Documentation

Automated Synchronization of SAP LeanIX Factsheets via SAP Integration Suite for API Management Objects

SAP API Management Package

Version 1.0

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RealCore Group GmbH

Contents

Document History

Version	Date	Comments	Affected Pages
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1. Overview & Introduction

This integration package enables data synchronization between SAP API Management and SAP LeanIX factsheets by reading specific API Proxy and Provider objects from SAP API Management and transferring them to SAP LeanIX via SAP Cloud Integration.
Thanks to the robust SAP Cloud Integration platform, the data transmission is seamless and secure, supported by a dedicated integration flow that utilizes the latest processing logic and stable error handling mechanisms.
By utilizing this solution, companies can achieve a significant increase in efficiency due to the automation of creating and updating Interface factsheets in SAP LeanIX based on centrally managed API data.
The provided integration flow performs a full data load to create SAP LeanIX Interface factsheets for all relevant API proxies and providers simultaneously within a few minutes by calling the GraphQL API exposed by SAP LeanIX.
Additionally, filter rules can be applied to narrow down which factsheets should be created or updated, based on naming patterns, metadata, or type definitions.
Existing factsheets in SAP LeanIX will be updated with the latest technical information, while non-existent ones will be created as shells containing initial data such as title, system reference, and a technical description.
Further refinement, such as meaningful interface names or labels, can be managed individually through a predefined value mapping. This value mapping is prepared via a separate optional integration flow included in the package, which will be described in Chapter 3.7.
The following chapters provide a more detailed breakdown of these topics and guide you through the initial setup process.

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 description and information of the integration flows. Since this this content does not support the archiving or Interface Factsheets in LeanIX. Incorrect entries must be cleaned up manually if necessary.

2. Preparations and what you need

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

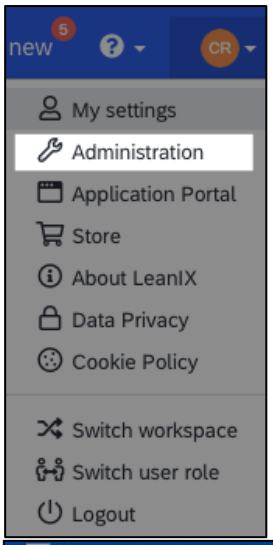
2.1 Preparation Activities in SAP LeanIX

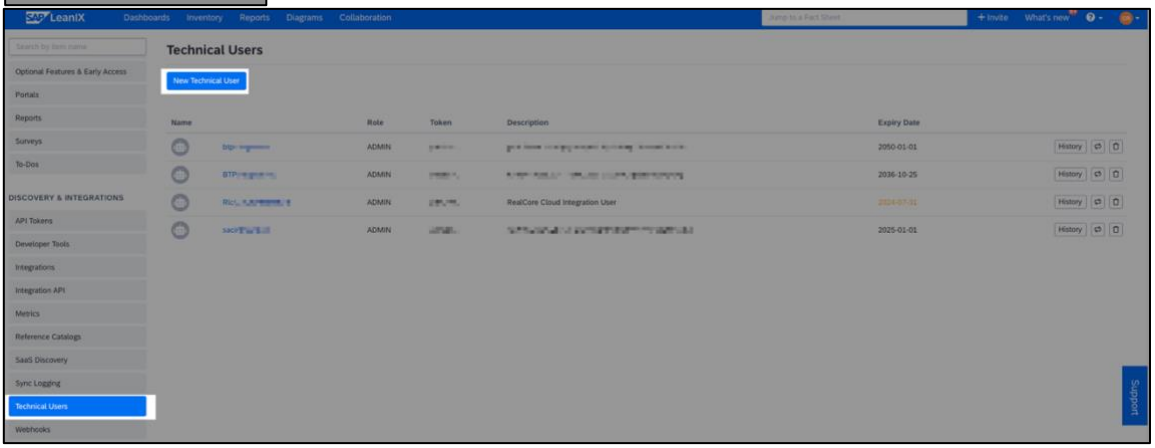
Before running the integration flow, you need to create a technical user in SAP LeanIX for authentication when using SAP LeanIX API calls. Additionally, it is important to double-check your Meta Model configurations in SAP LeanIX to ensure that all field types are enabled in the factsheet types used in the GraphQL requests of the integration flow. This chapter will guide you through the process.

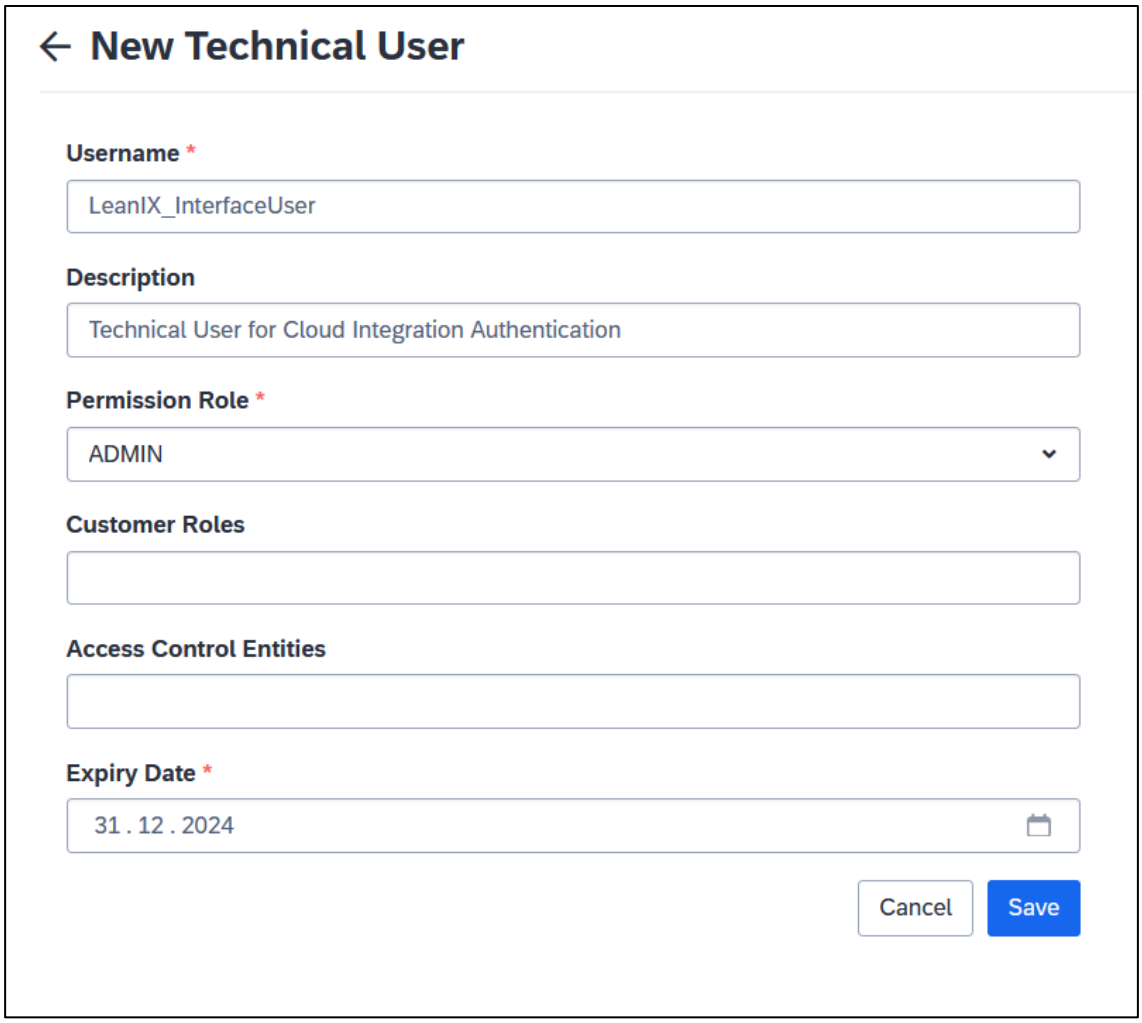
2.1.1 Authentication Cloud Integration to SAP LeanIX

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.





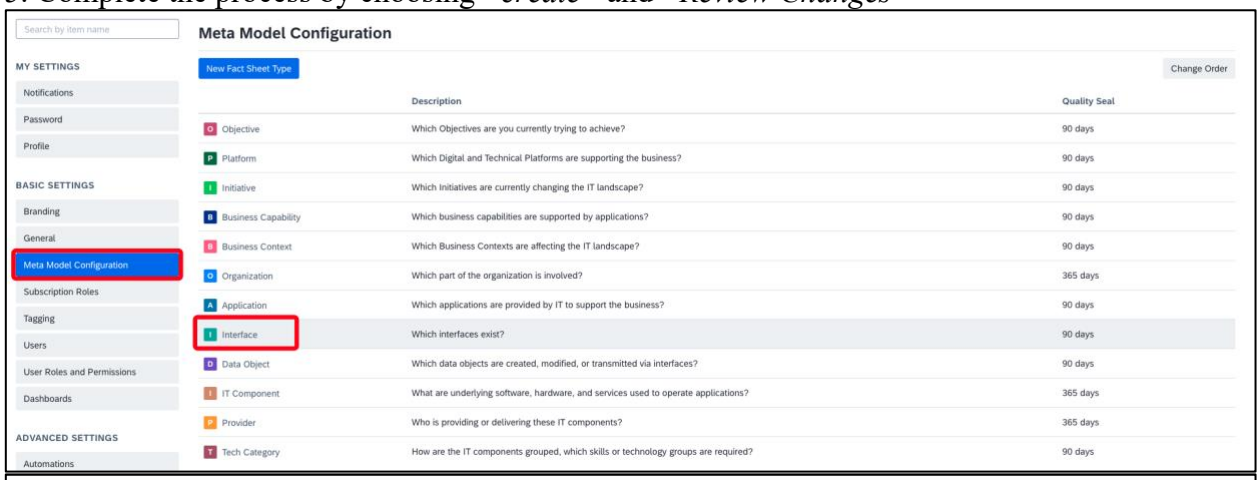


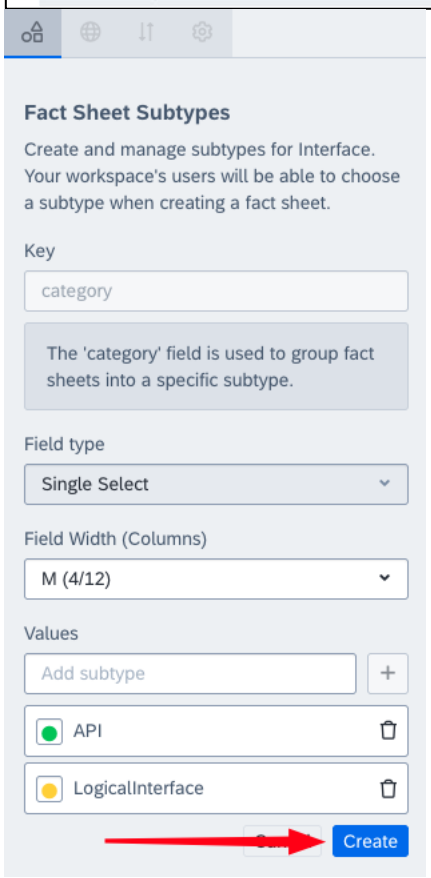
2.1.2 Meta Model Configuration in SAP LeanIX

