

PUBLIC

How to develop a Custom Object with MDG Central Governance

Implementing a custom object master data domain with SAP MDG incl. Data Model, Process Model and User Interface

Applicable Releases:

From MDG 9.0 and from SAP S/4HANA 1709

Version 2.1

October 2024



Document History

Document Version	Description
1.0	First official release of this guide on MDG6.1 EHP6
2.0	Major updated version for MDG 9.1 EHP8 and S/4HANA 1709. Usage of BOL/genIL in MDG Custom objects. More complex data model. (May 2019)
2.1	Adapt template (October 2024)

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1. Introduction

SAP Master Data Governance (MDG) provides business processes to find, create, change, and mark master data for deletion. It supports the governance of master data in a central hub and the distribution to connected operational and business intelligence systems. The processes are workflow-driven and can include several approval and revision phases, and the collaboration of all users participating in the master data maintenance. MDG offers change request (CR)-based processing of master data with integrated workflow, staging, approval, activation, and distribution.

You want to manage custom objects in a central Master data system to be able to harmonize this information across their landscape. Custom objects can be individual defined objects such as sites or plants. Custom objects are typically less complex master data objects with a small and simple data model. They are often used as reference data in major objects such as material, suppliers and customers.

This How-To Guide describes the necessary steps to implement a custom object in SAP MDG, central governance. The guide is based on an object called "SITE" and includes the following steps during the implementation phase.

- Create a new Data Model
- Define a new Business Object and Activity
- Create a custom User Interface
- Process Modeling for logical action CREATE
- Test of the custom object

At the end of the document, you will find further information about potential next steps to further enhance the custom object application by a more complex data model and additional scenarios such as change processes or transforming reference data into customizing.

The audience of this document can be customers, technology consultants and architects.

Important note: This document does not cover all aspects of building a custom object but only makes an introduction. Building a custom object is also not subject to any support contract with SAP. Quite the opposite, implementing a custom object requires consulting and development effort with profound knowledge and a suitable implementation project as well as plans on customer owned maintenance and support for the same. Moreover, this guide does not include topics like Data Quality features with BRFplus or BAdIs and reporting capabilities.

1.1. Prerequisite

For this guide you need access to a sandbox system of your MDG Application Server with appropriate access rights. The ERP System must run on EhP (Enhancement Package) 8 and at least version SAP MDG 9.0 or on SAP S/4HANA 1709.

You need some basic understanding of the following topics:

- SAP Master Data Governance Central Governance
- SAP Business Workflow
- SAP Floorplan Manager (FPM)

Development might be required. However, in this guide no one single line of code will be implemented. If you want to save the configuration into an ABAP transport request, you need a workbench and customizing request/tasks.

Depending on your experience levels, you will need multiple hours to complete the tasks in this guide.

2. Business Scenario

Let`s assume that you have already successfully implemented the SAP MDG standard objects such as Material, Suppliers, Financials and Customers. You are replicating this data to several ERP and Non-ERP Systems for usage within transactional matters.

Your business department is generally happy with the solution, but they have an issue with some of the reference data. Reference data is information which is used within master data objects itself, or in transactions or programs as supporting information. In SAP, such data is typically displayed in F4 helps or drop-down value lists. Examples of such reference data are:

List of plants which is used to assign a material or products to a physical facility

• List of countries which is used within many transactions and referenced in many data models.

Your business users identified that these lists of valid reference data are not harmonized within the landscape. This gap causes issues regarding data quality which ends up in inefficient business processes. A concrete example is the information object "Site" which is a valid list of geographical places where the company can have plants, unloading points or just generally assets.

2.1. High-level Requirements

The business requests the following:

- 1. A central system in which the valid list of values for sites are managed
- 2. A governance process to be able to carefully add (or change) site objects
- 3. A web-based application to enter and govern the data in a User Interface
- 4. A search application to find existing sites

2.2. Data Model

In this guide the flex mode is used.

Handling of Active And Inactive Data

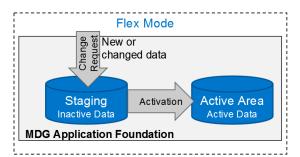
for Custom Objects

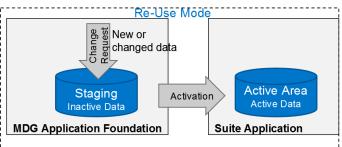
MDG separates

- Active area Holds data that is ready to be used by applications
- Staging Holds the data that is not yet approved, currently part of a change request

For optimized integration and flexibility MDG allows two modes for the Active Area

- Re-Use active area (re-use mode) Existing structures (i.e. data base tables) of applications are used. For example, MDG for material makes use of the MARA table in ECC. Re-Use Class needed. Used for MDG-S, MDG-C, MDG-M. Can be used for Custom Objects (starting with EhP6)
- Generated active area (flex mode) Tables as defined in the MDG data model are used to store
 active data. Used for MDG-F. Has to be used for Custom Objects in EhP6.





