Documentation

Automated Synchronization of SAP LeanIX Factsheets via SAP Integration Suite for SAP Process Orchestration Objects

SAP Integration Package

Version 1.2

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RealCore Group GmbH

Contents

Document History

Version	Date	Comments	Affected Pages
1.0	10.06.2024	Original	All
1.1	18.11.2024	Functionality Updates	All
1.2	20.06.2025	Functionality Updates / Minor Bug Fixes	All

1. Overview & Introduction

This integration package enables data synchronization between SAP Process Integration/Orchestration Content and SAP LeanIX factsheets by reading specific SAP Process Orchestration objects and transferring them to SAP LeanIX application.

Thanks to the solid SAP Cloud Integration solution significant data will be transmitted seamlessly and secure with the help of a Cloud Integration flow which resorts to newest simulation technology and stable error handling.

By utilizing this solution companies will gain an increased growth of efficiency due to a stable automation process of creating FactSheet resources.

The provided integration flow makes use of a full data load to create SAP LeanIX factsheets for all interfaces simultaneously within a few minutes by calling a GraphQL API which connects to SAP LeanIX.

Additionally, it makes use of filter rules to further inclose to be created sheets if necessary. Already existing FactSheets will be updated with new information while non-existent ones will be created as shell with details as title, system information and a technical description. More detailed FactSheet labels like the name can be maintained individually by filling a predefined Value Mapping. This value mapping is pre-created by a separate optional flow in the package which will be explained in Chapter 3.7.

The following chapters specify on these topics in more detail and guide you through the first initial setup.

IMPORTANT NOTE: Using this content without filters (full load) more than once will cause overwriting existing FactSheets! If you change a FactSheet after the initial load and run a full load again, all changes in the FactSheet will be overwritten by the update.

Verify that only valid data is included in the data, that you wish to upload to SAP LeanIX. Since this this content does not support the archiving of Application or Interface Factsheets in SAP LeanIX. Incorrect entries must be cleaned up manually if necessary.

NOTE 2: Although this documentation is mainly mentioning “SAP Process Orchestration”, older “SAP Process Integration” systems are also supported by this flow.

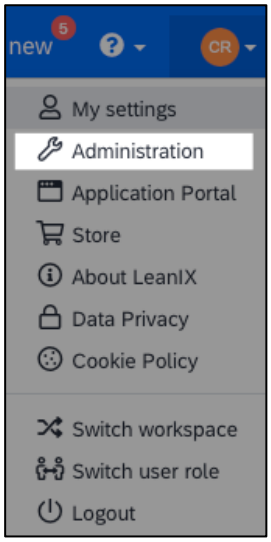
2. Preparations and what you need

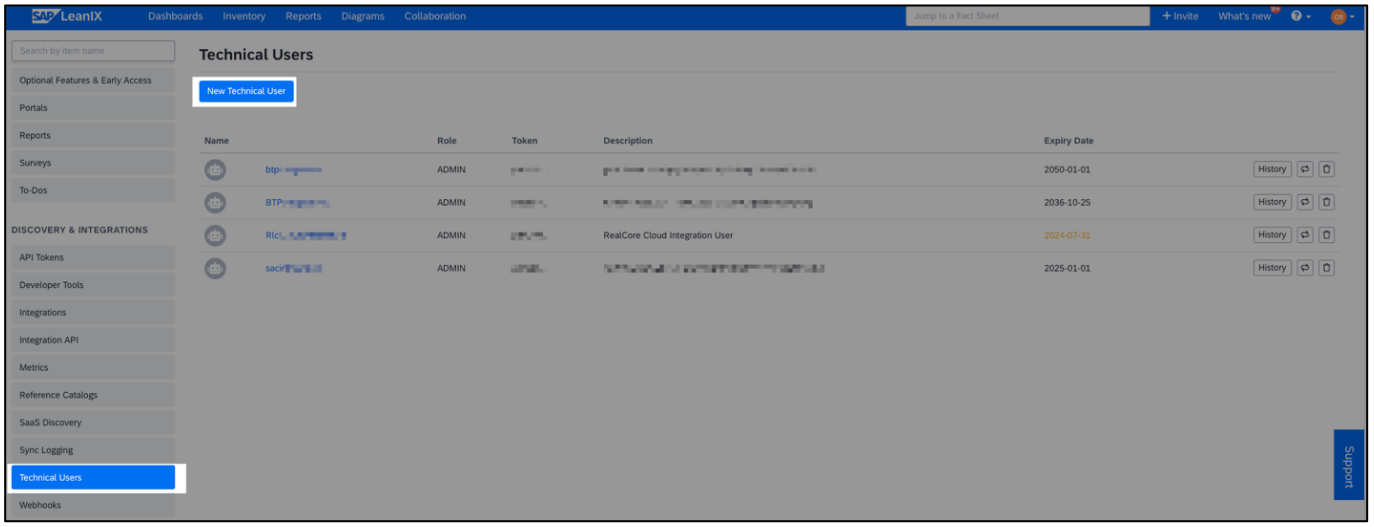
This chapter handles the necessary preliminary steps users need to take care of before using the integration flows.

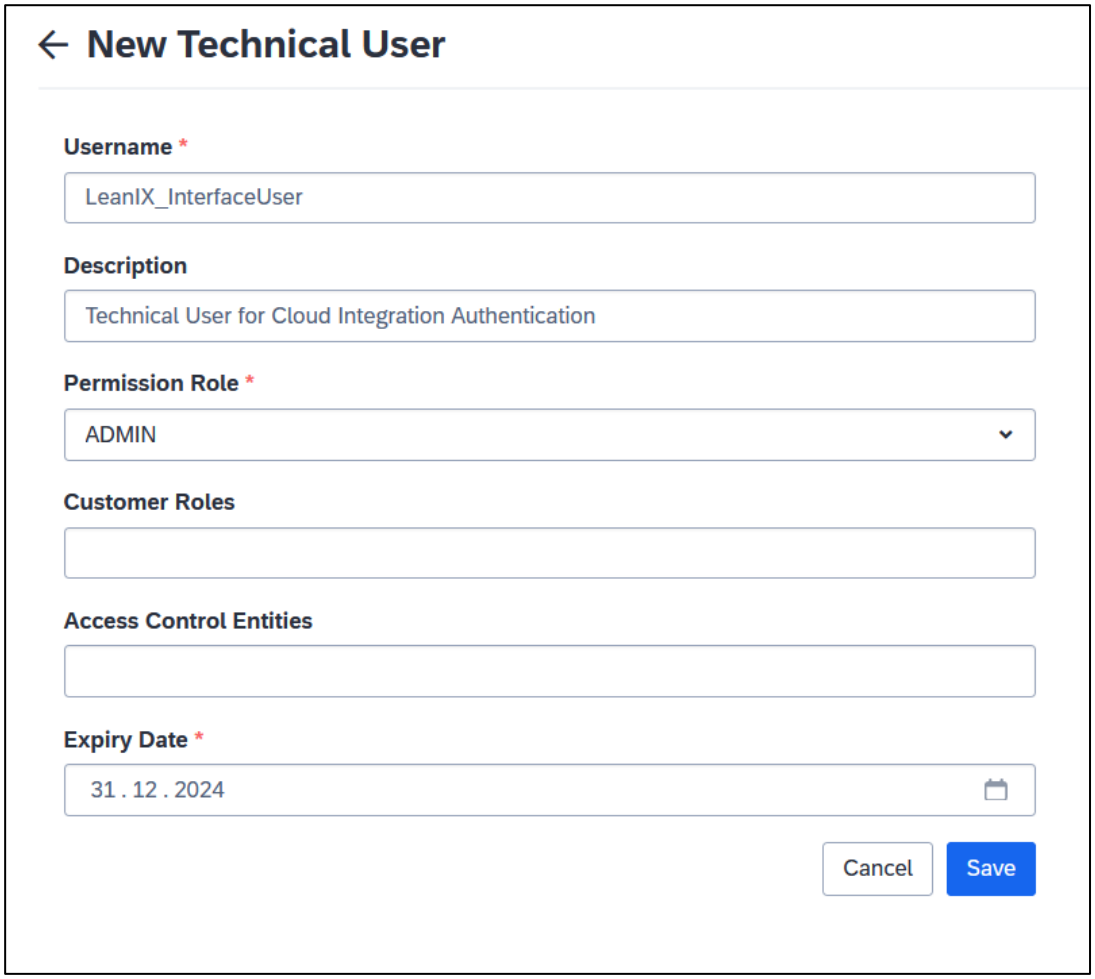
2.1 Authentication SAP Cloud Integration to SAP LeanIX - Activities in SAP LeanIX

To authenticate against SAP LeanIX you first need to create a user in the SAP LeanIX application. SAP LeanIX admins have to follow these steps to do so:

1. On the top right corner click on your user initials and navigate to "***Administration***"
2. The left bar contains several setup possibilities. To create a new technical user, scroll down and choose the option "***Technical Users***".
3. In this screen you create a new technical user with "***New Technical Users***" and set the username, role and expiry date. Once the new user is saved you will automatically receive the Token which serves as "Secret" in SAP Cloud Integration credentials.





