fintech **OS**

Banking Product Factory 3.3

User Guide

TOC

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.
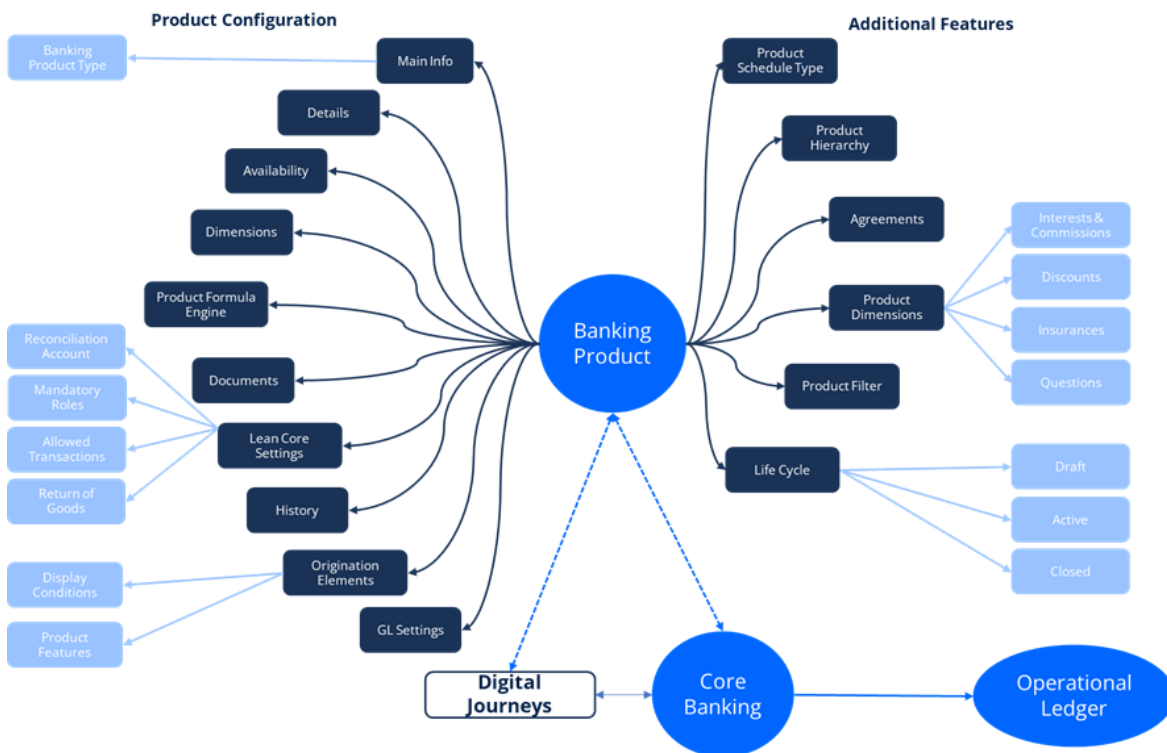
Additional features are available when **Banking Product Factory** is implemented along with Core Banking, for example, transactions that can be performed on a banking product, reconciliation account associated with the product, mandatory roles for contract approval, payment allocation settings, or closing 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 digital 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 digital journeys or you can edit existing digital journeys created in our accelerators such as Buy Now, Pay Later.
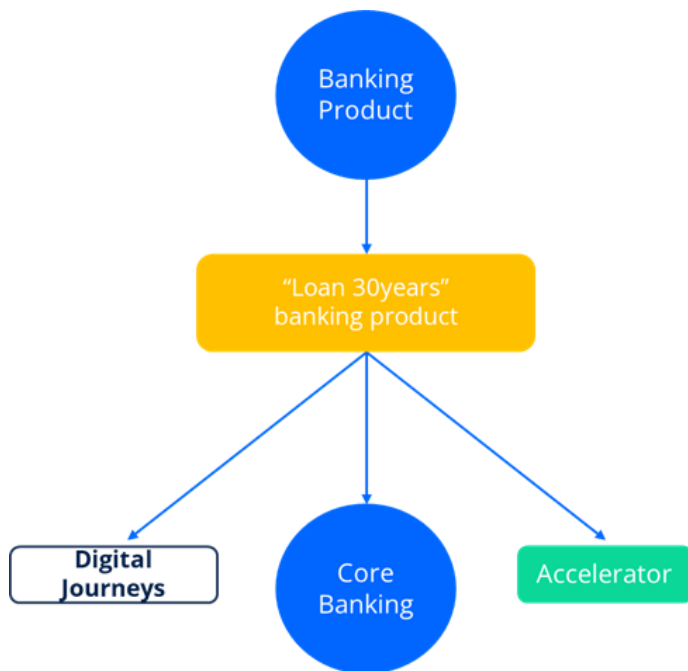
As your product portfolio evolves and you add new types of loans, modify some of the conditions for your products, or retire products, the options that show up (or no longer show up) in the loan application digital journey change automatically.

> **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 v3.3** into your Innovation Studio.

> **IMPORTANT!**
> You must run the script on the machine where Innovation Studio is installed. Make sure you have access rights to Studio's database.

Dependencies

In order to install **Banking Product Factory v3.3**, first you need to install the following:

- **Innovation Studio** minimum version **v22.1.1**

- **SySDigitalSolutionPackages v22.1.1000**

> **IMPORTANT!**
> If you are installing **Banking Product Factory v3.3** on top of anther version of Banking Product then you must previously run a **correction package**, named `BPFixInit.zip`. Find this package in the same **Banking Product Factory v3.3** 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 v3.3 is imported.

2. Use the new **Configuration Data Definitions** imported with the Banking Product Factory v3.3 file when you export the data.

Installation Steps

1. Unzip your `Banking Product v3.3.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 v3.3.
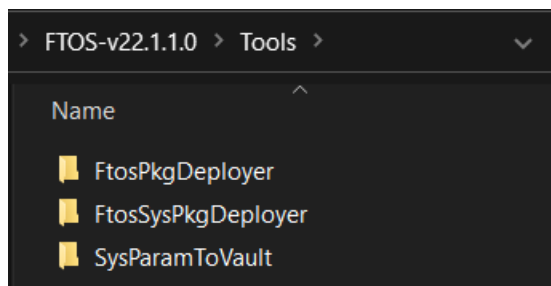
3. Select and copy the *FtosSysPkgDeployer* folder.

4. Navigate to the location where you have unzipped the Banking Product v3.3.zip (let's call this location *<pckg_deployer_dir>*), then paste the *FtosSysPkgDeployer* folder there, within each and every `zip` file that comes with the package.

> Banking Product v3.3

Name ^

- 01.BPFixInit v3.3
- 02.Backup Settings v3.3
- 03.Banking Product Factory v3.3
- 04.Banking Product Factory Generic Security Roles v3.3

Banking Product v3.3 > 01.BPFixInit v3.3	Banking Product v3.3 > 02.Backup Settings v3.3
Name ^	Name ^
BPF_InitFix	Backup Restore Settings
FtosSysPkgDeployer	FtosSysPkgDeployer
BPF_FixInit.zip	Backup Settings.zip

Banking Product v3.3 > 03.Banking Product Factory v3.3

Name ^

- Banking Product Factory SDK
- FtosSysPkgDeployer
- Banking_Product_Factory.zip
- README_install_dependencies.txt
- README_ReleaseNotes.txt

Banking Product v3.3 > 04.Banking Product Factory Generic Security Roles v3.3

Name ^

- FtosSysPkgDeployer
- Banking_Product_Factory_Security_Roles.zip

IMPORTANT!

Each `zip` file within the **Banking Product v3.3.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 12 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, Innovation Studio has the **Banking Product** menu items visible after a refresh:
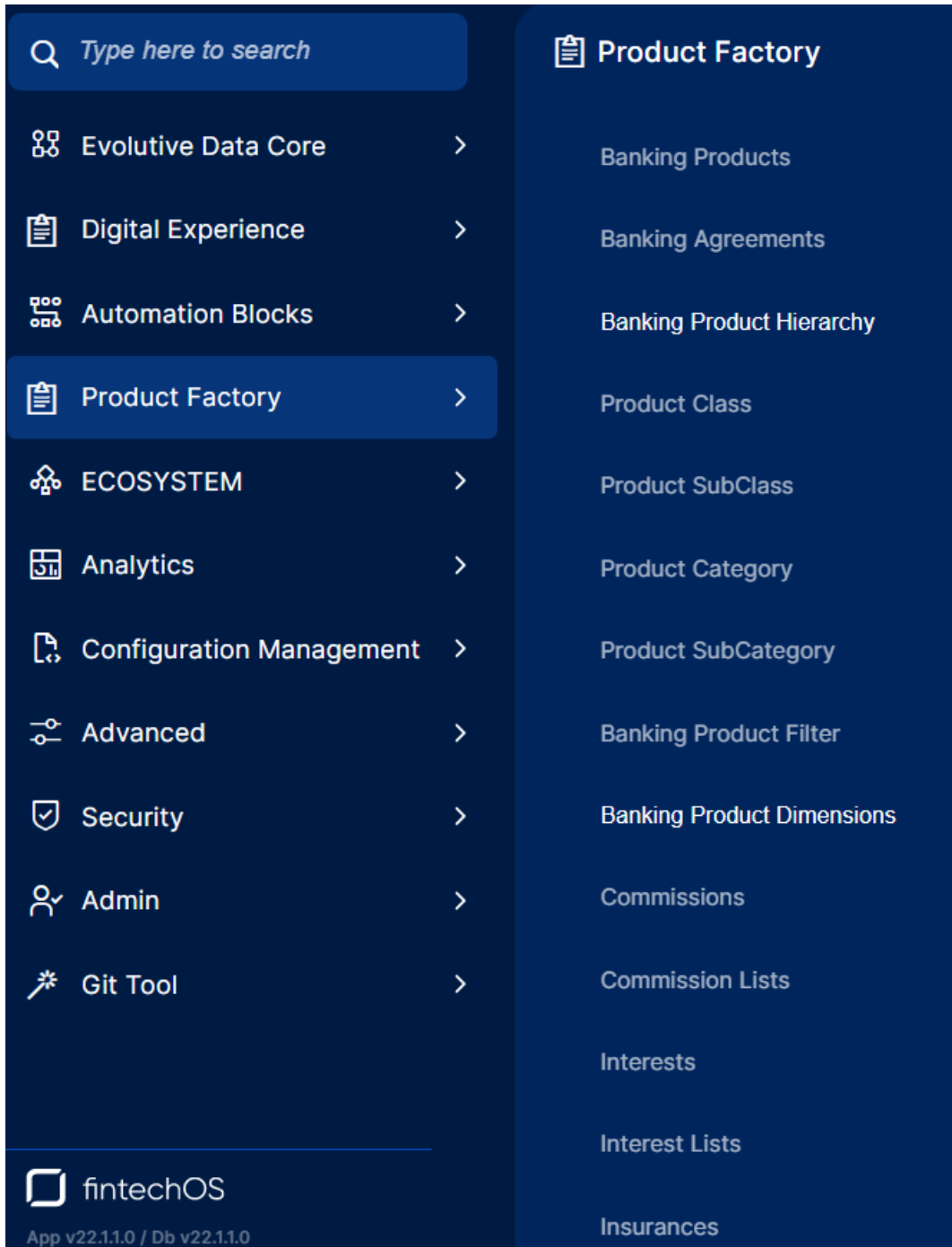
The `install_SysPack.bat` file allows you to import both the data model and the data:

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 "<syspack_path>\01
DeploymentPackages\*.zip"
```

install_SysPack.bat syntax for **Data** import

```
FtosSysPkgDeployer.exe -g -s "<StudioLink>" -u <AdminStudioUser> -p
<user_password> -r "<syspack_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 Innovation Studio installation, for example *http://localhost/ftos_studio*.

