Reference Data Management

for SAP Master Data Governance

Object Documentation

Exchange Rates

Itego

Trusted data. Delivered.

Version: 31.07.2025 RDM 2507

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1 Introduction

1.1 Exchange Rates in General

The general concept of exchange rates is fairly easy to grasp. An exchange rate simply determines, how many units of a currency you can buy with a given amount of another currency.
If, for example, the exchange rate between EUR and USD is currently 1,09 then 1.00 EUR can buy you 1.09 USD.

Figure 1: Currency Symbols

This example, however, may be a bit oversimplified, as in the real world we have to deal with several ways of specifying exchange rates. The most important ones are:

Quotation: There are two different quotations for exchange rates. In a direct quotation, the domestic currency forms the base, meaning that the value of the foreign currency is defined in units of the domestic currency. As a European citizen, the direct exchange rate for EUR/USD would be e.g. 0.91. In an indirect quotation, this definition is swapped, and the value of the domestic currency is defined in units of the foreign currency. In the same example, the exchange rate for EUR/USD is now 1.09. Note that direct and indirect rates can be easily converted by calculating $\frac{1}{\text{rate}}$. This comes in handy later on.

Bid & Ask: There are two different values for each exchange rate. The example-currency pair (in this case indirect) is often quoted like this: EUR/USD 1.090-1.094. In this case, the former price represents the Bid price. It is the price at which other instances are willing to buy the currency. The latter price, however, represents the Ask price. It is the price at which other instances are willing to sell the currency.

Other important types:

- Real Exchange Rate (RER): considers the purchasing power of a currency
- Fixed or Floating Rate: determines if the exchange rate is fixed or flexible
- Currency Peg: indicator if one currency is pegged to another

Basically, every exchange rate system nowadays is floating, meaning the rates are subject to change. This makes exchange rates a unique kind of Reference Data, as Reference Data is (usually) alternated rarely. Therefore, anyone who is in demand of accurate exchange rates will need to update them on a regular (daily) basis. This is, where providers such as the ECB, Thomson Reuters, Bloomberg, Telerate or the SAP itself come into play. These instances publish updates for exchange rates frequently.

1.2 Exchange Rates in Itego RDM

1.2.1 General Functionality

The following image gives an overview over the four main functionalities of the Exchange Rates object.

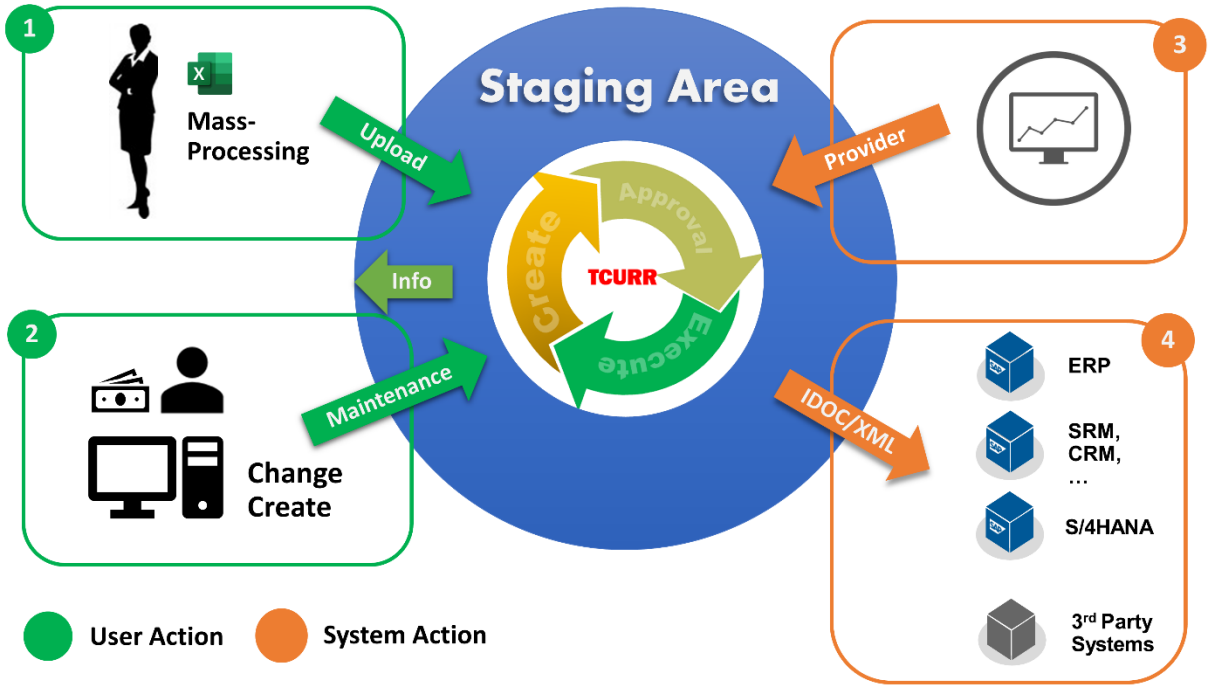


Figure 2: Functional Overview Itego RDM – Exchange Rates

Itego RDM provides four main functionalities, which all allow for maintenance, import or export of Exchange Rates within the MDG RDM tables (view section 1.2.2). The data, which is maintained through these functionalities, always passes through the Local Staging Area (LSA), and is activated according to the workflow, that is determined for each Rate (workflow explained in section 1.2.4).

An overview of the four functionalities is provided with the following headings.

1.2.1.1 Mass Processing (Upload)

Mass processing allows the user to create or change multiple Exchange Rates at once. In this case, the data is transferred via either a `.txt` or a `.csv` file. The upload application can be configured according to the file structure the file uses. Mass processing comes in handy when attempting to load big amounts of data into the system at once, e.g. for the initial load when configuring RDM. Application explained in section 3.3.

1.2.1.2 Change & Create Requests

Change and create requests within MDG RDM are used frequently. MDG RDM allows for a consistent management for all relevant tables, that are used to maintain Exchange Rates. Application explained in sections 3.1 (create) and 3.2 (change).

1.2.1.3 Datafeed

Datafeed refers to the process of importing Exchange Rates from external sources, such as the ECB via the Datafeed interface. Itego RDM provides a special report that works with every data provider for Exchange Rates. The report validates the imported Exchange Rates and creates one or two change requests, depending on your choices of the import type (view section 2.6.1). Application explained in section 2.

1.2.1.4 Distribution to Other Systems

MDG RDM also allows for an export/distribution of Exchange Rates to other systems, SAP or non-SAP. Within SAP systems (especially ERP), this distribution works via so-called "intermediate documents" (IDocs). Data, which is transferred to third party systems, is usually exported as a `.csv` or `.txt` file, following a preconfigured file structure.

1.2.2 Relevant Tables

The following image names all the relevant tables for maintaining exchange rates and shows the relationships between them. An explanation of each table is listed below.

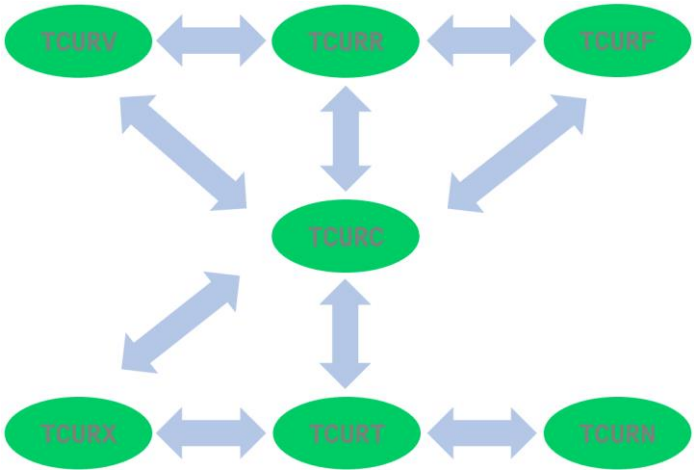


Figure 3: Dependencies between tables

TCURV - Exchange rate types for currency translation: The exchange rate type is used to store exchange rates for different purposes on the same date in the system. (e.g. bid, ask, average rate)

TCURR – Exchange rates: The exchange rate relations for the currency conversion are only displayed here (ASK=ask, BID=bid, MID=average rate)

TCURF – Ratio for exchange Rate: The exchange rate relation for currency conversion is defined per exchange rate type and per currency pair. You can define a different exchange rate type for special currency pairs

TCURC – Currency Codes: You need entries in the currency table for all currencies that occur in your business transactions

TCURX – Decimal places of the currencies: Currencies can have a different number of decimal places

TCURT – Descriptions of Currency Codes: Long -and short text which describes the Currency Code closer

TCURN – Quotations: For each currency pair, the exchange rate is set in direct quotation or indirect quotation. The indirect quotation indicates the exchange rate how many foreign currency units correspond to one domestic currency unit (euro). In the so-called direct quotation, however, the exchange rate indicates how much a foreign currency unit is worth in €.

1.2.3 Available Attributes in MDG RDM

Itego RDM includes the following attributes to properly maintain Exchange Rates:

Attribute	Description
Exchange Rate (Type)	Exchange Rate (Type)
Currency (from)	Currency value from
Currency (to)	Currency value to
Valid from	Valid from
Alt. exch.rate type	Alternative Exchange Rate type
Alt.e/r type valid fr.	Alternative e/r type valid from
Exchange Rate	Exchange Rate
Quotation type	Quotation type
Ratio (from)	Ratio (from)
Ratio (to)	Ratio (to)

Special attention should be paid to the attributes Exchange Rate (Type) & Currency (from/to) and their options. Available currencies are the ones you maintained in the Currency Object in RDM. Available Exchange Rate Types are delivered by SAP. The standard-set is listed below.

Exchange Rate (Type)	Usage, Description
100*	Reference value = group value
1001	Current exchange rate
1002	Average exchange rate
1003	Historical exchange rate
1004	Current exch. rate prior year
200*	Reference value = group value
2001	Current exchange rate
2002	Average exchange rate
2003	Historical exchange rate
2004	Current exch. rate prior year
B	Standard translation at bk.selling rate
EURO	EMU regulation, fixed exchange rates
EURX	EMU regulation, variable exchange rates
G	Standard translation at bank buying rate
I	Intrastat exchange rate type
M	Standard translation at average rate
MCA	Multi Currency Account
P	Standard translation for cost planning

1.2.4 Available Change Request Types

Relevant standard change request types are:

CR Type	Description	Properties, Comments
ICR1S01	Create Exchange Rate and activate	Create, 1-step
ICR1S02	Process Exchange Rate and activate	Change, 1-step
ICR2S01	Create Exchange Rate with approval	Create, 2-step
ICR2S02	Process Exchange Rate with approval	Change, 2-step
ICR3S01	Create Exchange Rate with proc. and appr	Create, 3-step
ICR3S02	Process Exchange Rate with proc and appr	Change, 3-step

Message Type (IDoc): /ITR/CUR_EXRA

These change request types above are provided for every object in RDM. More information about them can be found in the Functional Documentation of RDM. Therefore, they are of no greater interest for this documentation. However, Itego provides three more change request types, which are made for use in the data import process of Exchange Rates (explained in section 2).

1. **CR for direct update:** With this change request, the data it contains is distributed automatically to all eight relevant tables. It is used for releasing all the issue-free import data as quickly and efficiently as possible, without it having to pass through the RDM MDG workflow.
2. **CR for normal checks:** This change request is also used to store all the data which contains no issues. Unlike CR 1 however, this change request passes through the MDG RDM workflow before being released. It instructs the user to simply check on the data and then release the request.
3. **CR for error processing:** This change request is used to store all the data which failed the validation after a data import. It has to pass through the 3-step MDG RDM workflow, meaning, that it needs to be approved by both a data specialist and a data steward before being released. In the approval process, the change request instructs the user(s) to check and modify the data before releasing it.

As you may have noticed, the change requests 1 and 2 are both made for processing data, which passed validation on the first attempt. This implies, that for a Datafeed process, you will have to decide, whether you want to use CR 1 or CR 2 in said process. For a guide on how to do so, and a brief overview of each CRs advantages and disadvantages, please view section 2.6.1.

2 Maintenance via Datafeed

2.1 The Datafeed Process

Itego Reference Data Management (RDM) for SAP MDM provides a standardized solution to manage the entire table environment consistently and in a single process. The main part of the process itself can be described by the image below.

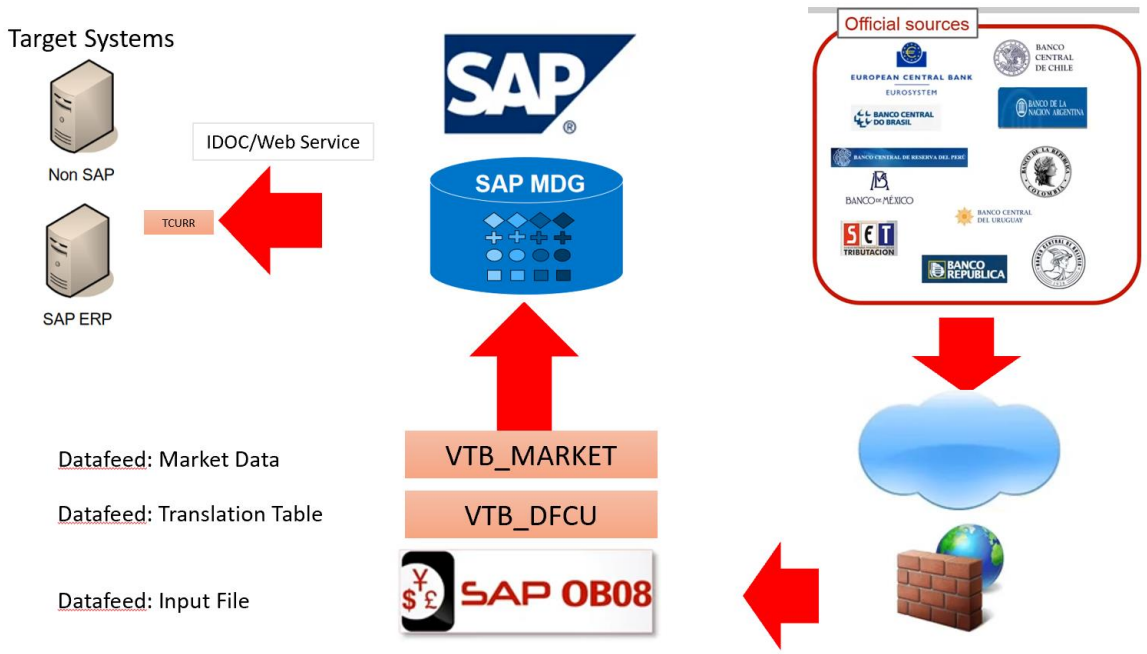


Figure 4: The data import process

1 – Importing Exchange Rates: The user first gets to choose between a source from which the exchange rates should be imported (e.g. ECB, Thomson Reuters, Bloomberg, Telerate, Sap, etc.). These exchange rates are then delivered by a provider. Available providers are FINISS, Infoaval, Opentrade, Reuters, ReutersWeb and Telerate. Each provider usually collects data from several of the above-mentioned sources and imports it into the tables `VTB_MARKET` and (for translation purposes) `VTB_DFCU`.

2 – Validating: In the second step, the user runs a report which is implemented in the common job-network. The report itself runs a validation of the Exchange Rates in the VTB_MARKET table. It also creates one to three (depending on the configuration) change requests to activate the rates. If an exchange rate carries issues that require further evaluation (e.g. extreme deviation, suspicious date or time, etc.), it is automatically added to the "`ERROR`" change request.
If an Exchange Rate carries no issues, it can either be activated directly, without passing through MDG RDM, or be put in a separate "issue-free" change request.

3 – Editing: In the third step, the user gets to edit the rates which raised an issue in the validation in MDG and (depending on step 2) approve the issue-free Rates. The Exchange Rates will then be distributed to the corresponding tables.

In addition to this import procedure, Itego RDM – as always – offers a standard workflow solution for the governance of Exchange Rates. Via the overview page in RDM, the user is able to manually create or alternate Exchange Rates. The available change request types can include up to three instances, which are: Requester, Data Specialist, Data Steward. The scheme below shows, how these roles are used for change requests.

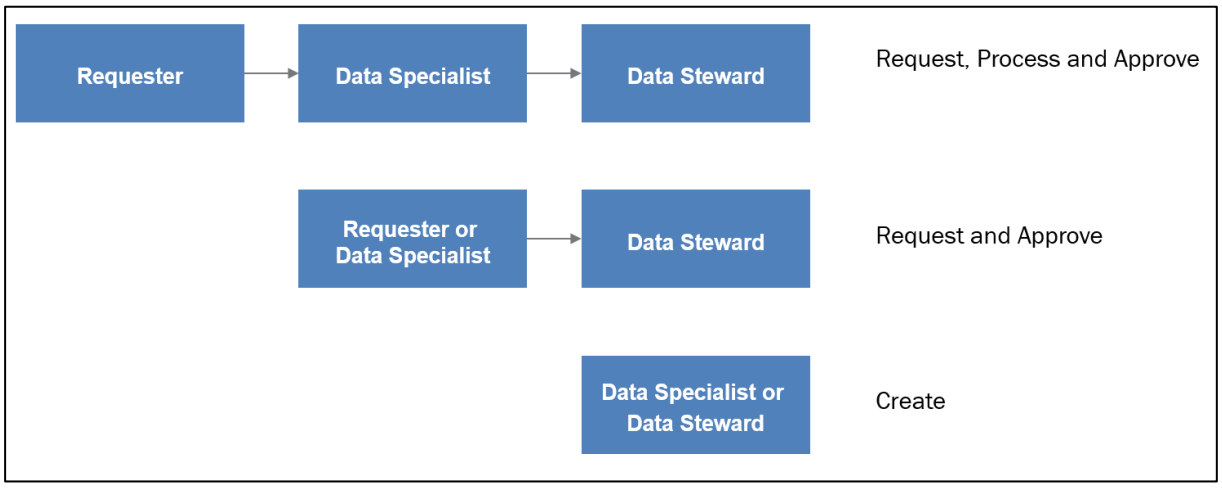
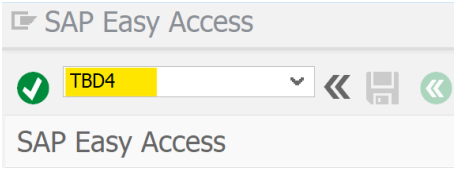


Figure 5: Workflow variants in RDM

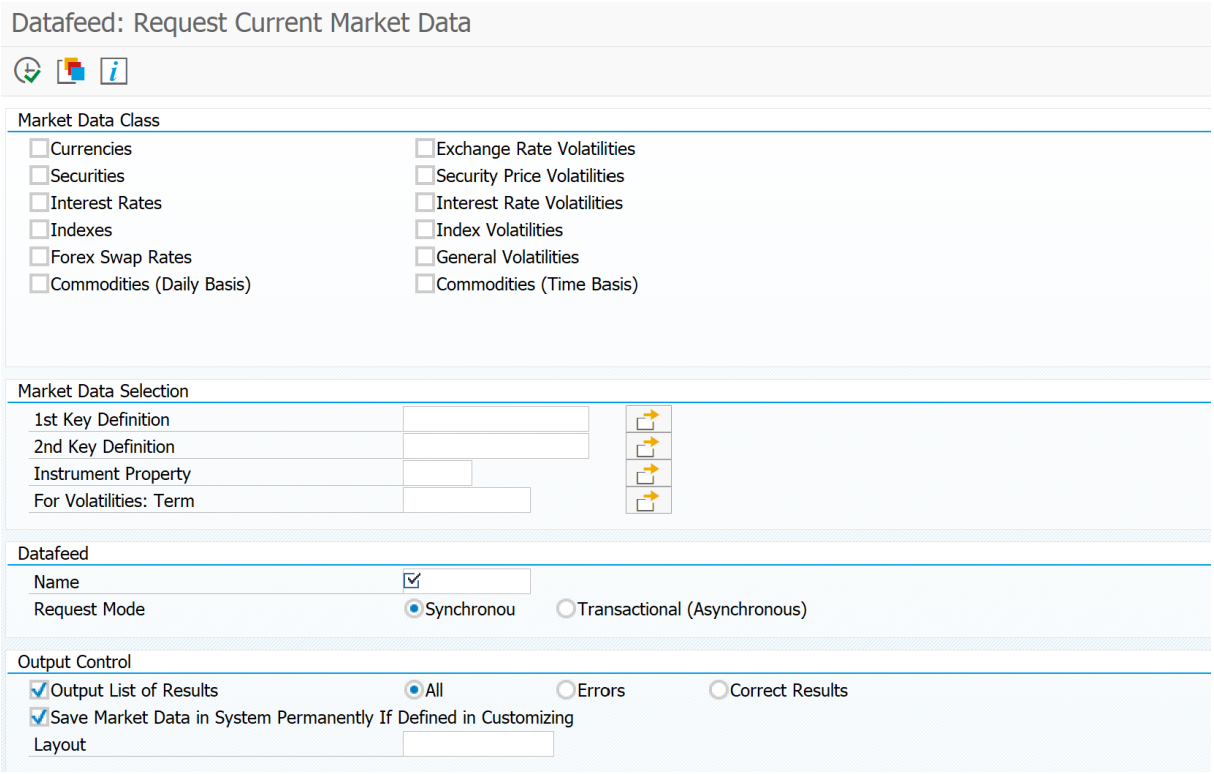
2.2 Importing Exchange Rates

Please note that a prerequisite of starting an import is, that *all* rates are contained in the customizing of the datafeed interface. If this is not the case, the entire interface is unable to run. Contact your provider for further details about the imported rates.

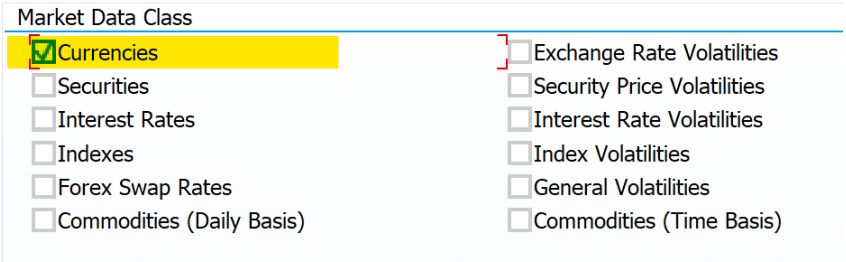
To start the entire process, the user has to log into the SAP GUI and execute the transaction TBD4.



The "Datafeed: Request Current Market Data" program will pop up, allowing you to make the following selections:

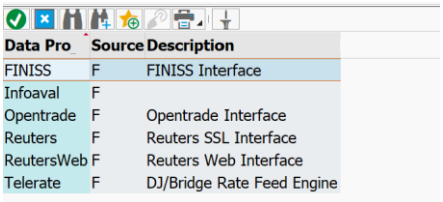


The "Market Data Class" Group lets you choose between the types of market data that you want to import. For importing Exchange Rates, we will have to check the "Currencies" box.