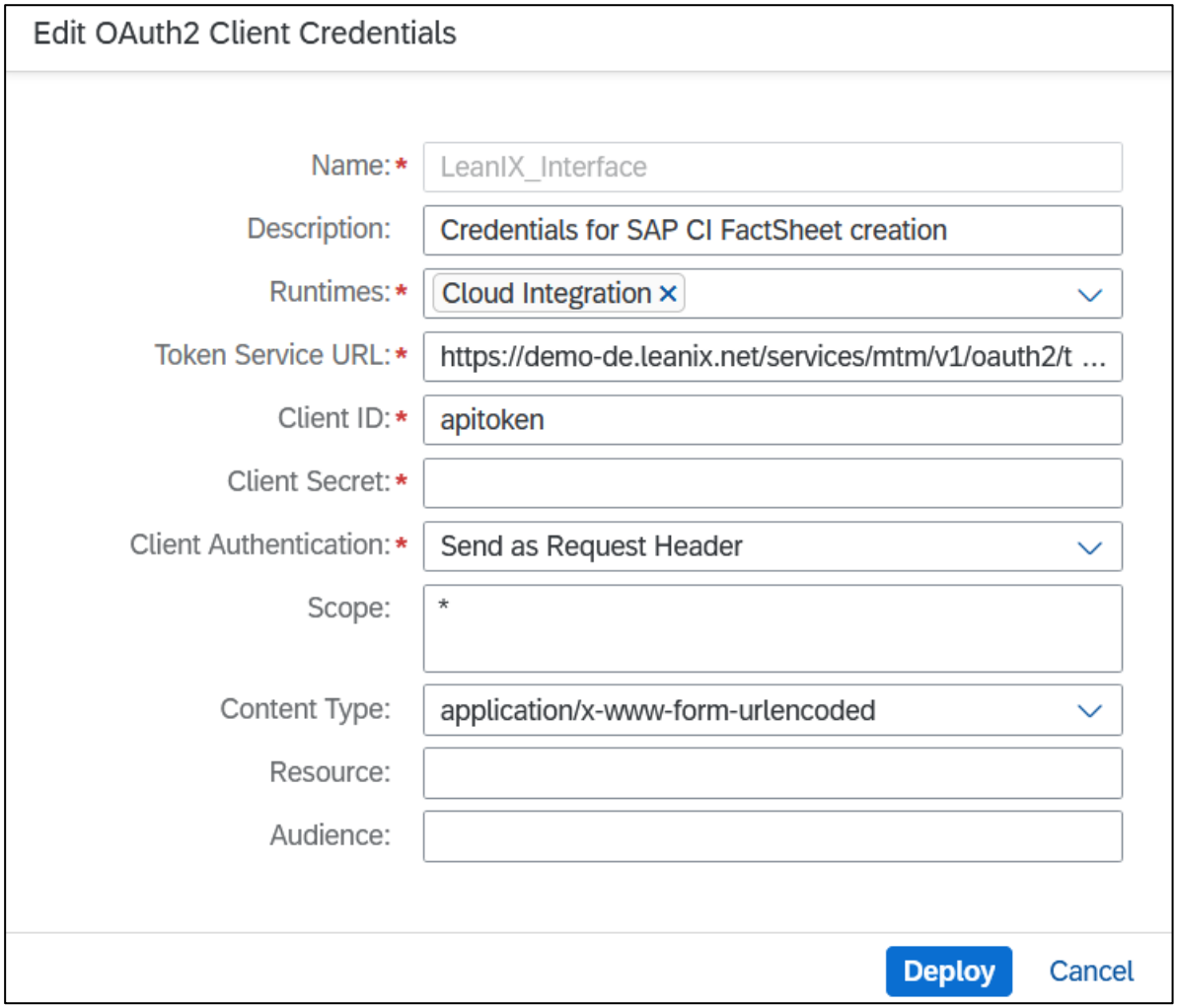


2.2 Authentication SAP Cloud Integration to SAP LeanIX - Activities in SAP Cloud Integration

Before you can use the new integration flow a new Security Material from type "OAuth2 Client Credentials" is needed to authenticate to SAP LeanIX application.

In SAP Cloud Integration you must follow these steps:

1. Open SAP Cloud Integration and navigate to "***Monitor->Integrations and APIs->Security Material***".
2. On the top right corner click on "***Create***" and choose "***OAuth 2 Client Credentials***"
3. Now in the dialog box enter the following details and click on ***Deploy***:
    a. Runtimes: <Your CI runtime environment>
    b. Token Service URL: https://<subdomain>.leanix.net/services/mtm/v1/oauth2/token
    c. Client ID: apitoken
    d. Client Secret: <Your client secret which has been generated as "token" after the technical user creation in SAP LeanIX>
    e. Client Authentication: Send as Request Header
    f. Scope: *
    g. Content Type: application/x-www-form-urlencoded
4. Enter the credential name in the configurable parameter "LeanIX_OAUTH2_Credentials" and the SAP LeanIX subdomain in the parameter "LeanIX_Subdomain" – (more information chapter 3.1)



2.3 Authentication to read SAP Process Orchestration objects

To read the interface objects from your own SAP Process Integration/Orchestration system a Webservice call is getting performed in the integration flow.

To authenticate against the Webservice several information like SAP Process Orchestration hostname, port, credentials etc are needed that will be configured in the parameters. Please also make sure to add the connection settings for SAP Process Orchestration in your Cloud Connector.

To enable the connection, please follow these steps:

1. Fill the parameters "*SAPPO_Hostname*" with your hostname, "*SAPPO_Port*" with your port, "*SAP_CC_LocationId*" with the Cloud Connector Id where the connection is specified and "*SAPPO_Timeout*" with a value in milliseconds that can be specified for the second read call (only used in the second call to SAP Process Orchestration as the first one only calls the keys which will only take some seconds) – (more information chapter 3.1)
2. Open Cloud Integration and navigate to "***Monitor->Integrations and APIs->Security Material***".
3. On the top right corner click on "***Create***" and choose the respective Authentication Method ***User Credentials***"
4. Enter the corresponding technical user for your SAP Process Orchestration authentication in the dialog box
5. Enter the name of the credentials in the configurable parameter called "*SAPPO_Credentials*" – (more information chapter 3.1)

3. IFlows and Configuration in Cloud Integration

This packages comes with two integration flows:

1. Main Flow "*Synchronize SAP LeanIX Factsheets with SAP Process Orchestration Interface*"
2. Optional Flow "*Preload Value Mapping for SAP LeanIX Label with SAP Process Orchestration*"

This documentation primarily focuses on the Main Flow as the second one is an optional addition which can be used to simplify designing specific FactSheet Labels like the title in the SAP LeanIX factsheets (more details for the value mapping flow can be found in chapter 3.7).

Note: Both flows are setup as "Run On Deploy" meaning once the integration content gets deployed and activated, the interface processing starts. Whenever the integration content should run it needs to get redeployed in your SAP Cloud Integration system.

3.1 Configuration Parameters

To fully use this flow the following parameters needs to be configured first before Deployment:

Category	Name	Default	Mandatory parameter (X)	Description
Relation Control	CreateRelations		X	With this parameter you choose whether to create Consumer and Provider relation in an Interface-Factsheet in SAP LeanIX.
Controlling	Ctrl_Batch_Size	30	X	With this parameter you control how many FactSheet Create/Update Statements are send via one call to SAP LeanIX. This is necessary because creating/updating over 100 FactSheets in single requests would cause a “Too many request” HTTP exception.
	Ctrl_FactSheet_Subtype			With this parameter you control if the interface should be created with a specific SubType so you can differentiate from you other Interface FactSheets. This subtype must exist in SAP LeanIX otherwise SAP LeanIX will throw an exception.
	Ctrl_Simulation	true	X	With “Ctrl_Simulation” = true the flow will only read data, but will not create or update any FactSheets in SAP LeanIX. In the Message Log you will find a summary what the Flow would have created or updated if it wasn’t running in Simulation Mode Valid values: true false
	Ctrl_TraceLevel	info	X	Controls how much information the flow will provide in the Message Log. Defined parameters are: info - Writes only necessary information into the message log debug - Write all available information in the message log which might be needed in case of unexpected error and behavior’s.
	Filter_Interface			Regex String which is used to control which information the flow is reading from SAP Process Orchestration

	Filter_Name-space			Regex String which is used to control which information the flow is reading from SAP Process Orchestration
	Filter_Sender-Component			Regex String which is used to control which information the flow is reading from SAP Process Orchestration
	Filter_Sender-Party			Regex String which is used to control which information the flow is reading from SAP Process Orchestration
	TagName/ TagNameAppli-cation			Use this externalized parameter to set the Tag Name to be added to your FactSheet in SAP LeanIX.
SAP LeanIX Connec-tion	LeanIX_OAUT H2_Credentials (tab receiver: “Credential Name”)	LeanIX _Inter-face	X	Name of the Security Material created for SAP LeanIX Oauth2 Authentifica-tion. See chapter 2.2
	LeanIX_Subdo-main	demo	X	Subdomain hostname of your SAP LeanIX application. Example URL/Hostname: https://**<LeanIX_Subdo-main>**.leanix.net/
LeanIX-Adapter	LeanIX_OAUT H2_Credentials (tab receiver: “Credential Name”)	LeanIX _Inter-face	X	Name of the Security Material created for SAP LeanIX Oauth2 Authentifica-tion. See chapter 2.2
	Full-Address	https:// demo-de.lean ix.net	X	Specify the address of SAP LeanIX to be used for the connection.
SAP PO Connec-tion	SAPPO_Cre-dentials (tab receiver: “Credential Name“)		X	Name of the Security Material created for calling SAP Process Orchestration Webservice. See chapter 2.3
	SAPPO_Host-name		X	Hostname of your SAP Process Or-chestration system - this should match to your settings in your Cloud Con-nector

	SAPPO_Port		X	Port of your SAP Process Orchestration system - this should match to your settings in your Cloud Connector
	SAPPO_Timeout	180000	X	Timeout Value of 1 Minute is usually not enough to fetch over 100 ICOs either increase the timeout value or use the filter to decrease the amount of ICOs the flow tries to read.
	SAP_CC_LocationId		X	Name of the Security Material created for SAP Process Orchestration Basic Authentication.

