periodicity Type**. You can choose: **Once** (the whole amount is paid at maturity), **Weekly, Monthly, Bimonthly, Trimestrial, 4 Weeks, Semestrial, Annual** or **30Days**.

NOTE

If the measurement unit of the selected Periodicity Type = Days, then Holiday Shift For Repayment Installments = False and it cannot be changed.

2. Optionally you can set the following fields:
 - **Period Type:** Select the period of availability for the product: **Days, Weeks, Months, Years** or **Once**.

NOTE

The period type must be the same as the measurement unit of the Periodicity Type.

- **Grace Type:** Select whether the product grace should apply to the principal, the interest, or both. Select an option from the list: **Both, Principal** or **Interest**.
- **Product Grace:** Select an option from the list. This is the amount of time that the bank can offer to a customer at the beginning of the contract without repayments of principal or principal + interest (however, most probably the bank capitalizes the interest for that period).

3. Click the **Save and Reload** button.

3. Configure Availability

You can determine the monetary range and the time frame when the product is available for customers in the **Availability** tab.

Product Availability

1. Fill in the following fields:
 - **Minimum Amount** and **Maximum Amount:** Enter the minimum and maximum amount of the product for which the bank opens a contract.
 - **Minimum Period** and **Maximum Period:** Enter the minimum and maximum duration of the product mentioned in the contract.
2. Click the **Save and Reload** button.

Availability Rules

In the **Availability Rules** section you can select the item filters for your banking product.

Availability Rules

Product Availability Item Filters

+ Insert ✕ Delete 📄 Export 🔄 Refresh

☐ Description

CA >< 1 - 50000

1. Click the **Insert** button, the **Add Product Availability Item Filter** is displayed.
2. Select the desired filter from the Filter option.
3. Add the attributes of the selected filter.
4. Optionally, add a description for the added item filter.
5. Click the **Save and Reload** button.

For more details, see "[Product Filter](#)" on page 472.

Product Covenants

In the **Product Covenants** section you can set certain conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements.

Product Covenants

+ Insert ✕ Delete 📄 Export 🔄 Refresh

<input type="checkbox"/>	Type	Covenant	Valid From	Valid to	Value
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Affirmati...	Borrowers should perform tax obligations	19/04/2022	20/04/2030	
	Financial	Lender can monitor borrower's current r...	19/04/2022	20/04/2030	

1. Click the **Insert** button to add a covenant to the product. Each covenant can be attributed a value, an availability period, and a review frequency in months. Read more about covenants in the ["Covenant" on page 495](#) page.
2. Click the **Save and Reload** button.

4. Manage Dimensions

You can insert, delete or export interest, commissions, insurances, discounts or questions valid for your product in the **Manage Dimensions** tab.

The screenshot displays the 'Manage Dimensions' tab with the following sections:

- Interest & Commissions:** Includes an 'Item Name' search bar and buttons for Insert, Delete, Export, and Refresh. A sample entry 'MCA' is visible.
- Insurances:** Includes an 'Item Name' search bar and buttons for Insert, Delete, Export, and Refresh. A sample entry 'House Insurance' is visible.
- Discounts:** Includes an 'Item Name' search bar and buttons for Insert, Delete, Export, and Refresh. Below the search bar is a table with columns: Name, Discount, End Date, Start Date, and Value Discount. The table currently shows 'No data'.
- Questions:** Includes an 'Item Name' search bar and buttons for Insert existing and Remove existing. Below the search bar is a table with columns: Question and Business Status. It lists 'Question1' and 'Question2', both with a status of 'Active'.

To add a new one, click **Insert** and fill-in the fields detailed in the sections below.

NOTE

To configure the interest and commissions separately, navigate to **Main > Product Factory > Banking Product Dimensions menu** which contains several other embedded menus.

Interest & Commissions

1. To add an [interest](#) or a [commission](#), click **Insert** in the **Interest & Commissions** section. The **Add Interest & Commission Item** page is displayed.
2. Select the banking product from the **Banking Product** list.
3. Enter the **Item Name**.
4. Enter the **Start Date** when the interest/ commission becomes effective and the **End Date** for the interest/ commission.
5. Fill in the following fields:
 - **Code:** Enter a code for this particular interest/ commission.
 - **Interest List:** Select from which list the interest is a part of.
 - **Commissions List:** Select from which list the commission is a part of.
 - **Minimum Interest Rate (%):** Enter the percent applicable as a minimum interest rate at the contract level.
 - **Is Negotiable:** Select the checkbox to specify that every interest, commission or margin field at the contract level is negotiable and can be edited.
6. Click the **Save and Reload** button.
7. In the **Interest & Commission Item Filters** section, click **Insert** to insert an [item filter](#).
8. Select a filter created earlier in the "[Product Filter](#)" on [page 472](#).
9. Set the following fields:

- **Value/ Date:** Select the beginning value/ date for the filter.
- **Until Value/ Until Date:** Select the maximum value/ date for the filter.
- **Description:** This field is automatically filled in after clicking the **Save and Reload** button. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter Entity:** Entity on which the filter was defined.
- **Description:** It is left blank. Add a description if needed.
- **Grid of Options:** This field is automatically filled in after clicking the **Save and Reload** button. The values of the option set are displayed. Select the Boolean for the values you wish to include in the filter.

10. Click the **Save and Reload** button.

← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓ ✎

Value 1 Until Value 50,000

Description

AL_Amount > < 1 - 50000

Insurances

For any banking product, you can select a pre-existing insurance or create a new one.

1. To add a new [insurance](#), in the **Insurances** section, Click the **Insert** button and set the following fields:
 - **Banking Product:** Select the banking product.
 - **Code:** Insert a code for this particular insurance.
 - **Item Name:** Insert a name.
 - **Start Date:** Enter the start date when the insurance becomes effective.
 - **End Date:** Enter the end date for the insurance.
 - **Details:** It is left blank. Add a description if needed.
 - **Insurance List:** Select from which list the insurance is a part of.
2. Click the **Save and Reload** button.
3. In the **Insurance Item Filters** section, click **Insert** and fill in the following fields:
 - **Filter:** The name inserted earlier.
 - **Value:** The starting value for the attribute.
 - **Until Value:** The ending value of the interval.
 - **Description:** Insert the proper description for the availability filter.
4. Click the **Save and Reload** button.

Discounts

For any banking product, you can add discounts of any nature. You can select a pre-existing discount or create a new one.

1. To add a new [discount](#), Click the **Insert** button in the **Discounts** section.
2. In the **Details Page**, insert the appropriate **Name** for the discount.
3. Choose one of the pre-configured types of discounts available in the **Discount** field, or create a new one. According to the selected type, new fields appear on the page requiring to be filled in.
4. Insert the value of the discount to be applied, e.g. 15.
5. Set the start date when the discount becomes effective (**Start date**), and the end date for the discount (**End date**).
6. Optionally, you can fill in the following fields:
 - **Applied to dimension:** Specifies for which product dimension this discount is applicable (interest, commission or insurance). This is autocompleted by the selected discount's dimension.
 - **Commission type:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission type this

discount is applicable. This is autocompleted by the selected discount's default commission type.

- **Commission:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission this discount is applicable. This is autocompleted by the selected discount's default commission.
- **Insurance class:** This field appears if the selected discount = Discount Life Insurance or Interest Discount. Specifies for which insurance class this discount is applicable (credit, home, life or other insurance class). This is autocompleted by the selected discount's insurance class.
- **Insurance:** This field appears if the selected discount = Discount Life Insurance. Specifies for which insurance this discount is applicable. This is autocompleted by the selected discount's insurance.
- **Interest type:** This field appears if the selected discount = Interest discount. Specifies for which interest type this discount is applicable.
- **Use Banking Formula:** If you select this checkbox, the discount is calculated using the Banking Formula engine.
- **Is optional discount?** : Selecting this checkbox results in the discount being applied only if the customer agrees to the discount.
- **Is percentage:** If you select this checkbox, the discount is calculated as a percentage from the contract's amount.
- **Destination entity:** Select the entity where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.

- **Destination entity attribute:** Select the attribute where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
7. Click the **Save and Close** button.
 8. In the **Product Discount Item Filter** section, click **Insert** and fill in the fields as specified in the **Product Filter page**. The fields displayed depend on the selected filter.
 9. Click the **Save and Close** button.

Questions

You can choose one or more questions to add to the banking product, or insert a new one.

1. To insert a new **question**, in the **Questions** section, Click the **Insert existing** button, then click **Insert**.
2. In the **Add Banking Product Question** page, fill in the following fields:
 - **Question:** Enter the appropriate name.
 - **Answer Type:** Select the type of answer the customer has to give: text, numeric or option set.
 - **Answer Entity:** Select the entity where the answer is stored.
 - **Answer Field:** Select the attribute where the answer is stored.
3. Click the **Save and Reload** button.

The **Banking Products List** shows where the question is used.

IMPORTANT!

The question has to be activated in order for it to be added to the banking product.

4. Click the **Save and Close** button.

For example, this is how a question is displayed in a customer journey in the FintechOS Portal:

The screenshot shows a web interface titled 'EDIT LOAN APPLICATION'. At the top, there are navigation links: 'CURRENT STATUS: INITIALIZED' and 'NEXT STATUS: CHOOSE STATUS'. The main heading is 'Eligibility Questions', followed by a subtext: 'We ask for this information so that we can carry out the checks needed to consider you for a mortgage'. The form contains three sections: 'DEPOSIT SOURCE' with a dropdown menu showing 'Select...', 'RETIREMENT DATE' with a date input field, and 'RETIRED' with radio buttons for 'Yes' and 'No' (the 'No' button is selected). A 'Finish' button is located at the bottom right of the form.

5. Configure Product Formula Engine

The **Product Formula Engine** tab keeps formulas built with [Formula Engine](#) for the banking product. Such formulas can be used to determine the eligibility of a customer.

The screenshot shows a configuration interface with a top navigation bar containing 10 tabs: 1 Main Info, 2 Details, 3 Availability, 4 Dimensions, 5 Product Formula Engine (active), 6 Documents, 7 Loan Core Settings, 8 History, 9 Origination Elements, and 10 GL Settings. The main content area is divided into two panels: 'Banking Product Formulas' and 'Test Scenarios'. Both panels have '+ Insert', 'X Delete', 'Export', and 'Refresh' buttons. The 'Banking Product Formulas' panel has a table with columns 'Name', 'Formula Type', and 'Formula'. It contains one entry: 'CA' with 'CommissionFormula' type and 'commissionByAmount' formula. The 'Test Scenarios' panel has a table with columns 'Name' and 'Test Formula Type'. It contains one entry: 'Duplicate-19-04-2022_11-07-57' with 'CommissionFormula' type.

Banking Product Formulas

In the **Banking Product Formulas** section, choose an already defined formula or click **Insert** to configure a new one, for example a formula for eligibility or scoring purposes. For information on how to build a formula, see [Define Formula Inputs](#).

1. In the **Add Banking Product Formula** page, fill in the following fields:

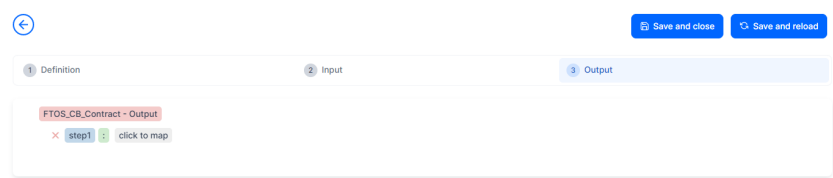
- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

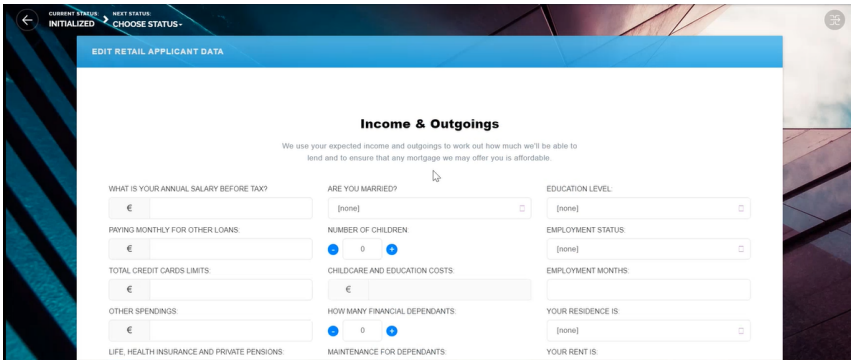
The name of the banking product is inserted automatically in **Banking Product**.

2. After selecting the desired formula, click **Save and reload**, then click **Map Data**.
3. In the **Formula Mapping** page, click **Input** and configure the input data for the formula.
4. Click **Output** and configure the output for the formula.

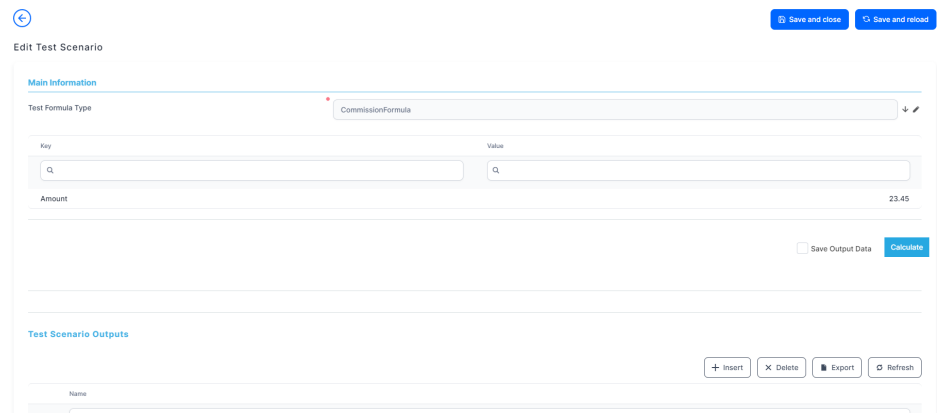


5. Click the **Save and Close** button.

Such formulas can be used in customer journey steps, for example when the customer inserts their financial data.



Test Scenarios



A good practice is to test the formula before displaying it in a customer journey. You can do that in the **Test Scenarios** section:

1. Click the **Insert** button to open the **Add Test Scenario** page.
2. Insert a **Test Scenario Type** from the option set. The keys and the values are shown.
3. Click the **Save and Reload** button.
4. Click the **Calculate** button. The outputs are displayed in the **Test Scenario Outputs** section.
5. You can save these outputs by selecting the **Save Output Data** checkbox next to **Calculate**.

6. Add Documents

You can manage all the attached documents available for a product and all the agreements that a customer needs to go through in the **Documents** tab.

The screenshot shows the 'Documents' tab in the Banking Product Factory interface. It contains two main sections: 'Banking Product Documents' and 'Banking Product Agreements'.

Banking Product Documents: This section has a toolbar with buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. Below the toolbar, there are three search filters: 'Report' (with a dropdown arrow), 'Banking Copies No' (with a search icon), and 'Operation Code' (with a search icon). The main area displays a table with the following data:

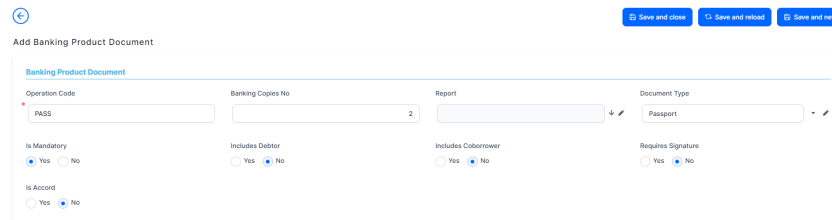
Report	Banking Copies No	Operation Code
Status overview of the queues	2	TC

Banking Product Agreements: This section also has a toolbar with buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. Below the toolbar, there is a search filter 'Code' (with a search icon). The main area displays 'No data'.

Banking Product Documents

Any previously associated documents are displayed in the **Banking Product Documents** section.

1. To attach a new document to the banking product, in the **Banking Product Documents** section, click **Insert**. The **Add Banking Product Document** page is displayed.



Add Banking Product Document

Banking Product Document

Operation Code: PASS

Banking Copies No: 2

Report:

Document Type: Passport

Is Mandatory: ☒ Yes ☐ No

Includes Debtor: ☐ Yes ☒ No

Includes Coborrower: ☐ Yes ☒ No

Requires Signature: ☐ Yes ☒ No

Is Accord: ☐ Yes ☒ No

2. Set the following fields:
 - **Operation Code:** Enter a code for the document.
 - **Banking Copies:** Insert the number of copies made.
 - **Report:** Select a document from the list.
 - **Document Type:** Select a document type from the list.
 - **Is Mandatory:** Select if the document is mandatory.
 - **Includes Debtor:** Select if the document includes the debtor.
 - **Includes Coborrower:** Select if the document includes the co-borrower.
 - **Requires Signature:** Select if the document requires to be signed.
 - **Is accord:** Select if the document represents the accord.
3. Click the **Save and Reload** button.

Banking Products Agreements

The agreements that a customer needs to go through are displayed in the **Banking Products Agreements** section.

1. To attach a new agreement to the banking product, in the **Banking Products Agreements** section, click **Insert**. The **Add Banking Products Agreements** page is displayed.

2. Fill in the following fields:
 - **Agreements:** Select an agreement from the list.
 - **Banking Product:** It is automatically filled in.
 - **Code:** Insert the corresponding code.
 - **Is Mandatory:** Select if the agreement is mandatory for the product.
3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the [Digital Document Processor](#).

7. Configure Lean Core Settings

NOTE

The **Lean Core Settings** tab is available only when Banking Product Factory is implemented along with Core Banking.

Transactions types that are performed to and from a banking product are displayed in the **Lean Core Settings** tab. The tab also holds information about the reconciliation account associated with the products, mandatory roles for contract approval, payment allocation settings, the treatment of returned goods for contracts based on this banking product (only for Term Loans and Mortgage banking products), and closing contract settings.

Reconciliation Account Associated With The Product

1. In the **Self Bank Account Associated with the Product**, for each banking product, you must select a reconciliation account, which is the bank account to be used for transactions, for money movements.

NOTE

This account must have the same currency as the product, because the conversions are performed from and into this account.

2. Select a value for the **Negative Value Treatment** drop-down to specify how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a

disbursement event would be approved. The possible values are:

- **Error** - there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero. Select this value if you want to block any transactions that would result in a negative balance of the reconciliation account associated to the banking product.
- **Warning** - there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- **NoMessage** - there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.

NOTE

Core Banking also has a system parameter, `ReconciliationAccountTreatment`. That is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value). Thus, if the value is specified

at the banking product level, then that value takes precedence over the system parameter's setting.

If you associate the same reconciliation account to more than one banking product, then the setting selected in banking product A is applied for contract events based on banking product A, while for the banking product B, Core Banking would apply the setting selected at the level of banking product B.

Payment Allocation Settings

In the **Payment Allocation Settings** section you can decide which allocation method should be used to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on. You can also define the grace period settings.

Payment Allocation Settings

Repayment Allocation Method	Grace Days for Repayment	Penalty for grace period
<div>CostOrder</div> <div>↓ ✎</div>	<div>5</div>	<input type="checkbox"/>
Direct Debit Settlement Account		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Payment Allocation Method:** The payment allocation method represents the recovery order of amounts from payment notifications. Select a payment allocation method from the list.
- **Grace Days for Repayment:** Insert the number of days for which the bank expects a payment without calculating penalty.

- **Penalty for grace period:** If you select the checkbox, the penalty interest is applied on the loan contract without taking into consideration the grace period defined at contract level, being calculated for the difference between system date - due date, if the grace period passed and the customer didn't pay the due amounts. If you leave this checkbox unselected, the penalty interest is applied on the loan contract taking into consideration the grace period defined at contract level, being calculated for system date - due date + grace days for repayment.
- **Direct Debit Settlement Account:** If you select the checkbox, the banking product has the automated settlement of repayment notification functionality (the payment allocation) turned on by default at the contract level. You can turn the automated settlement off either at the banking product level or at the contract level in Core Banking. Default value: true.

NOTE The automated settlement of repayment notification, or direct debit settlement account, is the functionality whereby, if funds are available on the settlement account and the contract has repayment notifications pending for recovery, Core Banking automatically uses the available balance up to full settlement of repayment notifications.

In Core Banking, the automated settlement of Installment type repayment notification

functionality (the payment allocation) can be turned on or off, thus allowing the financial institution to manage the contracts in case of blocked accounts and control the allocation of funds to outstanding notifications in case of need to impose a block on the settlement account, or manage the settlement of multiple loans from the same settlement account when short on funds and exceptional rules might apply.

If the functionality is turned off, the contract is pending for manual allocation. You can turn it back on and leave Core Banking to allocate the funds according to its automated processes, using any funds that become available in the settlement account in order to cover pending notifications.

2. Click the **Save and Reload** button.

Mandatory Roles for Contract Approval

In the **Mandatory Roles** section you can add the roles of the participants that are mandatory to exist at the contract level for contracts based on this banking product. In other words, when creating contracts based on banking products with Merchant role in this section, you must add a customer with the same Merchant role as contract participant, otherwise, the contract cannot be approved. When **Search Limit** is selected for a role on a banking

product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role, in this case Merchant Exposure.

Mandatory Roles for Contract Approval

+ Insert

× Delete

Export

Refresh

☐

Role

Search Limit

(All)

Beneficiary

☐

1. In the **Mandatory Roles** section, click **Insert** and fill in the following fields:

⬅

Save and close

Save and reload

Save and new

Add Mandatory Role

Main Information

Banking Product

Duplicate

Role

Merchant

Search Limit

☒

- **Banking Product:** The banking product for which you define mandatory roles. This is automatically completed with the current banking product.
- **Role:** Select the role of the participants that are mandatory to exist at the contract level for contracts based on this banking product.
- **Search Limit:** When Search Limit is selected for a role on a banking product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role. If you select a role not associated with a customer limit type in Core Banking, the Search Limit field becomes read-only and unselected.

2. Click the **Save and Reload** button.

Return Of Goods

In the **Return Of Goods**, you can define whether a contract based on the banking product can have Returned Amount or Goods transactions or not, and the specific conditions for these transactions. The Returned Amount or Goods transaction type can be used when a customer returns all or part of a loan or mortgage in a short while after contract creation, if the banking product was defined to allow such transactions. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.

Return Of Goods

Allow Return Of Goods	Accepted Days For Return	Return Message
<input checked="" type="checkbox"/>	<input type="text" value="15"/>	<input type="text" value="Warning"/>

1. Fill in the following fields:

- **Allow Return Of Goods:** Select this checkbox if the contracts based on this banking product accept Return of Goods transactions. Default value: False. If selected, the Accepted Days For Return and Return Message fields are displayed, otherwise, these fields are not visible.
- **Accepted Days For Return:** Specify the number of days after contract creation during which the return of goods transaction can be created and approved.
- **Return Message:** Select the behavior of messages generated by Core Banking for situations when the Returned Amount or Goods transaction's approval date + the number of accepted days for return \geq the current date. Possible values are taken from the Warning Error Treatment option set. According to the desired behavior, choose:

- Error, if the transaction should not be approved and an error message should be displayed;
- Warning, if the transaction can be approved, but a warning message should be displayed;
- NoMessage, if the transaction can be approved without any messages.

2. Click the **Save and Reload** button.

NOTE If Allow Return Of Goods = True, then the Returned Amount of Goods transaction is automatically added to the **Transaction Types** section.

Closing Contract Settings

In the **Closing Contract Settings** section, you can configure the default closure settings for contracts based on this banking product.

Closing Contract Settings

Buffer Close Days	Close Real Time	Closing Is Flexible
<input type="text" value="10"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Is Closed Automatically		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:
 - **Buffer Close Days:** Enter the number of days used as buffer before automatically closing the contract when the contract reaches maturity and its balance reaches zero. If Buffer Close Days > 0, then Contract Is Closed Automatically = False.

- **Close Real Time:** If you select this checkbox, the contract based on this banking product is closed in real-time, when the contract reaches maturity and its balance reaches zero, without waiting for the end of day processes. If `Close Real Time = True`, then `Buffer Close Days = 0` and `Contract Is Closed Automatically = True`.
- **Closing Is Flexible:** If you select this checkbox, the closure details of the contract based on this banking product can be modified at the contract creation.
- **Contract Is Closed Automatically:** If you select this checkbox, the contract based on this banking product is closed automatically at maturity, if the balance reaches zero. If `Contract Is Closed Automatically = False`, then `Close Real Time = False`.

2. Click the **Save and Close** button.

Allowed Transactions

Banking Product Factory automatically displays in the **Allowed Transactions** section the transaction types associated at the selected banking product type level. If you need to associate other transaction types with the selected banking product, follow these steps:

1. Click **Insert existing** and select the desired transaction types to be associated.
2. Double-click a selected transaction type to edit it.

Edit Transaction Type

Settings

Name: Disbursement Transaction Code: DSB Process Type: Disbursement Edit Form: FTOS_CB_EventDisbursement Transaction Operation Type: Disbursement Is System Transaction: ☐

Is Automatic Transaction: ☐ Real Time Process: ☐ Only One Draft: ☒ Generate New Contract Version: ☐ Commission Type: Return Commission Type:

Is Clueback Transaction: ☒

Accounting Configurations

Generates Accounting Entry: ☒ QL Master Entry: FTOS_CB_ContractEvent

Purge Configurations

To Be Purged: ☒ Purge Number of Days: 30 Master Purge Entity: FTOS_CB_ContractEvent

Transaction Value Types

Transaction Type	Type	Value Type Name	Is Header	Value Type Attribute
Disbursement	Numeric	EventValue	<input checked="" type="checkbox"/>	eventValue
Disbursement	Text	ContractEventId	<input type="checkbox"/>	FTOS_CB_Contr...

Transaction Item Accounting Configurations

Transaction	Accounting	Accounting	Chart Acco...	Currency	Operational...	Take From ...
Disburse...	0001	OFFBLoa...	90300 C...			
Disburse...	0001	Provision...	66211 Im...			

3. In the **Edit Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE There is no integration at this point with a payment gateway.

- **Edit Form:** Select the form used to edit this transaction type. You can choose only from the forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.

- **Is System Transactions:** If you select this checkbox the transaction is marked as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting.
- **Is Automatic Transaction:** If you select this checkbox here, then you cannot select it within the contract operations. The **Is Automatic Transaction** checkbox marks the transaction as automatic.
- **Real Time Process:** This checkbox marks the transaction as to be processed in real-time. If selected, then the transaction is processed right away. If not selected, then the transaction is inserted as a [bank account transaction queue](#) record.
- **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
- **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
- **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
- **Return Commission Type:** Select the return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
- **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.

4. In the **Edit Transaction Type > Accounting Configurations** section, fill in the following fields:
 - **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.
5. In the **Edit Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If you select it, you can purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
6. You can also edit the information in the **Transaction Value Types, Transaction Item Accounting Configurations** and **Transaction Accounting Models** sections. Read more details about Transaction Types in the [Operational Ledger](#) User Guide.
7. Click the **Save and Close** button.

8. View History

You can find the versions of the banking product, their workflow status and the user who modified the product in the **History** tab.

Here you can track the product's life cycle and review older versions that are no longer active (for details, see [Banking Products' Life Cycle](#)).

9. Manage Origination Elements

You can set the elements required in the origination journey, such as product benefits, display conditions, features, destination types, or associated products in the **Origination Elements** tab.

1. Fill in the following fields:

- **Product Image:** Insert an image representative for the product.
- **Document:** Insert the document representative for the product.
- **Benefits:** Insert the advantages of owning the banking product. You can format the text in the text editor window.

- **Display Conditions:** Insert the conditions for the applicant, e.g. age limit, annual turnover, education level, income, registration documents.
2. Click the **Save and Reload** button.

Product Features

In the **Product Features** section, you can insert, delete or export features.

1. To add a feature, Click the **Insert** button and fill in the following fields:
 - **Feature:** Enter the name of the product feature.
 - **Is Main Feature:** Select the checkbox if it is the major feature.
 - **Display Name:** Enter the display name of the feature.
2. Click the **Save and Reload** button.

Product Destination Types

In the **Product Destination Types** section , you can insert or remove the existing product destination types:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. To create a new destination type, insert a name and specify if it is default. For this case, the following have been configured: **Loan Collateral, Loan disbursements, Personal, Repayments.**

Associated Products

In the **Associated Products** section you can insert or remove an existing products. It is especially useful when you wish to create a link between two products.

Associated Products

+ Insert existing

X Remove existing

☐

Name

Current Account USD

To insert or remove a product from the list or create a new one:

- 1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
- 2. Click the **Save and Reload** button.

10. Configure Operational Ledger Settings

NOTE

The **OL Settings** tab is available only when Banking Product Factory is implemented along with **Operational Ledger Add-On**.

In the **Banking Product GL Accounts** section, you can set specific accounts to be used by the Operational Ledger system for transactions performed on contracts based on this banking product. Thus, you can overwrite the generic settings of the Operational Ledger, instructing it to use the accounts specified at banking product level.

1 Main Info

2 Details

3 Availability

4 Dimensions

5 Product Formula Engine

6 Documents

7 Loan Core Settings

8 History

9 Origination Elements

10 GL Settings

Banking Product GL Accounts

+ Insert

X Delete

■ Export

↻ Refresh

☐

Product

Accounting System

Accounting Scope

Item

GL Account

Duplicate

0001

FixDeposit

Loan Admin Fee

20110 Commercial loans

MANAGING BANKING PRODUCTS

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1. To add specific accounts to be used by **Operational Ledger**, click **Insert** and fill in the following fields in the displayed **Add Banking Product GL Account** page::

- **Product:** Select from the list the banking product. Automatically completed with the banking product you are currently editing.
 - **Accounting System:** Select from the list the desired accounting system. The list contains the records created in the **Accounting System** entity.
 - **Accounting Scope:** Select from the list the corresponding accounting scope. The list contains the records created in the **Accounting Scope** entity.
 - **Item:** Select from the list the corresponding transaction item. The list contains the records created in the **Transaction Item Accounting Config** entity.
 - **GL Account:** Select from the list the corresponding GL account. The list is filtered based on the previously selected accounting system. It contains the accounts defined in the **Accounting Chart** entity that were added to the chosen accounting system record.
2. Click the **Save and Reload** button.

Overdrafts

An overdraft is an extension of credit from a lending institution that is granted when an account reaches zero. The overdraft allows the account holder to continue withdrawing money even when the account has no funds in it or has insufficient funds to cover the amount of the withdrawal.

Creating Overdrafts

To create a new overdraft from scratch, navigate to main menu > **Banking Product Factory** > **Banking Products**, and click the **Insert** button. A new page opens, with a series of tabs that assist you in configuring the banking product. Or, you can create banking products directly from the [product category](#) level, allowing Banking Product Factory to automatically fill in the information inherited from the product category.

NOTE

Alternatively, you can create an overdraft by [duplicating](#) an existing one. Click the **Duplicate** button on the **Banking Products List** page. Make sure you change the **Banking Product Code** and **Name** according to your business needs.

1. Enter Basic Information

You can set the basic elements for creating the product, such as name, code, currency, validity, or product classification, in the **Main Info** tab.

The screenshot shows the 'Main Info' tab in the Banking Product Factory interface. The top navigation bar includes tabs: Main Info, Details, Availability, Dimensions, Product Formula Engine, Documents, Loan Core Settings, History, Origination Elements, and GL Settings. The 'Main Information' section contains the following fields:

- Banking Product Type:** Overdraft (selected from a dropdown)
- Currency:** EUR (selected from a dropdown)
- Banking Product Code:** odv
- External Code:** (empty)
- Start Date:** 18/03/2022
- End Date:** 15/03/2023
- Name:** odv
- Class:** (empty)
- SubClass:** (empty)
- Category:** (empty)
- SubCategory:** (empty)

Below these fields are two sections:

- Description:** A large text area for entering the product description.
- Product Classification:** A table with columns: Code, Name, Classification Type, Valid From, and Valid To. Above the table are buttons for '+ Insert existing' and 'X Remove existing'.

NOTE

Your product type selection influences the next steps and many of the fields are automatically completed with values inherited from the selected product type definition. For overdrafts, select the **Overdraft** option in **Banking Product Type**.

Main Information

1. In the **Main Information** section, select the **Banking Product Type** from the available list.

NOTE

If you choose to create banking products directly from the [product category](#) level, then Banking Product Factory automatically fills in the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

2. The **Currency** is automatically completed from the default value defined within the "[DefaultCurrencyBankingProduct](#)" on [page 506](#) Banking Product Factory system parameter. You can change it for the newly created product by selecting another currency from the drop-down list.
3. Banking Product Factory automatically generates the code based on the code of the product type + a sequencer. For example, the TLU854 code corresponds to a banking product based on an Unsecured Loan product type. You can modify the product code in the **Banking Product Code** field. It can have 10 characters.

4. Set the product validity by selecting the date when the product becomes available (**Start Date**) and the last date from when the product is available (**End Date**).
5. Enter the product **Name**.
6. Optionally you can set the following fields:
 - **External Code:** Select the code of the product imported from an external system, if applicable. It can have 10 characters and it is not used in the contract.
 - **Description:** Enter any description or additional text related to your new product.
 - **Class, Subclass, Category, and Subcategory:** Select the desired values to set the desired hierarchy for your product. For more information, see "[Product Hierarchy](#)" on page 406
7. Click the **Save and Reload** button. The product is now saved and you can further edit it for your needs.

Product Classification

After saving the product, the **Product Classification** section is populated with more options for your product. You can insert or remove existing product classification items.

1. To add a product classification item, click **Insert Existing** and select an already existing item.

Product Classification

<input type="checkbox"/>	Code	Name	Classification Type	Valid From	Valid To
	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>
	REG1	Classification ...	Regulatory	01/01/2020	31/12/2030

2. You can also create a new product classification item by clicking the **Insert existing** button and then the **Insert** button.
3. On the newly displayed **Add Product Classification** page, fill in the fields:

Add Product Classification

Save and close Save and reload Save and new

Main Information

Name	Code	Valid From	Valid To	Classification Type	Is Default
Classification Restructuring Level	RESTRUCTL1	20/04/2022	30/04/2028	Restructuring	<input checked="" type="checkbox"/>

Classified Banking Products

- **Name:** Enter the name of the classification item.
- **Code:** Enter the unique code of the classification item.
- **Valid From:** Select the date from which the product classification item is valid.
- **Valid To:** Select the date until when the product classification item is valid.
- **Classification Type:** Choose the classification type of the item. Possible values: Regulatory, Restructuring.
- **Is Default:** Select the checkbox if this classification item is default.

The **Classified Banking Products** section is displayed after you save the classification item record and allows you to insert existing banking products. The following information is displayed here: **Code, Name, Class, SubClass, Category, SubCategory** and **Status**.

For more information on how to create a new product classification, see [Banking Product Classification](#).

4. Click the **Save and Reload** button.

2. Add Details

You can set elements such payment type, top-ups and withdrawals in the **Details** tab. Most of the values within this tab, already completed, are inherited from the selected banking product type level definition, but you can change them according to your needs.

