How-To Guide: Information Retrieval Framework
SAP NetWeaver 7.5
SAP NetWeaver AS for ABAP 7.51 innovation package
SAP NetWeaver AS for ABAP 7.52
SAP NetWeaver AS for ABAP 7.52 for Foundation 1709, version for SAP HANA
SAP NetWeaver 7.5 for SAP S/4HANA 1511, on-premise edition
SAP NetWeaver 7.51 for SAP S/4HANA 1610
SAP NetWeaver 7.52 for SAP S/4HANA 1709
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1 Information Retrieval Framework

Use

The Information Retrieval Framework (IRF) allows you to search for and retrieve all personal data of a specified data subject. The search results are displayed in a comprehensive and structured list containing all personal data of the data subject specified, subdivided according to the purpose for which the data was collected and processed.

Note

The Information Retrieval Framework might be considered as a potential tool for complying with data protection requirements. It might be used to inform the data subject on his/her personal data undergoing processing, including the reason (purpose) for processing.

The Information Retrieval Framework is available as of the following support packages for SAP NetWeaver:

Table 1:

<table>
<thead>
<tr>
<th>SAP NetWeaver Release</th>
<th>Available As Of</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP NetWeaver 7.5</td>
<td>SP09</td>
</tr>
<tr>
<td>SAP NetWeaver AS for ABAP 7.51 innovation package</td>
<td>SP04</td>
</tr>
<tr>
<td>SAP NetWeaver AS for ABAP 7.52</td>
<td>SP00</td>
</tr>
<tr>
<td>SAP NetWeaver 7.5 for SAP S/4HANA 1511, on-premise edition</td>
<td>SP09</td>
</tr>
<tr>
<td>SAP NetWeaver 7.51 for SAP S/4HANA 1610</td>
<td>SP04</td>
</tr>
<tr>
<td>SAP NetWeaver 7.52 for S/4HANA 1709</td>
<td>SP00</td>
</tr>
</tbody>
</table>

Scope of this Document

To be able to use the framework’s functionalities, you must set up a data model containing all relevant database tables that you want to be searched for personal data. This how-to guide is intended to provide information to enable you to easily configure the data model and to readily utilize the framework.

The following example-based documentation is based on the SAP standard table SFLIGHT and will give you a step-by-step instruction on how to set up the data model for the Information Retrieval Framework. Once the data model is set up correctly, you can trigger the data collection process.
Process Overview

The following figure shows the primary flows of user actions that need to be carried out when setting up and utilizing the Information Retrieval Framework.
2 Prerequisites

2.1 Activate Business Function

To utilize the framework, you must switch on the business function Information Retrieval Framework (CA_DTINF_FW) in every system you want to enable for the search and retrieval of personal data.


2.2 Define System Status

You must define the status of the system you want to enable for the data retrieval process. In Customizing for Cross-Application Components, go to Data Protection ➔ Information Retrieval Framework ➔ Maintain System Status and define your system as Remote System.

For more information about the Customizing activity, see the associated system documentation located in the same location as the Customizing activity.

2.3 Set Up Authorizations

A user must have the Data Privacy Specialist (SAP_BR_DATA_PRIVACY_SPECIALIST) role assigned in combination with the following authorization objects:

Table 2:

<table>
<thead>
<tr>
<th>Authorization Object</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_INF_MAIN</td>
<td>Maintain the data model used for the Information Retrieval Framework</td>
</tr>
</tbody>
</table>
### Authorization Object

<table>
<thead>
<tr>
<th>Authorization Object</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_INF_COLL</td>
<td>Trigger the data collection process and view the search results</td>
</tr>
</tbody>
</table>

**→ Recommendation**

When working in a production system, this authorization object should be assigned to a few users only.

For more information, see the system help for authorization objects S_INF_MAIN and S_INF_COLL in transaction SU21.

### 2.4 Activate OData Services

The activation of OData services is necessary to enable the data transfer between the browser-based modeling tool designed for the Information Retrieval Framework and the SAP NetWeaver back end system.

To set up OData services for the Information Retrieval Framework, refer to the following documentation:

- Creating an SAP System Alias

- Activate the Service

- Activating SAP Gateway

### 2.5 Create ILM Objects

The framework assists you in creating an initial data model based on information stored in ILM objects and their related archiving objects. Therefore, ILM objects must exist for the applications that you want to enable for the retrieval of personal data.
In this sample scenario, no ILM objects exist for the relevant application. To create an ILM object, you must first create an archiving object. In a second step, the ILM object must be mapped to the archiving object.