3.2 Full Load or Filtered Creation Process

By default, with only setting the mandatory parameters marked with X above you will automatically run a full load. This means all the SAP Process Orchestration interfaces are getting collected and the corresponding FactSheets created in one go when deploying the integration flow for the first time.

However, you can also filter for specific interfaces only by making use of the specific optional parameters:

- Filter_Interface
- Filter_Namespace
- Filter_SenderComponent
- Filter_SenderParty

These parameters are based on Regex and can be individually setup. If the parameters are set before Deployment only the interfaces that are matching are getting transferred to SAP LeanIX.

3.3 Update Existing FactSheets

The SAP Cloud Integration Flow generates FactSheets using a hash value as the External ID. This unique hash value is getting generated from a combination of the interface objects like interface name, interface namespace, sender party, sender component and, if used, the receiver component and receiver party. Since the hash value is unique, this External ID allows the flow to identify and update existing FactSheets rather than creating new ones. If someone removes the External ID from a FactSheet, the flow will not recognize the existing FactSheet and will attempt to create a new one, leading to an error due to the duplicate FactSheet name.

3.4 Create/Update Application Relations

This functionality enables the creation of Interface Provider and Interface Consumer relations in SAP LeanIX based on the sender and receiver information maintained within each Integrated Configuration in SAP Process Orchestration.

The creation of these relations can be controlled using a Boolean flag (CreateRelation = “true” or “false”), in case the generation of relations is not desired.

Important Note: The number of Application Fact Sheets may be limited by your LeanIX workspace quota. If exceeded, creation fails. Please check your subscription or contact SAP LeanIX Support to increase the limit.

The local integration logic compares the current state in SAP LeanIX using the External ID, which is matched against the display names of the sender and receiver in SAP Process Orchestration. Based on this comparison, the process either creates or updates the corresponding Application Factsheets in SAP LeanIX.
Additionally, any custom naming maintained in the Value Mapping of SAP Process Orchestration components is taken into account during this mapping process.

The resulting Applications, whether newly created or updated, are then linked to the respective Integration Flow of a run via a relation in SAP LeanIX.

3.5 Simulation Mode

You can choose if you directly want to create the FactSheets in SAP LeanIX or if you first want to test the process of picking up interface data.

If you want to test the flow you need to set the “Ctrl_Simulation” parameter to “true”. In this case the flow will run without transferring the interface data to SAP LeanIX. After the run is finished you will find a log in the monitoring tab of the corresponding message that will provide you details how many interfaces have been collected, how many entries found in a value mapping etc. By default, the simulation parameter is set to true to prevent users from inadvertently creating hundreds of FactSheets they may not want.

Example Logfile “Simulation Output”:

```
================================================================================================================================================
                                                        Simulation Output
================================================================================================================================================
This output serves to determine how the FactSheets would be created in LeanIX. It checks whether the FactSheets already exist and if
LeanIX descriptions for applications or interfaces have been stored in SAP CI.

------------------------------------------------------------------------------------------------------------------------------------------------

*** Technical Details from SAP PO ***
Sender Party:
Sender Component: BS_SYSTEM_A
Interface: SI_OA_CustomerData
Namespace: http://realcore.de/xi/sandbox
Receiver Party:
Receiver Component:

*** Checking if ValueMapping 'Value Mapping LeanIX Label' contains any replacements for technical Names ***
Found no LeanIX Label for |BS_SYSTEM_A
Found no LeanIX Label for SI_OA_CustomerData|http://realcore.de/xi/sandbox
Found no LeanIX Label for |BS_SYSTEM_B

*** Checking LeanIX if FactSheet already exists or if the Flow needs to create the FactSheet ***
Interface FactSheet already exists with ID: 10483415-e3bc-4d2e-9a1a-1e7ac572027d

*** Preview of how the values would be created in LeanIX ***
FactSheet Name:
SI_OA_CustomerData|http://realcore.de/xi/sandbox from |BS_SYSTEM_A to |BS_SYSTEM_B

FactSheet Description:
Automatically generated Description by SAP Cloud Integration

Technical Details from SAP PO

Sender Party:
Sender Component: BS_SYSTEM_A
Interface: SI_OA_CustomerData
Namespace: http://realcore.de/xi/sandbox
Receiver Party:
Receiver Component:

ExternalID:
6f00f3fd6de0796747e203e9490fb1388fe7592ce372ca396326f86a2b018c3f
```

Simulation Output | **Simulation Output Application** | Simulation Output Relation

Beautify | Copy | Download Body | Light Editor | No Wrap | Edit | Length unformated: 12 lines; Size unformated: 912 bytes, 0.89 KB, 0 MB

```
================================================================================================================================================
Simulation Output
================================================================================================================================================
This output shows which applications would be created or updated.
It is based on technical names and potential replacements.

------------------------------------------------------------------------------------------------------------------------------------------------

Application "Muni Mapping Wert" (befbc91f-0093-427c-8bc9-df10c41e49fd) had no updates.
Application "|BC_Muni_BPM_Sender" (e6272913-2d6f-446f-aaad-f9771c59a1bd) would be updated.
Application "Muni Receiver" (162158b1-fa87-4a30-9e87-19cefb7e6952) had no updates.
Application "|BC_Muni_BPM_Receiver" () would be created.
```

Simulation Output | Simulation Output Application | **Simulation Output Relation**

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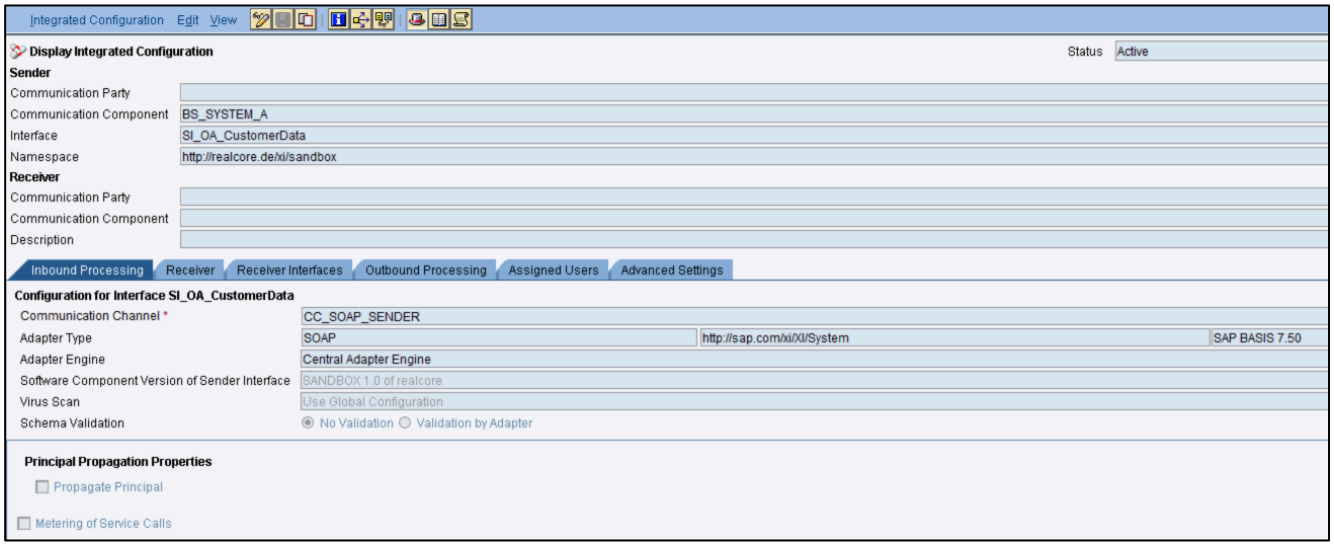
```
================================================================================================================================================
Simulation Output Relation
================================================================================================================================================
This output shows which FactSheets would be updated in LeanIX based on interface and application relations from SAP PO/PI.

------------------------------------------------------------------------------------------------------------------------------------------------

FactSheet '                                                                                                    " ("NEW_INTERFACE") would be created
and extended with sender |BC_Muni_BPM_Sender and receiver |BC_Muni_Receiver.
FactSheet '                                                                                                  " ("bfbd5ff7-cb8d-4082-b20d-
6ad6de278a31") would be extended with sender application "Muni Mapping Wert" and receiver application "|BC_Muni_BPM_Receiver".
```

3.6 Interface Process Visualization

This chapter will show an example of how the interface is creating the SAP LeanIX factsheets visually by default.