For successful factsheet creation, you need to ensure that all required fields from the GraphQL mutation request are available in the factsheet type interface. In SAP LeanIX, follow these steps:

1. Open the ***"Administration"*** Interface as mentioned in chapter 2.1.1
2. Now select the ***"Meta Model Configuration"*** under ***"Basic Settings"*** in the left side bar
3. Choose the ***"Interface"*** from the Fact Sheet Types
4. By default "**Interface-Subtypes**" and all other needed fields are available. If one of the fields is missing you can add them by choosing the "***add Subtypes"*** or clicking in the Information Box and choose ***"add field"*** *and adding the values of the subtypes that you need*. The following fields are filled by the GraphQL request:
    - name
    - description
    - release
    - category
    - externalId
    - tags

5. Complete the process by choosing *"create"* and *"Review Changes"*





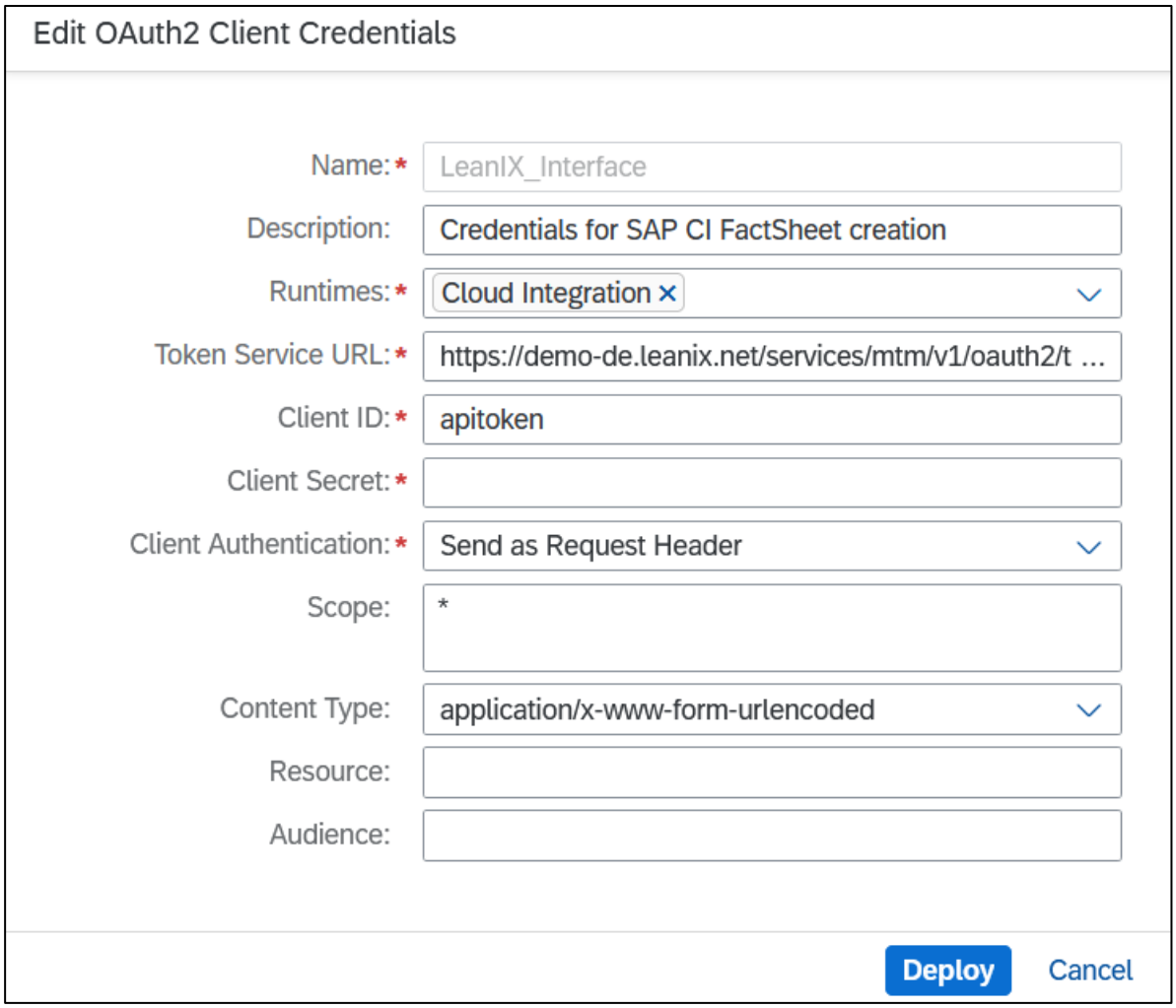
2.2 Preparation Activities in SAP Cloud Integration

In order to avoid any errors while running the integration flow initially, it is necessary to first create the security material in SAP Cloud Integration and ensure that the SAP LeanIX adapter is installed on the runtime. The following chapter will explain these points separately and in more detail.

2.2.1 Authentication Cloud Integration to SAP LeanIX

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 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)



2.2.2 Authentication to create artifacts in SAP Cloud Integration

To create artifacts on your own SAP Cloud Integration system an OData/HTTP call is getting performed in the integration flow.
To authenticate against the OData API a new Security Material is needed that can either contain a S-User or OAuth 2 client credentials. OAuth 2 credentials can be created by your SAP BTP administrator.
To create a new Security Material, please 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 the respective Authentication Method (either "***User Credentials***" if you use a S-User or "***OAuth 2 Client Credentials***" for a proper OAuth authentication)
3. Enter the corresponding information for your SAP Cloud Integration authentication in the dialog box
4. Enter the Credential Name in the configurable parameter "*SAPCI_Credentials*" when configuring your Iflow. Also enter the used auth method in your parameter "*SAPCI_Authentification*" (Value: Basic or OAuth2 client credentials). Finally enter the SAP Cloud Integration hostname in your flow parameter "*SAPCI_Hostname*". – (more information chapter 3.1)

Important Note:
Since HTTP and OData adapters can use different authentication methods, you can create an

additional set of security credentials separate from **SAPCI_Credentials**. This allows you, for example, to use Basic Authentication for OData calls and OAuth 2.0 Client Credentials for HTTP calls. However, it is also possible to use the same credentials and authentication method for both adapters if desired. The **OData authentication** and **ODATA_Credentials** must be configured separately from **SAPCI_Credentials**.

2.2.3 Authentication to read SAP API Management objects

To access and read objects from your own SAP API Management system, an HTTP call is executed in the integration flow.
For authentication against the API Management APIs, a Service Key is required. This Service Key contains the necessary client ID, client secret, and token URL to retrieve an OAuth 2.0 access token.

To create a new Service Key, please follow these steps:

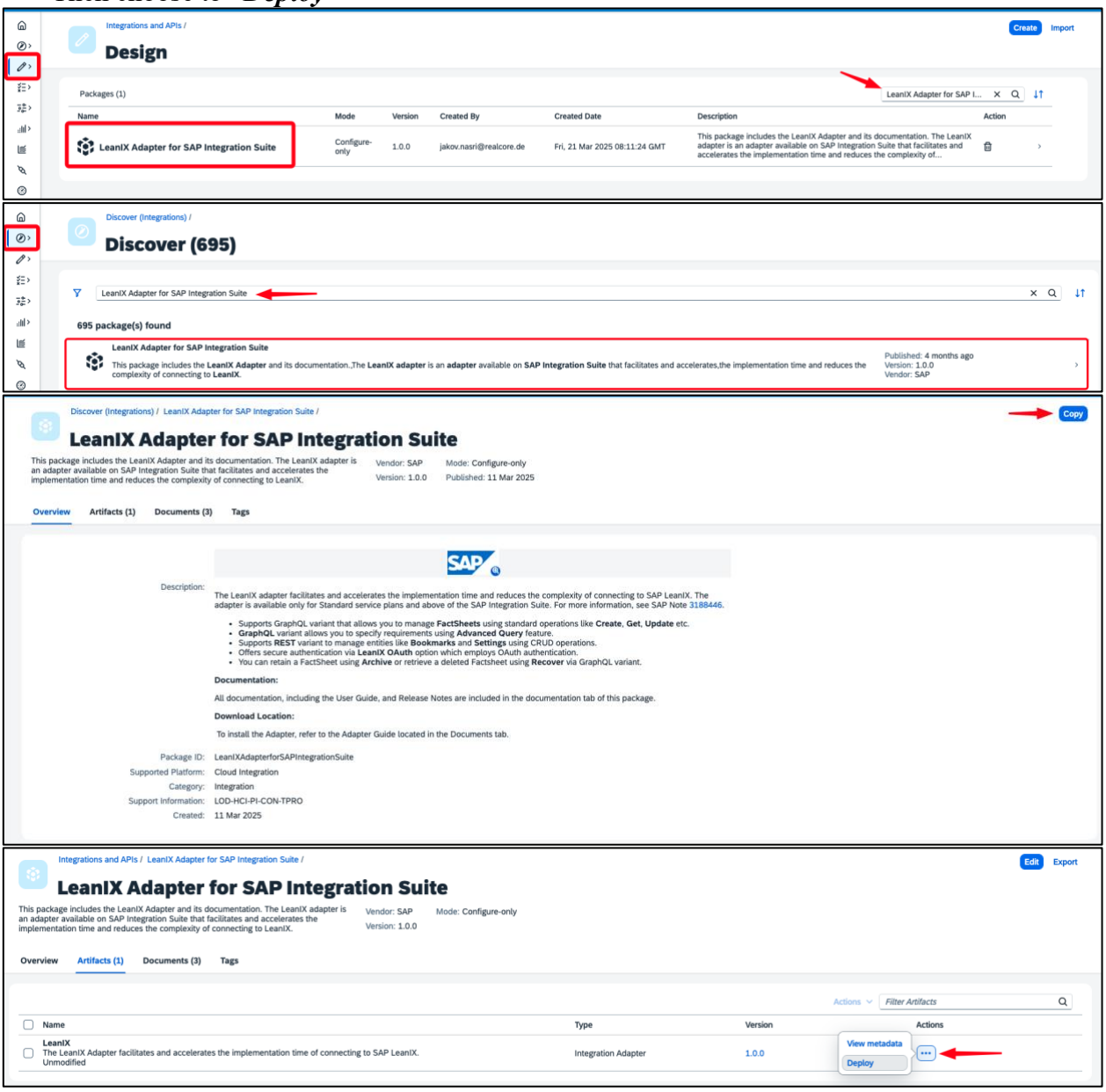
1. Open your **SAP BTP Cockpit** and navigate to your **API Management instance** (usually in the subaccount under **Instances and Subscriptions**).
2. Select the corresponding instance and click on **"Create Service Key"**.
3. Provide a meaningful name (e.g., APIM_ServiceKey) and leave the JSON payload empty (default values are sufficient).
4. After creation, click on the service key to view its details. Take note of the following fields:
    - clientid
    - clientsecret
    - token-url (used to obtain the OAuth token)
5. Enter these values into a new **Security Material** of type **OAuth2 Client Credentials** in your SAP Cloud Integration system under "Monitor -> Integrations and APIs -> Security Material".
6. Enter the Credential Name in the configurable parameter **SAPAPI_Credentials** when configuring the Integration Flow
   Also enter the used auth method in the HTTP Sender Adapter (Value: OAuth2 client credentials).
   Finally, enter the base URL of the SAP API Management API endpoint in **SAP API Management Service URL** according to official SAP documentation **here**
   (e.g. https://eu20apiportal.cfapps.eu20.hana.ondemand.com/apiportal/api/1.0/Management.svc)

2.2.4 Installing the SAP LeanIX Sender Adapter

Along with the HTTPS and OData Sender adapters, this integration package also uses the official SAP LeanIX Sender adapter. In order to use the integration flows, you need to install the SAP LeanIX Sender adapter on the runtime, as downloading the package does not automatically install the adapter. The following steps will explain how to do this in detail:

1. Search for ***"LeanIX Adapter for SAP Integration Suite"*** in ***"Design"*** Section in SAP Cloud Integration

2. If you find the Package continue to Step Nr.4, otherwise navigate to **"Discovery"** under the ***"Integrations"*** Section and search for ***"LeanIX Adapter for SAP Integration Suite"*** and choose it
3. Once open click on ***"Copy"*** and install the package in the runtime, then repeat the Step 1.
4. Open the Package and navigate to ***"Artifacts"*** and click on the three dots under ***"Action"*** Then choose to ***"Deploy"***



3. IFlows and Configuration in Cloud Integration

This packages comes with two integration flows:

1. Main Flow "*Synchronize SAP LeanIX Factsheets with SAP API Management Proxy and Provider information*"
2. Optional Flow "*Preload Value Mapping for SAP LeanIX Label with SAP API Management Details*"

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 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
Controlling	Ctrl_Batch_Size	10	X	This parameter controls how many FactSheet Create/Update statements are sent in a single batch to SAP LeanIX. Keeping this number reasonable (e.g., under 100) helps avoid HTTP 429 "Too Many Requests" errors from the LeanIX API.
	FetchMode		X	Defines whether the iFlow should fetch only API Providers or API Proxies. Valid values: **Providers** or **Proxies**
	isSimulationModeActive	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
	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.
	FilterProvider			Regex to include only specific API Providers by name. Used only when FetchMode = Providers

	FilterProviderType			Regex to filter API Providers by type (e.g,. ODATA, CPIRUNTIME ,..)
	FilterProxy			Regex to include only specific API Proxies by name. Used only when FetchMode = Proxies
	FilterProxyState			Regex to filter API Proxies by deployment state. Valid values include Registered or Published
	FilterProxyType			Regex to filter API Proxies by type (e.g., ODATA, REST).
	TagName			The tag to assign to the created Interface FactSheets in LeanIX. Allows for easy grouping and identification of FactSheets created by this iFlow.
LeanIX-Adapter	LeanIX_OAUTH2_Credentials (tab receiver: "Credential Name")		X	Name of the Security Material created for SAP LeanIX Oauth2 Authentification. See chapter 2.1.1
	LeanIX_full_address		X	Specify the address of LeanIX to be used for the connection.
SAP API Management Connection	SAPAPIM_ManagementService_URL		X	Specifies the root URL used to access the SAP API Management service. Typically ends with /apiportal/api/1.0/Management.svc The exact endpoint depends on whether the request targets API Providers or API Proxies.
	SAPAPI_Credentials		X	Credential artifact used to authenticate with the SAP API Management. See chapter 2.2.3

3.2 Full Load or Filtered Creation Process

By default, if only the mandatory parameters marked with X are maintained, the iFlow will execute a full load. This means all available API Providers or API Proxies (depending on the ***FetchMode***) will be collected and corresponding Interface FactSheets will be created or updated in SAP LeanIX upon the first deployment of the integration flow.

However, you can also limit the processing to specific APIs by using the optional filtering parameters. These filters support regular expressions (Regex**)**, allowing flexible selection of which APIs to include in the synchronization:

- FilterProvider
- FilterProviderType
- FilterProxy
- FilterProxyState
- FilterProxyType

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

3.3 Update Existing FactSheets

The SAP API Management iFlow generates Interface FactSheets in SAP LeanIX using the API Proxy or API Provider name as the External ID, depending on the selected FetchMode. Since these names are unique within the API Management environment, the iFlow can reliably identify and update existing FactSheets rather than creating duplicates.
If the External ID is manually removed or altered from a FactSheet in SAP LeanIX, the iFlow will no longer be able to match it with the API Proxy or Provider. As a result, the flow will attempt to create a new FactSheet with the same name, which will lead to a LeanIX error due to the name conflict.

Always keep the External ID intact in LeanIX if the FactSheet is managed by this integration. This ensures smooth update logic and avoids unnecessary duplicates or mutation failures.

3.4 Simulation Mode

The iFlow for SAP API Management allows you to simulate the FactSheet creation process without actually sending data to SAP LeanIX. This is useful if you want to test and verify which API Proxies or Providers would be picked up and how they would be translated into Interface FactSheets—before any data is written.
To activate simulation mode, set the external parameter ****isSimulationModeActive**** to ****true****.
When simulation mode is enabled:

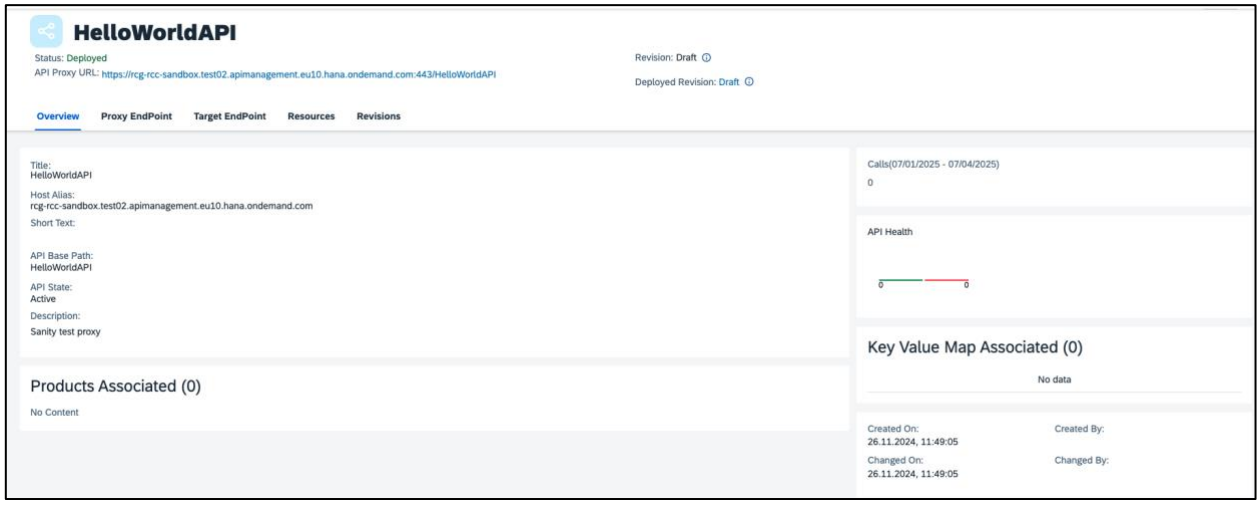
- The iFlow executes all logic for fetching, filtering, and transforming API Proxy/Provider data.
- However, no mutations are sent to SAP LeanIX.
- Instead, the flow generates a detailed “Simulation Output” in the Message Monitor, including:
    - How many API Proxies or Providers were retrieved.
    - How many matched the applied filters.
    - Which entries would be created or updated in LeanIX.