- `<AdminStudioUser>` - The username of the Innovation Studio user under which this import is executed. The user has to exist in Innovation Studio prior to this operation.

- `<user_password>` - The password for the Innovation 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 v3.3 is deployed.

- `<syspack_path>` - The physical path to the unzipped Banking Product v3.3 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 Role for Banking Product Factory

A security role is a set of privileges and levels of access to various actions/ functions within the High Productivity Fintech Infrastructure. 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 role to grant their employees access rights within its systems. Read the Users topic for information about associating the security role to users in Innovation Studio.

You can also create a new security role to fit your financial institution's business needs. Read the Creating Security Roles topic for information about creating a new security role in Innovation Studio.

Predefined Banking Product Factory Security Role

Banking Product Factory comes with the following predefined security role that grant specific access rights to the users associated with such a role to the High Productivity Fintech Infrastructure'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 High Productivity Fintech Infrastructure:

Banking Product Admin

A user with this security role has the following access rights to records in High Productivity Fintech Infrastructure's entities:

Entity	Read	Insert	Update	Delete
Account	Yes	No	No	No
approvalTask	Yes	Yes	Yes	No
AssociatedTransactions	Yes	Yes	Yes	Yes
attribute	Yes	No	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	Yes	No	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	Yes	No	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

Entity	Read	Insert	Update	Delete
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
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	Yes	No	No	No
InterestValue	Yes	Yes	Yes	Yes
PaymentScheduleType	Yes	Yes	Yes	Yes
PaymentScheduleType_BW	Yes	Yes	Yes	No
PaymentScheduleTypeDetail	Yes	Yes	Yes	Yes

Entity	Read	Insert	Update	Delete
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
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	Yes	No	No	No
FormulaInput	Yes	No	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	Yes	No	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

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

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

Endpoints
CallFormula
CheckFromToDates
CheckMandatoryRoleXLimitType
CommissionSchemaDetail
EntityVersion
Formula_CreateDataMapping
GetAvailabilityFiltersOnProduct
GetAvailablePaymentsSchedule
GetAvailableProductDiscounts
GetAvailableProductFeatures
GetAvailableProductImage
GetAvailableProducts
GetAvailableProductsExtra
GetBankingProductDetails

Endpoints
GetBankingProductTypeValues
GetCommissionDetail
GetCommissionInfo
GetInterestDetail
GetMainBank
GetPeriodicityTypeInfo
GetPrimaryAttribute
GetProductDocuments
GetProductInsuranceList
GetProductInterestCommissionList
GetProductType
GetScheduleFields
GetSubClassInfo
IsEditableForm
Simulate
TestCallFormula
CountQuestionsOnProduct
GetQuestionsOnProduct
SaveCustomQuestion
CheckGL
CheckLicense
Entity Version
EntityDuplicate
IsRelatedEntities
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.

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.

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**.

> **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 digital journeys or in **Core Banking** right away.
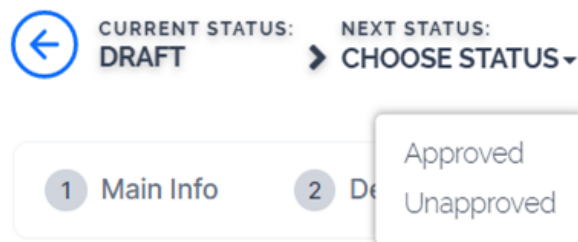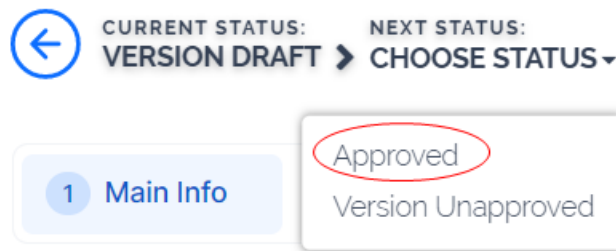

Versioning an Approved Product

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.
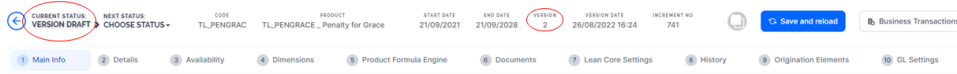
3. Edit the desired fields.

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: NEXT STATUS:
DRAFT > CHOOSE STATUS ▾

The product status transitions are illustrated below:
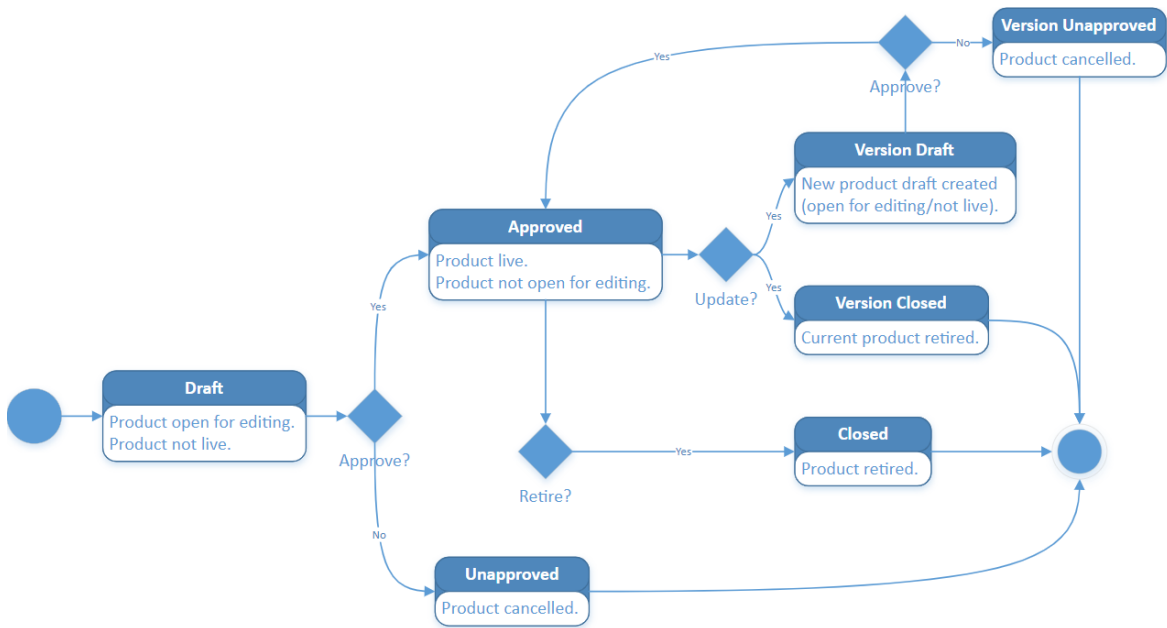
- Every product version starts in **Draft** status and must go through an approval process before going live.

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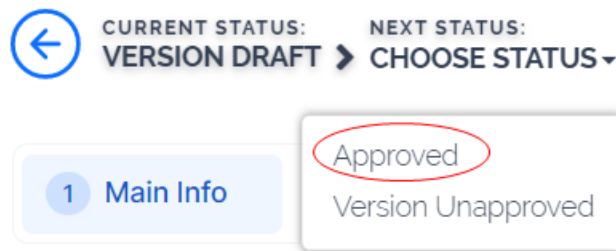
3. Click **Yes** to confirm your action.
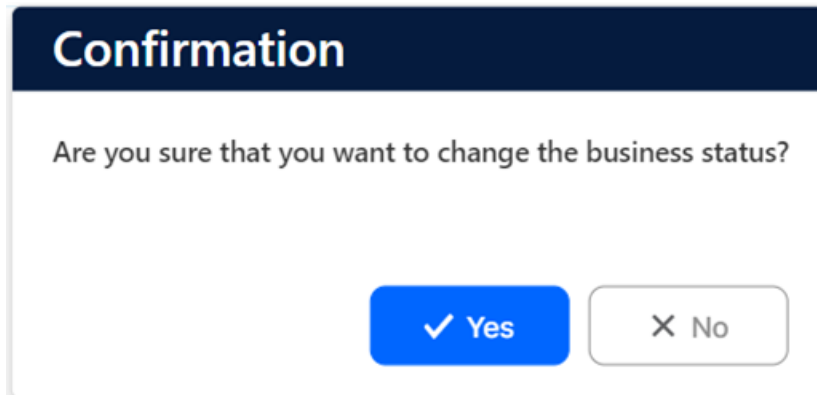
If Banking Product Factory performs all the validations successfully, then the current status of the product changes to **Approved** and you can't perform any other changes. Now you can use your product in digital journeys or **Core Banking**.

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.

> **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. For term loans, select the **Term Loan** option in **Banking Product Type**.

Main Information

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

2. Choose the **Currency** for the banking product.

3. Enter the product code in the **Banking Product Code** field. It can have 10 characters, and it is used in the contract. It uses a sequencer and the code of the product type.

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.

   - **Class:** Select the class of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Subclass:** Select the subclass of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Category:** Select the category of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **SubCategory:** Select the subcategory of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Description:** Enter any description or additional text related to your new product.

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 term loan. 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.

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 general data, disbursement settings, payment schedule types and templates, product guarantees, tranches, and holiday settings in the **Details** tab.

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 playable.