2.3. Governance Process

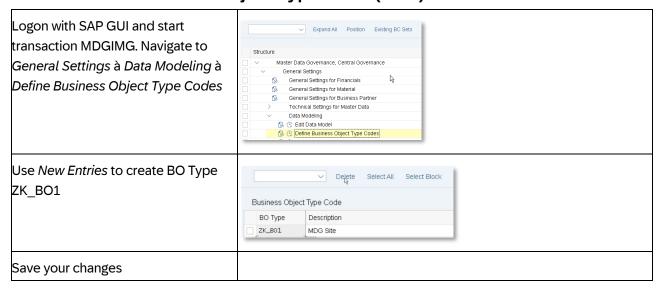
The governance process is also very simple and includes just a 2-step approval. The following graphic shows a high-level view of the governance process:



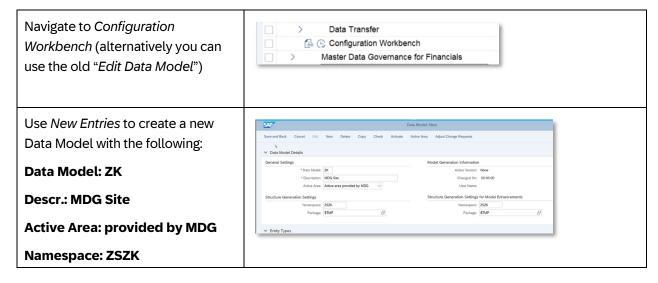
The SAP MDG Rule-Based Workflow template is used to model this process.