Follow below steps to create an archiving object:

1. Call transaction AOBJ and click New Entries on the application toolbar.
2. Fill in the details for the creation of the archiving object as shown below and save your changes in a transport request.
3. Go back to the initial screen of transaction AOBJ.
4. Choose archiving object ZSFLIGHT and select Structure Definition from the dialog structure.
5. On the following screen, you must define structures that are logically related to your archiving object. Click on New Entries and enter the following structures with correct mapping:

![View Cluster Maintenance: Initial Screen](image)

- Re: Parent Seg: Segment: Structure: Do Not Delete
  - 10: SFIGHT: SFIGHT
  - 20: SFIGHT: SBOOK
  - 30: SBOOK: STICKET
  - 40: SBOOK: SNVOICE

6. Save your changes in a transport request.

Follow below steps to create an ILM object:

1. Call transaction IRM_CUST.
2. Choose Object Categories from the dialog structure and then OT_FOR_BS (SAP Business Suite).

![Display View "Object Categories": Overview](image)

3. Double-click on ILM Objects in the dialog structure. The system displays a list of all available ILM objects.

4. On the application toolbar, choose Edit. Click on New Entries and enter the necessary information for the ILM object. Enter the same same as for the archiving object and a description.
5. Save your changes in a transport request.

Follow below steps to map the ILM object to the archiving object:

1. Go back to the previous screen.
2. Choose the newly created ILM object ZSFLIGHT from the list of ILM objects and double-click on **Object Category-Specific Settings** in the dialog structure.
3. On the following screen, select **Mapping ILM Object to Archive Object**.
4. Switch to edit mode, choose **New Entries** and map ILM object ZSFLIGHT to archiving object ZSFLIGHT.
5. Save your changes in a transport request.
3 Generating the Data Model

3.1 Verify Tables Used by an ILM Object

Before automatically generating an initial data model, you must verify the tables relevant for an ILM object. Some tables of an ILM object might be obsolete, some might be missing. This pre-modeling step ensures that all required tables of an ILM object are part of the data model.

To check the tables of an ILM object, you can use transaction DTINF_ADJUST_MODEL:

1. On the tab Table Cluster, choose Test ILM BAdI and enter the name of the relevant ILM object (ZSFLIGHT).
2. Choose Execute.

The figure below shows an extract of the output generated for ILM object ZSFLIGHT:

If you want to manually define database tables which are used by an ILM object, for example due to the output list indicating obsolete or missing tables, you can use BadI BAdI: Tables Used by an ILM Object (BADI_DTINF_ILM_OBJ_TABLES) to define database tables which are used by an ILM object.
For more information, go to Customizing for Cross-Application Components under Data Protection Information Retrieval Framework Business Add-Ins (BAdIs) BAdI: Tables Used by an ILM Object.

### 3.2 Generate the Initial Data Model

The framework assists you in creating an initial data model based on information stored in ILM objects and their related archiving objects. To generate the initial data model for ILM object ZSFLIGHT, follow below steps:

1. Call transaction DTINF_ADJUST_MODEL.
2. On the tab Table Cluster, choose Create Model from ILM Object and enter the name of the relevant ILM object (ZSFLIGHT).
3. To generate the initial data model, choose Execute.
4 Configuring the Data Model

4.1 Merge Responsibilities

To reduce complexity and to enable an efficient way of data modeling, tables are grouped in table clusters. This grouping is based on the application component/ software package associated with each table.

Each table cluster is in the responsibility of the corresponding application. Based on a combination of application component, delivery package and delivery unit, every responsibility is assigned a unique ID. Since a set of responsibilities might logically fall under one application area, it is helpful to merge responsibilities before configuring the data model.

You can use transaction DTINF_ADJUST_MODEL to show all available responsibilities, to rename or to merge them. In the following, all three of these options will be exemplary described:

- To show all available responsibilities, choose Show Available Responsibilities. The system displays a list of all available areas, here you can search for the ones you are responsible for.

- When generating the initial data model, the responsibilities are assigned a numeric value. To rename a responsibility ID, choose an ID from the dropdown list Current Responsibility ID and give it a logical name in the rename to input field.
To merge responsibilities, choose an ID from the dropdown list *Current Responsibility ID* and merge it with the ID you select from the dropdown list *Add to Responsibility ID*.

### 4.2 Configure the Data Model Using the IRF Modeling Tool

You can use the IRF modeling tool (transaction DTINF_MODELING), a user interface based on HTML5 and javascript, to view the initial data model and to manually adjust it to your needs, for example to add and link additional tables.

On the initial screen, use the filtering options Application Component or Responsibility to find your data model. In this case, the responsibility ID `CA_SFLIGHT` is used that was created in the previous section.