In this scenario we want to create a FactSheet only for one single Integrated Configuration with the Key identifiers:

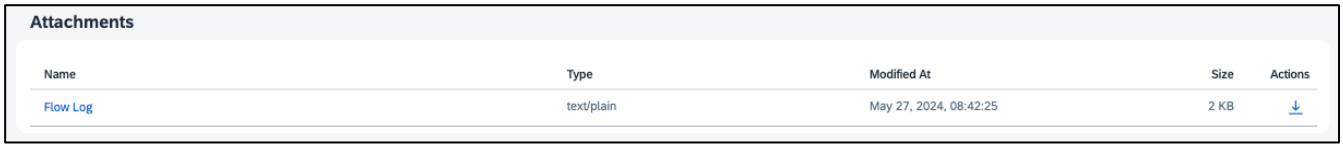
Sender Party:
Sender Component: BS_SYSTEM_A
Interface: SI_OA_CustomerData
Namespace: http://realcore.de/xi/sandbox
Receiver Party:
Receiver Component:



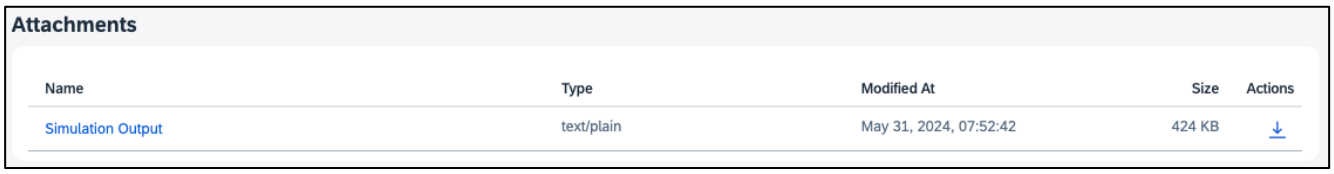
By setting for example the “Filter_Interface” parameter with the specific name of an interface or a regex expression that ensures that only the wanted interface will be processed, such as “.*Customer.*”, this acts as a valid regex formula to process only this specific Flow and create a FactSheet.

You can find the parameter summary in the custom headers of the message, along with some runtime parameters starting with __, which will show you how many interfaces were found, filtered, and how many FactSheets were created successfully.

Attached to the processed message you can find the Flow Log



Or if you run the flow with Simulation = true you can find the Simulation Output and all necessary information in the same place for investigating problems:



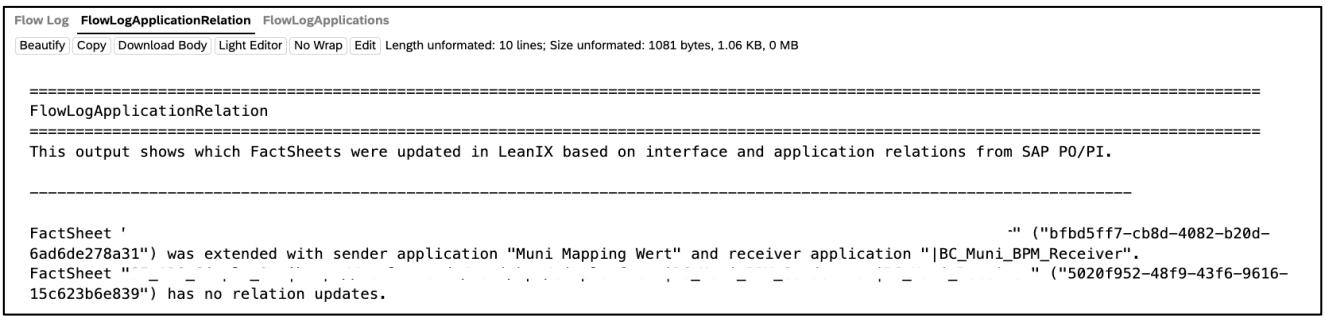
The Flow Log shows which SAP Process Orchestration – Integrated Configurations were found and processed, and with which data the FactSheet was created:

```
================================================================================================================================================
                                                        Flow Log
================================================================================================================================================
This output serves to determine how and which FactSheets will be created/updated in LeanIX. It checks whether the FactSheets already
exist and if LeanIX descriptions for applications or interfaces have been stored in SAP CI.
------------------------------------------------------------------------------------------------------------------------------------------------

*** Technical Details from SAP PO ***
Sender Party:
Sender Component: BS_SYSTEM_A
Interface: SI_OA_CustomerData
Namespace: http://realcore.de/xi/sandbox
Receiver Party:
Receiver Component:

*** Checking if ValueMapping 'Value Mapping LeanIX Label' contains any replacements for technical Names ***
Found no LeanIX Label for |BS_SYSTEM_A
Found no LeanIX Label for SI_OA_CustomerData|http://realcore.de/xi/sandbox
Found no LeanIX Label for |BS_SYSTEM_B

*** Checking LeanIX if FactSheet already exists or if the Flow needs to create the FactSheet ***
Interface FactSheet already exists with ID: 10483415-e3bc-4d2e-9a1a-1e7ac572027d

*** Preview of how the values would be created in LeanIX ***
FactSheet Name:
SI_OA_CustomerData|http://realcore.de/xi/sandbox from |BS_SYSTEM_A to |BS_SYSTEM_B

FactSheet Description:
Automatically generated Description by SAP Cloud Integration

Technical Details from SAP PO

Sender Party:
Sender Component: BS_SYSTEM_A
Interface: SI_OA_CustomerData
Namespace: http://realcore.de/xi/sandbox
Receiver Party:
Receiver Component:

ExternalID:
6f00f3fd6de0796747e203e9490fb1388fe7592ce372ca396326f86a2b018c3f
```

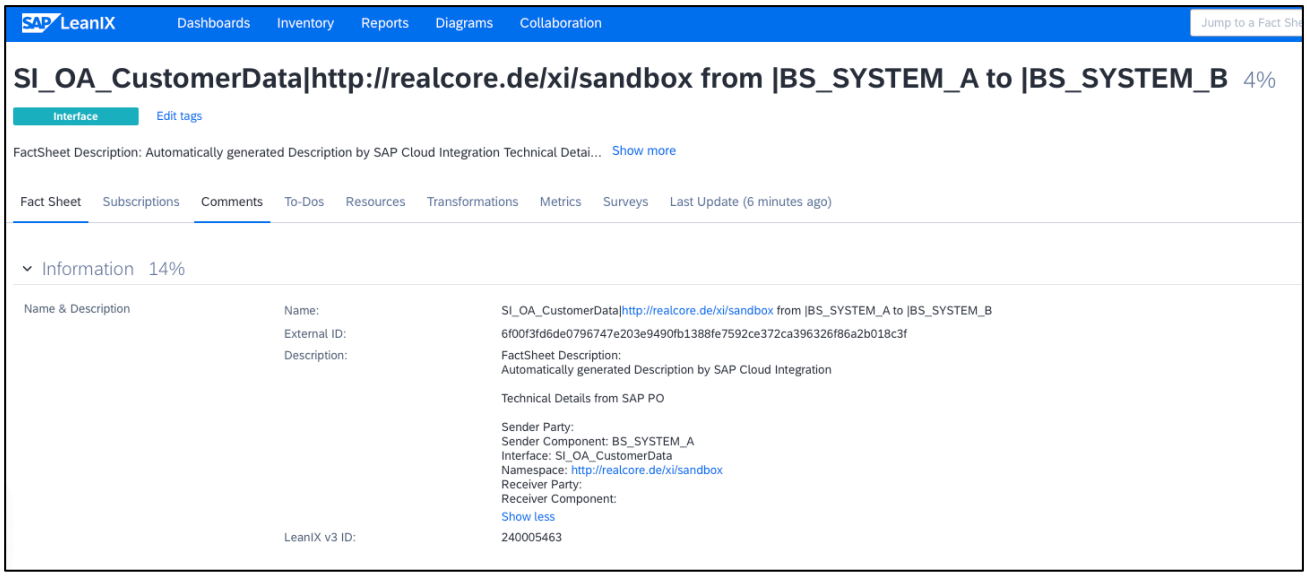
Flow Log FlowLogApplicationRelation **FlowLogApplications**

Beautify Copy Download Body Light Editor No Wrap Edit Length unformated: 12 lines; Size unformated: 932 bytes, 0.91 KB, 0 MB

```
================================================================================================================================================
FlowLogApplications
================================================================================================================================================
This output shows which applications were created or updated.
It is based on technical names and potential replacements.

------------------------------------------------------------------------------------------------------------------------------------------------

Application "Muni Mapping Wert" (befbc91f-0093-427c-8bc9-df10c41e49fd) was updated.
Application "|BC_Muni_BPM_Sender" (e6272913-2d6f-446f-aaad-f9771c59a1bd) had no updates.
Application "Muni Receiver" (4c113796-fee0-4e81-b087-6c3be6423fdd) had no updates.
Application "|BC_Muni_BPM_Receiver" (e6d1958d-3a2b-459c-bb82-a8ada63049b8) was created.
```



In SAP LeanIX you should find the created Factsheet:



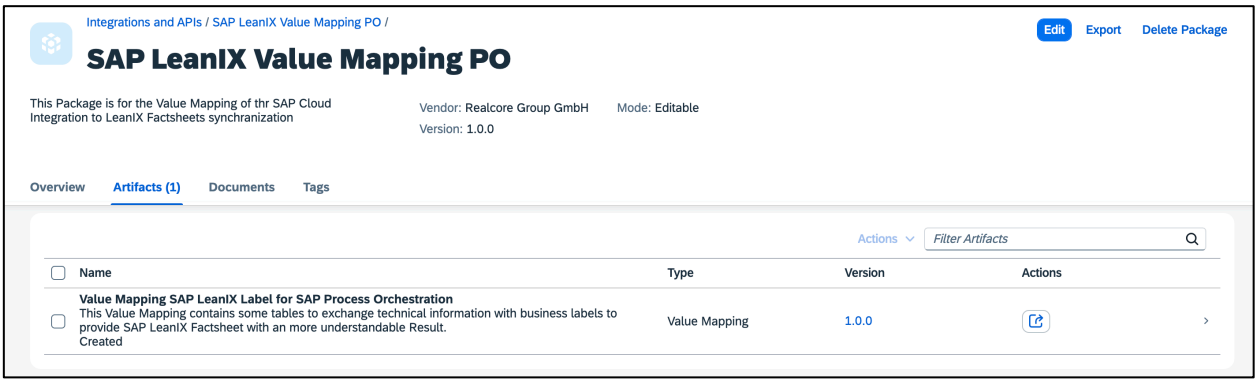
You need to consider the following technical behavior of the Synchronization Flow:

1. Factsheet Name:
   - The Factsheet Name will be built by the following pattern: {Interface}|{Namespace} from {SenderParty}|{SenderComponent} to {ReceiverParty}|{ReceiverComponent}
2. Description:
   - The description will be replaced every time the interface runs. So be aware: When you enter your own description, the next run would overwrite your texts!
3. External ID:
   - The Flow ID is a hash calculated by the Key Attributes of the Integrated Configuration to ensure that the External ID is unique in SAP LeanIX. And it's needed for the synchronization to determine if the Factsheet needs to be created or if it is already existing and needs to be updated.

3.7 (Optional Feature) Configure LeanIX Labels in Value Mapping for SAP LeanIX

May you are not satisfied with the generated Factsheet Name, because the specified interface object names are to technical and not understandable for most users and also doesn't represent the interface or the process your company is using it for.

For this occasion, you can control the Factsheet Name creation by configuring the Value Mapping that can be created by running the Optional Feature in 3.8 This Chapter is focused on the functionallity of the Value Mapping.



The Value Mapping consists of 2 different transformations:

1. For Sender and Receiver:

Agency	Identifier		Agency	Identifier
SAPPO_Component	Name		LeanIX_Application	Label

2. For Interface

Agency	Identifier		Agency	Identifier
SAPPO_Interface	Name		LeanIX_Interface	Label

Here an example how this works:

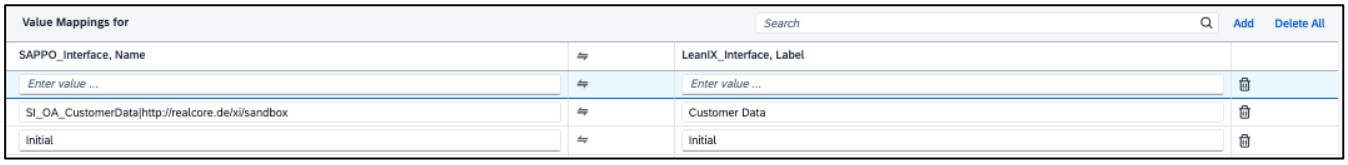
In the current Example the technical names are:

Interface|Namespace: SI_OA_CustomerData|http://realcore.de/xi/sandbox

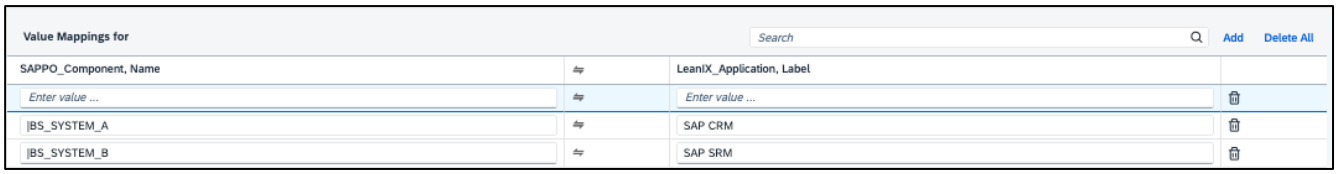
SenderParty|SenderComponent: |BS_SYSTEM_A

ReceiverParty|ReceiverComponent: |BS_SYSTEM_B

In the Value Mapping we define for the Interface the following transformation:

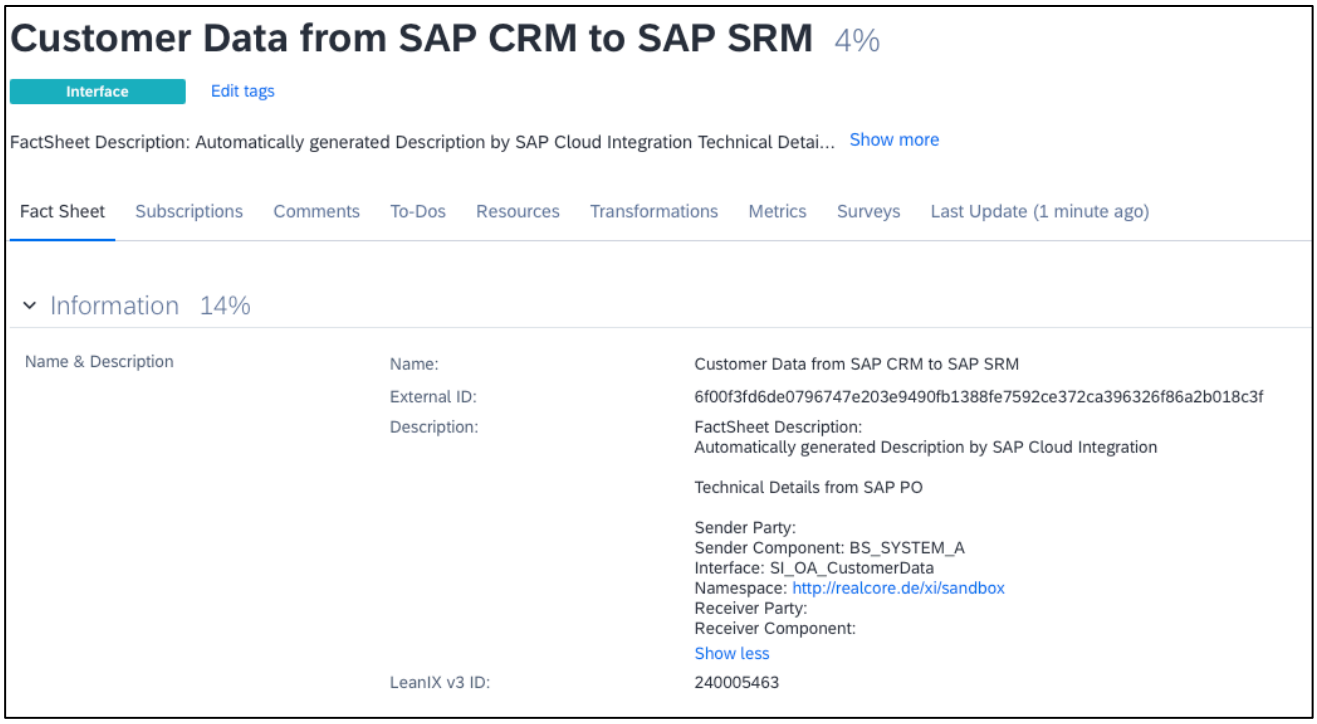


And for the Sender and Receiver we define the following transformation:



Now it's important to deploy the changes and we can re-run the Sync.

The flow now results in the following Factsheet Name:



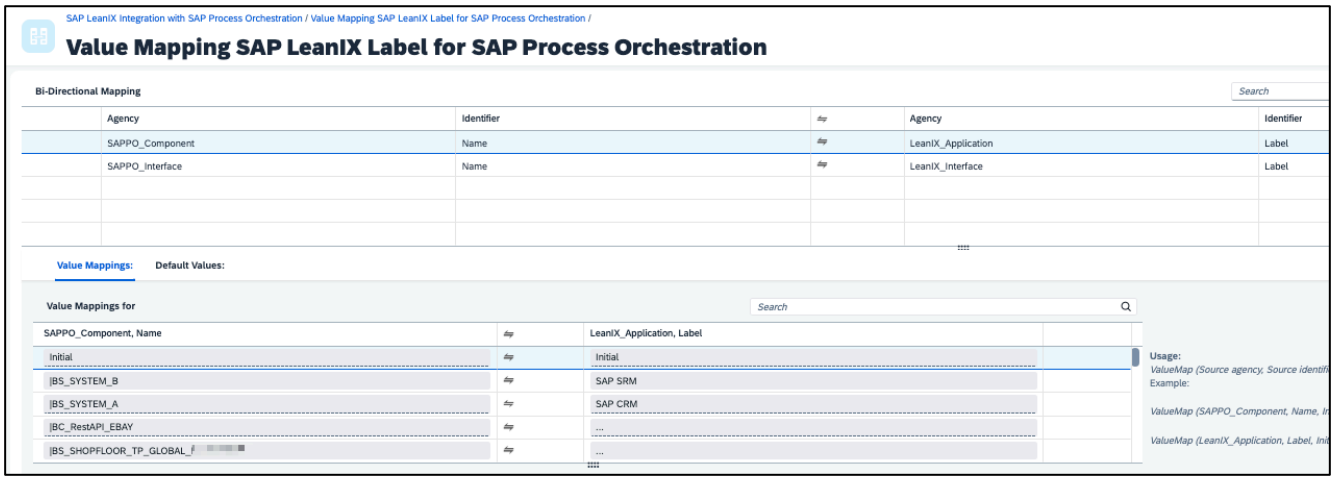
3.8 (Optional Feature) Preload Value Mapping for SAP LeanIX Label

This step will add up to the procedure described above in 3.7 and simplifies the process to create the value mapping.