- What External IDs, names, and descriptions would have been used.

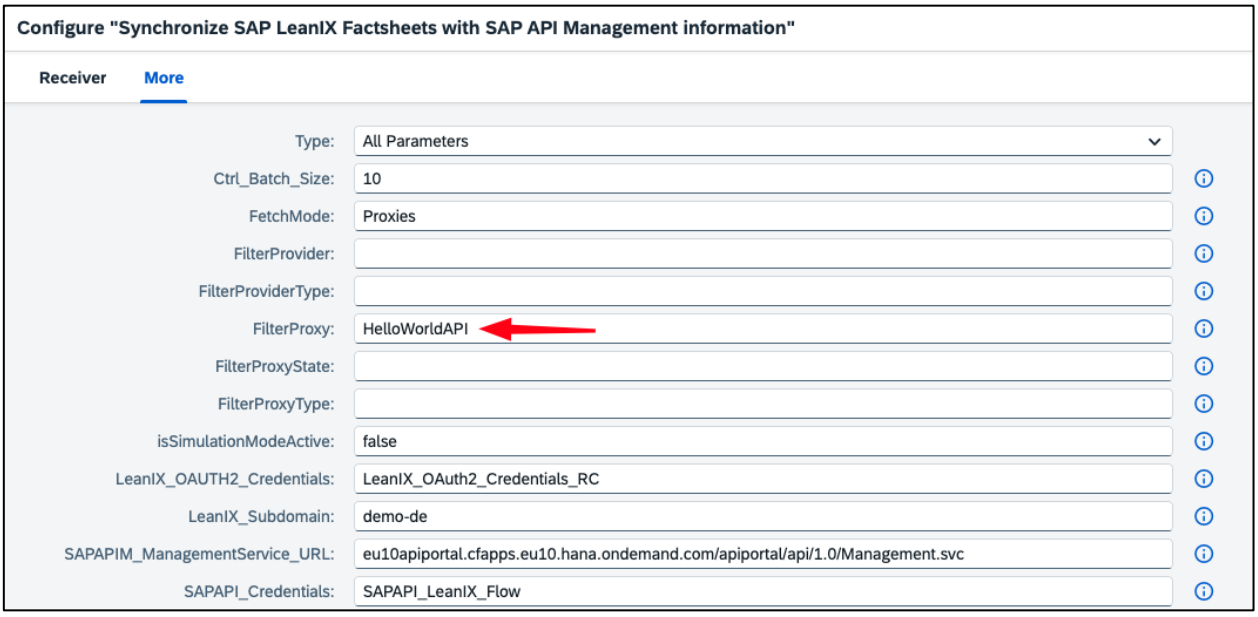
```
================================================================================================================================================
Simulation Output
================================================================================================================================================
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 API Management (Proxy) ***
API Name: Hello World API
Type: REST
Version: 1.0.0
State: REGISTERED
Status: DEPLOYED
ShortText: N/A
Created By: N/A
Created At: 2024-11-26 10:49:05
Changed By: N/A
Changed At: 2024-11-26 10:49:05
Description: Sanity test proxy

*** LeanIX Matching ***
Will be created
FactSheet Name: Hello World API (REST)
ExternalID: HelloWorldAPI

*** Description Preview ***
FactSheet Description:
Automatically generated by SAP Cloud Integration

Name: Hello World API
Title: HelloWorldAPI
Type: REST
Version: 1.0.0
Description: Sanity test proxy
State: REGISTERED
Status: DEPLOYED
ShortText: N/A
CreatedBy: N/A
CreatedAt: 2024-11-26 10:49:05
ChangedBy: N/A
ChangedAt: 2024-11-26 10:49:05
```

3.5 Interface Process Visualization

This chapter demonstrates how the integration flow from SAP API Management creates SAP LeanIX FactSheets, and how to validate the process visually and technically.
In this scenario, we want to create a FactSheet for a single API Proxy with the name "HelloWorldAPI".



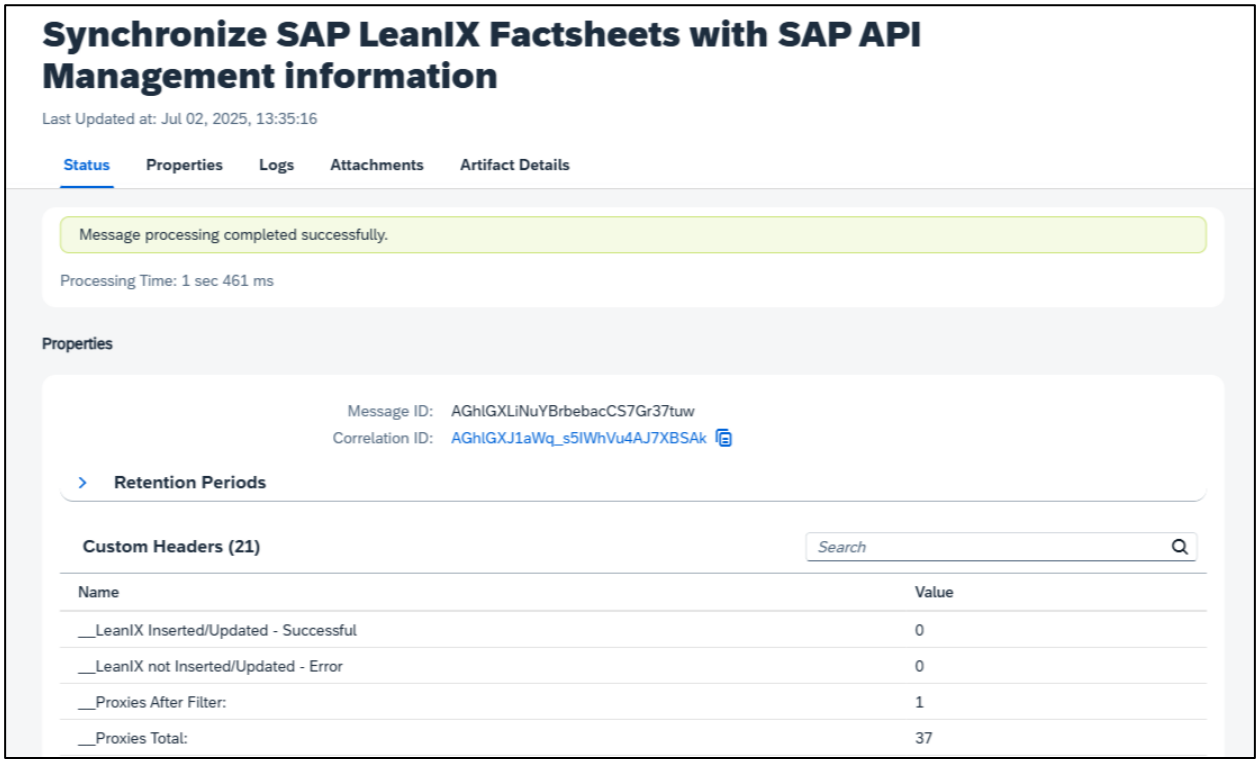
Step 1: Set Specific Filter
To restrict the creation to just one proxy, configure the FilterProxy parameter with the exact name or a matching regular expression:



This acts as a valid regex filter, ensuring that only this proxy will be processed and transferred to LeanIX.

Step 2: Deploy the Flow
Once deployed, the flow fetches data from API Management and begins processing based on your defined filters.

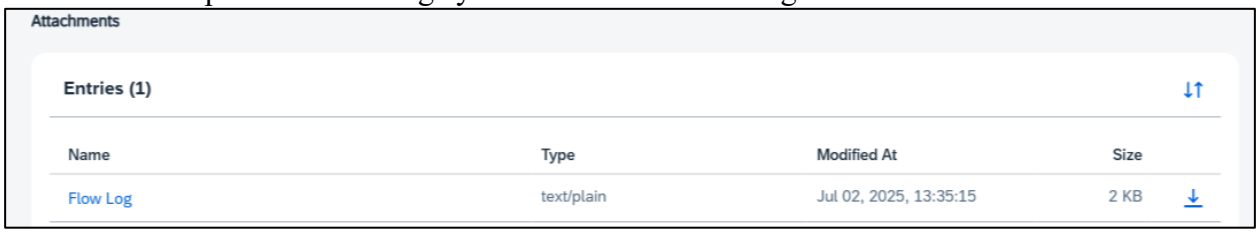
You can validate the results in the Message Monitoring of Cloud Integration.



Step 3: Review Flow Log or Simulation Output
Attached to the message is a Flow Log (or Simulation Output, if simulation mode is active) showing:

- Each processed API Proxy
- Whether it was newly created or updated
- Technical metadata included in the LeanIX FactSheet

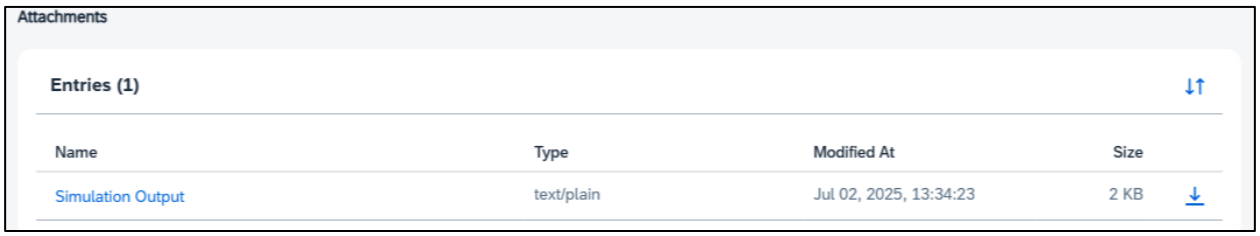
Attached to the processed message you can find the Flow Log