The screenshot displays the 'Details' tab of the Banking Product Factory interface. It is organized into several sections:
General Data: Contains checkboxes for 'Is Revolving' (checked), 'Allow Refinancing' (unchecked), 'Allow Restructuring' (checked), and 'Allow CoDebtor' (unchecked), along with a text input for 'Max No. Of CoDebtors'.
Disburse Settings: Includes 'Autodisbursement' (unchecked) and a text input for 'Max No Disbursements'.
Product Guarantees: Features 'Is Guaranteed' (unchecked).
Payment Schedule Types: Shows 'Period Type' (Months), 'Periodicity Type' (Monthly), 'Grace Type' (Principal), and 'Product Grace' (GracePeriod).
Schedule Templates: Includes a search bar and '+ Insert existing' / 'X Remove existing' buttons.
Holiday Settings: Includes 'Holiday Shift For Repayment Installments' (checked), 'Defer Due Date' (checked), and 'Holiday Shift Method' (Forward).
Country Calendars: Includes a search bar and '+ Insert existing' / 'X Remove existing' buttons.

Product Behavior

1. In the **General Data** section, you can optionally set the following fields:
 - **Is Revolving:** If selected, allows a business to borrow money as needed for funding working capital needs and continuing operations such as meeting payroll and payable.
 - **Allow Refinancing:** Select if the account can be refinanced for this product.
 - **Allow Restructuring:** Select if the loan can be restructured.
 - **Allow CoDebtor:** Select if another debtor exists for this product.

- **Max No. of CoDebtors:** Set the maximum number of co-debtors possible for this product.
2. Click the **Save and Reload** button.

Disbursement

1. In the **Disburse Settings** section, check the **Auto Disbursement** box, and the disbursement is automatically performed when the contract is approved.
2. You can optionally set the following fields:
 - **Max No Disbursements:** Enter the maximum number of disbursements that can be configured for this product.
 - **Active Tranche On Doc:** If you select this checkbox, then the tranches are activated (disbursements are created and approved) after certain documents are submitted. It is the Financial Institution's responsibility to verify the content of the submitted documents.
3. Click the **Save and Reload** button.

Product Guarantees and Allowed Guarantee Types

Product Guarantees

Is Guaranteed ☒ Collateral Cover Percent Allow Collateral Partial Release ☐

Allowed Guarantee Types

<input type="checkbox"/> Guarantee Type	Max Accepted Covering Percent
<input type="text" value="FixDeposit"/>	<input type="text" value="85.00"/>

1. In the **Product Guarantees** section, set the following fields:
 - **Is Guaranteed:** If selected marks the product as secured.

NOTE

The **Collateral Cover Percent**, **Allow Collateral Partial Release** fields, and the **Allowed Guarantee Types** section appear when you select the **Is Guaranteed** checkbox.

- **Collateral Cover Percent:** Enter the percent that the collateral person on the contract pays. It usually is over 100%.
- **Allow Collateral Partial Release:** A partial release is a mortgage provision that allows some of the collateral to be released from a mortgage after the borrower pays a certain amount of the loan.

The **Allowed Guarantee Types** section is displayed after you check the **Is Guaranteed** option. You can insert or delete allowed guarantee types:

2. To insert a guarantee type, click the **Insert** button and fill in the name, maximum accepted covering percent, and select the guarantee type.

Add Product Guarantee Structure

Product Guarantee Structure			
Banking Product	Card	+	Guarantee Type
			FixedDeposit
Max Accepted Covering Percent	85	Name	Deposit

3. Click the **Save and Reload** button.

Payment Schedule Types

Payment Schedule Types

Period Type	Periodicity Type	Grace Type	Product Grace
Months	Monthly	Both	GracePeriod

1. Select the regularity of payments in the **Periodicity Type**. You can choose: **Once** (the whole amount is paid at maturity), **Weekly, Monthly, Bimonthly, Trimestrial, 4 Weeks, Semestrial, Annual** or **30Days**.

NOTE

If the measurement unit of the selected Periodicity Type = Days, then Holiday Shift For Repayment Installments = False and it cannot be changed.

2. Optionally you can set the following fields:
 - **Period Type**: Select the period of availability for the product: **Days, Weeks, Months, Years** or **Once**.

NOTE

The period type must be the same as the measurement unit of the Periodicity Type.

- **Grace Type**: Select whether the product grace should apply to the principal, the interest, or both. Select an option from the list: **Both, Principal** or **Interest**.
 - **Product Grace**: Select an option from the list. This is the amount of time that the bank can offer to a customer at the beginning of the contract without repayments of principal or principal + interest (however, most probably the bank capitalizes the interest for that period).
3. Click the **Save and Reload** button.

Schedule Templates

In the **Schedule Templates** section, you can associate/ delete payment schedule types to/ from the banking product.

Schedule Templates

<input type="checkbox"/>	Name
<input type="checkbox"/>	Credit Card Installments
<input type="checkbox"/>	One principal installment

1. To associate a payment schedule type to the banking product, click **Insert Existing** and select one of the already defined types. Go to "[Payment Schedule Types](#)" on page 413 to read more about this.

IMPORTANT!

When creating a new Term Loan, Mortgage, or Overdraft banking product, you must select at least one payment schedule type, otherwise you can't approve the product. If the **Schedule Templates** section has no records, an error message is displayed upon transitioning the product into the **Approved** status.

2. Click the **Save and Reload** button.

Holiday Settings

In the **Holiday Settings** section, the following fields are available:

Holiday Settings

Holiday Shift For Repayment Installments



Defer Due Date



Holiday Shift Method

Forward

**Country Calendars**

+ Insert existing

✕ Remove existing

<input type="checkbox"/>	Name
	<input type="text"/>
	Romania

1. Select the **Holiday Shift For Repayment Installments** checkbox for holidays to be taken into consideration when calculating the maturity program.

NOTE

The **Country Calendars** section and the **Defer Due Date** and **Holiday Shift Method** fields appear if you select the **Holiday Shift For Repayment Installments** checkbox.

The **Defer Due Date** option is select by default. If selected, the payment schedule calculates the next payment amount as if the due date has not changed even when the due date falls on a holiday.

2. From the **Holiday Shift Method**, you can select the method to be used when calculating the due date if that date falls on a holiday. The due date can be shifted before or after the holiday. The possible values you can choose are:

- **None** - the due date is not shifted.
- **Forward** - the due date is shifted to the next working day after the initially calculated due date.
- **Backward** - the due date is shifted to the last working day before the initially calculated due date.

Default value: Forward.

Country Calendars

In the **Country calendars** section, you can insert or delete calendars. You can work with multiple calendars as well. To insert a calendar:

1. Click the **Insert Existing** button and add the country's name. If the maturity date coincides with a holiday, it is allocated automatically on the next business day.
2. Click the **Save and Reload** button.

3. Configure Availability

You can determine the monetary range and the time frame when the product is available for customers in the **Availability** tab.

Product Availability

Minimum Amount: 0 Maximum Amount: 50,000 Minimum Period: Maximum Period: 12 Minimum Advance: Maximum Advance:

Start Period For Unusage After Activation(Months): 3

Availability Rules

Product Availability Item Filters: + Insert X Delete Export Refresh

Product Covenants: + Insert X Delete Export Refresh

Description	Type	Covenant	Valid From	Valid to	Value
Q	Q	Q	Q	Q	Q

Product Availability

1. Fill in the following fields:
 - **Minimum Amount** and **Maximum Amount**: Enter the minimum and maximum amount of the product for which the bank opens a contract.
 - **Minimum Period** and **Maximum Period**: Enter the minimum and maximum duration of the product mentioned in the contract.
 - **Minimum Advance** and **Maximum Advance**: Enter the minimum and maximum advance percentage from the contract's financed value applicable at the contract level.
 - **Start Period For Unusage After Activation (Months)**: Enter the start period for unused amount after the activation, in months.
2. Click the **Save and Reload** button.

Availability Rules

In the **Availability Rules** section you can select the item filters for your banking product.

Availability Rules

Product Availability Item Filters

+ Insert × Delete 📄 Export 🔄 Refresh

☐ Description

CA >< 1 - 50000

1. Click the **Insert** button, the **Add Product Availability Item Filter** is displayed.
2. Select the desired filter from the Filter option.

3. Add the attributes of the selected filter.
4. Optionally, add a description for the added item filter.
5. Click the **Save and Reload** button.

For more details, see "[Product Filter](#)" on page 472.

Product Covenants

In the **Product Covenants** section you can set certain conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements.

Product Covenants

<input type="checkbox"/>	Type	Covenant	Valid From	Valid to	Value
	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/> <input type="text" value="Q"/>	<input type="text" value="Q"/> <input type="text" value="Q"/>	<input type="text" value="Q"/>
	Affirmati...	Borrowers should perform tax obligations	19/04/2022	20/04/2030	
	Financial	Lender can monitor borrower's current r...	19/04/2022	20/04/2030	

1. Click the **Insert** button to add a covenant to the product. Each covenant can be attributed a value, an availability period, and a review frequency in months. Read more about covenants in the "[Covenant](#)" on page 495 page.
2. Click the **Save and Reload** button.

4. Manage Dimensions

You can insert, delete or export interest, commissions, insurances, discounts or questions valid for your product in the **Manage Dimensions** tab.

The screenshot shows the 'Dimensions' menu with four sub-sections:

- Interest & Commissions:** Includes an 'Item Name' search field with 'MCA' entered, and buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.
- Insurances:** Includes an 'Item Name' search field with 'House Insurance' entered, and buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'.
- Discounts:** Includes a table with columns: Name, Discount, End Date, Start Date, and Value Discount. The table is currently empty with 'No data' displayed below it. Buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh' are present.
- Questions:** Includes a 'Question' search field and a 'Business Status' search field. Below them are two rows: 'Question1' with status 'Active' and 'Question2' with status 'Active'. Buttons for '+ Insert existing' and 'X Remove existing' are present.

To add a new one, click **Insert** and fill-in the fields detailed in the sections below.

NOTE

To configure the interest and commissions separately, navigate to **Main > Product Factory > Banking Product Dimensions menu** which contains several other embedded menus.

Interest & Commissions

1. To add an **interest** or a **commission**, click **Insert** in the **Interest & Commissions** section. The **Add Interest & Commission Item** page is displayed.
2. Select the banking product from the **Banking Product** list.
3. Enter the **Item Name**.
4. Enter the **Start Date** when the interest/ commission becomes effective and the **End Date** for the interest/ commission.
5. Fill in the following fields:
 - **Code:** Enter a code for this particular interest/ commission.
 - **Interest List:** Select from which list the interest is a part of.

- **Commissions List:** Select from which list the commission is a part of.
 - **Minimum Interest Rate (%):** Enter the percent applicable as a minimum interest rate at the contract level.
 - **Is Negotiable:** Select the checkbox to specify that every interest, commission or margin field at the contract level is negotiable and can be edited.
6. Click the **Save and Reload** button.
 7. In the **Interest & Commission Item Filters** section, click **Insert** to insert an [item filter](#).
 8. Select a filter created earlier in the "[Product Filter](#)" on [page 472](#).
 9. Set the following fields:
 - **Value/ Date:** Select the beginning value/ date for the filter.
 - **Until Value/ Until Date:** Select the maximum value/ date for the filter.
 - **Description:** This field is automatically filled in after clicking the **Save and Reload** button. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter Entity:** Entity on which the filter was defined.
 - **Description:** It is left blank. Add a description if needed.
 - **Grid of Options:** This field is automatically filled in after clicking the **Save and Reload** button. The values of the option set are displayed. Select the Boolean for the values you wish to include in the filter.
10. Click the **Save and Reload** button.

← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓ ✎

Value 1 Until Value 50,000

Description

AL_Amount > 1 - 50000

Insurances

For any banking product, you can select a pre-existing insurance or create a new one.

- To add a new **insurance**, in the **Insurances** section, Click the **Insert** button and set the following fields:
 - **Banking Product:** Select the banking product.
 - **Code:** Insert a code for this particular insurance.
 - **Item Name:** Insert a name.
 - **Start Date:** Enter the start date when the insurance becomes effective.
 - **End Date:** Enter the end date for the insurance.
 - **Details:** It is left blank. Add a description if needed.
 - **Insurance List:** Select from which list the insurance is a part of.
- Click the **Save and Reload** button.
- In the **Insurance Item Filters** section, click **Insert** and fill in the following fields:

- **Filter:** The name inserted earlier.
- **Value:** The starting value for the attribute.
- **Until Value:** The ending value of the interval.
- **Description:** Insert the proper description for the availability filter.

4. Click the **Save and Reload** button.

Save and close Save and reload

Edit Insurance Item

Main Information

Banking Product Code Item Name Insurance List Start Date End Date

Duplicate INS HI Insurance InsuranceListItem 19/04/2022 20/04/2030

Details

Insurance Item Filters

+ Insert X Delete Export Refresh

Description

Amount Insurance >= 1000 - 30000

Discounts

For any banking product, you can add discounts of any nature. You can select a pre-existing discount or create a new one.

1. To add a new [discount](#), Click the **Insert** button in the **Discounts** section.
2. In the **Details Page**, insert the appropriate **Name** for the discount.
3. Choose one of the pre-configured types of discounts available in the **Discount** field, or create a new one. According to the selected type, new fields appear on the page requiring to be filled in.
4. Insert the value of the discount to be applied, e.g. 15.
5. Set the start date when the discount becomes effective (**Start date**), and the end date for the discount (**End date**).

6. Optionally, you can fill in the following fields:

- **Applied to dimension:** Specifies for which product dimension this discount is applicable (interest, commission or insurance). This is autocompleted by the selected discount's dimension.
- **Commission type:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission type this discount is applicable. This is autocompleted by the selected discount's default commission type.
- **Commission:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission this discount is applicable. This is autocompleted by the selected discount's default commission.
- **Insurance class:** This field appears if the selected discount = Discount Life Insurance or Interest Discount. Specifies for which insurance class this discount is applicable (credit, home, life or other insurance class). This is autocompleted by the selected discount's insurance class.
- **Insurance:** This field appears if the selected discount = Discount Life Insurance. Specifies for which insurance this discount is applicable. This is autocompleted by the selected discount's insurance.
- **Interest type:** This field appears if the selected discount = Interest discount. Specifies for which interest type this discount is applicable.
- **Use Banking Formula:** If you select this checkbox, the discount is calculated using the Banking Formula engine.

- **Is optional discount?** : Selecting this checkbox results in the discount being applied only if the customer agrees to the discount.
 - **Is percentage:** If you select this checkbox, the discount is calculated as a percentage from the contract's amount.
 - **Destination entity:** Select the entity where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
 - **Destination entity attribute:** Select the attribute where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
7. Click the **Save and Close** button.
 8. In the **Product Discount Item Filter** section, click **Insert** and fill in the fields as specified in the **Product Filter page**. The fields displayed depend on the selected filter.
 9. Click the **Save and Close** button.

Questions

You can choose one or more questions to add to the banking product, or insert a new one.

1. To insert a new **question**, in the **Questions** section, Click the **Insert existing** button, then click **Insert**.
2. In the **Add Banking Product Question** page, fill in the following fields:
 - **Question:** Enter the appropriate name.
 - **Answer Type:** Select the type of answer the customer has to give: text, numeric or option set.

- **Answer Entity:** Select the entity where the answer is stored.
- **Answer Field:** Select the attribute where the answer is stored.

3. Click the **Save and Reload** button.

The **Banking Products List** shows where the question is used.

IMPORTANT!

The question has to be activated in order for it to be added to the banking product.

4. Click the **Save and Close** button.

For example, this is how a question is displayed in a customer journey in the FintechOS Portal:

The screenshot shows a mobile application interface. At the top, there's a navigation bar with 'CURRENT STATUS: INITIALIZED' and 'NEXT STATUS: CHOOSE STATUS'. Below this is a blue header bar that says 'EDIT LOAN APPLICATION'. The main content area is titled 'Eligibility Questions' and contains the text: 'We ask for this information so that we can carry out the checks needed to consider you for a mortgage'. There are three input fields: 'DEPOSIT SOURCE' with a dropdown menu showing 'Select...', 'RETIREMENT DATE' with a date picker, and 'RETIRED' with radio buttons for 'Yes' and 'No'. A blue 'Fresh' button is located at the bottom right of the form.

5. Configure Product Formula Engine

The **Product Formula Engine** tab keeps formulas built with [Formula Engine](#) for the banking product. Such formulas can be used to determine the eligibility of a customer.

Banking Product Formulas

In the **Banking Product Formulas** section, choose an already defined formula or click **Insert** to configure a new one, for example a formula for eligibility or scoring purposes. For information on how to build a formula, see [Define Formula Inputs](#).

1. In the **Add Banking Product Formula** page, fill in the following fields:

- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

The name of the banking product is inserted automatically in **Banking Product**.

- After selecting the desired formula, click **Save and reload**, then click **Map Data**.
- In the **Formula Mapping** page, click **Input** and configure the input data for the formula.
- Click **Output** and configure the output for the formula.

- Click the **Save and Close** button.

Such formulas can be used in customer journey steps, for example when the customer inserts their financial data.

Test Scenarios

A good practice is to test the formula before displaying it in a customer journey. You can do that in the **Test Scenarios** section:

1. Click the **Insert** button to open the **Add Test Scenario** page.
2. Insert a **Test Scenario Type** from the option set. The keys and the values are shown.
3. Click the **Save and Reload** button.
4. Click the **Calculate** button. The outputs are displayed in the **Test Scenario Outputs** section.
5. You can save these outputs by selecting the **Save Output Data** checkbox next to **Calculate**.

6. Add Documents

You can manage all the attached documents available for a product and all the agreements that a customer needs to go through in the **Documents** tab.

The screenshot shows the 'Documents' tab selected in the top navigation bar. Below the navigation bar, there are two main sections: 'Banking Product Documents' and 'Banking Product Agreements'.

Banking Product Documents: This section has a toolbar with '+ Insert', 'X Delete', '■ Export', and '↻ Refresh'. Below the toolbar, there is a 'Report' checkbox and three search filters: 'Banking Copies No' (with a search icon), 'Operation Code' (with a search icon), and 'Code' (with a search icon). Below the filters, there is a table with the following data:

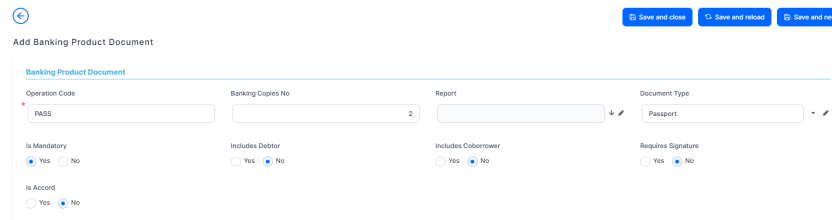
Status overview of the queues	Banking Copies No	Operation Code
	2	TC

Banking Product Agreements: This section has a toolbar with '+ Insert', 'X Delete', '■ Export', and '↻ Refresh'. Below the toolbar, there is a search filter 'Code' (with a search icon). Below the filter, there is a message 'No data'.

Banking Product Documents

Any previously associated documents are displayed in the **Banking Product Documents** section.

1. To attach a new document to the banking product, in the **Banking Product Documents** section, click **Insert**. The **Add Banking Product Document** page is displayed.



Add Banking Product Document

Banking Product Document

Operation Code: PASS

Banking Copies No: 2

Report:

Document Type: Passport

Is Mandatory: ☒ Yes ☐ No

Includes Debtor: ☐ Yes ☒ No

Includes Coborrower: ☐ Yes ☒ No

Requires Signature: ☐ Yes ☒ No

Is Accord: ☐ Yes ☒ No

2. Set the following fields:
 - **Operation Code:** Enter a code for the document.
 - **Banking Copies:** Insert the number of copies made.
 - **Report:** Select a document from the list.
 - **Document Type:** Select a document type from the list.
 - **Is Mandatory:** Select if the document is mandatory.
 - **Includes Debtor:** Select if the document includes the debtor.
 - **Includes Coborrower:** Select if the document includes the co-borrower.
 - **Requires Signature:** Select if the document requires to be signed.
 - **Is accord:** Select if the document represents the accord.
3. Click the **Save and Reload** button.

Banking Products Agreements

The agreements that a customer needs to go through are displayed in the **Banking Products Agreements** section.

1. To attach a new agreement to the banking product, in the **Banking Products Agreements** section, click **Insert**. The **Add Banking Products Agreements** page is displayed.

2. Fill in the following fields:
 - **Agreements:** Select an agreement from the list.
 - **Banking Product:** It is automatically filled in.
 - **Code:** Insert the corresponding code.
 - **Is Mandatory:** Select if the agreement is mandatory for the product.
3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the [Digital Document Processor](#).

7. Configure Lean Core Settings

NOTE

The **Lean Core Settings** tab is available only when Banking Product Factory is implemented along with Core Banking.

Transactions types that are performed to and from a banking product are displayed in the **Lean Core Settings** tab. The tab also holds information about the reconciliation account associated with the products, mandatory roles for contract approval, payment allocation settings, the treatment of returned goods for contracts based on this banking product (only for Term Loans and Mortgage banking products), and closing contract settings.

The screenshot shows the 'Lean Core Settings' tab in the Banking Product Factory. The 'Self Bank Account Associated With The Product' section is highlighted, showing a dropdown for 'Reconciliation Account' set to 'Reconciliation EUR' and a dropdown for 'Negative balance treatment' set to 'NoMessage'. Below this is the 'Mandatory Roles for Contract Approval' section with a table for roles and a search limit. To the right, the 'Payment Allocation Settings' section includes fields for 'Repayment Allocation Method' (set to 'CostOrder'), 'Grace Days for Repayment', and 'Penalty for grace period'. Below that is the 'Allowed Transactions' section with a table for transactions. At the bottom, the 'Closing Contract Settings' section includes a 'Buffer Close Days' field (set to 15), a 'Close Real Time' checkbox, a 'Closing Is Flexible' checkbox (checked), and a 'Contract Is Closed Automatically' checkbox (checked).

Reconciliation Account Associated With The Product

1. In the **Self Bank Account Associated with the Product**, for each banking product, you must select a reconciliation account, which is the bank account to be used for transactions, for money movements.

This is a close-up of the 'Self Bank Account Associated With The Product' section. It shows the 'Reconciliation Account' dropdown menu with 'Reconciliation EUR' selected, and the 'Negative balance treatment' dropdown menu with 'NoMessage' selected.

NOTE

This account must have the same currency as the product, because the conversions are performed from and into this account.

2. Select a value for the **Negative Value Treatment** drop-down to specify how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a

disbursement event would be approved. The possible values are:

- **Error** - there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero. Select this value if you want to block any transactions that would result in a negative balance of the reconciliation account associated to the banking product.
- **Warning** - there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- **NoMessage** - there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.

NOTE

Core Banking also has a system parameter, `ReconciliationAccountTreatment`. That is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value). Thus, if the value is specified

at the banking product level, then that value takes precedence over the system parameter's setting.

If you associate the same reconciliation account to more than one banking product, then the setting selected in banking product A is applied for contract events based on banking product A, while for the banking product B, Core Banking would apply the setting selected at the level of banking product B.

Payment Allocation Settings

In the **Payment Allocation Settings** section you can decide which allocation method should be used to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on. You can also define the grace period settings.

Payment Allocation Settings

Repayment Allocation Method	Grace Days for Repayment	Penalty for grace period
<div>CostOrder</div> <div>↓ ✎</div>	<div>5</div>	<input type="checkbox"/>
Direct Debit Settlement Account		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Payment Allocation Method:** The payment allocation method represents the recovery order of amounts from payment notifications. Select a payment allocation method from the list.
- **Grace Days for Repayment:** Insert the number of days for which the bank expects a payment without calculating penalty.

- **Penalty for grace period:** If you select the checkbox, the penalty interest is applied on the loan contract without taking into consideration the grace period defined at contract level, being calculated for the difference between system date - due date, if the grace period passed and the customer didn't pay the due amounts. If you leave this checkbox unselected, the penalty interest is applied on the loan contract taking into consideration the grace period defined at contract level, being calculated for system date - due date + grace days for repayment.
- **Direct Debit Settlement Account:** If you select the checkbox, the banking product has the automated settlement of repayment notification functionality (the payment allocation) turned on by default at the contract level. You can turn the automated settlement off either at the banking product level or at the contract level in Core Banking. Default value: true.

NOTE The automated settlement of repayment notification, or direct debit settlement account, is the functionality whereby, if funds are available on the settlement account and the contract has repayment notifications pending for recovery, Core Banking automatically uses the available balance up to full settlement of repayment notifications.

In Core Banking, the automated settlement of Installment type repayment notification

functionality (the payment allocation) can be turned on or off, thus allowing the financial institution to manage the contracts in case of blocked accounts and control the allocation of funds to outstanding notifications in case of need to impose a block on the settlement account, or manage the settlement of multiple loans from the same settlement account when short on funds and exceptional rules might apply.

If the functionality is turned off, the contract is pending for manual allocation. You can turn it back on and leave Core Banking to allocate the funds according to its automated processes, using any funds that become available in the settlement account in order to cover pending notifications.

2. Click the **Save and Reload** button.

Mandatory Roles for Contract Approval

In the **Mandatory Roles** section you can add the roles of the participants that are mandatory to exist at the contract level for contracts based on this banking product. In other words, when creating contracts based on banking products with Merchant role in this section, you must add a customer with the same Merchant role as contract participant, otherwise, the contract cannot be approved. When **Search Limit** is selected for a role on a banking

product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role, in this case Merchant Exposure.

Mandatory Roles for Contract Approval

+ Insert

× Delete

📄 Export

🔄 Refresh

☐

Role

Search Limit

(All)

Beneficiary

☐

1. In the **Mandatory Roles** section, click **Insert** and fill in the following fields:

⬅

Save and close

↺ Save and reload

➡ Save and new

Add Mandatory Role

Main Information

Banking Product

Duplicate

Role

Merchant

Search Limit

☒

- **Banking Product:** The banking product for which you define mandatory roles. This is automatically completed with the current banking product.
- **Role:** Select the role of the participants that are mandatory to exist at the contract level for contracts based on this banking product.
- **Search Limit:** When Search Limit is selected for a role on a banking product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role. If you select a role not associated with a customer limit type in Core Banking, the Search Limit field becomes read-only and unselected.

2. Click the **Save and Reload** button.

Return Of Goods

In the **Return Of Goods**, you can define whether a contract based on the banking product can have Returned Amount or Goods transactions or not, and the specific conditions for these transactions. The Returned Amount or Goods transaction type can be used when a customer returns all or part of a loan or mortgage in a short while after contract creation, if the banking product was defined to allow such transactions. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.

Return Of Goods

Allow Return Of Goods	Accepted Days For Return	Return Message
<input checked="" type="checkbox"/>	<input type="text" value="15"/>	<input type="text" value="Warning"/>

1. Fill in the following fields:

- **Allow Return Of Goods:** Select this checkbox if the contracts based on this banking product accept Return of Goods transactions. Default value: False. If selected, the Accepted Days For Return and Return Message fields are displayed, otherwise, these fields are not visible.
- **Accepted Days For Return:** Specify the number of days after contract creation during which the return of goods transaction can be created and approved.
- **Return Message:** Select the behavior of messages generated by Core Banking for situations when the Returned Amount or Goods transaction's approval date + the number of accepted days for return \geq the current date. Possible values are taken from the Warning Error Treatment option set. According to the desired behavior, choose:

- Error, if the transaction should not be approved and an error message should be displayed;
- Warning, if the transaction can be approved, but a warning message should be displayed;
- NoMessage, if the transaction can be approved without any messages.

2. Click the **Save and Reload** button.

NOTE If Allow Return Of Goods = True, then the Returned Amount of Goods transaction is automatically added to the **Transaction Types** section.

Closing Contract Settings

In the **Closing Contract Settings** section, you can configure the default closure settings for contracts based on this banking product.

Closing Contract Settings

Buffer Close Days	Close Real Time	Closing Is Flexible
<input type="text" value="10"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Is Closed Automatically		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:
 - **Buffer Close Days:** Enter the number of days used as buffer before automatically closing the contract when the contract reaches maturity and its balance reaches zero. If Buffer Close Days > 0, then Contract Is Closed Automatically = False.

- **Close Real Time:** If you select this checkbox, the contract based on this banking product is closed in real-time, when the contract reaches maturity and its balance reaches zero, without waiting for the end of day processes. If `Close Real Time = True`, then `Buffer Close Days = 0` and `Contract Is Closed Automatically = True`.
- **Closing Is Flexible:** If you select this checkbox, the closure details of the contract based on this banking product can be modified at the contract creation.
- **Contract Is Closed Automatically:** If you select this checkbox, the contract based on this banking product is closed automatically at maturity, if the balance reaches zero. If `Contract Is Closed Automatically = False`, then `Close Real Time = False`.

2. Click the **Save and Close** button.

Allowed Transactions

IBanking Product Factory automatically displays in the **Allowed Transactions** section the transaction types associated at the selected banking product type level. If you need to associate other transaction types with the selected banking product, follow these steps:

1. Click **Insert existing** and select the desired transaction types to be associated.
2. Double-click a selected transaction type to edit it.

Edit Transaction Type

Settings

Name: Disbursement Transaction Code: DSB Process Type: Disbursement Edit Form: FTOS_CB_EventDisbursement Transaction Operation Type: Disbursement Is System Transaction: ☐

Is Automatic Transaction: ☐ Real Time Process: ☐ Only One Draft: ☒ Generate New Contract Version: ☐ Commission Type: Return Commission Type:

Is Claback Transaction: ☒

Accounting Configurations

Generates Accounting Entry: ☒ QL Master Entry: FTOS_CB_ContractEvent

Purge Configurations

To Be Purged: ☒ Purge Number of Days: 30 Master Purge Entity: FTOS_CB_ContractEvent

Transaction Value Types

Transaction Type	Type	Value Type Name	Is Header	Value Type Attribute
Disbursement	Numeric	EventValue	<input checked="" type="checkbox"/>	eventValue
Disbursement	Text	ContractEventId	<input type="checkbox"/>	FTOS_CB_Contr...

Transaction Item Accounting Configurations

Transac...	Accounting...	Accounting...	Chart Acc...	Currency	Operational...	Take From ...
Disburse...	0001	OFFBLoa...	90300 C...			
Disburse...	0001	Provision...	66211 Im...			

3. In the **Edit Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE There is no integration at this point with a payment gateway.

- **Edit Form:** Select the form used to edit this transaction type. You can choose only from the forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.

- **Is System Transactions:** If you select this checkbox the transaction is marked as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting.
- **Is Automatic Transaction:** If you select this checkbox here, then you cannot select it within the contract operations. The **Is Automatic Transaction** checkbox marks the transaction as automatic.
- **Real Time Process:** This checkbox marks the transaction as to be processed in real-time. If selected, then the transaction is processed right away. If not selected, then the transaction is inserted as a [bank account transaction queue](#) record.
- **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
- **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
- **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
- **Return Commission Type:** Select the return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
- **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.

4. In the **Edit Transaction Type > Accounting Configurations** section, fill in the following fields:
 - **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.
5. In the **Edit Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If you select it, you can purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
6. You can also edit the information in the **Transaction Value Types, Transaction Item Accounting Configurations** and **Transaction Accounting Models** sections. Read more details about Transaction Types in the [Operational Ledger](#) User Guide.
7. Click the **Save and Close** button.

Transaction types typically used for overdrafts

- **Accruals and Provisions** - System transaction. If added at banking product level, the accruals and

provisions for contracts can be calculated on a daily basis.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Disbursement** - If added at banking product level, the requested funds are transferred into the customer's account.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Overdraft Payment** - If added at banking product level, the customer can perform payments from the current account using the overdraft functionality, practically using an amount larger than the positive balance of the account, up to the overdraft limit defined at the contract level.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Early repayment** - If added at banking product level, the customer can make a payment earlier than the stated maturity date of the contract.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Payment Holiday** - If added at banking product level, the official bank holidays are considered when calculating a payment schedule.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Repayment** - If added at banking product level, the customer can make a payment to cover the scheduled repayment amount.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Repayment Notification** - If added at banking product level, the system generates and displays in the contract a repayment notification after each disbursement, containing the total amount to be paid off.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Reschedule Overdues** - If added at banking product level, the system extends or adds extra time to an existing contract.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Reschedule Debt** - If added at banking product level, the system recalculates the entire payment schedule by extending the time period for loan repayment.

This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.

- **Revert Disbursement** - If added at banking product level, disbursements performed at contract level can be reverted after being performed.
This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.
- **Revert Transfer between my bank accounts** - System transaction. If added at banking product level, transfers between the same customer's bank account can be reverted after being performed.
This transaction type is not added automatically. Make sure you insert it in the **Associated Transactions** tab.
- **Transfer between my bank accounts** - If added at banking product level, the customer is allowed to move funds between their accounts at the contract level.
This transaction type is automatically added in the **Associated Transactions** tab if **Allow Withdrawals** was selected in the [Details](#) tab.

8. View History

You can find the versions of the banking product, their workflow status and the user who modified the product in the **History** tab.

The screenshot shows the 'History' tab selected in the top navigation bar. Below the navigation bar, there are 'Refresh' and 'Export' buttons. A table with five columns is displayed: 'Label', 'Name', 'attributeVersionDate', 'attributeVersion', and 'Modified by user'. Each column has a search input field. The table contains one row with the following data: 'Draft' in the Label column, 'Duplicate' in the Name column, '19/04/2022 10:29' in the attributeVersionDate column, '1' in the attributeVersion column, and a blurred name in the Modified by user column.

Label	Name	attributeVersionDate	attributeVersion	Modified by user
Draft	Duplicate	19/04/2022 10:29	1	[Blurred Name]

Here you can track the product's life cycle and review older versions that are no longer active (for details, see [Banking Products' Life Cycle](#)).

9. Manage Origination Elements

You can set the elements required in the origination journey, such as product benefits, display conditions, features, destination types, or associated products in the **Origination Elements** tab.

- Fill in the following fields:
 - Product Image:** Insert an image representative for the product.
 - Document:** Insert the document representative for the product.
 - Benefits:** Insert the advantages of owning the banking product. You can format the text in the text editor window.
 - Display Conditions:** Insert the conditions for the applicant, e.g. age limit, annual turnover, education level, income, registration documents.
- Click the **Save and Reload** button.

Product Features

In the **Product Features** section, you can insert, delete or export features.

1. To add a feature, Click the **Insert** button and fill in the following fields:
 - **Feature:** Enter the name of the product feature.
 - **Is Main Feature:** Select the checkbox if it is the major feature.
 - **Display Name:** Enter the display name of the feature.
2. Click the **Save and Reload** button.

Product Destination Types

In the **Product Destination Types** section , you can insert or remove the existing product destination types:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. To create a new destination type, insert a name and specify if it is default. For this case, the following have been configured:
Loan Collateral, Loan disbursements, Personal, Repayments.

Associated Products

In the **Associated Products** section you can insert or remove an existing products. It is especially useful when you wish to create a link between two products.

Associated Products

+ Insert existing

X Remove existing

☐

Name

Current Account USD

To insert or remove a product from the list or create a new one:

- 1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
- 2. Click the **Save and Reload** button.

10. Configure Operational Ledger Settings

NOTE

The **OL Settings** tab is available only when Banking Product Factory is implemented along with **Operational Ledger Add-On**.