   > **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

	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

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
☑   100   ☐

Allowed Guarantee Types

| + Insert | ✕ Delete | ▤ Export | ⟳ Refresh |

☐	Guarantee Type	Max Accepted Covering Percent
	🔍	🔍
	FixDeposit	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 | 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

		+ Insert existing ✕ Remove existing
☐	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 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.
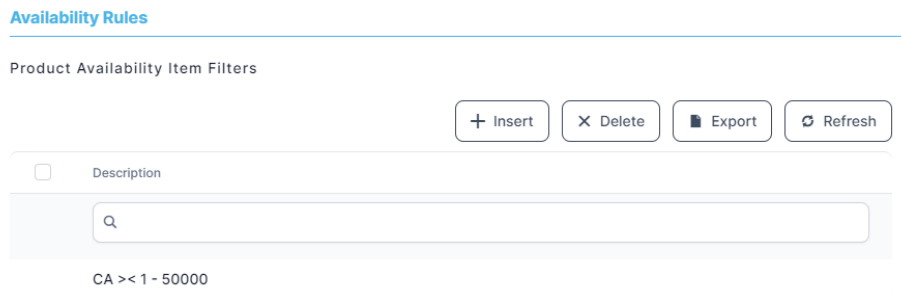

Product Availability

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 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.
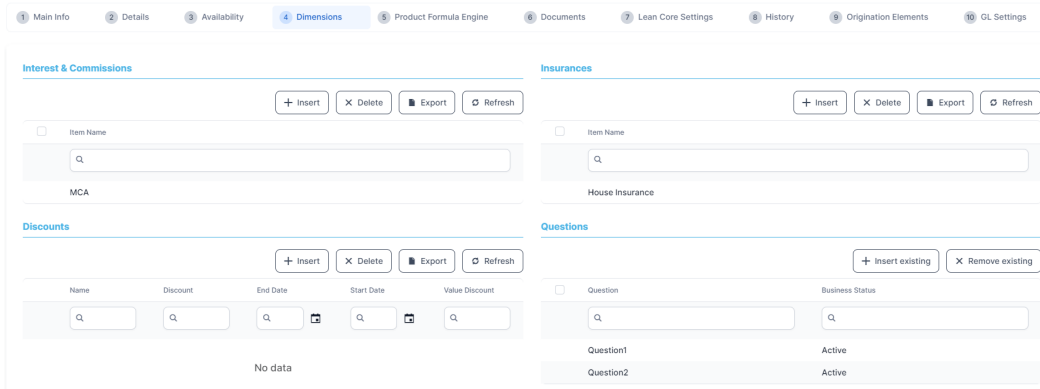
Product Covenants

	Type	Covenant	Valid From	Valid to	Value
	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 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.

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 462.

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.

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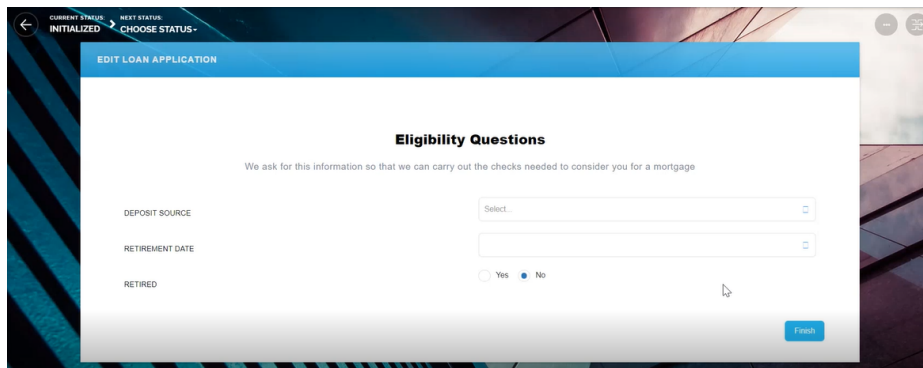
3. Click the **Save and Reload** button.

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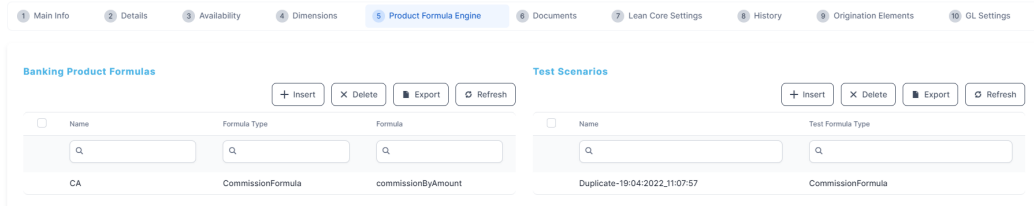
4. Click the **Save and Close** button.

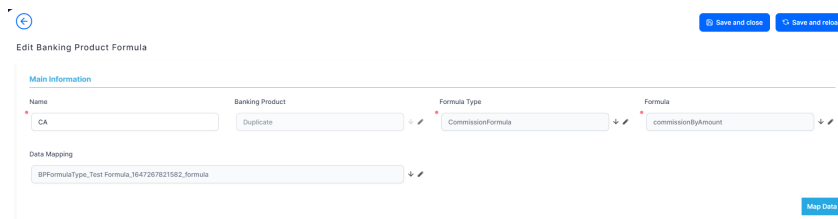For example, this is how a question is displayed in a digital journey in the FintechOS Portal:

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.

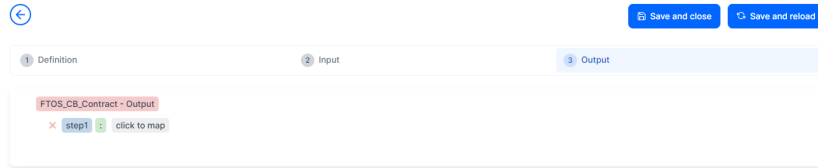1. In the **Add Banking Product Formula** page, fill in the following fields:

- **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.

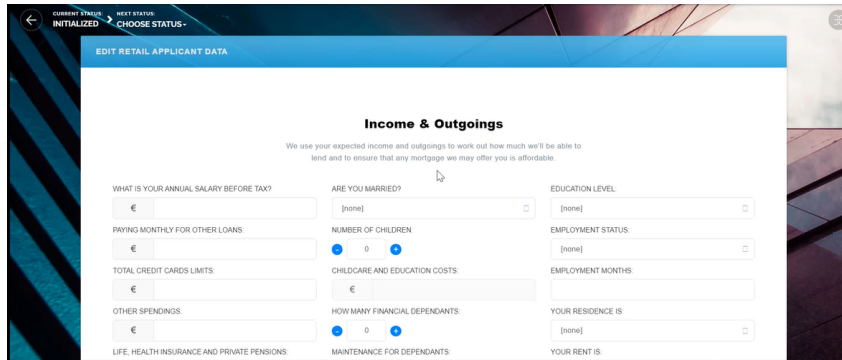- **Data Mapping:** Select the previously configured data mapping.

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.
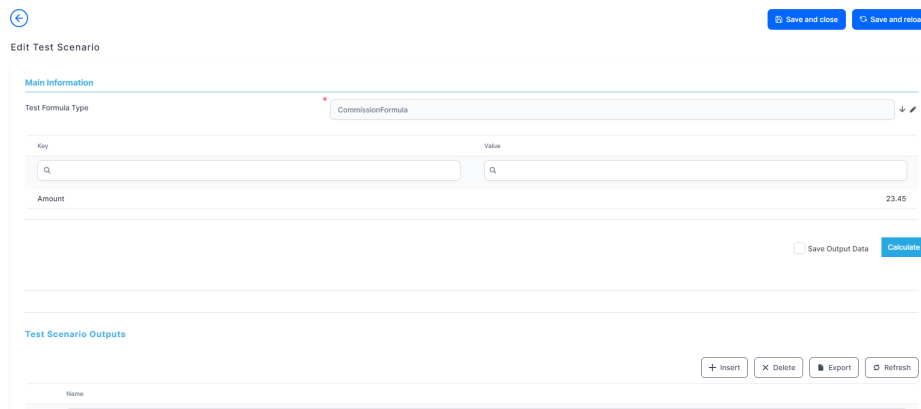

5. Click the **Save and Close** button.

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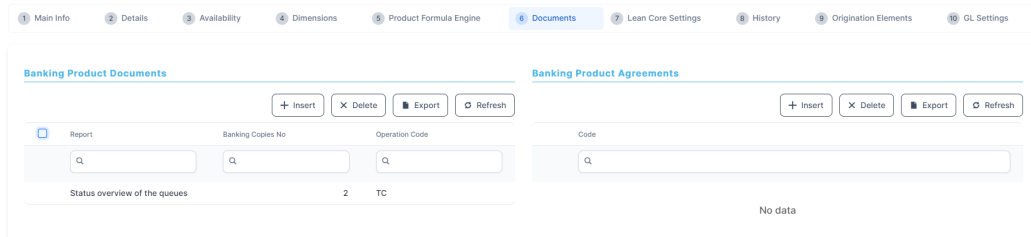

Test Scenarios

A good practice is to test the formula before displaying it in a digital 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.

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.

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.

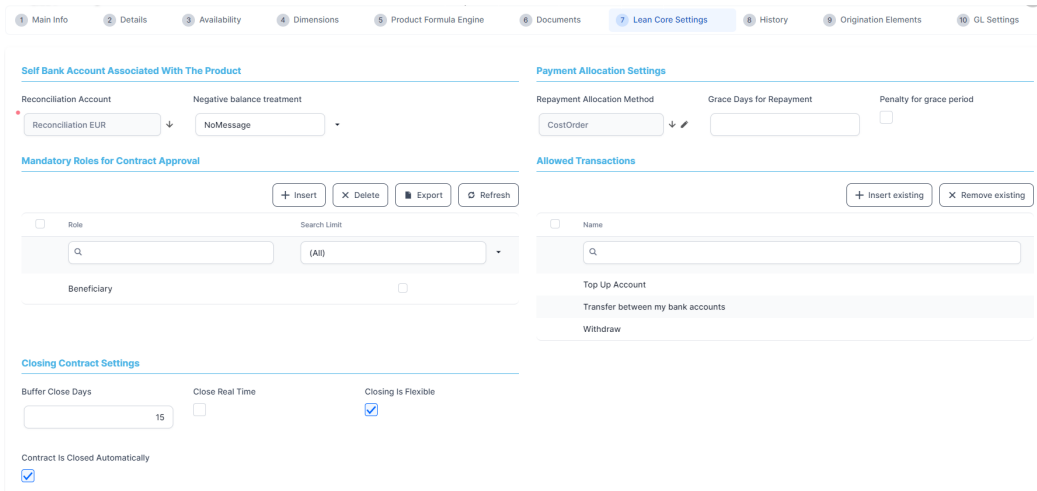3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the Digital Document Processor.

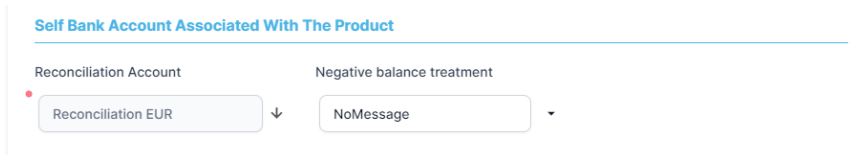# 7. Configure Lean Core Settings

> **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
CostOrder ↓ ✎	5	☐

Direct Debit Settlement Account
☑

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.

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 >= 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
10	☐	☑

Contract Is Closed Automatically
☑

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

In the **Allowed Transactions** section, you can associate possible transaction types with the selected banking product:

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 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.

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

	Name
	+ Insert existing ✕ Remove existing
☐	
	🔍
	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. 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.

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.

> **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.

> **NOTE**
> Your product type selection influences the next steps. 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.

2. Choose the **Currency** for the banking product.

3. Enter the product code in the **Banking Product Code** field. It can have 10 characters, and it is used in the contract. It uses a sequencer and the code of the product type.

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.

- **Class:** Select the class of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Subclass:** Select the subclass of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Category:** Select the category of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **SubCategory:** Select the subcategory of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Description:** Enter any description or additional text related to your new product.

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 term loan. 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.

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 general data, disbursement settings, payment schedule types and templates, product guarantees, tranches, and holiday settings in the **Details** tab.

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 playable.

- **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

	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

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

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.