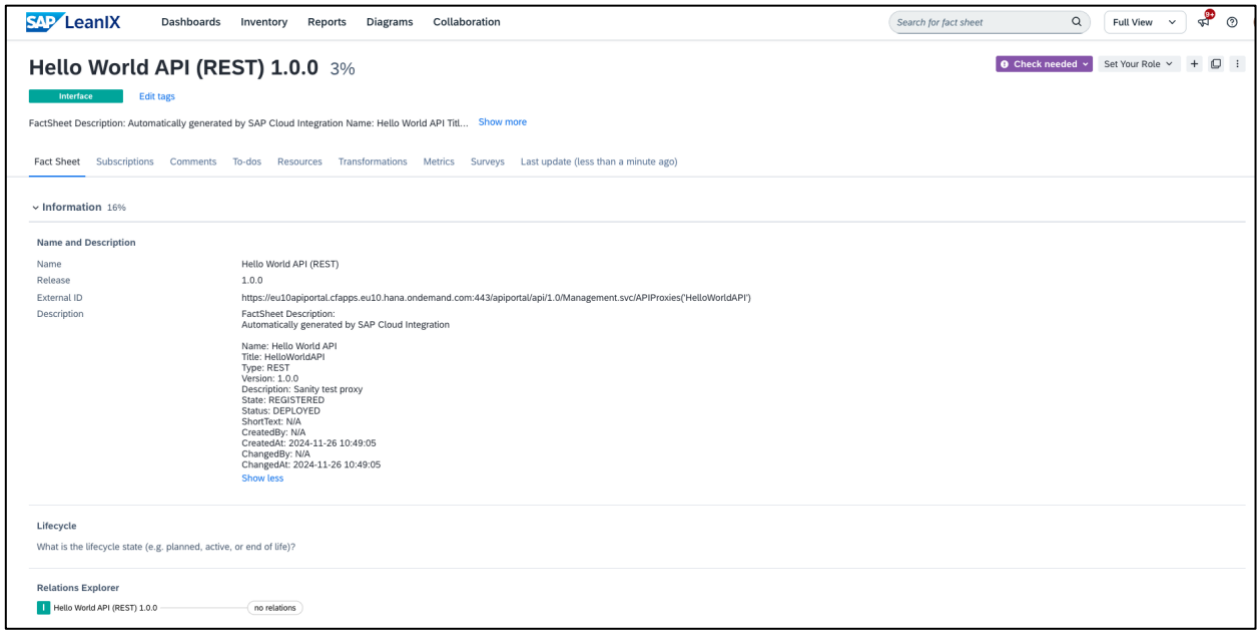
The Flow Log shows which API Proxies or Providers from SAP API Management were found and processed, including the metadata used to create or update the corresponding FactSheet in SAP LeanIX.

```
================================================================================
Flow Log
================================================================================
This output serves to determine how and which FactSheets was created/updated in LeanIX. It checks whether the FactSheets already
exist and if LeanIX descriptions for interfaces have been stored in SAP CI.
--------------------------------------------------------------------------------
*** Technical Details from SAP API Management (Proxy) ***
API Name: Hello World API
Type: REST
Version: 1.0.0
State: REGISTERED
Status: DEPLOYED
ShortText: N/A
Created By: N/A
Created At: 2024-11-26 10:49:05
Changed By: N/A
Changed At: 2024-11-26 10:49:05
Description: Sanity test proxy

*** LeanIX Matching ***
Already exists in LeanIX: ID = bbb873b8-a4cf-490c-a294-bf9d7bd98c7f
FactSheet Name: Hello World API (REST)
ExternalID: https://eu10apiportal.cfapps.eu10.hana.ondemand.com:443/apiportal/api/1.0/Management.svc/APIProxies('HelloWorldAPI')

*** Description Preview ***
FactSheet Description:
Automatically generated by SAP Cloud Integration

Name: Hello World API
Title: HelloWorldAPI
Type: REST
Version: 1.0.0
Description: Sanity test proxy
State: REGISTERED
Status: DEPLOYED
ShortText: N/A
CreatedBy: N/A
CreatedAt: 2024-11-26 10:49:05
ChangedBy: N/A
ChangedAt: 2024-11-26 10:49:05
```

If simulation mode is true, no data is written to SAP LeanIX. Instead, the log explains what would have been done, allowing safe validation.

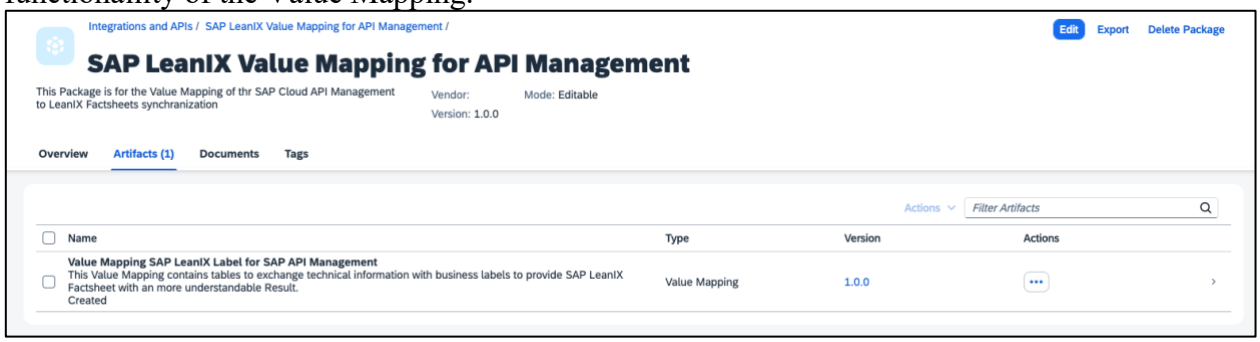


In SAP LeanIX you should find the created Factsheet:



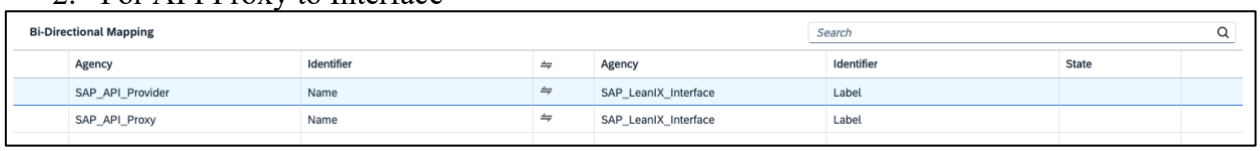
3.6 (Optional Feature) Configure SAP LeanIX Labels in Value Mapping

May you are not satisfied with the generated Factsheet Name, because the Provider or Proxy is too 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.

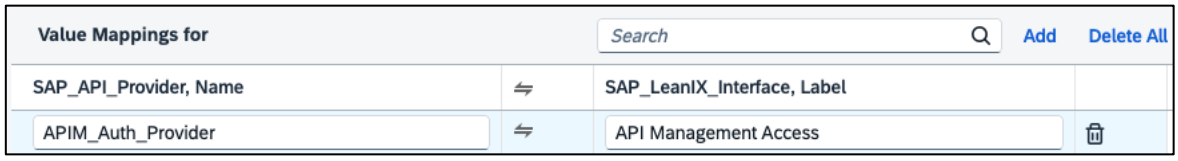


The Value Mapping consists of 2 different transformations:

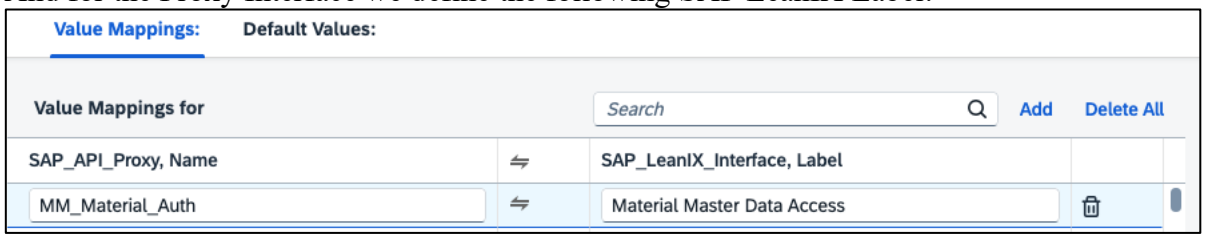
1. For API Provider to Interface
2. For API Proxy to Interface



Here an example how this works:
In the current Example the technical names are:
Provider Name: APIM_Auth_Provider
Proxy Name: MM_Material_Auth
In the Value Mapping we define for the Provider Interface the following transformation:

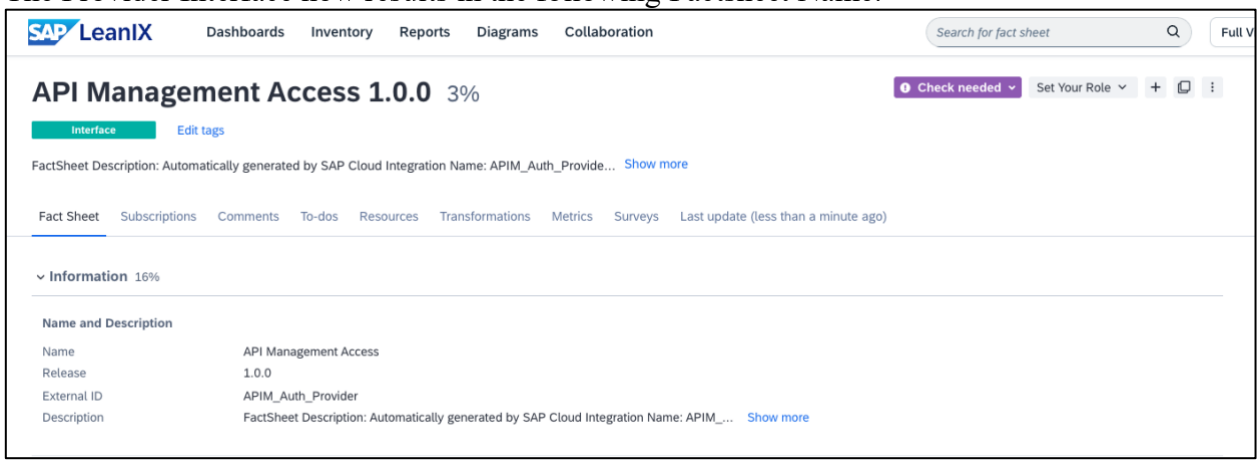


And for the Proxy Interface we define the following SAP LeanIX Label:

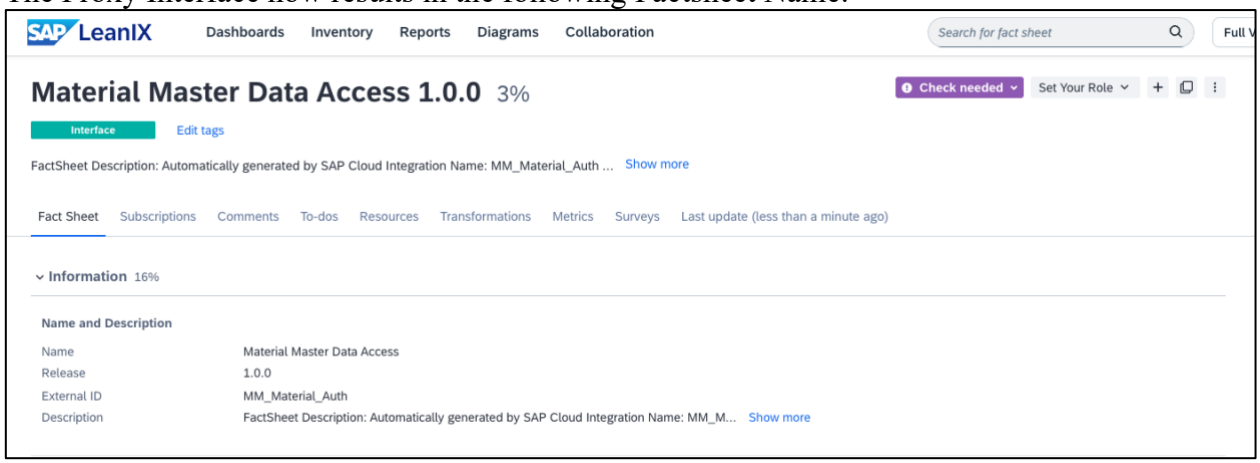


Now it's important to deploy the changes and we can re-run the Sync.

The Provider Interface now results in the following Factsheet Name:



The Proxy Interface now results in the following Factsheet Name:



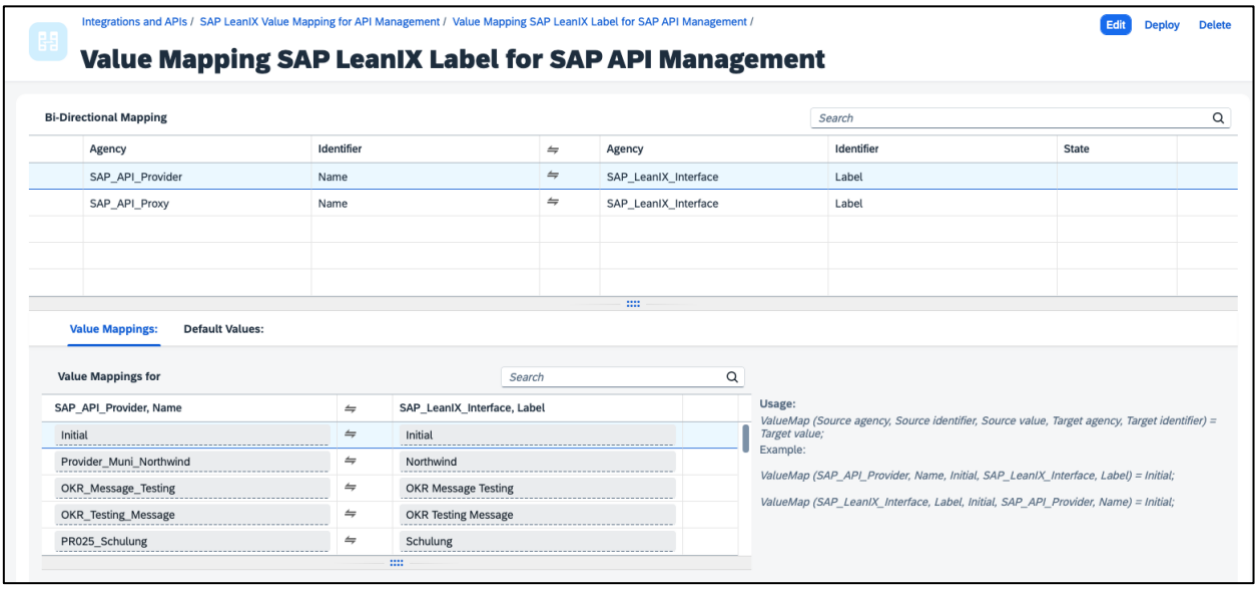
3.7 (Optional Feature) Preload Value Mapping for SAP LeanIX Label

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 search or pre-create the Value mapping 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 and Package ID is non existing in your Cloud Integration, the Value Mapping and or the Package 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 and Package 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 providers and another one for all found proxie names. Based on the Label, the new title will be written in the created Factsheet in SAP LeanIX.

Found providers or proxies 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.



3.7.2 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 Value Mapping entries. In the Message Log you will find a summary what the Proxy or Provider would be created in the Value Mapping if it wasn't running in Simulation Mode

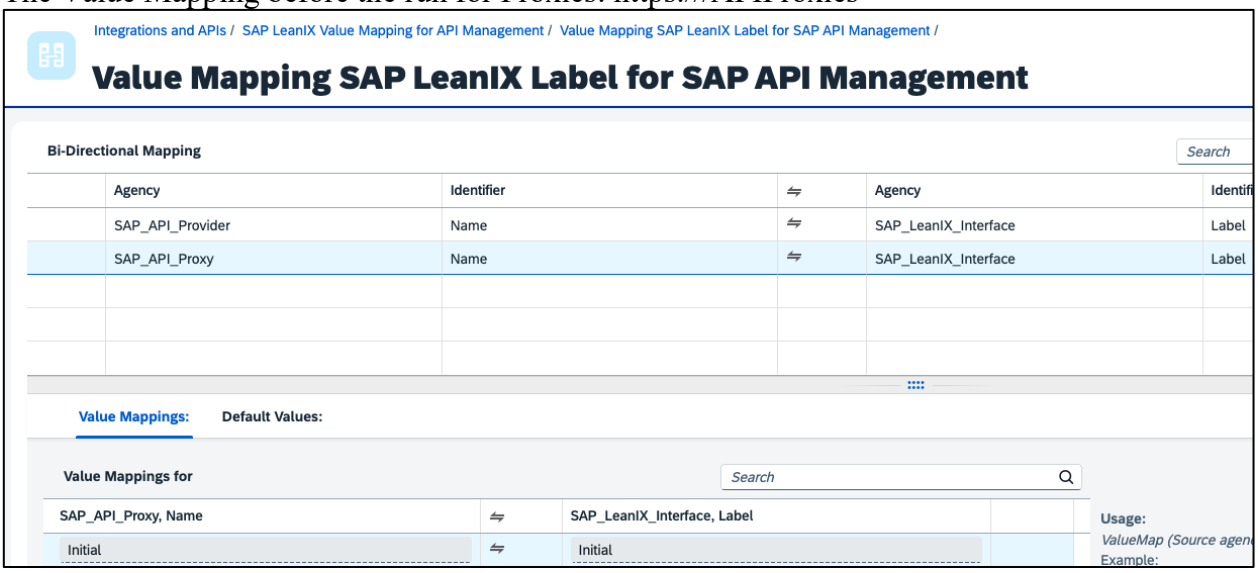
	Ctrl_TraceLevel	info	X	Controls how much Information the Flow will provide in the Message Log. Defined Parameters are: info - Writes only necessary information into the message log debug - Write all available information in the message log which might be needed in case of unexpected error and behaviours. 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.
	FetchMode		X	Defines whether the iFlow should fetch only API Providers or API Proxies. Valid values: **Providers** or **Proxies**
	FilterProvider			Regex to include only specific API Providers by name. Used only when FetchMode = Providers
	FilterProviderType			Regex to filter API Providers by type (e.g,. ODATA, CPIRUNTIME ,..)
	FilterProxy			Regex to include only specific API Proxies by name. Used only when FetchMode = Proxies
	Filter-ProxyState			Regex to filter API Proxies by state. Valid values include Registered or Published.

	FilterProxyType			Regex to filter API Proxies by type (e.g., ODATA, REST).
SAP Cloud Integration Connection	SAPCI_Authentification (tab receiver: ”Authentication”)		X	Choose type of authentication to read SAP 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 2.2.2
	SAPCI_Hostname		X	Hostname of your SAP Cloud Integration.
	ODATA_Credentials		X	Name of the Security Material created for calling SAP Cloud Integration Odata Services. See chapter 2.2.2
SAP API Management Connection	SAPAPIM_ManagementService_URL		X	Specifies the root URL used to access the SAP API Management service. Typically ends with /apiportal/api/1.0/Management.svc The exact endpoint depends on whether the request targets API Providers or API Proxies.
	SAPAPI_Credentials		X	Credential artifact used to authenticate with the SAP API Management. See chapter 2.2.3
Value Mapping Creation	Value Mapping - Package Name		X	Integration Package Name fitting the Naming Policies in the Tenant. Only needed for initial Run.
	Value Mapping – Package ID		X	Value Mapping Package ID fitting the Naming Policies in the Tenant. This ID is used to find the Integration package. Wrong ID leads to creation of a new Package in the Tenant.