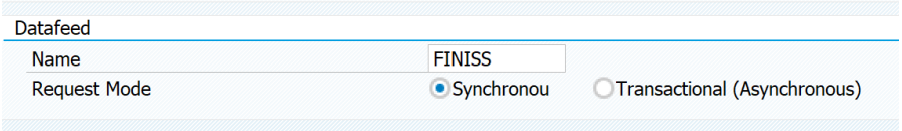
The "Market Data Selection" Group can be left blank

In the "Datafeed" Group, you need to choose the provider of the actual data. In our case, we are going to use provider FINISS. When applying this documentation, you will have to choose the provider, which is accessible to you. It can be found via F4-help.

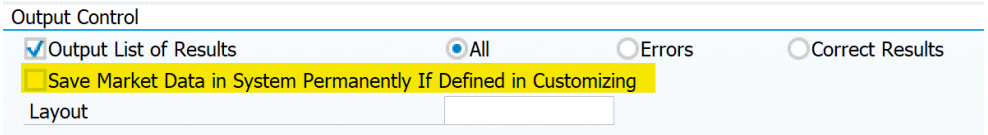


Data Pro	Source	Description
FINISS	F	FINISS Interface
Infoaval	F	
Opentrade	F	Opentrade Interface
Reuters	F	Reuters SSL Interface
ReutersWeb	F	Reuters Web Interface
Telerate	F	DJ/Bridge Rate Feed Engine

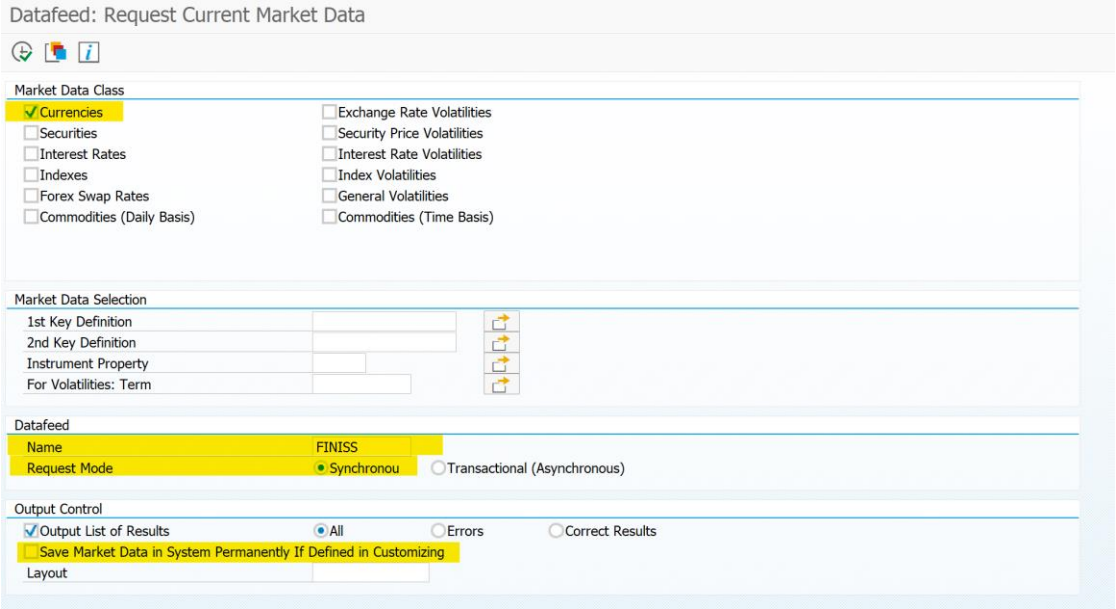
The import mode needs to be set to "Synchronous"



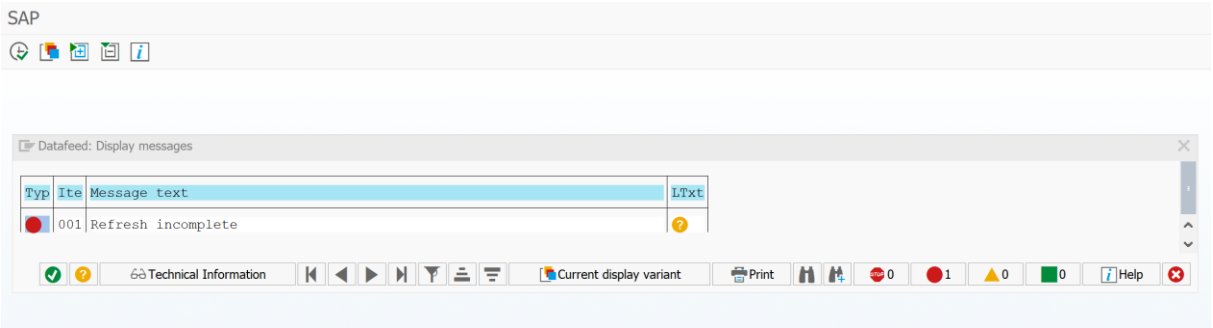
For the last group, "Output Control", you will have to pay attention to the "Save Market Data in System Permanently If Defined in Customizing" checkbox, which needs to be unchecked.



This leaves us with a filled-out transaction which can be executed:



TBD4 will then import and pre-validate the Exchange Rates. If the program detects any issues with a Rate, a message window such as the following is going to pop up. It is going to show you how many issues it detected.



When taking a look at this message, you can either hit ? for more information on the issue, or hit Technical Information for technical data of the message itself.

Afterwards, you can confirm by pressing ✓ and a table containing all the imported data will be shown:

Datafeed: Request Current Market Data

Choose Save Selections

Mkt data - 29.05.2020, 05:29:42 o'clock User: BACKF

Market data class: 01 Currencies Data source: FINISS

From curr.	To-Currency	Cat	.	Date	Time	Value	.	"Fr" ratio	To factor	.	Indir.Quot Cur	UoM	Put/Cal
Refresh	UpdateFlag	Status	Warning/error message										
AMD	EUR	M		28.05.2020	22:30:00	0,00188	AMD	1	1		X		
AMD	USD	M		28.05.2020	22:30:00	0,00207	AMD	1	1		X		
AUD	EUR	M			00:00:00			1	1				
X		99	Rate not contained in datafeed response										
BRL	EUR	M		28.05.2020	22:30:00	0,17096	BRL	1	1		X		
EUR	AMD	M		28.05.2020	22:30:00	532,98000	USD	1	1				
X													
EUR	RON	M		28.05.2020	22:30:00	4,84350	USD	1	1				
RON	EUR	EURX		28.05.2020	22:30:00	0,20646	RON	1	1		X		
RON	EUR	M		28.05.2020	22:30:00	0,20646	RON	1	1		X		
RON	USD	M		28.05.2020	22:30:00	0,22744	RON	1	1		X		
USD	AMD	M		28.05.2020	22:30:00	483,82000	USD	1	1				
X													
USD	BRL	M		28.05.2020	22:30:00	5,31000	USD	1	1				
USD	RON	M		28.05.2020	22:30:00	4,39680	USD	1	1				

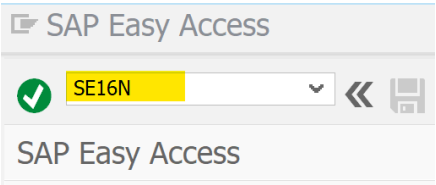
Transfer Statistics	Successful	Warnings	Error
Market data class: 01 Currencies	11	0	1
Overall	11	0	1

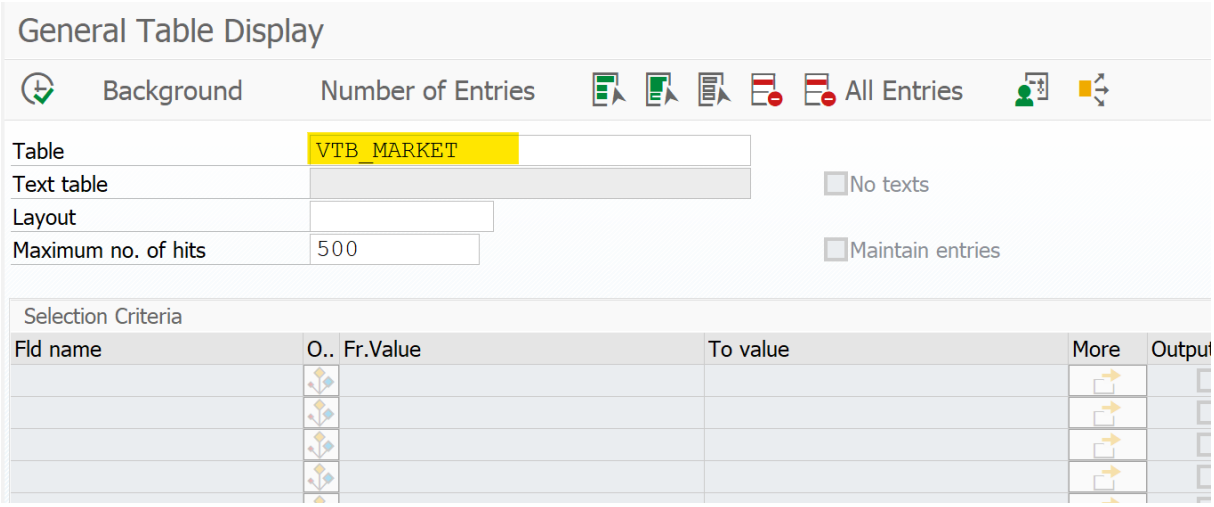
You can now view the data of the Exchange Rate that failed the validation (and the ones who passed). According to this table, the pair AUD/EUR raises an issue, meaning, it will be put into a separate change request.

By pressing 🗑 in the menu bar, you can delete selected entries (not advised)

By pressing 🖩 or 📤 you can extract the table into an Excel-spreadsheet or other file

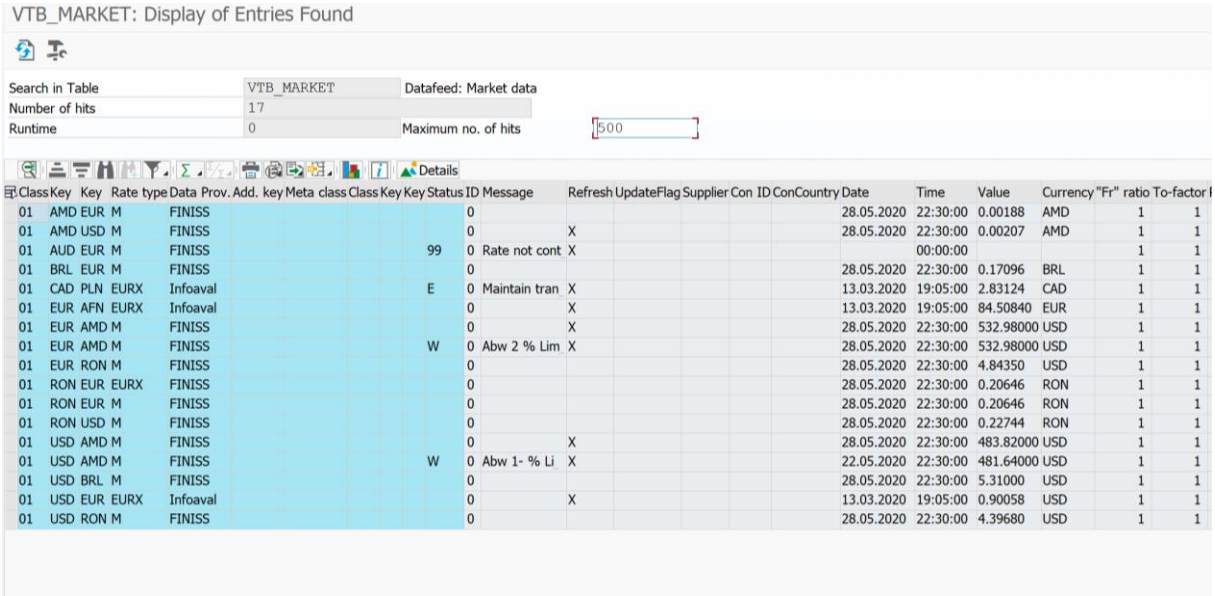
By using Choose Save you can manage the table layouts
The table VTB_MARKET (and VTB_DFCU) now contains the imported data. If you want to double-check this, you can execute transaction SE16N and enter the table VTB_MARKET or VTB_DFCU:





Hit Execute

You can now view the updated VTB_MARKET table:

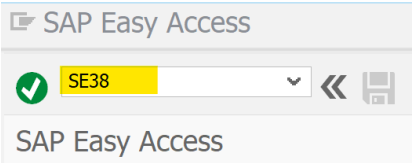


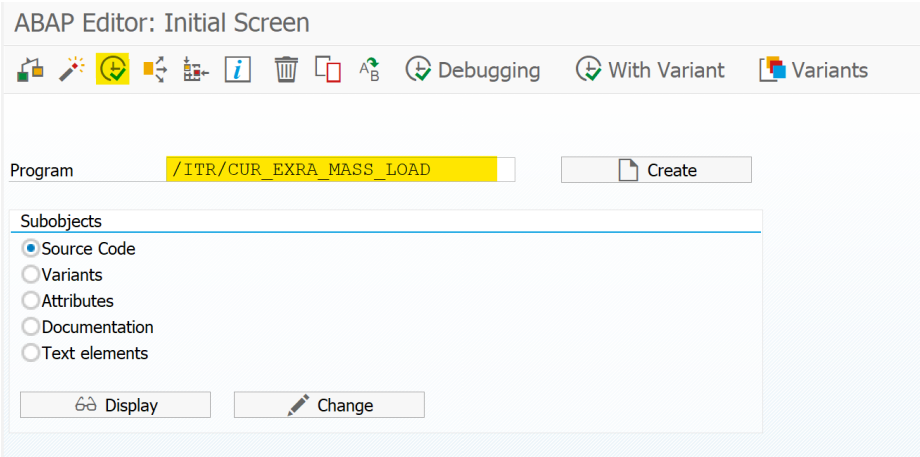
Class	Key	Key	Rate type	Data Prov.	Add. key	Meta class	Class Key	Key	Status	ID	Message	Refresh	UpdateFlag	Supplier	Con ID	ConCountry	Date	Time	Value	Currency	"Fr" ratio	To-factor
01	AMD	EUR	M	FINISS						0							28.05.2020	22:30:00	0.00188	AMD	1	1
01	AMD	USD	M	FINISS						0		X					28.05.2020	22:30:00	0.00207	AMD	1	1
01	AUD	EUR	M	FINISS					99	0	Rate not cont	X						00:00:00			1	1
01	BRL	EUR	M	FINISS						0							28.05.2020	22:30:00	0.17096	BRL	1	1
01	CAD	PLN	EURX	Infoaval					E	0	Maintain tran	X					13.03.2020	19:05:00	2.83124	CAD	1	1
01	EUR	AFN	EURX	Infoaval						0		X					13.03.2020	19:05:00	84.50840	EUR	1	1
01	EUR	AMD	M	FINISS						0		X					28.05.2020	22:30:00	532.98000	USD	1	1
01	EUR	AMD	M	FINISS					W	0	Abw 2 % Lim	X					28.05.2020	22:30:00	532.98000	USD	1	1
01	EUR	RON	M	FINISS						0							28.05.2020	22:30:00	4.84350	USD	1	1
01	RON	EUR	EURX	FINISS						0							28.05.2020	22:30:00	0.20646	RON	1	1
01	RON	EUR	M	FINISS						0							28.05.2020	22:30:00	0.20646	RON	1	1
01	RON	USD	M	FINISS						0							28.05.2020	22:30:00	0.22744	RON	1	1
01	USD	AMD	M	FINISS						0		X					28.05.2020	22:30:00	483.82000	USD	1	1
01	USD	AMD	M	FINISS					W	0	Abw 1- % Li	X					22.05.2020	22:30:00	481.64000	USD	1	1
01	USD	BRL	M	FINISS						0							28.05.2020	22:30:00	5.31000	USD	1	1
01	USD	EUR	EURX	Infoaval						0		X					13.03.2020	19:05:00	0.90058	USD	1	1
01	USD	RON	M	FINISS						0							28.05.2020	22:30:00	4.39680	USD	1	1

2.3 Processing the Imported Data

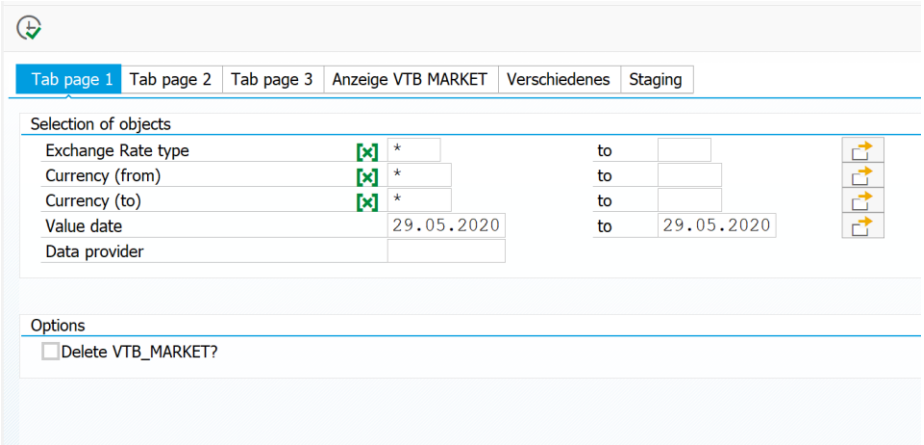
To process the imported data, you need to run the special report for this case.

Open transaction SE38 and run the report /ITR/CUR_EXRA_ MASS_LOAD:



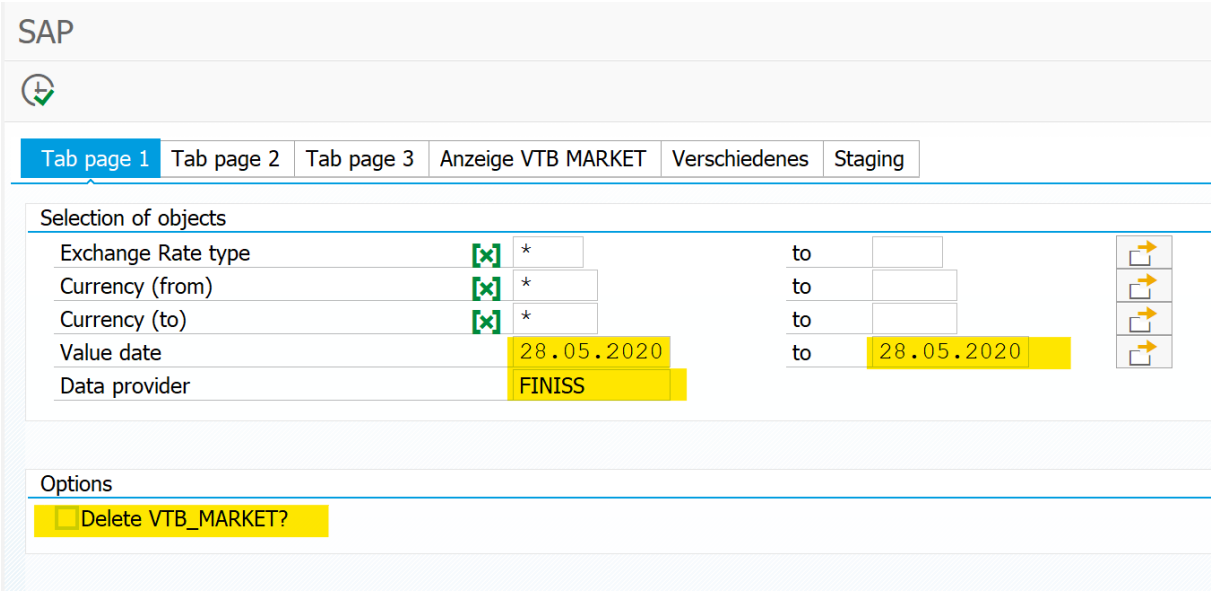


The following window should pop up (date will vary):

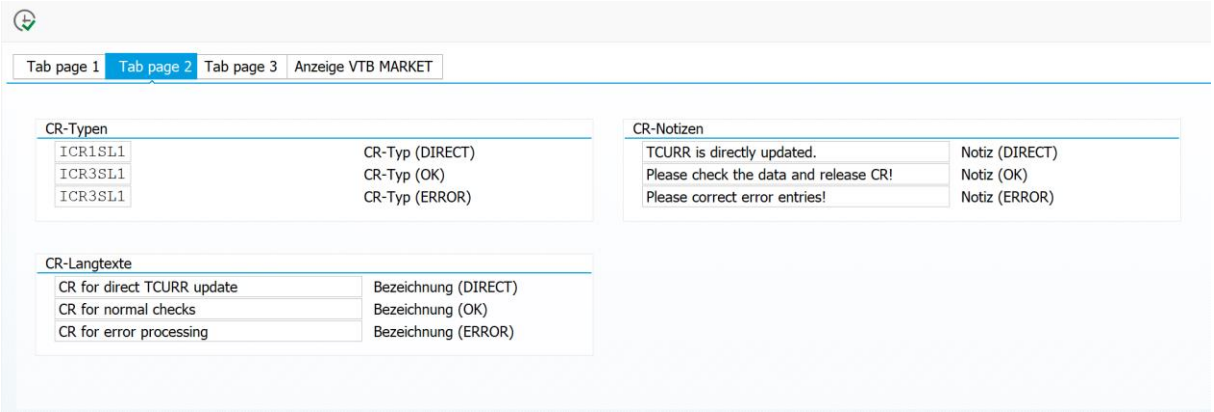


The program itself consists out of six tabs, which allow you to configure the validation process and the creation of the change requests.

In Tab Page 1, you get to choose, which Rates you want to have processed. This determination is set by five categories: Exchange Rate (Type); Currency (from); Currency (to); Date; Provider. If you want to process all the Exchange Rates you previously imported in step 2.2, a simple * is going to select everything. After this selection was made, you will have to choose, if the VTB_MARKET table is to be deleted after the processing. In this case, we are going to let the table remain as it is.



You can then select the second tab:



Tab page 2 lets you set three options, all regarding the change requests which are created after the valuation. `/ITR/CUR_EXRA_MASS_LOAD` differentiates between three types of Exchange Rates in `VBT_MARKET`.

The first type (`DIRECT`) includes objects which passed the validation and are flagged as "direct activation" in `VTB_MARKET`. Objects will be activated in the relevant tables in MDG without even passing through the MDG RDM workflow.
The second type (`OK`) includes objects which passed the validation and are not flagged as "direct activation". All the objects are collected in a change request which has to be approved in the MDG RDM workflow.
The third type (`ERROR`) includes objects which did not pass the validation. All objects are collected in a change request which has to be edited and approved in the MDG RDM workflow.
Please refer to section 2.6.1 for more info about this classification.

