



LeanIX Adapter for SAP Integration Suite

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1. Introduction

1.1 Objective

This is the official guide for the LeanIX Adapter for SAP Integration Suite. This guide covers all relevant information for integration developers to start working with the LeanIX adapter. Read this guide carefully before using the Adapter.

1.2 Coding Samples

Any software coding and/or code lines/strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended to better explain and visualize the syntax and phrasing rules of certain coding. The correctness and completeness of the Code given herein are not guaranteed.

1.3 Internet Hyperlinks

The documentation may contain hyperlinks to the Internet. These hyperlinks are intended to serve as a hint about where to find related information. The availability and the correctness of this related information or the ability of this information to serve a particular purpose are not warranted.

1.4 Overview

SAP LeanIX is a SaaS application that allows you to manage and optimize enterprise architecture. The LeanIX receiver adapter connects SAP Integration Suite to SAP LeanIX and accelerates communication between the two systems.


1.5 Features

The LeanIX Adapter provide the following key features:

- Supports **GraphQL** variant that allows you to manage **FactSheets** using standard operations like **Create, Get, Update** etc.
- **GraphQL** variant allows you to specify requirements using **Advanced Query** feature.
- Supports **REST** variant to manage entities like **Bookmarks** and **Settings** using CRUD operations.
- Offers secure authentication via **LeanIX OAuth** option which employs OAuth authentication.
- You can retain a FactSheet using **Archive** or retrieve a deleted Factsheet using **Recover** via GraphQL variant.

2. Installation and Configuration

This section details the file(s) available as part of the installation package and the prerequisites to configure the LeanIX adapter.

 The LeanIX adapter is available as part of your SAP Integration Suite license.

2.1 LeanIX Adapter Installation on Cloud Foundry


Before the adapter can be used in the Cloud Foundry environment, it must be deployed to the SAP Integration Suite tenant.

2.1.1 Prerequisites

To deploy the LeanIX adapter, you must have access to "*LeanIX Adapter for SAP Integration Suite*" as part of your SAP Integration Suite license.

2.1.2 Procedure

You can deploy the adapter using the following methods:

 The below installation procedure is compatible with Apache Camel 2, Apache Camel 3, and the Edge Integration Cell (EIC) platform.

2.1.3 Adapter Installation by creating a New Integration Flow



The LeanIX adapter is available for selection in the receiver adapter list and can be deployed in the **Design** tab directly as you use it in an Integration flow.

Purpose

To install an adapter for use in your Integration flow.

Procedure

Go to **Design** workspace and select the integration package where you want to create a new Integration flow.

1. Click **Edit** to make the package editable.
2. Go to the **Artifacts** tab. Click **Add** and select **Integration Flow**.
3. Enter **Name** and **ID** for your flow. Additionally, select **Runtime Profile** from the drop-down and choose **Sender** and **Receiver** systems from the list . Finally, click **Add** to create the integration flow.
4. Go to the newly created integration flow and click **Edit** to make it editable.
5. In the integration flow, click **End** to add a **Connector**  between the **End** and the **Receiver Box**.
A drop-down with the available adapters appears. The **LeanIX** adapter should show up in the list.
6. Select the **LeanIX** adapter from the list. The adapter is now imported which *triggers* an adapter deployment. Once LeanIX Adapter is deployed, a success message is displayed.
After the above steps are done, the LeanIX Adapter is successfully deployed in your Design workspace of the SAP Integration Suite tenant.

2.1.4 Adapter Installation without Creating a New Integration Flow



The following procedure describes how the LeanIX adapter is migrated from the Discover workspace to the Design workspace of the SAP Integration tenant.

This method is useful for scenarios where integration flow packages are migrated from development to a higher environment such as Production.

The LeanIX adapter can be imported into the Design workspace without creating an integration flow. Use the Transport Management Service (TMS) to import/transport the LeanIX adapter to a higher environment. Alternatively, If the TMS is not available in the landscape, the adapter package can be imported to the Design workspace by copying it from the Discover workspace.