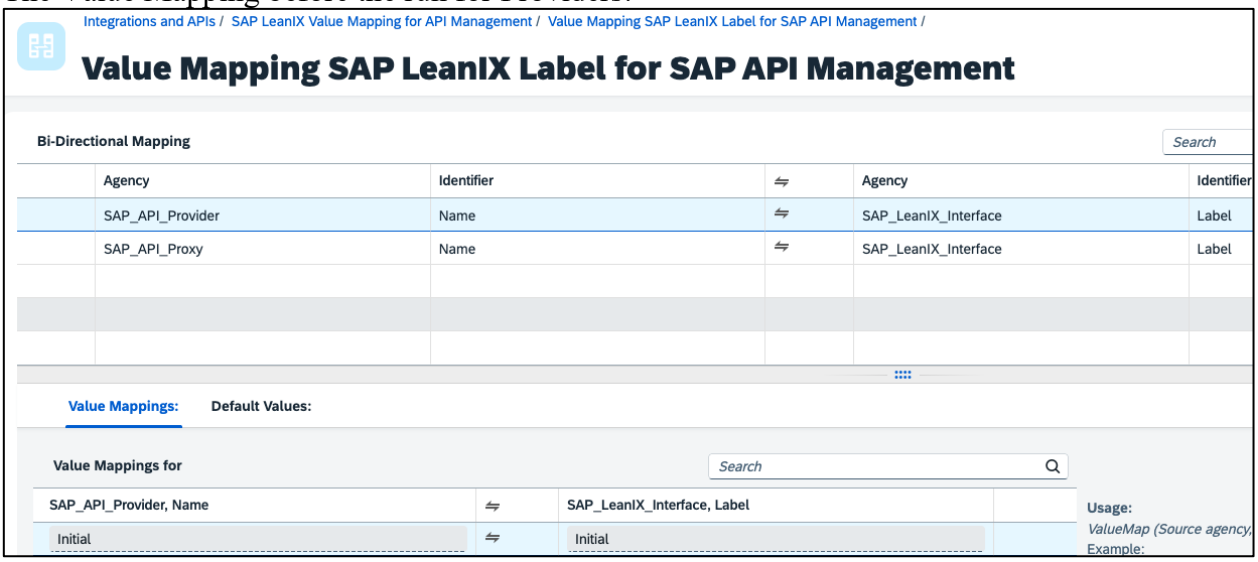
	Value Mapping ID		X	Value Mapping ID fitting the Naming Policies in the Tenant. This ID is used to find the Value Mapping after it has been created. Wrong ID leads to creation of a new Value Mapping in the Tenant.
	Value Mapping Name		X	Value Mapping Name fitting the Naming Policies in the Tenant.

3.7.3 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 API Management Details".
The Value Mapping before the run for Proxies: https:///APIProxies



The Value Mapping before the run for Providers:



Be aware that a full run could take several minutes because the SAP Cloud Integration API doesn't allow a parallel processing.

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.

Custom Headers (18) Search

Name	Value
__ Records missing in Value Mapping	18
__Providers After Filter:	18
__Providers Total:	18
__VM Interface Inserts Errors	0
__VM Interface Inserts Successfull	0
__VM System Inserts Errors	0
__VM System Inserts Successfull	0
Auth_ODATA_Credentials	LeanIX_Flow
Auth_SAPCI_Credentials	LeanIX_Flow
Ctrl_Simulation	false
Ctrl_TraceLevel	info
Filter_FetchMode	Providers
Filter_Provider	Not specified
Filter_Proxy	Not specified
Filter_ProxyState	Not specified
Filter_Type	Not specified
SAPAPIM_Management_URL	eu10apiportal.cfapps.eu10.hana.ondemand.com/apiportal/api/1.0/Management.svc
SAPCI_Hostname	[redacted]

Attached to the processed message you find the Flow Log

Attachments

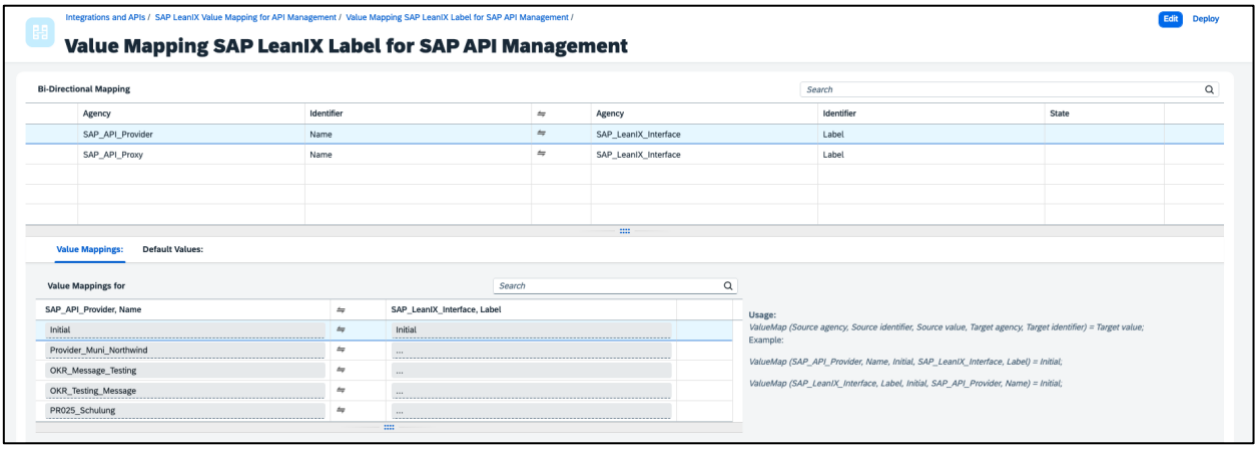
Entries (2)

Name	Type	Modified At	Size	
Flow Log	text/plain	Jul 04, 2025, 17:34:47	2 KB	↓
Filtered Value Mapping	text/xml	Jul 04, 2025, 17:34:47	1 KB	↓

The Flow Log shows which SAP Cloud Integration flows were found and processed, and which data was added to the Value Mapping.

```
================================================================================================================================
Flow Log
================================================================================================================================
No Value Mapping Entry found for Provider_Muni_Northwind
No Value Mapping Entry found for OKR_Message_Testing
No Value Mapping Entry found for OKR_Testing_Message
No Value Mapping Entry found for PR025_Schulung
No Value Mapping Entry found for Northwind_Service
No Value Mapping Entry found for ExampleProvider
No Value Mapping Entry found for Northwind_ODATA
No Value Mapping Entry found for PR113_FirtsAPI
No Value Mapping Entry found for SAPGatewayDemoSystemES5_Provider_MB
No Value Mapping Entry found for SAP_PO_RO2
No Value Mapping Entry found for ETir-CI
No Value Mapping Entry found for PR208__IF_InboundOrder
No Value Mapping Entry found for PR046_SAPGatewayDemoSystemES5_Provider
No Value Mapping Entry found for PR046_CloudIntegrationTenant
No Value Mapping Entry found for PR046_ESBMessaging_v2
No Value Mapping Entry found for PR046_RestCountries_Provider
No Value Mapping Entry found for PR046_CI_Explore
No Value Mapping Entry found for PR046_IF008_SIC_APIM01_Explore
================================================================================================================================
Summary
================================================================================================================================
Number of records added to Value Mapping: 18
```

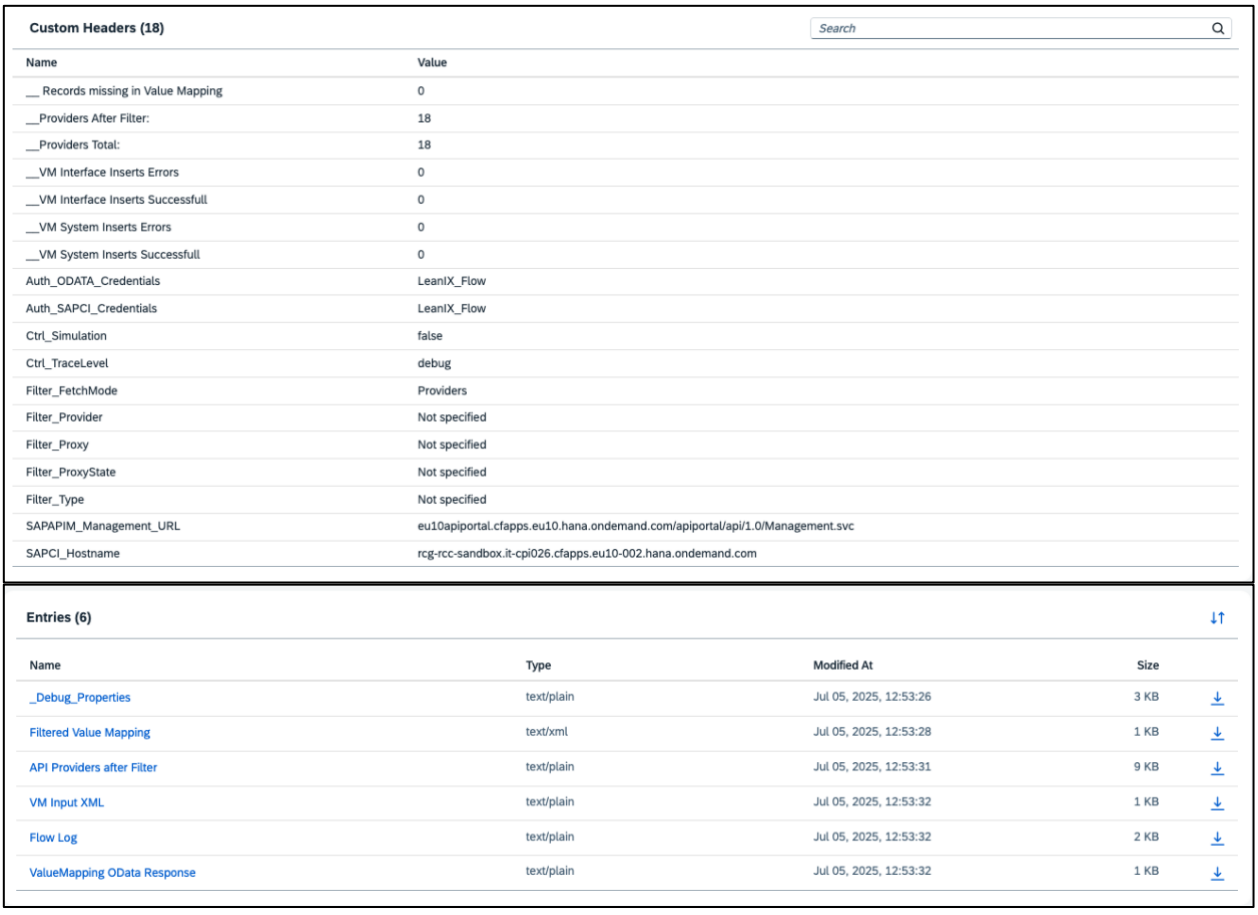
In the Value Mapping you should now find all possible (of the filtered) values for applications and interfaces:

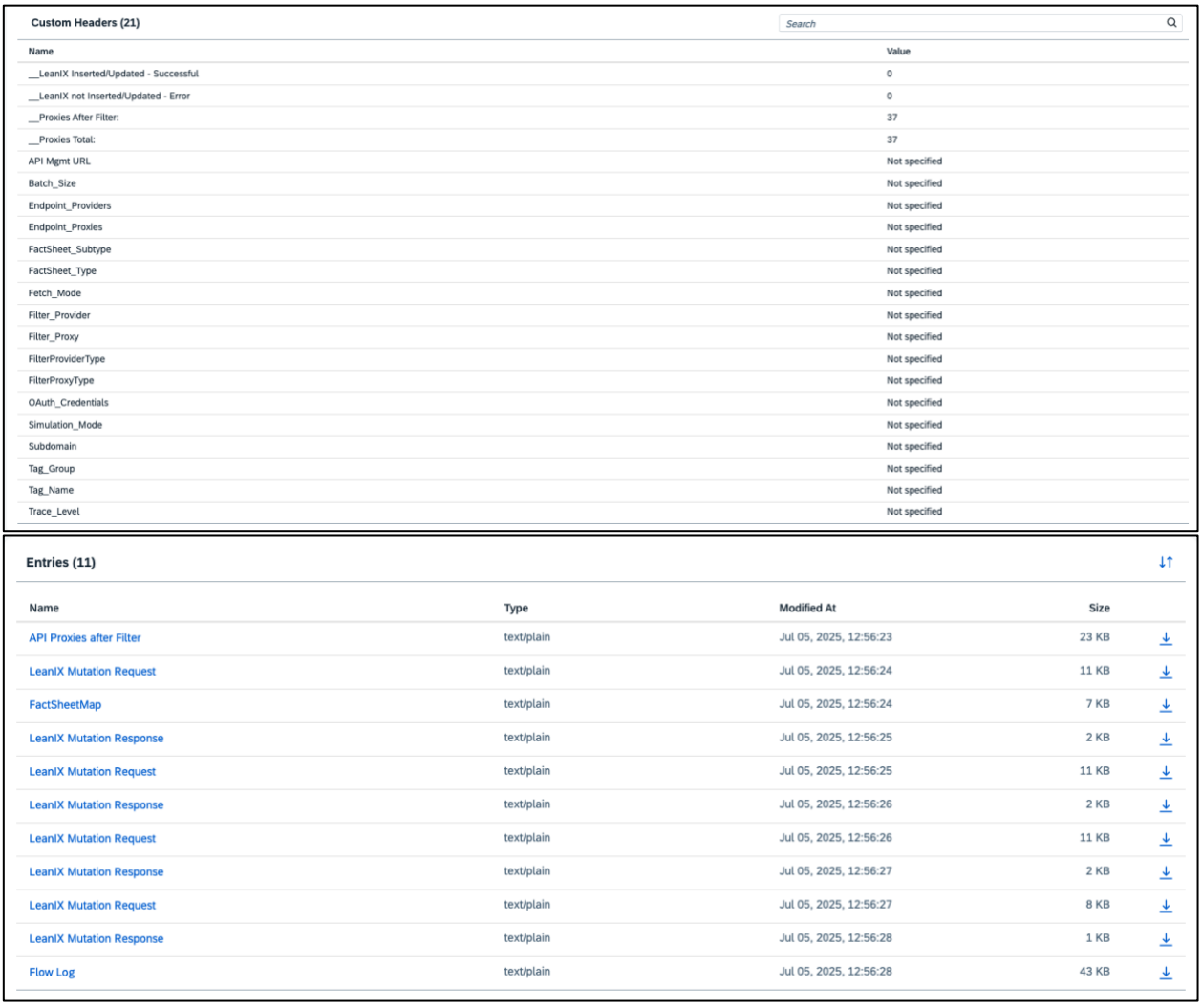


4 Error Log and Debug Mode files

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 (21)

Search

Name	Value
__LeanIX Inserted/Updated - Successful	0
__LeanIX not Inserted/Updated - Error	0
__Proxies After Filter:	37
__Proxies Total:	37
API Mgmt URL	Not specified
Batch_Size	Not specified
Endpoint_Providers	Not specified
Endpoint_Proxies	Not specified
FactSheet_Subtype	Not specified
FactSheet_Type	Not specified
Fetch_Mode	Not specified
Filter_Provider	Not specified
Filter_Proxy	Not specified
FilterProviderType	Not specified
FilterProxyType	Not specified
OAuth_Credentials	Not specified
Simulation_Mode	Not specified
Subdomain	Not specified
Tag_Group	Not specified
Tag_Name	Not specified
Trace_Level	Not specified

Entries (11)

Name	Type	Modified At	Size
API Proxies after Filter	text/plain	Jul 05, 2025, 12:56:23	23 KB
LeanIX Mutation Request	text/plain	Jul 05, 2025, 12:56:24	11 KB
FactSheetMap	text/plain	Jul 05, 2025, 12:56:24	7 KB
LeanIX Mutation Response	text/plain	Jul 05, 2025, 12:56:25	2 KB
LeanIX Mutation Request	text/plain	Jul 05, 2025, 12:56:25	11 KB
LeanIX Mutation Response	text/plain	Jul 05, 2025, 12:56:26	2 KB
LeanIX Mutation Request	text/plain	Jul 05, 2025, 12:56:26	11 KB
LeanIX Mutation Response	text/plain	Jul 05, 2025, 12:56:27	2 KB
LeanIX Mutation Request	text/plain	Jul 05, 2025, 12:56:27	8 KB
LeanIX Mutation Response	text/plain	Jul 05, 2025, 12:56:28	1 KB
Flow Log	text/plain	Jul 05, 2025, 12:56:28	43 KB

Custom Headers that start with a double underscore "__" indicate a runtime value like how many Flows or Packages 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

CPI Helper - Content Before Step

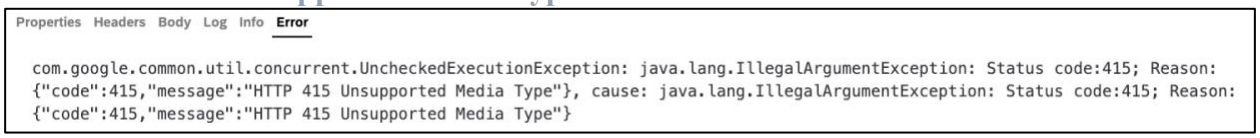
1 1

Properties Headers Body Log Info Error

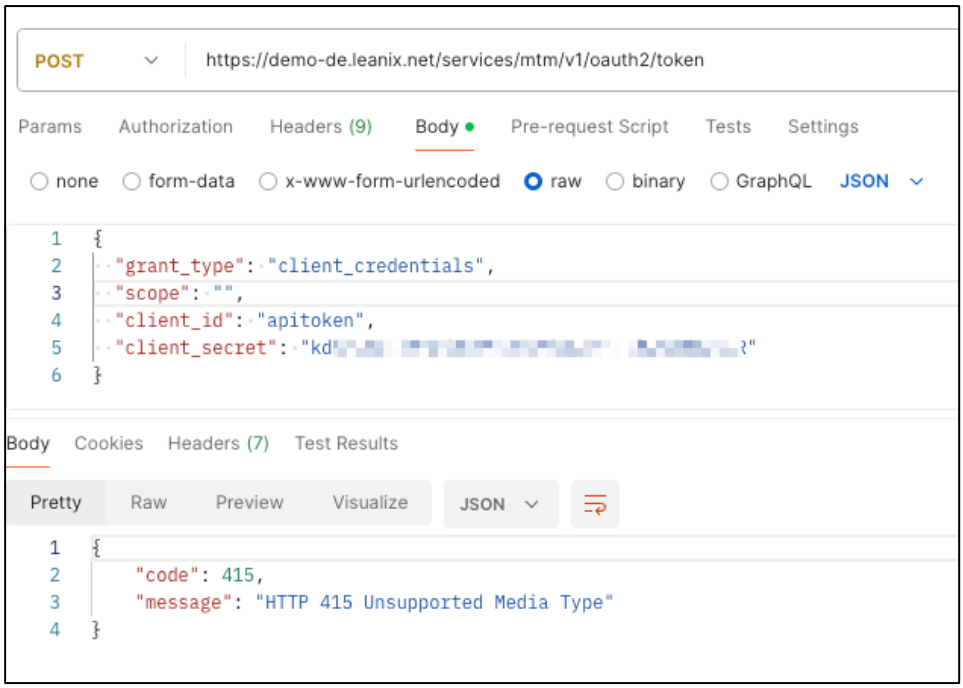
```
com.google.common.util.concurrent.UncheckedExecutionException: java.lang.IllegalArgumentException: Entity may not be null, cause:
java.lang.IllegalArgumentException: Entity may not be null
```

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 missing category

Error: {"data":{"cre1":null},"errors":[{"message":"The path '/category' is invalid in FactSheet schema Interface.","path":["cre1"],"extensions":{"errorType":"BUSINESS_LOGIC"}}]}

Reason: Missing field in SAP LeanIX meta model configuration

Solution: Please review the chapter 2.1.2 to solve this 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 any Fact Sheets Type 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 Factsheets Types 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.{{factsheet.type}} 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.

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.