For now, you can leave the requests like this:

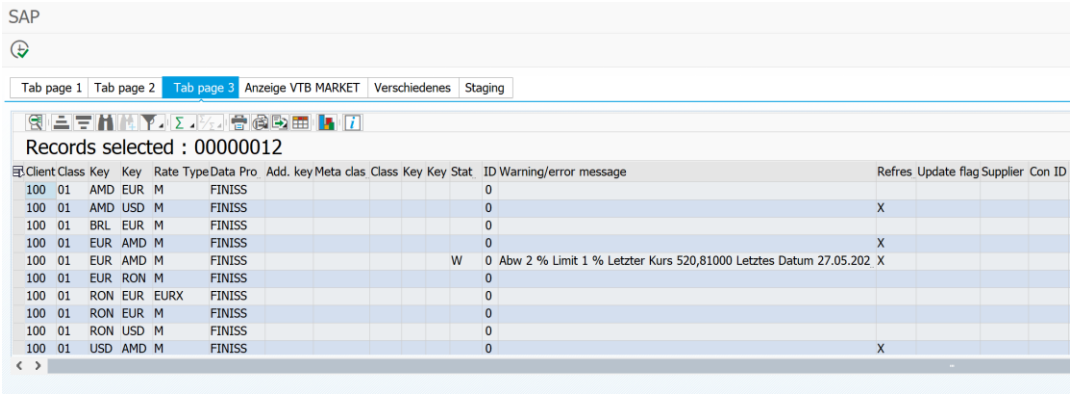
CR-Typen	
ICR1SL1	CR-Typ (DIRECT)
ICR3SL1	CR-Typ (OK)
ICR3SL1	CR-Typ (ERROR)

The other two groups let you configure the description and the long text for the corresponding change request. We are going to use the standard configuration:

CR-Notizen	
TCURR is directly updated.	Notiz (DIRECT)
Please check the data and release CR!	Notiz (OK)
Please correct error entries!	Notiz (ERROR)

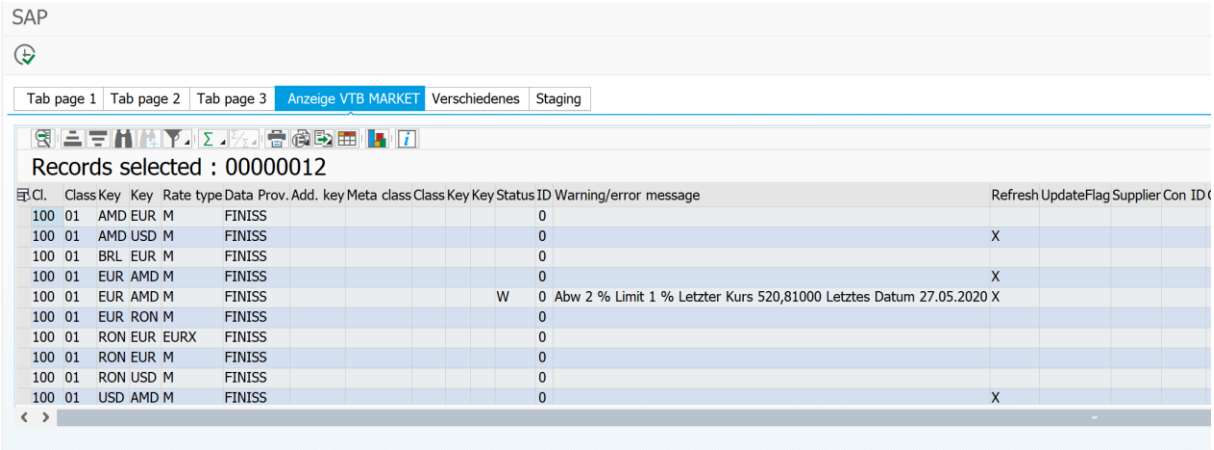
CR-Langtexte	
CR for direct TCURR update	Bezeichnung (DIRECT)
CR for normal checks	Bezeichnung (OK)
CR for error processing	Bezeichnung (ERROR)

You can then select Tab page 3. It lets you double-check the data that will pass through MDG RDM (namely the VTB_MARKET-Data after the validation).



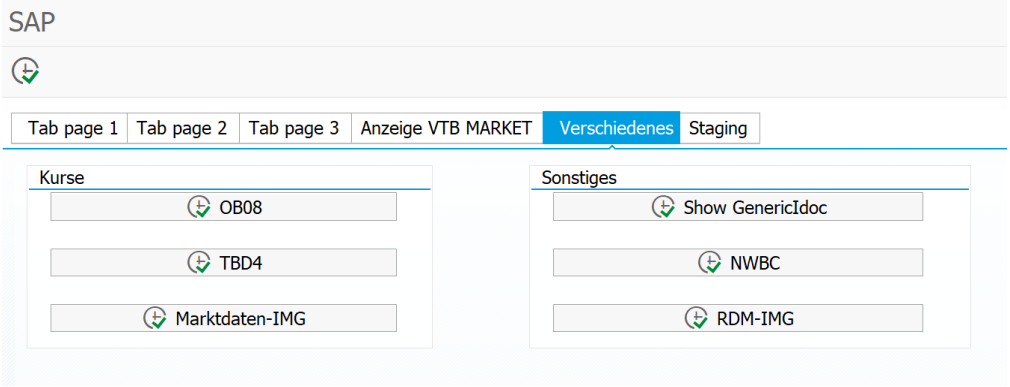
Client	Class	Key	Key	Rate Type	Data Pro	Add. key	Meta clas	Class	Key	Key	Stat	ID	Warning/error message	Refres	Update flag	Supplier	Con ID
100	01	AMD	EUR	M	FINISS							0					
100	01	AMD	USD	M	FINISS							0		X			
100	01	BRL	EUR	M	FINISS							0					
100	01	EUR	AMD	M	FINISS							0		X			
100	01	EUR	AMD	M	FINISS						W	0	Abw 2 % Limit 1 % Letzter Kurs 520,81000 Letztes Datum 27.05.202	X			
100	01	EUR	RON	M	FINISS							0					
100	01	RON	EUR	EURX	FINISS							0					
100	01	RON	EUR	M	FINISS							0					
100	01	RON	USD	M	FINISS							0					
100	01	USD	AMD	M	FINISS							0		X			

On Tab page 4, you can check the `VTB_MARKET` table as it is right now (before the validation)



Cl.	Class	Key	Key	Rate type	Data Prov.	Add. key	Meta class	Class	Key	Key	Status	ID	Warning/error message	Refresh	UpdateFlag	Supplier	Con ID
100	01	AMD	EUR	M	FINISS							0					
100	01	AMD	USD	M	FINISS							0		X			
100	01	BRL	EUR	M	FINISS							0					
100	01	EUR	AMD	M	FINISS							0		X			
100	01	EUR	AMD	M	FINISS						W	0	Abw 2 % Limit 1 % Letzter Kurs 520,81000 Letztes Datum 27.05.2020	X			
100	01	EUR	RON	M	FINISS							0					
100	01	RON	EUR	EURX	FINISS							0					
100	01	RON	EUR	M	FINISS							0					
100	01	RON	USD	M	FINISS							0					
100	01	USD	AMD	M	FINISS							0		X			

Tab page 5 contains shortcuts to helpful (but not necessary) transactions throughout the datafeed process



- **`OB08`**: Shows the current Exchange Rates in the system
- **`TBD4`**: Releases imported Exchange Rates into the market data buffer (view section 2.2)
- **`Market Data-IMG`**: Displays the IMG for Market Data
- **`Show GenericIdoc`**: after defining filter criteria in this transaction, you can view the IDocs which are used to distribute the Exchange Rates between/to the tables
- **`NWBC`**: Opens the Net Weaver Business Client
- **`RDM-IMG`**: opens the IMG for RDM

Tab page 5 (staging) lets you check all the (in)active data in MDG

SAP

Tab page 1 | Tab page 2 | Tab page 3 | Anzeige VTB MARKET | Verschiedenes | Staging

Records selected : 00000421

Curr from	Curr to	Valid from	ExRT	Approv. By	Approved At	Approved By	AltE	ValidFrom	Exch. Rate	Quotation	Ratio	Ratio	Changed On	Changed By	Created On	Created By
AED	EUR	01.01.2001	EURX	BACKF	28.05.2020 10:48:23	Felix Back			/3,48000	2	1	1			26.03.2020 14:16:24	HOEWLERD
AED	JPY	01.01.2001	M	SCORYG	28.05.2020 23:39:51	Gerhard Scory			31,18700	1	1	1			26.03.2020 14:16:24	HOEWLERD
AED	KWD	01.01.2001	M	SCORYG	28.05.2020 23:39:51	Gerhard Scory			0,07761	1	1	1	23.04.2020 13:59:24	HOEWLERD	26.03.2020 14:16:24	HOEWLERD
AED	USD	01.01.2001	M	SCORYG	28.05.2020 23:39:51	Gerhard Scory			/3,68000	2	1	1			26.03.2020 14:16:24	HOEWLERD
AFN	ARS	31.12.1999	I	BACKF	11.05.2020 11:48:53	Felix Back			/0,30000		0	0			11.05.2020 09:33:06	BACKF
AMD	EUR	27.05.2020	M	SCORYG	28.05.2020 23:39:51	Gerhard Scory			/0,00188	2	1	1	28.05.2020 08:43:46	BACKF	28.05.2020 08:15:56	BACKF
AMD	EUR	26.05.2020	M	SCORYG	28.05.2020 23:39:51	Gerhard Scory			/0,00189	2	1	1			27.05.2020 05:50:00	BACKF
AMD	EUR	25.05.2020	M	SCORYG	28.05.2020 23:39:51	Gerhard Scory			/0,00190	2	1	1			26.05.2020 13:20:13	BACKF
AMD	EUR	22.05.2020	M	SCORYG	28.05.2020 23:39:51	Gerhard Scory			/0,00190	2	1	1	26.05.2020 07:23:27	SCORYF	23.05.2020 16:08:00	SCORYF
AMD	EUR	18.05.2020	M	SCORYG	28.05.2020 23:39:51	Gerhard Scory			/0,00190	2	1	1			19.05.2020 10:33:06	BACKF

After having checked all the tabs, you can press to execute the report, a window similar to this should pop up:

SAP

Tab page 1 | Tab page 2 | Tab page 3 | Anzeige VTB MARKET | Verschiedenes | Staging

Selection of objects

Exchange Rate type	[x]	*	to	
Currency (from)	[x]	*	to	
Currency (to)	[x]	*	to	
Value date		28.05.2020	to	28.05.2020
Data provider		FINISS		

Options

Delete VTB_MARKET?

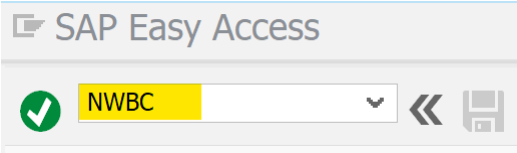
Records selected : 00000009

Change	Key	Key	Rate type	Data Prov.	Date	Time	Value	Indir.Quot
5746	ERRO	EUR	AMD	M	FINISS	20200528	223000	532.98000	
5747	MANU	AMD	EUR	M	FINISS	20200528	223000	0.00188	X
5747	MANU	BRL	EUR	M	FINISS	20200528	223000	0.17096	X
5747	MANU	EUR	RON	M	FINISS	20200528	223000	4.84350	
5747	MANU	RON	EUR	EURX	FINISS	20200528	223000	0.20646	X
5747	MANU	RON	EUR	M	FINISS	20200528	223000	0.20646	X
5747	MANU	RON	USD	M	FINISS	20200528	223000	0.22744	X
5747	MANU	USD	BRL	M	FINISS	20200528	223000	5.31000	
5747	MANU	USD	RON	M	FINISS	20200528	223000	4.39680	

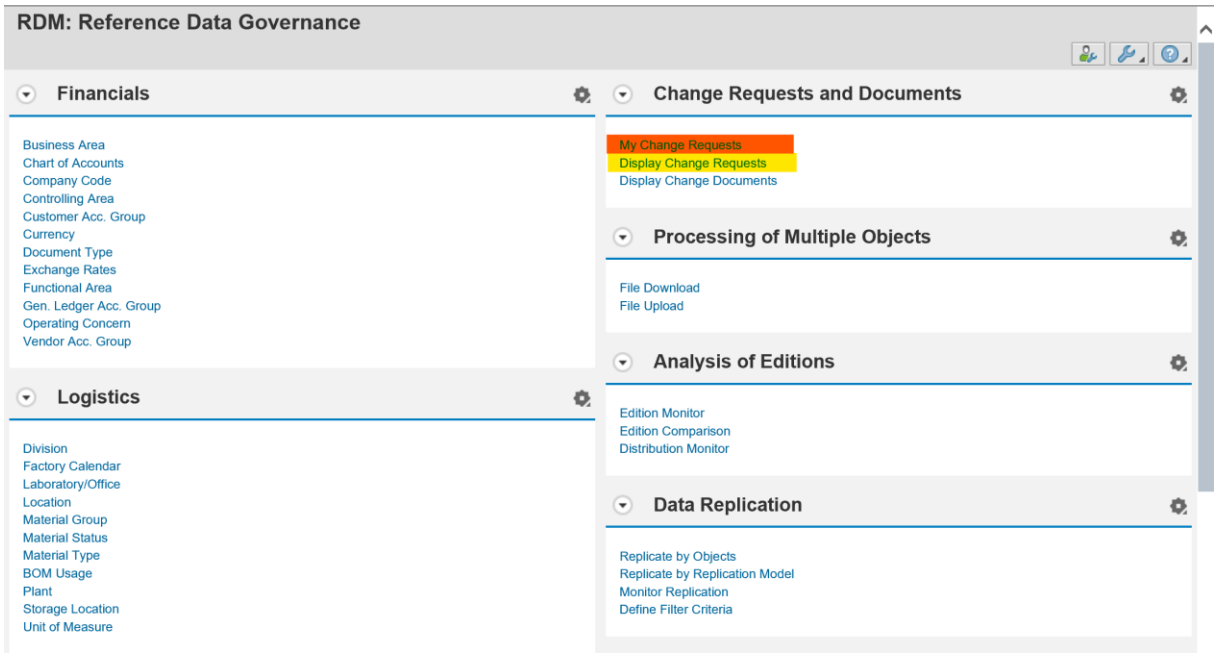
The two change requests have been created and now need approval in the next step

2.4 Approving and Editing the Change Requests

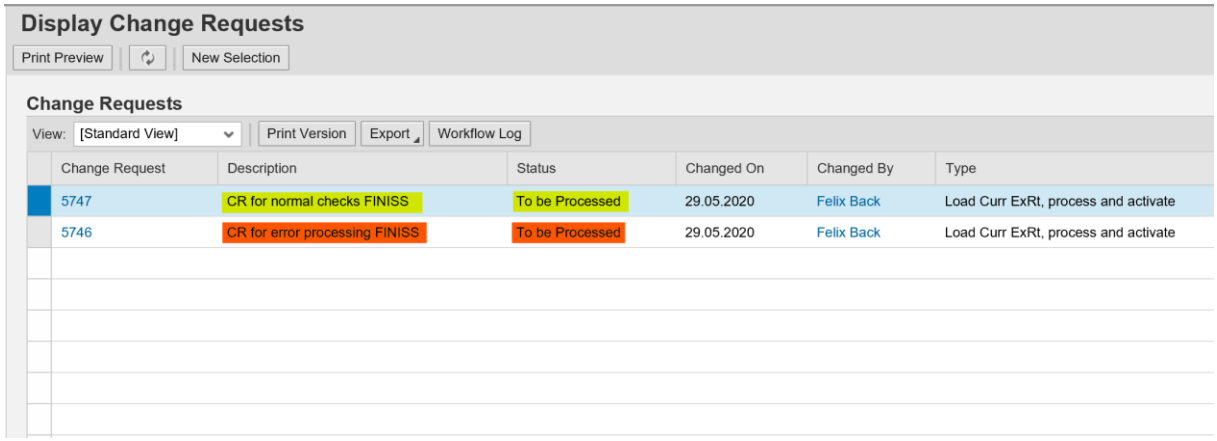
This process is started by opening the Net Weaver Business Client. This can be done by executing transaction NWBC:



You will be shown a page that looks similar to the one below. You can access the created change requests by clicking on "Display Change Requests" (yellow) under "Change Requests and Documents). Alternatively, if it was your user who ran the `/ITR/CUR_EXRA_ MASS_LOAD` report, you can also click on "My Change Requests" (orange).

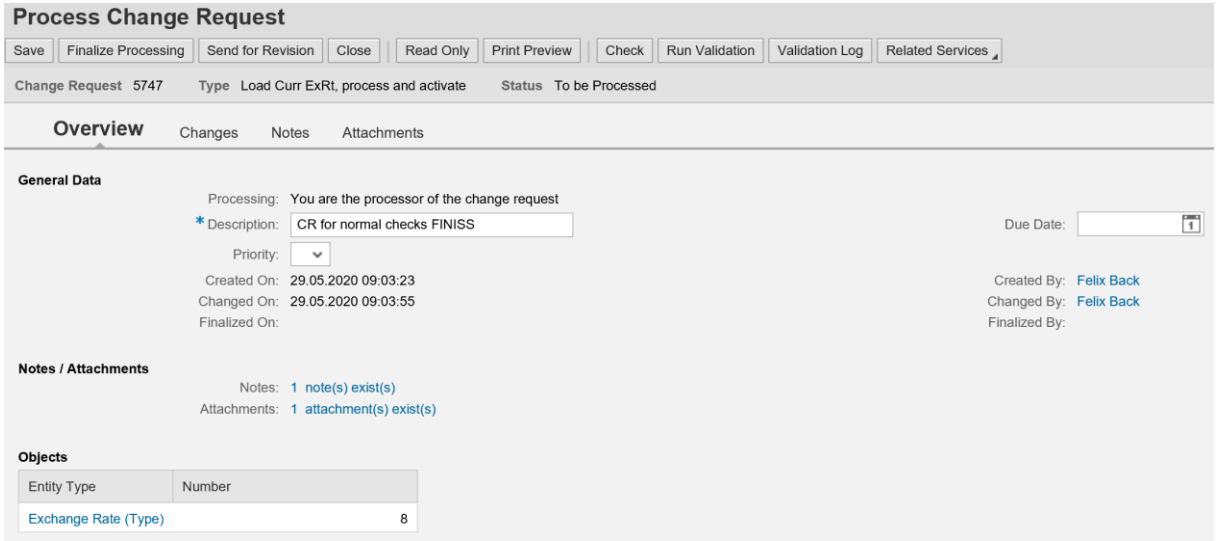


You will be shown a page similar to the one below. It contains two change requests which both need approval. As labeled, the yellow-marked change request contains all the Exchange Rates which passed the validation on the first attempt and do not need to be checked on again. The orange-marked change request contains all the Rates which raised an issue in the validation and need to be checked again.

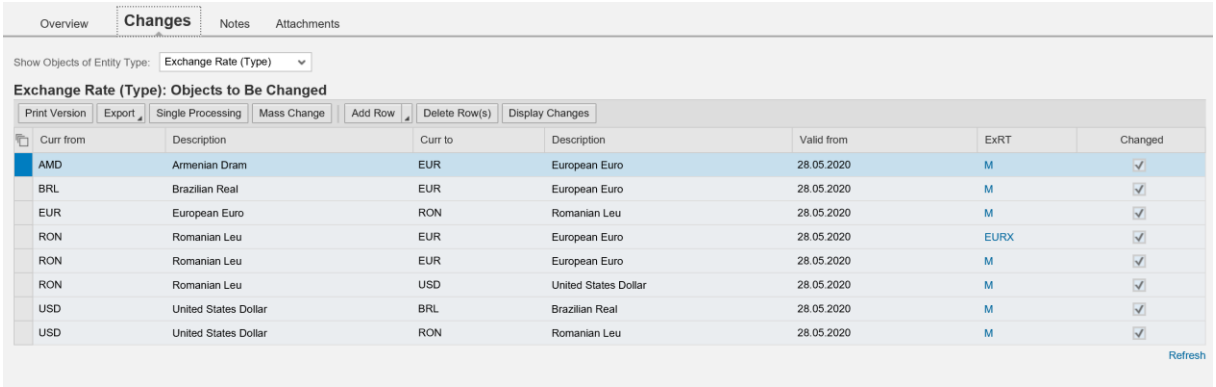


2.4.1 Issue-Free Request

In the first step, we are going to approve the issue-free change request. In order to do this, we are going to click on the change request number (5747). You will be shown the overview tab of the change request

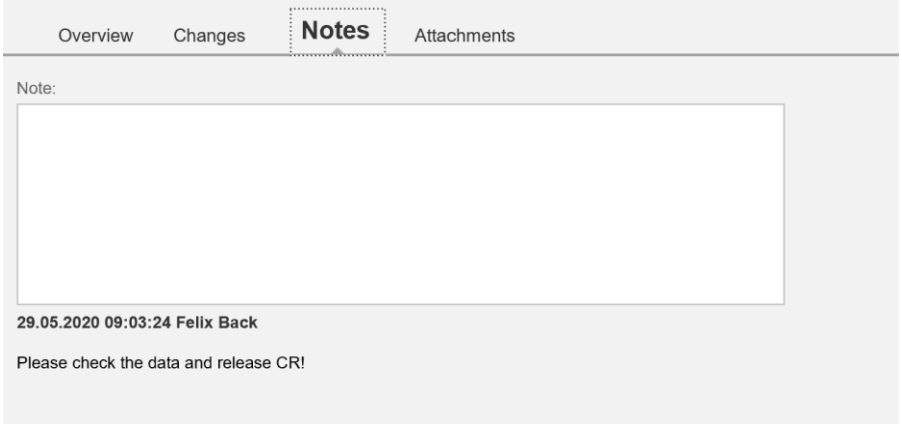


You can view the other tabs which contain more information about the change request. The "Changes" tab shows a table, containing all the changes that the request will make.