In the **Banking Product GL Accounts** section, you can set specific accounts to be used by the Operational Ledger system for transactions performed on contracts based on this banking product. Thus, you can overwrite the generic settings of the Operational Ledger, instructing it to use the accounts specified at banking product level.

1 Main Info

2 Details

3 Availability

4 Dimensions

5 Product Formula Engine

6 Documents

7 Loan Core Settings

8 History

9 Origination Elements

10 GL Settings

Banking Product GL Accounts

+ Insert

X Delete

■ Export

↻ Refresh

☐

Product

Accounting System

Accounting Scope

Item

GL Account

Duplicate

0001

FixDeposit

Loan Admin Fee

20110 Commercial loans

1. To add specific accounts to be used by **Operational Ledger**, click **Insert** and fill in the following fields in the displayed **Add Banking Product GL Account** page::

- **Product:** Select from the list the banking product. Automatically completed with the banking product you are currently editing.
 - **Accounting System:** Select from the list the desired accounting system. The list contains the records created in the **Accounting System** entity.
 - **Accounting Scope:** Select from the list the corresponding accounting scope. The list contains the records created in the **Accounting Scope** entity.
 - **Item:** Select from the list the corresponding transaction item. The list contains the records created in the **Transaction Item Accounting Config** entity.
 - **GL Account:** Select from the list the corresponding GL account. The list is filtered based on the previously selected accounting system. It contains the accounts defined in the **Accounting Chart** entity that were added to the chosen accounting system record.
2. Click the **Save and Reload** button.

Leasings

A lease is a written agreement specifying the conditions under which a lessor accepts to let out a property to be used by a lessee. The agreement promises the lessee use of the property for an agreed length of time while the owner is assured consistent payment over the agreed period.

Creating Leasings

To create a new leasing from scratch, navigate to main menu > **Banking Product Factory** > **Banking Products**, and click the **Insert** button. A new page opens, with a series of tabs that assist you in configuring the banking product. Or, you can create banking products directly from the [product category](#) level, allowing Banking Product Factory to automatically fill in the information inherited from the product category.

NOTE

Alternatively, you can create a leasing by [duplicating](#) an existing one. Click the **Duplicate** button on the **Banking Products List** page. Make sure you change the **Banking Product Code** and **Name** according to your business needs.

1. Enter Basic Information

You can set the basic elements for creating the product, such as name, code, currency, validity, or product classification, in the **Main Info** tab.

The screenshot displays the 'Main Info' tab of the Banking Product Factory interface. The top navigation bar includes tabs: Main Info, Details, Availability, Dimensions, Product Formula Engine, Documents, Lean Core Settings, History, Origination Elements, and GL Settings. The 'Main Information' section contains the following fields:

- Banking Product Type:** Leasing (with a refresh icon)
- Currency:** EUR (with a dropdown arrow)
- Banking Product Code:** Leasing
- External Code:** lease
- Start Date:** 04/07/2021 (with a calendar icon)
- End Date:** 29/07/2022 (with a calendar icon)
- Name:** LeasingM
- Class:** Corporate (with a dropdown arrow)
- SubClass:** (empty field with a dropdown arrow)
- Category:** (empty field with a dropdown arrow)
- SubCategory:** (empty field with a dropdown arrow)
- Description:** (empty text area)

The **Product Classification** section at the bottom includes buttons for '+ Insert existing' and 'X Remove existing', and a table with columns: Code, Name, Classification Type, Valid From, and Valid To. Each column has a search icon.

NOTE

Your product type selection influences the next steps and many of the fields are automatically completed with values inherited from the selected product type definition. For leasings, select the **Leasing** option in **Banking Product Type**

Main Information

1. In the **Main Information** section, select the **Banking Product Type** from the available list.

NOTE

If you choose to create banking products directly from the [product category](#) level, then Banking Product Factory automatically fills in the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

2. The **Currency** is automatically completed from the default value defined within the "[DefaultCurrencyBankingProduct](#)" on [page 506](#) Banking Product Factory system parameter. You can change it for the newly created product by selecting another currency from the drop-down list.
3. Banking Product Factory automatically generates the code based on the code of the product type + a sequencer. For example, the TLU854 code corresponds to a banking product based on an Unsecured Loan product type. You can modify the product code in the **Banking Product Code** field. It can have 10 characters.

4. Set the product validity by selecting the date when the product becomes available (**Start Date**) and the last date from when the product is available (**End Date**).
5. Enter the product **Name**.
6. Optionally you can set the following fields:
 - **External Code:** Select the code of the product imported from an external system, if applicable. It can have 10 characters and it is not used in the contract.
 - **Description:** Enter any description or additional text related to your new product.
 - **Class, Subclass, Category, and Subcategory:** Select the desired values to set the desired hierarchy for your product. For more information, see "[Product Hierarchy](#)" on page 406
7. Click the **Save and Reload** button. The product is now saved and you can further edit it for your needs.

Product Classification

After saving the product, the **Product Classification** section is populated with more options for your product. You can insert or remove existing product classification items.

1. To add a product classification item, click **Insert Existing** and select an already existing item.

Product Classification

<input type="checkbox"/>	Code	Name	Classification Type	Valid From	Valid To
	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>
	REG1	Classification ...	Regulatory	01/01/2020	31/12/2030

2. You can also create a new product classification item by clicking the **Insert existing** button and then the **Insert** button.
3. On the newly displayed **Add Product Classification** page, fill in the fields:

Add Product Classification

Save and close Save and reload Save and new

Main Information

Name	Code	Valid From	Valid To	Classification Type	Is Default
Classification Restructuring Level	RESTRUCTL1	20/04/2022	30/04/2028	Restructuring	<input checked="" type="checkbox"/>

Classified Banking Products

- **Name:** Enter the name of the classification item.
- **Code:** Enter the unique code of the classification item.
- **Valid From:** Select the date from which the product classification item is valid.
- **Valid To:** Select the date until when the product classification item is valid.
- **Classification Type:** Choose the classification type of the item. Possible values: Regulatory, Restructuring.
- **Is Default:** Select the checkbox if this classification item is default.

The **Classified Banking Products** section is displayed after you save the classification item record and allows you to insert existing banking products. The following information is displayed here: **Code, Name, Class, SubClass, Category, SubCategory** and **Status**.

For more information on how to create a new product classification, see [Banking Product Classification](#).

4. Click the **Save and Reload** button.

2. Add Details

You can set elements such as interest, payment type, top-ups and withdrawals in the **Details** tab. Most of the values within this tab, already completed, are inherited from the selected banking product type level definition, but you can change them according to your needs.

The screenshot displays the 'Details' tab of the Banking Product Factory interface. It is organized into several sections:

- General Data:** Includes checkboxes for 'Is Revolving', 'Allow Refinancing', 'Allow Restructuring' (checked), 'Allow CoDebtor', and a text field for 'Max No. Of CoDebtors'.
- Disburse Settings:** Includes a checked 'Autodisbursement' checkbox, a 'Max No Disbursements' field with the value '2', and a checked 'Active Tranche On Doc Submission' checkbox.
- Product Tranches:** A table with columns: Name, Tranche Percent, Start Month From A..., and Interest Percent. It shows 'No data'.
- Payment Schedule Types:** Includes dropdowns for 'Period Type' (Months), 'Periodicity Type' (Monthly), 'Grace Type' ([none]), and 'Product Grace'.
- Schedule Templates:** A table with a 'Name' column, showing 'No data'.
- Product Guarantees:** Includes a checked 'Is Guaranteed' checkbox, a 'Collateral Cover Percent' field, and a checked 'Allow Collateral Partial Release' checkbox.
- Allowed Guarantee Types:** A table with columns: Guarantee Type, Max Accepted Covering Percent. It shows 'Cash' with a value of '20.00'.
- Holiday Settings:** Includes a checked 'Holiday Shift For Repayment Installments' checkbox, a checked 'Defer Due Date' checkbox, and a 'Holiday Shift Method' dropdown set to 'Forward'.
- Country Calendars:** A table with a 'Name' column, showing 'Romania'.

Product Behavior

1. In the **General Data** section, you can optionally set the following fields:
 - **Is Revolving:** If selected, allows a business to borrow money as needed for funding working capital needs and continuing operations such as meeting payroll and payable.
 - **Allow Refinancing:** Select if the account can be refinanced for this product.

- **Allow Restructuring:** Select if the loan can be restructured.
 - **Allow CoDebtor:** Select if another debtor exists for this product.
 - **Max No. of CoDebtors:** Set the maximum number of co-debtors possible for this product.
2. Click the **Save and Reload** button.

Disbursement

1. In the **Disburse Settings** section, check the **Auto Disbursement** box, and the disbursement is automatically performed when the contract is approved.
2. You can optionally set the following fields:
 - **Max No Disbursements:** Enter the maximum number of disbursements that can be configured for this product.
 - **Active Tranche On Doc:** If you select this checkbox, then the tranches are activated (disbursements are created and approved) after certain documents are submitted. It is the Financial Institution's responsibility to verify the content of the submitted documents.
3. Click the **Save and Reload** button.

Product Guarantees and Allowed Guarantee Types

Product Guarantees

Is Guaranteed ☒ Collateral Cover Percent Allow Collateral Partial Release ☐

Allowed Guarantee Types

<input type="checkbox"/> Guarantee Type	Max Accepted Covering Percent
<input type="text" value="FixDeposit"/>	<input type="text" value="85.00"/>

- In the **Product Guarantees** section, set the following fields:
 - Is Guaranteed:** If selected marks the product as secured.

NOTE

The **Collateral Cover Percent**, **Allow Collateral Partial Release** fields, and the **Allowed Guarantee Types** section appear when you select the Is Guaranteed checkbox.

- Collateral Cover Percent:** Enter the percent that the collateral person on the contract pays. It usually is over 100%.
- Allow Collateral Partial Release:** A partial release is a mortgage provision that allows some of the collateral to be released from a mortgage after the borrower pays a certain amount of the loan.

The **Allowed Guarantee Types** section is displayed after you check the **Is Guaranteed** option. You can insert or delete allowed guarantee types:

- To insert a guarantee type, click the **Insert** button and fill in the name, maximum accepted covering percent, and select the guarantee type.

Add Product Guarantee Structure

Product Guarantee Structure

Banking Product: Card Guarantee Type: FixDeposit

Max Accepted Covering Percent: 85 Name: Deposit

- Click the **Save and Reload** button.

Product Tranches

The **Product Tranches** section is displayed if you selected the **Active Tranche On Doc** checkbox. You can insert existing disbursement tranches or create new ones, configured to fit the product. Usually used for corporate loans, such dividend payments or cash outflows are not done in equal amounts and usually trigger a recalculation in terms of interest.

Product Tranches

<input type="checkbox"/>	Name	Tranche Percent	Start Month From Acti...	Interest Percent
	Q	Q	Q	Q
	Tranche 1	50.0000		2.0000
	Tranche 2	50.0000		2.0000

- To add multiple such disbursements, click the **Insert** button. The Add Product Disbursement section is displayed and you can set the following fields:
 - Name:** Enter the name of the new disbursement.
 - Tranche Percent (%):** Enter the percentage of the final amount that goes towards the disbursement.

- **Start Month From Activation:** Enter the start month for the disbursement. It can be any month in the loan availability period.
- **Interest Percent (%):** Enter the interest percent for that particular disbursement.
- **Unusage Commission Percent (%):** Enter a commission paid for the loan amount unused.

2. Click the **Save and Reload** button.

Payment Schedule Types

Payment Schedule Types

Period Type	Periodicity Type	Grace Type	Product Grace
Months	Monthly	Both	GracePeriod

1. Select the regularity of payments in the **Periodicity Type**. You can choose: **Once** (the whole amount is paid at maturity), **Weekly, Monthly, Bimonthly, Trimestrial, 4 Weeks, Semestrial, Annual** or **30Days**.

NOTE

If the measurement unit of the selected Periodicity Type = Days, then Holiday Shift For Repayment Installments = False and it cannot be changed.

2. Optionally you can set the following fields:
 - **Period Type:** Select the period of availability for the product: **Days, Weeks, Months, Years** or **Once**.

NOTE

The period type must be the same as the measurement unit of the Periodicity Type.

- **Grace Type:** Select whether the product grace should apply to the principal, the interest, or both. Select an option from the list: **Both, Principal** or **Interest**.
- **Product Grace:** Select an option from the list. This is the amount of time that the bank can offer to a customer at the beginning of the contract without repayments of principal or principal + interest (however, most probably the bank capitalizes the interest for that period).

3. Click the **Save and Reload** button.

Schedule Templates

In the **Schedule Templates** section, you can associate/ delete payment schedule types to/ from the banking product.

Schedule Templates

☐

Name

Credit Card Installments

One principal installment

1. To associate a payment schedule type to the banking product, click **Insert Existing** and select one of the already defined types. Go to "[Payment Schedule Types](#)" on page 413 to read more about this.

IMPORTANT!

When creating a new Term Loan, Mortgage, or Overdraft banking product, you must select at least one payment schedule type, otherwise you can't approve the product. If the **Schedule Templates** section has no records, an error message is displayed upon transitioning the product into the **Approved** status.

2. Click the **Save and Reload** button.

Holiday Settings

In the **Holiday Settings** section, the following fields are available:

Holiday Settings

Holiday Shift For Repayment Installments



Defer Due Date



Holiday Shift Method

Forward

Country Calendars

+ Insert existing

× Remove existing



Name



Romania

1. Select the **Holiday Shift For Repayment Installments** checkbox for holidays to be taken into consideration when calculating the maturity program.

NOTE

The **Country Calendars** section and the **Defer Due Date** and **Holiday Shift Method** fields appear if you select the **Holiday Shift For Repayment Installments** checkbox.

The **Defer Due Date** option is select by default. If selected, the payment schedule calculates the next payment amount as if the due date has not changed even when the due date falls on a holiday.

2. From the **Holiday Shift Method**, you can select the method to be used when calculating the due date if that date falls on a holiday. The due date can be shifted before or after the holiday. The possible values you can choose are:
 - **None** - the due date is not shifted.
 - **Forward** - the due date is shifted to the next working day after the initially calculated due date.
 - **Backward** - the due date is shifted to the last working day before the initially calculated due date.

Default value: Forward.

Country Calendars

In the **Country calendars** section, you can insert or delete calendars. You can work with multiple calendars as well. To insert a calendar:

1. Click the **Insert Existing** button and add the country's name. If the maturity date coincides with a holiday, it is allocated automatically on the next business day.
2. Click the **Save and Reload** button.

3. Configure Availability

You can determine the monetary range and the time frame when the product is available for customers in the **Availability** tab.

Product Availability

1. Fill in the following fields:

- **Minimum Amount** and **Maximum Amount:** Enter the minimum and maximum amount of the product for which the bank opens a contract.
- **Minimum Period** and **Maximum Period:** Enter the minimum and maximum duration of the product mentioned in the contract.
- **Minimum Advance** and **Maximum Advance:** Enter the minimum down payment that must be paid for the leasing contract to be signed and the maximum advance that can be paid for the leasing contract to be signed.
- **Start Period For Unusage After Activation (Months):** Enter the start period for unused amount after the activation.
- **Maximum Period Disburse After Activation (Months):** Enter the maximum period, in months, to perform a disbursement after the contract is activated.

- **Minimum Principal For Early Repayment:** Enter the minimum amount of the principal for which a customer can perform an early repayment.
2. Click the **Save and Reload** button.

Availability Rules

In the **Availability Rules** section you can select the item filters for your banking product.

Availability Rules

Product Availability Item Filters

+ Insert × Delete ■ Export ↻ Refresh

☐ Description

CA >< 1 - 50000

1. Click the **Insert** button, the **Add Product Availability Item Filter** is displayed.
2. Select the desired filter from the Filter option.
3. Add the attributes of the selected filter.
4. Optionally, add a description for the added item filter.
5. Click the **Save and Reload** button.

For more details, see "[Product Filter](#)" on page 472.

Product Covenants

In the **Product Covenants** section you can set certain conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements.

Product Covenants

<input type="checkbox"/>	Type	Covenant	Valid From	Valid to	Value
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Affirmati...	Borrowers should perform tax obligations	19/04/2022	20/04/2030	
	Financial	Lender can monitor borrower's current r...	19/04/2022	20/04/2030	

1. Click the **Insert** button to add a covenant to the product. Each covenant can be attributed a value, an availability period, and a review frequency in months. Read more about covenants in the ["Covenant"](#) on page 495 page.
2. Click the **Save and Reload** button.

4. Manage Dimensions

You can insert, delete or export interest, commissions, insurances, discounts or questions valid for your product in the **Manage Dimensions** tab.

Item Name

MCA

Discounts

Name	Discount	End Date	Start Date	Value Discount
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
No data				

Insurances

Item Name

House Insurance

Questions

Question	Business Status
<input type="text"/>	<input type="text"/>
Question1	Active
Question2	Active

To add a new one, click **Insert** and fill-in the fields detailed in the sections below.

NOTE

To configure the interest and commissions separately, navigate to **Main >**

Product Factory > **Banking Product Dimensions menu** which contains several other embedded menus.

Interest & Commissions

1. To add an [interest](#) or a [commission](#), click **Insert** in the **Interest & Commissions** section. The **Add Interest & Commission Item** page is displayed.
2. Select the banking product from the **Banking Product** list.
3. Enter the **Item Name**.
4. Enter the **Start Date** when the interest/ commission becomes effective and the **End Date** for the interest/ commission.
5. Fill in the following fields:
 - **Code:** Enter a code for this particular interest/ commission.
 - **Interest List:** Select from which list the interest is a part of.
 - **Commissions List:** Select from which list the commission is a part of.
 - **Minimum Interest Rate (%):** Enter the percent applicable as a minimum interest rate at the contract level.
 - **Is Negotiable:** Select the checkbox to specify that every interest, commission or margin field at the contract level is negotiable and can be edited.
6. Click the **Save and Reload** button.
7. In the **Interest & Commission Item Filters** section, click **Insert** to insert an [item filter](#).
8. Select a filter created earlier in the "[Product Filter](#)" on [page 472](#).

9. Set the following fields:

- **Value/ Date:** Select the beginning value/ date for the filter.
- **Until Value/ Until Date:** Select the maximum value/ date for the filter.
- **Description:** This field is automatically filled in after clicking the **Save and Reload** button. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter Entity:** Entity on which the filter was defined.
- **Description:** It is left blank. Add a description if needed.
- **Grid of Options:** This field is automatically filled in after clicking the **Save and Reload** button. The values of the option set are displayed. Select the Boolean for the values you wish to include in the filter.

10. Click the **Save and Reload** button.

← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓

Value 1 Until Value 50,000

Description

AL_Amount > < 1 - 50000

Insurances

For any banking product, you can select a pre-existing insurance or create a new one.

1. To add a new [insurance](#), in the **Insurances** section, Click the **Insert** button and set the following fields:
 - **Banking Product:** Select the banking product.
 - **Code:** Insert a code for this particular insurance.
 - **Item Name:** Insert a name.
 - **Start Date:** Enter the start date when the insurance becomes effective.
 - **End Date:** Enter the end date for the insurance.
 - **Details:** It is left blank. Add a description if needed.
 - **Insurance List:** Select from which list the insurance is a part of.
2. Click the **Save and Reload** button.
3. In the **Insurance Item Filters** section, click **Insert** and fill in the following fields:
 - **Filter:** The name inserted earlier.
 - **Value:** The starting value for the attribute.
 - **Until Value:** The ending value of the interval.
 - **Description:** Insert the proper description for the availability filter.
4. Click the **Save and Reload** button.

Edit Insurance Item

[Save and close](#) [Save and reload](#)

Main Information

Banking Product Code Item Name Insurance List Start Date End Date

Details

Insurance Item Filters

☐ Description

Amount Insurance >= 1000 - 30000

Discounts

For any banking product, you can add discounts of any nature. You can select a pre-existing discount or create a new one.

1. To add a new [discount](#), Click the **Insert** button in the **Discounts** section.
2. In the **Details Page**, insert the appropriate **Name** for the discount.
3. Choose one of the pre-configured types of discounts available in the **Discount** field, or create a new one. According to the selected type, new fields appear on the page requiring to be filled in.
4. Insert the value of the discount to be applied, e.g. 15.
5. Set the start date when the discount becomes effective (**Start date**), and the end date for the discount (**End date**).
6. Optionally, you can fill in the following fields:
 - **Applied to dimension:** Specifies for which product dimension this discount is applicable (interest, commission or insurance). This is autocompleted by the selected discount's dimension.
 - **Commission type:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission type this

discount is applicable. This is autocompleted by the selected discount's default commission type.

- **Commission:** This field appears if the selected **Discount** = Commission discount or Management Fee Discount. Specifies for which commission this discount is applicable. This is autocompleted by the selected discount's default commission.
- **Insurance class:** This field appears if the selected discount = Discount Life Insurance or Interest Discount. Specifies for which insurance class this discount is applicable (credit, home, life or other insurance class). This is autocompleted by the selected discount's insurance class.
- **Insurance:** This field appears if the selected discount = Discount Life Insurance. Specifies for which insurance this discount is applicable. This is autocompleted by the selected discount's insurance.
- **Interest type:** This field appears if the selected discount = Interest discount. Specifies for which interest type this discount is applicable.
- **Use Banking Formula:** If you select this checkbox, the discount is calculated using the Banking Formula engine.
- **Is optional discount?** : Selecting this checkbox results in the discount being applied only if the customer agrees to the discount.
- **Is percentage:** If you select this checkbox, the discount is calculated as a percentage from the contract's amount.
- **Destination entity:** Select the entity where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.

- **Destination entity attribute:** Select the attribute where to register the discount. This field opens when the **Is optional discount?** checkbox is selected.
7. Click the **Save and Close** button.
 8. In the **Product Discount Item Filter** section, click **Insert** and fill in the fields as specified in the **Product Filter page**. The fields displayed depend on the selected filter.
 9. Click the **Save and Close** button.

Questions

You can choose one or more questions to add to the banking product, or insert a new one.

1. To insert a new **question**, in the **Questions** section, Click the **Insert existing** button, then click **Insert**.
2. In the **Add Banking Product Question** page, fill in the following fields:
 - **Question:** Enter the appropriate name.
 - **Answer Type:** Select the type of answer the customer has to give: text, numeric or option set.
 - **Answer Entity:** Select the entity where the answer is stored.
 - **Answer Field:** Select the attribute where the answer is stored.
3. Click the **Save and Reload** button.

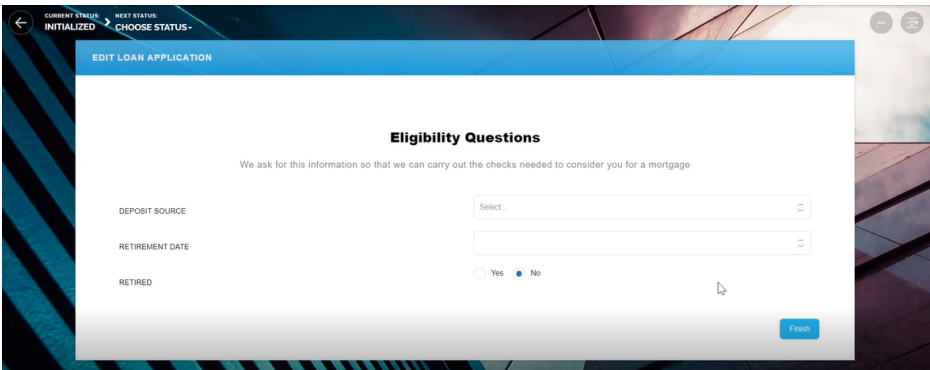
The **Banking Products List** shows where the question is used.

IMPORTANT!

The question has to be activated in order for it to be added to the banking product.

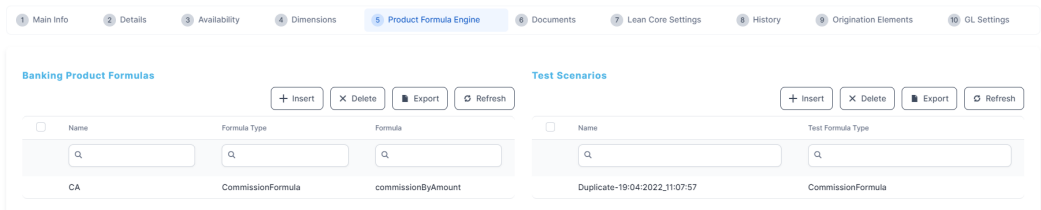
4. Click the **Save and Close** button.

For example, this is how a question is displayed in a customer journey in the FintechOS Portal:



5. Configure Product Formula Engine

The **Product Formula Engine** tab keeps formulas built with **Formula Engine** for the banking product. Such formulas can be used to determine the eligibility of a customer.



Banking Product Formulas

In the **Banking Product Formulas** section, choose an already defined formula or click **Insert** to configure a new one, for example a formula for eligibility or scoring purposes. For information on how to build a formula, see [Define Formula Inputs](#).

1. In the **Add Banking Product Formula** page, fill in the following fields:

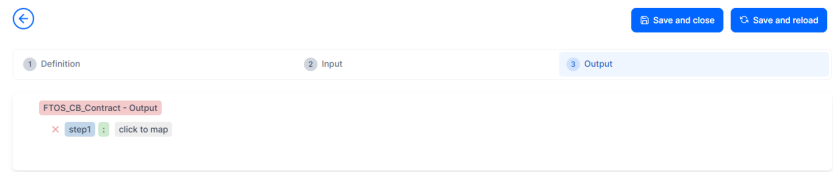
- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

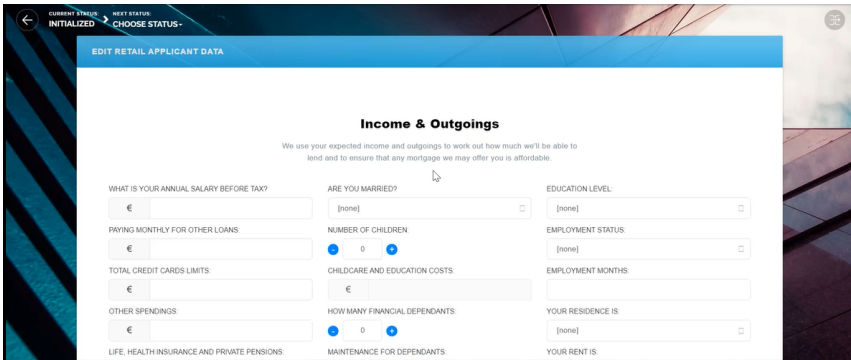
The name of the banking product is inserted automatically in **Banking Product**.

2. After selecting the desired formula, click **Save and reload**, then click **Map Data**.
3. In the **Formula Mapping** page, click **Input** and configure the input data for the formula.
4. Click **Output** and configure the output for the formula.

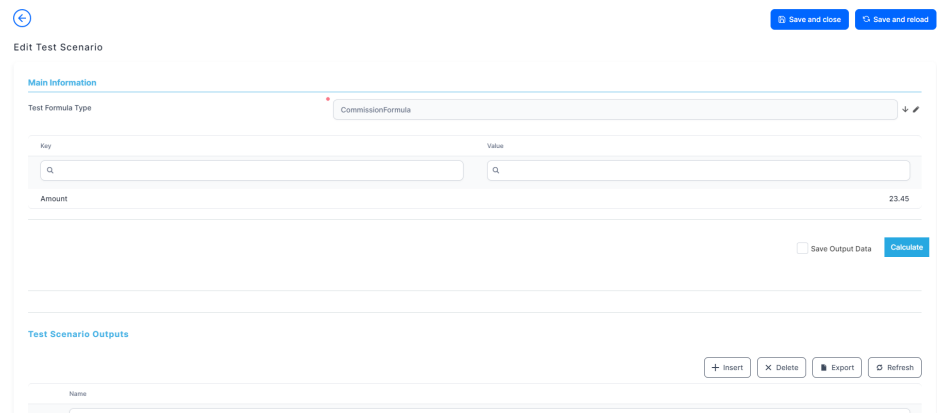


5. Click the **Save and Close** button.

Such formulas can be used in customer journey steps, for example when the customer inserts their financial data.



Test Scenarios



A good practice is to test the formula before displaying it in a customer journey. You can do that in the **Test Scenarios** section:

1. Click the **Insert** button to open the **Add Test Scenario** page.
2. Insert a **Test Scenario Type** from the option set. The keys and the values are shown.
3. Click the **Save and Reload** button.
4. Click the **Calculate** button. The outputs are displayed in the **Test Scenario Outputs** section.
5. You can save these outputs by selecting the **Save Output Data** checkbox next to **Calculate**.

6. Add Documents

You can manage all the attached documents available for a product and all the agreements that a customer needs to go through in the **Documents** tab.

The screenshot shows the 'Documents' tab in the Banking Product Factory interface. It contains two main sections: 'Banking Product Documents' and 'Banking Product Agreements'.

Banking Product Documents: This section has a toolbar with buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. Below the toolbar, there are three search filters: 'Report' (with a dropdown arrow), 'Banking Copies No' (with a search icon), and 'Operation Code' (with a search icon). The main area displays a table with the following data:

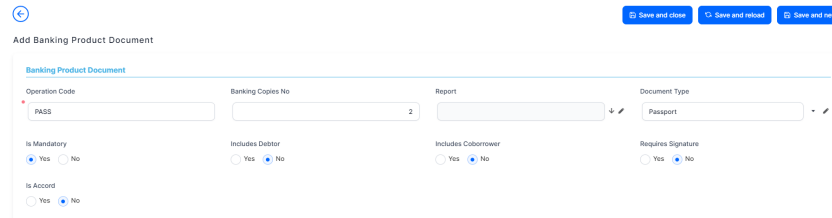
Report	Banking Copies No	Operation Code
Status overview of the queues	2	TC

Banking Product Agreements: This section also has a toolbar with buttons for '+ Insert', 'X Delete', 'Export', and 'Refresh'. Below the toolbar, there is a search filter 'Code' (with a search icon). The main area displays 'No data'.

Banking Product Documents

Any previously associated documents are displayed in the **Banking Product Documents** section.

1. To attach a new document to the banking product, in the **Banking Product Documents** section, click **Insert**. The **Add Banking Product Document** page is displayed.



⏪ Save and close Save and reload Save and new

Add Banking Product Document

Banking Product Document

Operation Code Banking Copies No Report Document Type

Is Mandatory ☒ Yes ☐ No Includes Debtor ☐ Yes ☒ No Includes Coborrower ☐ Yes ☒ No Requires Signature ☐ Yes ☒ No

Is Accord ☐ Yes ☒ No

2. Set the following fields:
 - **Operation Code:** Enter a code for the document.
 - **Banking Copies:** Insert the number of copies made.
 - **Report:** Select a document from the list.
 - **Document Type:** Select a document type from the list.
 - **Is Mandatory:** Select if the document is mandatory.
 - **Includes Debtor:** Select if the document includes the debtor.
 - **Includes Coborrower:** Select if the document includes the co-borrower.
 - **Requires Signature:** Select if the document requires to be signed.
 - **Is accord:** Select if the document represents the accord.
3. Click the **Save and Reload** button.

Banking Products Agreements

The agreements that a customer needs to go through are displayed in the **Banking Products Agreements** section.

1. To attach a new agreement to the banking product, in the **Banking Products Agreements** section, click **Insert**. The **Add Banking Products Agreements** page is displayed.

2. Fill in the following fields:
 - **Agreements:** Select an agreement from the list.
 - **Banking Product:** It is automatically filled in.
 - **Code:** Insert the corresponding code.
 - **Is Mandatory:** Select if the agreement is mandatory for the product.
3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the [Digital Document Processor](#).

7. Configure Lean Core Settings

NOTE

The **Lean Core Settings** tab is available only when Banking Product Factory is implemented along with Core Banking.

Transactions types that are performed to and from a banking product are displayed in the **Lean Core Settings** tab. The tab also holds information about the reconciliation account associated with the products, mandatory roles for contract approval, payment allocation settings, the treatment of returned goods for contracts based on this banking product (only for Term Loans and Mortgage banking products), and closing contract settings.

The screenshot displays the 'Lean Core Settings' tab in the Banking Product Factory. The 'Self Bank Account Associated With The Product' section is active, showing a 'Reconciliation Account' dropdown set to 'Reconciliation EUR' and a 'Negative balance treatment' dropdown set to 'NoMessage'. Below this, there are sections for 'Mandatory Roles for Contract Approval' (with buttons for Insert, Delete, Export, Refresh), 'Allowed Transactions' (with buttons for Insert existing, Remove existing), and 'Closing Contract Settings' (with checkboxes for Buffer Close Days, Close Real Time, and Closing Is Flexible, and a checkbox for Contract Is Closed Automatically).

Reconciliation Account Associated With The Product

1. In the **Self Bank Account Associated with the Product**, for each banking product, you must select a reconciliation account, which is the bank account to be used for transactions, for money movements.

Self Bank Account Associated With The Product

Reconciliation Account Negative balance treatment

Reconciliation EUR NoMessage

NOTE

This account must have the same currency as the product, because the conversions are performed from and into this account.

2. Select a value for the **Negative Value Treatment** drop-down to specify how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a

disbursement event would be approved. The possible values are:

- **Error** - there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero. Select this value if you want to block any transactions that would result in a negative balance of the reconciliation account associated to the banking product.
- **Warning** - there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- **NoMessage** - there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.

NOTE

Core Banking also has a system parameter, `ReconciliationAccountTreatment`. That is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value). Thus, if the value is specified

at the banking product level, then that value takes precedence over the system parameter's setting.

If you associate the same reconciliation account to more than one banking product, then the setting selected in banking product A is applied for contract events based on banking product A, while for the banking product B, Core Banking would apply the setting selected at the level of banking product B.

Payment Allocation Settings

In the **Payment Allocation Settings** section you can decide which allocation method should be used to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on. You can also define the grace period settings.

Payment Allocation Settings

Repayment Allocation Method	Grace Days for Repayment	Penalty for grace period
<div>CostOrder</div> <div>↓ ✎</div>	<div>5</div>	<input type="checkbox"/>
Direct Debit Settlement Account		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Payment Allocation Method:** The payment allocation method represents the recovery order of amounts from payment notifications. Select a payment allocation method from the list.
- **Grace Days for Repayment:** Insert the number of days for which the bank expects a payment without calculating penalty.

- **Penalty for grace period:** If you select the checkbox, the penalty interest is applied on the loan contract without taking into consideration the grace period defined at contract level, being calculated for the difference between system date - due date, if the grace period passed and the customer didn't pay the due amounts. If you leave this checkbox unselected, the penalty interest is applied on the loan contract taking into consideration the grace period defined at contract level, being calculated for system date - due date + grace days for repayment.
- **Direct Debit Settlement Account:** If you select the checkbox, the banking product has the automated settlement of repayment notification functionality (the payment allocation) turned on by default at the contract level. You can turn the automated settlement off either at the banking product level or at the contract level in Core Banking. Default value: true.

NOTE The automated settlement of repayment notification, or direct debit settlement account, is the functionality whereby, if funds are available on the settlement account and the contract has repayment notifications pending for recovery, Core Banking automatically uses the available balance up to full settlement of repayment notifications.

In Core Banking, the automated settlement of Installment type repayment notification

functionality (the payment allocation) can be turned on or off, thus allowing the financial institution to manage the contracts in case of blocked accounts and control the allocation of funds to outstanding notifications in case of need to impose a block on the settlement account, or manage the settlement of multiple loans from the same settlement account when short on funds and exceptional rules might apply.