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, 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

		+ Insert existing	✕ Remove existing
☐	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 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 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.

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 462.

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

	Type	Covenant	Valid From	Valid to	Value
	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 477 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.

Interest & Commissions

	Item Name
	MCA

Insurances

	Item Name
	House Insurance

Discounts

Name	Discount	End Date	Start Date	Value Discount
		No data		

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 462.

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.

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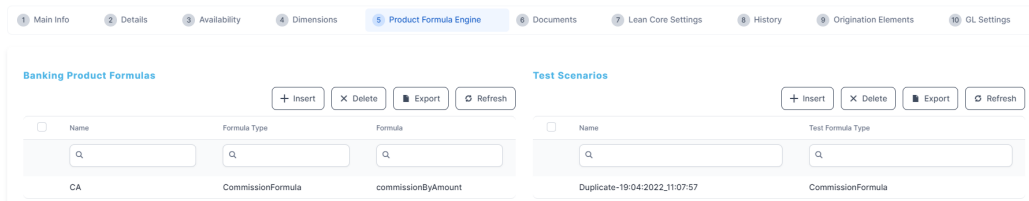
4. Click the **Save and Close** button.

For example, this is how a question is displayed in a digital 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 digital journey steps, for example when the customer inserts their financial data.
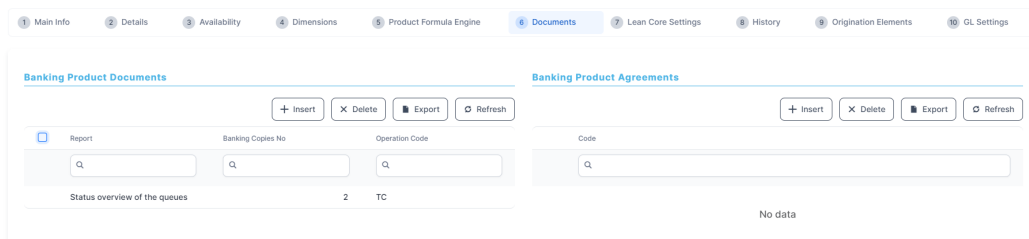

Test Scenarios

A good practice is to test the formula before displaying it in a digital 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.

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.

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.

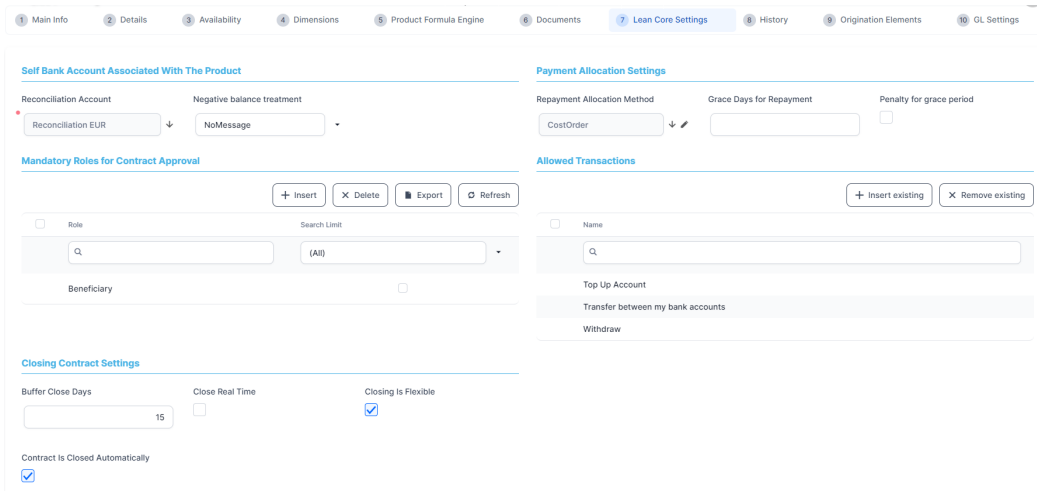3. Click the **Save and Reload** button.

For more information on how to configure a contract or an agreement, see the Digital Document Processor.
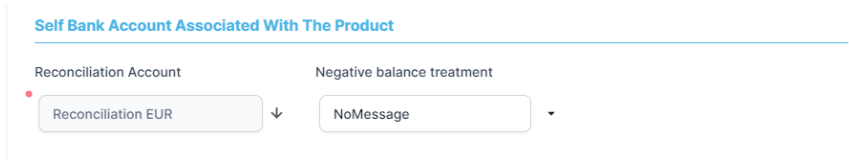
7. Configure Lean Core Settings

> **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
CostOrder ↓ ✎	5	☐

Direct Debit Settlement Account
☑

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`.

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
☑	15	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 >= 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
10	☐	☑

Contract Is Closed Automatically
☑

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

In the **Allowed Transactions** section, you can associate possible transaction types with the selected banking product:

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 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.

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.

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. 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.

Bank Accounts

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

> **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.

> **NOTE**
> Your product type selection influences the next steps. For bank accounts, select the **Bank Account** option in the **Banking Product Type**.

Main Information

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

2. Choose the **Currency** for the banking product.

3. Enter the product code in the **Banking Product Code** field. It can have 10 characters, and it is used in the contract. It uses a sequencer and the code of the product type.

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.

   • **Class:** Select the class of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   • **Subclass:** Select the subclass of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   • **Category:** Select the category of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   • **SubCategory:** Select the subcategory of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   • **Description:** Enter any description or additional text related to your new product.

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 term loan. 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.

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.

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.
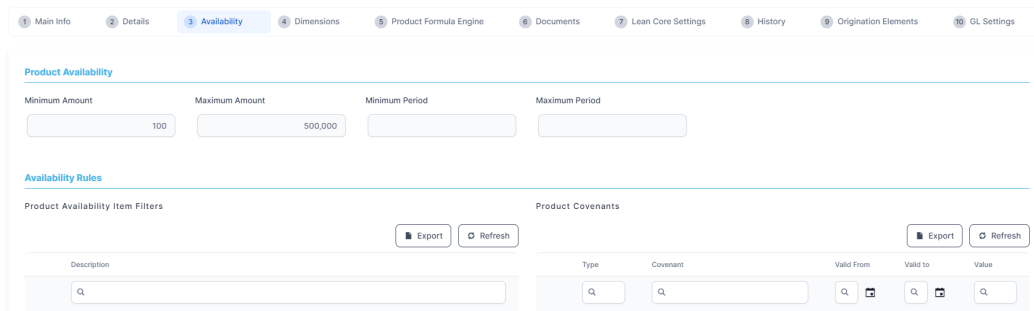
Product Availability

1. 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 **Minimum Amount:** Enter the minimum and the 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.

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 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.

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 477 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.

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 462.

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.

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 digital 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 digital 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 digital 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.

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.

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
CostOrder ↓ ✎	5	☐

Direct Debit Settlement Account
☑

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`.

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
☑	15	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 >= 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
10	☐	☑

Contract Is Closed Automatically
☑

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

In the **Allowed Transactions** section, you can associate possible transaction types with the selected banking product:

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 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.

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   × 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. 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.

> **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. For current accounts with overdraft functionality, select the **Bank Account** option in **Banking Product Type**.

Main Information

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

2. Choose the **Currency** for the banking product.

3. Enter the product code in the **Banking Product Code** field. It can have 10 characters, and it is used in the contract. It uses a sequencer and the code of the product type.

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.

   - **Class:** Select the class of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Subclass:** Select the subclass of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Category:** Select the category of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **SubCategory:** Select the subcategory of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Description:** Enter any description or additional text related to your new product.

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 term loan. 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.

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 or product destination types in the **Details** tab.

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

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 405 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 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.

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 462.

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

	Type	Covenant	Valid From	Valid to	Value
	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 477 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.

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 462.

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.

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 digital 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 digital 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 digital 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.

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.

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
CostOrder ↓ ✎	5	☐

Direct Debit Settlement Account
☑

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`.

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
☑	15	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 >= 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
10	☐	☑

Contract Is Closed Automatically
☑

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

In the **Allowed Transactions** section, you can associate possible transaction types with the selected banking product:

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 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.

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.

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. 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.

> **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.

> **NOTE**
> Your product type selection influences the next steps. 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.

2. Choose the **Currency** for the banking product.

3. Enter the product code in the **Banking Product Code** field. It can have 10 characters, and it is used in the contract. It uses a sequencer and the code of the product type.

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.

- **Class:** Select the class of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Subclass:** Select the subclass of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Category:** Select the category of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **SubCategory:** Select the subcategory of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Description:** Enter any description or additional text related to your new product.

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 term loan. 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

	Code	Name	Classification Type	Valid From	Valid To
	🔍	🔍	🔍	🔍 📅	🔍 📅
	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:

- **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.

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.

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

	Description
☐	
	🔍
	CA >< 1 - 50000

[+ Insert] [✕ Delete] [📄 Export] [↻ Refresh]

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 462.

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]

☐	Type	Covenant	Valid From	Valid to	Value
	🔍	🔍	🔍 📅	🔍 📅	🔍
	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 477 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.

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 462.

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.

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 digital 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 digital 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 digital 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.

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.

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.

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`.

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
☑	15	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 >= 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

`10`

Close Real Time

☐

Closing Is Flexible

☑

Contract Is Closed Automatically

☑

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

In the **Allowed Transactions** section, you can associate possible transaction types with the selected banking product:

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.

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.

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. 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.

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 Cards

To create a new 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.

> **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. For cards, select the **Card** option in **Banking Product Type**

Main Information

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

2. Choose the **Currency** for the banking product.

3. Enter the product code in the **Banking Product Code** field. It can have 10 characters, and it is used in the contract. It uses a sequencer and the code of the product type.

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.

- **Class:** Select the class of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Subclass:** Select the subclass of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Category:** Select the category of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **SubCategory:** Select the subcategory of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Description:** Enter any description or additional text related to your new product.

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 term loan. 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.

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.

Product Behavior

1. 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
☑	100	☐

Allowed Guarantee Types

＋ Insert   ✕ Delete   ▣ Export   ⟳ Refresh

☐	Guarantee Type	Max Accepted Covering Percent
	🔍	🔍
	FixDeposit	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	FixDeposit
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

	+ Insert existing	✕ Remove existing

☐	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 405 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.

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

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 462.

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

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 477 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.

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 462.

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.

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 digital 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 digital 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 digital 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.

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.

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
CostOrder ↓ ✎	5	☐

Direct Debit Settlement Account
☑

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`.

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
☑	15	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 >= 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

| 10 |

Close Real Time

☐

Closing Is Flexible

☑

Contract Is Closed Automatically

☑

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

In the **Allowed Transactions** section, you can associate possible transaction types with the selected banking product:

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.

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.

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. 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.

> **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

> **NOTE**
> Your product type selection influences the next steps. 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.

2. Choose the **Currency** for the banking product.

3. Enter the product code in the **Banking Product Code** field. It can have 10 characters, and it is used in the contract. It uses a sequencer and the code of the product type.

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.

   - **Class:** Select the class of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Subclass:** Select the subclass of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Category:** Select the category of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **SubCategory:** Select the subcategory of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Description:** Enter any description or additional text related to your new product.