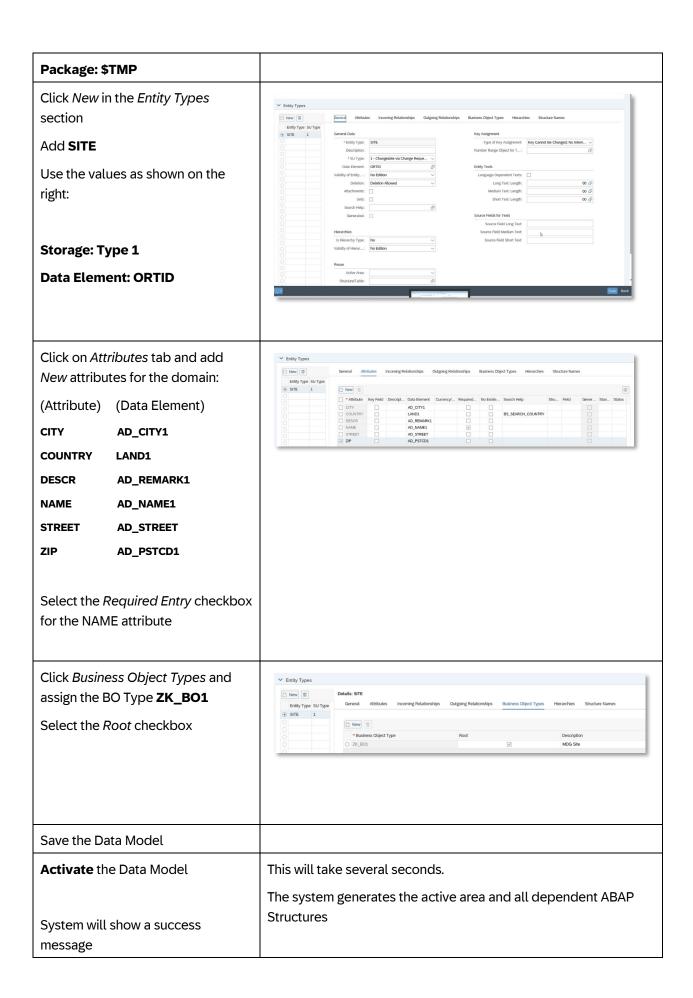
3. Data Modeling

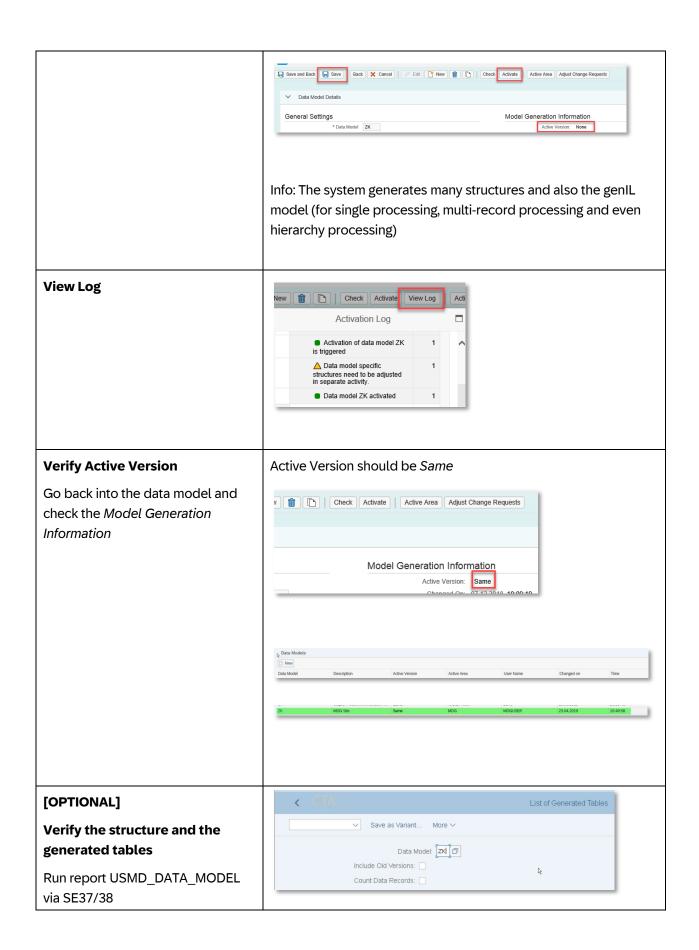
3.1. Create a Business Object Type Code (OTC)



3.2. Create a new Data Model





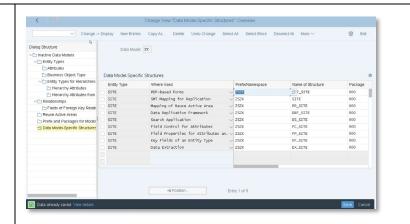


[OPTIONAL]

Verify that structures have been created.

If they are not created, regenerate the data model using classic IMG "Data Model" (repeat activation)

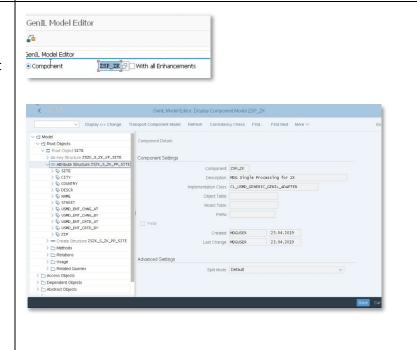
Use se80 to review



[OPTIONAL]

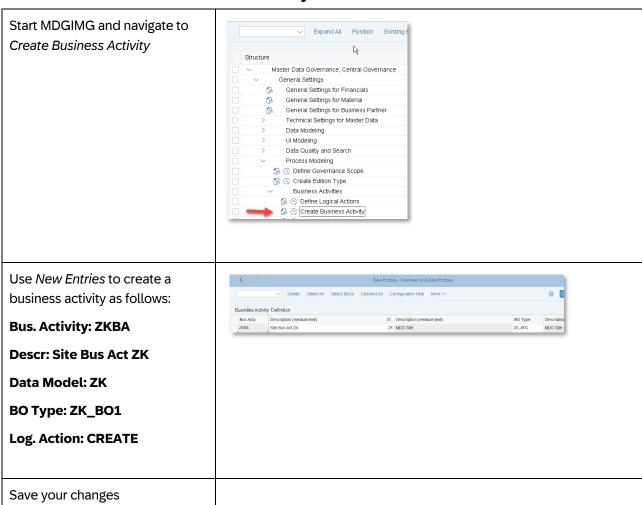
Call transaction genil_model_browser to verify that the genIL structures have been created