Curr from	Description	Curr to	Description	Valid from	ExRT	Changed
AMD	Armenian Dram	EUR	European Euro	28.05.2020	M	✓
BRL	Brazilian Real	EUR	European Euro	28.05.2020	M	✓
EUR	European Euro	RON	Romanian Leu	28.05.2020	M	✓
RON	Romanian Leu	EUR	European Euro	28.05.2020	EURX	✓
RON	Romanian Leu	EUR	European Euro	28.05.2020	M	✓
RON	Romanian Leu	USD	United States Dollar	28.05.2020	M	✓
USD	United States Dollar	BRL	Brazilian Real	28.05.2020	M	✓
USD	United States Dollar	RON	Romanian Leu	28.05.2020	M	✓

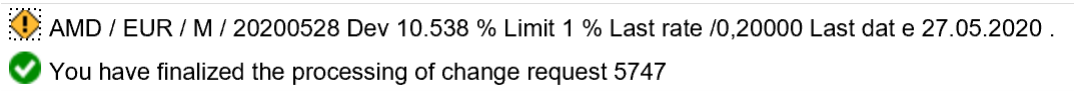
The "Notes" tab shows, notes that have been added to the request:



The "Attachments" tab by standard contains a plain text file which lists the details of the change request as a simple text. In our case, it looks like this:

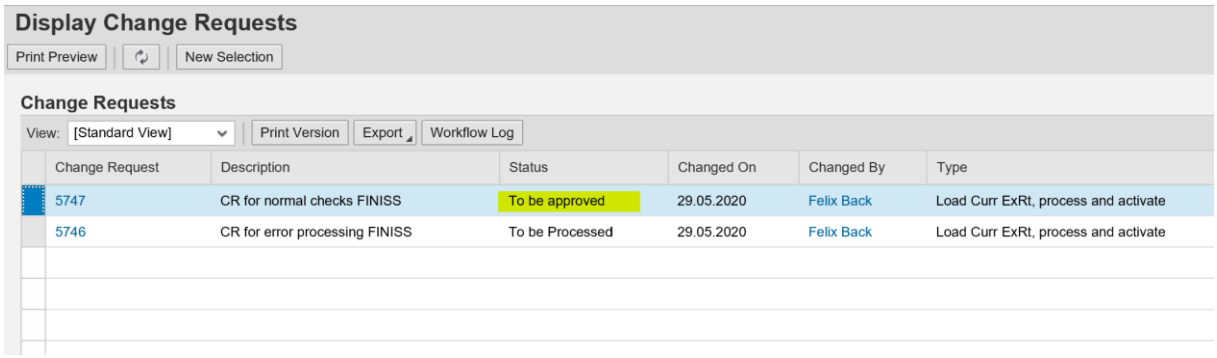
```
M       AMD     EUR     20200528        223000  0.00188 X
M       BRL     EUR     20200528        223000  0.17096 X
M       EUR     RON     20200528        223000  4.84350
EURX    RON     EUR     20200528        223000  0.20646 X
M       RON     EUR     20200528        223000  0.20646 X
M       RON     USD     20200528        223000  0.22744 X
M       USD     BRL     20200528        223000  5.31000
M       USD     RON     20200528        223000  4.39680
```

After having checked everything, you can click on Run Validation and then Finalize Processing

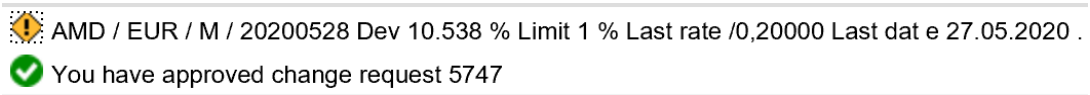


Close the page

In this case the role of the Data Steward is operated by the same user. In a real scenario, this distribution would be split between two or more different users. To approve the change request, you have to click on the same request in the menu again:



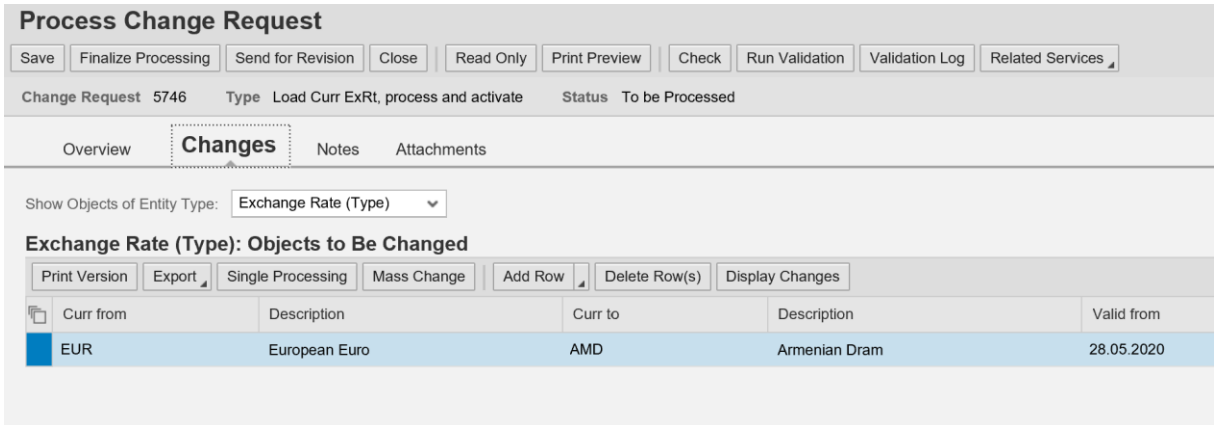
As you have already checked the changes, you can directly click on Approve in the menu bar without validating again. The Exchange Rates are then activated in all necessary tables.
In a two-user-scenario, you could alternate the change request again or send it for revision.



2.4.2 Issue-Request

Approving the Issue containing request works the same way as for the issue-free change request (described in section 2.4.1)

The change request OVP is structured the same way as the request in 2.4.1. The only difference is, that the "Changes" tab shows the Exchange Rates which contain issues and have to be checked.



After confirming the Exchange Rates, you have to release the change request by performing the same steps as above again: Run Validation → Finalize Processing

You have finalized the processing of change request 5746

Then open the change request again and click on Approve

You have approved change request 5746

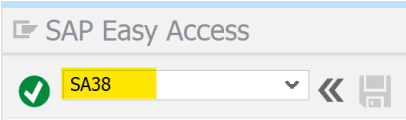
The imported Exchange Rates are now distributed to all relevant tables.

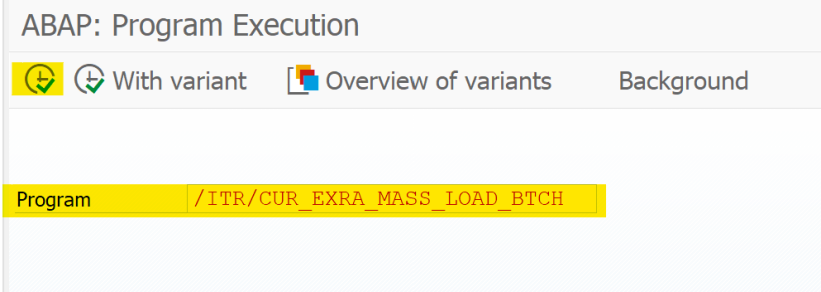
2.5 Creating a Job (Batch Report)

The import process shown in the previous sections 2.1 - 2.3 (not including section 2.4) forms the foundation of the Exchange Rate object in RDM. As the intended use of this process is an automated, daily import, Itego provides a batch version of the report `/ITR/CUR_EXRA_MASS_LOAD`: `/ITR/CUR_EXRA_ MASS_LOAD_BTCH`.
In conjunction with the job functionalities of the SAP system, this solution forms a powerful tool for automatically importing Exchange Rates while still being able to process them through the MDG-RDM workflow.

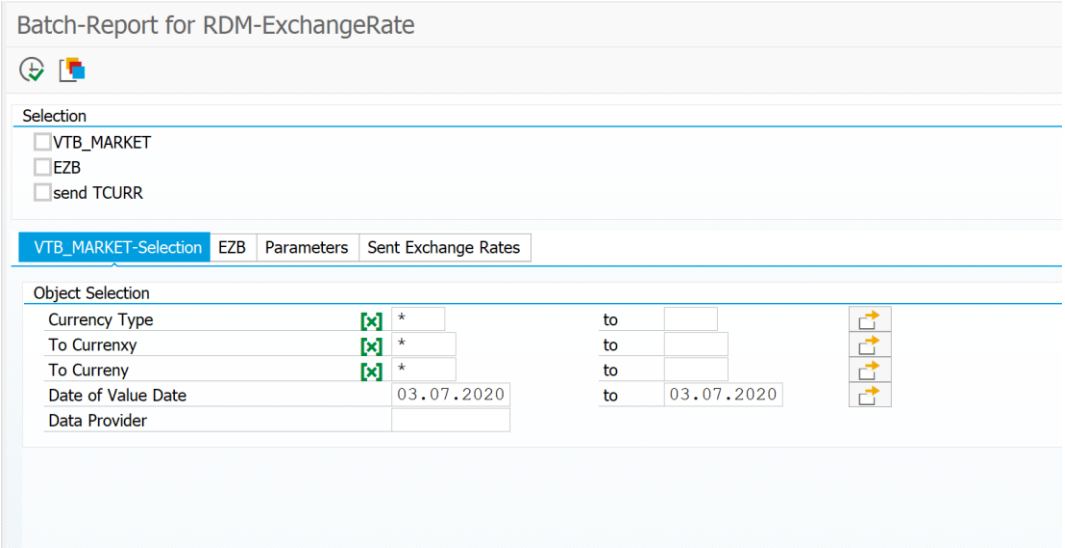
The following section explains how to set up an automated import, using the example of data provided by the ECB.

To get started, execute transaction `SA38`, enter the program `/ITR/CUR_EXRA_MASS_LOAD_BTCH` and press execute



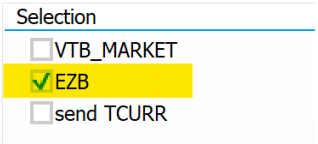


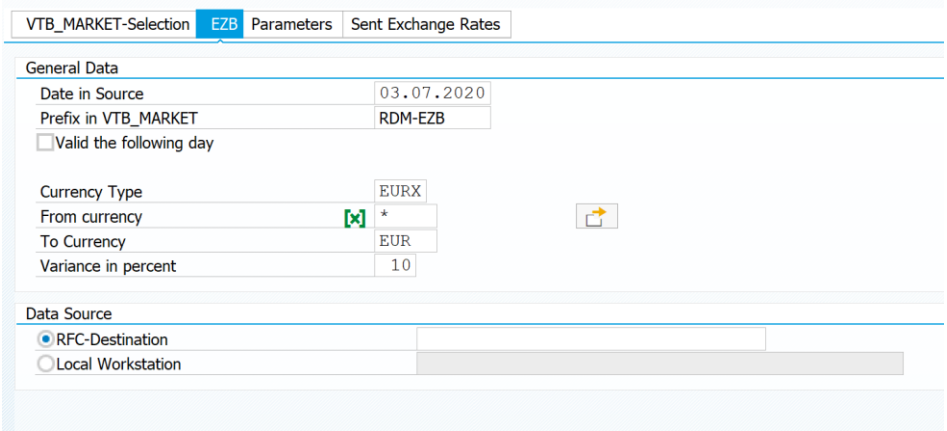
The batch report is structured similar to the online report described in section 2.3. Therefore, the guide below focuses on the creation of variants and jobs, rather than the report itself.



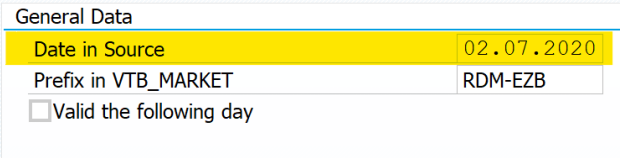
For the creation of the job, you will need to create two variants in the report. One of them will import the data from the ECB, and one of them will process the data and create the change requests.

For the first variant, select the "EZB" checkbox under "Selection" and open the EZB tab:

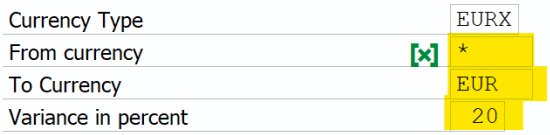




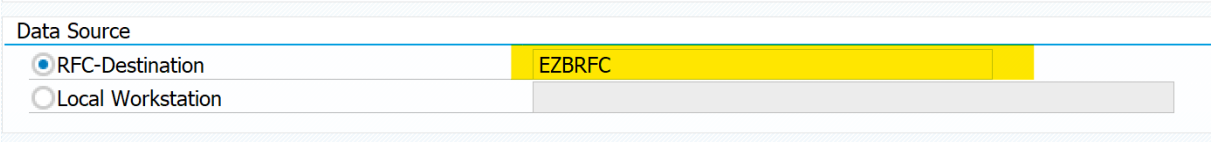
For the "Date in Source" field, leave the current date.



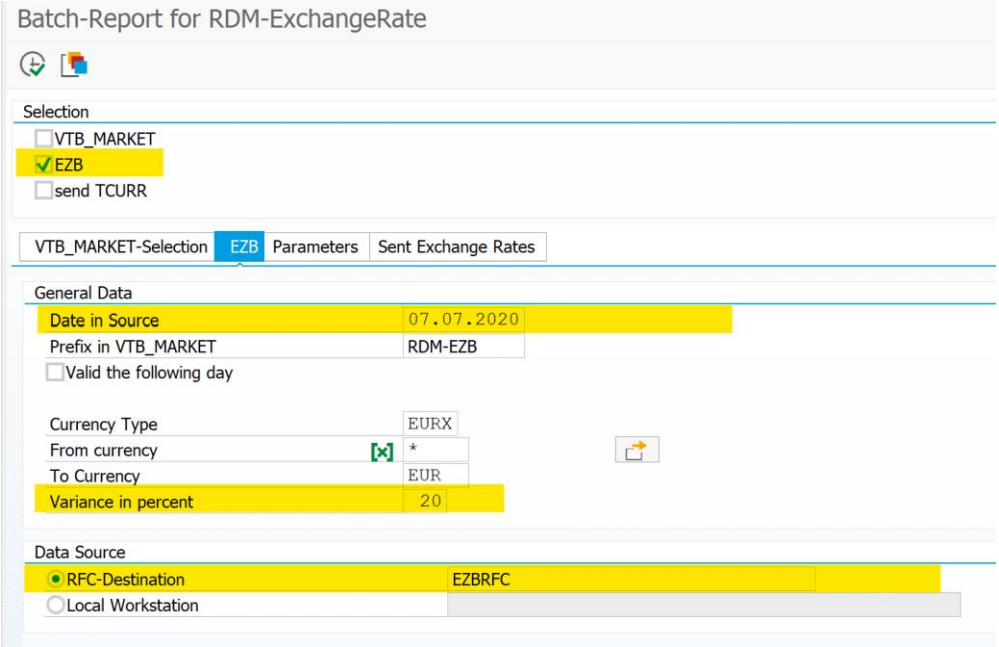
In the selection below, you can specify, which Exchange Rates you want to import. The EZB only provides Exchange Rates for EUR.
The "Variance in percent" field lets you enter a numeric value between 0 and 100. This number specifies, from which deviation of the previous day the validation raises a warning



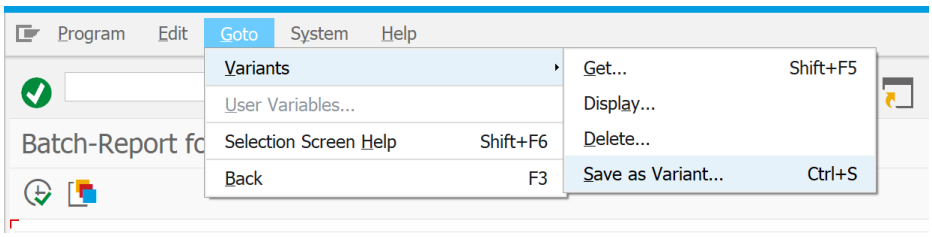
For the "RFC-Destination", you have to enter "EZBRFC"



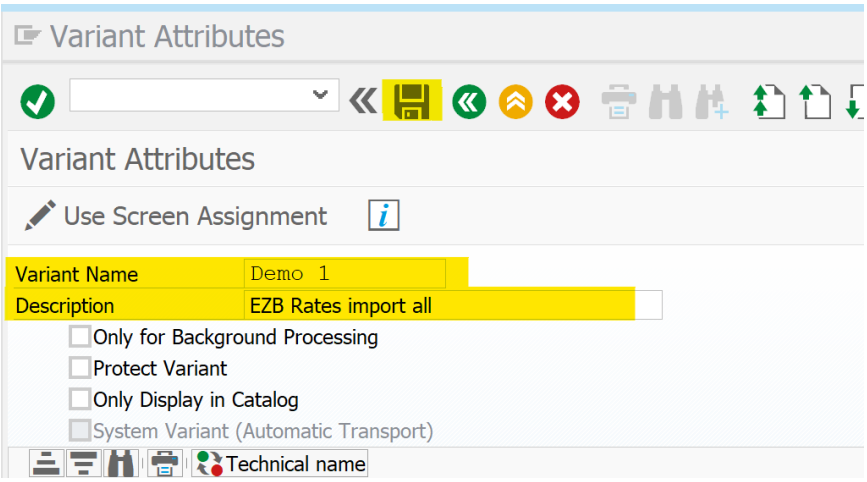
This leaves us with a filled-out tab/transaction, which can be saved as a variant.



To create a variant, press Goto → Variants → Save as variant in the menu bar (or hit `Ctrl`+S):

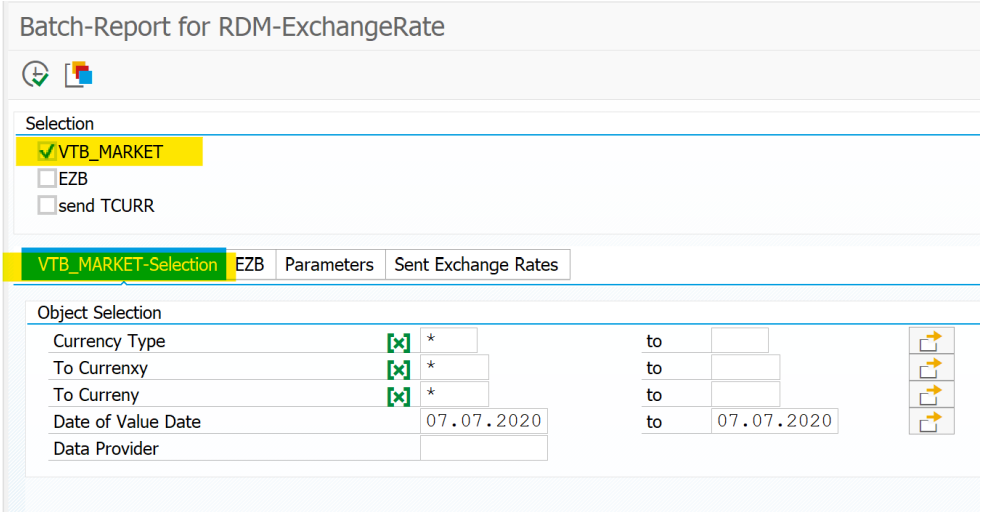


Enter a name and description for the variant and press on save :

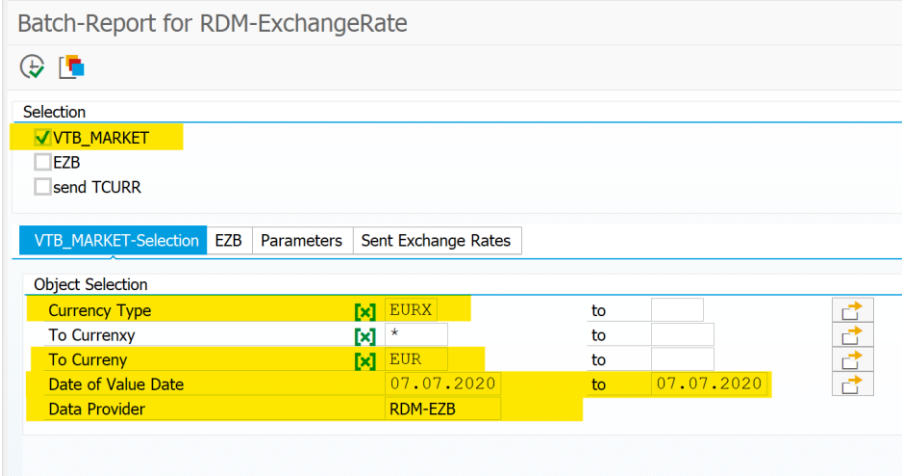


The variant has now been saved.

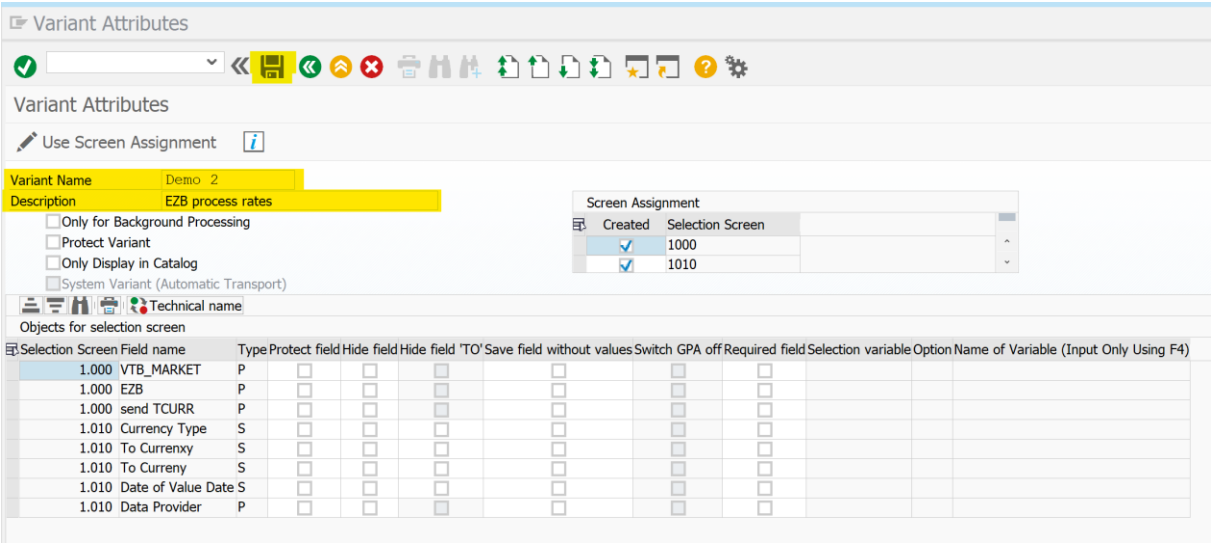
To create the second of the two variants, navigate back to the `VTB_MARKET-Selection` and select the `VTB_MARKET` checkbox under "Selection".

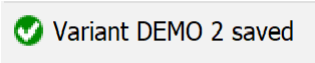


In our case, we need to match the `Object Selection` settings with the ones we made in the EZB tab, and then select `RDM-EZB` as the data provider:



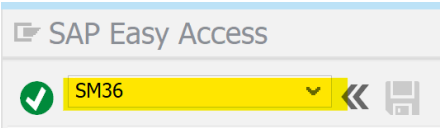
This selection needs to be saved as the second variant (same procedure as above).