Purpose

To copy the integration package from the Discover workspace and import the LeanIX adapter to the Design workspace, follow these steps:

Procedure

1. Go to **Discover** workspace.

2. In the search box, search for the **LeanIX adapter for SAP Integration Suite** package.
3. Select the package and click **Copy**. This copies the package from the Discover workspace to the Design workspace.
4. Go to Design workspace and select the copied **LeanIX adapter for SAP Integration Suite** package.
5. In the **Actions** tab of the selected package, click **Deploy**. This completes the adapter deployment to the Design workspace.

2.2 Monitor the Deployment Status

After the adapter deployment is complete, you can check the status in the **Monitor** section.

Purpose

To check the status of the deployed adapter:

Procedure

1. Under the **Monitor** tab, click **Integrations and APIs**. This opens the **Overview** page.
2. On the **Overview** page, go to **Manage Integration Content** section and click **All**. This opens **Integration Content** page with a list of all the deployed adapters.
3. Here, you can check and confirm the deployment status of your adapter.

The screenshot displays the 'Manage Integration Content' interface. On the left, a table lists integration content with columns for 'Name' and 'Status'. The first entry is 'LeanIX' with a status of 'Started'. Below it are 'Integration Adapter' and three 'Integration Flow' entries, all with 'Started' status. On the right, the 'LeanIX' adapter details are shown, including 'Deployed On: May 23, 2024, 19:56:25', 'ID', 'Package', and 'Version: 1.0.0'. A 'Status Details' section contains a green message: 'The Integration Adapter is deployed successfully.'