Component: ZSP_ZK

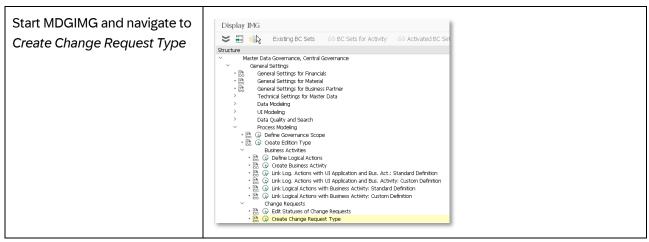


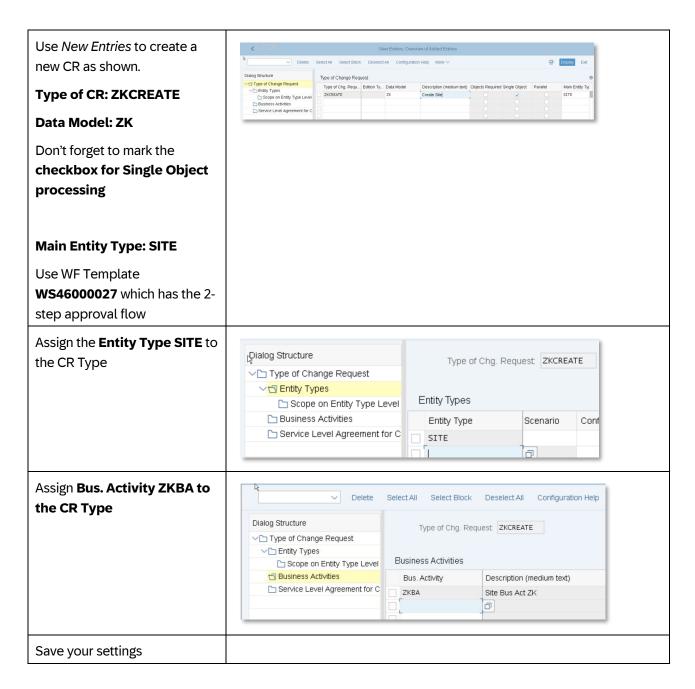
4. Workflow and Process Modeling

4.1. Create a new Business Activity



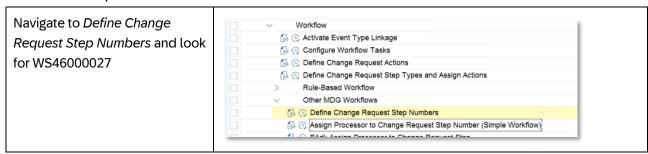
4.2. Create a new Change Request Type



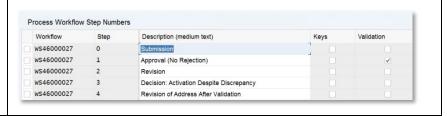


4.3. Create and Configure the Workflow Model

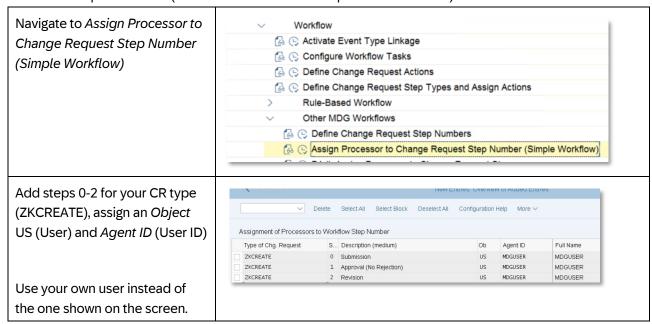
Revise the steps for the standard workflow.



Verify that steps 0-4 are maintained, otherwise add them using the descriptions shown on the right

