SAP Netweaver Enterprise Search: new search option in SAP Solution Manager 7.2 for ITSM and Change Control Management scenarios

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Purpose

This wiki page will give you the details for using the SAP NetWeaver Enterprise search also called Embedded search in IT Service Management and Change Control Management scenarios for SAP Solution Manager 7.2.

Enterprise Search enables you to search with one keyword in all ITSM document types (Problem, Incidents, Knowledge Article, Service Request, and Service Order) and in all Change Control Management and Requirement Management document types (Request for Change, Change Documents, Change Cycles, Business Requirement, IT Requirements) in the CRM UI of the SAP Solution Manager or in the Fiori Launchpad. In addition you can also search in the Attachments of these documents.

In SAP Solution Manager 7.2 we can use now two different search options:

- "Full text" search on TREX, this one was the existing one in SAP Solution Manager 7.1
- "All Objects/Free Text " Enterprise Search that can run on TREX 7.1 or on SAP HANA

*NEW BLOG* SAP Solution Manager 7.2: Free Text Search in ITSM and ChaRM without TREX

Overview

Enterprise Search allows a fuzzy and wildcard search in any long text in the business objects, master data (structured data) and also in the content of the attached files (unstructured data).

This search is executed by a dynamic BOL query object which is part of a GenIL component provided specifically for enterprise search queries. In the GenIL implementation the search request is forwarded to Enterprise search which in turn delegates to TREX 7.1 or SAP HANA to execute the search.

ITSM and Change Control Management scenarios have created models for several business objects for using the Enterprise search. This modelling determine which attributes should be searchable and which attributes should be part of the search results.

Other scenarios like Service Delivery and Solution Documentation are defining their own models.

In /nESH_MODELER you can see the provided models in the standard:
In the case you need other attributes in the search or the search result the recommendation is to copy the model and enhance it.

On the other hand TREX/SAP HANA engine needs to have the indexes updated to provide the search results. For this firstly we need to create the connectors in /nESH_COCKPIT Connector Administration Cockpit by selecting the Software Component and then the Model and click on “Create Connector” button, this will create the indexes in the TREX/SAP HANA.

Then the data needs to be extracted. This data extraction is triggered by NetWeaver Enterprise Search and is usually executed by batch processes scheduled by the system administrator.

Two modes of extraction have to be distinguished: the initial extraction is done when the TREX/SAP HANA indices have to be built up from scratch at the beginning when a system is set up. After an initial extraction the following delta extraction cares for updating the TREX/SAP HANA indexes with changed or new objects.

To make the extractions we need firstly to create the connectors in /nESH_COCKPIT Connector Administration Cockpit by selecting the Software Component and then the Model and click on “Create Connector” button.

Then we need to schedule the indexing, that trigger an initial extraction. Real-Time indexing is the recommended option.

If the model has been modified the Modified column is flagged, then the connector needs to be updated via Actions->Update.

**How to trigger the Enterprise search from the UI**

1. **From the central search in CRM UI**

   The end user can trigger the Enterprise search using a special UI integrated in the central search “All Objects”:

   ![Solution Manager IT Service Management](image)

   Enter the text to search like word “test”:
In the Search Result UI, you will have a separate assignment block for each Transaction type:

Also from the central search you can select the particular business object and select “Free Text”: 
Note: Full Text in the CRM Web UI search is using TREX and not Enterprise Search.

2. Search in the Fiori Launchpad

3. From the Administration cockpit UI

In the Administration cockpit you can see a Search tab that use the Enterprise Search Web Dynpro Application „ESH_SEARCH_RESULTS_UI“

You can make a fuzzy search:
Or select a specific attribute:

There are more attributes options than the ones provided in the CRM Web UI search. Export options will be provided in the latest patch level, it is not available in SP03 currently.

Configuration
General settings

Since SAP Solution Manager 7.2 SP03 the general configuration of the SAP NetWeaver Enterprise Search is done in Solman_setup guided procedure "Embedded Search" and then the creation of the connectors/schedule indexing are done under the specific scenarios: IT Service Management and Change Control Management in our case.

You need to activate some UI services in SICF.

Decide if you want to use run the Enterprise Search on SAP HANA or TREX 7.1 (TREX has to be installed with the option type = ESH. Apply instructions from SAP Note 1249465 (TREX 7.10: "Installing TREX for Embedded Search").

Set the destination in /nESH_ADM_TREX_DEST.

Configure extraction user for indexing in /nESH_EXTR_USER, assign the correct authorization to this user running job ESH_FU_DAEMON_XXXX.