If the functionality is turned off, the contract is pending for manual allocation. You can turn it back on and leave Core Banking to allocate the funds according to its automated processes, using any funds that become available in the settlement account in order to cover pending notifications.

2. Click the **Save and Reload** button.

Mandatory Roles for Contract Approval

In the **Mandatory Roles** section you can add the roles of the participants that are mandatory to exist at the contract level for contracts based on this banking product. In other words, when creating contracts based on banking products with Merchant role in this section, you must add a customer with the same Merchant role as contract participant, otherwise, the contract cannot be approved. When **Search Limit** is selected for a role on a banking

product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role, in this case Merchant Exposure.

Mandatory Roles for Contract Approval

+ Insert

× Delete

📄 Export

🔄 Refresh

☐

Role

Search Limit

(All)

Beneficiary

☐

1. In the **Mandatory Roles** section, click **Insert** and fill in the following fields:

⬅

Save and close

↺ Save and reload

➡ Save and new

Add Mandatory Role

Main Information

Banking Product

Duplicate

Role

Merchant

Search Limit

☒

- **Banking Product:** The banking product for which you define mandatory roles. This is automatically completed with the current banking product.
- **Role:** Select the role of the participants that are mandatory to exist at the contract level for contracts based on this banking product.
- **Search Limit:** When Search Limit is selected for a role on a banking product, Core Banking checks if the contract participant with this role has an attached limit configured with a limit type associated to the same role. If you select a role not associated with a customer limit type in Core Banking, the Search Limit field becomes read-only and unselected.

2. Click the **Save and Reload** button.

Return Of Goods

In the **Return Of Goods**, you can define whether a contract based on the banking product can have Returned Amount or Goods transactions or not, and the specific conditions for these transactions. The Returned Amount or Goods transaction type can be used when a customer returns all or part of a loan or mortgage in a short while after contract creation, if the banking product was defined to allow such transactions. You can set up Return Fee type commissions, to return all or some of the claimed commission to the borrower.

Return Of Goods

Allow Return Of Goods	Accepted Days For Return	Return Message
<input checked="" type="checkbox"/>	<input type="text" value="15"/>	<input type="text" value="Warning"/>

1. Fill in the following fields:

- **Allow Return Of Goods:** Select this checkbox if the contracts based on this banking product accept Return of Goods transactions. Default value: False. If selected, the Accepted Days For Return and Return Message fields are displayed, otherwise, these fields are not visible.
- **Accepted Days For Return:** Specify the number of days after contract creation during which the return of goods transaction can be created and approved.
- **Return Message:** Select the behavior of messages generated by Core Banking for situations when the Returned Amount or Goods transaction's approval date + the number of accepted days for return \geq the current date. Possible values are taken from the Warning Error Treatment option set. According to the desired behavior, choose:

- Error, if the transaction should not be approved and an error message should be displayed;
- Warning, if the transaction can be approved, but a warning message should be displayed;
- NoMessage, if the transaction can be approved without any messages.

2. Click the **Save and Reload** button.

NOTE If Allow Return Of Goods = True, then the Returned Amount of Goods transaction is automatically added to the **Transaction Types** section.

Closing Contract Settings

In the **Closing Contract Settings** section, you can configure the default closure settings for contracts based on this banking product.

Closing Contract Settings

Buffer Close Days	Close Real Time	Closing Is Flexible
<input type="text" value="10"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Is Closed Automatically		
<input checked="" type="checkbox"/>		

1. Fill in the following fields:

- **Buffer Close Days:** Enter the number of days used as buffer before automatically closing the contract when the contract reaches maturity and its balance reaches zero. If Buffer Close Days > 0, then Contract Is Closed Automatically = False.

- **Close Real Time:** If you select this checkbox, the contract based on this banking product is closed in real-time, when the contract reaches maturity and its balance reaches zero, without waiting for the end of day processes. If `Close Real Time = True`, then `Buffer Close Days = 0` and `Contract Is Closed Automatically = True`.
- **Closing Is Flexible:** If you select this checkbox, the closure details of the contract based on this banking product can be modified at the contract creation.
- **Contract Is Closed Automatically:** If you select this checkbox, the contract based on this banking product is closed automatically at maturity, if the balance reaches zero. If `Contract Is Closed Automatically = False`, then `Close Real Time = False`.

2. Click the **Save and Close** button.

Allowed Transactions

Banking Product Factory automatically displays in the **Allowed Transactions** section the transaction types associated at the selected banking product type level. If you need to associate other transaction types with the selected banking product, follow these steps:

1. Click **Insert existing** and select the desired transaction types to be associated.
2. Double-click a selected transaction type to edit it.

Edit Transaction Type

Settings

Name: Disbursement Transaction Code: DSB Process Type: Disbursement Edit Form: FTOS_CB_EventDisbursement Transaction Operation Type: Disbursement Is System Transaction: ☐

Is Automatic Transaction: ☐ Real Time Process: ☐ Only One Draft: ☒ Generate New Contract Version: ☐

Commission Type: Return Commission Type:

Is Clawback Transaction: ☒

Accounting Configurations

Generates Accounting Entry: ☒ OL Master Entity: FTOS_CB_ContractEvent

Purge Configurations

To Be Purged: ☒ Purge Number of Days: 30 Master Purge Entity: FTOS_CB_ContractEvent

Transaction Value Types

Transaction Type	Type	Value Type Name	Is Header	Value Type Attribute
Disbursement	Numeric	EventValue	<input checked="" type="checkbox"/>	eventValue
Disbursement	Text	ContractEventId	<input type="checkbox"/>	FTOS_CB_Contr...

Transaction Item Accounting Configurations

Transaction...	Accounting...	Accounting...	Chart Accto...	Currency	Operational...	Take From...
Disburse...	0001	OFFBLA...	90300 C...			
Disburse...	0001	Provision...	66211 Im...			

3. In the **Edit Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE There is no integration at this point with a payment gateway.

- **Edit Form:** Select the form used to edit this transaction type. You can choose only from the forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.

- **Is System Transactions:** If you select this checkbox the transaction is marked as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting.
 - **Is Automatic Transaction:** If you select this checkbox here, then you cannot select it within the contract operations. The **Is Automatic Transaction** checkbox marks the transaction as automatic.
 - **Real Time Process:** This checkbox marks the transaction as to be processed in real-time. If selected, then the transaction is processed right away. If not selected, then the transaction is inserted as a [bank account transaction queue](#) record.
 - **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
 - **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
 - **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
 - **Return Commission Type:** Select the return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
 - **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.
4. In the **Edit Transaction Type > Accounting Configurations** section, fill in the following fields:

- **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.
5. In the **Edit Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If you select it, you can purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
 6. You can also edit the information in the **Transaction Value Types**, **Transaction Item Accounting Configurations** and **Transaction Accounting Models** sections. Read more details about Transaction Types in the [Operational Ledger](#) User Guide.
 7. Click the **Save and Close** button.

8. View History

You can find the versions of the banking product, their workflow status and the user who modified the product in the **History** tab.

1 Main Info	2 Details	3 Availability	4 Dimensions	5 Product Formula Engine	6 Documents	7 Loan Core Settings	8 History	9 Origination Elements	10 GL Settings
-------------	-----------	----------------	--------------	--------------------------	-------------	----------------------	-----------	------------------------	----------------

History						Refresh Export	
<input type="checkbox"/>	Label	Name	attributeVersionDate	attributeVersion	Modified by user		
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
	Draft	Duplicate	19/04/2022 10:29			1	

Here you can track the product's life cycle and review older versions that are no longer active (for details, see [Banking Products' Life Cycle](#)).

9. Manage Origination Elements

You can set the elements required in the origination journey, such as product benefits, display conditions, features, destination types, or associated products in the **Origination Elements** tab.

- Fill in the following fields:
 - Product Image:** Insert an image representative for the product.
 - Document:** Insert the document representative for the product.
 - Benefits:** Insert the advantages of owning the banking product. You can format the text in the text editor window.
 - Display Conditions:** Insert the conditions for the applicant, e.g. age limit, annual turnover, education level, income, registration documents.
- Click the **Save and Reload** button.

Product Features

In the **Product Features** section, you can insert, delete or export features.

1. To add a feature, Click the **Insert** button and fill in the following fields:
 - **Feature:** Enter the name of the product feature.
 - **Is Main Feature:** Select the checkbox if it is the major feature.
 - **Display Name:** Enter the display name of the feature.
2. Click the **Save and Reload** button.

Product Destination Types

In the **Product Destination Types** section , you can insert or remove the existing product destination types:

1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
2. To create a new destination type, insert a name and specify if it is default. For this case, the following have been configured: **Loan Collateral, Loan disbursements, Personal, Repayments.**

Associated Products

In the **Associated Products** section you can insert or remove an existing products. It is especially useful when you wish to create a link between two products.

Associated Products

+ Insert existing

✕ Remove existing

☐

Name

Q

Current Account USD

To insert or remove a product from the list or create a new one:

- 1. Click **Insert existing** and select one of the existing destination types, or insert a new one.
- 2. Click the **Save and Reload** button.

10. Configure Operational Ledger Settings

NOTE

The **OL Settings** tab is available only when Banking Product Factory is implemented along with **Operational Ledger Add-On**.

In the **Banking Product GL Accounts** section, you can set specific accounts to be used by the Operational Ledger system for transactions performed on contracts based on this banking product. Thus, you can overwrite the generic settings of the Operational Ledger, instructing it to use the accounts specified at banking product level.

1 Main Info

2 Details

3 Availability

4 Dimensions

5 Product Formula Engine

6 Documents

7 Loan Core Settings

8 History

9 Origination Elements

10 GL Settings

Banking Product GL Accounts

+ Insert

✕ Delete

■ Export

🔄 Refresh

☐

Product

Q

Accounting System

Q

Accounting Scope

Q

Item

Q

GL Account

Q

Duplicate

0001

FixDeposit

Loan Admin Fee

20110 Commercial loans

MANAGING BANKING PRODUCTS

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1. To add specific accounts to be used by **Operational Ledger**, click **Insert** and fill in the following fields in the displayed **Add Banking Product GL Account** page::

Add Banking Product GL Account

Main Information

Product	Accounting System	Accounting Scope	Item	GL Account
Duplicate	0001	FixDeposit	Loan Admin Fee	20110 Commercial loans

- **Product:** Select from the list the banking product. Automatically completed with the banking product you are currently editing.
 - **Accounting System:** Select from the list the desired accounting system. The list contains the records created in the Accounting System entity.
 - **Accounting Scope:** Select from the list the corresponding accounting scope. The list contains the records created in the Accounting Scope entity.
 - **Item:** Select from the list the corresponding transaction item. The list contains the records created in the Transaction Item Accounting Config entity.
 - **GL Account:** Select from the list the corresponding GL account. The list is filtered based on the previously selected accounting system. It contains the accounts defined in the Accounting Chart entity that were added to the chosen accounting system record.
2. Click the **Save and Reload** button.

Configurations for Banking Product Factory

Before creating the banking products, you should define your bank agreements, product classifications, and the hierarchy of your banking products. You also need to define and manage schedule types, commissions, interest rates, insurances, questions, and your banking product filter.

The Banking Product Factory includes all the components you need for configuring these elements. The recommended order in which you should perform each configuration is shown in the diagram below:



See the following pages to find out more about the configurations available in **Banking Product Factory**.

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Product Hierarchy

If your financial institution wants to classify its banking products in a hierarchy, you can build the hierarchy using the **Banking Product Hierarchy** menu.

You can use the **Product Class** and **Product Subclass** to categorize your major banking products. Also, you may use the **Product Categories** and **Product Subcategories** to refine your classification.

Predefined Hierarchy Values

The following preset product hierarchy comes with the Banking Product Factory packages and is ready to be used as a basis for defining your banking products:

Class	Subclass	Category	Banking Product Type
Personal	Current Accounts	Current Account	Current Account
Personal	Current Accounts	Overdraft	Current Account Overdraft
Personal	Savings & Deposits	Savings	Savings
Personal	Savings & Deposits	Deposits	Deposit
Personal	Loans	Unsecured	Unsecured Loan
Personal	Loans	Secured	Secured Loan
Personal	Mortgages	Mortgage	Mortgage
Personal	Cards	Debit	Debit Card
Personal	Cards	Credit	Credit Card
Personal	Embedded Finance	BNPL	BNPL
Business	Current Accounts	Current Account	Current Account
Business	Current Accounts	Overdraft	Current Account Overdraft
Business	Savings & Deposits	Savings	Deposit
Business	Loans	Working Capital/Revolving	Working Capital
Business	Loans	Overdrafts	Overdraft
Business	Embedded Finance	BNPL	BNPL

You can customize the existing product hierarchy according to your financial institution's needs. Follow the steps below to add a new product **class** (for example, Retail, Corporate, etc), **subclass** (for example, authenticated, unauthenticated, teenagers/ students, etc), **category** (for example, saving, investing, etc) or **subcategory** (for example, savings account, term deposit, direct equity, etc).

NOTE

There are two possible options for building the product hierarchy:

- expand the **Banking Product Hierarchy** menu and configure each of the elements enumerated above with its respective menu or
- start building the banking product and configure the hierarchy in the banking product's page > **Main Info** tab.

Adding Product Classes

1. In the main menu, click **Product Factory > Banking Product Hierarchy > Product Class**, and the **Banking Product Classes list** page opens.

Banking Product Classes list

Class Name
Personal
Retail

2. The **Banking Product Classes list** page shows all the existing classes configured so far. Click the **Insert** button to add a new class.
3. In the newly displayed **Add Class** page, enter a **Class Name**: choose an appropriate name for your banking hierarchy.

Add Class

Main Information

Class Name

Corporate

4. Click the **Save and Reload** button.
5. The following sections are displayed: **Banking Product Subclasses**, **Banking Product Categories**, **Banking Product SubCategories**, and **Banking Products**. Add the associated subclasses, categories, subcategories and products in each respective section.

Banking Product SubClasses

+ Insert

X Delete

Export

Refresh

Class

SubClass Name

Q

Q

Corporate

Bank Account

Corporate

Loan Term

Corporate

Overdraft

Banking Product Categories

+ Insert

X Delete

Export

Refresh

Class

SubClass

Code

Category Name

Banking Product ...

Q

Q

Q

Q

Q

Corporate

Bank Account

CoCCA

Current Account

Corporate

Bank Account

CoD

Deposit

Corporate

Loan Term

CoLTS

Loan Term Sec...

Corporate

Loan Term

CoLTU

Loan Term Un...

Corporate

Overdraft

CoODNR

Overdraft Non ...

Corporate

Overdraft

CoODR

Overdraft Rev...

Banking Product SubCategories

+ Insert

X Delete

Export

Refresh

Category

SubClass

Class

SubCategory

Q

Q

Q

Q

Deposit

Bank Account

Corporate

Fix Deposit Collateral

Banking Products

+ Insert

X Delete

Export

Refresh

Name

Banking Product Code

Status

Q

Q

Q

Corporate Loan for IT compani...

123456

Approved

6. Click the **Save and Close** button.

Adding Product Subclasses

1. In the main menu, click **Product Factory > Banking Product Hierarchy > Product Subclass**, and the **Banking Product Subclasses list** page opens.

Banking Product SubClasses list

+ Insert

Delete

Export

Advanced find

Class

SubClass Name

Q

Q

Corporate

Bank Account

Retail

Bank Account RON

Personal

Cards

2. The **Banking Product Subclasses List** page shows all the existing subclasses configured so far. Click the **Insert** button to add a new subclass.
3. On the **Add SubClass** page, choose from the option set one of the subclasses pre-existing, or insert a new subclass.
4. Enter a **Subclass Name**.

Add SubClass

Save and close

Save and reload

Save and new

Main Information

Class

SubClass Name

Business

Current Accounts

5. Click the **Save and Reload** button.

CONFIGURATIONS FOR BANKING PRODUCT FACTORY

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6. Two new sections are displayed: **Banking Product Categories** and **Banking Product Subcategories**. Add the associated category and subcategory in each respective section.

Main Information

Class: Business SubClass Name: Current Accounts

Banking Product Categories

+ Insert X Delete Export Refresh

Class	SubClass	Code	Category Name	Banking Product ...
Business	Current Accou...	CA	Current Account	Current Account
Business	Current Accou...	CAO	Overdraft	Current Accou...

Banking Product SubCategories

+ Insert X Delete Export Refresh

Category	SubClass	Class	SubCategory
No data			

7. Click the **Save and Close** button.

Adding Product Categories

1. In the main menu, click **Product Factory > Banking Product Hierarchy > Product Category**, and the **Banking Product Categories list** page opens.

Banking Product Categories list

+ Insert Delete Export Advanced find

Class	SubClass	Code	Category Name	Banking Product Type
Personal	Embedded Finance	BNPL	BNPL	BNPL
Business	Embedded Finance	BNPL	BNPL	BNPL
Personal	Cards	CC	Credit Card	Credit Card
Business	Current Accounts	CA	Current Account	Current Account

2. The **Banking Product Categories list** page shows all the existing categories configured so far. Click the **Insert** button to add a new category.

Adding Banking Product Category

Save and close Save and reload Save and new

Main Information

Class: Personal SubClass: Current Accounts Code: CA Category Name: Current Account

Banking Product Type: Current Account Unique Name:

Banking Product SubCategories

Add Banking Product

- On the newly displayed **Add Banking Product Category** page, choose from the option set one of the pre-existing classes and subclasses or insert a new class and subclass.
- Enter a **Code** for the category.
- Add the **Category Name**.
- Select from the list the **Banking Product Type** associated to this category.
- Click the **Save and Reload** button.

The product category is saved and a unique name for this category is automatically filled in based on the class, subclass, and category name, for example *Personal_Current Accounts_Current Account*.

- You can **add a new banking product** directly from the **Edit Banking Product Category** page, if you wish.

Click the **Add Banking Product** button to display the banking product creation page, automatically completed with the information inherited from the product category: banking product type, code, class, subclass, and other elements, such as currency, start and end date.

The screenshot shows the 'Add Banking Product' form. At the top, there's a navigation bar with tabs: 1 Main Info, 2 Details, 3 Availability, 4 Dimensions, 5 Product Formula Engine, 6 Documents, 7 Lean Core Settings, 8 History, 9 Origination Elements, and 10 OL Settings. Below the tabs, there's a 'Main Information' section. It contains several fields: 'Banking Product Type' (Current Account), 'Currency' (EUR), 'Banking Product Code' (CA867), 'External Code' (empty), 'Start Date' (2022/09/28), 'End Date' (2027/09/28), 'Name' (empty), 'Class' (Personal), 'SubClass' (Current Accounts), 'Category' (empty), and 'SubCategory' (empty). Below these fields is a 'Description' section with a text area. At the bottom, there's a 'Product Classification' section with a table for adding and removing classifications. The table has columns for Code, Name, Classification Type, Valid From, and Valid To. The top right of the form has a 'Save and reload' button and a 'Business Transactions' button.

For information about each field that you should fill in when creating a banking product, read the product creation page specific to your desired banking product, for example ["Term Loans" on page 27](#).

- Back on the **Edit Banking Product Category** page, you can associate subcategories to this category, within the **Banking Product Subcategories** section.

Insert an associated subcategory in this section.

Category	SubClass	Class	SubCategory
Deposit	Bank Account	Corporate	Fix Deposit Collateral
Deposit	Bank Account	Corporate	Term Deposit

- Click the **Save and Close** button.

Adding Product Subcategories

- In the main menu, click **Product Factory > Banking Product Hierarchy > Product Subcategory**, and the **Banking Product SubCategories list** page opens.

Category	SubClass	Class	SubCategory
Current Account RON	Bank Account RON	Retail	Current Account RON
Deposit	Bank Account	Corporate	Fix Deposit Collateral
Loan Term Secured	Loan Term	Corporate	loan for IT companies

- The **Banking Product Subcategories List** page shows all the existing subcategories configured so far. Click the **Insert** button to add a new subcategory.
- On the **Add Banking Product Subcategory** page, choose from the option set one for the classes, subclasses and category pre-existing or insert a new class, subclass and category.

4. Enter a **SubCategory** name.

5. Click the **Save and Close** button.

Payment Schedule Types

A payment schedule represents the complete table of periodic loan payments, showing the amount of principal and interest that comprise each level payment until the loan is paid off at the end of its term.

The payment schedules are a quintessential part of a loan. You can create them using the **Banking Schedule Types**. Below you can see how to configure the installments, dates and calculations.

Payment Schedule Statuses

In Banking Product Factory, payment schedules come with a business workflow attached in order to block changes to schedule types that are actively used on banking products. Read more about [Business Workflows](#). The following statuses are available:

- **Draft** - first, default, every field is editable;
- **Active** - manually selected, fields are no longer editable. The **Duplicate** button is visible. By pressing this button the current schedule type gets duplicated in a draft new schedule type that can be further edited. Only active schedule types can be added to a banking product;

- **Draft** - not manually selected. It is available when a **New Version** button is visible;
- **Closed** - manually selected.

When transitioning a schedule type from Draft to Active, the following server-side validations are being performed:

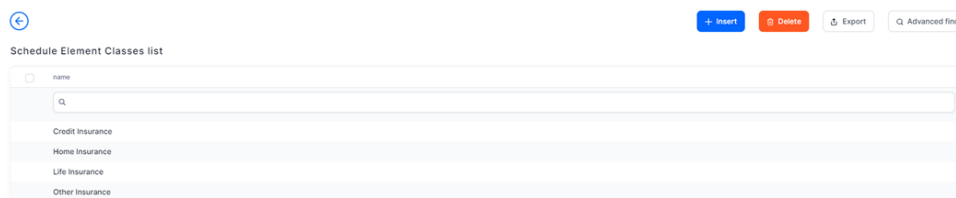
- The **Interest** column needs to be calculated after the calculation of the **RemainingValue** column. Please change the order in the grid.
- The column `{0-ex.TotalInstallment}` with formula `{1-ex.Principal+Interest}` has column `{2-ex.Principal}` calculated after formula. Change the order in the grid.

NOTE

A set of out-of-the-box schedule type templates are available with the Active status in FintechOS Studio. The templates contain only the mandatory fields, no commissions or interests are defined.

Adding Schedule Element Class

1. In the main menu, click **Product Factory > Schedule Element Class**, and the **Schedule Element Classes list** page opens.



2. Click the **Insert** button to add a new class.

3. In the newly opened **Add Scheduled Element Class**, select an **Element Type**: Insurance or Commission.

The screenshot shows a form titled 'Main Information' with the following fields:

- Element Type**: A dropdown menu with 'Insurance' selected.
- name**: A text input field containing 'Life Insurance'.
- Operation Item**: A dropdown menu with 'Life Insurance' selected.
- Mandatory for Applicant**: A checkbox that is checked.
- Mandatory for Debtor**: A checkbox that is unchecked.

4. Add a **name** for the element class.
5. Select an **Operation Item**.
6. Modify the default values filled in for the following fields:
 - **Mandatory for Applicant** - If selected, the schedule element class is applicable to the applicant customer. Default value: True.
 - **Mandatory for Debtor** - If selected, the schedule element class is applicable to the debtor. Default value: False.
7. Click the **Save and close** button. Repeat as many times as needed.

NOTE

Banking Product Factory uses the values of a saved schedule element class record to automatically fill in the fields of an [insurance](#) during the creation of a new record.

Adding Payment Schedule Types

In FintechOS Studio, payment schedule types come with a business workflow attached in order to block changes to schedule types that are actively used on banking products. Read more about [Business Workflows](#).

Follow the steps below to create a new payment schedule type:

1. In the main menu, click **Product Factory > Payment Schedule Types**, and the **Payment Schedule Types List** page opens, showing all the already created schedule types.
2. Click the **Insert** button to add a new type.

3. In the newly opened **Add Payment Schedule Type** page, fill in the following fields:

Edit Schedule Type Definition

Main Information

Payment schedule code EPW	Name Equal principal Weekly	Banking Product Type Term Loan	Interest Calculation Type 52 weeks	Measurement Unit Weeks
Is With Equal Installments <input type="checkbox"/>	Installment Value Custom <input type="checkbox"/>	Use Fix Maturity Date <input type="checkbox"/>		

Payment Schedule Type Details

Export Refresh

Column Repayment Schedule	Title	Calculation Method	Fee	Insurance class	Source	Display
Q	Q	Q	Q	Q	Q	(All)
RemainingValue	RemainingValue	RemainingFormula				<input checked="" type="checkbox"/>
Interest	Interest	Effective Rate				<input checked="" type="checkbox"/>
Principal	Principal	Linear				<input checked="" type="checkbox"/>
Totalinstallment	Totalinstallment	ColumnFormula				<input checked="" type="checkbox"/>

- **Name:** Insert a suggestive name for the type.
- **Payment schedule code:** Insert a code for the type to keep track of them.
- **Banking Product Type:** Select a product type to associate with the payment schedule type. Depending on the Product Type, different calculation rules are triggered. For example, the product type Overdraft has only the payment at maturity.
- **Interest Calculation Type:** Select from the list a type of calculation for the interest.

When an annual interest rate is specified, in order to calculate the Installment for an interval of days, first the annual interest rate should be transformed into a daily base. To make this transformation, there are some accepted conventions. FintechOS Studio implemented the following conventions: 30/360, 30/365, Actual/ Actual, where Actual for years can be either 365 or 366. Other schedule interest calculation types can also be defined, as needed. In practice may be also encountered the Actual/ 360 or Actual/ 365. Here are some of the implemented schedule interest calculation types:

- **Equal Installment Monthly 30/360** - this generates a payment schedule of equal installments where every period is a month of 30 days, and every year has 360 days;
- **Equal Installment Monthly 30/365** - this generates a payment schedule of equal installments where every period is a month of 30 days, and every year has 365 days;
- **Equal Installment Monthly 30/366 (30/Actual)** - this generates a payment schedule of equal installments where every period is a month of 30 days, and every year has 366 days;
- **Equal Installment Monthly Actual/365** - this generates a payment schedule of equal installments where every period is a month with actual days (28,29, 30, or 31 days), and every year has 365 days;
- **Equal Installment Monthly Actual/366 (Actual/Actual)** - this generates a payment schedule of equal installments where every period is a month with actual days (28,29, 30, or 31 days), and every year has 366 days;
- **Equal Principal Monthly 30/360** - this generates a payment schedule of equal principal where every period is a month of 30 days, and every year has 360 days;
- **Equal Principal Monthly 30/365** - this generates a payment schedule of equal principal where every period is a month of 30 days, and every year has 365 days;
- **Equal Principal Monthly 30/366 (30/Actual)** - this generates a payment schedule of equal principal where every period is a month of 30 days, and every year has 366 days;
- **Equal Principal Monthly Actual/365** - this generates a payment schedule of equal principal where every period is a month with actual days (28,29, 30, or 31 days), and every year has 365 days;

- **Equal Principal Monthly Actual/366 (Actual/Actual)** - this generates a payment schedule of equal principal where every period is a month with actual days (28,29, 30, or 31 days), and every year has 366 days.

NOTE

The payment schedule projection takes into consideration both the payment schedule type defined at the banking product level, and whether to collect the interest accrued on the contract until the date of an early repayment event, thus repaying the accrued interest, or not, thus adding the accrued interest to the repayment amount. Set the `Collect accrued interest` field in the **Event** page at the contract level to `False` to add the accrued interest to the repayment amount.

- **Measurement Unit:** Select from the list the type of measurement unit applicable for the payment schedule type: Days, Weeks, Months, Years, Once. The default value: Months.
- **Is With Equal Installments:** Select the checkbox if the installments are equal, so the annuity (also known as PMT) value calculation is needed, and the Principal is calculated with formula `Annuity minus Interest`. If there are Commissions that appear on the Payment Schedule, these Commissions are not included in annuity calculation.
- **Installment Value Custom:** If you select the checkbox, with multiple disbursements, the Principal component of the installments is the one calculated for the entire Financed Amount, even if it was not entirely disbursed. For example, if Financed Amount is 10.000 EURO and the value calculated for Principal component of the Installments is 800

EURO, and the customer disburses only 5.000 EURO, the Principal component remains 800, but the Interest is calculated for 5.000 EURO that were disbursed.

If `Installment Value Custom = False`, then the `Is Manual Value` and `Royalty/ Initial Principal Value` fields at the contract level are read only.

If `Installment Value Custom = True`, then the `Is Manual Value` field at the contract level is editable, with `False` default value.

- **Use Fix Maturity Date (from Activation Date):** If you select the checkbox, then the Maturity Date equals to Activation Date plus the Contractual Period in Months, i.e. the number of installments depends on the Activation Date.

If the checkbox remains unselected, the number of installments are fixed, the Maturity Date is equal to the First Installment plus the Contractual Period in Months, e.g. Installment date is on the first day of the month, this results in the Maturity day to be the first day of the month.

NOTE

This is only valid for `Period Type = Months`.

4. Click the **Save and reload** button.
5. In the newly displayed **Payment Schedule Type Details** section, fill in the fields below. Note that the fields change according to the selection of **Column Type** and **Calculation Method**.

Schedule Template Detail

Main Information

Title Principal	Column Type Payment Schedule Dimension	Column Repayment Schedule Principal	Calculation Method Linear
Adjust Last Installment <input type="checkbox"/>	Totalization For Grace Period <input type="checkbox"/>	Operation Item Loan Principal	

- **Title:** Insert a suitable title for the detail.
- **Column type:** Select one of the following types: **Payment Schedule Dimension**, **Fee Dimension** or **Insurance Dimension**. Note that the selected type triggers changes in the displayed fields.
- **Column Repayment Schedule:** Select one of the columns that is assigned in the Payment Schedule.
- **Calculation Method:** Select a method. It triggers changes in the fields. There are the predefined values that are taken into consideration when calculating the Interest:
 - **Linear:** calculated as Amount / Number of Installments.
 - **Effective Rate:** percent applied to the Source field (see below), usually to the Remaining Value.
 - **Fixed Value:** a constant value that is completed in the Payment Schedule.
 - **Column Formula:** formulas having other columns as parameters. Formula used is specified in the field **Formula** that is displayed when this option is set.
 - **Remaining Formula:** specific to a column of Remaining.
 - **Once:** the value is paid once.
 - **Once:** the value is paid once.
 - **LinearOnYear:** a value calculated based on the Remaining Value at the beginning of the credit year and a given percentage, divided in installments with the specified periodicity.
 - **FeeOnce:** takes into account a fee that is paid once.
 - **ProductLevelFixedValue:** method that calculates the capital percent defined for cards and credit cards type of products.

- **Operation Item:** It is the item allocated to a column in the Payment Schedule on which the amount calculated at this step is allocated. Select an item from the list.
- **Fee:** Select a fee configured in the Product Dimensions.
- **Fee Type:** Select a fee type configured in the Product Dimensions. This is helpful when, for different banking products, there are different values applicable for the same type of fee.
- **Source:** It is the source element from the JSON file returned by the Payment Schedule calculation from where to take the value.
- **Insurance type:** Select an insurance type.
- **Is Calculated In Advance?:** Select the checkbox if the calculation is done in advance.
- **Is calculated Upfront:** Option available for Insurance Dimension and Fee Dimension. Select the checkbox for insurance or commissions that need to be paid at the activation of the lending contract.

NOTE

This is only valid for products with Period Type = Months.

- **Totalization For Grace Period:** This checkbox is available when the **Calculation method** is set to Effective Rate or Fixed Value. If you select it, then the values that are not applied during Grace period are added to the first non-grace installment.
- **Adjust Last Installment:** This checkbox should be checked most of the time, as rounding loses of precision can exist, and the sum of Principal paid monthly should be the same as the Financed Amount.
- **Operation Item:** Select the operation item from the list for which this schedule type details should apply.

- **Formula:** This checkbox is available when the **Calculation method** is set to Column Formula or Remaining Formula or Once or LinearOnYear. The formula can use other Schedule Details Names. For example, for a total installment calculated as Principal+Interest+ManagementFee that were added to Payment Schedule Type Details earlier.
6. If you selected **Fee Dimension**, then fill in the following fields: **Fee**, **Fee Type** or **Source**.
 7. If you selected **Insurance Dimension**, then fill in the following fields: **Insurance class** or **Source**.
 8. Click the **Save and close** button. Repeat to add more details.

NOTE

The first installment can be adjusted in situations when the algorithm forces an equal installment, by adjusting the Principal paid in the first interval.

For a Payment Schedule with equal installments, the first installment interest is calculated for the number of days between Activation Date and First Installment Date.

Normally, for this first installment, the number of days can be lower or higher than the normal interval, so the Interest calculated makes the first installment to be different than the others.

The following picture illustrates the payment schedule type and the details defined for Credit Card Installments calculation:

Edit Schedule Type Definition

Main Information

Payment schedule code: CC Name: Credit Card Installments Banking Product Type: Interest Calculation Type: 30/360 Measurement Unit: Months

Is With Equal Installments: ☐ Installment Value Custom: ☐ Use Fix Maturity Date: ☐

Payment Schedule Type Details

Column Repayment Se...	Title	Calculation Method	Fee	Insurance class	Source	Display
Q1	Q1	Q1	Q1	Q1	Q1	(All)
CapitalPercent	CapitalPercent	ProductLevelFixed...				<input type="checkbox"/>
ManagementFee	MgtFee	FixedValue	Management Fee FL...		SourceValue	<input checked="" type="checkbox"/>
RemainingValue	RemainingValue	RemainingFormula				<input checked="" type="checkbox"/>
Interest	Debenda	Effective Rate				<input checked="" type="checkbox"/>
Principal	Principal	ColumnFormula				<input checked="" type="checkbox"/>
TotalInstallment	TotalInstallment	ColumnFormula				<input checked="" type="checkbox"/>

Schedule Template Detail

Main Information

Title: Principal Column Type: Payment Schedule Dimension Column Repayment Schedule: Principal Calculation Method: ColumnFormula

Adjust Last Installment: ☒ Operation Item: Loan Principal Formula: (remainingValue + managementFee)*CapitalPercent/100.00

Adding Payment Schedule Type Column

To configure the calculation steps, use the **Payment Schedule Type Column** menu. The order of the steps is determined by the **Calculation column**.

1. In the main menu, click **Product Factory > Payment Schedule Type Columns**, and the **Schedule Type Column List** page opens, showing all the already created schedule type columns.
2. Click the **Insert** button to add a new column type.
3. In the newly opened **Add Schedule Type Column** page, select a **Column Type** from the list: **Payment Schedule Dimension**, **Fee Dimension** or **Insurance Dimension**.