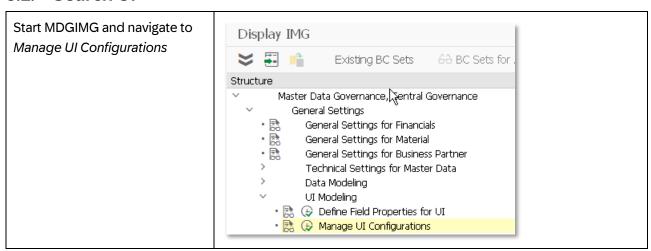


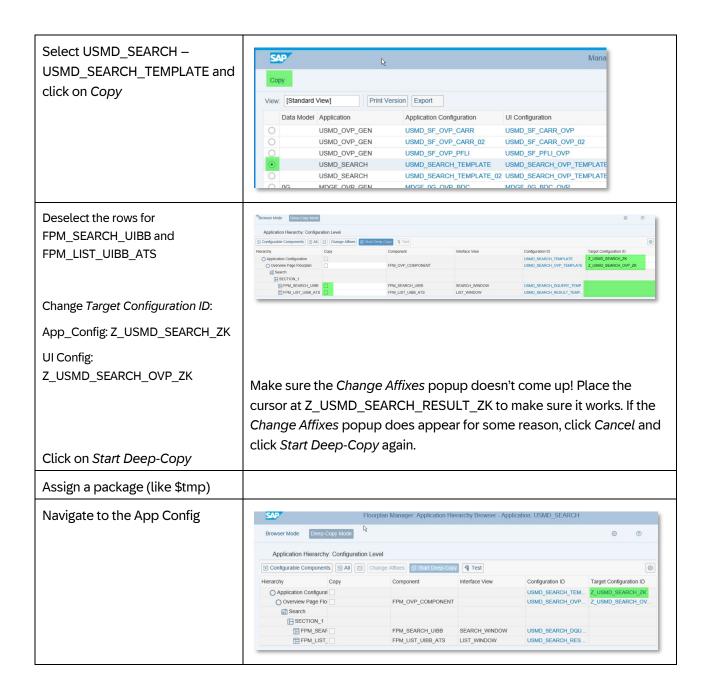
Define WF Step Processors (for Standard Workflow Template WS46000027).