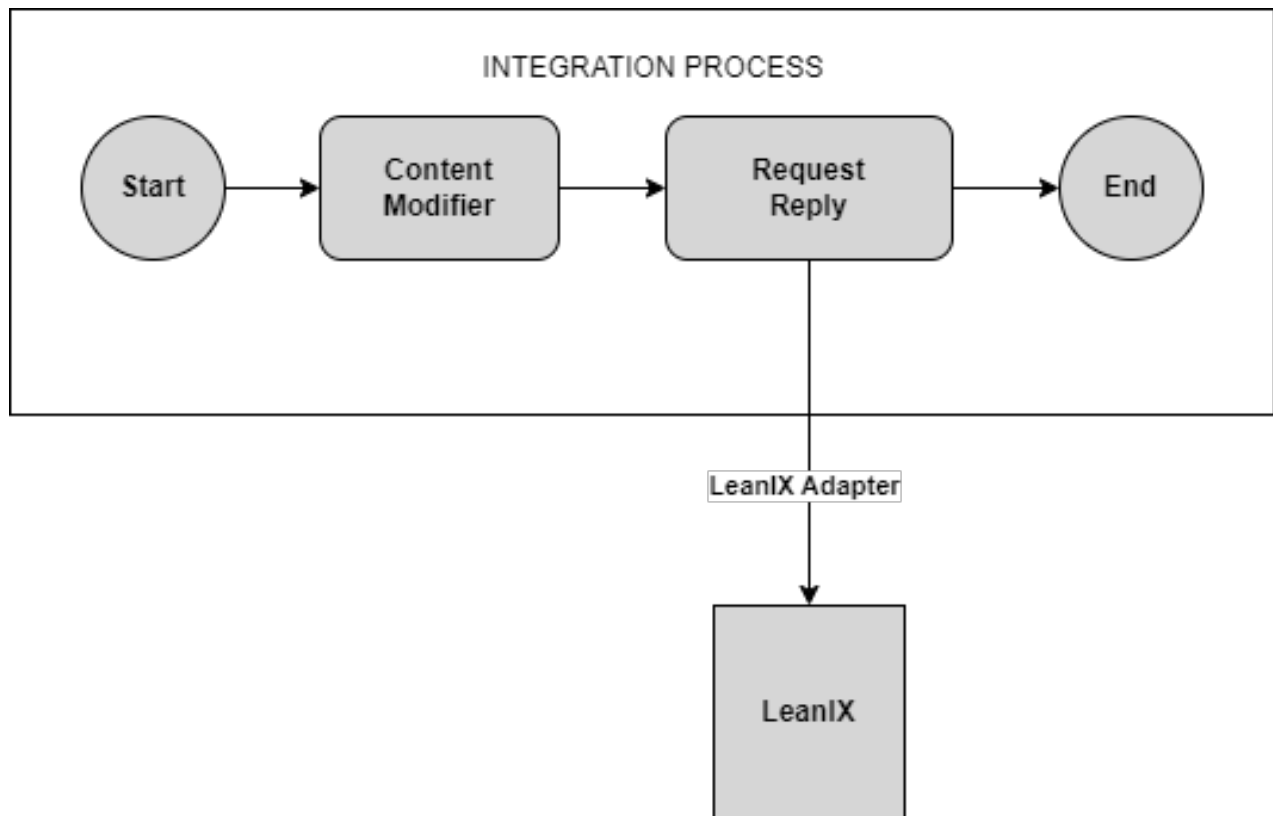
3. Getting Started: LeanIX Adapter

This section explains how to configure the LeanIX adapter for SAP Integration Suite. You can find information about [Adapter architecture](#), [Application configuration](#), [Authentication](#) for LeanIX Adapter.

3.1 Architecture Overview

The LeanIX adapter is designed to function as a receiver adapter. In such a scenario where LeanIX Adapter is used as a receiver adapter, SAP Cloud Integration acts as the initiator of the calls.

The figure below demonstrates the request-reply step using a LeanIX adapter and gives a high-level representation of how the adapter works.



3.1.1 LeanIX Application Configuration

To create a Technical User Account and generate the user credentials, see [LeanIX Technical User](#).

For more information, see [LeanIX Documentation](#).

3.2 Authentication

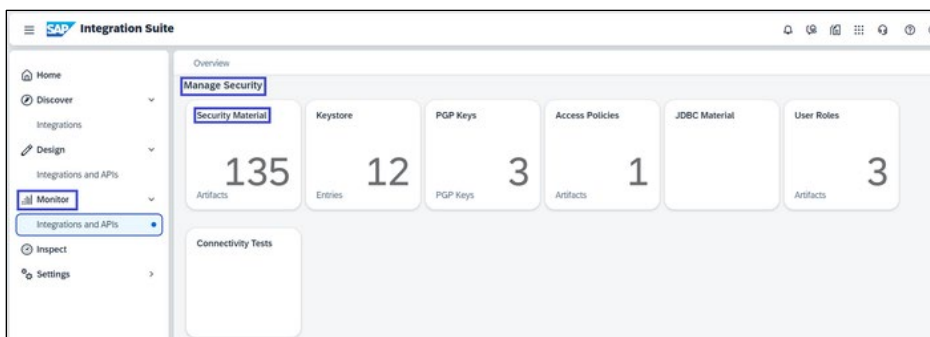
This section details the authentication mechanism supported by the LeanIX Adapter in SAP Cloud Integration.

The LeanIX adapter supports the OAuth mechanism. OAuth enables client applications to use an access token to access LeanIX through APIs. Before setting up the authentication, you must create the Secure Parameter credentials in **Security Material** in the SAP Cloud Integration.

3.2.1 Creating Credentials in Security Material

The creation of credentials to support the authentication mechanism can be done by the steps below:

1. In SAP Integration Suite, navigate to **Monitor > Integrations and APIs**. This opens the **Overview** page.
2. On the **Overview** page, go to **Manage Security** section and click **Security Material**.



- On **Manage Security Material** page, click **Create** and select **Secure Parameter** from the dropdown.



- In the Create Secure Parameter popup, provide the below details.

Parameter	Description
Name	Specify the name of the security artifact. The artifact name is used as an alias for the confidential data.
Description	Enter a description for the artifact (optional).
Secure Parameter	Enter the confidential value of the attribute. The permissible length of the secure parameter for Cloud Foundry is a maximum of 4096 characters.
Repeat Secure Parameter	Repeat the confidential value of the attribute.

- Click **Deploy** to complete the process.

When you refresh the **Manage Security Material** page, the new artifact is displayed (with **Secure Parameter**) in the artifact table.

4. LeanIX Receiver Adapter Configuration

This section describes the parameters to be configured for your LeanIX adapter. You need to configure **Connection**, and **Processing** tabs. A description and example usage for every field has been added.

4.1 GraphQL

Below are the configuration specifications for the LeanIX Receiver Adapter for GraphQL variant.

4.1.1 Connection

The Connection tab contains connection and authentication parameters for LeanIX.