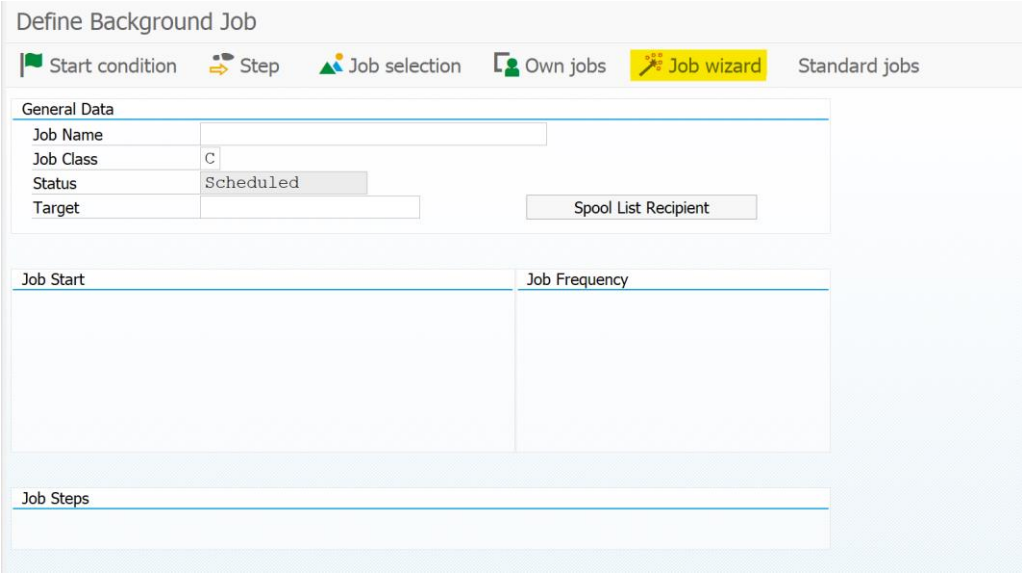


After having configured the two variants, you can close the report and move on to the creation of a background job. For the sake of simplicity, this tutorial will use the job wizard.

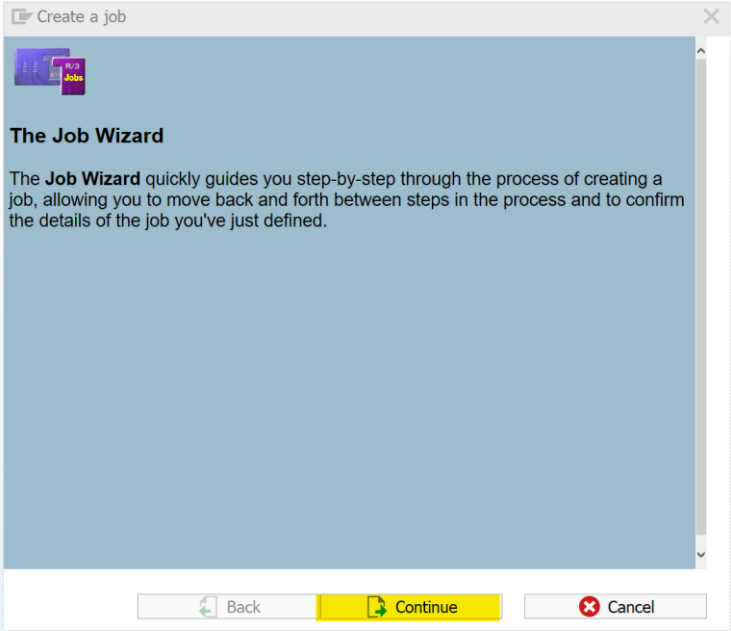
To start the job wizard, execute transaction SM36



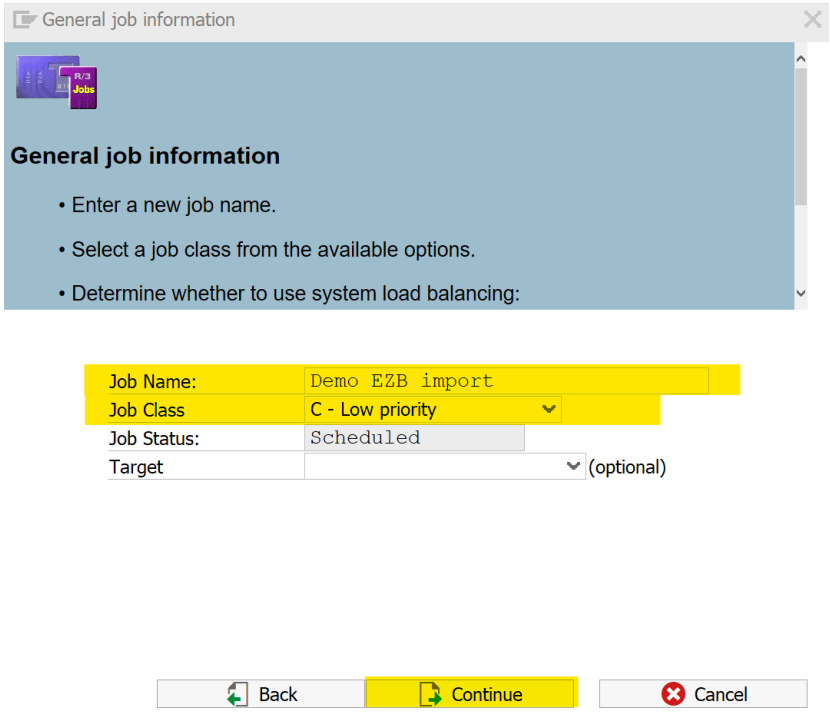
Press on `Job Wizard`:



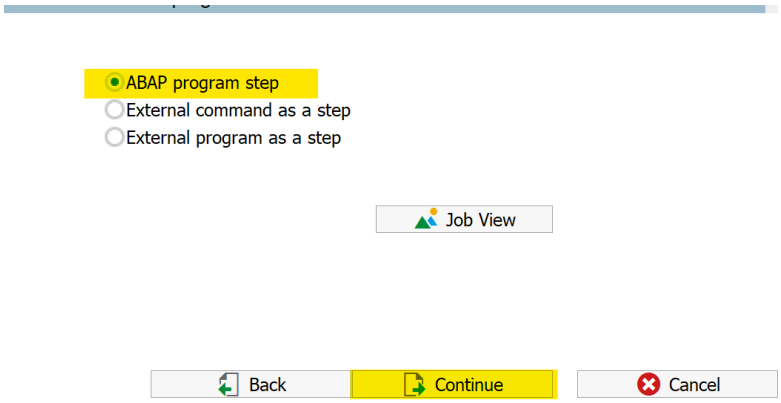
The following window pops up. You can press on `continue`:



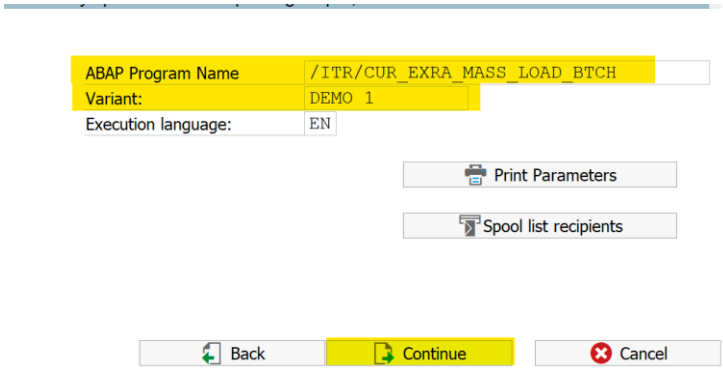
On the "General job information" page, you simply have to define a name for the job, and a priority:



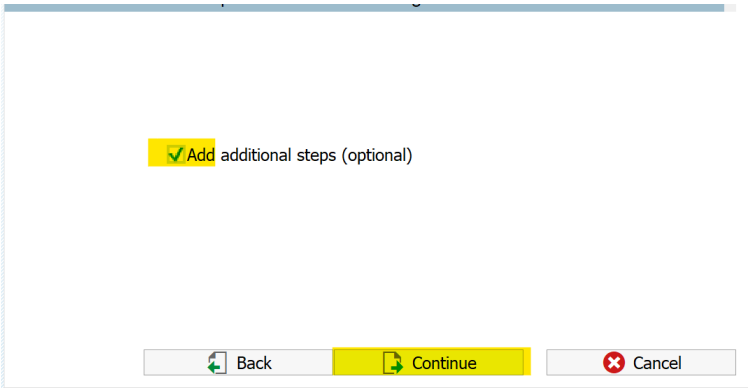
As the report /ITR/CUR_EXRA_MASS_LOAD_BTCH is an ABAP-program, you need to select "ABAP program step" on the upcoming page:



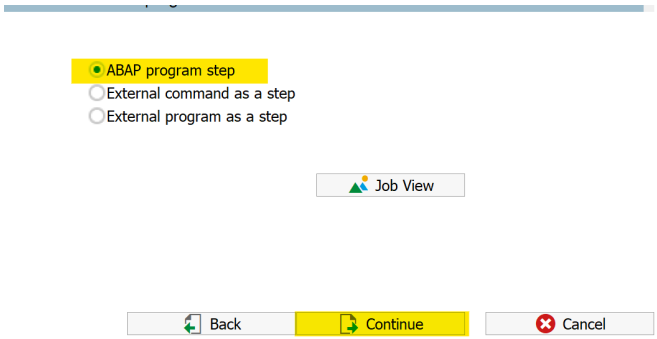
On the upcoming page, you have to enter the name of the batch-report and the name of the first (!) variant:



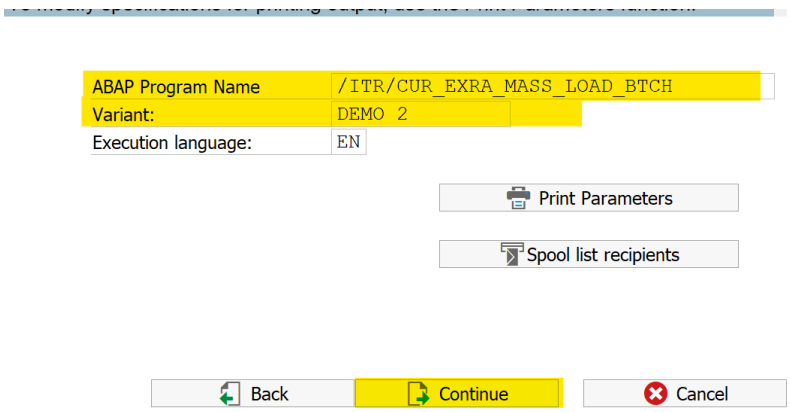
Afterwards, select the "Add additional steps" checkbox and continue:



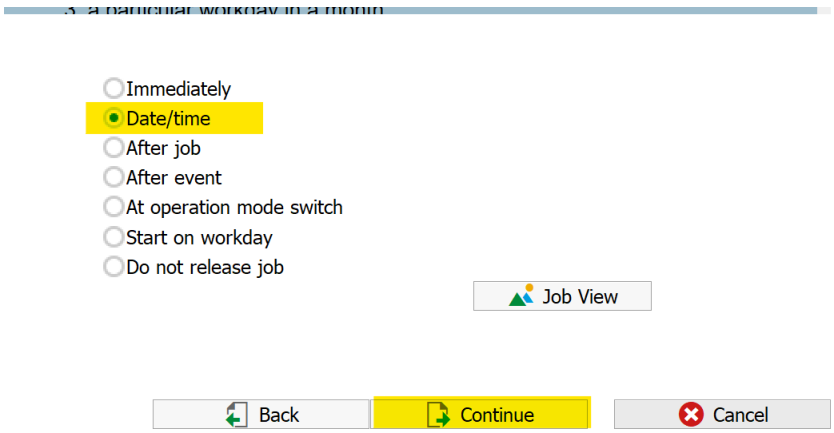
Again, select the “ABAP Program” option:



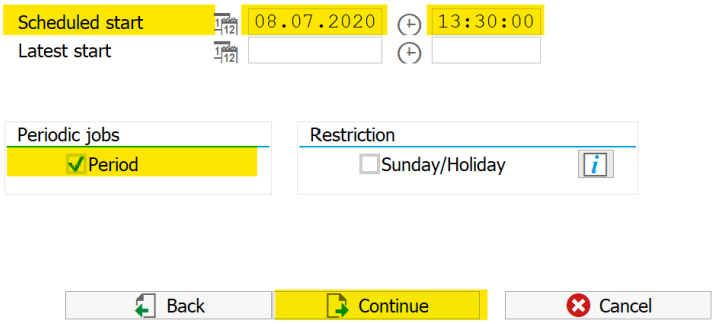
Then enter the name of the batch-report (`/ITR/CUR_EXRA_MASS_LOAD_BTCH`) and the name of the second(!) variant and continue twice:



For your job to run periodically at a fixed time of the day, select “Date/time” on the upcoming page:

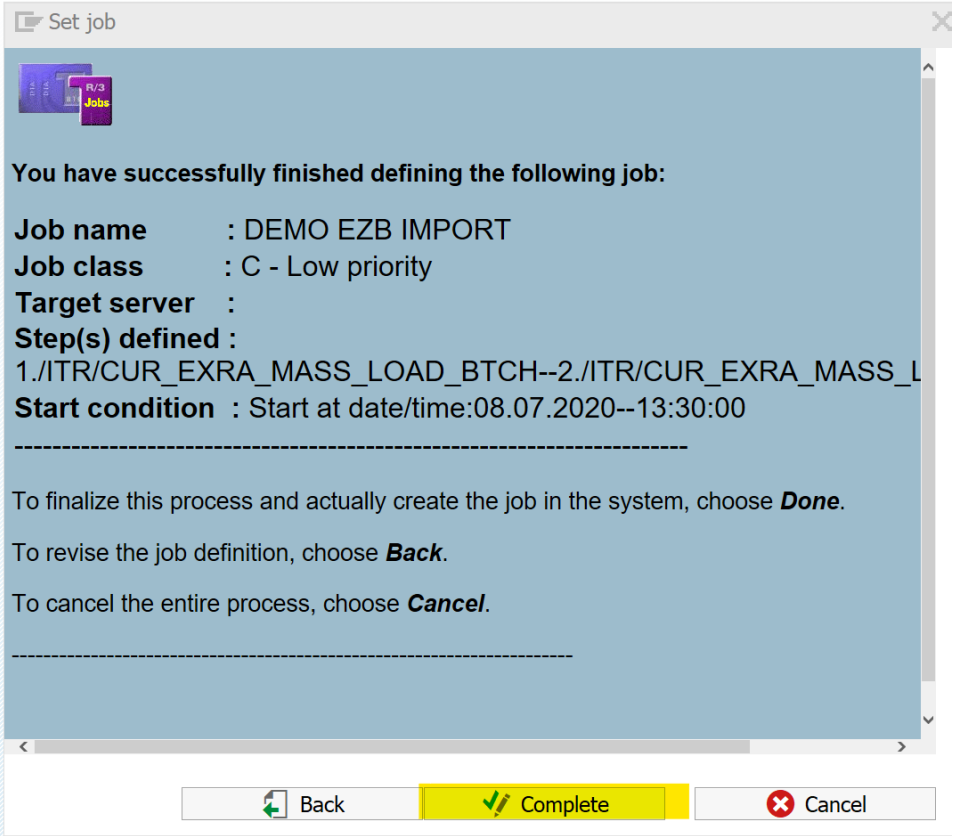


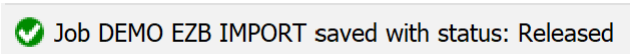
Select a date and a time for “Scheduled start”, to define the day (and time) on which the job will be executed for the first time. Then tick the “Period” checkbox:



Select the periodicity for the job:

Job has been created:


Set job
You have successfully finished defining the following job:
Job name : DEMO EZB IMPORT
Job class : C - Low priority
Target server :
Step(s) defined :
1./ITR/CUR_EXRA_MASS_LOAD_BTCH--2./ITR/CUR_EXRA_MASS_L
Start condition : Start at date/time:08.07.2020--13:30:00
To finalize this process and actually create the job in the system, choose Done.
To revise the job definition, choose Back.
To cancel the entire process, choose Cancel.
Back
Complete
Cancel


Job DEMO EZB IMPORT saved with status: Released

2.6 Additional Infos

2.6.1 Import Types

There are two options of processing the exchange rates which have been imported via Data-feed. With RDM, you get to choose between to options of how RDM deals with the imported rates.

2.6.1.1 Variant 1

Variant 1 allows for a direct activation of the Exchange Rates which passed the validation on the first attempt. The report `/ITR/CUR_EXRA_MASS_LOAD` checks the `VTB_MARKET` table if the user selected the direct activation in transaction `TBD4`. If the corresponding field in `VTB_MARKET` is checked as true, the report does not create a change request. Instead, it automatically activates the Exchange Rates in the corresponding tables. The data does not run through MDG in any way, which allows a fast and unbureaucratic activation. The Exchange Rates which do not pass the first validation are still being loaded in a change request. This variant can be selected by unticking the "Save Market Data in System Permanently If Defined in Customizing" checkbox in transaction `TBD4`.

2.6.1.2 Variant 2

Variant 2 creates two change requests. One of them is – as always – a container for the Exchange Rates which failed the first validation and have to be approved through MDG RDM. The second request, however, collects all the Rates which passed the validation. This change request is then also passed through MDG RDM. The user gets to choose, if it is to be activated automatically, or if it needs a Data Specialists approval first. This may make the process a bit slower but also allows the operator to accurately monitor every kind of data that is activated and not just the objects that failed the first validation. This variant can be selected by ticking the "Save Market Data in System Permanently If Defined in Customizing" checkbox in transaction `TBD4` and is again executed by report `/ITR/CUR_EXRA_MASS_LOAD`.

2.6.2 Validation

Before an Exchange Rate is ready to be activated in MDG RDM and the corresponding tables, it needs to be validated first. Depending on the chosen import type (view section 2.6.1), an imported Exchange Rate can run through up to three validations before being activated. This ensures a high-level consistency amongst all rates and also ensures that no incorrect data makes its way into MDG RDM and the tables. The Validation is executed by the "Z-Report". The steps it performs to validate the Exchange Rates are listed below.

1. Sorting of the Exchange Rates (by Currency (from) / Currency (to) / Exra Type)
2. Deletion of the previous Exchange Rates
3. Checking the percentage deviation

4. Checking if price date is equal to import date
5. Checking if the Exchange Rate type is correct
6. Checking if the correct ratios are being used
7. Checking if the requested values in the translation table `VTB_DFCU` (customizing) are available in the Datafeed interface (provider)
8. Checking if the quotation of the Exchange Rate matches the one in table `TCURN`.

3 Manual Maintenance

Due to the high frequency of changes and the sheer number of Rates there is, manually governing Exchange Rates is not the main focus of the Exchange Rate object. However, Itego, as always, provides the possibility to manually create, change and load data via the RDM workflow.
Unlike the other objects in RDM, manually edited objects do not have to be manually released through the Staging Area (transaction /ITR/STAGING). Instead, this is done automatically to ensure a high consistency through all relevant tables.

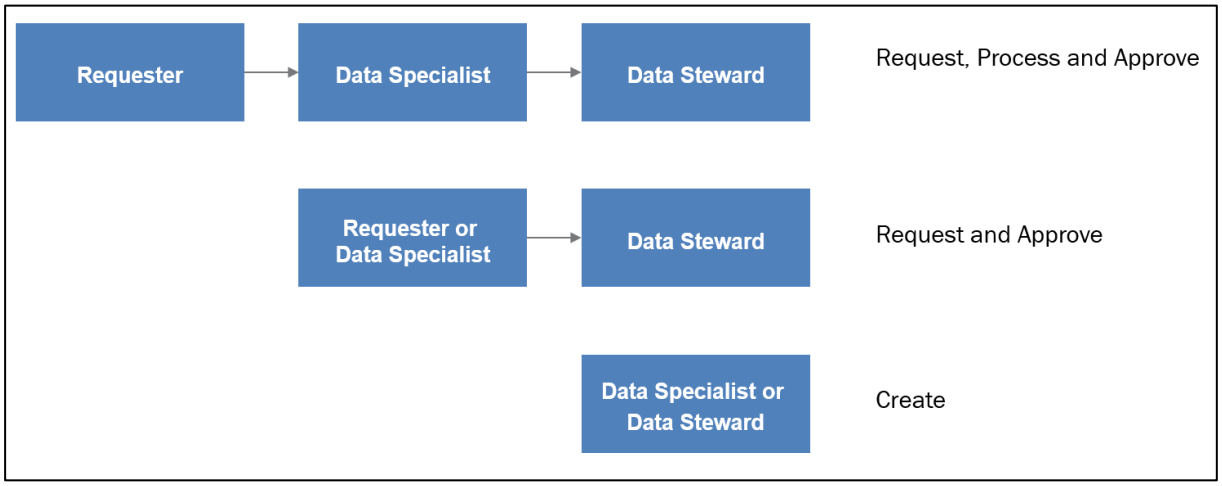
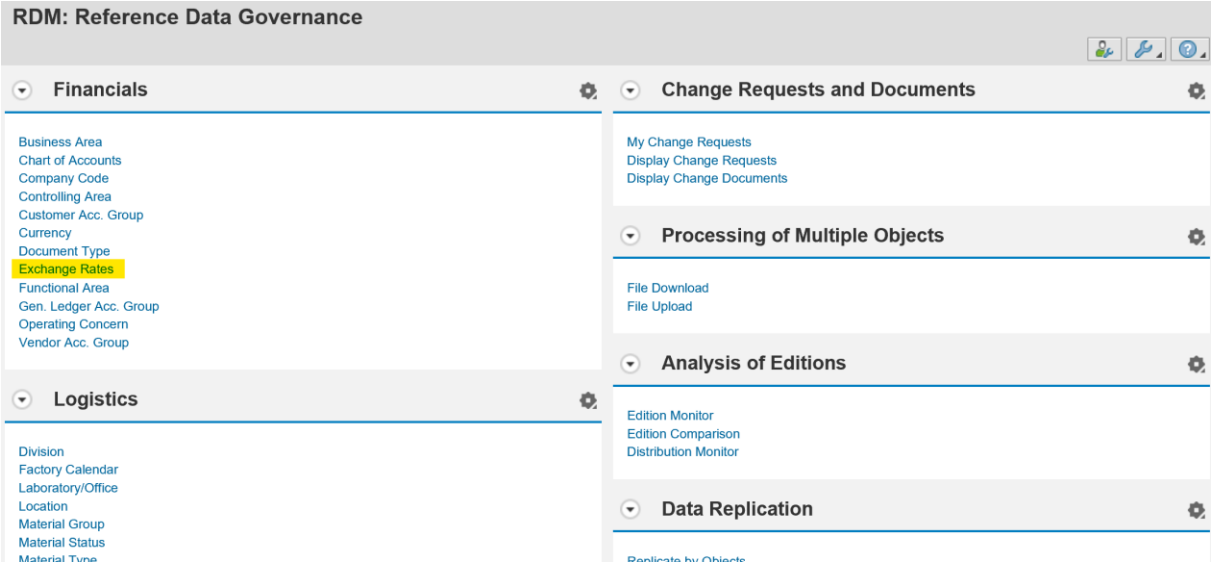