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 term loan. 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.

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.

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 playable.

   - **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

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.

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 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.

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 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.

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 462.

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.

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 digital 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 digital 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 digital 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.

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.

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
CostOrder ↓ ✎	5	☐

Direct Debit Settlement Account
☑

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`.

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
☑	15	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 >= 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

10 ☑ ☑

Contract Is Closed Automatically

☑

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

In the **Allowed Transactions** section, you can associate possible transaction types with the selected banking product:

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.

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.

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. 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.

> **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.

> **NOTE**
> Your product type selection influences the next steps. 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.

2. Choose the **Currency** for the banking product.

3. Enter the product code in the **Banking Product Code** field. It can have 10 characters, and it is used in the contract. It uses a sequencer and the code of the product type.

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.

   - **Class:** Select the class of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Subclass:** Select the subclass of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Category:** Select the category of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **SubCategory:** Select the subcategory of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Description:** Enter any description or additional text related to your new product.

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 term loan. 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.

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 payment type, top-ups and withdrawals in the **Details** tab.

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 playable.

   - **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
☑	100	☐

Allowed Guarantee Types

☐	Guarantee Type	Max Accepted Covering Percent
	🔍	🔍
	FixDeposit	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.

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 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

	+ Insert existing × Remove existing

☐	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 405 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 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.

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 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

	Type	Covenant	Valid From	Valid to	Value
	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	

(toolbar: + Insert, X Delete, Export, Refresh)

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 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.

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 462.

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.

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 digital 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 digital 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 digital 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.

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.

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
CostOrder ↓ ✏	5	☐

Direct Debit Settlement Account
☑

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`.

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
☑	15	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 >= 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
10	☐	☑

Contract Is Closed Automatically
☑

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

In the **Allowed Transactions** section, you can associate possible transaction types with the selected banking product:

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 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.

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.

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. 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.

> **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.

> **NOTE**
> Your product type selection influences the next steps. 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.

2. Choose the **Currency** for the banking product.

3. Enter the product code in the **Banking Product Code** field. It can have 10 characters, and it is used in the contract. It uses a sequencer and the code of the product type.

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.

   - **Class:** Select the class of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Subclass:** Select the subclass of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

   - **Category:** Select the category of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **SubCategory:** Select the subcategory of the product. This field is used to place the product in a hierarchy. For more information, see "Product Hierarchy" on page 400

- **Description:** Enter any description or additional text related to your new product.

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 term loan. 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.

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.

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 playable.

   - **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
☑	100	☐

Allowed Guarantee Types

＋ Insert   ✕ Delete   ▤ Export   ⟳ Refresh

☐	Guarantee Type	Max Accepted Covering Percent
	🔍	🔍
	FixDeposit	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.

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.

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.

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 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.

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 405 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

	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 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

	Type	Covenant	Valid From	Valid to	Value
☐	🔍	🔍	🔍 📅	🔍 📅	🔍
	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 477 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.

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 462.

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.

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 digital 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 digital 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 digital 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.

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.

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
CostOrder ↓ ✎	5	☐

Direct Debit Settlement Account
☑

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:

   ⬅
   Add Mandatory Role
   Save and close | Save and reload | Save and new

   Main Information

Banking Product	Role	Search Limit
Duplicate	Merchant ▾ ✎	☑

   - **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.

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 >= 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
10	☐	☑

Contract Is Closed Automatically
☑

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

In the **Allowed Transactions** section, you can associate possible transaction types with the selected banking product:

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.

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.

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. 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.

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:
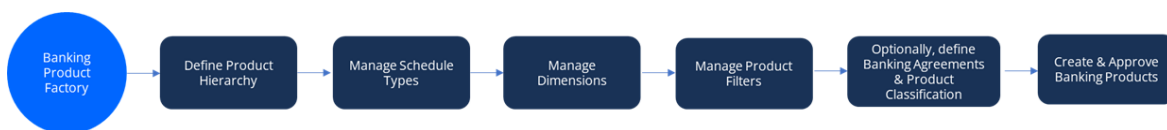
See the following pages to find out more about the configurations available in **Banking Product Factory**.

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.

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.
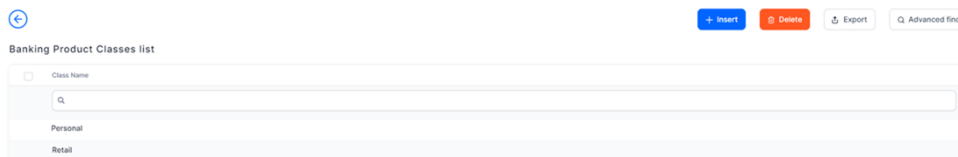
2. The **Banking Product Classes list** page shows all the existing classes configured so far. Click the **Insert** button to add a new class.

3. In the newly displayed **Add Class** page, enter a **Class Name:** choose an appropriate name for your banking hierarchy.
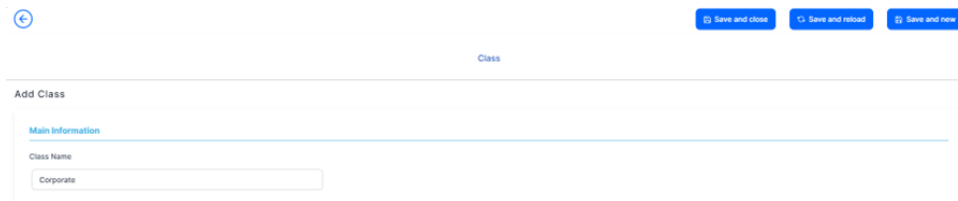
4. Click the **Save and Reload** button.

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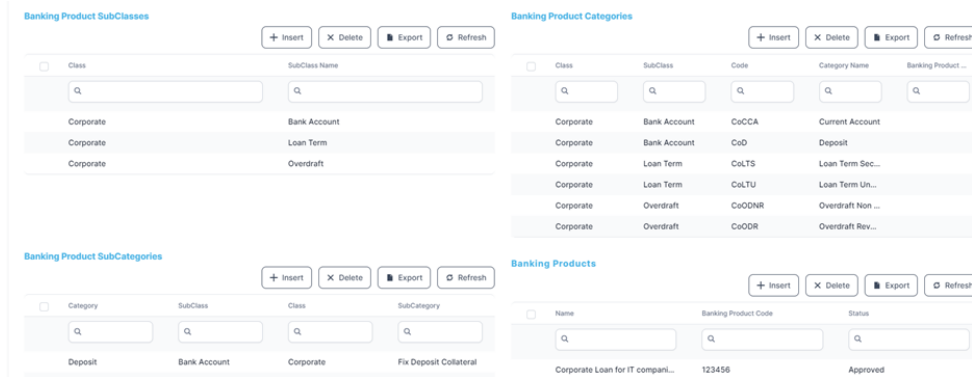
6. Click the **Save and Close** button.

Adding Product Subclasses

1. In the main menu, click **Product Factory** > **Banking Product Hierarchy** > **Product Subclass**, and the **Banking Product Subclasses list** page opens.
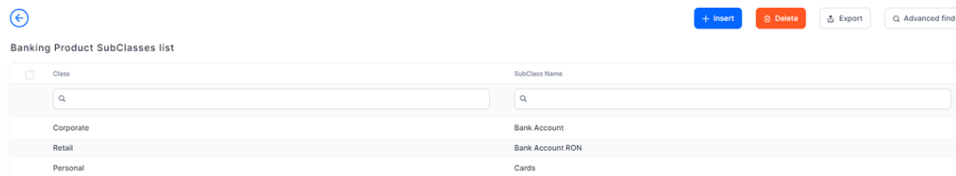
2. The **Banking Product Subclasses List** page shows all the existing subclasses configured so far. Click the **Insert** button to add a new subclass.

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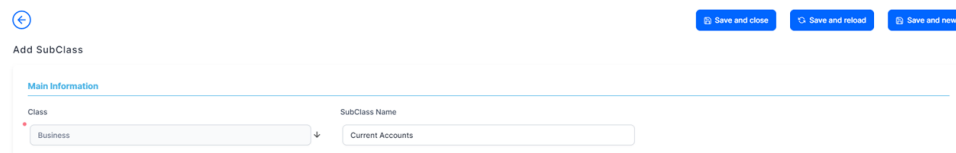
5. Click the **Save and Reload** button.

6. Two new sections are displayed: **Banking Product Categories** and **Banking Product Subcategories**. Add the associated category and subcategory in each respective section.

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.

2. The **Banking Product Categories list** page shows all the existing categories configured so far. Click the **Insert** button to add a new category.

3. On the **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.

4. Enter a **Code** for the category.

5. Add the **Category Name**.

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

7. The **Banking Product Subcategories** section is displayed. Insert an associated subcategory in this section.

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

Adding Product Subcategories

1. In the main menu, click **Product Factory** > **Banking Product Hierarchy** > **Product Subcategory**, and the **Banking Product SubCategories list** page opens.

2. The **Banking Product Subcategories List** page shows all the existing subcategories configured so far. Click the **Insert** button to add a new subcategory.

3. 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 Innovation 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.
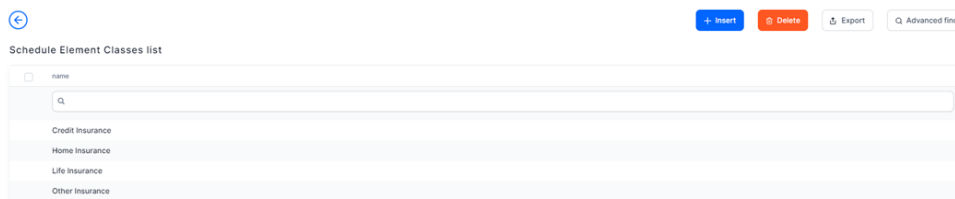
2. Click the **Insert** button to add a new class.

3. In the newly opened **Add Scheduled Element Class**, select an **Element Type**: Insurance or Commission.

4. Add a **name** for the element class.

5. Select an **Operation Item.**
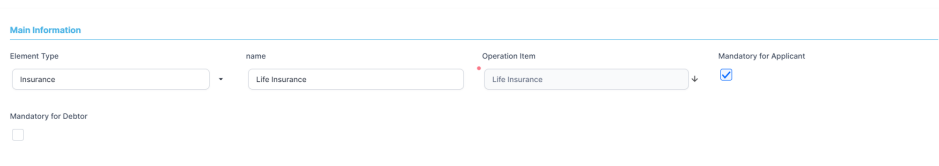
6. Click the **Save and close** button. Repeat as many times as needed.

Adding Payment Schedule Types

In Innovation 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:

- **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. Innovation 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**.

- **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 LiniarOnYear. 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:

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**.