The Security artifact created in the [Creating Credentials in Security Material](#) should be used in the **Connection tab** of the Adapter as shown below.

The screenshot shows the configuration interface for the LeanIX Receiver Adapter. The interface has a header 'LeanIX' and three tabs: 'General', 'Connection', and 'Processing'. The 'Connection' tab is selected and highlighted with a blue underline. Below the tabs, the 'CONNECTION DETAILS' section is visible. It contains several configuration fields:

- Address:** *
- Authentication:** (dropdown menu)
- API Token Alias:** *
- Reuse Connection:**
- Connection Timeout (in ms):**
- Response Timeout (in ms):**

The connection tab contains the following fields:

Parameter	Description
Address	Specify the address of LeanIX to be used for the connection. Example: <code>https://sample1-eu-1.leanix.net</code>
Authentication	Select your Authentication Mechanism. Currently, only the LeanIX OAuth is Supported.
API Token Alias	Specify the Secure Parameter alias representing API token of Technical user.
Connection Timeout (in ms)	Specify the maximum waiting time (in milliseconds) while establishing a connection with LeanIX. Example: 60000
Response Timeout (in ms)	Specify the maximum waiting time (in milliseconds) for a response to be received from LeanIX. Example: 60000

4.1.2 Processing

The Processing tab lists all the operations that can be performed using the adapter.

LeanIX

General **Connection** **Processing**

PROCESSING DETAILS

Operation:

Entity:

FactSheet ID: *

Comment:

Parameter	Description
Operation	Select the operation to be performed: <ul style="list-style-type: none">• Advanced Query• Archive• Create• Get All• Get By Id• Recover• Update

Parameter	Description
GraphQL Query	Specify the GraphQL query for operation to be performed. Example: <pre>{ factSheet(id: "2efa37b5-18aa-48d8-9d70-1328c0d856d7") { id \n name \n type \n } \n }</pre>
Entity	Select the Entity type. Currently only FactSheet is only available.
FactSheet ID	Specify the Id of the entity. Example: df6a026-7aa5-4317-b8c1-08j8c12b01f0
Comment	Specify the comment for Archive/Recover.
FactSheet Type	Specify the FactSheet type. For more information, Type of FactSheets .
Fields	Specify the fields required in response for Asset Type. Example: Computer, Mouse, displayName

4.2 REST

Below are the configuration specifications for the LeanIX Receiver Adapter for REST variant.

4.2.1 Connection

The Connection tab contains connection and authentication parameters for LeanIX.

Using Credentials

The Security artifact created in the [Creating Credentials in Security Material](#) should be used in the **Connection tab** of the Adapter as shown below.

LeanIX		
General	Connection	Processing
CONNECTION DETAILS		
Address: *	<input type="text" value="https://Sample1-eu-1.leanix.net"/>	
Authentication:	<input type="text" value="LeanIX OAuth"/>	
API Token Alias: *	<input type="text" value="LeanIXAPIToken1"/>	
Reuse Connection:	<input type="checkbox"/>	
Connection Timeout (in ms):	<input type="text" value="60000"/>	
Response Timeout (in ms):	<input type="text" value="60000"/>	

The connection tab includes the following fields.

Parameter	Description
Address	Specify the address of LeanIX to be used for the connection. Example : <code>https://Sample1-eu-1.leanix.net</code>
Authentication	Select your Authentication Mechanism. Currently, only the LeanIX OAuth is Supported.
API Token Alias	Specify the alias representing API token of Technical user.
Reuse Connection	Enable if the connection need to reused.
Connection Timeout (in ms)	Specify the maximum waiting time (in milliseconds) while establishing a connection with LeanIX.
Response Timeout (in ms)	Specify the maximum waiting time (in milliseconds) for a response with LeanIX.

4.2.2 Processing

The Processing tab lists all the operations that can be performed on the database through the adapter.