Edit Schedule Type Column

Main Information

Column Type: Name:

Payment Schedule Types

<input type="checkbox"/>	Name	Payment schedule code	Calculation Method	Column Type
<input type="checkbox"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>	<input type="text" value="Q"/>
<input type="checkbox"/>	deposit	deposit	Effective Rate	Payment Schedule Dimension
<input type="checkbox"/>	Deposit Actual	DA	Effective Rate	Payment Schedule Dimension

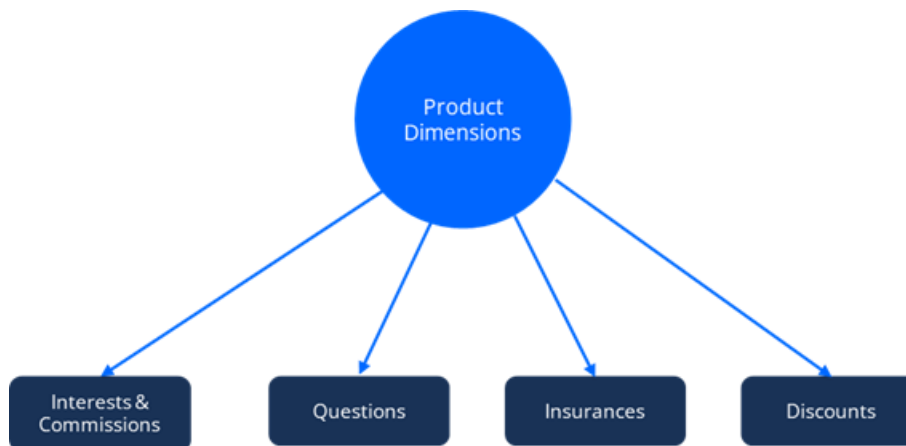
4. Enter a **Name** for the column.
5. Click the **Save and reload** button.
6. The **Payment Schedule Types** section is displayed after saving, showing all the payment schedule types using this column, with the following information:
 - **Name:** The name of the Payment Schedule element.
 - **Column Type:** The column type: Payment Schedule Dimension, Fee Dimension or Insurance Dimension.
 - **Payment Schedule Code:** The code of the payment schedule.
 - **Calculation:** The calculation method.
 - **Operation Item:** Select an operation item for this schedule type.

Product Dimensions

Since inflation affects the interest, it is mandatory to keep track of the changes, to register any new values for the rates and apply them to customers. Commissions are equally important, they represent the fees the bank has for offering a product or service. Fees keep the business going, being a steady flow of money to the bank's revenue. To stay competitive, financial institutions apply discounts to the two mentioned above. For contracting a loan, for example, a customer takes on an

insurance. This insurance is part of the product dimensions. Lastly, to determine important details about a customer when they are applying for a product, it is important to have questions for the "Know Your Customer" process to determine their eligibility.

The **Product Dimensions** group together the notions of interest and commissions and helps you manage the variety of interest rates and the multitude of commissions used for your banking products: commissions and commissions list, interest and interest list, insurance and insurance list, discounts and questions.



NOTE

There are two possible options for building the product dimensions:

- Expand the **Banking Product Dimensions** menu and configure each of the items enumerated above with its respective menu in the FintechOS Studio.
- Another option is to start building the banking product and configure the dimensions in the banking product's page > **Dimensions** tab.

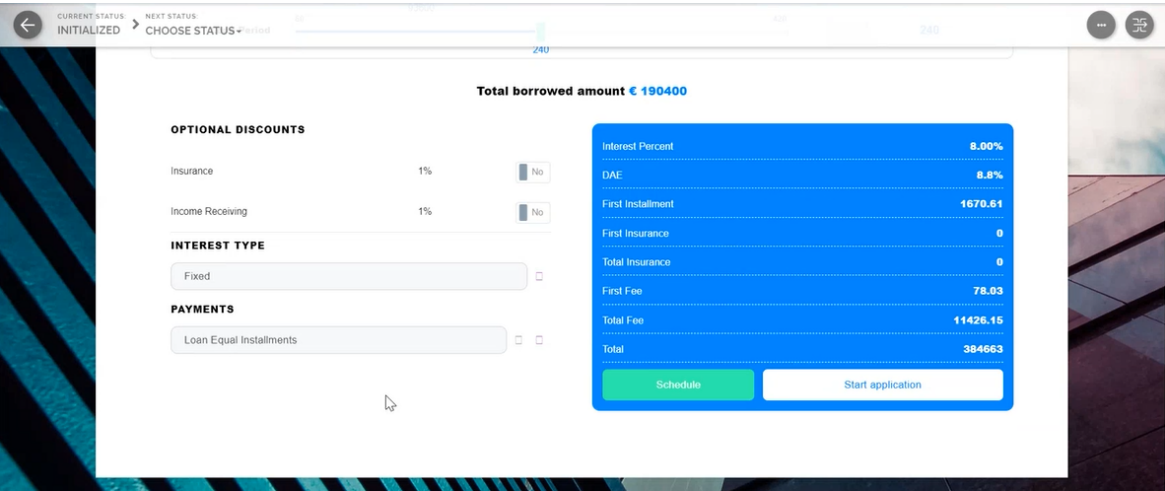
Managing Interests

Interests are set up independently from the banking products. They are available in banking products in the form of interest lists, after they have been grouped together based on their use.

Interests

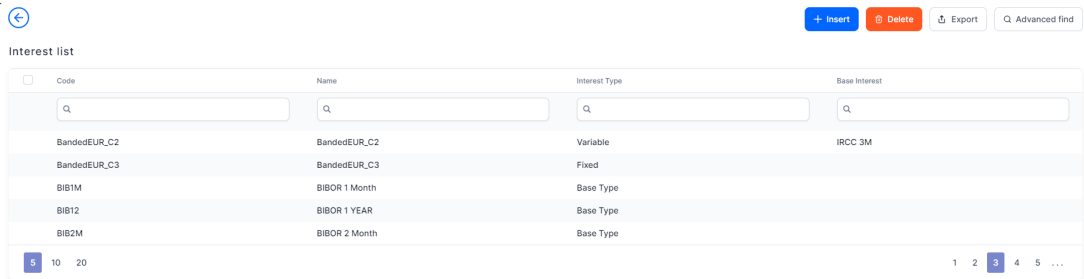
You can create and update interests and apply them to a product in the **Interests** menu available through the **Product Factory**. There are three main types of interests: fixed, base and variable. Banks can set up variable interests for loans and also calculate the amount each customer has to pay.

The following picture illustrates how the interests can be shown in a loan origination customer journey:



To manage interests, follow the steps below:

1. In the main menu, click **Product Factory > Banking Product Dimensions > Interests**, and the **Interest list** page opens.



2. On the **Interest List** page, you can add new interests or search, edit, and delete existing ones.

The **Edit Interest** page allows you to configure interest settings.



Edit Interest

Main Information

Code

BIB1M

Name

BIBOR 1 Month

Interest Type Settings

Interest Type

Base Type

Reference Interest Period

1M

Interest Value

+ Insert

× Delete

Export

Refresh

<input type="checkbox"/>	Value	Status	Valid From	Valid To
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	1.30	Active	02/01/2020	05/02/2020
	1.06	Active	07/02/2020	31/03/2020
	1.26	Active	01/04/2020	31/05/2020
	1.08	Active	06/02/2020	06/02/2020

NOTE

Read about how and when to use each interest type on the dedicated [Interest Definition Best Practices](#) page.

Creating Interests

1. To create new interest, click the **Insert** button, and the **Add Interest** page opens.
2. In the newly opened **Add Interest** page, fill in the following fields:

- **Code:** Insert a code for this particular interest.
- **Name:** Insert a name for the interest.
- **Is Default:** Select this checkbox if the interest is a default one.
- **Use Banking Formula:** Select the checkbox if the interest is Banking Formula type.
- **Interest Type :** Select the interest type :
 - **Fixed** - the interest has one value during the validity period.
 - **Base Type** - used for calculating the variable type, i.e. ROBOR.
 - **Variable** - an interest rate formed from a Base Type interest plus a variable percent, e.g. EURIBOR + 4%.
 - **Collection** - a combination of previously defined fixed and/or variable interest rates.
 - **Banking Formula** - an interest rate that can be defined as a banking formula from the Formula Engine.

If you choose **Variable**, a new field **Base Interest** is displayed.
- **Description:** Insert a description for the interest.
- **Base Interest:** Only displayed for variable interest types. Select (or insert) the base type interest used for calculating the variable interest.
- **Reference Interest Period:** Only displayed for base type interest. Choose the interest reference period (where M = months, Y = years): 1M, 1Y, 2M, 3M or 6M.
- **For Sight Deposit:** Used only for deposits when the interest is at sight. It is used when a customer wishes to end a deposit before the maturity date (end date). The customer does not receive the full interest, but a sight interest because the deposit has not reached its maturity.

- **Is For Overdraft:** If this interest is an interest applicable to the overdraft amount of a contract based on a banking product that allows overdraft operations, select this checkbox. If the Interest Type = Collection, then the **Banded Interests** section is displayed for you to enter the banded interests.
- **Is Penalty:** If this interest is a penalty interest, select this checkbox. Penalty interests are only possible for loans. If you select this checkbox, two new fields, **Is General** and **Apply to Loan Item (If Overdue)** are displayed.
- **Is General:** Only displayed for interests applicable as penalties. If selected, this penalty interest is applied to all the loan contract's operation items that are overdue for payment, instead of having to define different penalty interests for each operation item that is subject to penalty interest calculation on a contract. This can be useful when you need to define one mass penalty interest to be applied to all the overdue amounts subject to penalty interest calculation resulting from repayment schedule processing.

If a banking product has in its attached interests list an interest with **Is General = True**, then at the contract level the penalty percent is applied to all operation items that are overdue and are marked with **Include In Penalty Calculation = True**.

NOTE

You can specify which operation items should be used by Core Banking for penalty interest calculation within the **Add/ Edit Operation Item** pages, selecting the **Include In Penalty Calculation** checkbox and then selecting an item from the **Penalty Item (for Repayment Notification)** list. Read more about operation items in the [Core Banking user guide](#).

An interest list cannot contain a penalty interest with **Is General = True** and another penalty interest with **Is General = False**.

- **Applied To Loan Item (If Overdue):** Only displayed for interests applicable as penalties that have **Is General = False**. Select the operation item of the loan contract for which the penalty interest is applied.
 - **Is Credit Line Interest:** Interest that is applicable to the credit line.
 - **Is Debit Order Interest:** Interest that is applicable at each debit order.
 - **Description:** Insert a description for the interest.
3. Click the **Save and Reload** button.
 4. The **Interest Value** section is available only for **Fixed, Base Type**, and **Variable** interest rates . Insert the values (usually the interest rate index to your margin) by filling in the following fields:

Edit Interest Value

Value	Valid From	Valid To
0.35	01/04/2021	31/12/2021

- **Value:** Enter the interest rate percentage.
 - **Valid From:** Select the day when the interest rate becomes applicable.
 - **Valid To:** Select the last day when the interest rate is applicable.
5. Click the **Save and Reload** button.

6. The **Interest Rates Collections** section is available only for **Collection** type interests. Such collections can hold more than one interest types, each with its own start period and installment. This is useful for example, when applying a fixed interest rate for the first 7 years of a mortgage loan, and applying a variable interest rate for the remaining period.

Interest Rates Collections

[+ Insert](#) [X Delete](#) [Export](#) [Refresh](#)

Interest	Collection Item Start Date	Collection Item End Date	Start Period (Installment No)	End Period (Installment No)
FixedInterestBPA	01/01/2020	01/01/2024	1	12
FixedInterestBPA	02/01/2024	01/01/2027	1	12

Insert the values in the section fields:

Interest Rates Collection

Master Interest: APITestCollectionInterest

Collection Item Start Date: 02/05/1902

Collection Item End Date: 12/12/2030

Interest: FixedInterestBPA

Start Period (Installment No): 4

End Period (Installment No): 4

- **Master Interest:** Enter the interest name.
 - **Interest:** Select a previously defined interest (fixed, variable or formula type).
 - **Collection Item Start Date:** Select the day when the interest rate becomes applicable. This date must be greater then current system date.
 - **Collection Item End Date:** Select the last day when the interest rate is applicable.
 - **Start Period (Installment No):** Select the first installment when the interest rate becomes applicable.
 - **End Period (Installment No):** Select the last installment when the interest rate is applicable.
7. Click the **Save and Reload** button. The system performs validations to ensure that the time intervals and the installment intervals do not overlap and no time or installment interval is left undefined. For more detail see the [Validations Performed at Banking Product Approval](#)

section.

8. The **Banded Interests** section is available only for **Collection** type interests with **Is For Overdraft = True**. Banded interests are interest rates that can be defined as collections of values that applied depending on the amount. For example, the bank wants to apply an interest rate of 5% for used amount between 1 and 10,000, an interest rate of 4.5 % for the used amounts between 10,001 and 20,000, and an interest rate of 4% for used amounts surpassing 20,001. Insert the values in the section fields:

Interest	Min Amount	Max Amount	Collection Valid From	Collection Valid To
BandedEUR_C1	0.00	2,000.00	01/11/2021	28/02/2022

- **Interest:** Select a previously defined interest. Only Fixed and Variable type interests are displayed for selection.
 - **Min Utilized Amount:** Enter the minimum used amount to apply this interest.
 - **Max Utilized Amount:** Enter the maximum used amount to apply this interest.
 - **Collection Valid From:** Select the date when the interest rate becomes applicable.
 - **Collection Valid To Yes Date:** Select the last day when the interest rate is applicable.
9. Click the **Save and Reload** button.
 10. When creating an interest rate based on a banking formula, the **Use Banking Formula** checkbox is selected. In addition, the **Banking Formula Type** field allows you to pick from already defined banking formulas. Click the arrow next to the field and a list of available banking formulas opens.

The screenshot shows a modal window for creating a new banking formula. At the top right is a close button (X). Below it are four buttons: 'Cancel', 'Remove', 'Insert', and 'Ok'. The main part of the form is a 'Name' field with a search icon. Below the 'Name' field, there are four labels: 'Eligibility', 'BPFormulaType', 'com&ins ByAmount', and 'CommissionFormula'.

11. Click the **Insert** button to create a new banking formula.
12. Add a name for the banking formula. Insert or create an interest, banking product formulas, and test scenarios.

NOTE

Make sure you consult the example provided [below](#) to learn about the banking product configuration specifics required when using banking formula type interests.

13. Click the **Save and Reload** button.

Automatic Validation at Product Approval for Collection Type Interests

A series of additional validations are performed by the system when a banking product with a **Collection** type interest attached within its selected **Interests List** field goes through a status change from **Draft** or **Version Draft** to **Approved**:

- The **Start Period (Installment No)** and **End Period (Installment No)** are validated to accommodate the maximum availability period of the banking product.
- The period for interest is validated that there are no uncovered periods, the interests don't overlap over the same period, and there are no overlapping periods.
- The **Collection Item Start Date** and **Collection Item End Date** dates don't overlap and there is no missing interval.

NOTE

The interest rate collection can't be updated if an interest is attached to an approved banking product.

As an exception, the **Collection Item End Date** can be updated if **Collection Item End Date** >= the current system date.

Example of Configuration for a Banking Product when Using Banking Formula Interest Type

Let's say you are planning to use a Banking Formula interest type for your banking product definition. The formula attached might look like this:

Number of months / Amount interval	6	10	12	18	24	36	48	60
500 - 1000	41%	41%	36%	27%	27%	26%	25%	24%
1001-5000	36%	36%	31%	25%	25%	24%	23%	20%
5001 - 50000	31%	31%	26%	23%	23%	22%	21%	20%

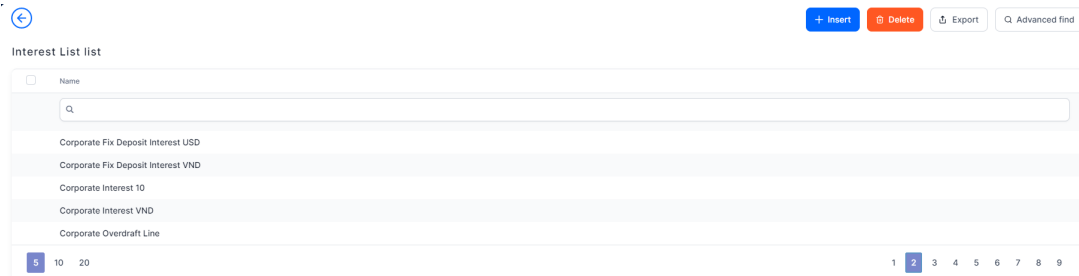
As you see, the formula is applicable for amounts ranging between 500 and 50000. Make sure that you set the **Minimum Amount** to 500 and the **Maximum Amount** to 50000 within the **Availability** tab of the banking product, allowing for the same product availability interval as that defined in the formula.

Interest Lists

An interest list allows you to group multiple interests into a collection of interests that you can use in a banking product. You can group under the same umbrella the following types of interests created individually in the [Interests](#): variable interest, base type and fixed interest.

To manage interest lists:

1. In the main menu, click **Product Factory > Banking Product Dimensions > Interest List**, and the **Interest List list** page opens.



2. On the **Interest List list** page, you can add new interest lists or search, edit, and delete existing ones.

Creating Interest Lists

1. To create a new interest list, click the **Insert** button. The **Add Interest List** page is displayed.
2. Enter a **Name** for the interest list.



3. Click the **Save and Reload** button.
4. Click the **Insert existing** button to add the applicable interests in the **Interest** section.
5. Click the **Save and Close** button.

Filter Interest

You can define filtering criteria for your interests and commissions which you can later on call in your banking products.

To manage filtering criteria, follow the steps below:

1. In the main menu, click **Product Factory > Banking Product**, and the **Product List** page opens.
2. Select the product where you want to add the filter.
3. In the **Dimensions** tab, insert or edit an interest or a commission.

The screenshot shows the 'Dimensions' tab in the Product List page. It contains four sub-sections: 'Interest & Commissions', 'Insurances', 'Discounts', and 'Questions'. Each section has a search bar, a list of items, and action buttons (Insert, Delete, Export, Refresh). The 'Discounts' section shows a table with columns: Name, Discount, End Date, Start Date, and Value Discount. The 'Questions' section shows a table with columns: Question and Business Status.

4. In the **Interest & Commission Item Filters** section, click **Insert**, and fill in the following fields:

The screenshot shows the 'Edit Interest & Commission Item Filter' form. It has a 'Main Information' section with the following fields:

- Filter:** A dropdown menu with 'AL_Amount' selected.
- Value:** A text input field with '1' entered.
- Until Value:** A text input field with '50,000' entered.
- Description:** A text area containing the text 'AL_Amount > < 1 - 50000'.

- **Filter:** Select a filter created in the ["Product Filter" on page 472](#).
- **Value/ Date:** Select the beginning value/ date for the filter.
- **Until Value/ Until Date:** Select the maximum value/ date for the filter.

- **Description:** This field is automatically filled in after the **Save and Reload** button is clicked. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter:** Select a filter created in the ["Product Filter" on page 472](#).
- **Option set:** Automatically filled in with the option set name created for the attribute.
- **Description:** Add a description if needed.
- **grid of options:** This field is automatically filled in after the **Save and Reload** button is clicked. The values of the option set are displayed. Select the checkbox for the values you wish to include in the filter.

5. Click the **Save and Close** button.

Interest Definition Best Practices

This page presents a series of recommendations about defining interests to be used in conjunction with banking products and contracts based on these banking products. For step by step instructions on how to add interests and how to fill in each field on the page, please read the dedicated [Interests](#) section.

General Notes

- The validity period of an interest (the period between the values entered in the **Valid from** and **Valid to** fields) is taken into consideration when searching for the values of each interest.
- The system performs validations to ensure that the time intervals for interest validity do not overlap. It also ensures that the interest has a valid value at any given time of a contract's life cycle.
- Penalty calculations are applied to overdue payment amounts in contracts, while interests are applied to remaining payment amounts.
You can specify that an interest is penalty if you select the **Is Penalty**

checkbox in the **Interest** page:

Save and close Save and reload

Edit Interest

Main Information

Code: EU 6M Name: Euribor 6M

Interest Type Settings

Interest Type: Variable Base Interest: Euribor 6M Reference

Interest Special Settings

Is For Overdraft: ☐ Is Credit Line Interest: ☐ Is Debit Order Interest: ☐ For Sight Deposit: ☐

Penalty Type Interest Settings

Is Penalty: ☒

IMPORTANT!

We advise against defining collection interests for penalties. Instead, create interests for penalties using [Business Formulas](#).

The following sections display examples of each interest type's typical definition:

Fixed Interest

The fixed interest has one value during the validity period.

Define fixed interests by selecting Interest Type = Fixed and entering values for determined intervals of time. The following picture shows how the value of a fixed interest differs depending on its validity period:

Save and close Save and reload

Edit Interest

Main Information

Code: F16 Name: Corporate Fix Interest 6%

Interest Type Settings

Interest Type: Fixed

Interest Value

+ Insert X Delete Export Refresh

Value	Status	Valid From	Valid To
6.00	Active	01/01/2019	31/10/2019
6.00	Active	01/01/2020	31/12/2021
2.25	Active	01/11/2019	31/12/2019

Base Type Interest

The base type interest is used for calculating the variable type, i.e. EURIBOR or IRCC. The EURIBOR base type interest is updated on a daily bases by the European Central Bank.

Define base type interests by selecting Interest Type = Base Type and entering values for determined intervals of time. The following picture shows how the value of a base type interest differs depending on its validity period:

Edit Interest

The screenshot shows the 'Edit Interest' form with the following sections:

- Main Information:**
 - Code: BIB1M
 - Name: BIBOR 1 Month
- Interest Type Settings:**
 - Interest Type: Base Type (highlighted with a green box)
 - Reference Interest Period: 1M
- Interest Value:**
 - Buttons: + Insert, X Delete, Export, Refresh
 - Table with columns: Value, Status, Valid From, Valid To. The table contains four rows of data, with the last three rows highlighted by a green box.

Value	Status	Valid From	Valid To
1.30	Active	02/01/2020	05/02/2020
1.06	Active	07/02/2020	31/03/2020
1.26	Active	01/04/2020	31/05/2020
1.08	Active	06/02/2020	06/02/2020

Variable Interest

The variable interest is an interest rate formed from a Base Type interest + a variable percent, e.g. EURIBOR + 4%.

Define variable interests by selecting Interest Type = Variable, selecting a predefined base interest from the list, then entering values for the variable percents for determined intervals of time. The following picture shows how the value of a variable interest differs depending on its validity period:

Edit Interest

Main Information

Code: Name:

Interest Type Settings

Interest Type: Base Interest:

Interest Value

☐ Value Status: Valid From: Valid To:

Interest Special Settings

Is For Overdraft: ☐ Is Credit Line Interest: ☐ Is Debit Order Interest: ☐ For Sight Deposit: ☐

Penalty Type Interest Settings

Is Penalty: ☐

+ Insert X Delete Export Refresh

Collection Interest

The collection interest is a combination of previously defined fixed and/ or variable interest rates. It can be used for fixed to float interest contracts. The validation of each composing interest is performed on intervals. For example, for a term loan contract, the bank may apply a fixed interest for the first 12 months of the contract, then for the second and third year another fixed interest, and then for the remaining period a variable interest rate.

Define collection interests by selecting Interest Type = Collection, then selecting predefined interests as elements of the collection that are applicable on specific time intervals and depending on the contract's number of installment. The system performs validations to ensure that the time intervals and the installment intervals do not overlap and no time or installment interval is left undefined.

The following picture shows how the value of a collection interest differs depending on the contract's number of the installments:

Edit Interest

Main Information

Code:

Name:

Interest Special Settings

Is For Overdraft: ☐

Is Credit Line Interest: ☐

Is Debit Order Interest: ☐

For Slight Deposit: ☐

Interest Type Settings

Interest Type: Collection

Interest Rates Collections

+ Insert X Delete ■ Export ↻ Refresh

Interest	Collection Item Start Date	Collection Item End Date	Start Period (Installment No)	End Period (Installment No)
Corporate Fix Interest 6%	01/01/2021	31/01/2050	1	12
Corporate Floating BIBOR 3M	01/01/2021	31/01/2050	13	300

Banded Interest for Current Accounts with Overdraft

The banded interest, applicable for contracts based on current account with overdraft banking products, can be defined as a collection of values that is applied depending on the amount. For example, the bank wants to apply an interest rate of 5% for borrowed amount between 1 and 999.99, an interest rate of 3 % for the amounts between 1000 and 3999.99, and an interest rate of 4.9% for amounts surpassing 4000.

Example of a banded interest:

FromValue	ToValue	InterestRate
0	999.99	5
1000	3999.99	3
4000	10000000	4.9

Define several banded interests by selecting Interest Type = Fixed or Interest Type = Variable and entering values for determined intervals of time. Later, create a Collection interest type, select the **Is For Overdraft** checkbox, and use the previously defined banded interests to define the values applicable for overdraft amount intervals.

The following picture shows how three banded interests are used within a collection type interest to define bands of different value to be applied for different amounts of overdraft contracts:

Edit Interest

Main Information

Code

BandedEUR

Name

BandedEUR

Interest Special Settings

Is For Overdraft

☒

Is Credit Line Interest

☐

Is Debit Order Interest

☐

For Sight Deposit

☐

Interest Type Settings

Interest Type

Collection

Banded Interests

+ Insert

X Delete

Export

Interest	Min Utilized Amount	Max Utilized Amount	Collection Valid From	Collection Valid To
BandedEUR_C1	0.00	999.99	30/01/2024	31/12/2021
BandedEUR_C2	1,000.00	3,999.99	01/01/2021	31/12/2021
BandedEUR_C3	4,000.00	10,000,000.00	01/01/2021	31/12/2021

Edit Interest

Main Information

Code

BandedEUR_C1

Name

BandedEUR_C1

Interest Type Settings

Interest Type

Fixed

Interest Value

+ Insert

X Delete

Export

Refresh

Value	Status	Valid From	Valid To
5.00	Active	01/01/2021	31/12/2021

Edit Interest

Main Information

Code

BandedEUR_C2

Name

BandedEUR_C2

Interest Type Settings

Interest Type

Variable

Base Interest

IRCC 3M

Interest Value

+ Insert

X Delete

Export

Refresh

Value	Status	Valid From	Valid To
1.00	Active	01/01/2021	31/12/2021

Edit Interest

Main Information

Code

BandedEUR_C3

Name

BandedEUR_C3

Interest Type Settings

Interest Type

Fixed

Interest Value

+ Insert

X Delete

Export

Refresh

Value	Status	Valid From	Valid To
4.90	Active	01/01/2021	31/12/2021

IMPORTANT!
Banded interest can be used only for **Current Account with Overdraft** banking products.

Managing Commissions

Commissions are set up independently from the banking products. They are available in banking products in the form of commission lists, after they have been grouped together based on their use.

Commissions

Commissions are the fees taken by the bank for offering a product or service such as opening an account, for cash withdrawals, for transfers, for making payments in certain countries, for exchanging currencies, for emitting debit cards, for handling documents etc. These commissions vary from bank to bank, based on their policy.

You can manage commissions using **Banking Product Dimensions**. They are grouped into lists and attached to banking products, so they reach the contracts.

To manage commissions, follow the steps below:

1. In the main menu, click **Product Factory > Banking Product Dimensions > Commissions**, and the **Commission List** page opens.

Name	Commission Type	Currency	Commission Percent Applied To	Periodicity Type	Commission Value Is Percentage
30days	Front-end Fee	EUR		Once	<input type="checkbox"/>
Admin Fee	Administration Fee	EUR	Financed Value	Monthly	<input checked="" type="checkbox"/>
Administration Fee ODV	Administration Fee	EUR	Overdraft Limit Amount	Monthly	<input checked="" type="checkbox"/>
Administration OV	Administration Fee	EUR		Monthly	<input type="checkbox"/>
Analysys Fee 50.	Front-end Fee	EUR		Once	<input type="checkbox"/>

2. On the **Commission List** page, you can add new interests or search, edit, and delete existing ones.

IMPORTANT!

The value of a commission used in active contracts cannot be edited. Instead, you can modify the value's validity and add a new value with a future validity period. For details, see the [Editing The Value Of A Commission Already In Use](#) section.

NOTE

Read about how and when to use commissions based on their periodicity type on the dedicated [Commission Definition Best Practices](#) page.

Adding Commissions

1. To create a new commission, click the **Insert** button.
2. In the newly opened **Add Commission** page, fill in the following fields:

- **Name:** Enter the name of the commission.
- **Commission type:** Choose one of the [predefined commission types](#) available in Banking Product Factory.

NOTE

The commissions created based on a specific commission type inherit the values defined at the commission type level. You can't change these values. However, the periodicity of the commission is editable, even if its value is Once at the commission type level.

- **Currency:** Select the currency of the commission from the drop-down.
- **Periodicity type:** Choose the periodicity to apply the commission to contracts.

- **Is For Unusage:** Select this checkbox if the commission is applied for amount unused from the contract's amount. Usually this commission is applied for unused overdraft amounts.
- **Mandatory For Applicant:** If selected, the commission must be paid by the applicant customer. Inherited from the commission type level and you can't modify it.
- **Automatic Load On Contract:** If selected, the commission is automatically loaded on contracts. Inherited from the commission type level and you can't modify it.
- **Is For Contract Version:** If selected, the commission is applicable when creating new contract versions. Inherited from the commission type level and you can't modify it.

NOTE

If a version for a contract is created In Core Banking more than once on the same day, then all commissions with `Is For Contract Version = True` that were not notified yet for each previous version are deleted. At the end of the day, there is only one commission for the latest version.

- **Is For Unusage:** If selected, the commission is applied to the unused amount of contracts. Inherited from the commission type level and you can't modify it.
- **Is Returnable:** If selected, the commission can be paid back to the borrower following a `Returned Amount` or `Goods` event on a loan or mortgage contract. Inherited from the commission type level and you can't modify it.

- **Is Return:** If selected, the commission is applied for Return Amount or Goods transactions on contracts, a commission to be paid back to the borrower following a Returned Amount or Goods event on a loan or mortgage contract. Read more information about [return fees](#). Inherited from the commission type level and you can't modify it.
- **Commission value is percentage:** Select this checkbox if the commission is measured by percentage, not as a fixed value.
- **Commission percent applied to:** Only displayed if you select the checkbox next to the **Commission value is percentage** field. Choose one of the following:
 - **Remaining value** - the percentage applies to the contract's remaining to be repaid value .
 - **Financed value** - the percentage applies to the contract's financed value.
 - **Paid value** - the percentage applies to the anticipated payment performed on the contract.
 - **Unused amount** - the percentage applies to the contract's unused amount from the granted value.
 - **Used amount** - the percentage applies to the contract's used amount from the granted value.
 - **Overdraft limit amount** - the percentage applies to the contract's overdraft limit amount.
 - **Amount** - the percentage applies to the contract's amount.

For **Term Loan**, **Mortgage** or **Overdraft** banking products the calculation method is as follows:

If percentAppliedTo = financedAmount, then

`financedAmount = amountDue - advanceAmount;`

If percentAppliedTo = amount, then `financedAmount =`

`amountDue;`

If `percentAppliedTo = remainingValue`, then, if
`Contract Status = ContractVersionDraft`, then
`financedAmount = (-1) * mainBankAccountBalance`. No
 negative values are allowed, so if the result is negative, then
`financedAmount = null`.

Default value `financedAmount = null`.

For **Current Account with Overdraft** banking products the
 calculation method is as follows:

If `percentAppliedTo = overdraftLimitAmount`, then

`financedAmount = overdraftLimitAmount;`

If `percentAppliedTo = usedAmount`, then if (`periodType`
`== Once`), `financedAmount = overdraftLimitAmount -`
`availableAmountForOverdraft`, else `financedAmount =`
`null`.

Default value `financedAmount = null`.

- **Is included in repayment schedule installment:** This field is automatically completed and you can't modify it. The field is selected only if **Periodicity Type** is not Once. In that case, the commission is included in the Repayment Schedule (should be provided with a column where to put this Commission).
- **Use Banking Formula:** Select the checkbox if the commission is to be defined with an attached business formula for value.
- **Banking Formula Type:** Select the banking formula type to be used for commission calculation. This field is visible and mandatory to be filled in when `Use Banking Formula = True`.

IMPORTANT!

Select `CommissionFormula` banking formula type for the
 Return Fee commission type. Thus, at banking product
 definition level, you can select

ReturnCommissionFormula in the **Banking Product Formulas** section of the **Risk Formulas** tab.

Used in Returned Amount or Goods events on a loan or mortgage contract, this dedicated formula's result = (SUM of all Front-End Fee type commissions with Is Returnable = True)*[(Returned amount)/(Loan amount)].

3. Click the **Save and Reload** button.
4. In the **Commission value** section, insert or delete the values of the commission.
5. To add a new commission value, click **Insert** and fill in the following fields in the newly opened **Commission** page:

← Save and close Save and reload Save and new

Add Commission Value

Commission Percent	Commission Value	Valid From	Valid To
<input type="text"/>	<input type="text" value="15"/>	<input type="text" value="20/04/2022"/>	<input type="text" value="31/07/2022"/>

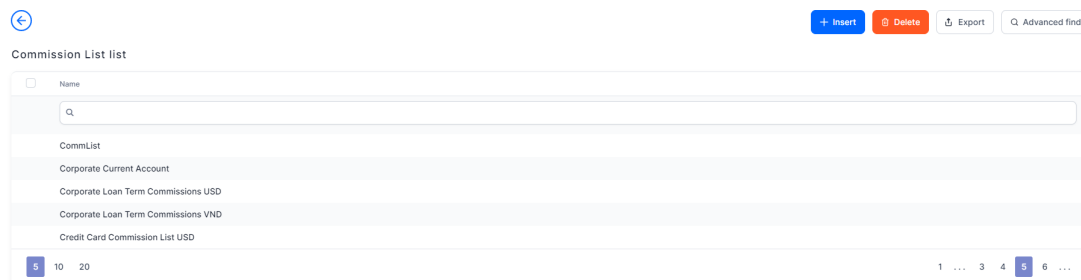
- **Commission percent:** The percent representing the commission. If the commission percentage > 100, Banking Product Factory displays a warning message: "Make sure percent value is accurate."
 - **Commission value:** The value of the commission.
 - **Valid from:** Select the day when the commission value becomes applicable.
 - **Valid to:** Select the last day when the commission value is applicable.
6. Click the **Save and Close** button.

Commission Lists

A commission list allows you to group multiple commissions into a collection of commissions that you can use in a banking product. It is possible to group under the same umbrella the following types of commissions created individually in the [Commissions](#) menu: Front-end fee & Management fee & Repayment fee.

To manage commission lists:

1. In the main menu, click **Product Factory > Banking Product Dimensions > Commissions List**, and the **Commission List list** page opens.



2. On the **Commission List list** page, you can add new interests or search, edit, and delete existing ones.

Adding Commission Lists

1. To create a new commission list, click the **Insert** button. The **Add Commission List** page is displayed.
2. Enter a **Name** for the commission list.



3. Click the **Save and Reload** button.
4. Click the **Insert existing** button to add the applicable commission in the **Commission** section.

Commissions in List

+ Insert existing

X Remove existing

Name

Analysys Fee 50.

Monthly Fee

List is Attached to Products

Export

Refresh

Name

Status

Banking Product Type

Globetrotter Personal Loan

Version Closed

Unsecured Loan

Globetrotter Personal Loan

Version Closed

Unsecured Loan

BP21

Approved

Unsecured Loan

5. Click the **Save and Close** button.

Filter Interest

You can define filtering criteria for your interests and commissions which you can later on call in your banking products.

To manage filtering criteria, follow the steps below:

- 1. In the main menu, click **Product Factory > Banking Product**, and the **Product List** page opens.
- 2. Select the product where you want to add the filter.
- 3. In the **Dimensions** tab, insert or edit an interest or a commission.