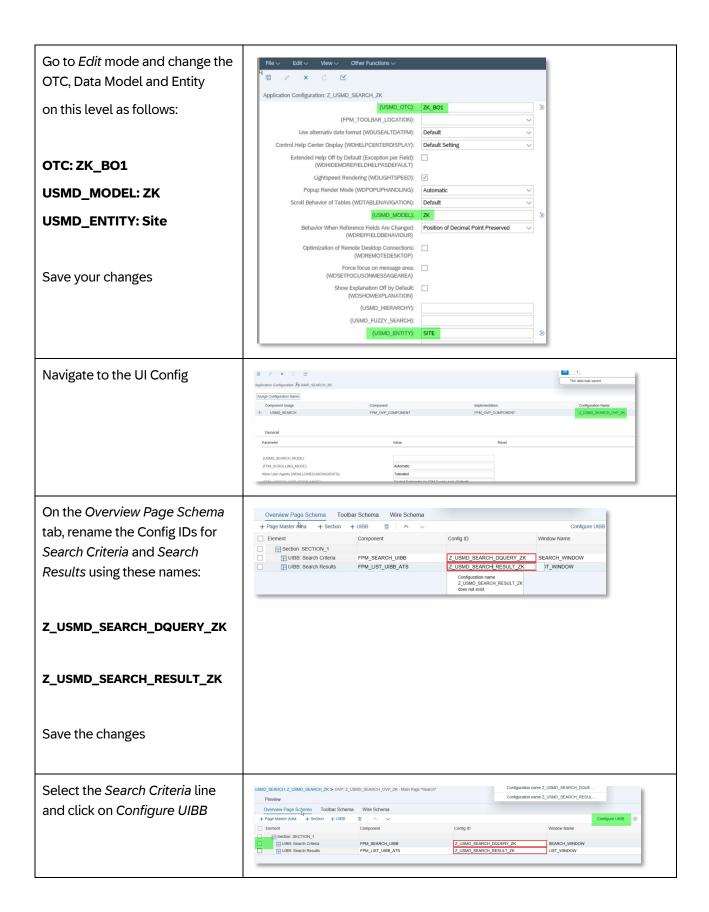


5. User Interface

5.1. Search UI



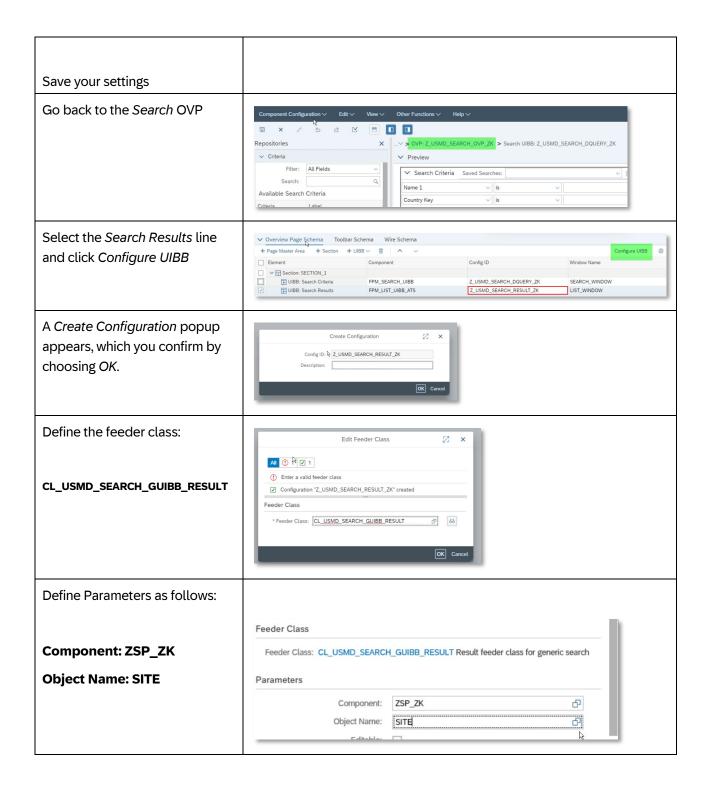


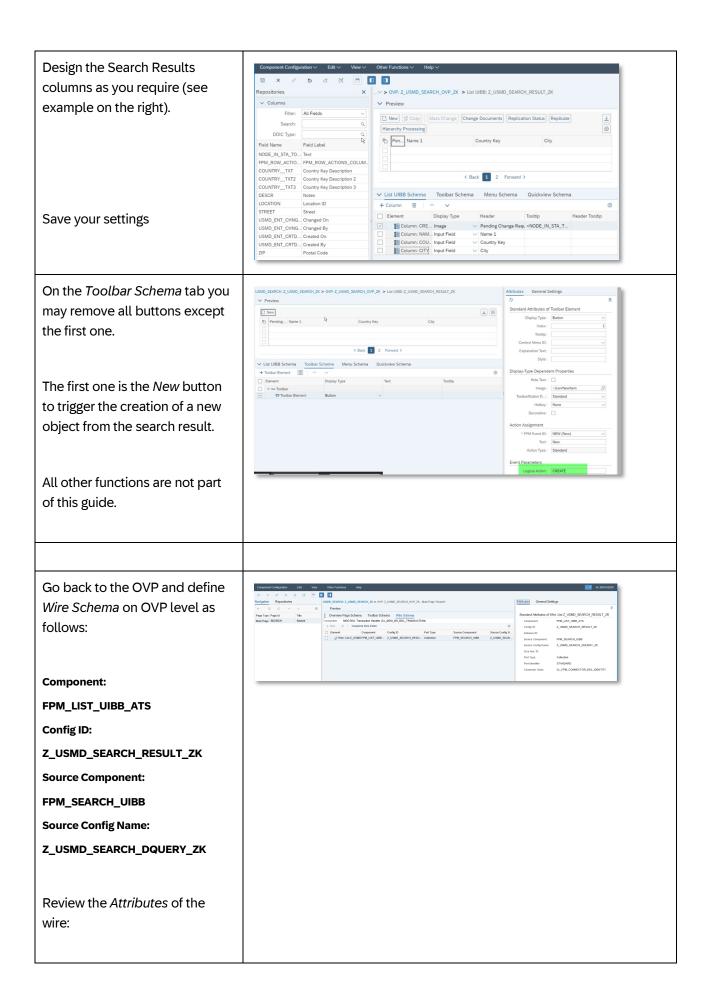


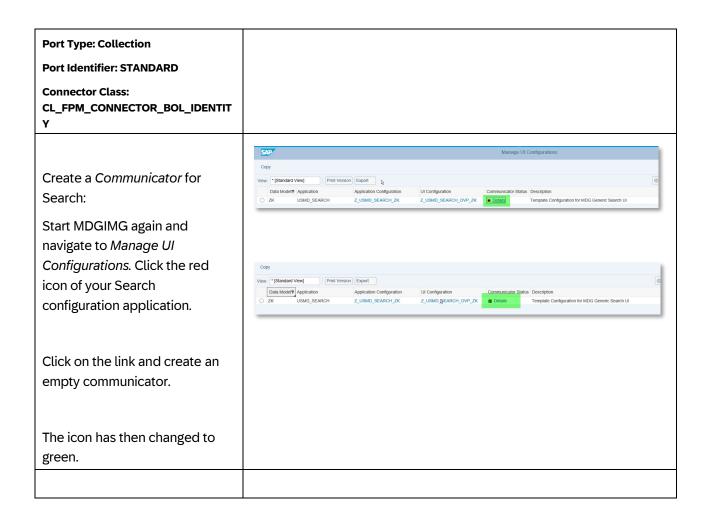
A Create Configuration popup n ID: Z_USMD_SEARCH_DQUERY_ZK appears, which you confirm by choosing OK. Z_USMD_SEARCH_DQUERY_ZK Enter the feeder class: Edit Feeder Class CL_USMD_SEARCH_GUIBB_DQUERY Enter a valid feeder class Configuration "Z_USMD_SEARCH_DQUERY_ZK" created Feeder Class * Feeder Class: CL_USMD_SEARCH_GUIBB_DQUERY Change the settings for the Feeder Class and Parameters by Feeder Class: CL_USMD_SEARCH_GUIBB_DQUERY Query feeder class for generic search entering the following: Component: ZSP_ZK ð Dyn Query Name: DynamicQuerySITE Ð Component: ZSP_ZK Execution Mode: On GUIBB-Specific Button Event **Dyn Query Name: DynamicQuerySITE** Search Mode: Incl.SearchHelp: Allow Pers.: Default Visibility: Visible Morph Entry With UIBB Terminus Insert Spot Name Spot Value Entry Key Parent Key Config ID After changing the Feeder Class \$ 2 K B 0 Parameters, you can model your □ × / Repositories ... > OVP: Z_USMD_SEARCH_OVP_ZK > Search UIBB: Z_USMD search screen. ✓ Preview Filter: All Fields ✓ Search Criteria Saved Searches: Available Search Criteria Remove Search Criteria lines as Country Key v is Criteria Label you require (see example on the LOCATION Location ID CITY City Search Clear Entries Reset to Default right). STREET Street ✓ Search UIBB Schema + Search Criteria + Se USMD_ENT_CHN... Changed On USMD_ENT_CHN... Changed By USMD_ENT_CRTD.. Created On USMD_ENT_CRTD.. Created By Search Criteria: COUNTR Postal Code ZIP Search: Available Result List Criteria