LeanIX

General **Connection** **Processing**

PROCESSING DETAILS

Entity:

Operation:

Id: *

HEADER DETAILS

Request Headers:

Response Headers:

Parameter	Description
Entity	Select the entity type: <ul style="list-style-type: none">• Bookmarks• BookmarkShares• Exports• Features• Integration API• Models• Settings• Suggestions
Operation	Select the operation to be performed

Parameter	Description
Id	Specify the ID of the deployed script. Example: 65e5f779-b7f0-4a1f-9c88-9f0e4ke9bed9
Query Parameters	Specify the value of the Query parameters. Example: bookmarkType=INVENTORY&groupKey=sampleGroup.
FactSheet Type	Specify the FactSheet type. Example: Application
Header Details	
Request Headers	Enter a list of custom headers, separated by a pipe (), to be sent to the target system. Use an asterisk (*) to send all custom headers to the target system. All Camel-specific headers and HTTP protocol headers except "date" are excluded by default even if you specify them. Note that this value can also be read dynamically using an exchange header or property.
Response Headers	Enter a list of headers, separated by a pipe (), coming from the target system's response to be received in the message. Use an asterisk (*) to receive all the headers from the target system, which is also the default value. All Camel-specific headers and HTTP protocol headers except "date" are excluded by default even if you specify them. Note that this value can also be read dynamically using an exchange header or property.

5. LeanIX Adapter Operations

This section lists and describes all the operations supported by both GraphQL and REST variant of the LeanIX adapter.

5.1 GraphQL

5.1.1 Advanced Query

By using the **Advanced Query** feature, you can retrieve detailed information according to their specific requirements.

A sample payload for GraphQL Query is given below.

LeanIX

General Connection **Processing**

PROCESSING DETAILS

Operation:

GraphQL Query:

```
{
  factSheet(id: "2efa37b5-18aa-48d8-9d70-1328ghd856d7") {
    id \n
    name \n
    type \n
  } \n }
```



- Ensure that “\n” is used to represent a new line character.
- When the user provides the payload in the Content Modifier, the use of “\n” is redundant.

5.1.2 Archive

Archive operation allows you to archive the FactSheet.

LeanIX

General Connection **Processing**

PROCESSING DETAILS

Operation: ▾

Entity: ▾

FactSheet ID: *

Comment:

Parameter	Values
Operation	Select the operation Archive .
Entity	Select the Entity as FactSheet .
FactSheet ID	Set as dff6a026-7aa5-4317-b8c1-08f9c12b01f0
Comment	Set as Need to delete.

5.1.3 Create

To create a new FactSheet, you need to provide the payload as shown below.

```
{
  "variables": {
    "input": {
      "name": "IT Component 2",
      "type": "IT Component"
    },
    "patches": [
      {
        "op": "add",
        "path": "/description",
        "value": "IT Component account management 2"
      },
      {
        "op": "add",
        "path": "/externalId",
        "value": "{\"type\":\"ExternalId\",\"externalId\":\"4579254891\"}"
      }
    ]
  }
}
```

LeanIX

General **Connection** **Processing**

PROCESSING DETAILS

Operation:

Entity:

Parameter	Values
Operation	Select the operation as Create .
Entity	Select the Entity as FactSheet .

5.1.4 Get All

Get All operation allows you to fetch a list of all the available IDs within LeanIX.

LeanIX

General
Connection
Processing

PROCESSING DETAILS

Operation: ▾

Entity: ▾

FactSheet Type: ▾

Fields:

Parameter	Values
Operation	Select the operation as Get All .
Entity	Select the Entity as FactSheet .
FactSheet Type	Select the FactSheet type as Application .
Fields	Set as <code>displayName, type, status</code> .

5.1.5 Get By Id

LeanIX

General **Connection** **Processing**

PROCESSING DETAILS

Operation: ▾

Entity: ▾

FactSheet ID: *

Parameter	Values
Operation	Select the operation Get By Id .
Entity	Select the Entity as FactSheet .
FactSheet ID	Set value as 9deb9733-5701-42f1-8c52-c165hyaa6487

5.1.6 Recover

You can recover an archived FactSheet.

LeanIX

General **Connection** **Processing**

PROCESSING DETAILS

Operation: ▾

Entity: ▾

FactSheet ID: *

Comment:

Parameter	Values
Operation	Select the operation Recover .
Entity	Select the Entity as FactSheet .
FactSheet ID	Set value as 9deb9733-5701-42f1-8c52-c165hyaa6487
Comment	Set as Need to Recover.