1 Main Info

2 Details

3 Availability

4 Dimensions

5 Product Formula Engine

6 Documents

7 Loan Core Settings

8 History

9 Origination Elements

10 GL Settings

Interest & Commissions

+ Insert

X Delete

Export

Refresh

Item Name

MCA

Discounts

+ Insert

X Delete

Export

Refresh

Name

Discount

End Date

Start Date

Value Discount

No data

Insurances

+ Insert

X Delete

Export

Refresh

Item Name

House Insurance

Questions

+ Insert existing

X Remove existing

Question

Business Status

Question1

Active

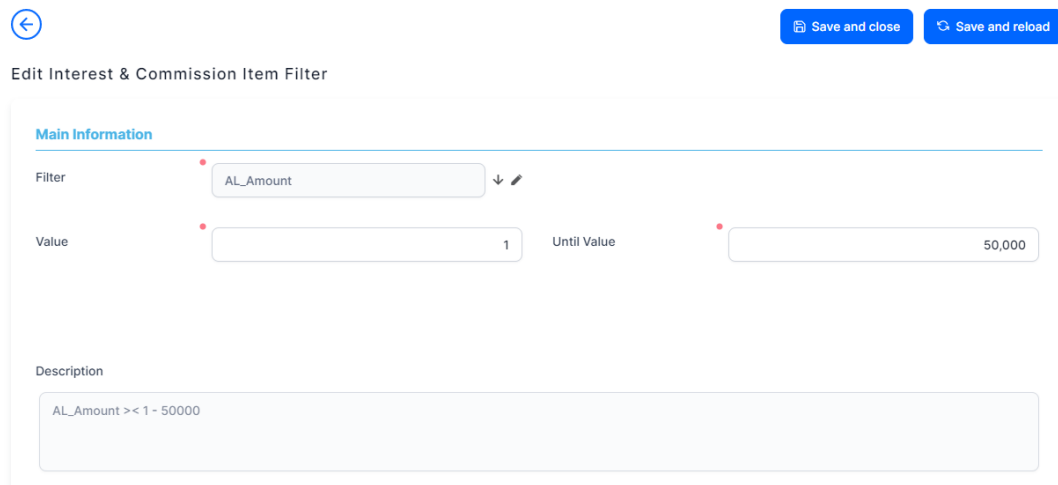
Question2

Active

4. In the **Interest & Commission Item Filters** section, click **Insert**, and fill in the following fields:

CONFIGURATIONS FOR BANKING PRODUCT FACTORY

450



← Save and close Save and reload

Edit Interest & Commission Item Filter

Main Information

Filter AL_Amount ↓

Value 1 Until Value 50,000

Description

AL_Amount > < 1 - 50000

- **Filter:** Select a filter created in the ["Product Filter" on page 472](#).
- **Value/ Date:** Select the beginning value/ date for the filter.
- **Until Value/ Until Date:** Select the maximum value/ date for the filter.
- **Description:** This field is automatically filled in after the **Save and Reload** button is clicked. The values/ dates inserted above are turned into an expression.

For Lookup attributes, the following fields are available:

- **Filter:** Select a filter created in the ["Product Filter" on page 472](#).
- **Option set:** Automatically filled in with the option set name created for the attribute.
- **Description:** Add a description if needed.
- **grid of options:** This field is automatically filled in after the **Save and Reload** button is clicked. The values of the option set are displayed. Select the checkbox for the values you wish to include in the filter.

5. Click the **Save and Close** button.

Commission Definition Best Practices

This page presents a series of recommendations about defining commissions to be used in conjunction with banking products and contracts based on these banking products. For step by step instructions on how to add commissions and how to fill in each field on the page, please read the dedicated [Commissions](#) page.

General Notes

- Each commission type has a specific periodicity. Some commissions are taken once within a contract, others can occur monthly, and others when a specific contract event occurs. When you select the **Commission Type**, the **Periodicity Type** is automatically filled in by the system.
- If you select the **Is Included Into Repayment Schedule Installment** checkbox for a commission and the **Periodicity Type** is different than **Once**, then the commission is included into the repayment schedule. Note that the repayment schedule should be provided with a column to place the commission.

Let's say you define an **Administration Fee** or a **Management Fee** with the **Is Included Into Repayment Schedule Installment** checkbox selected:

The screenshot shows the 'Commission' form with the 'Main Information' tab selected. The form contains the following fields and values:

- Name:** DFUNITS
- Commission Type:** Administration Fee (highlighted with a green box)
- Currency:** EUR
- Periodicity Type:** Monthly
- Is For Usage:** ☐
- Mandatory For Applicant:** ☒
- Automatic Load On Contract:** ☒
- Is For Contract Version:** ☐
- Commission Value Is Percentage:** ☒
- Commission Percent Applied To:** Financed Value
- Is Included Into Repayment Schedule Installment:** ☒ (highlighted with a green box)
- Use Banking Formula:** ☐

When defining the payment schedule type detail, you only need to select the fee type and not the actual fee:

The screenshot shows the 'Schedule Template Detail' form. The 'Main Information' section includes the following fields and options:

- Title:** dfunit
- Column Type:** Fee Dimension
- Column Repayment Schedule:** AdministrationFee
- Calculation Method:** Effective Rate
- Is Calculated In Advance?:** ☐
- Is calculated Upfront:** ☐
- Totalization For Grace Period:** ☐
- Fee:** [Empty field]
- Source:** SourcePercent
- Fee Type:** Administration Fee (highlighted with a green box)

- Please only define maximum one commission of each type with the **Is Included Into Repayment Schedule Installment** checkbox selected for every banking product.
- If you select the **Mandatory for Applicant** checkbox for a commission, then, at contract level, the commission cannot be deleted, but its value can be edited.
- If you select the **Is For Unusage** checkbox for a commission, then you are defining a commission for the unused amount of a contract and the **Commission Percent Applied To** field is automatically completed with the **Unused Amount** value.
- If you select the **Commission Value Is Percentage** checkbox for a commission, then the values of the commission can only be percentages. In this case, you must select the contract's operation item to which the commission's percent must be applied. The operation item must be selected from the **Commission Percent Applied To** drop-down. If you deselect the **Commission Value Is Percentage** checkbox, then the values of the commission can only be numeric values.
- The validity period of a commission (the period between the values entered in the **Valid from** and **Valid to** fields) is taken into consideration when searching for the values of each commission type.
- The system performs validations to ensure that the time intervals for the same commission's validity do not overlap. It also ensures that the commission has a valid value at any given time of a contract's life cycle.

Editing The Value Of A Commission Already In Use

The system does not allow you to modify the value of a commission already in use in active contracts. However, the bank may decide to alter its commission values starting next month, so the new values must be entered into the system.

The following instructions show how to edit the value of a commission attached to a banking product with **Approved** status and having contracts based on that banking product.

1. On the **Commission List** page, double-click the commission whose value has to be changed. The **Edit Commission** page is displayed.
2. In the **Commission Value** section, select the value that is in its validity period and double-click it.

Commission

Main Information

Name: DFADVANCE

Commission Type: Front-end Fee

Currency: EUR

Periodicity Type: Once

Is For Unusage: ☐

Mandatory For Applicant: ☒

Automatic Load On Contract: ☒

Is For Contract Version: ☐

Commission Value Is Percentage: ☒

Commission Percent Applied To: Financed Value

Is Included Into Repayment Schedule Installment: ☐

Use Banking Formula: ☐

Commission Value

Commission Percent	Commission Value	Valid From	Valid To	Status
10.00		14/06/2021	31/07/2021	Active
12.50		01/08/2021	31/12/2021	Active

3. On the newly displayed **Edit Commission Value** page, change the date from the **Valid To** field into the last day when this commission value should be used in contracts.

Edit Commission Value

Commission Percent: 12.5

Commission Value:

Valid From: 01/08/2021

Valid To: 30/04/2022

4. Click the **Save and Close** button.
5. Back in the **Commission List** page, in the **Commission Value** section, click the **Insert** button. The **Add Commission Value** page is displayed.

- Complete the fields for the new commission value record, filling in the new **Commission Percent** or **Value**. Make sure the date entered in the **Valid From** field is the next day after the previous commission value is not active anymore. Enter a date further in the future for the **Valid To** field. Select the **Active** status for the new commission value record.

← Add Commission Value

Save and close Save and reload Save and new

Commission Percent 13.5 Commission Value Valid From 01/05/2022 Valid To 31/07/2022

- Click the **Save and Close** button.
- Back in the **Commission List** page, in the **Commission Value** section, observe the newly added commission value, valid starting the next day after the previously existent commission value ends its validity.

Commission Value

+ Insert X Delete Export Refresh

Commission Percent	Commission Value	Valid From	Valid To	Status
10.00		14/06/2021	31/07/2021	Active
12.50		01/08/2021	30/04/2022	Active
13.50		01/05/2022	31/07/2022	Active

Contracts created after the new commission value's **Valid From** date automatically use the new commission value.

The following sections display examples of the typical definition commissions grouped on their periodicity:

One-Time Fee (Once) Commissions

One-time fees are commissions that the bank requires to be paid once and not on a regular basis during the contract's life cycle.

NOTE

For Once periodicity type commissions applied to loan contracts, the Percentage commission values should not be applied to Used or Unused Amount.

For Front-End Fee commission types with default Once periodicity

type, the Percentage commission values should not be applied to Remaining Value.

For Once periodicity type commissions with the Is For Contract Version checkbox selected, the commission is posted on new contract versions if the Automatic Load On Contract checkbox is also selected. For commissions thus defined, the Percentage commission values can be applied to Remaining Value, but not to Used Amount or Unused Amount.

Other than the previously described situation, we advise against defining Once periodicity type commissions with the Is For Contract Version checkbox selected.

The following example illustrates a one-time fee of 0.02% applied to the paid value of early repayment on contracts. The commission is not included into the repayment schedule of installments, it is not automatically loaded on the contract or mandatory for the applicant:

Commission

Main Information

Name: Commission Type: Currency: Periodicity Type: Is For Unusage: ☐

Mandatory For Applicant: ☐ Automatic Load On Contract: ☐ Is For Contract Version: ☒ Commission Value Is Percentage: ☒ Commission Percent Applied To:

Is Included Into Repayment Schedule Installment: ☐ Use Banking Formula: ☐

Commission Value

☐ Commission Percent Commission Value Valid From Valid To Status

IMPORTANT!

All the Front-End Fee commission types with Once periodicity type applied to a contract are notified and must be paid when the contract is approved. The [Core Banking system parameter FrontEndFee](#) defines the type of commission that is automatically notified at the contract approval.

CURRENT STATUS APPROVED **NEXT STATUS** CLOSED

CONTRACT NUMBER 3569 **ACTIVATION DATE** 20/08/2021 **CREATED BY** vladb **VERSION** 2 **VERSION DATE** 20/08/2021 03:00 **CONTRACT CATEGORY** Normal **Tooltips On**

FEE & COMMISSIONS

Refresh

<input type="checkbox"/>	Fee	Currency	Fee Date	Percent Fee	Value Fee	Periodicity Type
<input type="checkbox"/>	Commission Applied To Amount	EUR	20/08/2021	10.0000	12.50	Monthly
<input type="checkbox"/>	Corporate Loan Term Front-end Fee EUR	EUR	20/08/2021	8.0000	51.00	Once
<input type="checkbox"/>	Repayment Fee EUR	EUR	20/08/2021	18.50	Once	Once

CURRENT STATUS PROCESSED

EDIT REPAYMENT NOTIFICATION

REPAYMENT NOTIFICATION

No. 199204 **Contract** 3569 **Currency** EUR

Notification Date 20/08/2021 **Maturity Date** 20/08/2021 **Total Amount** 276

REPAYMENT NOTIFICATION DETAILS

Export Refresh

<input type="checkbox"/>	Operation Item	Value	Remaining Value	Is Paid
<input type="checkbox"/>	Front-end Fee	51.00	0.00	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Advance	225.00	0.00	<input checked="" type="checkbox"/>

PAYMENT ALLOCATIONS

☐ Payment No. Payment Date Operation Item Allocated Amount Due Date Delay (days)

9828	20/08/2021	Front-end Fee	51.00	20/08/2021	0
9828	20/08/2021	Advance	225.00	20/08/2021	0

Periodical Commissions

Periodical commissions are required to be paid on a regular basis during the contract's life cycle, monthly or every 3 months depending on the commission type's defined periodicity. For such commissions, the **Is Included Into Repayment Schedule Installment** checkbox is automatically selected and the commission is included into the repayment schedule. The repayment schedule template should be provided with a column to place this commission type.

For periodical type commissions, such as commissions with **Periodicity Type = Monthly**, if you leave the **Commission Value Is Percentage** checkbox unselected, then the commission values are defined as straight forward values. Make sure that the formula in the repayment schedule template has the following types defined: fixed value, linear, linear on year.

If you select the **Commission Value Is Percentage** checkbox, then you can select the contract's operation item to which the percentage must be applied. The possible options are those listed in the drop-box next to **Commission Percent Applied To** field:

- **Remaining value** - the percentage applies to the contract's remaining to be repaid value .
- **Financed value** - the percentage applies to the contract's financed value.
- **Paid value** - the percentage applies to the anticipated payment performed on the contract.
- **Unused amount** - the percentage applies to the contract's unused amount from the granted value.
- **Used amount** - the percentage applies to the contract's used amount from the granted value.
- **Overdraft limit amount** - the percentage applies to the contract's overdraft limit amount.
- **Amount** - the percentage applies to the contract's amount.

NOTE

For term loan, mortgage, current account and deposit contracts, do not define commissions with **Commission Percent Applied To = Overdraft limit amount**.

Define and use commissions with **Commission Percent Applied To = Overdraft limit amount** for contracts based on current account with overdraft banking products.

The following example illustrates a monthly 0.15% commission applied to the unused amount of contracts. The commission is included into the repayment schedule of the monthly installments and it is automatically loaded on the contract:

Commission

Main Information

Name: Commission Undrawn Amount (overdraft) EUR Monthly

Commission Type: Commission Undrawn Amou

Currency: EUR

Periodicity Type: Monthly

Is For Usage: ☐

Mandatory For Applicant: ☐

Automatic Load On Contract: ☒

Is For Contract Version: ☐

Commission Value Is Percentage: ☒

Commission Percent Applied To: Unused Amount

Is Included Into Repayment Schedule Installment: ☒

Use Banking Formula: ☐

Commission Value

Commission Percent	Commission Value	Valid From	Valid To	Status
0.15		01/01/2021	31/12/9999	Active

Buttons: + Insert, X Delete, Export, Refresh

Commissions Attached to Contract Transactions

The banks can define commissions for performing certain transactions (events) on contracts.

These commissions can also be defined with straight forward values or as percentages.

NOTE

For commissions attached to contract transactions, do not select the Automatically load on contract checkbox.

For such commissions, the Percentage commission values should not be applied to Used Amount or Unused Amount.

If the Is Negotiable checkbox is selected at product level when [adding an interest & commission item](#), then at transaction level the value or percentage of the commission brought from the banking product level can be edited, otherwise the commission cannot be changed.

The following example illustrates a commission applied to an early repayment contract event. You can see the same commission mentioned as a repayment notification detail after approving the event:

Event

Contract: TLAUTODISB
Transaction Type: Early Repayment
Event Date: 27/01/2021
Event Value: 1,019.54

Charge Fee: Repayment Fee (EUR)
Repayment Fee Percent: 10.5
Fee For Repayment: 10.5

Repayment Values

Repayment Principal Amount: 1,000
Interest Value: 1.04
Other Fees Total Value: 0
Future Installments No: 12

No.	Due Date	Remaining Value	Interest	Principal	Total Installment
1	27-07-2021	7580.00	1.04	1,000.00	1,001.04
2	05-08-2021	6580.00	7.22	946.04	953.26
3	05-09-2021	5580.00	24.81	829.96	854.76
4	05-10-2021	5423.47	22.40	802.76	854.76
5	05-11-2021	4891.25	20.38	836.38	854.76
6	05-12-2021	4256.87	18.15	836.87	854.76

EDIT REPAYMENT NOTIFICATION

Repayment Notification No: 1001
Contract: TLAUTODISB
Currency: EUR
Notification Date: 27/01/2021
Maturity Date: 27/01/2021
Total Amount: 1,019.54

Repayment Notification Details

Operation Item	Value	Remaining Value	MPYest
Repayment Fee	10.50	10.50	
Loan Interest	7.24	7.24	
Loan Principal	1,000.00	1,000.00	

As you see below, when performing an early repayment contract event and on the banking product's commissions list there is a commission with the same type as the commission placed in the event, then the event automatically retrieves the commission from the list defined at the banking product level:

Edit Interest & Commission Item

Main Information

Banking Product: TLAUTODISB
Item Name: Onboarding Loan I&C
Start Date: 27/01/2020
End Date: 04/04/2050

Settings

Interest List: TermLoan Eur
Minimum Interest Rate: 4
Commission List: Term Loan Eur
Is Negotiable: ☒

Edit Commission List

Main Information

Name: Term Loan Eur

Commissions in List

+ Insert existing X Remove existing

Name	Status	Banking Product Ty...
CA Administration Fee	Version Closed	Term Loan
Commission Applied To Amount	Version Unappro...	Term Loan
Commission to Remaining Value	Version Closed	Term Loan
Corporate Loan Term Front-End Fee EUR	Version Unappro...	Term Loan
Management Fee EUR Monthly	Version Closed	Term Loan
New Contract Version Commission	Version Draft	Term Loan
Payment Holiday Fee	Version Closed	Term Loan
RepaymentFee EUR	Version Closed	Term Loan

The commission used within the example presented above is defined as follows:

Commission

Main Information

Name: Commission Type: Currency: Periodicity Type: Is For Unusage: ☐

Mandatory For Applicant: ☐ Automatic Load On Contract: ☐ Is For Contract Version: ☐ Commission Value Is Percentage: ☐

Is Included Into Repayment Schedule Installment: ☐ Use Banking Formula: ☐

Commission Value

Commission Percent	Commission Value	Valid From	Valid To	Status
	18.50	01/01/2021	31/12/2031	Active

Buttons: + Insert, X Delete, Export, Refresh

Return Fee Commissions

The banks can define commissions to be paid back to the customer when performing Returned Amount or Goods transactions (events) on contracts. A part or the entire amount of Front-End Fees paid by a customer at the contract creation can be paid back to the customer if they choose to return the amount of the loan or the goods in the time frame defined at the banking product level. For term loan or mortgage products, you can specify during banking product definition whether the product accepts Return Amounts or Goods transaction types or not, along with specific conditions, such as the number of days during which this transaction type can be created at the contract level.

The Return Fee type commissions, calculated using the ReturnCommissionFormula banking product formula as *sum of all Front-End Fee type commissions with Is Returnable = True* * $[(Returned\ amount)/(Loan\ amount)]$, are paid back to the borrower if a Return of Goods transaction is performed.

To set up contracts that allow Return Amounts or Goods transaction, apart from configuring the **Return Of Goods** section within the banking product's **Associated Transactions** tab, make sure to define front-end fees with **Is Returnable = True** and return fees with **Is Return = True**. Attach the returnable front-end fees and the return fees to the commission

list used within the product's **Interests&Commissions** tab, and select the ReturnCommissionFormula banking product formula within the product's **Risk Formulas** tab.

Return Fee commission definition example:

Commission

Main Information

Name

Return Fee EUR

Commission Type

Return Fee

Currency

EUR

Periodicity Type

Once

Is For Unusage

☐

Mandatory For Applicant

☐

Is For Contract Version

☐

Commission Value Is Percentage

☐

Is Included Into Repayment Schedule Installment

☐

Is Return

☒

Use Banking Formula

☒

Banking Formula Type

CommissionFormula

Returnable Front-End Fee commission definition example:

Commission

Main Information

Name

Front-End Fee Returnable EUR

Commission Type

Front-end Fee

Currency

EUR

Periodicity Type

Once

Is For Unusage

☐

Mandatory For Applicant

☐

Automatic Load On Contract

☒

Is For Contract Version

☐

Commission Value Is Percentage

☒

Commission Percent Applied To

Financed Value

Is Included Into Repayment Schedule Installment

☐

Use Banking Formula

☐

Commission Value

+ Insert

X Delete

Export

Refresh

<input type="checkbox"/> Commission Percent	Commission Value	Valid From	Valid To	Status
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	4.00	01/02/2022	25/02/2029	Active

Return fee and returnable front-end fee used within a term loan banking product definition:

CONFIGURATIONS FOR BANKING PRODUCT FACTORY

462

CURRENT STATUS: APPROVED

NEXT STATUS: CLOSED

CODE: TL - RF

PRODUCT: Term Loan Euro - Return Fee

START DATE: 01/04/2020

END DATE: 17/04/2025

VERSION: 10

1 Main Info

2 Details

3 Availability

4 Dimensions

5 Product Formula Engine

6

Interest & Commissions

Export

Refresh

Item Name

Onboarding Loan I&C

Edit Interest & Commission Item

Main Information

Banking Product

Term Loan Euro - Return Fee

Item Name

Onboarding Loan I&C

Start Date

27/01/2020

End Date

04/04/2050

Settings

Interest List

TermLoan Eur

Minimum Interest Rate

4

Commission List

Term Loan With Return Fee

Is Negotiable

Edit Commission List

Main Information

Name

Term Loan With Return Fee

Commissions in List

+ Insert existing

X Remove existing

Name

CA Administration Fee

Commission Applied To Amount

Commission to Remaining Value

Front-End Fee Returnable EUR

Management Fee EUR Monthly

New Contract Version Commission

Payment Holiday Fee

RepaymentFee EUR %

Return Fee EUR

ReturnCommissionFormula banking product formula used within a term loan banking product definition:

CURRENT STATUS: APPROVED

NEXT STATUS: CLOSED

CODE: TL - RF

PRODUCT: Term Loan Euro - Return Fee

START DATE: 01/04/2020

END DATE: 17/04/2025

VERSION: 10

VERSION DATE: 15/03/2022 09:34

1 Main Info

2 Details

3 Availability

4 Dimensions

5 Product Formula Engine

6 Documents

7 Loan Core Settings

8 History

9 Origination Elements

10 GL Settings

Banking Product Formulas

Export

Refresh

Name

Formula Type

Formula

ReturnCommissionFormula

CommissionFormula

ReturnCommissionFormula

Test Scenarios

Export

Refresh

Name

Test Formula Type

Term Loan Euro - Multiple Interests and Commissi...

CommissionFormula

The ReturnCommissionFormula banking product formula was already mapped to the entity holding contract records, thus no more actions are required for its definition. The picture below illustrates the mapping:

Edit Banking Product Formula

Main Information

Name

ReturnCommissionFormula

Banking Product

Term Loan Euro - Return Fee

Formula Type

CommissionFormula

Formula

ReturnCommissionFormula

Data Mapping

Return Commission Formula Mapping - For Transaction Return Good

Map Data

1 Definition

2 Input

3 Output

Formula parameter mapping

Data Mapping Type

Banking Product

Master Entity

FTOS_CB_Contract

Operation Name

ReturnCommissionFormula

Name

Return Commission Formula Mapping - For Transaction Return Good

1 Definition

2 Input

3 Output

> FTOS_CB_Contract - input

CommissionList

FTOS CB ContractFee.contractId: FTOS CB Contract

Value

Value Fee

from FTOS CB ContractFee

Currency

Currency

from FTOS_CB_ContractFee

IsReturnable

Is Returnable

from FTOS_CB_ContractFee

LoanAmount

Amount

from FTOS_CB_Contract

ReturnAmount

FTOS CB ContractEvent.contractId: FTOS CB Contract

ContractEventStatusId

Business Status

from FTOS_CB_ContractEvent

ReturnAmount

Repayment Principal Amount

from FTOS_CB_ContractEvent

ProcessTypeId

Process Type

from FTOS_CB_ContractEvent

At the contract level, the **Fees & Commissions** section contains the returnable front-end fee, as it was defined with Automatically load on contract = True.

1 Overview

2 Payments

3 Contracts & Documents

4 History

5 Accounting Entries

General Data

Contract ID

Activation Date

22/02/2022

Amount

10.000

Start Calculation Date For Amount Unused

22/03/2022

Auto disbursement

☒

Customer

Main Bank Account

FIN000003060

Advance Amount Percentage

0

Maximum Disburse Date

22/02/2023

Banking Product

Term Loan Euro - Return Fee

Current Account

FIN000002624

Advance Amount Value

0

Currency

EUR

Destination Bank Account

Available Amount

0

Managing Branch

root

Fees & Commissions

Refresh

<input type="checkbox"/>	Fee	Currency	Fee Date	Percent Fee	Value Fee	Periodicity Type
<input type="checkbox"/>	CA Administration Fee	EUR	22/02/2022		4.00	Monthly
<input type="checkbox"/>	Management Fee EUR Monthly	EUR	22/02/2022		10.00	Monthly
<input type="checkbox"/>	Front End Fee Returnable EUR	EUR	22/02/2022	4.0000	400.00	Once
<input type="checkbox"/>	Commission Applied To Amount	EUR	22/02/2022	10.0000	0.00	Monthly

The following example illustrates the return fee commission automatically calculated for a Returned Amounts or Goods contract event.

Returned Amount Or Goods

EDIT CONTRACT EVENT

General Data

Event Date: 02/03/2022

Date For Return: 01/03/2022

Event Value: 2.080

External Identifier:

Capital

Remaining Principal At Date: 6.000

Repayment Principal Amount: 2.000

Returned Accrued Interest: 0

Principal To Be Returned: 0

Interest To Be Returned: 0

Interest For Returned Amount: 0

Early Repayment Options

Keep Contract Period: ☐

Fee Value To Principal: ☐

Import Schedule: ☐

Unpaid Info

Accrued Interest: 0

Unpaid Amount On Contract: 0

Unpaid Amount For Customer: 117.826.78

Fees

Return Fee: Return Fee EUR

Return Fee Value: 80

Early Repayment Result

Future Installments No: 6

Future Annuity: 785.03

Simulate Returned Amount Of Goods

Manage Insurances

When you build a product, you can add insurance to it, such as credit insurance, life insurance, home insurance, etc. For any banking product you can select an existing insurance or create a new one.

To manage an insurance, follow the steps below:

1. In the main menu, click **Product Factory > Banking Product Dimensions > Insurances**, and the **Insurances list** page opens.

+ Insert Delete Export Q Advanced find

Insurances list

☐ Name

Q

Insttest

InsuranceFormulaPercentage

Life Insurance

LifeInsurance EUR

2. On the **Insurances list** page, you can add new interests or search, edit, export and delete existing ones.

Adding Insurances

1. To add an insurance, click the **Insert** button.
2. In the newly opened **Add Insurance** page, fill in the following fields from the **Insurance** section:

Edit Insurance

Main Information

Code: Name: Currency: Class: Insurer:

Periodicity Type: Insurance Value is Percentage: ☒ Operation Item: Is Included Into Repayment Schedule: ☒ Is Mandatory For Applicant: ☒ Is Mandatory For Debtor: ☐

Use Banking Formula: ☐

Insurance Values

Begin Date	End Date	Percent	Value	Interest Discount
21/07/2020	17/02/2021	3.0000		1.00
18/02/2021	02/10/2021	3.2000		0.90
31/01/2022	26/01/2022	5.0000		

- **Code:** Insert a code for the insurance.
- **Name:** Insert a suggestive name for the insurance. Make sure it is a unique name.
- **Currency:** Select the corresponding currency for the insurance.
- **Class:** Select insurance class for this specific insurance: Credit insurance, Home insurance, Life insurance or Other insurance.
Banking Product Factory uses the values of the selected schedule element class record to automatically fill in the **Operation Item**, **Is Mandatory For Applicant**, and **Is Mandatory For Debtor** fields.
- **Insurer:** Insert the name of the company that issues the insurance.
- **Periodicity Type:** Select the type of periodicity for the insurance: Once, Monthly, Trimestrial, Semestrial or Annual.
- **Insurance Value is Percentage:** If you select this checkbox, then the insurance value is a percentage from the banking product's value.

- **Operation Item:** Automatically filled in after selecting a class. You can change this value. It represents the corresponding operation item responsible for notification.
 - **Is Included Into Repayment Schedule Installment:** Automatically filled in after selecting a periodicity type. Thus, if `Periodicity Type = Once`, then the insurance is not included in the payment installments. For any other value of the periodicity type, the insurance is included in the payment installments.
 - **Is Mandatory For Applicant:** Automatically filled in after selecting a class. You can change this value. If you select this checkbox, then the insurance is mandatory for the applicant customer.
 - **Is Mandatory For Debtor:** Automatically filled in after selecting a class. You can change this value. If you select this checkbox, then the insurance is mandatory for the debtor.
 - **Use Banking Formula:** Select the checkbox if the insurance is to be defined with an attached business formula for value.
 - **Banking Formula Type:** Select the banking formula type to be used for insurance calculation. This field is visible and mandatory to be filled in when `Use Banking Formula = True`.
3. Click the **Save and Reload** button.
 4. In the **Insurance value** section, insert or delete the values of the insurance.
 5. To add a new insurance value, click **Insert** and fill in the following fields in the newly opened **Add Insurance Value** page:
 - **Begin date:** Select a date when the value is valid for the insurance.
 - **End date:** Select the end date when the value is no longer valid.
 - **Percent:** Select the percentage for the insurance.
 - **Value:** Select the value for the insurance.

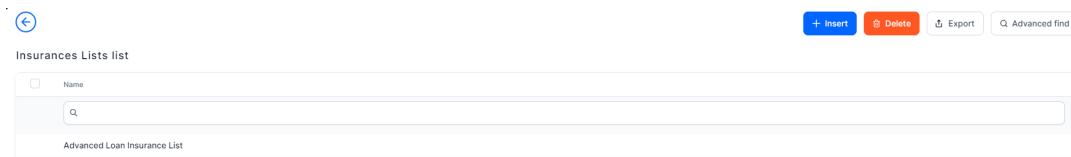
- **Interest discount:** Select the discount to be applied to the insurance.
6. Click the **Save and Close** button.

Insurance Lists

An insurance list allows you to group multiple insurances into a collection that you can use in a banking product. It is possible to group under the same umbrella the following classes of insurances created individually in the [Insurance](#) menu: Credit, Home, Life, and Other insurances.

To manage insurance lists, follow the steps below:

1. In the main menu, click **Product Factory > Banking Product Dimensions > Insurance List**, and the **Insurances Lists List** page opens.



2. On the **Insurances Lists List** page, you can add new interests or search, edit, export and delete existing ones.

Adding Insurance Lists

1. Click the **Insert** button. The **Add Insurance List** page is displayed.
2. Enter a **Name** for the insurance list.



3. Click the **Save and Reload** button.
4. Click the **Insert existing** button to add the applicable insurance in the **Insurances in List** section.

The screenshot shows two side-by-side panels. The left panel, titled 'Insurances in List', has a search bar with a magnifying glass icon and a list containing 'Lifeinsurance EUR'. Above the list are buttons for '+ Insert existing' and 'X Remove existing'. The right panel, titled 'List is Attached to Products', has a table with columns 'Name', 'Status', and 'Banking Product Type'. It includes buttons for 'Export' and 'Refresh'. The table contains two rows of data: 'Term Loan Euro BP Tests' with 'Version Closed' and 'Unsecured Loan'.

5. Click the **Save and Close** button.

Discounts

Banks can offer discounts of any nature for any banking product. You can either select an existing discount or create a new one.

In the main menu, click **Product Factory > Banking Product Dimension > Discounts**, and the **Discounts list** page opens.

The screenshot shows the 'Discounts list' page. It features a search bar with a magnifying glass icon and a list of discounts: 'Commission discount', 'Discount Life Insurance', 'Interest Discount', and 'ManagementFeeDiscount'. Above the list are buttons for '+ Insert', 'Delete', 'Export', and 'Advanced find'.

Here you can add a new discount or search, edit, export and delete existing ones.

Adding Discounts

1. To add a new discount, click **Insert** and fill in the following fields:
 - **Name:** Insert the appropriate name for the discount.
 - **Applied to dimension:** Select one of the dimensions: Interest, Commission or Insurance.
2. Click the **Save and Reload** button.
3. If you selected the **Interest**, then fill in the following:

- **Interest Type:** Select one type from the list.
 - **Interest:** Select the exact interest configured in the [Interests](#) menu.
4. If you selected the **Commission**, then fill in the following:
- **Commission Type:** Select one type from the list.
 - **Commission:** Select the exact commission configured in the [Commissions](#) menu.
5. If you selected the **Insurance**, then fill in the following:
- **Insurance Class:** Select one from the list.
 - **Insurance:** Select the exact insurance configured in the [Insurance](#) menu.

The **Banking Products** section, displayed after saving the discount, shows the products where the discount is applied. If it is empty, there are no banking products associated.

The screenshot shows the 'Discount' configuration form. The 'Main Information' section includes the following fields:

- Name:** Commission discount
- Applied to Dimension:** Commission
- Insurance Class:** (empty dropdown)
- Commission Type:** Front-end Fee
- Commission:** 30days

Below the 'Main Information' section is the 'Banking Products' section, which contains a table with the following data:

Name	Banking Product Code	Status
Corporate Loan for IT companies	123456	Draft

6. Click the **Save and Close** button.

Questions

Create interactive questions for your banking product using the **Questions** menu. The questions are further used to determine the eligibility of a customer or their scoring. The questions can later be added to a customer journey as well. For example, here's a customer journey with a question in the Loan Origination, displayed to determine the customer's eligibility.

EDIT LOAN APPLICATION

Eligibility Questions

We ask for this information so that we can carry out the checks needed to consider you for a mortgage

DEPOSIT SOURCE: Select...

RETIREMENT DATE:

RETIRED: ☐ Yes ☒ No

Finish

Adding Questions

1. In the main menu, click **Product Factory > Banking Product Dimension > Questions**, and the **Banking Product Questions List** page opens.

Here you can add a new question or search, edit, export and delete existing ones.

2. To add a new question, click **Insert** and fill in the following fields:

Edit Banking Product Question

Main Information

Question: Question1 Question Type: Test Answer Entity: Account Answer Field: Phone Is for solicitant? ☐ Is for coborrower? ☐

Banking Products

Name	Product Type	Banking Product Code
Onboarding Loan Duplicate	Term Loan	OL_DD
Term Loan Advanced	Term Loan	TL_ADV
Term Loan Advanced	Term Loan	TL_ADV
Term Loan Advanced	Term Loan	TL_ADV
Term Loan Advanced	Term Loan	TL_ADV

- **Question:** Insert the appropriate name.
- **Question Type:** Select the type of answer the customer has to give: text, numeric or option set
- **Is for solicitant?:** If you select this checkbox, then the question is directed to the customer requesting the banking product.
- **Is for coborrower?:** If you select this checkbox, then the question is directed to the customer who is a coborrower for a bank product.

- **Answer entity:** Select the entity where the answer should go.

NOTE

The entity must be directly related to the entity on which the questions are posted. If the two entities are not related, the question is not displayed in the flow.

- **Answer Field:** Select the attribute of the previously selected entity where the answer is recorded.

3. Click the **Save and Reload** button.

IMPORTANT!

In order for the question to be added to the banking product, the status must be changed from draft to active.

4. The **Banking Products** section displays the products which use the question. If the section is empty, there is no associated product to the question. To add a question to a banking product, see [the Questions section within the Dimensions tab](#) of a banking product.
5. Click the **Save and Close** button.