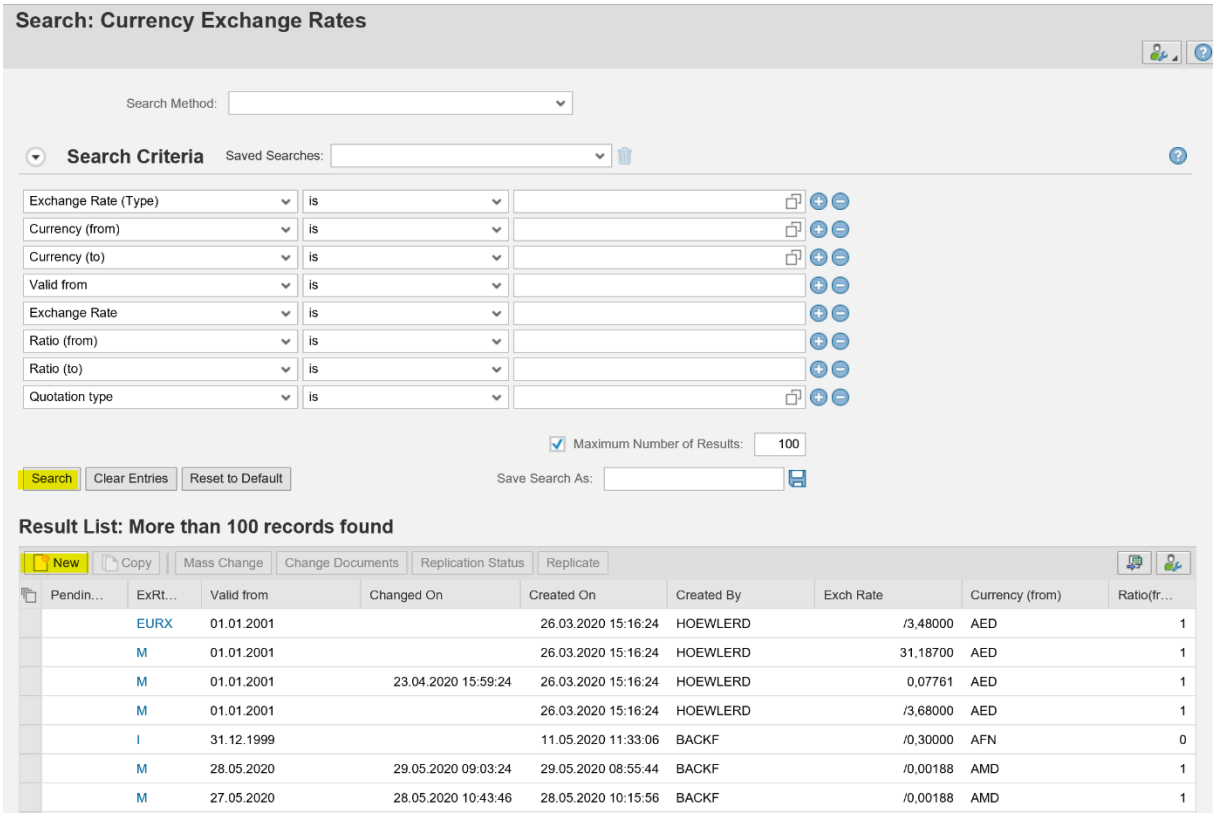
Figure 5: Workflow variants in RDM

3.1 Creating an Exchange Rate

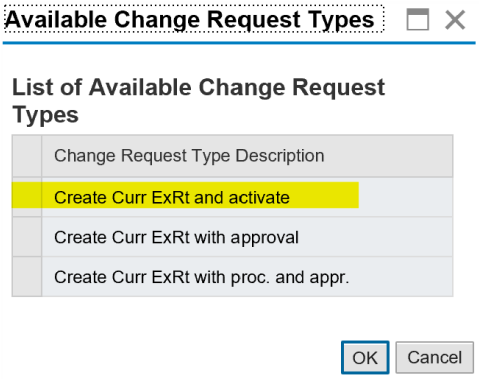
To create a new Exchange Rate, start in the NWBC main menu. For the sake of simplicity, this guide shows a one-step process.



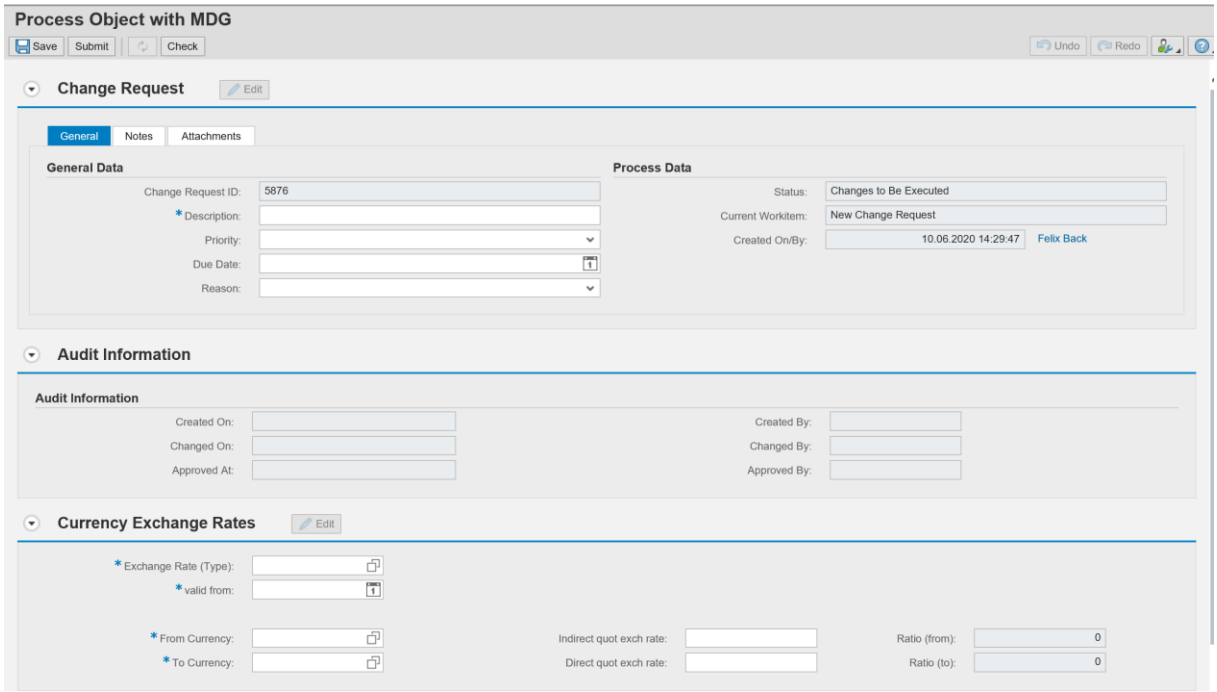
Under "Financials" click on "Exchange Rates". After pressing on "Search" on the following page, it will look like this:



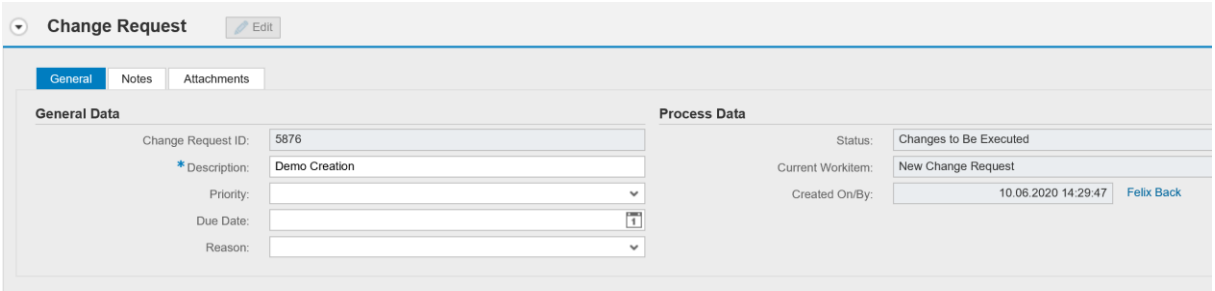
Press on New and choose the one-step create request in the pop-up window



A page similar to the one below will open up

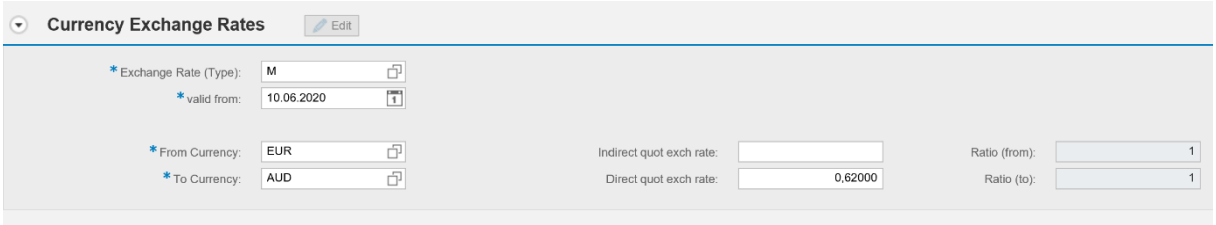


Under the “General Data” section, you can add info to the so-called “change request header”, including a description, priority for the change request, a due date and a reason. In addition to this, the “Notes” tab lets you add a text to the change request, the “Attachments” tab allows a file to be attached to the request. Fill out these fields according to the workflow standards in your company.

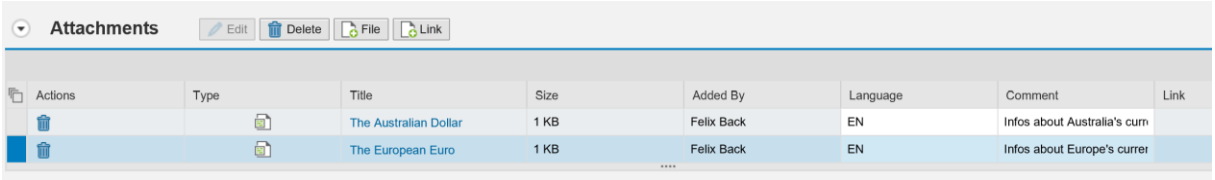


The "Audit Information" section can be ignored for now, as it will only become relevant once the object has already been created.

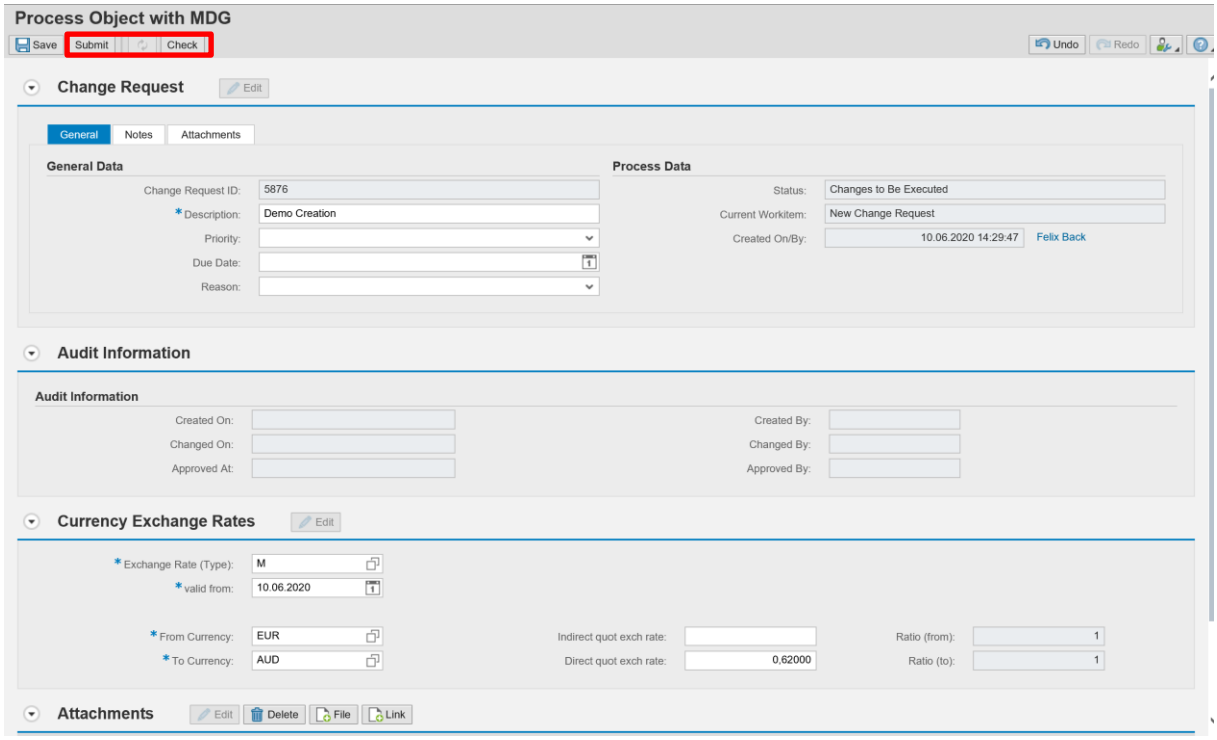
In the "Currency Exchange Rates" section you are going to enter the actual data, which the object, that will be created, is going to contain. Here is an example:



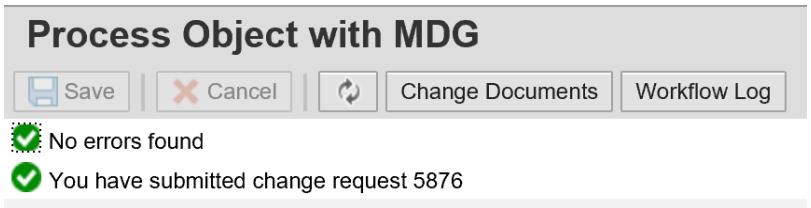
The last section, "Attachments", allows for metadata (files or links) to be attached to the object. Unlike the attachments of the change request header, the metadata is attached to the actual object, meaning, it is also visible after the object has been created. To attach a file/link, simply click on File or Link and fill out the requested fields. Example:



After being done, you can press on "Check" in the top left corner to check, if the data in your change request is valid. If that is the case, you can submit the change request by pressing on "Submit" in the top left corner:



A message such as this one pops up:

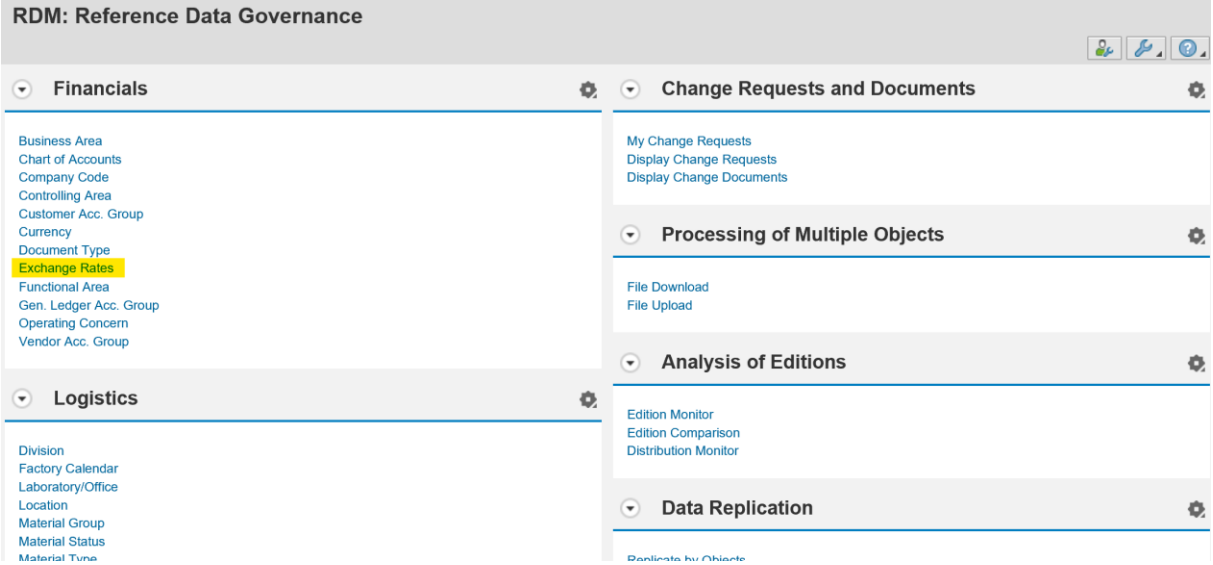


The Exchange Rate has now been created

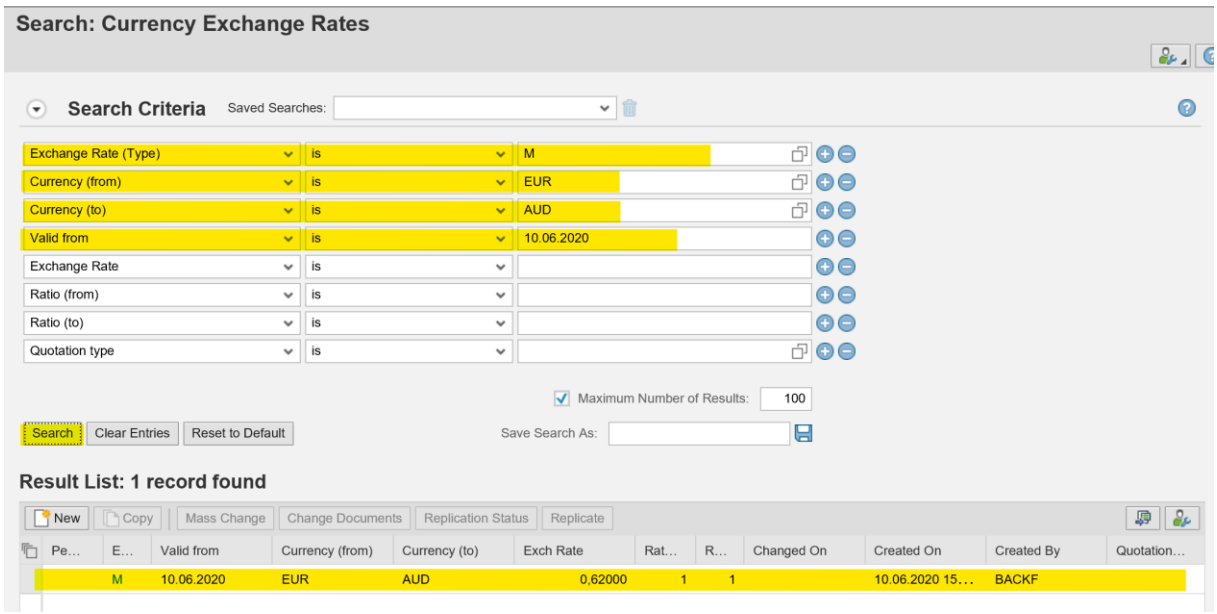
3.2 Editing an Exchange Rate

The process of editing an Exchange Rate will be demonstrated using the Exchange Rate, created in section 3.1.

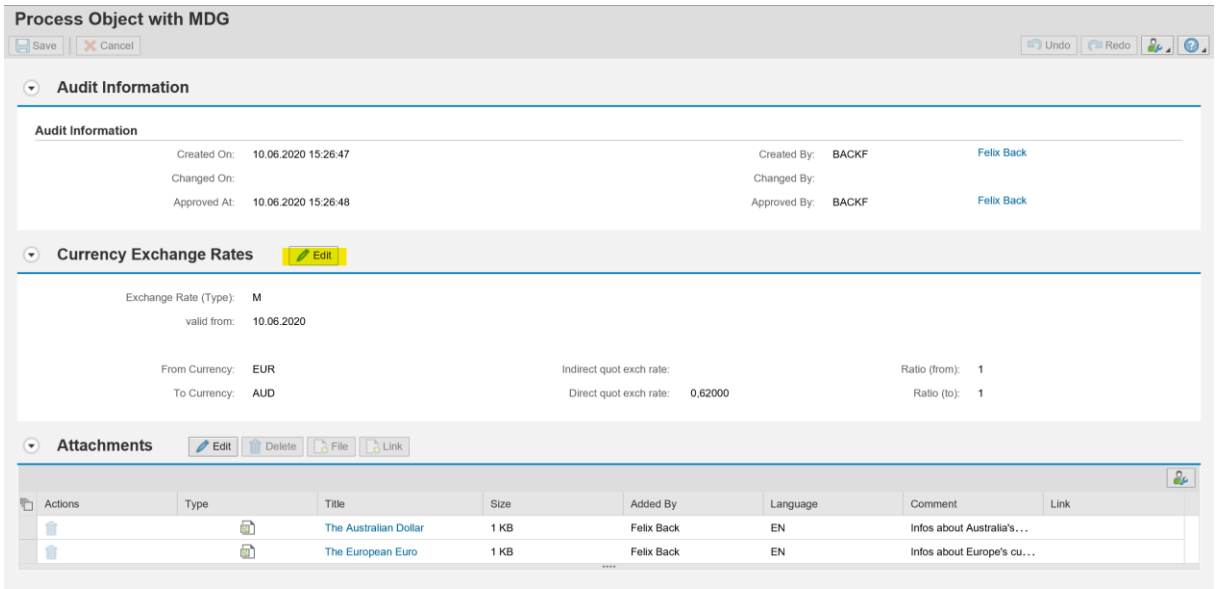
On the NWBC launchpad click on “Exchange Rates” under “Financials”:



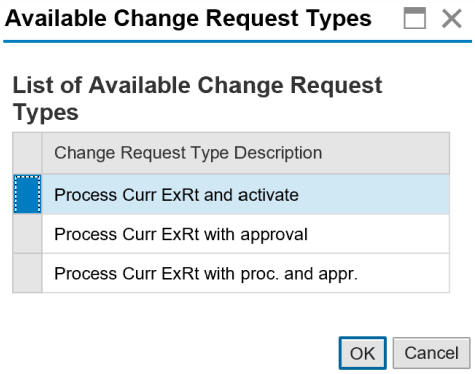
On the upcoming page, you can search for the Exchange Rate that you want to edit. This is done by simply pressing on Search . In addition to this, you can simplify the search by using the provided filters (as done below).