Note: if you are using a SAP HANA pay attention to activities:

1. Set HANA or TREX Destination, from activity documentation

If the Embedded Search is running on HANA, enter the HANA DB Connection Name in the according field. How to create a DB Connection for HANA and which additional requirements are necessary is described in detail in the following document in the SAP Help Portal:

Creating a Connection Between Embedded Search and SAP HANA or TREX/BWA

Pay attention to the user requirements:

Prerequisites

Note that there are different prerequisites depending on which variant of Embedded Search you have selected:

1. Prerequisites for the SAP HANA-based variant:
   - You have installed the SAP HANA database client.
   - You have created a second database connection.
2. Call transaction 2CC in the ABAP system.
3. Switch to change mode and choose "Maint. Entry".
4. Create a new database entry.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB Connection</td>
<td>Specify a name for the database connection.</td>
</tr>
<tr>
<td>DBURL</td>
<td>Port for SAP HANA, select an entry 1DB.</td>
</tr>
<tr>
<td>User Name</td>
<td>Specify the database user to be used. This user must be assigned the object access pims.cloudbase and pims.cloudbase_password. The database user also needs the authorization to execute the following SQL command on the database (SAPDB): SELECT, INSERT, ALTER.</td>
</tr>
<tr>
<td>DB Password</td>
<td>Specify the corresponding password.</td>
</tr>
<tr>
<td>DB User</td>
<td>Connect to the database in the form SERVER/PORT. The port is comprised as follows: 3 Instances number-11. Example name of a connection: apSQA.123123</td>
</tr>
</tbody>
</table>
When you execute you need to see the OK for the HTTP destination on the bottom. Same user is used.

Specific scenario settings

Then go to the specific scenario like for ITSM and continue the specific configuration for this scenario:
You will need to activate the business functions to be able to use Enterprise Search in /nSFW5:

- CRM_INF_1
- CRM_ES_BY_ATTACHMENT

Then you will create the connectors and schedule the initial indexing in /nESH_COCKPIT for the specific software component and search connectors indicated in the documentation of the activity.

Can not create index on expression with datatype LOB: BOL_ROOT_ENTITY_KEY

Note: In the case that you want to search also in Knowledge Articles KNAR then you need to create also the connector CRM_BUS2000106 under Software component SAP Customer Relationship Management and schedule the indexing.

Troubleshooting

- Authorizations

As a prerequisite, users should be assigned authorization object UIU_COMP in order to use these search.

The user needs to have the authorizations for the objects he is searching. This is important in case that two different users get different results.

In transaction /nESH_MODELER select the model. click on ‘Display’ and go to Step 5:
If the result is not in the CRM Web UI check the search result in the Web Dynpro Application "ESH_SEARCH_RESULTS_UI"

Make the search directly in TREX (/nTREXADMIN) or at SAP Hana level

For knowledge article see also SAP Notes 2400327 and 2397249.

See this blog What is the difference between Central Search search criteria "Free Text" and "Full Text" – Solution Manager Example in case that the Free Text is missing for an specific document type in the central search.

Free text search function unavailable: in solman_setup look for activity -> Adapt Business Roles and check the entries for SOLMANPRO business role and add then to our business role. Also ensure that in ESH_COCKPIT the connector for this object type is configured.

Important transactions/jobs
- ESH_MODELER – Search&Analytics Modeler
- ESH_COCKPIT – Connector Administration Cockpit
- TREXADMIN – TREX Administration Tool
- ESH_SEARCH - Web Dynpro Application „ESH_SEARCH_RESULTS_UI“ – Directly show ES results /sap/bc/webdynpro/sap/esh_search_results_ui
- Report ESHADM_SET_TREX_DESTINATION Connects TREX / HANA with the Embedded Search
- Report ESH_EX_EXTRACTION_USER Set User for Enterprise Search Data Extraction
- Report ESH_TEST_SEARCH Test Report for executing a search (in expert mode can be used to analyze search authorization issues)
- Report ESH_EX_FU_DEMON is the „Fast Update Demon“ Job for the ES
- SM37 Job „ESH_FU_DEMON“

Related Content

Related Documentation

SAP Solution Manager 7.2: Free Text Search in ITSM and ChaRM without TREX

What is the difference between Central Search search criteria “Free Text” and “Full Text” – Solution Manager Example
Related Notes

1587221 - The search result is not as expected
2280372 - How to check Full Text search issues
1977197 - Integrate the CRM attachment with the CRM embedded search
2400327 - KA ES - Code changes
2397249 - KA on Enterprise Search