Product Filter

You can filter banking products by navigating through the list of products based on a filtering scope using the **Product Filter**.

Filter through the attributes of a banking product in the **Availability** tab's **Product Availability Item Filters**, **Interest & Commissions Item Filters**, **Insurance Item Filters** and **Product Discount Item Filter** sections.

Adding Product Filters

1. In the main menu, click **Product Factory > Banking Product Filter**, and the **Banking Product Filters List** page opens.
2. In the newly displayed **Add Banking Product Filter** page, click **Insert** and fill in the following fields:

- **Name:** Insert a name for the filter you are building.
 - **Filter Scope:** Choose one of the attributes for filtering: Availability, InterestCommissions, Insurance, Discount or All.
 - **Filter Type:** Choose one of the dedicated types: Text Value, Numeric Value, Numeric Interval, Date Value, Date Interval, OptionSet or LookUp. For OptionSet and LookUp attributes, you can add multiple values. If you select LookUp attribute, two new fields are displayed: Entity and Entity View. For more details, see [Views](#).
3. Click the **Save and Reload** button.
- The **Product Availability Item Filter** section displays the banking products where the selected banking product filter is used.

NOTE

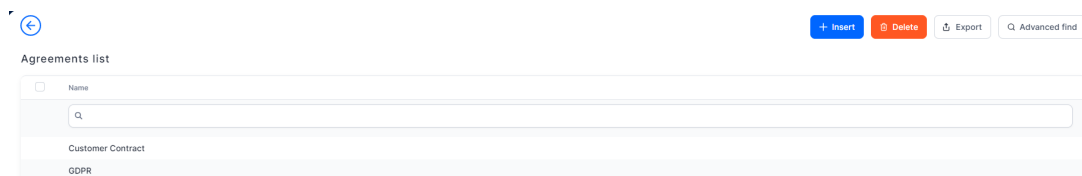
The data inserted here is shown in the **Availability** tab in the **Product Availability Item Filter** section of the Banking Product pages.

Agreements

Agreements are set up independently from the banking products because a product may require multiple types of agreements, while a certain type of agreement can be required by multiple products.

To manage agreements:

1. In the main menu, click **Product Factory > Banking Agreements**, and the **Agreements List** page opens.



2. On this page, you can add new agreements or edit, delete, export and search existing ones.

Adding Agreements

1. To create a new agreement, click the **Insert** button. The **Add Agreement** is displayed.
2. In the newly displayed **Add Agreement** page, fill in the following fields from the **Agreement** section:
 - **Code:** Enter the code of the agreement. The code must be unique.

- **Name:** Enter the name of the agreement. The name must be unique.
 - **Display Name:** Enter the display name of the agreement.
3. Click the **Save and Reload** button. The **Banking Product Agreements section** is displayed.
 4. Click the **Insert** button to attach an agreement to the banking product.

↶ Save and close Save and reload Save and new

Add Banking Product Agreement

Main Information

Agreement	Code	Banking Product	Is Mandatory
Customer Contract	TLE	Term Loan Euro	<input type="checkbox"/>

Banking Product Agreements

You can associate the agreement with banking products (see "[Managing Banking Products](#)" on page 22 for details) and specify if the association is mandatory using the **Banking Product Agreements** section.

NOTE

You can also associate banking products with agreements from a banking product (see [Documents tab in a banking product page](#) for details).

Product Classification

You can classify your banking products using the **Banking Product Classification**. Once defined, a product classification can be attached to different products, and then the contracts based on these products further inherit the same classification. Banking product classification has no business functionality implications, being intended only for the bank's internal segmentation needs.

To manage product classifications:

1. In the main menu, click **Product Factory > Banking Product Classifications**, and the **Banking Product Classifications List** page opens.
2. On this page, you can add new product classifications or edit, delete, export and search existing ones.

Product Classifications list

Code	Name	Classification Type	Valid From	Valid To
Classification Regulatory 2	REG2	Regulatory	01/03/2021	31/03/2021
REG01	Classification Regulatory	Regulatory	01/01/2020	31/12/2030
REG03	Reg 3	Regulatory	22/03/2022	09/04/2022
RESTRUCTL1	Classification Restructuring Level1	Restructuring	22/10/2021	31/12/2021

Adding Product Classifications

1. On the **Banking Product Classifications List** page, click **Insert**, and the **Add Product Classification** page opens.
2. On the newly displayed **Add Product Classification** page, fill in the following fields :

Add Product Classification

Main Information

Name: Classification Restructuring Level1

Code: RESTRUCTL1

Valid From: 20/04/2022

Valid To: 30/04/2028

Classification Type: Restructuring

Is Default: ☐

Classified Banking Products

- **Classification Type:** Select the type of classification for the new banking product classification record.
- **Name:** Insert a name for the new classification item.
- **Is Default:** If this checkbox is selected, then this becomes the default banking product classification item.
- **Code:** Insert a unique code for the new classification item.
- **Valid From:** Select the date from which the product classification item is valid.

- **Valid To:** Select the date until when the product classification item is valid.
3. Click the **Save and Reload** button.
 4. The **Classified Banking Products Section** is displayed after saving the classification item record and allows you to insert existing banking products that should be classified with this new classification item. The following information is displayed about each banking products: code, name, class, subclass, category and subcategory.

NOTE

The data inserted here is shown in the [Product Classification](#) section from the [Main Info](#) tab of each Banking Product page.

Product Dictionaries

This page contains a series of topics that explain the dictionaries used by Banking Product Factory and how they can be managed by users with the associated role of [Banking Product Admin](#):

Allocation Method	478
Banking Product Type	480
Collateral Type	489
Commission Schema	491
Commission Type	493
Covenant	495
Formula	497
Loan Periodicity	501
Operation Item	502
Product Destination Type	504

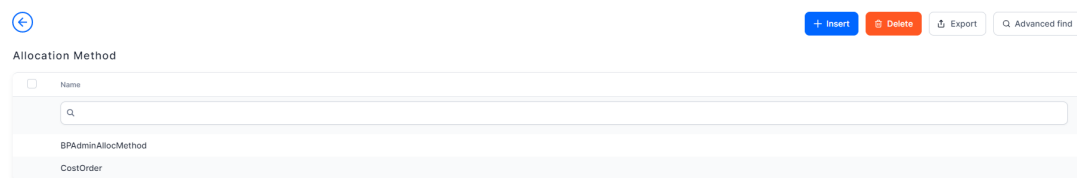
Product Factory System Parameters	505
Reconciliation Accounts	511
Transaction Type	513

Allocation Method

Allocation methods represent the order in which a financial institution proportionally allocates a portion of the payment to either fees, commissions, interest, and other credit items associated with the account, with the aim of closing the loan principal. FintechOS uses allocation methods to determine the order in which credit items are prioritized when repaying loans, credit accounts, and so on.

You can manage allocation methods through the **Allocation Method** menu, which stores information about the details and the banking products using those specific definitions in their setup. Follow these steps to manage such records:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Allocation Method**, and the **Allocation Method** page opens.



2. On the **Allocation Method** page, you can add new allocation methods or search, edit, and delete existing ones.

NOTE

You can insert, update, or delete allocation method records if you have the associated role of [Banking Product Admin](#).

Creating Allocation Methods

To create a new allocation method, follow these steps:

1. Click **Insert** on the **Allocation Method** page to open the **Add Allocation Method** page.

2. Enter a **name** for the allocation method.

← Add Allocation Method

Save and close Save and reload Save and new

Main Information

Name

DocTest

Allocation Method Details Banking Products

3. Click the **Save and Reload** button. The **Allocation Method Details** and the **Banking Products** sections are displayed.
4. In the newly displayed **Allocation Method Details** section, click **Insert** to open the **Add Allocation Method Details**.
5. Fill in the following fields:

← Add Allocation Method Detail

Save and close Save and reload Save and new

Allocation Method

Credit Item

Minim Overdue Days

Maxim Overdue Days

- **Credit Item:** Select the credit item of the allocation method.
- **Minimum Overdue Days:** Enter the minimum number of overdue days for the credit item.
- **Maximum Overdue Days:** Enter the maximum number of overdue days for the credit item.

IMPORTANT! The maximum and minimum number of overdue days is relevant when creating allocation methods as an account can have one or more loan principals. If, for example, there are two loan principals, the allocation method is applied based on the oldest one. Thus, depending on the date, the installment is allocated to the oldest loan principal and then moved to the other credit items.

6. Click the **Save and Close** button.

Banking Product Type

The banking product types are the types of products that can be created using Banking Product Factory. Banking products inherit the behavior you set for banking product types, thus easing the banking product creation process. The values you set here are later inherited by banking products created based on this specific product type. You can view and change the inherited values at the product level, most of them within the **Details** tab.

The screenshot displays the 'Banking Product Type' configuration page. At the top, there's a header with metadata: CODE (MMITL862), PRODUCT (MiniTLTest), START DATE (2022/09/26), END DATE (2022/09/27), VERSION (1), VERSION DATE (26/09/2022 03:00), and INCREMENT NO (862). A 'Save and reload' button is present. Below the header is a tabbed interface with 'Details' selected. The 'Details' tab contains several sections:

- General Data:** Includes checkboxes for 'Is Revolving', 'Allow Refinancing' (checked), 'Allow Restructuring' (checked), 'Allow CoDebtor' (checked), and a text field for 'Max No. Of CoDebtors'.
- Disburse Settings:** Includes 'Autodisbursement' (checked), 'Max No Disbursements' (3), 'Activ Tranche On Doc Submission' (unchecked), and 'Is Guaranteed' (unchecked).
- Product Tranches:** A table with columns for Name, Tranche Percent, Start Month From Activ..., and Interest Percent. It shows 'No data'.
- Payment Schedule Types:** Includes 'Period Type' (Months), 'Periodicity Type', 'Grace Type' (Both), and 'Product Grace' (GracePeriod).
- Schedule Templates:** A table with columns for Name and Business Status. It shows '30Days - Equal Installment' with status 'scheduleActive'.
- Holiday Settings:** Includes 'Holiday Shift For Repayment Installments' (checked), 'Defer Due Date' (checked), and 'Holiday Shift Method' (Forward).
- Country Calendars:** A table with columns for Name. It shows 'Romania'.

You can create banking product types based on the banking product models used by financial institutions: bank account, card, deposit, mortgage, term loan, and so on. During product definition, it is important to choose the right type of product to build, because the displayed fields depend on this choice.

Banking Product Factory enables you to define the desired banking product types by managing the records in the **Banking Product Type** menu:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Banking Product Type**, and the **Banking Product Type List** page opens.

2. On the **Banking Product Type List** page, you can: [create a new banking product type](#) record, associate [transaction types](#), [interest scopes](#), [country calendars](#), and [payment schedule types](#), to a banking product type, edit an existing record (except its product type and its bank account type), delete, or search for a specific record.

NOTE

You can insert, update, or delete records if you have the associated role of [Banking Product Admin](#).

Predefined Banking Product Types

The following preset banking product types come with the Banking Product Factory packages and are ready to be used as a basis for defining your banking products:

Banking Product Type	Recommended to be used when creating the following types of Banking Products
BNPL	"buy now, pay later" type loans, term loans
Credit Card	credit cards
Current Account	bank accounts, current accounts
Current Account with Overdraft	current accounts with overdraft
Debit Card	debit cards
Deposit	deposits
Leasing	leasings
Mortgage	mortgage loans

Banking Product Type	Recommended to be used when creating the following types of Banking Products
Overdraft	overdrafts
Savings	savings accounts
Secured Loan	secured loans, term loans
Unsecured Loan	unsecured loans, term loans
Working Capital	revolving loans, term loans

Creating Banking Product Type Records

Follow these steps to create new banking product type records:

1. Click the **Insert** button on the **Banking Product Type List** page. The **Add Banking Product Type** page is displayed. A series of fields from the **Default Values** section of the page are automatically filled in, to aid the product type definition process.
2. Fill in the following fields in the **Main Information** section:

← Save and close Save and reload Save and new

Add Banking Product Type

Main Information

Type Code: TLU Name: Unsecured Loan Product Type: Term Loan Bank Account Type: Loan Term Account

Default Values

Allow Refinance: ☒ Allow Restructuring: ☒ Allow Codebtor: ☒ Max No Codebtor:

Auto Disbursement: ☒ Max No Disbursement: Grace Type: Select... Product Grace:

Period Type: Select... Holiday Shift: ☐ Defer Due Date: ☐ Holiday Shift Method: [none]

Transaction Types Interest Scopes Countries Payment Schedule Types

- **Type Code:** Enter the unique code of the banking product type.
- **Name:** Enter the name of the new banking product type.
- **Product Type:** Select from the drop-down the product type.
- **Bank Account Type:** Select from the drop-down the new bank account type to be used with the new banking product type.

3. Fill in or modify the following fields in the **Default Values** section:

- **Allow Refinance** - If you select this checkbox, the banking product type is marked as allowing refinancing for contracts. The checkbox is selected by default, but you can change its value.
- **Allow Restructuring** - If you select this checkbox, the banking product type is marked as allowing restructuring for contracts. The checkbox is selected by default, but you can change its value.
- **Allow Codebtor** - If you select this checkbox, the banking product type is marked as allowing codebtors for contracts. The checkbox is selected by default, but you can change its value..
- **Max No Codebtor** - Enter the maximum number of codebtors allowed for contracts based on this banking product type.
- **Auto Disbursement** - If you select this checkbox, the banking product type is marked for automatic disbursement of funds at the contract approval. The checkbox is selected by default, but you can change its value.
- **Max No Disbursement** - Enter the maximum number of disbursements allowed for contracts based on this banking product type. Default value: null, for unlimited number.
- **Grace Type** - Select the type of grace applicable for contracts based on this banking product type. You can choose between none, for no grace, Interest, for the grace period applied for the interest of the contract, Principal, for the grace period applied for the principal amount of the contract, or Both, for the grace period applied for the interest and the principal amount of the contract.
- **Product Grace** - This is mandatory if you selected a grace type. Select the product grace applicable to contracts based on this banking product type.
- **Period Type** - Select the period type applicable to contracts based on this banking product type. Possible values: days, weeks, months, years, once, or none.
- **Holiday Shift** - If you select this checkbox, the banking product type is marked to use the holiday shift method for schedule due day calculation for contracts. The checkbox is not selected by default, but you can change its value.
If Holiday Shift = False, then Defer Due Date = False,

Holiday Shift Method = False, and you can't modify them.

- **Defer Due Date** - If you select this checkbox, the banking product type is marked for deferring the due date when it falls on a holiday in the used country calendar. The checkbox is not selected by default, but you can change its value.
- **Holiday Shift Method** - Select the holiday shift method used for schedule due day calculation for contracts based on this banking product type. Possible values: forward, backward, or none.

4. Click the **Save and Reload** button. The new banking product type record is saved.

You can proceed to associate [transaction types](#), [interest scopes](#), [country calendars](#), and [payment schedule types](#), all in dedicated sections of the **Edit Banking Product Type** page, as follows:

Associating Transaction Types

The transaction types associated to a banking product type are the ones available for that type of product. These transactions are automatically associated when creating a new banking product. However, you can remove the associated transactions that should not be available for a specific product at the banking product level's **Lean Core** tab.

Transaction Types

<input type="checkbox"/> Name	Transaction Type
<input type="text" value="Unsecured Loan_DSB"/>	<input type="text" value="Disbursement"/>
<input type="text" value="Unsecured Loan_ER"/>	<input type="text" value="Early Repayment"/>
<input type="text" value="Unsecured Loan_PH"/>	<input type="text" value="Payment Holiday"/>
<input type="text" value="Unsecured Loan_RG"/>	<input type="text" value="Returned Amount or Goods"/>
<input type="text" value="Unsecured Loan_RO"/>	<input type="text" value="Reschedule Overdues"/>

Follow these steps to create association records between a transaction type and a banking product type:

1. On the **Edit Banking Product Type** page, within the **Transaction Types** section, click the **Insert** button. The **Add Banking Product Type Transaction Type** page is displayed.
2. Fill in the following fields:

Add Banking Product Type Transaction Type

Save and close Save and reload Save and new

Main Information

Banking Product Type Transaction Type

Term Loan Early Repayment

- **Banking Product Type:** Automatically filled with the banking product type. It can't be edited.
 - **Transaction Type:** Select from the drop-down the transaction type to be associated with the new banking product type. There is a unique constraint for the association between a banking product type and a transaction type.
3. Click the **Save and Reload** button. The new association between the transaction type and banking product type is saved. The name of the record is automatically updated as `banking product name_transaction type code`, for example `Term Loan_DSB` for the association between `Term Loan` banking product type and `Disbursement` transaction type.

Associating Interest Scopes

The interest scopes associated to a banking product type determine the scopes of the interests available for that type of product. These interest scopes are automatically associated when creating a new banking product.

Interest Scopes

+ Insert existing X Remove existing

☐ Name

Interest Rate

Penalty Interest

Follow these steps to create association records between an interest scope and a banking product type:

1. On the **Edit Banking Product Type** page, within the **Transaction Types** section, click the **Insert existing** button. A selection page is displayed, allowing you to choose the scope of the interest from the following values: Credit Line, Debit, Deposit, Interest Rate, Overdraft, Penalty Interest, and Saving.

2. Select the desired interest scope from the list and click **Ok**. The interest scope is associated to the banking product type.
3. You can delete an associated interest scope, if you need to, by selecting it from the list and clicking **Delete**.
4. Click the **Save and Reload** button. The new association between the interest scope and banking product type is saved.

Interest Scopes Pre-Associated to Existing Banking Product Types

The following associations of interest scopes to existing banking product types are already in place within Banking Product Factory:

Banking Product Type	Pre-Associated Interest Scopes
BNPL	Interest Rate, Penalty Interest
Credit Card	-
Current Account	Interest Rate, Penalty Interest
Current Account with Overdraft	Interest Rate, Penalty Interest, Overdraft
Debit Card	Interest Rate, Penalty Interest
Deposit	Deposit
Leasing	-

Banking Product Type	Pre-Associated Interest Scopes
Mortgage	Interest Rate, Penalty Interest
Overdraft	Interest Rate, Penalty Interest, Overdraft
Savings	-
Secured Loan	Interest Rate, Penalty Interest
Unsecured Loan	Interest Rate, Penalty Interest
Working Capital	Interest Rate, Penalty Interest

Associating Country Calendars

The country calendars associated to a banking product type are the ones available for that type of product. These country calendars are automatically associated when creating a new banking product. However, you can remove the associated country calendars that should not be available for a specific product at the banking product level's **Details** tab.

Countries

<input type="checkbox"/> Code	Name
<input type="text" value="Q"/>	<input type="text" value="Q"/>
ENG	England
ROM	Romania

Follow these steps to create association records between a country calendar and a banking product type:

1. On the **Edit Banking Product Type** page, within the **Countries** section, click the **Insert existing** button. A selection page is displayed, allowing you to choose the country calendar from the already created records.

Code	Name
BE	Belgium
ENG	England
ROM	Romania
THA	Thailand
UK	United Kindom
USA	United States of America
VNM	Vietnam

2. Select the desired country calendar from the list and click **Ok**. The country calendar is associated to the banking product type.
3. You can delete an associated country calendar, if you need to, by selecting it from the list and clicking **Delete**.
4. Click the **Save and Reload** button. The new association between the country calendar and banking product type is saved.

Associating Payment Schedule Types

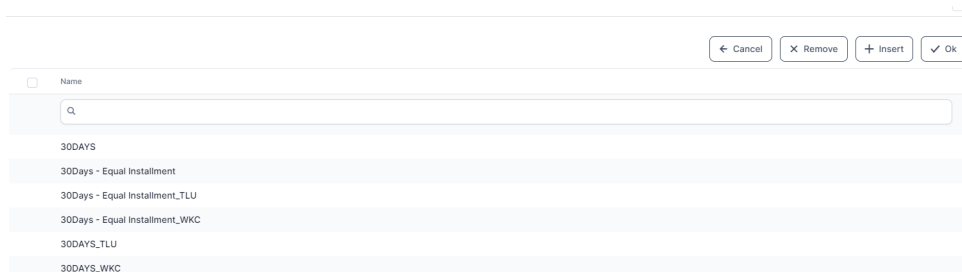
The payment schedule types associated to a banking product type are the ones available for that type of product. These payment schedule types are automatically associated when creating a new banking product. However, you can remove the associated payment schedule types that should not be available for a specific product at the banking product level's **Details** tab.

Payment Schedule Types

Name
30Days - Equal Installment
BNPL SLICE

Follow these steps to create association records between a payment schedule type and a banking product type:

1. On the **Edit Banking Product Type** page, within the **Payment Schedule Types** section, click the **Insert existing** button. A selection page is displayed, allowing you to choose the payment schedule type from the already created records.



The screenshot shows a modal dialog for selecting an existing payment schedule type. At the top right, there are four buttons: '← Cancel', 'X Remove', '+ Insert', and '✓ Ok'. Below the buttons is a search bar with a magnifying glass icon and the placeholder text 'Name'. Under the search bar is a list of available payment schedule types:

- 30DAYS
- 30Days - Equal Installment
- 30Days - Equal Installment_TLU
- 30Days - Equal Installment_WKC
- 30DAYS_TLU
- 30DAYS_WKC

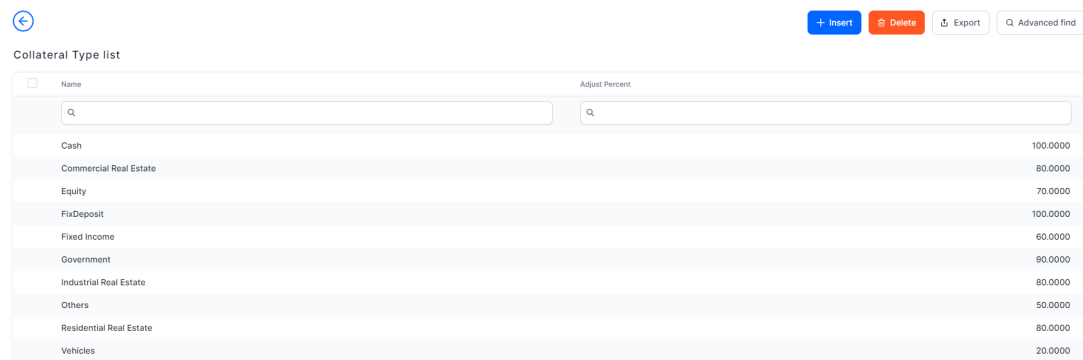
2. Select the desired payment schedule type from the list and click **Ok**. The payment schedule type is associated to the banking product type.
3. You can delete an associated payment schedule type, if you need to, by selecting it from the list and clicking **Delete**.
4. Click the **Save and Reload** button. The new association between the payment schedule type and banking product type is saved.

Collateral Type

The **Collateral Type** dictionary is used to define the types of collateral used in the banking products' definition.

To manage collateral type records:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Collateral Type**, and the **Collateral Type List** page opens.



Name	Adjust Percent
Cash	100.0000
Commercial Real Estate	80.0000
Equity	70.0000
FixDeposit	100.0000
Fixed Income	60.0000
Government	90.0000
Industrial Real Estate	80.0000
Others	50.0000
Residential Real Estate	80.0000
Vehicles	20.0000

Or you can manage collateral types from FintechOS Portal's **Core Banking Operational** > **Collateral Type menu**.

2. On the **Collateral Type List** page, you can add new allocation methods or search, edit, and delete existing ones.

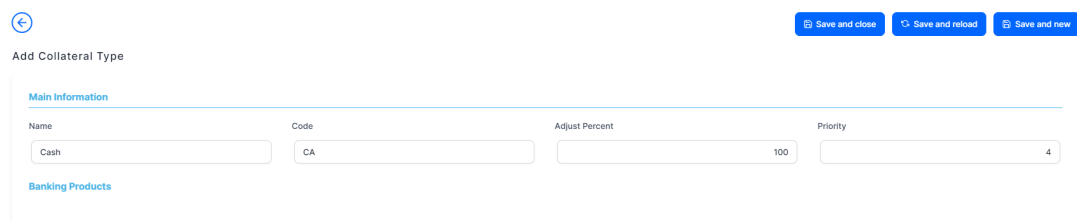
NOTE

You can insert, update, or delete records if you have the associated role of [Banking Product Admin](#).

Creating Collateral Types

Follow these steps to create new collateral type records:

1. Click the **Insert** button on the **Collateral Type List** page, and the **Add Collateral Type** page is displayed.
2. Fill in the following fields:



Add Collateral Type

Main Information

Name	Code	Adjust Percent	Priority
Cash	CA	100	4

Banking Products

- **Name:** Enter the name of the collateral type.
- **Code:** Enter the code of the collateral type.
- **Adjust Percent:** Enter the adjusted value of the collateral type.

NOTE

When a collateral type is defined, you can set an adjustment percent. The adjustment percent is a customization applied for that collateral. Further, when a collateral is linked to a secured loan contract, its market value is automatically adjusted by Core Banking using the adjustment percent.

- **Priority:** Enter the priority of the collateral type to be considered within a contract.

3. Click the **Save and Reload** button.

In the newly displayed **Banking Products** section, you can see the banking products that have this collateral type associated.

Commission Schema

Commission schema records are used to categorize commission types. For example, there is an administration fee commission schema, a payment holiday commission schema, and so on.

To manage commission schemas:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Commission Schema**, and the **Commission Schema List** page opens.

Commission List list

Name
30days list
Analysis & Monthly Fees
AutomaticLoadCommList
BLTD
BloomDaily
BNPLFEE
BPACCommList
BUTest
BUTest2
BY_LIST

2. On the **Commission Schema List** page, you can add new commission schema or search, edit, and delete existing ones.

NOTE

You can insert, update, or delete allocation method records if you have the associated role of [Banking Product Admin](#).

Creating Commission Schemas

Follow these steps to create new commission schema records:

1. Click the **Insert** button on the **Commission Schema List** page, and the **Add Commission Schema** page opens.
2. Enter a **name** for the commission schema.

Add Commission List

Main Information

Name

Management Fee

Commissions in List

List is Attached to Products

3. Click the **Save and Reload** button. The new commission schema is created and ready to be used.

Commission Type

Commission types are used to categorize [commissions](#) according to their intended usage. For example, there are administration fee type commissions, front-end fee type commissions, payment holiday fee type commissions, return fee type commissions, and so on.

To view commission types:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Commission Type**, and the **Commission Types List** page opens.

Commission Types list

Name	Periodicity Type
Administration Fee	Monthly
Front-end Fee	Once
Management Fee	Monthly
Payment Holiday Fee	Once
Repayment Fee	Once
Return Fee	Once
Unusage Fee	
Usage Fee	
Versioning Fee	Once

2. On the **Commission Types List** page, as a [Banking Product Admin](#), you can only view the predefined commission types used by Banking Product Factory.
3. Double-click a record to view its details on the newly opened **Edit Commission Type** page.

←
Save and close
Save and reload

Edit Commission Type

Main Information

Commission Schema Management Fee	Name Administration Fee	Periodicity Type Monthly	Operation Item Loan Admin Fee
Mandatory For Applicant <input checked="" type="checkbox"/>	Automatic Load On Contract <input checked="" type="checkbox"/>	Is For Contract Version <input type="checkbox"/>	Is For Unusage <input type="checkbox"/>
		Is Returnable <input checked="" type="checkbox"/>	Is Return <input type="checkbox"/>

4. View the following information about the selected commission type:
 - **Commission Schema** - the [commission schema](#) on which this commission type is based on.

- **Name** - the name of the commission type.
- **Periodicity Type** - the periodicity type applicable to commissions of this type.
- **Operation Item** - the operation item for which commissions of this type are applicable.
- **Mandatory For Applicant** - if selected, the commissions of this type are mandatory to be paid by the applicant customer.
- **Automatic Load On Contract** - if selected, the commissions of this type are automatically loaded on contracts.
- **Is For Contract Version** - if selected, the commissions of this type are applicable when creating new contract versions.
- **Is For Unusage** - if selected, the commissions of this type are applied to the unused amount of contracts.
- **Is Returnable** - if selected, the commissions of this type are can be returned.
- **Is Return** - if selected, the commissions of this type are applied for Return Amount or Goods transactions on contracts.

NOTE

The commissions created based on a specific commission type inherit the values defined at the commission type level. However, the periodicity of the commission is editable, even if its value is Once at the commission type level.

Predefined Commission Types

The following commission types are predefined for usage by the Banking Product Factory and Core Banking processes:

- **Front-End Fee** - commissions of this type are applied as front-end fees and must be paid once by the customer, when the contract is created.

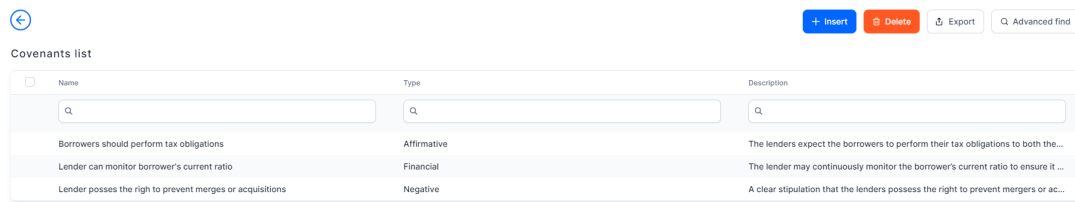
- **Administration Fee** - commissions of this type are applied as administration fees, applicable with frequency as defined and included on repayment schedule, during the life-cycle of a contract.
- **Management Fee** - commissions of this type are applied as management fees, applicable with frequency as defined and included on repayment schedule during the life-cycle of a contract.
- **Return Fee** - commissions of this type are applied as return fees, applicable once for each Return Amount or Goods transaction on contracts as some form of penalty for closing the contract early. This is useful for returning amounts when goods are returned in case of BNPL and part or all of the front-end fee needs to be returned to the customer, since the return is done within agreed terms and conditions.
- **Repayment Fee** - commissions of this type are applied as repayment fees, applicable once for each early repayment transactions on contracts.
- **Versioning Fee** - commissions of this type are applied as versioning fees, applicable once when creating a new version of an approved contract.
- **Payment Holiday Fee** - commissions of this type are applied as payment holiday transactional fees, applicable once for each Payment Holiday transaction on contracts as some form of penalty for taking a break from repaying the due installments of a contract.
- **Unusage Fee** - commissions of this type are applied as unusage fees, applicable for the remaining unused amount within a contract.
- **Usage Fee** - commissions of this type are applied as usage fees, applicable for the already used amount within a contract.

Covenant

Covenants are conventions that applicants must abide by after getting the loan. This is usually applicable for corporate clients that must meet certain requirements in order to continue to receive disbursements. The **Covenant** dictionary is used to manage the covenant records further used in Banking Product Factory and in Core Banking.

To manage covenant records:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Covenant**, and the **Covenants List** page opens.



← + Insert - Delete Export Q Advanced find

Covenants list

Name	Type	Description
Borrowers should perform tax obligations	Affirmative	The lenders expect the borrowers to perform their tax obligations to both the...
Lender can monitor borrower's current ratio	Financial	The lender may continuously monitor the borrower's current ratio to ensure it ...
Lender possesses the right to prevent mergers or acquisitions	Negative	A clear stipulation that the lenders possess the right to prevent mergers or ac...

2. On the **Covenants List** page, you can add new covenant record or search, edit, and delete existing ones.

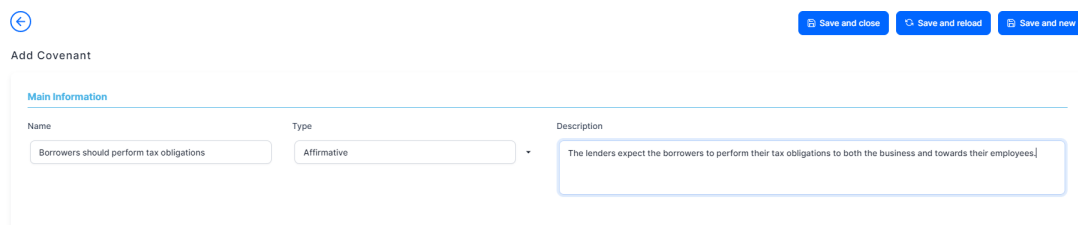
NOTE

You can insert, update, or delete records if you have the associated role of [Banking Product Admin](#).

Creating Covenants

If you want to create other records than the predefined covenant records that come out-of-the-box with the Banking Product Factory package, follow these steps:

1. Click the **Insert** button on the **Covenants List** page. The **Add Covenant** page is displayed.
2. Fill in the following fields:



← Save and close Save and reload Save and new

Add Covenant

Main Information

Name	Type	Description
Borrowers should perform tax obligations	Affirmative	The lenders expect the borrowers to perform their tax obligations to both the business and towards their employees.

- **Name:** Enter the name of the covenant.
- **Type:** Select the type of the covenant from the drop-down. Possible values: Affirmative, Negative, and Financial.
- **Description:** Enter the description of the covenant.

3. Click the **Save and Reload** button. The new covenant is created and ready to be used.

Formula

You can use complex formulas built with [Formula Engine](#) to calculate different elements of banking products, such as commissions, or to determine the eligibility of a customer. To use formulas in conjunction with a banking product, creating banking product formula records and then associate them with the desired product. You can do so either from the product level, within the **Product Formula Engine** tab, or from the **Formula** dedicated menu.

Follow these steps to manage banking product formulas using the dedicated menu available in Banking Product Factory:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Formula**, and the **Banking Product Formulas list** page opens.

Banking Product Formulas list

Name	Formula Type	Formula
BPRiskFormula	BPRiskFormulaType	test
CA	CommissionFormula	commissionByAmount
CA	CommissionFormula	commissionByAmount
ClawbackCommissionEventValueLoanAmount	Agreements	ClawbackCommissionEventValueLoanAmount
ClawbackCommissionEventValueLoanAmount	Agreements	ClawbackCommissionEventValueLoanAmount

2. On the **Banking Product Formulas list** page, you can add new banking product formula records or search, edit, and delete existing ones.

NOTE

You can insert, update, or delete banking product formula records if you have the associated role of [Banking Product Admin](#).

Creating Banking Product Formulas

To create a new banking product formula, follow these steps:

1. Click **Insert** on the **Banking Product Formulas list** page to open the **Add Banking Product Formula** page.
2. Fill in the following fields:

← Save and close Save and reload

Edit Banking Product Formula

Main Information

Name	Banking Product	Formula Type	Formula
ReturnCommissionFormula	Term Loan Euro - Return Fee	CommissionFormula	ReturnCommissionFormula

Data Mapping

CommissionFormula_ReturnCommissionFormula_3647622732903_formula

Map Data

- **Name:** Enter an appropriate name.
- **Formula Type:** Select the type of formula configured before, e.g. scoring /eligibility.
- **Formula:** Select the previously configured formula.