The second flow provided in the package will pre-create value mappings in SAP Cloud Integration which can be used to store business labels for SAP LeanIX FactSheet titles.

Running the Flow for the first time, consider that if the Value Mapping ID is non existing in your Cloud Integration, the Value Mapping will be created. How to configure Value Mapping and Package creation is described in 3.8.2. Always consider using the same Value Mapping ID for multiple runs of the Integration Flow to ensure consistency and avoid duplicate mappings.

Two value mappings will be created by this flow, one for all found applications or business systems and another one for all found interface object names. Based on both, the new title will be written.



Found interface details will be automatically stored on the left column. The right column will be pre-filled with a placeholder "…". In this case the integration flow realizes that the value is empty and does not change the output title description.

The interface expert can insert detailed names in this placeholder field per interface to transfer this information to the SAP LeanIX application aswell. Afterwards, created FactSheets will contain the new title from the maintained values.

3.8.2 Configuration Parameters of Value Mapping Flow

This Integration Flow uses the same features that the main flow is already using (Simulation mode and debug mode), so it comes with nearly the same parameters which are already used in the first flow.

To fully use the value mapping precreate flow the following parameters needs to be configured first before Deployment:

Category	Name	Default	Mandatory parameter (X)	Description
Controlling	Ctrl_Simulation	true	X	With “isSimulationModeActive” the flow will only read data, but will not create or update any FactSheets in SAP LeanIX. In the Message Log you will find a summary what the Flow would have created or updated if it wasn’t running in Simulation Mode
	Ctrl_TraceLevel	info	X	Controlls how much Information the Flow will provide in the Message Log. Defined Parameters are: info - Writes only necessary information into the message log debug - Write all available information in the message log which might be needed in case of unexpected error and behaviours. Careful: running a full load in debug mode will cause a very big logfile. We recommend to switch it to debug only if you want to check/test a small amount of flows.
	Filter_Interface			Regex String which is used to control which information the flow is reading from SAP Process Orchestration
	Filter_Namespace			Regex String which is used to control which information the flow is reading from SAP Process Orchestration
	Filter_SenderComponent			Regex String which is used to control which information the flow is reading from SAP Process Orchestration
	Filter_SenderParty			Regex String which is used to control which information the flow is

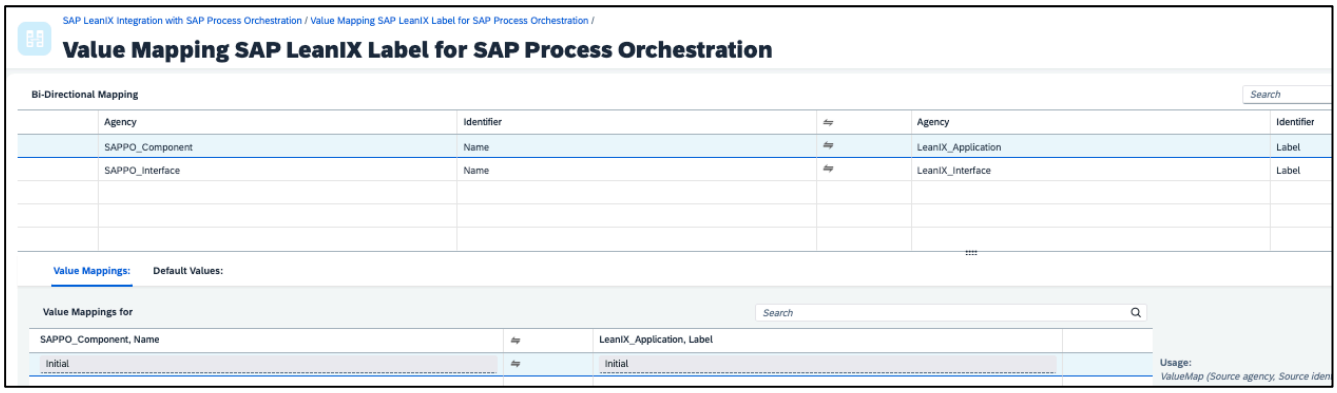
				reading from SAP Process Orchestration
SAP Cloud Integration Connection	SAPCI_Authentification (tab receiver: ”Authentication”)		X	Choose type of authentication to read Cloud Integration objects. Valid values: Basic OAuth2 client credentials
	SAPCI_Credentials (tab receiver: “Credential Name“)		X	Name of the Security Material created for calling SAP Cloud Integration API. See chapter 2.3
	ODATA_Authentication (tab receiver: ”Authentication”)		X	Choose type of authentication to read ODATA Service. Valid values: Basic OAuth2 client credentials
	ODATA_Credentials		X	Name of the Security Material created for calling SAP Cloud Integration API. See chapter 2.3 or if needed others Credentials fitting to the Method.
SAP PO Connection	SAPPO_Credentials		X	Name of the Security Material created for SAP Process Orchestration Basic Authentication.
	SAPPO_Hostname		X	Hostname of your SAP Process Orchestration system - this should match to your settings in your Cloud Connector
	SAPPO_Port		X	Port of your SAP Process Orchestration System - this should match to your settings in your Cloud Connector
	SAPPO_Timeout	180000	X	Timeout Value of 1 Minute is usually not enough to fetch over 100 ICOs either increase the timeout value or use the filter to decrease the amount of ICOs the flow tries to read.

	SAP_CC_LocationId		X	The Location ID of your Cloud Connector you need to connect SAP Cloud Integration to your onPremise SAP Process Orchestration System where you want to read the interface data from.
Value Mapping Creation	Value Mapping - Package ID			Integration Package ID fitting the Naming Policies in the Tenant. Only needed for initial Run.
	Value Mapping - Package Name			Integration Package Name fitting the Naming Policies in the Tenant. Only needed for initial Run.
	Value Mapping ID		X	Value Mapping ID fitting the Naming Policies in the Tenant. This ID is used to find the Value Mapping after it has been created. Wrong ID leads to creation of a new Value Mapping in the Tenant.
	Value Mapping Name			Value Mapping Name fitting the Naming Policies in the Tenant.

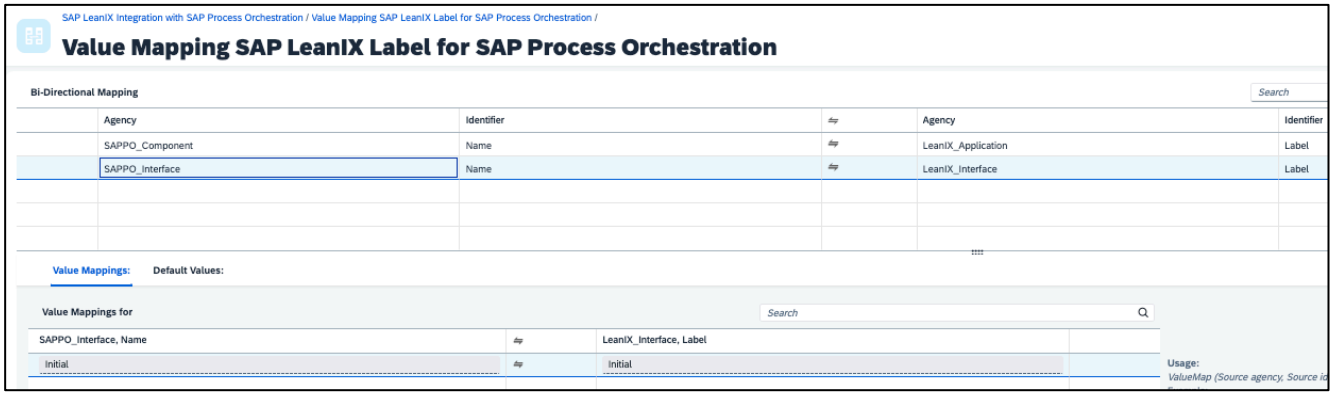
3.8.3 Value Mapping Process Visualization

This chapter will show an example of how the Value Mapping entries are created by the Flow “Preload Value Mapping for SAP LeanIX Label with SAP Process Orchestration”.