5.1.7 Update

You can **Update** the FactSheet by specifying an ID. Below is an example payload.

```

Type: Expression
Body:
{
  "variables": {
    "patches": [
      {
        "op": "replace",
        "path": "/name",
        "value": "AC Management Update ${property.date_Expression}"
      },
      {
        "op": "replace",
        "path": "/description",
        "value": "Application for AC management Update"
      }
    ]
  }
}

```

LeanIX

General Connection **Processing**

PROCESSING DETAILS

Operation:

Entity:

FactSheet ID: *

Parameter	Values
Operation	Select the operation Update .
Entity	Select the Entity as FactSheet .
FactSheet ID	Set value as 65e5f779-b7f0-4a1f-9c88-9f0e3aeh8ed9

5.2 REST

5.2.1 Create Bookmark

Create Bookmark allows you to create a bookmark in the database. Below is an example payload for the same.

Type:

Body:

```
{
  "name": "IT Component Bookmark",
  "type": "INVENTORY",
  "groupKey": "KeyGroup",
  "state": {
    "sorting": [
      {
        "key": "displayName",
        "order": "asc"
      }
    ]
  },
  "description": "Addition of the Component",
  "oDataEnabled": false
}
```

LeanIX

General Connection **Processing**

PROCESSING DETAILS

Entity:

Operation:

Parameter	Values
Entity	Select the Entity as Bookmarks .
Operation	Select the operation as Create Bookmark .

5.2.2 Get Bookmark

Using the **Get Bookmark** operation, you can fetch the latest version of bookmark for the specified ID.

LeanIX

General Connection **Processing**

PROCESSING DETAILS

Entity:

Operation:

Id: *

Parameter	Values
Entity	Select the Entity as Bookmarks .
Operation	Select the operation as Get Bookmark .
Id	Set value as b7d458b5-9bbf-45f9-853a-8d97f4a82cac.

5.2.3 Update Bookmarks

By performing the "**Update Bookmarks**" operation, the ID stored in the database is updated.

LeanIX

General Connection **Processing**

PROCESSING DETAILS

Entity:

Operation:

Id: *

Parameter	Values
Entity	Select the Entity as Bookmarks .
Operation	Select the operation as Update Bookmark .
Id	Set value as 65e5f779-b7f0-4a1f-9c88-9f0e3au8bed9

5.2.4 Get FactSheetSettings

This operation allows you to retrieve and update workspace settings.

LeanIX

General
Connection
Processing

PROCESSING DETAILS

Entity: ▾

Operation: ▾

FactSheet Type:

Parameter	Values
Entity	Select the Entity as Settings .
Operation	Select the operation as Get FactSheetSettings .
FactSheet Type	Set value as IT Component.

5.2.5 Get Settings

User can retrieve the settings by using **Get Settings**.

LeanIX

General Connection **Processing**

PROCESSING DETAILS

Entity:

Operation:

Query Parameters:

Parameter	Values
Entity	Select the Entity as Settings .
Operation	Select the operation as Get Settings .
Query Parameters	Set value as Application=10.

5.2.6 Put FactSheetSettings

Put FactSheetSettings operation allows users to modify the attributes and configurations of an existing Fact Sheet.

LeanIX

General Connection **Processing**

PROCESSING DETAILS

Entity:

Operation:

FactSheet Type:

Parameter	Values
Entity	Select the Entity as Settings .
Operation	Select the operation as Put FactSheetSettings .
FactSheet Type	Set value as <code>Application</code> .

5.2.7 Update Settings

Update Settings allows you to customize the platform to suit specific needs and preferences. Below is a sample payload.

Type: Expression ▾

Body:

```
{
  "bookmark_id": "12345",
  "update_data": {
    "name": "Updated IT Component Bookmark",
    "type": "INVENTORY",
    "groupKey": "UpdatedKeyGroup",
    "state": {
      "sorting": [
        {
          "key": "displayName",
          "order": "asc"
        }
      ]
    }
  },
  "description": "Updated description of the Component",
  "oDataEnabled": false
}
```

LeanIX

General
Connection
Processing

PROCESSING DETAILS

Entity: Settings ▾

Operation: Update Settings ▾

Parameter	Values
Entity	Select the Entity as Settings .
Operation	Select the operation as Update Settings .