The example below represents the ReturnCommissionFormula, used for calculating the commission for a return of amount or goods transaction:

CURRENT STATUS
ACTIVE

Save and reload **Business Transactions**

1 Details **2 History** **3 Form Tracking**

Formula

Name ReturnCommissionFormula

Formula Input CommissionReturn

Start date 31/08/2022 22:51

End date

Version 13

Is Audited

Formula Steps

+ Insert **X Delete** **Export** **Refresh**

<input type="checkbox"/> Name	Exclude From Mapping	Master Type	SubType	CalculationType	Execution Order
IsForReturnCommissionSum	<input type="checkbox"/>	Simple Type	Decimal	Normal	1
VerifyLoanAmount	<input type="checkbox"/>	Simple Type	Boolean	Normal	2
VerifyContractEventStatusAndTransacti...	<input type="checkbox"/>	Simple Type	Boolean	Normal	3
ReturnAmountValue	<input type="checkbox"/>	Simple Type	Decimal	Normal	4
FinalResult	<input type="checkbox"/>	Simple Type	Decimal	Normal	5

Formula Tests

+ Insert **X Delete** **Export** **Refresh**

Name **Execution Successful**

(All)

IMPORTANT! The formula must be activated before attaching it to a product.

- **Data Mapping:** Select the previously configured data mapping.

The name of the banking product is inserted automatically in **Banking Product**.

3. After selecting the desired formula, click **Save and reload**, then click the **Map Data** button.

The example below represents the mapping for a demo formula for the calculation of return commissions:

Formula parameter mapping

Data Mapping Type: Banking Product

Master Entity: FTOS_CB_Contract

Operation Name: ReturnCommissionFormula

Name: CommissionFormula_ReturnCommissionFormula_1647622732903_formula

Buttons: Save and close, Save and reload

- In the **Formula Mapping** page, click **Input** and configure the input data for the formula. For information on how to build a formula, see [Define Formula Inputs](#).

The example below represents the input data of the mapping for a demo formula for the calculation of return commissions:

FTOS_CB_Contract - Input

- CommissionList: FTOS_CB_ContractFee_contractId_FTOS_CB_Contract
- value: Value Fee from FTOS_CB_ContractFee
- currency: Currency from FTOS_CB_ContractFee
- isReturnable: Is Returnable from FTOS_CB_ContractFee
- LoanAmount: Amount from FTOS_CB_Contract
- ReturnAmount: FTOS_CB_ContractEvent_contractId_FTOS_CB_Contract
- contractEventStatusId: Business Status from FTOS_CB_ContractEvent
- returnAmount: Repayment Principal Amount from FTOS_CB_ContractEvent
- processTypeId: Process Type from FTOS_CB_ContractEvent

- Click **Output** and configure the output for the formula.

The example below represents the output data of the mapping for a demo formula for the calculation of return commissions. As the result is used within a job and not saved in the master entity's fields, there is no mapping defined:

FTOS_CB_Contract - Output

- IsForReturnCommissionSum: click to map
- VerifyLoanAmount: click to map
- VerifyContractEventStatusAndTransactionType: click to map
- ReturnAmountValue: click to map
- FinalResult: click to map

- Click the **Save and Close** button.

Loan Periodicity

Loan periodicity is the dictionary used to define the regularity of payments. For example, payments related to loan contracts, commissions, or installments can be performed once, daily, monthly, yearly, and so on.

To manage loan periodicity records:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Loan Periodicity**, and the **Loan Periodicity** page opens.

The screenshot shows the 'Loan Periodicity' page. At the top, there are buttons for '+ Insert' (blue), 'Delete' (orange), 'Export' (grey), and 'Advanced find' (grey). Below these is a table with three columns: 'Name', 'Periodicity', and 'Measurement Unit'. The table contains 11 rows of data. At the bottom of the table, there are pagination controls showing '5', '10', and '20' with a dropdown arrow, and a status bar showing '1' and '2'.

Name	Periodicity	Measurement Unit
Once	0	Once
1DAY	1	Days
Weekly	1	Weeks
Monthly	1	Months
Bimonthly	2	Weeks
Trimestrial	3	Months
4 Weeks	4	Weeks
Semestrial	6	Months
Annual	12	Months
15Days	15	Days

2. On the **Loan Periodicity** page, you can add new loan periodicity record or search, edit, and delete existing ones.

NOTE

You can insert, update, or delete records if you have the associated role of [Banking Product Admin](#).

Creating Loan Periodicity Records

Follow these steps to create new loan periodicity records:

1. Click the **Insert** button on the **Loan Periodicity** page. The **Add Loan Periodicity** page is displayed.
2. Fill in the following fields from the **Loan Periodicity** section:

← Add Loan Periodicity

Save and close Save and reload Save and new

Main Information

Name	Periodicity	Measurement Unit
Trimestrial	3	Months

- **Name:** Enter the name of the periodicity.
 - **Periodicity:** Enter the number of measurement units for the periodicity.
 - **Measurement Unit:** Select the measurement unit applicable for the periodicity from the drop-down. Possible values: Days, Weeks, Months, Years, and Once.
3. Click the **Save and Reload** button. The new loan periodicity is created and ready to be used.

Operation Item

Operation items are those items that relate to a bank's core business, such as all types of fees, commissions, principals, interests, advances or penalty calculations. You can also consider them as balance types that add up to a certain deal or used in tracing what happened on a particular deal. For instance, on the first day of using a new loan, there is only the Loan Principal (LP) on that deal, or it can also have an Advance (ADV) in some particular cases or even a Frond-End Fee (FEF). As the deal progresses, depending on the definition and costs, as well as on repayments, the loan principal can become Paid Principal (PP) or Overdue Principal (OVP) if due amounts are not paid.

Banking Product Factory enables you to define the desired operation items by managing the records in the **Operation Item** menu. To manage operation item records:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Operation Item**, and the **Operation Item** page opens.

Insert

Delete

Export

Advanced find

Code	Name	Include In Penalty Calculation
RPF	Repayment Fee	<input type="checkbox"/>
LP	Loan Principal	<input checked="" type="checkbox"/>
LLI	Life Insurance	<input type="checkbox"/>
LAF	Loan Admin Fee	<input type="checkbox"/>
LI	Loan Interest	<input checked="" type="checkbox"/>
FEF	Front-end Fee	<input checked="" type="checkbox"/>
MGT	Management Fee	<input type="checkbox"/>
OVP	Overdue Principal	<input type="checkbox"/>
<input checked="" type="checkbox"/> OVI	Overdue Interest	<input type="checkbox"/>
PI	Paid Interest	<input type="checkbox"/>

5

10

20

1

2

2. On the **Operation Item** page, you can add new operation item record or search, edit, and delete existing ones.

NOTE

You can insert, update, or delete records if you have the associated role of [Banking Product Admin](#).

Creating Operation Item Records

Follow these steps to create new operation item records:

1. In the FintechOS Portal, click the **Insert** button on the **Operation Item** page. The **Add Operation Item** page is displayed.
2. Fill in the following fields:

Save and close

Save and reload

Save and new

Add Operation Item

Main Information

Code

LP

Name

Loan Principal

Include In Penalty Calculation

☐

- **Code:** Enter the unique code of the operation item.
- **Name:** Enter the name of the operation item.

- **Include In Penalty Calculation:** Select the checkbox to mark this new item as an operation item used for penalty calculation.

NOTE

If a banking product has in its attached interests list an interest with **Is General = True**, then at the contract level the penalty percent is applied to all operation items that are overdue and are marked with **Include In Penalty Calculation = True**. Read more information about interests and how to define them on the [Interests](#) page within the [Banking Product User Guide](#).

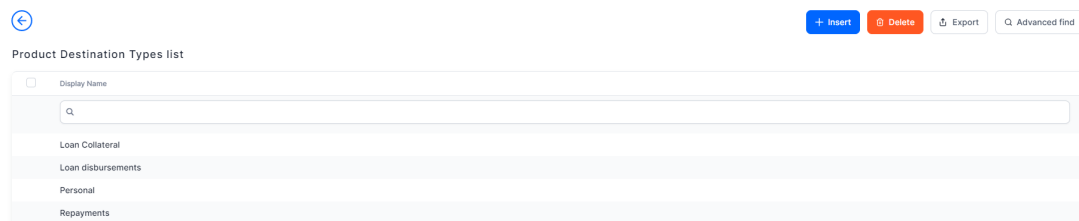
- **Penalty Item (for Repayment Notification):** This field is displayed and mandatory only if **Include In Penalty Calculation = True**. Select from the list an existing operation item in whose penalty calculation this new item must participate.
3. Click the **Save and Close** button.

Product Destination Type

The **Product Destination Type** dictionary is used to define the destination types that help differentiate banking products.

To manage product destination type records:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Product Destination Type**, and the **Product Destination Types List** page opens.



Product Destination Types list

Display Name
Loan Collateral
Loan disbursements
Personal
Repayments

2. On the **Product Destination Types List** page, you can add new allocation methods or search, edit, and delete existing ones.

NOTE

You can insert, update, or delete records if you have the associated role of [Banking Product Admin](#).

Creating Product Destination Types

Follow these steps to create new product destination type records:

1. Click the **Insert** button on the **Product Destination Types List** page. The **Add Product Destination Type** page is displayed.
2. Fill in the following fields:

← Save and close Save and reload Save and new

Add Product Destination Type

Main Information

Name	Display Name	Is Default
Personal Loan	Personal Loan	<input checked="" type="checkbox"/>

- **Name:** Enter the name of the product destination type.
 - **Display Name:** Enter the display name of the product destination type.
 - **Is Default:** If selected, this is the default product destination type.
3. Click the **Save and Reload** button. The new product destination type is created and ready to be used.

Product Factory System Parameters

The system parameters used by Banking Product Factory determine the behavior of all banking products, and also configures a few features used by Core Banking, when Core Banking is implemented along with Banking Product Factory.

NOTE

Do not confuse the Banking Product Factory system parameters with the FintechOS system parameters, stored in the `systemparameter` and `systemParameterOnPortalProfile` entities!

Predefined Banking Product Factory System Parameters

Here's the list of system parameters used by Banking Product Factory, along with their description:

DefaultCurrencyBankingProduct

It represents the default currency automatically filled in when creating a banking product. You can change the value at the banking product level, or you can change the default value from this parameter according to your financial institution's needs.

Module that uses the system parameter: Banking Product

Parameter type: Lookup. To entity: FTOS_CMB_Currency

Default value: EUR

ManualPenaltyInterestList

The parameter holds the penalty interest list used for penalty calculation for manual repayment notifications that are not linked to a contract in Core Banking.

Module that uses the system parameter: Banking Product

Parameter type: Lookup. To entity: InterestList

Default value: ManualPenaltyInterestList

ReconciliationAccountTreatment

Specifies how Core Banking treats situations when the funds of the reconciliation account associated with the banking product used in the contract would go below zero if a disbursement event would be approved.

- For `NoMessage` value, there is no error or warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- For `Warning` value, there is a warning message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can be approved and the balance can go below zero.
- For `Error` value, there is an error message displayed if the disbursement event that is being approved would result in a negative balance of the associated reconciliation account. The event can't be approved and the balance can't go below zero.

This is a system-wide setting, applicable to events for contracts based on all banking products without a specified `Negative balance treatment` value. Core Banking also takes into consideration the settings used at the banking product level (the `Negative balance treatment` field's value next to `Reconciliation Account`). Thus, if the value is specified at the banking product level, then that value takes precedence over the system parameter's setting.

Module that uses the system parameter: Banking Product

Parameter type: Option Set. Values from option set:
`WarningErrorTreatment`

Default value: `Warning`.

ThirdPartyRole

It contains the list of allowed roles to choose from in the third-party agreement form.

Module that uses the system parameter: Banking Product

Parameter type: Text

Default value: Merchant, Insurer, Broker, Agent

YearsForBankingProductAvailability

It specifies the default availability in years of a banking product. This is automatically filled in when creating a banking product. You can change the value at the banking product level, or you can change the default value from this parameter according to your financial institution's needs.

Module that uses the system parameter: Banking Product

Parameter type: Whole Number

Default value: 5

Managing Banking Product Factory System Parameters

To manage the system parameters used by your FintechOS Banking Product Factory installation, follow these steps:

1. In FintechOS Portal, click the main menu icon and expand the **Product Factory** menu.
2. Under **Banking Product Dictionaries**, click **Product Factory System Parameter** menu item to open the **Product Factory System Parameter** page.

+ Insert

Delete

Export

Advanced find

Product Factory System Parameter

Name	Is System	Parameter Value	General Description
DefaultCurrencyBankingProduct	<input type="checkbox"/>	8cd87c03-a97a-40ed-a31f-7adcd5ed7764	Specifies the default currency for banking product
ManualPenaltyInterestList	<input checked="" type="checkbox"/>	88769dec-b1fd-40a3-908f-efc9ae1b655d	The parameter holds the penalty interest list used for pe...
ReconciliationAccountTreatment	<input checked="" type="checkbox"/>	db744fbc-2c91-4d44-8f50-a73e8a67af14	
ThirdPartyRole	<input checked="" type="checkbox"/>	Merchant,Insurer,Broker,Agent	List of allowed roles to choose from in the agreement fo...
YearsForBankingProductAvailability	<input type="checkbox"/>	5	Specifies the valability from current date for a Banking P...

On the **Product Factory System Parameter** page, you can add new system parameters or search, edit, and delete existing ones.

NOTE
You can insert, update, or delete records if you have the associated role of [Banking Product Admin](#).

IMPORTANT!
You can't delete parameters marked as **Is System** or edit anything else except their value.

Creating Product Factory System Parameters

Follow these steps to create new system parameters to be used with Banking Product Factory:

1.

Click **Insert** button on the **Product Factory System Parameter** page to display the **System Parameter** page.
2.

Fill in the following fields:

Save and close

Save and reload

Save and new

System Parameter

Core Banking System Parameter

Name

NewTestParameter

Is System

☐

Module

Banking Product

Parameter Type

Text

Parameter Value

test

General Description

This is a test parameter

- **Name** - Enter a suggestive name for the parameter.
 - **Is System** - Select the checkbox to specify that the parameter can't be deleted or edited, except its value. Leave the checkbox empty if this parameter can be changed or deleted.
 - **Module** - Select the module that uses the system parameter. Use Banking Product for parameters impacting Banking Product Factory.
 - **General Description** - Enter a detailed description for the system parameter.
 - **Parameter Type** - Select the data type of the parameter. Possible values: Text, Date, Date Time, Invariant Date, Whole Number, Numeric, Option Set and Entity.
3. Fill in the rest of the fields, depending on the selected data type:
- **Entity** - For Lookup parameter type, select the entity from where you need to pick a record as parameter value.
 - **Option Set** - For Option Set parameter type, select the option set from where you need to pick a value as parameter value.
 - **Parameter Value** - Enter the value of the default parameter. Depending on the selected parameter type, you can either enter a value, select the checkbox or select record:
 - For Text, Date, Date Time, Invariant Date, Whole Number, Numeric parameter types, enter the desired value taking in consideration the data type's format.
 - For Boolean parameter types, select the checkbox to specify a True value, or deselect for a False value.
 - For Lookup parameter type, select the desired record from the previously selected entity that acts as parameter value.
 - For Option Set parameter types, select the desired value from the previously selected option set that acts as parameter value.
4. Click the **Save and Reload** button.

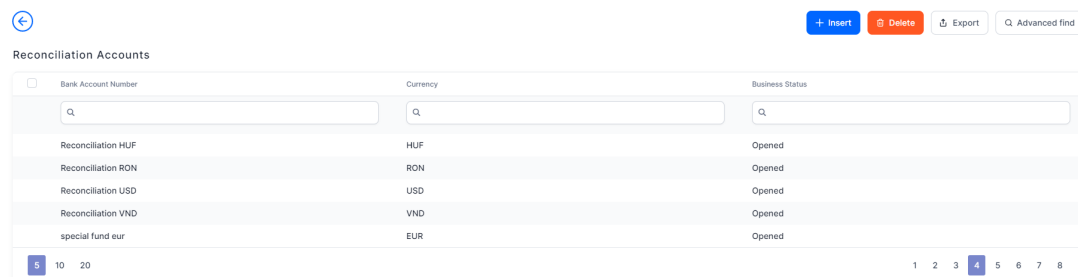
Reconciliation Accounts

Reconciliation is an accounting process that compares two sets of records to check that figures are correct and in agreement. Reconciliation also confirms that accounts in the general ledger are consistent, accurate, and complete. Core Banking uses reconciliation accounts in its accounting processes, while Banking Product Factory uses such accounts in the product definition itself, as tools for monitoring the activity for a specific product or groups of products. Reconciliation accounts are also known as self-bank accounts or internal bank accounts. When creating a banking product, you must choose such a reconciliation account within the **Associated Transactions** tab of the banking product. These accounts are later used by the contracts based on those banking products when performing debit or credit transactions.

Banking Product Factory enables you to manage the reconciliation accounts used within your bank in the **Reconciliation Accounts** menu.

To manage reconciliation accounts:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Reconciliation Accounts**, and the **Reconciliation Accounts** page opens.



Bank Account Number	Currency	Business Status
Reconciliation HUF	HUF	Opened
Reconciliation RON	RON	Opened
Reconciliation USD	USD	Opened
Reconciliation VND	VND	Opened
special fund eur	EUR	Opened

2. On the **Reconciliation Accounts** page, you can: create a new reconciliation account, edit an account from the list by double-clicking it, search for a specific record by filling in any or all of the column headers of the displayed records list, view the debit and credit operations performed through each reconciliation account by double-clicking the desired account and observing the **Debit Operations** and **Credit Operations** sections, or delete an account.

← CURRENT STATUS: OPENED Save and reload Business Transactions

Edit Bank Account

Main Information

Bank	Internal Bank Account	Currency	Bank Account Number	Initial Balance
FintechOS Bank	<input checked="" type="checkbox"/>	EUR	Reconciliation EUR test	999,999,999.99

Debit Operations

Export Refresh

Value date	Operation date	Currency	Amount	Detail text
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

No data

Credit Operations

Export Refresh

Value date	Operation date	Currency	Amount	Detail text
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

No data

NOTE

You can insert, update, or delete records if you have the associated role of [Banking Product Admin](#).

Creating Reconciliation Accounts

Follow these steps to create reconciliation accounts:

1. Click the **Insert** button on the **Reconciliation Accounts** page. The **Add Bank Account** page is displayed.
2. Fill in the following fields:

← Save and close Save and reload Save and new

Self Bank Account

Add Bank Account

Main Information

Bank	Internal Bank Account	Currency	Bank Account Number	Initial Balance
FintechOS Bank	<input checked="" type="checkbox"/>	HUF	Reconciliation HUF	999,999,999.99

Debit Operations

Credit Operations

- **Bank:** Banking Product Factory automatically completes this field with the bank marked as **Main Bank** in the system.
 - **Internal Bank Account:** This checkbox specifies that the account is an internal bank account, used for reconciliation. Automatically checked as **True**. You can't change this value.
 - **Currency:** Select from the list the currency of the reconciliation account.
 - **Bank Account Number:** Enter the bank account number for the reconciliation account.
 - **Initial Balance:** This field represents the reconciliation account's initial amount. It is automatically completed with the value of 999,999,999.00. You can edit the value.
The initial balance is needed especially for those accounts that are used for debit purposes, representing the source for some transactions.
3. Click the **Save and Reload** button. The reconciliation account is saved and its status becomes **Opened**, ready to be used.

The **Debit Operations** and **Credit Operations** sections are now displayed, still empty. New lines show up in these two sections when transactions are performed for contracts based on banking products that use this reconciliation account. The following information is displayed about each transaction:

- **Value date:** The date when the transaction was requested in the system.
- **Operation date:** The date when the transaction was operated by the system.
- **Currency:** The currency of the transaction.
- **Amount:** The amount of the transaction.
- **Detail text:** The text representing information about the transaction, such as event type, repayment notification number, due date, and so on.

Transaction Type

Any transfer of funds between two bank accounts is recorded as a transaction. There are different types of transactions used in the financial world.

The transaction types are associated with banking products within the **Associated Transactions** tab during [product definition](#), either automatically or manually. The **Transaction Type** menu holds the accounting model and the item configuration. It is used for inserting the financial data transactions.

For using transaction types in conjunction with Core Banking, see [Transaction Types Used in Core Banking](#).

NOTE

You can insert, update, or delete records if you have the associated role of [Banking Product Admin](#).

To manage transaction types, follow these steps:

1. In the main menu, click **Product Factory > Banking Product Dictionaries > Transaction Type**, and the **Transaction Types List** page opens.

Transaction Types list

Name
Accruals and Provisions
Agreement
Deposit Liquidation
Disbursement
Early Repayment
Early Termination Deposit
Interest Capitalization
LoanContract
Overdraft Payment
Payment Deposit

5 10 20 1 2

2. On the **Transaction Types List** page, you can add a new transaction type record or search, edit, and delete existing ones.

Creating Transaction Types

1. To create a new transaction type, click the **Insert** button on the **Transaction Types List** page.

Transaction Configuration

Add Transaction Type

Settings

Name: Disbursement

Transaction Code: DSB

Process Type: Disbursement

Edit Form: FTOS_CB_EventDisbursement

Transaction Operation Type: Disbursement

Is System Transaction: ☐

Is Automatic Transaction: ☐

Real Time Process: ☐

Only One Draft: ☒

Generate New Contract Version: ☐

Commission Type:

Return Commission Type:

Accounting Configurations

Generates Accounting Entry: ☒

OL Master Entity: FTOS_CB_ContractEvent

Purge Configurations

To Be Purged: ☒

Purge Number of Days: 30

Master Purge Entity: FTOS_CB_ContractEvent

Transaction Value Types

Transaction Accounting Models

2. In the **Add Transaction Type > Settings** section, fill in the following fields:

- **Name:** Enter the name of the transaction type.
- **Transaction Code:** Enter the code of the transaction type.
- **Process Type:** This field associates the process type with the transaction operation type, which makes the connection with the transaction motor of bank accounts. Select one of the processes defined within the system.

NOTE

There is no integration at this point with a payment gateway.

- **Edit Form:** The form used to edit this transaction type. The lookup only shows forms defined on the Contract Event entity.
- **Transaction Operation Type:** The transaction operation type makes the connection with the transaction motor of bank accounts. Select one of the transaction operation types defined within the system.
- **Is System Transaction:** This checkbox marks the transaction as being neither a credit of the account, nor an allocation of funds, but a transaction that does not influence other transactions within the account. System transactions are meant to be used only for accounting. It is used when there's a need for a transaction for the sole purpose of generating accounting entries (accruals, provisions).

- **Is Automatic Transaction:** This checkbox marks the transaction as automatic. If selected here, then you cannot select it within the contract operations.

IMPORTANT!

If a transaction type is marked as an automatic transaction (Is Automatic Transaction = True), then that transaction type cannot be selected in the **Events** page when closing contract events.

- **Real Time Process:** This checkbox marks the transaction as being processed in real-time. If you select the checkbox, then the transaction is processed right away. If you don't select it, then the transaction is inserted as a [bank account transaction queue](#) record.
 - **Only One Draft:** If you select this checkbox, there can be only one record of this transaction type in Draft status created at the contract level.
 - **Generate New Contract Version:** This checkbox allows you to specify if a new contract version should be generated by this transaction type.
 - **Commission Type:** Select the commission type applicable for this transaction type. Return fee commissions are filtered out and can't be selected.
 - **Return Commission Type:** The return fee commission type applicable for this transaction type. Only return fee commissions can be selected.
 - **Is Clawback Transaction:** If selected, this checkbox marks the transaction as generating a clawback commission. The transaction type is to be used in third-party management invoicing activities. Default value: False.
3. In the **Add Transaction Type > Accounting Configurations** section, fill in the following fields:
- **Generates Accounting Entry:** Select this checkbox to create an entry in the Operational Ledger. It generates records in the Accounting Entry entity.
 - **OL Master Entity:** Select the entity referenced by the accounting systems.

4. In the **Add Transaction Type > Purge Configurations** section, fill in the following fields:
 - **To Be Purged:** This checkbox marks the transaction as purgeable. If selected, it allows you to purge or archive records in Draft status.
 - **Purge Number of Days:** Enter the default number of calendar days that a record can be kept in Draft status before it is purged. For additional information, see the [Core Banking System Parameters](#) page. This field is displayed only when To Be Purged = True.
 - **Master Purge Entity:** Select the master purge entity under which the draft records are. This field is displayed only when To Be Purged = True.
5. Click the **Save and reload** button.

IMPORTANT!

If a transaction type is marked to automatically generate accounting entries (Generates Accounting Entry = True), then the following sections are displayed: **Transaction Value Type**, **Transaction Item Accounting Configuration**, and **Transaction Accounting Models**.

Transaction Value Type

Transaction value types are defined as header items or detail items. Header items are the general details of a transaction (for example date, customer, currency, and so on). The detail items are grouped into numeric or text information.

In this section, you can create and determine the values calculated for each transaction. The additional data from here is used in the **Transaction Accounting Models** section.

1. To add a new transaction value type, click the **Insert** button under the **Transaction Value Type** section. The **Add Transaction Value Type** page opens.
2. Fill in the following fields:

- **Value Type Name:** Enter the name of the value type.
- **Transaction Type:** Select the transaction value type.
- **Type:** Select the type of the transaction. The following options are available: Numeric or Text.
- **Value Type Attribute:** Select the value of a specific attribute from the source entity. It is a list of all the attributes **defined** in the **SourceEntityId** field from the FTOS_GL_TransactionType entity.
- **Is Header:** When selected, it defines the header items of the transaction.
- **Formula:** Supports only basic math operations: addition (+), subtraction (-), multiplication (*), and division (/). Input a specific formula based on the Value Type Attribute chosen.

3. Click the **Save and close** button.

When a transaction value type is marked as a header item, (Is Header = True), the transaction values are set into the attribute values of the Operation Transaction entity. If the **Value Type Name** field is not an attribute of that entity, then an error is displayed.

A JSON file with default values is sent when using the function for setting the operation transaction values. The JSON file has the following form:

```
[
  {
    attributeName: 'DescriptionText',
    value: 'Disburse 1500'
  },
  {
```

```

    attributeName: 'ProvisionAmount',
    value: '15.00'
  }
]

```

The JSON file checks if there is any default value for the **attributeName**, from the **Value Type Name field**. If no values are returned, the **Formula** field is checked. When neither field returned any values, the source entity of the attribute from the **Value Type Attribute** field is checked.

Transaction Item Accounting Configuration

The **Transaction Item Accounting Configuration** section holds the configuration of each transaction. It helps define an account from the Accounting Chart.

This section holds the configuration for an item with the respective chart account. It represents the listing of the names of the accounts for the company inserted in the **Legal Entity** menu.

1. To add a new transaction item accounting configuration, click the **Insert** button under the **Transaction Item Accounting Configuration** section. The **Add Transaction Item Accounting Config** page opens.
2. Fill in the following fields:

← Save and close Save and reload Save and new

Add Transaction Item Accounting Config

Transaction Item Accounting Config

Accounting System: 0002 Accounting Scope: DocTest Chart Account: 10101 test

Operational Item: Repayment Fee Currency: EUR Take From Banking Product: ☒

- **Accounting System:** Select the accounting system.
- **Accounting Scope:** Select the accounting scope.
- **Chart Account:** Select the accounting chart.
- **Operational Item:** Select the item of operations.

- **Currency:** Select the currency of the accounting entry line.
 - **Take From Product:** If selected, then the configurations for each transaction are inherited from the banking product level.
3. Click the **Save and close** button.

Transaction Accounting Models

This section holds the accounting models, all the rules used in order to generate accounting entries for each transaction.

The details from the **Debit Account Rule** and the **Credit Account Rule** are defined by the information from the **Transaction Item Accounting Configuration** section. All other details are defined by the information from the **Transaction Value Type** section.

1. To add a new transaction accounting model, click the **Insert** button under the **Transaction Accounting Models** section. The **Add Transaction Accounting Model** page opens.
2. Fill in the following fields:

Save and close Save and reload Save and new

Add Transaction Accounting Model

Transaction Accounting Model

Transaction Type Disbursement Accounting System DocTest

Line Condition

Debit Account Rule Credit Account Rule

Debit Customer Rule SourcePartnerId Credit Customer Rule DestinationPartnerId

Accounting Entry Value Rule currencyRule CurrencyId

Item Rule ItemId DescriptionRule DescriptionText

EntityId Rule Transaction Id Rule

Transaction Detail Rule ContractId Transaction Value Type EventValue

- **Transaction Type:** The transaction type. It is auto-filled.
- **Accounting System:** The accounting system.

- **Line Condition:** Enter the condition applied in order to post the accounting entry line.
 - **Debit Account Rule:** Enter the accounting entry value of the debit account. It is auto-filled.
 - **Debit Customer Rule:** Enter the rule to save the partner transaction in the debit-credit relationship. It is auto-filled.
 - **Accounting Entry Value Rule:** Enter the posted accounting entry value.
 - **Item Rule:** The transaction item of the accounting entry line. It is auto-filled.
 - **EntityId Rule:** Enter the internal status of the record.
 - **Transaction Detail Rule:** Enter the rule to identify and post the ID of the operational transaction detail.
 - **Credit Account Rule:** Enter the credit account of the accounting entry line. It is auto-filled.
 - **Credit Customer Rule:** It is auto-filled by the destination partner ID.
 - **currencyRule:** The accounting entry line currency. It is auto-filled.
 - **DescriptionRule:** The description of the generated accounting entry. It is auto-filled.
 - **Transaction Id Rule:** Enter the related contract ID of the transaction.
 - **Transaction Value Type:** Select the value type of the transaction. It is defined in the **Transaction Value Type** section.
3. Click the **Save and close** button.

Using Banking Products in Customer Journeys

There are two methods available to use banking products in customer journeys, as follows:

Display Product Details Using an Endpoint

All the information regarding a banking product is stored in the Banking Products entity, therefore, all the fields of a previously configured banking product are available.

To use a previously created banking product in a form driven flow, you, as a consultant or a developer, have to create an endpoint with a script, while being logged in FintechOS Studio. Later, in the **Advanced** tab of a customer journey, call the endpoint and add the product to the journey. You can consult an example of the call for the FTOS_BP_GetBankingProductDetails endpoint.

NOTE

The Banking Product Factory endpoints are configured during the installation process. For more, details see the [Creating Endpoints](#) page in the FintechOS StudioUser Guide.

For information about the available endpoints, please consult the [Banking Product Factory Developer Guide](#).

The FTOS_BP_GetBankingProductDetails endpoint returns the product details in the Portal or your own integration.

Input:

- **bakingProductId** - from FTOS_BP_BankingProduct (attribute: FTOS_BP_BankingProductid)

Output:

Section with the following fields:

- **product.Name** - from FTOS_BP_BankingProduct (attribute: Name)
- **product.ProductImage** - from FTOS_BP_BankingProduct (attribute: productImage)
- **product.Benefits** - from FTOS_BP_BankingProduct (attribute: Benefits)
- **product.DisplayConditions** - from FTOS_BP_BankingProduct (attribute: displayConditions)
- **product.NoOfDebtor** - from FTOS_BP_BankingProduct (attribute: NoOfDebtor).

Call example:

Change the banking product id with your own banking product id.

```
ebs.callActionByNameAsync('FTOS_BP_GetBankingProductDetails',  
{ bankingProductId : "f625e5e5-bc51-4bf8-8ff0-b8a295694a23"})  
.then(function (res) {  
    res = res.UIResult;  
}).catch(function (err) {  
    console.log(err);  
})
```

Display Product Details Using UI Designer

Another method of using a previously created banking product in a form driven flow is to attach a script to a button to display banking product information in the Portal. For example, you can perform a loan simulation in a step of a loan, using the FTOS_BP_Simulate script, as described in these steps:

1. Create and link an entity to a [form driven flow](#). For our example, the entity should contain the following attributes:

Name	Display Name	Attribute Type
LoanNo	Loan Number	Text
monthlyInstallment	Monthly Installment	Numeric
tenor	Tenor	Whole number
loanAmount	Loan Amount	Numeric
interestRate	Interest Rate	Numeric
apr	APR	Numeric
bankingProductId	Banking Product ID	lookup to FTOS_BP_BankingProduct entity
totalAmountToBeRepaid	Total Amount To Be Repaid	Numeric

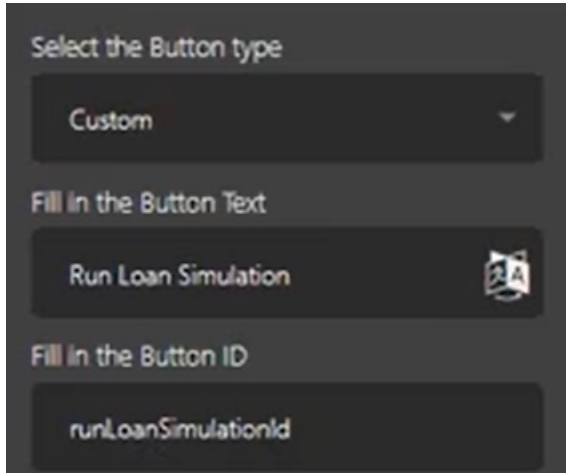
NOTE

If you are planning to use this method, make sure that you map the values from the banking product to your own entity, so that you are not affected by any versioning of the banking product record. The attributes you need to create in your entity must follow the same naming convention as in the provided JavaScript code sample below. Read detailed information about entities and attributes in the [FintechOS Studio user guide](#).

2. In the desired step of the form driven flow's **UI** tab, access the **UI Designer**.
3. Display the attributes needed for your business case, clicking **Apply Changes** after each attribute.

(loanNo attribute)	(bankingProductId attribute)	(loanAmount attribute)	(tenor attribute)
(loanNo)	(bankingProductId)	(loanAmount)	(tenor)
(monthlyInstallment attribute)	(interestRate attribute)	(apr attribute)	(totalAmountToBeRepaid attribute)
(monthlyInstallment)	(interestRate)	(apr)	(totalAmountToBeRepaid)

4. Add a button from the **Components** section. Click it and select **Custom** as Button Type. Add the label that shows on the button and set an ID for it. For the below example to work, the ID of the button should be `runLoanSimulationId`. Then, click **Apply Changes**.



5. In the **Advanced** tab of your step, in the **After Events** section, paste the code that you can find below. Click **Save and Close**.
6. Run the flow in the Portal, enter the values for your attributes, and click the button.

JavaScript Code (for the button)

```
/* Click event for the runLoanSimulationId button */

$('#runLoanSimulationId').on('click', function (event) {
  console.log("The button runLoanSimulation was clicked");

  let formData = ebs.getFormData();

  let bankingProductId = formData.model.bankingProductId;
  let loanAmount = formData.model.loanAmount;
  let tenor = formData.model.tenor;

  ebs.callActionByNameAsync("FTOS_BP_Simulate",
  {
    "amount":loanAmount,
```

```
"loanPeriod":tenor,

"bankingProductId":bankingProductId,

"scheduleType":"Equal Installment Monthly 365",

"interestTypeName":"Fixed"

})

.then(function (result) {

console.table (result);

var setDataObj = {};

setDataObj.monthlyInstallment = result.UIResult.Data.Records

[0].FirstInstallment;

setDataObj.interestRate = result.UIResult.Data.Records

[0].InterestPercent;

setDataObj.apr = result.UIResult.Data.Records[0].IRR;

setDataObj.totalAmountToBeRepaid = result.UIResult.Data.Records

[0].Total;

console.log(setDataObj);

formData.model.monthlyInstallment = setDataObj.monthlyInstallment;

formData.model.interestRate = setDataObj.interestRate;

formData.model.apr = setDataObj.apr;

formData.model.totalAmountToBeRepaid =

setDataObj.totalAmountToBeRepaid;

});

});
```