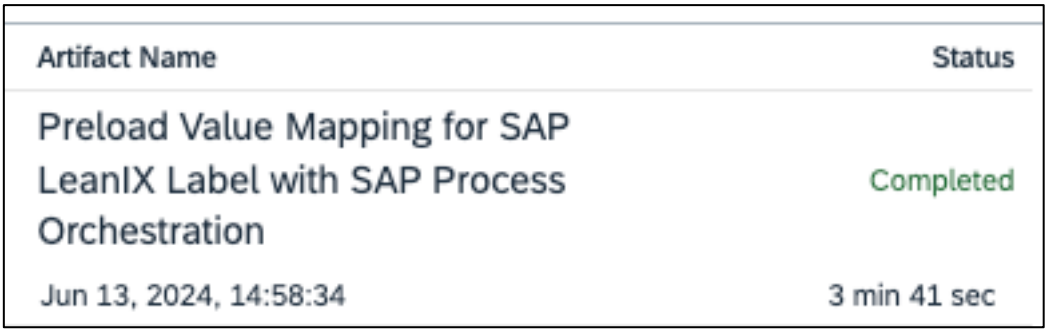
The Value Mapping before the run for applications (Sender/Receiver):



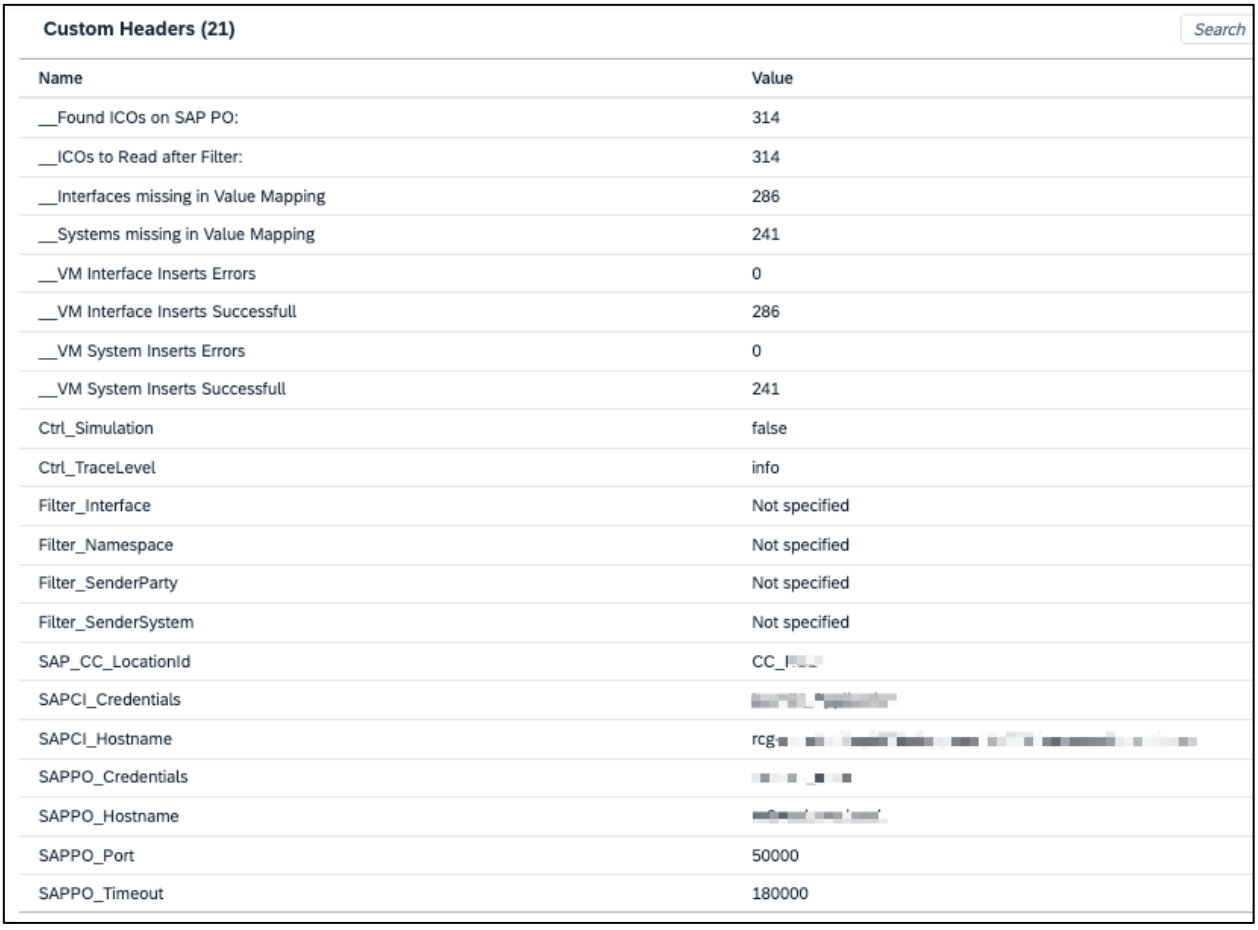
The Value Mapping before the run for interfaces:



Be aware that a full run could take several minutes because the SAP Cloud Integration API doesn't allow a parallel processing. In our example for inserting 285 Interfaces and 239 applications the run took over 3 minutes:



You can find the parameter summary in the custom headers of the message, along with some runtime parameters starting with __, which will show you how many flows were found, filtered, and how many FactSheets were created successfully.

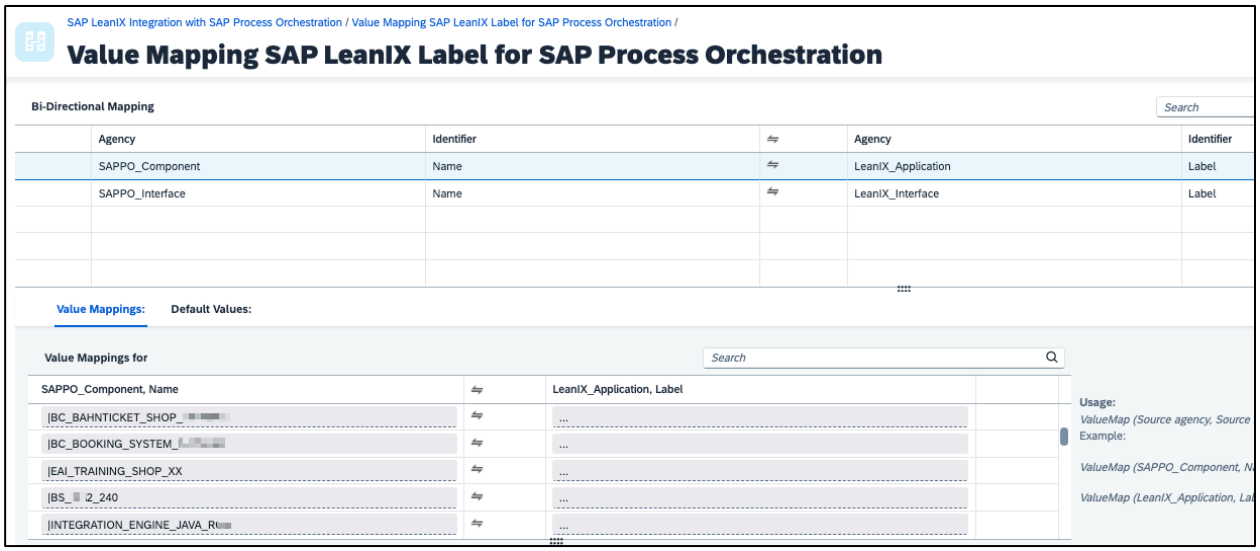


Attached to the processed message you find the Flow Log

The Flow Log shows which SAP Process Orchestration interfaces and systems were found and processed, and which data was added to the Value Mapping:

```
================================================================================================================================================
                                                        Flow Log
================================================================================================================================================
This output shows which ValueMappings doesn't exist and will be created during this Flow run. The flow is checking against existing
ValueMappings but also against ValueMappings that would be created in current flow run
------------------------------------------------------------------------------------------------------------------------------------------------
null
------------------------------------------------------------------------------------------------------------------------------------------------
Check Interface:
No Value Mapping Entry found for SI_Ebay_RestAPI_Sync_OUT|http://realcore.de/Renato/EBAY_RestAPI
Check Systems:
No Value Mapping Entry found for |BC_RestAPI_EBAY
Value Mapping Entry found for |BC_RestAPI_EBAY: will aready be created in this flow run
------------------------------------------------------------------------------------------------------------------------------------------------
Check Interface:
No Value Mapping Entry found for SI_OUT_SYNC_SERIAL_S2S_SOURCE|http://techiepress.com/S2S/GetSerialNumber/h
Check Systems:
No Value Mapping Entry found for |BS_SHOPFLOOR_TP_GLOBAL
No Value Mapping Entry found for PY_CUST_APPLE_GLOBAL_M|BS_CUST_APPLE_GLOBAL_
------------------------------------------------------------------------------------------------------------------------------------------------
Check Interface:
No Value Mapping Entry found for SI_OS_PostProduct|http://realcore.de/exercise/FruitShop
Check Systems:
No Value Mapping Entry found for |EAI_TRAINING_SHOP_
Value Mapping Entry found for |EAI_TRAINING_SHOP_R: will aready be created in this flow run
------------------------------------------------------------------------------------------------------------------------------------------------
Check Interface:
No Value Mapping Entry found for SI_OA_Bahnticketing|http://realcore.de/schulung1
Check Systems:
No Value Mapping Entry found for |BC_BAHNTICKETING_SHOP_
No Value Mapping Entry found for |BC_BOOKING_SYSTEM_
------------------------------------------------------------------------------------------------------------------------------------------------
Check Interface:
No Value Mapping Entry found for SI_OA_GetProductByID|http://realcore.de/exercise/experimental_
Check Systems:
No Value Mapping Entry found for |EAI_TRAINING_SHOP_
Value Mapping Entry found for |EAI_TRAINING_SHOP_: will aready be created in this flow run
------------------------------------------------------------------------------------------------------------------------------------------------
```

In the Value Mapping you should now find all possible (of the filtered) values for applications and interfaces:



4 Error Log and Debug Mode files

Both Integration Flows come with an extensive error handling to provide analytical support in case of issues and errors.