After pressing on the Exchange Rate, you want to edit, the overview page of the object pops up, on which you have to press on Edit :

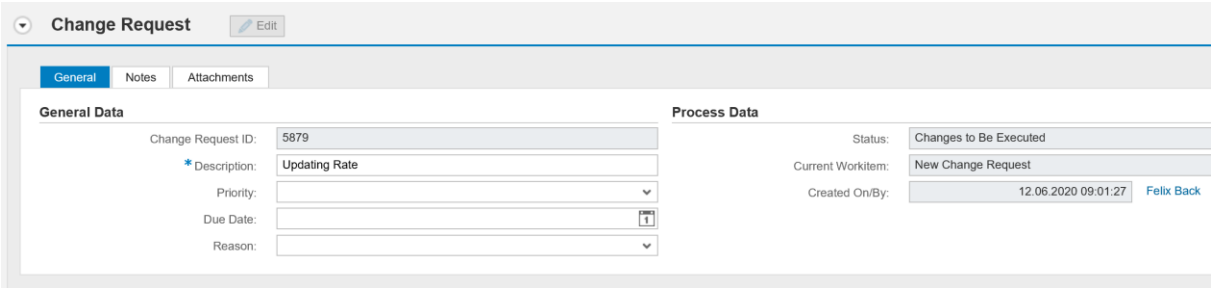


Choose the workflow process, you wish to work with and press on "OK". (This documentation follows the 1-step process)



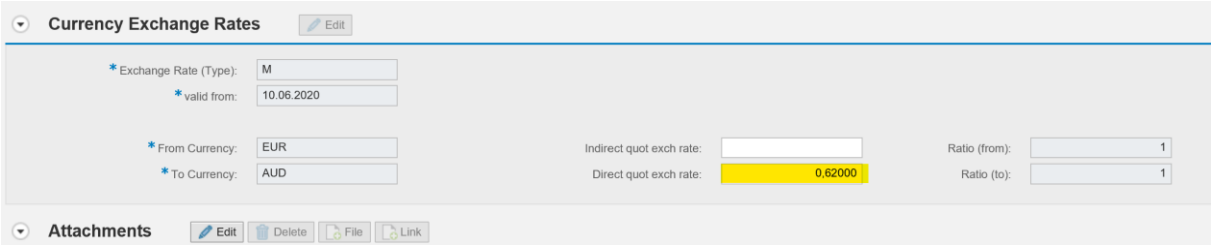
For an in-depth explanation on the segments on the upcoming page, view the explanation of the create-request page in section 3.1.

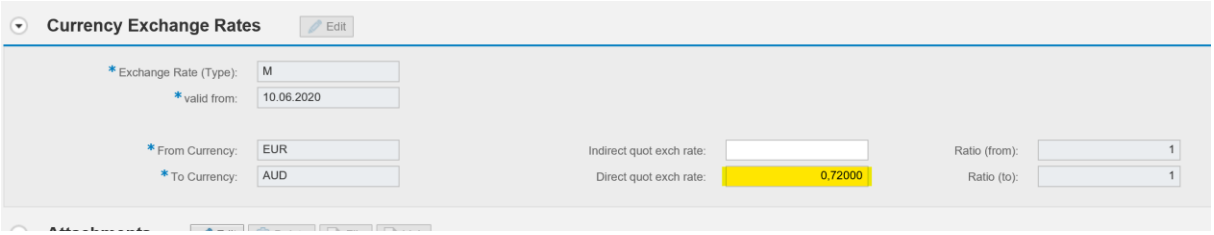
Provide a Description (or additional infos, according to the workflow standard in your company) of the change request.



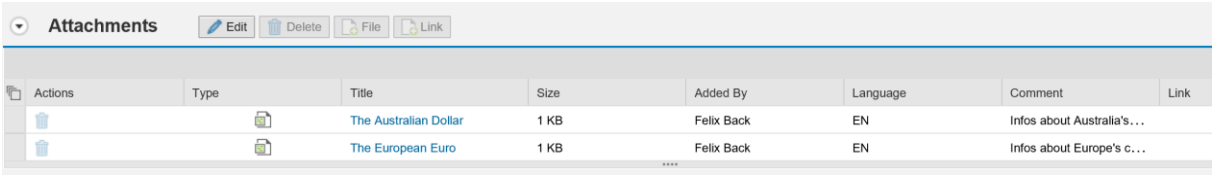
The "Currency Exchange Rates" section only allows for changes of the actual rate, not of the Currencies or the "valid-from/to" date. This decision has been made based on the fact, that changing either one of those fields would technically create a new entry in the relevant tables for Exchange Rates. This, however, would conflict with the original purpose of this function: "Change".

Changes in this case:

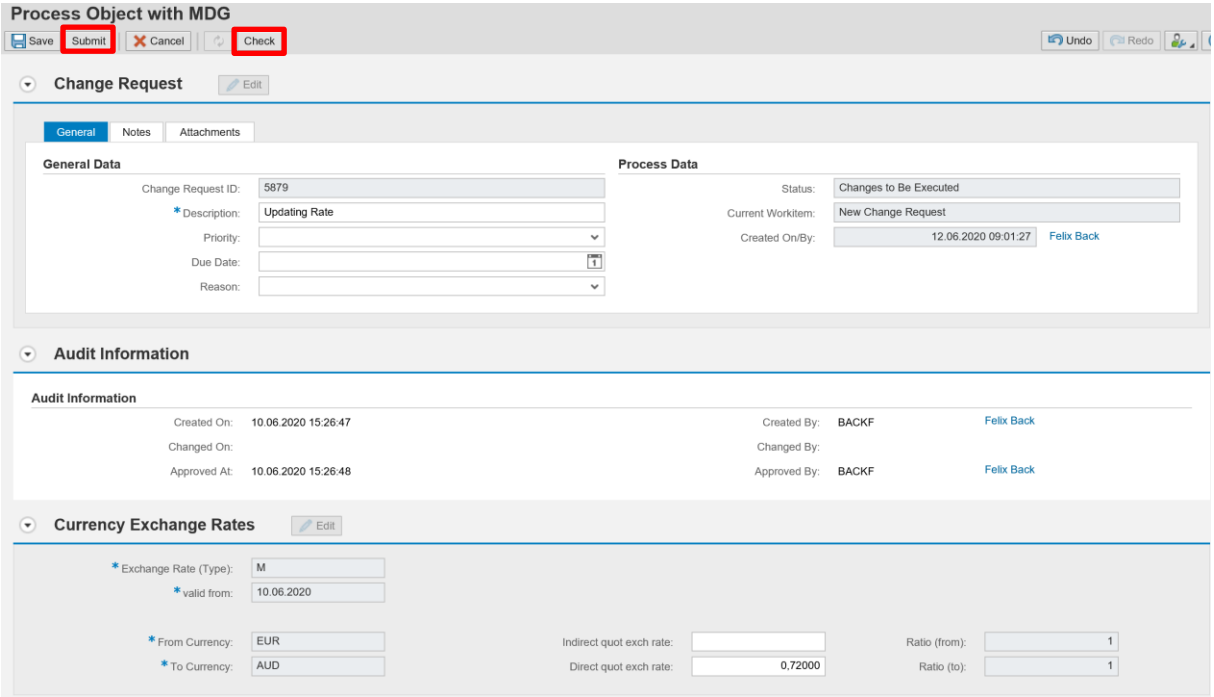


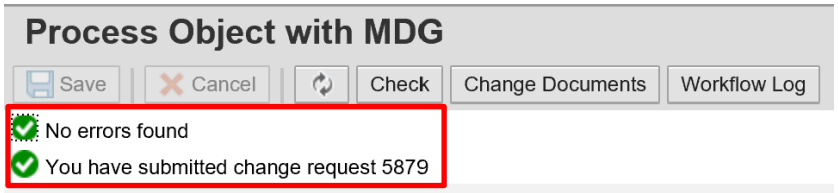


If you wish, you can provide additional metadata to the object (explained in section 3.1):



After being done, you can press on “Check” in the top left corner to check, if the data in your change request is valid. If that is the case, you can submit the change request by pressing on “Submit” in the top left corner:





The Exchange Rate has now been updated in all relevant tables.

3.3 File Upload for Exchange Rates

A file upload comes in handy when attempting to create or edit multiple Exchange Rates at once.

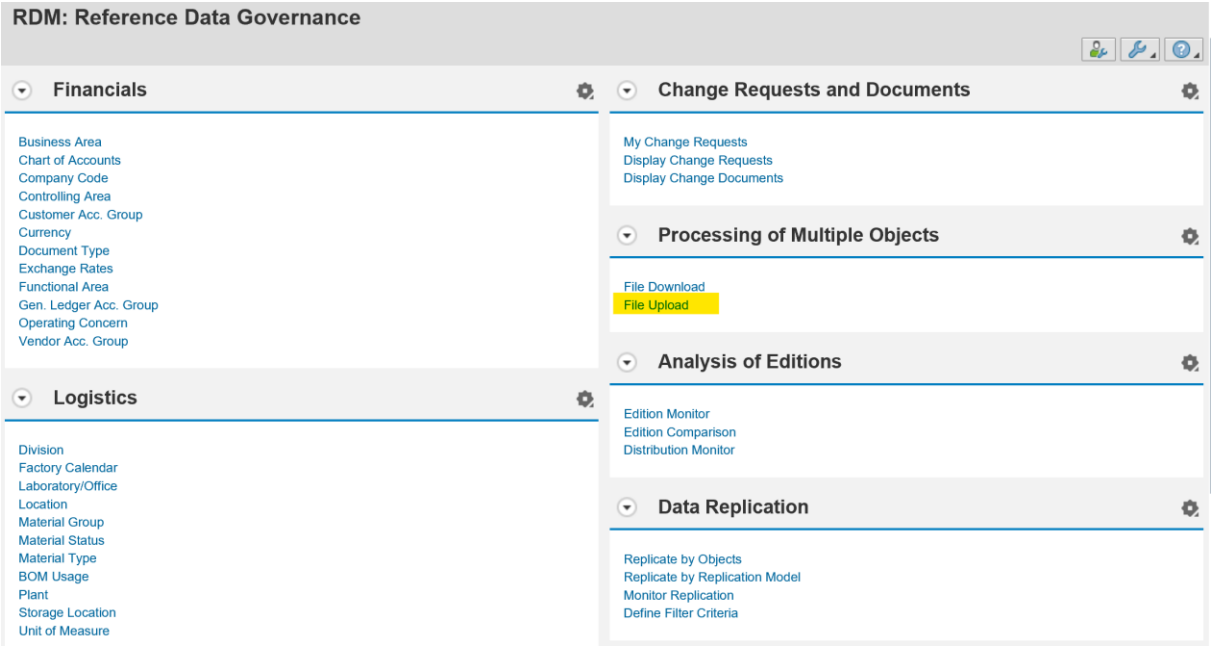
Prerequisite for a file upload is a file, which contains the Exchange Rates, you want to upload, listed according to the file structure that you are going to use. The file used in this documentation has the following content:

file_upload 12.06.2020 10:38 Textdokument 1 KB

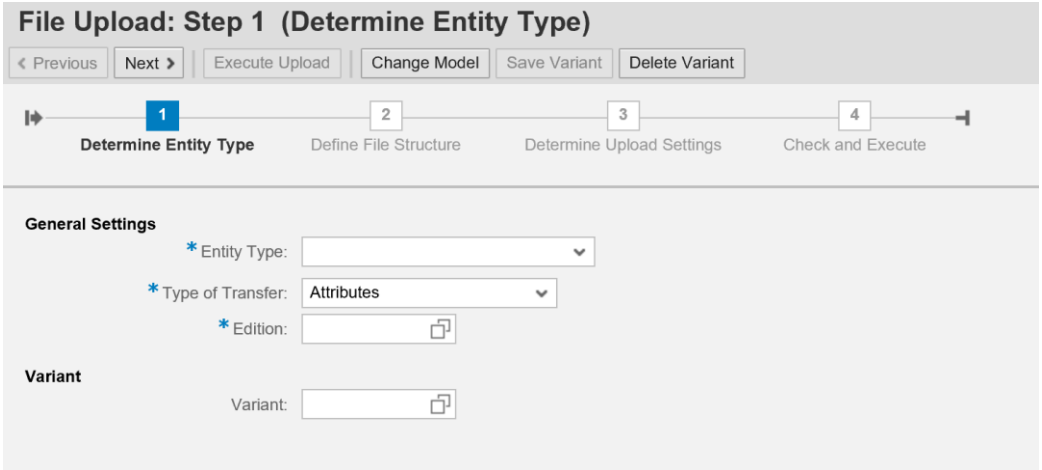
```
* Download
* Data Model: I1
* Entity Type: CUR_EXRA
* Variant: FB_EXRA
* User: BACKF
* Date: 20200612 / Time: 082346
* Selection:
* USMD_ENT_CRTD_BY EQ | BACKF |
*CUR_EXRA;CUR1FROM;CUR2TO;CUR3DATFR;EXCH_RATE;NOTATION;RATIO_FR;RATIO_TO

M;AUD;NZD;11.05.2020;0,90000;;0;0;
M;BRL;EUR;28.05.2020;/0,17096;2;1;1;
1004;BSD;BWP;01.01.2020;/100,00000;;0;0;
2003;EUR;AUD;01.02.2020;0,30000;;0;0;
B;EUR;AUD;06.05.1999;0,50000;;0;0;
M;EUR;BOB;03.06.2020;/8,67200;;0;0;
M;EUR;GBP;08.05.2020;0,90000;;1;1;
M;EUR;HKD;04.06.2020;/8,68300;;0;0;
M;EUR;JPY;08.05.2020;0,10000;;1;1;
M;EUR;RON;28.05.2020;4,84350;1;1;1;
```

To initiate the file upload, click on “File Upload” under “Processing of Multiple Objects” on the NWBC Launchpad:

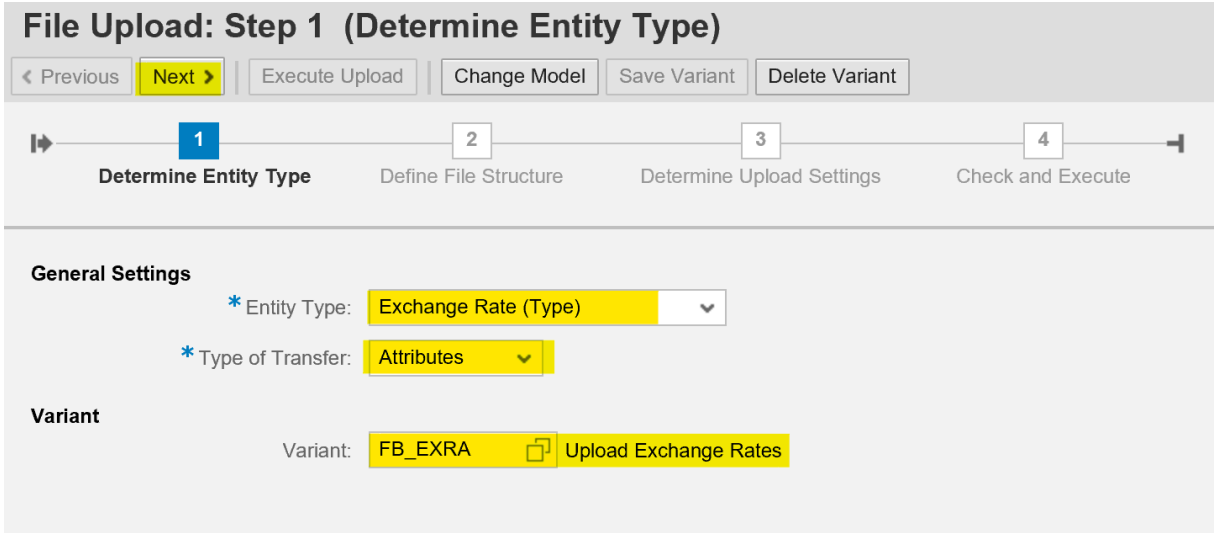


The file upload application will open up:



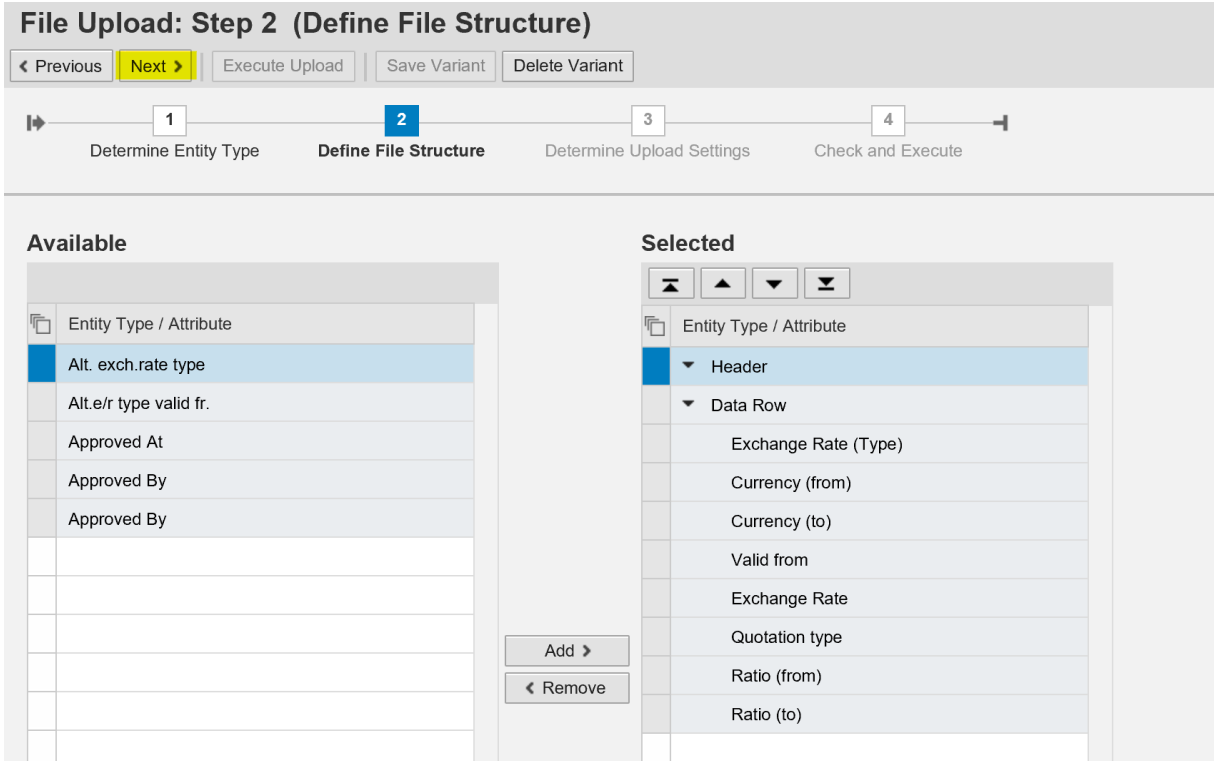
It is advised to use a variant for the upload process. The variant has to contain the file structure which is used by the file, you are going to upload.

If you created a variant, simply enter its name into the “Variant” field.
If you haven’t created a variant yet, follow this procedure: For “Entity Type” use “Exchange Rate (Type)”, for “Type of Transfer” use “Attributes”. The “Edition” field will disappear.



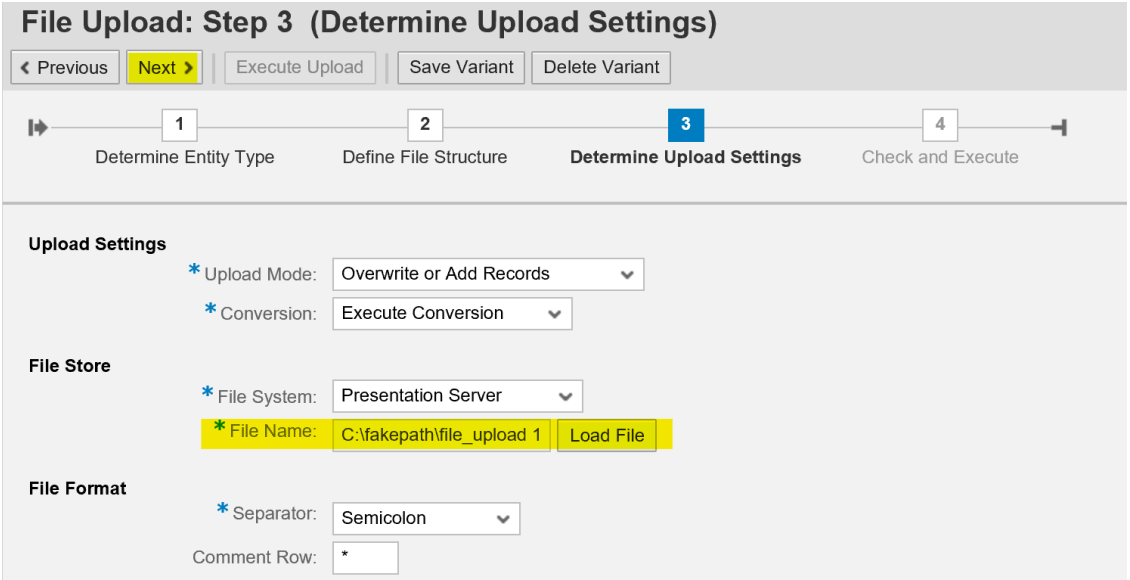
Click on Next

Use the file structure of your variant or create a new structure by using the Add / Remove buttons. The file structure has to match the one, your document uses



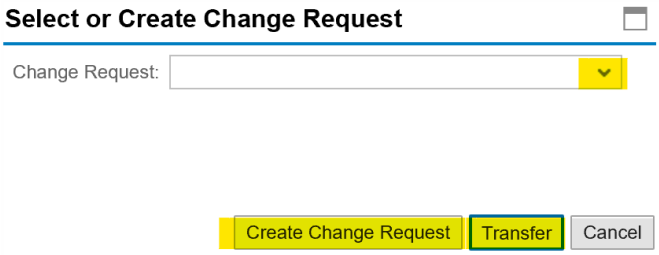
Click on Next

Fill out the fields as shown. Pay attention to the "File Name" field, in which you need to provide the path of the file, you are going to upload. It is advised to use the "Load File" button:

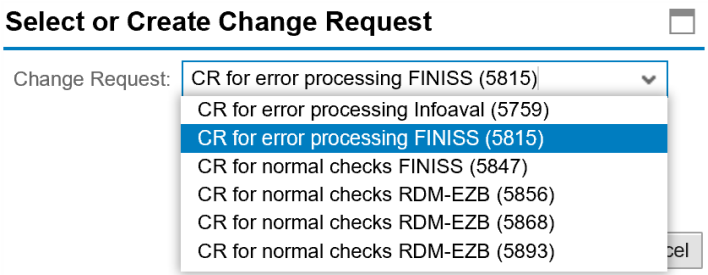


Click on

Starting on the upcoming popup, you get two options on how to process the file, you are going to upload.