If you do not want to display table fields or internal connections, select the respective checkboxes at the bottom of the screen.
The automatic creation of the data model for responsibility ID CA_SFLIGHT generates the output shown below. It shows the table cluster (light yellow rectangle), the tables included in the cluster (rounded rectangles) as well as the field to field links between tables (arrows). The starting table defined for this model is marked in green (SCUSTOM). You can now verify the data model and check if the data collection process runs correctly. If necessary, make changes by clicking Edit. You can hover over the buttons at the bottom of the screen to get additional information on the editing options available.

4.3 Configure the Data Model Using Transaction DTINF_ADJUST_MODEL

Transaction DTINF_ADJUST_MODEL offers additional configuration features that help you to adjust the data model to your system landscape. In the following, these additional features will be briefly described. Please note that the following steps are not mandatory for the sample scenario and can be skipped.

Call transaction DTINF_ADJUST_MODEL and click on the respective tab to have access to the additional configuration features.
Adding a Table to a Table Cluster

1. On the tab Table Cluster, choose Add Table to TC.
2. Choose Execute.
3. Fill in the required details for the input fields Table, New Table Cluster and Responsibility.
4. Choose Add.

Maintaining the Text for a Table Cluster

1. On the tab Table Cluster, choose TC Text.
2. Select a table cluster and a language from the dropdown list, click Show current text.
3. Make changes to the title or the description of a table cluster and choose Update Text.

Creating and Assigning a Purpose to an ILM Object

To get a business-specific output of search results, you must assign purposes to your ILM objects.

1. On the tab Table Cluster, choose Purpose & ILM Object.
2. Choose an existing purpose from the dropdown list or create a new one.
3. If you want, you can also assign a starting table or a starting table cluster.
4. To create or assign a purpose, choose Add/Update.

Removing Locks

While a user is configuring the data model, it is locked by this user. That way, inconsistencies can be avoided by ensuring that no other user can make changes to the model at the same time. In case the browser session is abruptly ended, this feature can be used to remove the inconsistent locks, if any.

Note

Do not remove valid lock entries by other users working on the data model.
1. On the tab Table Cluster, choose Remove locks.
2. Enter a user ID and choose Delete Locks.

Creating Links between Fields

1. On the tab Table Cluster, choose Add Field Link.
2. Specify the table clusters you want to link from and to by selecting them from the dropdown lists. Choose Determine linkable tables.
3. You can then specify the tables you want to link from and to. Choose Determine Fields.
4. In a last step, specify the fields you want to link from and to and select a linkage option.
5. Choose Define Link.

4.4 Verify the Configured Data Model

After you have configured and saved the data model, you can test it by using transaction DTINF_TEST_MODEL. Trigger the collection process and verify if the data was retrieved correctly from all the database tables you defined.

To test your newly created data model, do the following:

1. Call transaction DTINF_TEST_MODEL and specify the details for the collection process:
   ○ Primary Table: Starting table from which the data collection process can be triggered. Depending on the design of your data model, the starting table may vary. In this example, the starting table is SCUSTOM.
   ○ Field Name 1: This is the starting field within the starting table. Enter ID.
   ○ Search Value 1: Since ID was chosen as the value for Field Name 1, you must enter a unique identifier in this field. For this example, the business partner number 11111 is used.
   ○ Purpose: Enter BC1 in the Purpose field.
   ○ Display Options
     ○ Only Tables with Hits: Display only those tables in which data was found.
     ○ Online Tree Output: If you select this option, the output will be displayed hierarchically.
     ○ Create XML-File: If you select this option, the search results will be stored in an XML file (see transaction AL11).
2. Choose *Execute*.

3. The screenshot shown below depicts the information retrieved by the framework for business partner number 11111.

As you can see in the figure above, there was one record retrieved for business partner number 11111 from table SCUSTOM. For example, the customer made a total of five bookings (see table SBOOK) with three travel agencies involved (see table STRAVEL). To get further details on the actual data values, click on the number in the *Hits* column.

If tables are missing in this output, you can go back to the IRF modeling tool again and readjust the data model. This process can be carried out iteratively until you get the desired output.
5 Retrieving Data

5.1 Start the Collection Process

Once your data model is set up correctly, you can use transaction DTINF_START_COLL to start the collection process. On the initial screen, specify the data subject by entering the following information:

- Type of data (e.g. business partner, customer, user name). In this example, a business partner number is used.
- Search value (unique ID, e.g. business partner number)
- Language of data subject

5.2 Display Results of the Data Collection Process

To get an overview of all data collection requests and to display the results of the data collection process, call transaction DTINF_PROC_COLL.

On the initial screen, you get a list of all data collection requests triggered. Search for your request and double-click on it to see more details.
You get a list of all personal data of the data subject specified, subdivided according to the purpose for which the data was collected (see dialog structure).
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