If you want to actively monitor a message transfer you can set the parameter “TraceLevel” to “debug”. The next run will contain comprehensive log files and custom headers in the monitoring area:

Custom Headers (19) Search

Name	Value
__Found ICOs on SAP PO:	314
__ICOs to Read after Filter:	1
__LeanIX Inserted/Updated - Successful	1
__LeanIX not Inserted/Updated - Error	0
Ctrl_Batch_Size	10
Ctrl_FactSheet_Subtype	Not specified
Ctrl_Simulation	false
Ctrl_TraceLevel	info
Filter_Interface	.*Customer.*
Filter_Namespace	Not specified
Filter_SenderParty	Not specified
Filter_SenderSystem	Not specified
LeanIX_OAUTH2_Credentials	LeanIX_Interface
LeanIX_Subdomain	demo
SAP_CC_LocationId	
SAPPO_Credentials	
SAPPO_Hostname	
SAPPO_Port	50000
SAPPO_Timeout	180000

Attachments

Name	Type	Modified At	Size	Actions
_Start Properties	text/plain	Jun 12, 2024, 10:16:08	4 KB	
FactSheetMap	text/plain	Jun 12, 2024, 10:16:13	173 KB	
Flow Log	text/plain	Jun 12, 2024, 10:16:14	2 KB	
LeanIX Mutation Request	text/plain	Jun 12, 2024, 10:16:13	1 KB	
LeanIX Mutation Response	text/plain	Jun 12, 2024, 10:16:14	1 KB	
LeanIX Query Response	text/plain	Jun 12, 2024, 10:16:12	421 KB	
SAP PO Query Response	text/plain	Jun 12, 2024, 10:16:09	93 KB	
SAP PO Query Response after Filter	text/plain	Jun 12, 2024, 10:16:10	1 KB	
SAP PO Read Response	text/plain	Jun 12, 2024, 10:16:10	10 KB	

Custom Headers that start with a double underscore “__” indicate a runtime value like how many Integrated Configurations were found in the system.

Custom Headers without this naming convention indicate a parameter that has been configured.

4.1 Expected Errors and Solutions

This chapter contains all issues we have faced during testing and development together with its solution.

4.1.1 Entity may not be null

Reason:

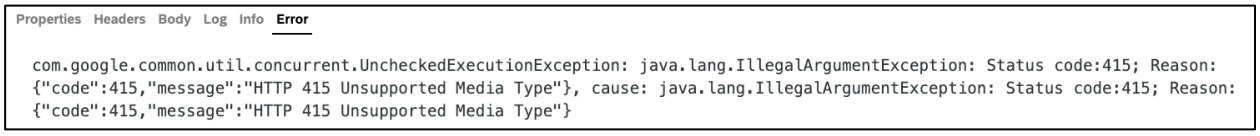
3410728 - java.lang.IllegalArgumentException: Entity may not be null

Within your tenant, you have not correctly maintained the scope in your Oauth Client credentials that are being used in this scenario.

Solution:

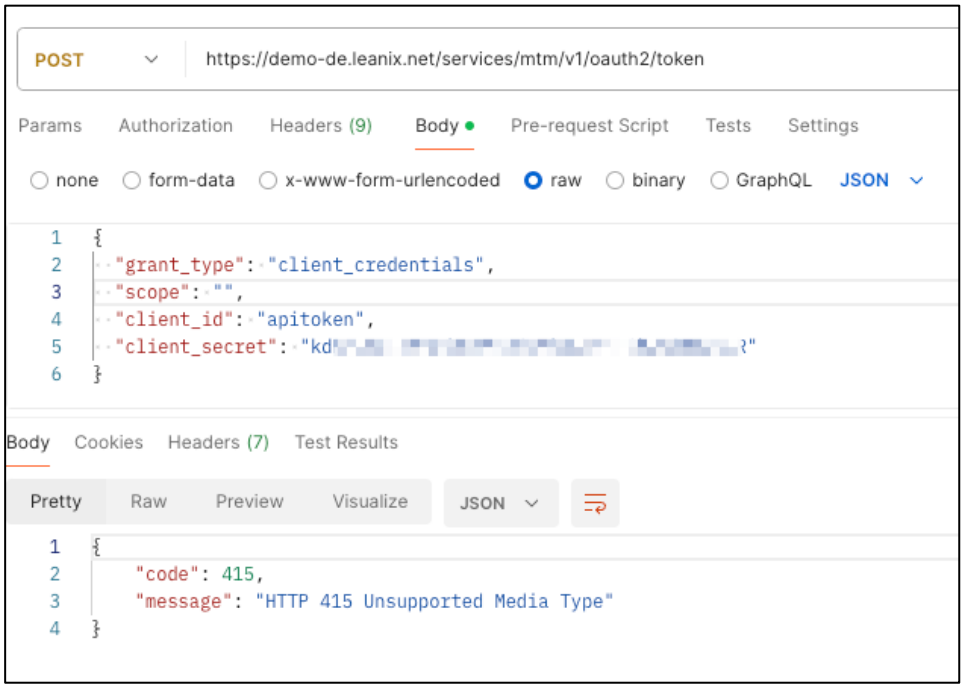
Enter * in Scope of the OAUTH2 Security Material

4.1.2 HTTP 415 Unsupported Media Type



Reason:

When in the security material Content Type “application/json” is chosen this error occurs. It happens because the SAP LeanIX Server isn’t supporting this Content Type to Request an OAUTH2 Token. You can simulate this via Postman:



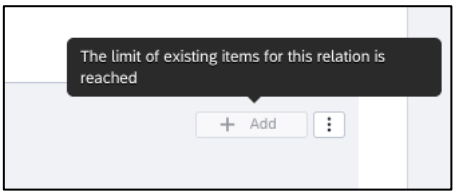
Solution: Switch to Content Type: application/x-www-form-urlencoded in the Security Material and the error shouldn’t occur again.

4.1.3 SAP LeanIX Limitation for Provider Relations

Issue:


```
{
  "data": {
    "upd1": null
  },
  "errors": [
    {
      "message": "Incoming relation applicationInterfaceProviderRelation TO Fact Sheet type Interface occurs more than once, but is defined SINGLE"
      ,
      "path": [
        "upd1"
      ],
```


Reason:



SAP LeanIX enforces a unique sender relation for each interface. This means only one sender application can be linked to a single interface.

Solution:

To ensure compatibility with SAP LeanIX, make sure that each Integrated Configuration in SAP Process Orchestration defines only one sender in its metadata.
Only the first sender will be considered; additional entries will be ignored due to SAP LeanIX constraints or may lead to an error.

4.1.4 SAP LeanIX Limitation for Factsheet types creation

Issue:


```
{
  "data": {
    "createFactSheet": null
  },
  "errors": [
    {
      "message": "Quota for feature factsheet.quota.applications exceeded. Count 203, quota 200.",
      "path": [
        "createFactSheet"
      ],
      "extensions": {
        "quota": 200,
        "count": 203,
        "featureId": "factsheet.quota.applications",
        "errorType": "QUOTA_REACHED"
      }
    }
```


The creation of Application Fact Sheets may be limited by a quota defined for your SAP LeanIX workspace. This limit does not refer to 200 entries per execution, but rather to the overall number of Application Factsheets allowed according to your current subscription and pricing model.
If this quota is exceeded (e.g., 203 of 200 allowed), the system will block further creations and return the following error:
Quota for feature factsheet.quota.applications exceeded. Count 203, quota 200.
Recommended Actions:

- Review your current workspace usage and quota under your LeanIX subscription.
- Contact SAP LeanIX Support or your Account Representative to request a quota extension or discuss a suitable upgrade plan.

- Use filters when triggering Fact Sheet creation to limit the number of applications sent per execution and avoid unnecessary creation attempts.
- Standardize sender and receiver naming in your integration flow metadata:
    - Ensure consistent and case-sensitive identical naming across all flows referring to the same sender or receiver.
    - Consider generalizing system names where appropriate (e.g., use *SAP BTP* instead of *SAP CPI* and *SAP AI* separately) to reduce redundant Fact Sheet entries.

5. Final Words and Feedback

Thanks for reading through this documentation and installing the Integration Content in your SAP Integration Suite. Since this content will evolve in its functionality from time to time we would love to hear from you. Please do not hesitate to give us some feedback whether you like the content or not. In case of missing features we are happy to hear your ideas. We will examine if we can integrate it in the future.