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.
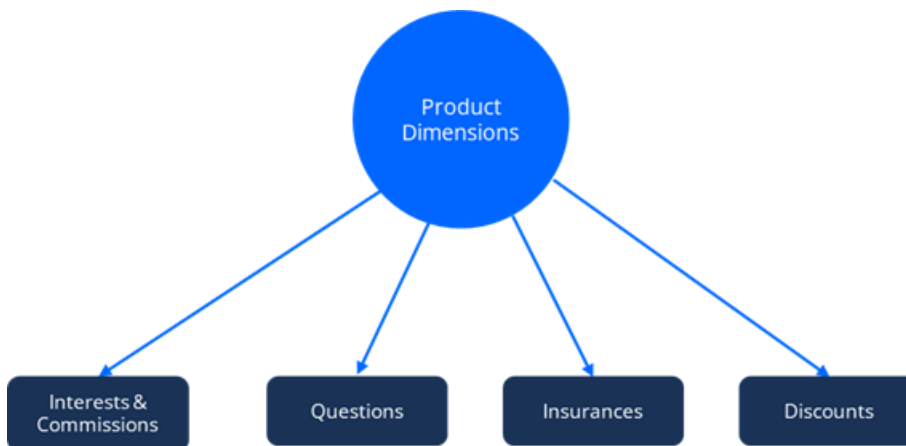
> **NOTE**
> There are two possible options for building the product dimensions:
>
> - Expand the **Banking Product Dimensions** menu and configure each of the items enumerated above with its respective menu in the Innovation Studio.
>
> - Another option is to start building the banking product and configure 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 digital 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.

> **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

	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	Collection Item Start Date	Collection Item End Date
APITestCollectionInterest	02/05/1902	12/12/2030

Interest	Start Period (Installment No)	End Period (Installment No)
FixedInterestBPA	4	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:** 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.
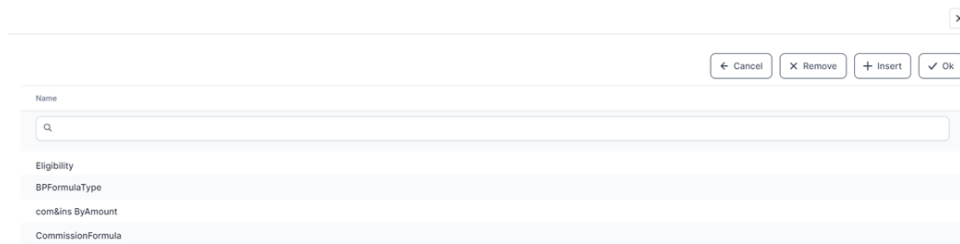
11. Click the **Insert** button to create a new banking formula.

12. Add a name for the banking formula. Insert or create an interest, banking product formulas, and test scenarios.

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.

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.
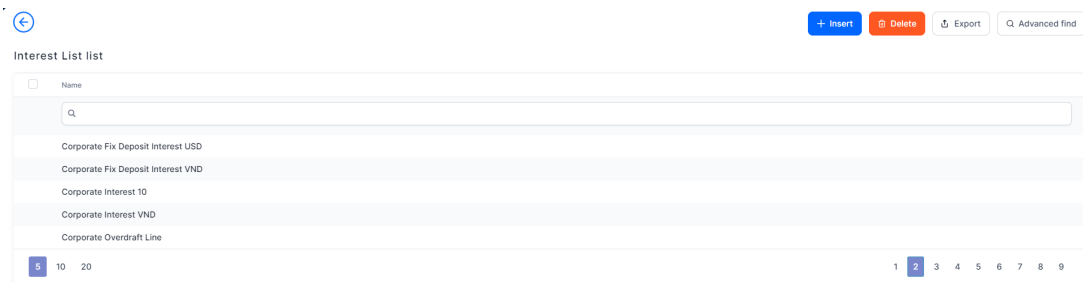
2. On the **Interest List list** page, you can add new interest lists or search, edit, and delete existing ones.

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.

4. In the **Interest & Commission Item Filters** section, click **Insert**, and fill in the following
fields:

- **Filter:** Select a filter created in the "Product Filter" on page 462.

- **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 462.

- **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 the 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:

> **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:

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:

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:

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:

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:

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.

2. On the **Commission List** page, you can add new interests or search, edit, and delete

   existing ones.
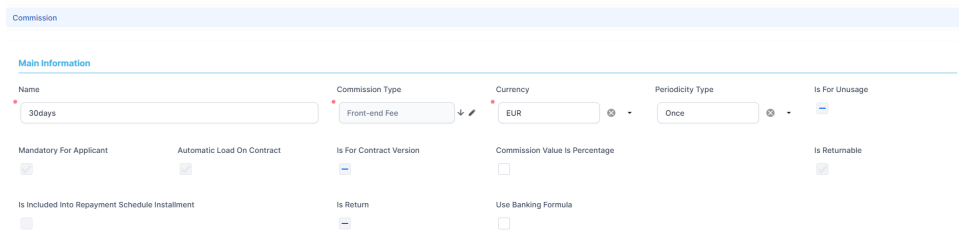
> **IMPORTANT!**
> The value of a commission used in active contracts cannot be edited. Instead, you can modify the value's validity and add a new value with a future validity period. For details, see the Editing The Value Of A Commission Already In Use section.

> **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 from the following: Administration Fee, Commission Undrawn Amount (overdraft) Monthly, Commission Undrawn Amount (overdraft) Once, Commission Unusage Monthly, Commission Unusage Once, Commission Usage Monthly, Commission Usage Once, Front-end Fee, Management Fee, Payment Holiday Fee, Repayment Fee or Return Fee.

  > **NOTE** The types have a periodicity already set: once/ monthly/ trimester etc.

- **Periodicity type:** Automatically filled-in when you choose the commission type.

- **Status:** Select either `Active` or `Draft` to enable or disable the commission.

- **Currency:** Select the currency of the commission from the drop-down.

- **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.

- **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:** If this checkbox is selected and the **Periodicity Type** is not Once, then the commission is included in the Repayment Schedule (should be provided with a column where to put this Commission).

- **Automatically load on contract:** Select this checkbox if the commission should be automatically loaded on the contracts based on banking products using this commission.

- **Mandatory for applicant:** If you select this checkbox, then the commission is mandatory to be paid by the customer. If the bank has negotiated with the customer not to pay this commission, then do not select this checkbox.

- **Use Banking Formula:** Select the checkbox if the commission is to be defined with an attached business formula for value.

- **Is For Contract Version:** Select the checkbox if the commission is applied when a new version of the contract is created.

> **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 Return:** This field is only visible and true if Commission Type = Return Fee. Automatically filled-in when you choose Commission Type = Return Fee, read-only. The selected checkbox means that the commission is a return fee, 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.

- **Is Returnable:** This field is only visible if Commission Type = Front-End Fee. Select this checkbox if the commission can be paid back to the borrower following a Returned Amount or Goods event on a loan or mortgage contract.

- **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:

- **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.
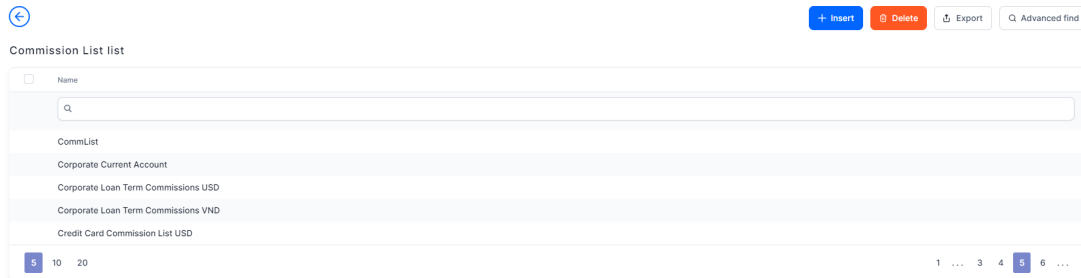
2. On the **Commission List list** page, you can add new interests or search, edit, and delete existing ones.

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.

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.

4. In the **Interest & Commission Item Filters** section, click **Insert**, and fill in the following fields:

- **Filter:** Select a filter created in the "Product Filter" on page 462.

- **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 462.

- **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:

When defining the payment schedule type detail, you only need to select the fee type and not the actual fee:

- 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.

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.

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.

6. 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.

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

8. 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.

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:

> **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.

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:

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:
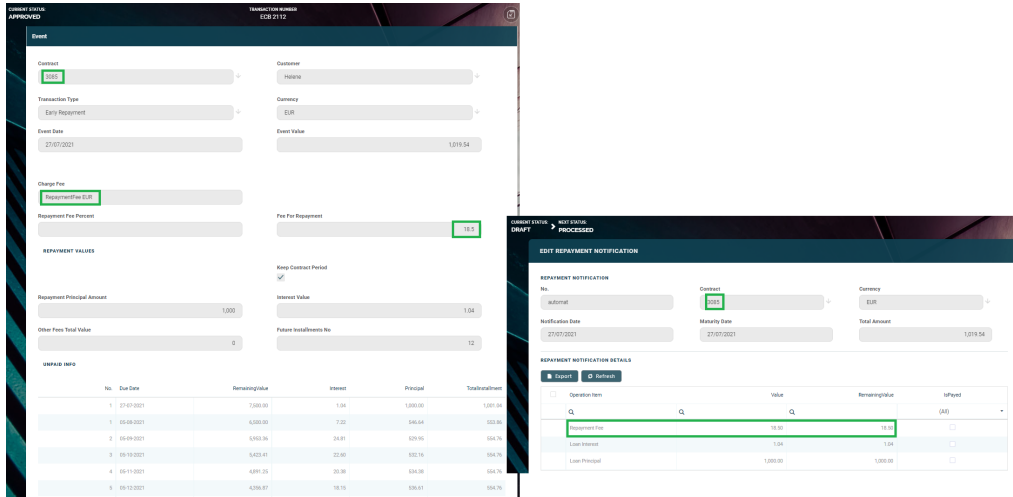
As you see below, when performing an early repayment contract event and on the banking product's commissions list there is a commission with the same type as the commission placed in the event, then the event automatically retrieves the commission from the list defined at the banking product level:

The commission used within the example presented above is defined as follows:

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:

Returnable Front-End Fee commission definition example:

Return fee and returnable front-end fee used within a term loan banking product definition:
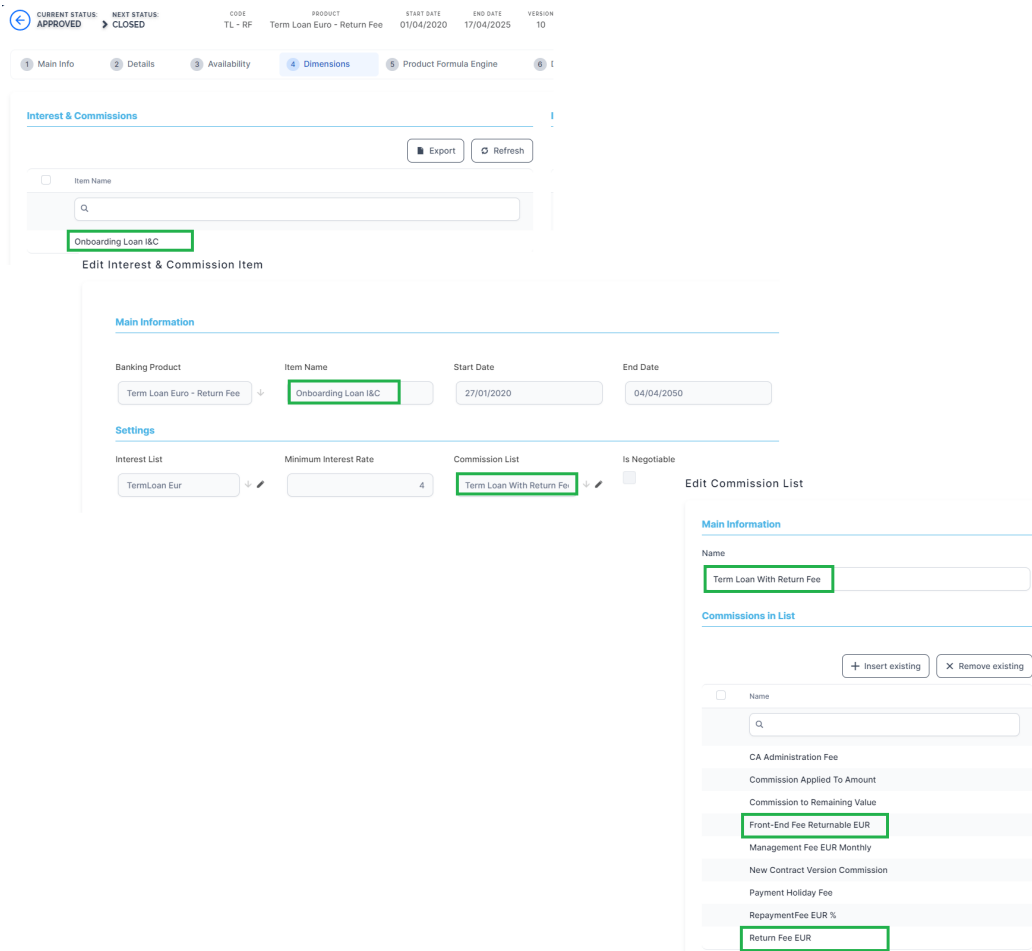
ReturnCommissionFormula banking product formula used within a term loan banking product definition:
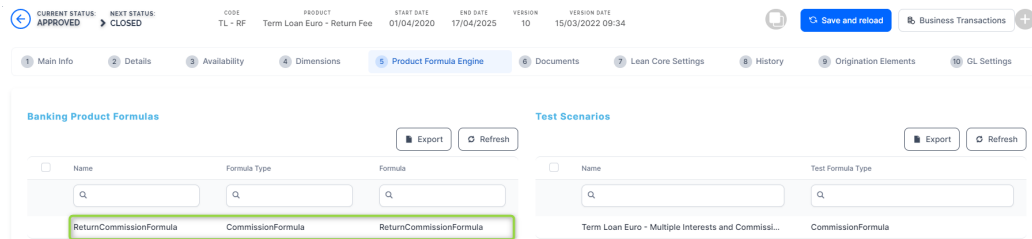
The **ReturnCommissionFormula** banking product formula was already mapped to the entity holding contract records, thus no more actions are required for its definition. The picture below illustrates the mapping:

At the contract level, the **Fees & Commissions** section contains the returnable front-end fee, as it was defined with `Automatically load on contract = True`.

The following example illustrates the return fee commission automatically calculated for a `Returned Amounts or Goods` contract event.
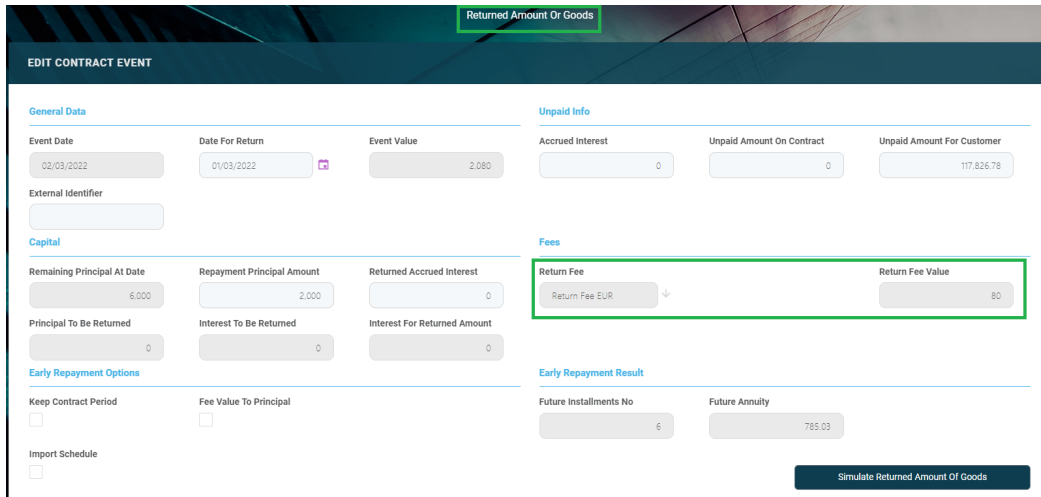
Manage Insurances

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.
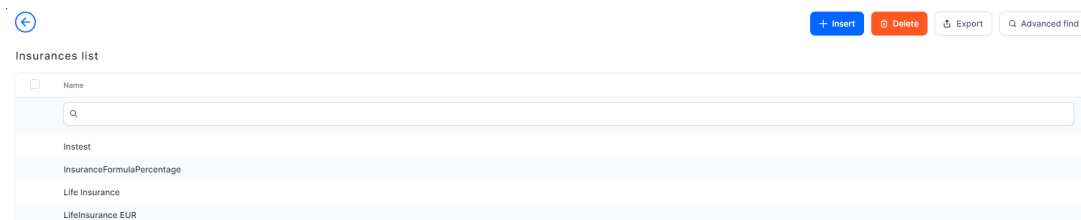
2. On the **Insurances list** page, you can add new interests or search, edit, export and delete existing ones.

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:

- **Code:** Insert a code for the insurance.

- **Name:** Insert a suggestive name for the insurance. Make sure it is a unique name.

- **Periodicity Type:** Select the type of periodicity for the insurance: Once, Monthly, Trimestrial, Semestrial or Annual.

- **Currency:** Select the corresponding currency for the insurance.

- **Insurer:** Insert the name of the company that issues the insurance.

- **Operation Item:** Select the corresponding operation item responsible for notification.

- **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`.

- **Is Mandatory For Applicant:** If you select this checkbox, then the insurance is mandatory for the customer.

- **Is Mandatory For Debtor:** If you select this checkbox, then the insurance is mandatory for the debtor.

- **Is Included Into Repayment Schedule Installment:** If you select this checkbox, then the insurance is included in the payment installments.

- **Class:** Select insurance class for this specific insurance: Credit insurance, Home insurance, Life insurance or Other insurance.

- **Insurance Value is Percentage:** If you select this checkbox, then the insurance value is a percentage from the banking product's value.

- **Description:** Insert a suggestive description for the insurance.

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.
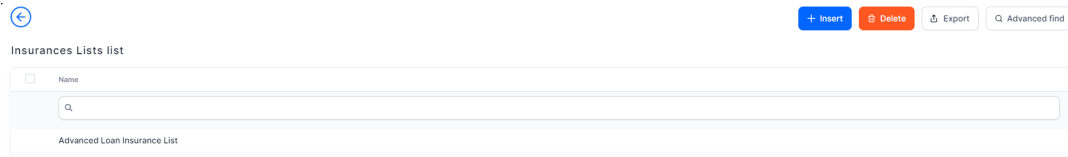

2. On the **Insurances Lists List** page, you can add new interests or search, edit, export and delete existing ones.

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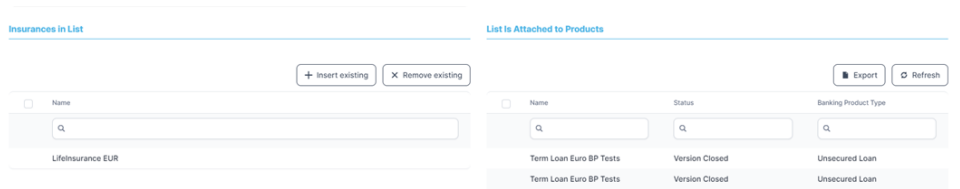
5. Click the **Save and Close** button.

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.
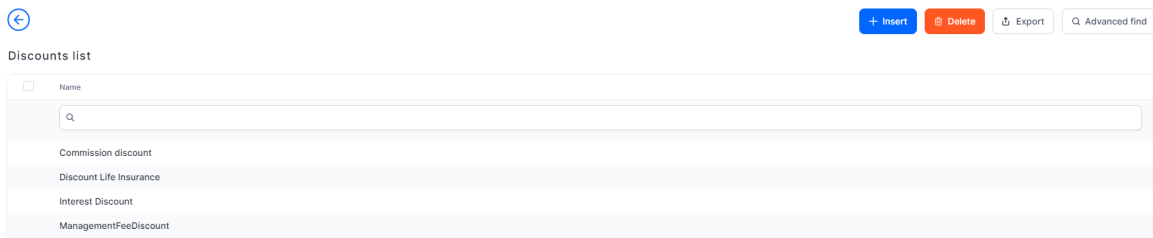
Here you can add a new discount or search, edit, export and delete existing ones.

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.

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 digital journey as well. For example, here's a digital journey with a question in the Loan Origination, displayed to determine the customer's eligibility.

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:

- **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:
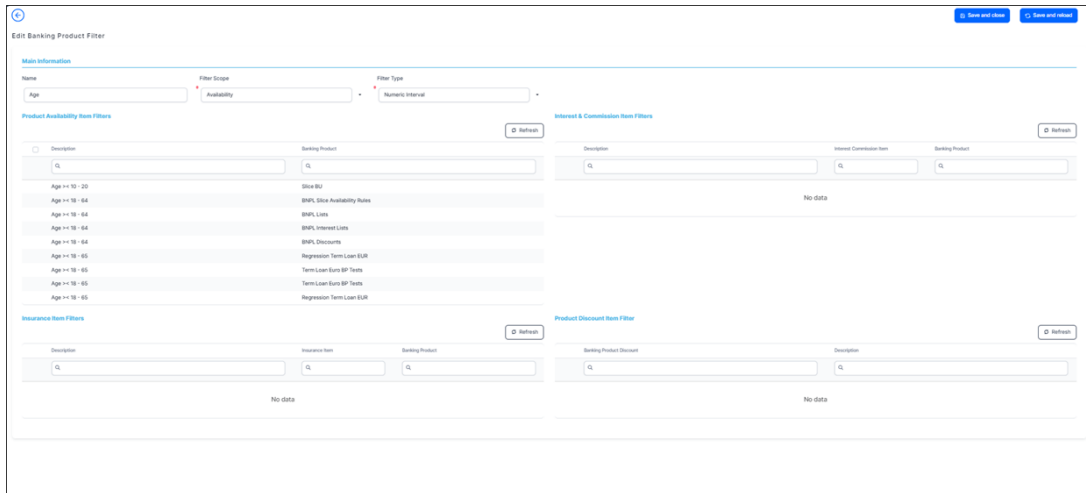
- **Name:** Insert a name for the filter you are building.