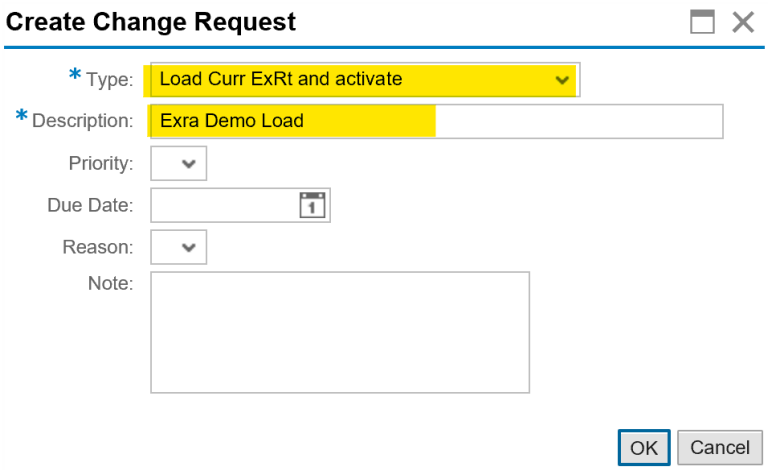


- If the file, you are going to upload, is imported directly from a provider, you can use the F4-Help on the "Change Request" field, and choose the provider. With this method, RDM will validate the uploaded data and keep them in a change request in the regular workflow.



Press on “Transfer”

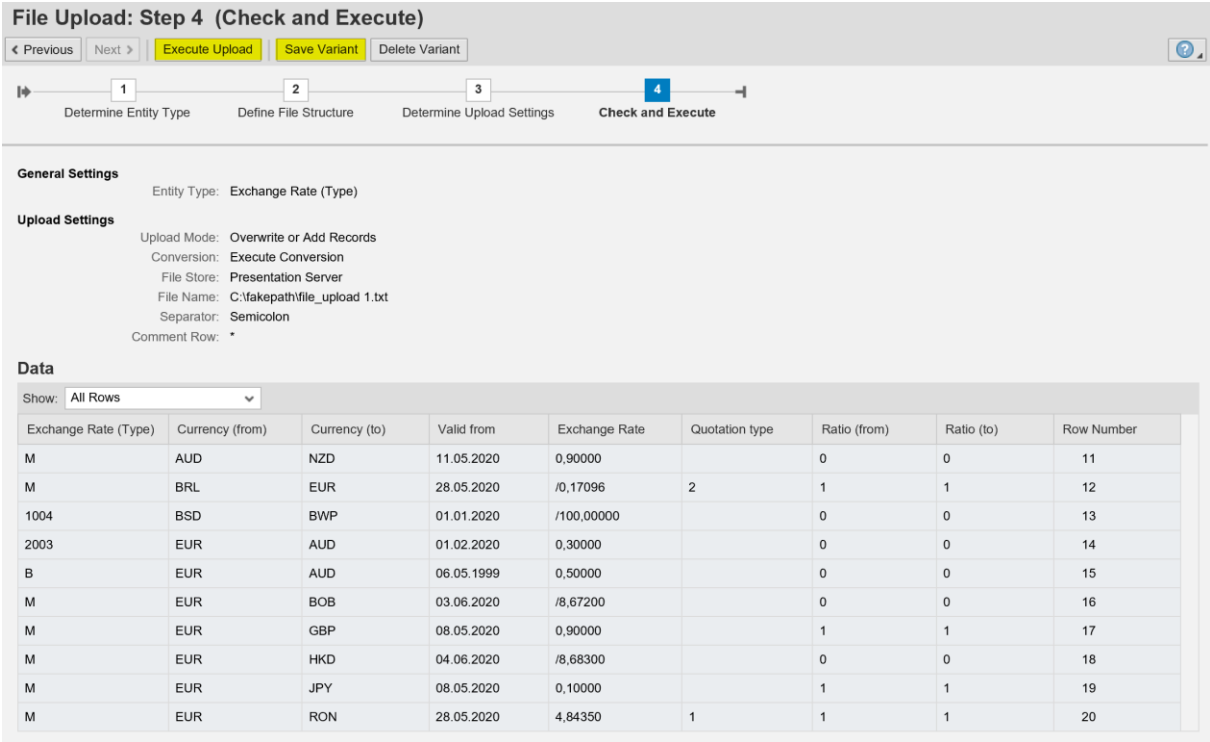
- If the file, you are going to upload, contains 3rd party data or doesn’t need to be validated, you can click on Create Change Request to create a standard change request (1, 2, or 3-step). Note that a standard change request does *not* include a validation of the imported data.



Press on “OK”

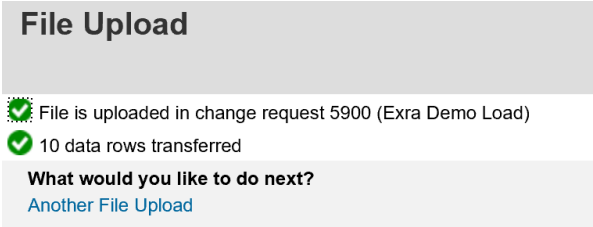
After having executed one of the above steps, you are directed to step 4, which (in the table at the bottom) allows you to review the data, you are going to upload.

You also get the chance to save a variant for future file uploads by pressing on Save Variant .



Exchange Rate (Type)	Currency (from)	Currency (to)	Valid from	Exchange Rate	Quotation type	Ratio (from)	Ratio (to)	Row Number
M	AUD	NZD	11.05.2020	0,90000		0	0	11
M	BRL	EUR	28.05.2020	/0,17096	2	1	1	12
1004	BSD	BWP	01.01.2020	/100,00000		0	0	13
2003	EUR	AUD	01.02.2020	0,30000		0	0	14
B	EUR	AUD	06.05.1999	0,50000		0	0	15
M	EUR	BOB	03.06.2020	/8,67200		0	0	16
M	EUR	GBP	08.05.2020	0,90000		1	1	17
M	EUR	HKD	04.06.2020	/8,68300		0	0	18
M	EUR	JPY	08.05.2020	0,10000		1	1	19
M	EUR	RON	28.05.2020	4,84350	1	1	1	20

After having reviewed the data, you can press on Execute Upload to upload.



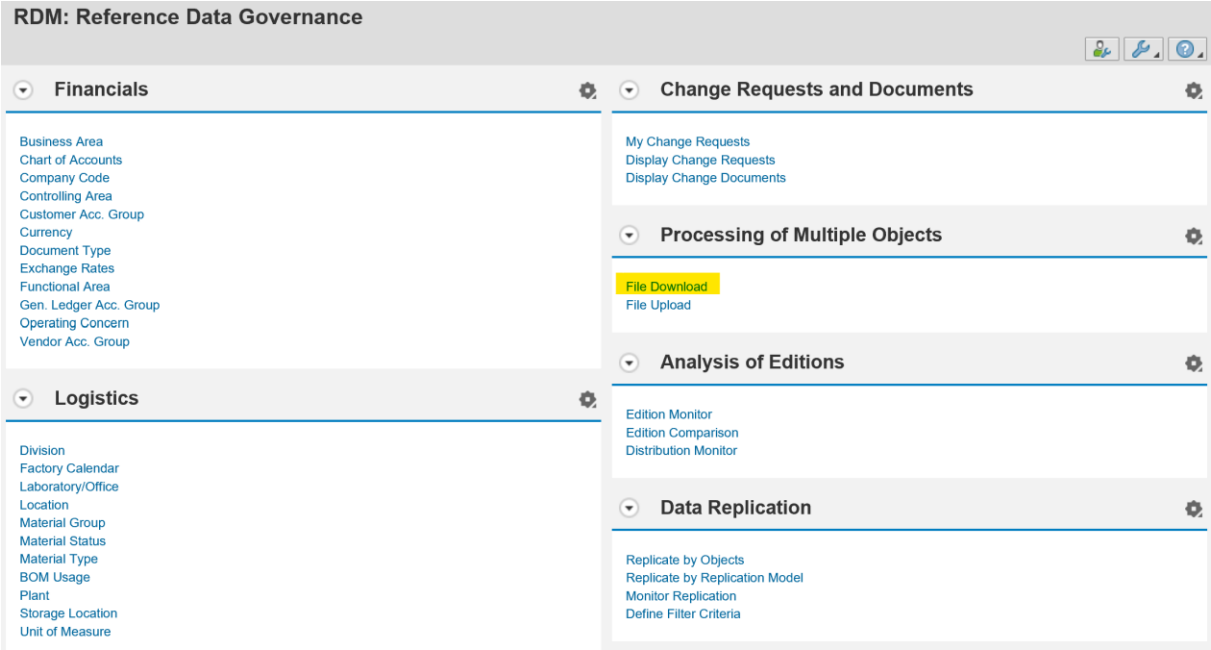
If you chose a direct approval change request in the second upload variant above, the file upload is finished.

If you chose a 2 or 3-step change request in the second upload variant above, you need to approve and/or process the change request according to the standard-workflow of Itego RDM.

If you chose any of the change requests in the first upload variant above, you need to validate and approve the change requests as described in section 2.4.

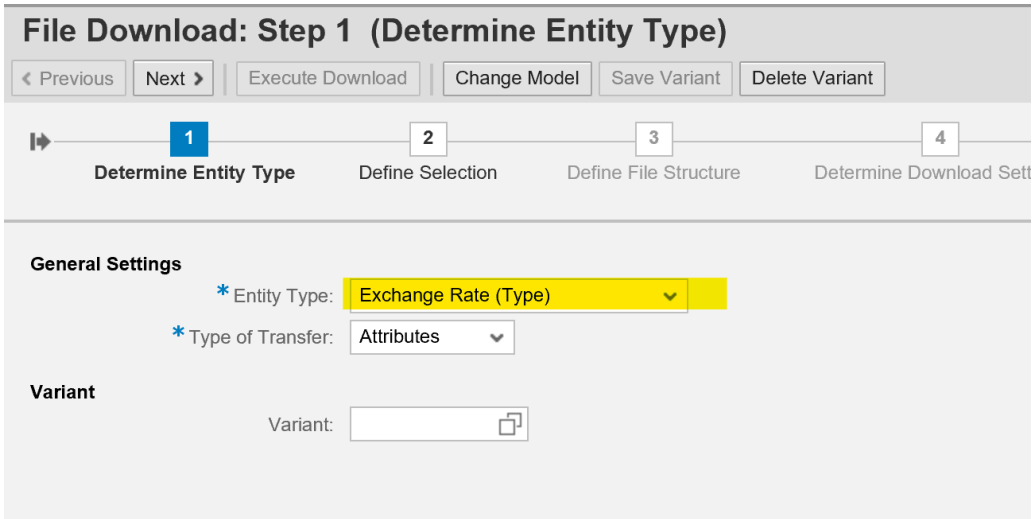
3.4 File Download for Exchange Rates

To start a file download, start on the NWBC launchpad and select “File Download” under “Processing of Multiple Objects”



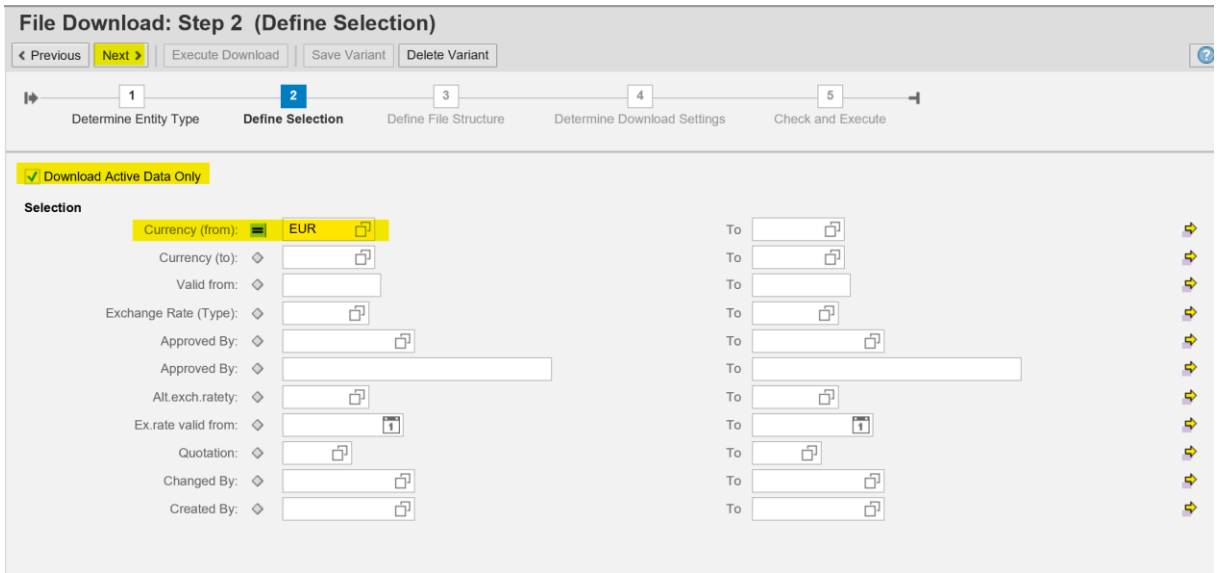
In the process, you have to take five steps in order to end up with a downloaded file. When clicking on “File Download”, you start in step 1.

You have to enter the object, you want to download (Exchange Rate (Type)) in the “Entity Type” field.



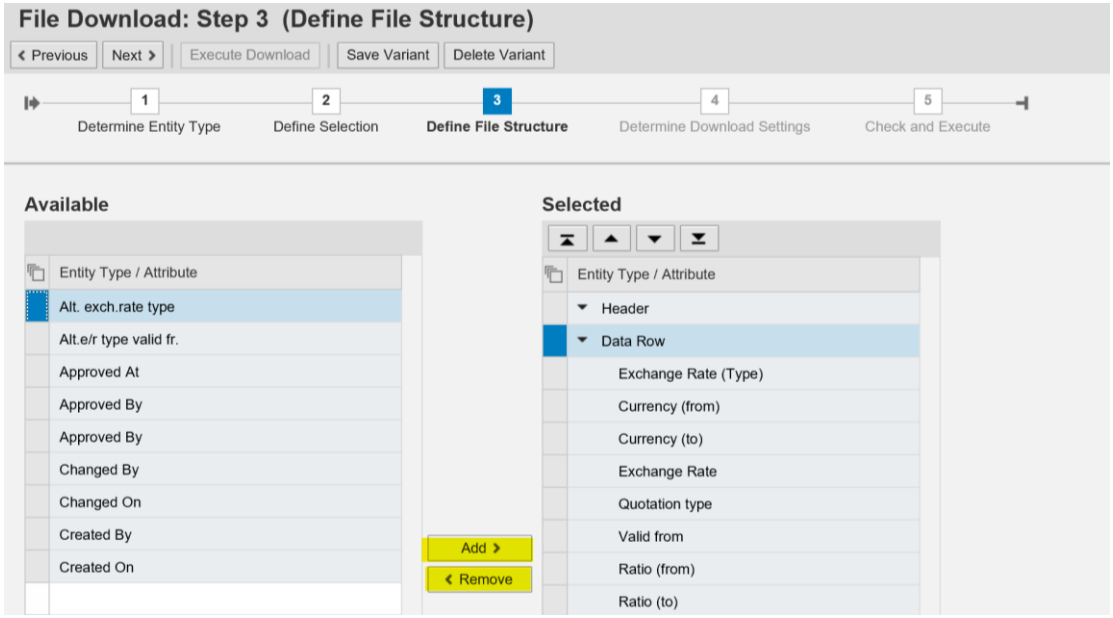
Click on

The second step lets you determine, which Exchange Rates you want to include into the file. You can filter or sort by any attribute of the Exchange Rates. As there is no “right or wrong” for filtering, the image below should simply be considered as an example.



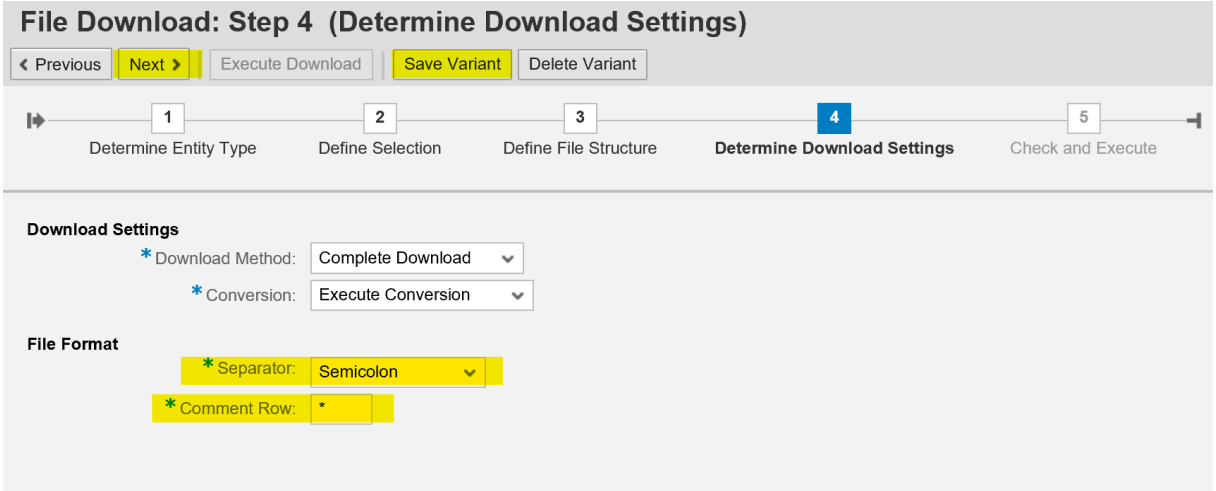
Click on

The third steps lets you configure the file structure (namely, the order, in which the attributes for each object are going to be listed in the file). You can do this, by clicking on an object on the left side, and moving it to the right side. It is important to have clicked on “Data Row” on the right side while doing this. Again, there is no right or wrong to this step, so the image below should just be considered as an example. Be sure to save the file structure for further usage.

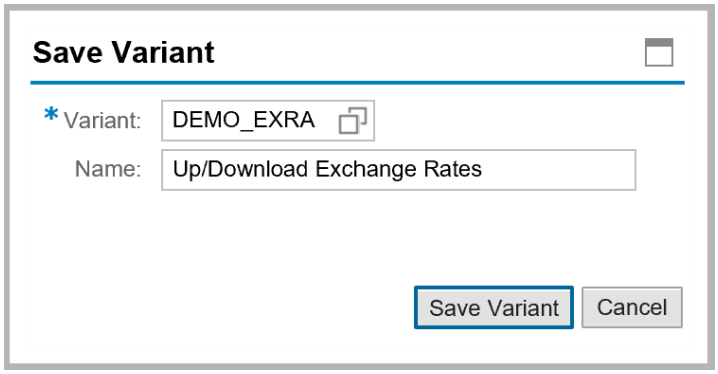


Click on Next ›

In step 4, you can configure the download settings, and the format, the file is going to use. The download settings should be left as they are. The file format adjustments allow you to set the separator and the comment-sign to any valid string.

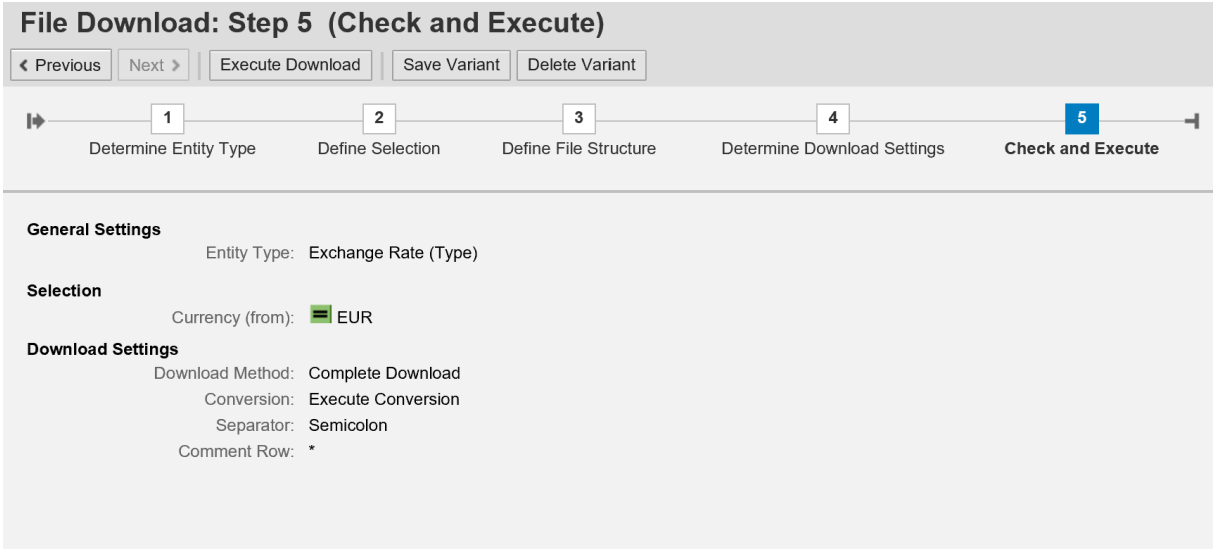


If you are planning on doing a file download, similar to this one, again, it is recommended to use the Save Variant button to create a variant. This variant will save all the settings from the previously taken steps for you to use again. It can be chosen in step 1. If the download is only done once, skip this step.

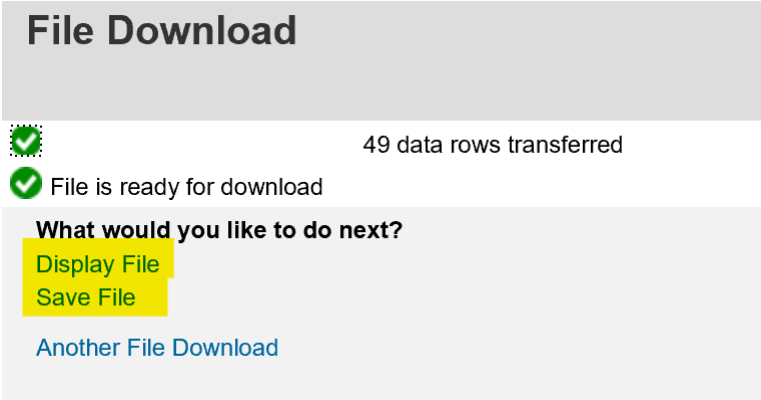


Click on Next ›

Step 5 is simply a confirmation page, on which you can double-check the download settings.



If everything is correct, press on Execute Download to execute the download.



By clicking on “Display File”, you can display the file, and by “Save File”, you can save it to any directory, you wish.

The file download is now completed.