- **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.
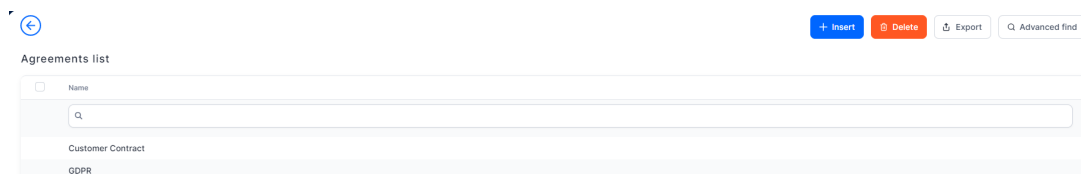
2. On this page, you can you can add new agreements or edit, delete, export and search existing ones.

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.

Banking Product Agreements

You can associate the agreement with banking products (see "Managing Banking Products" on page 20 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 you can add new product classifications or edit, delete, export and search existing ones.

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 :

- **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

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 though 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.
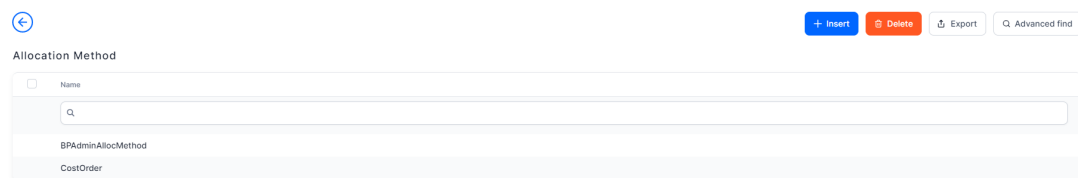
2. On the **Add Allocation Method** page, you can add new allocation methods or search, edit, and delete existing ones.

> **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.

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:

- **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. They are created based on the banking product models used by banks: 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.
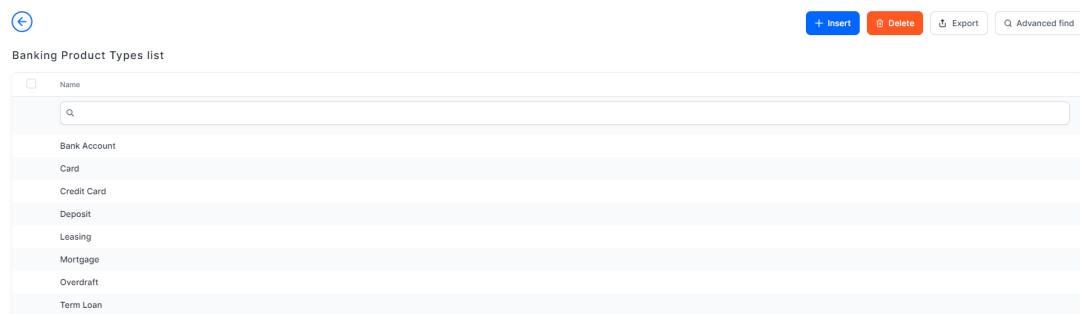
2. On the **Banking Product Type List** page, you can: create a new banking product type record, associate transaction types to a banking product type, edit an existing record from the list by double-clicking it and editing the Name field, delete or search for a specific record.

> **NOTE**
>
> You can insert, update, or delete records if you have the associated role of Banking Product Admin.

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.

2. Fill in the following fields:

- **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. Click the **Save and Close** button. The new banking product type record is saved.

You can proceed to associate transaction types to it within the **Transaction Types** section of the **Edit Banking Product Type** page.

Associating Transaction Types to Banking Product 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.

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:

   - **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 Close** 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.

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.

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:

- **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.
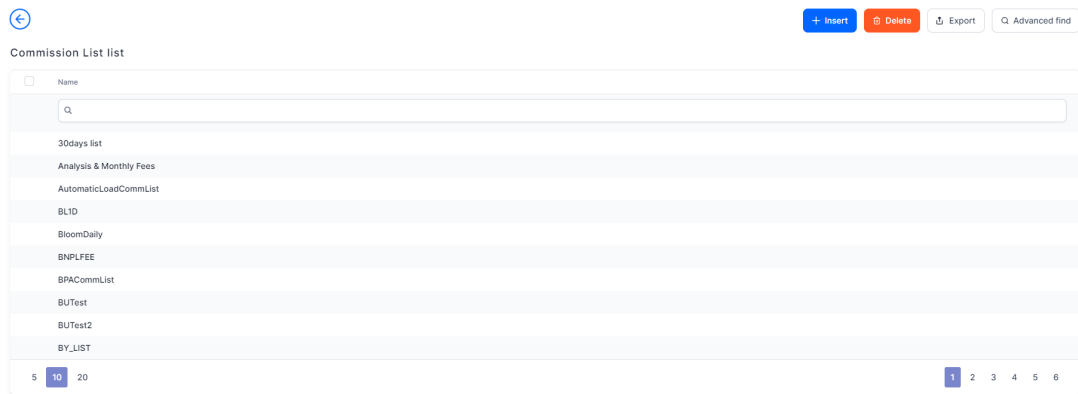
2. On the **Commission Schema List** page, you can add new commission schema or search, edit, and delete existing ones.
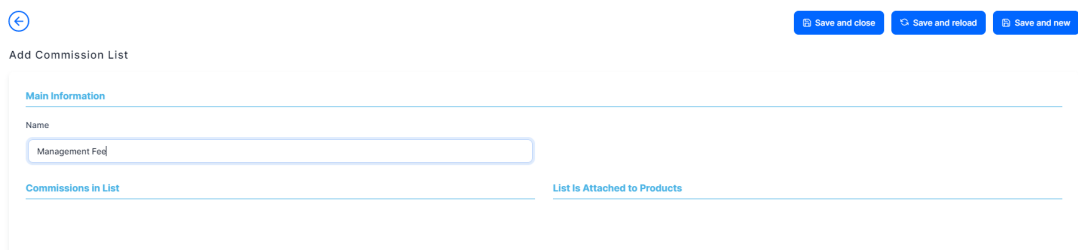
> **NOTE**
> You can insert, update, or delete allocation method records if you have the associated role of Banking Product Admin.

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.

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 manage commission types:

1. In the main menu, click **Product Factory** > **Banking Product Dictionaries** > **Commission Type**, and the **Commission Types List** page opens.

2. On the **Commission Types List** 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 Commission Types

Follow these steps to create new commission type records:

1. Click the **Insert** button on the **Commission Types List** page. The **Add Commission Type** page is displayed.

2. Fill in the following fields from the **Commission Type** section:

- **Commission Schema:** Select the schema to which this commission type belongs, if any.

- **Name:** Enter the name of the commission type.

- **Periodicity type:** Automatically filled-in when you choose the commission type.

- **Operation Item:** Select the operation item to which this commission type should be applied.

3. Click the **Save and Close** button. The new commission type is created and ready to be used.

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.

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:

- **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.

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.

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:

- **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.

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:

- **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.
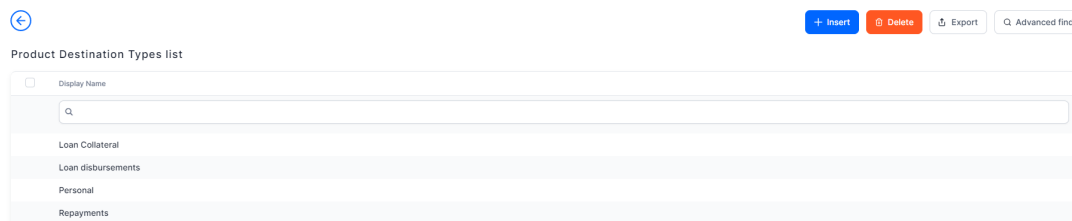
2. On the **Product Destination Types List** page, you can add new allocation methods or search, edit, and delete existing ones.

> **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:

- **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.

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.
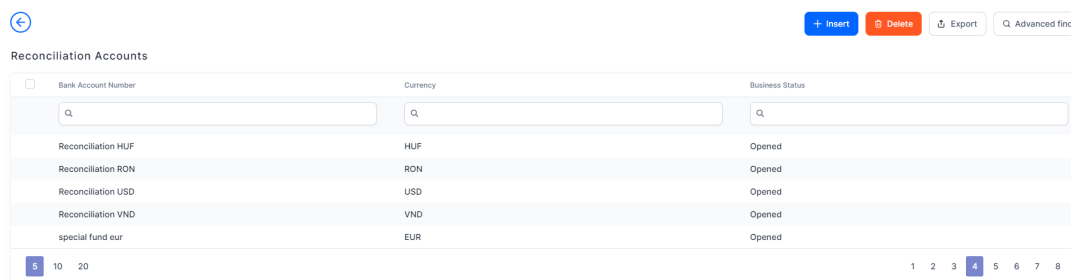
2. On the **Reconciliation Accounts** page, you can: create a new reconciliation account, edit an account from the list by double-clicking it, search for a specific record by filling in any or all of the column headers of the displayed records list, view the debit and credit operations performed through each reconciliation account by double-clicking the desired account and observing the **Debit Operations** and **Credit Operations** sections, or delete an account.

> **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:

- **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.
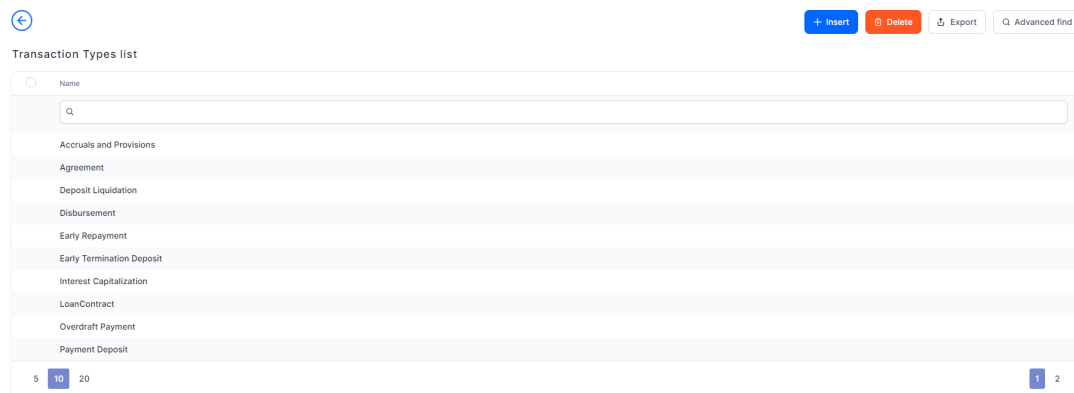
2. On the **Transaction Types List** page, you can add a new transaction type record or search, edit, and delete existing ones.

Creating Transaction Types

1. To create a new transaction type, click the **Insert** button on the **Transaction Types List** page.

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:

- **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:

- **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 Digital Journeys

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 Innovation Studio. Later, in the **Advanced** tab of a digital 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 Innovation Studio User Guide.
> For information about the available endpoints, please consult the **Banking Product Factory Developer Guide**.

Example of call for the FTOS_BP_GetBankingProductDetails endpoint

This endpoint returns the product details.

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);
})
```