COUNTRY

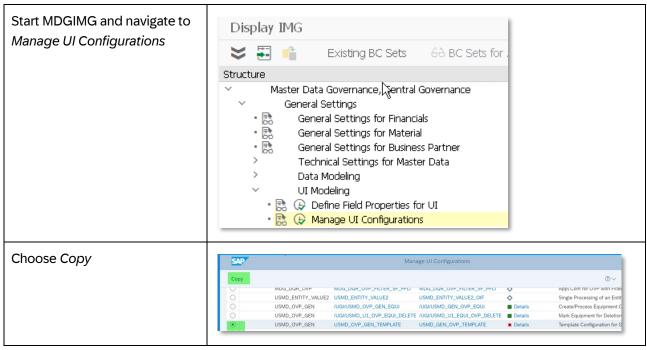
Criteria Label

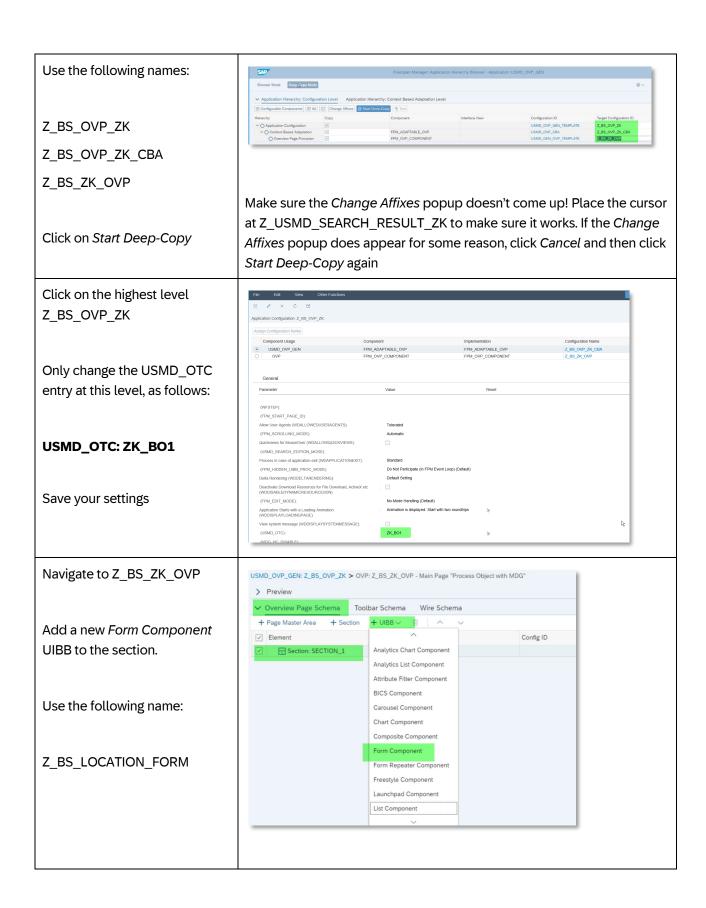


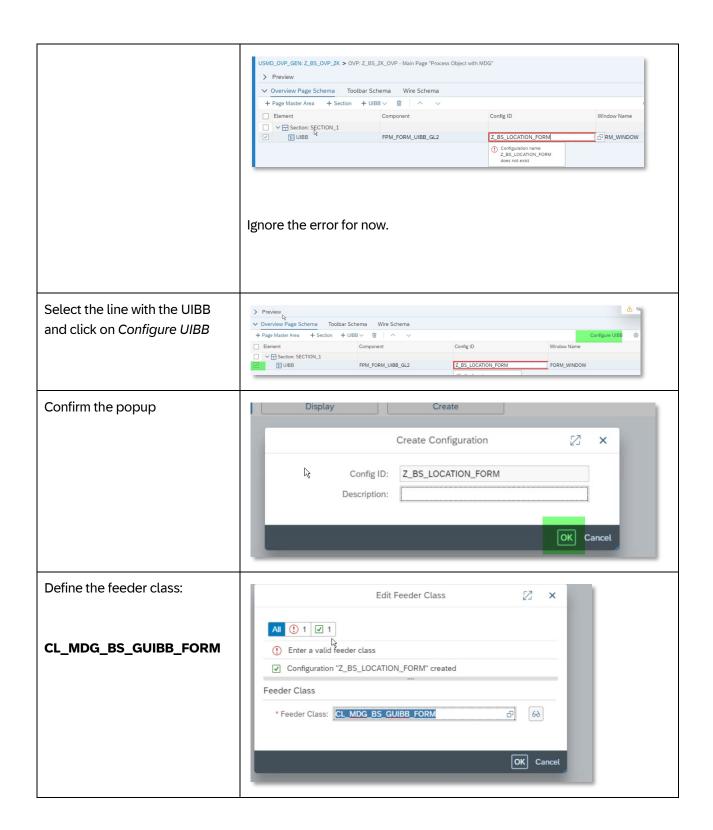


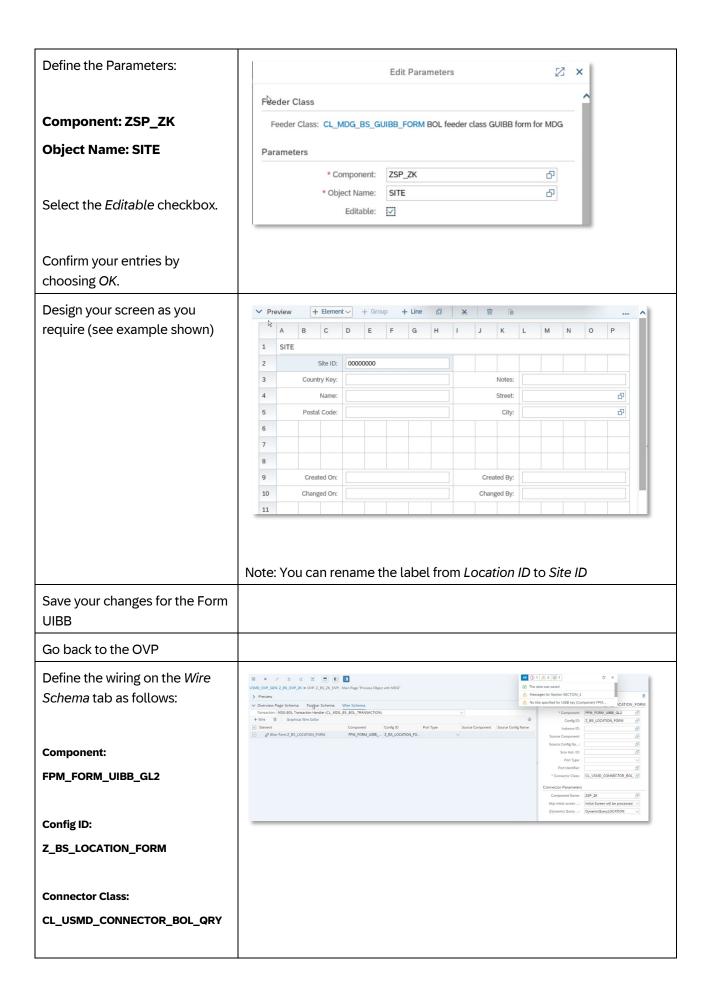


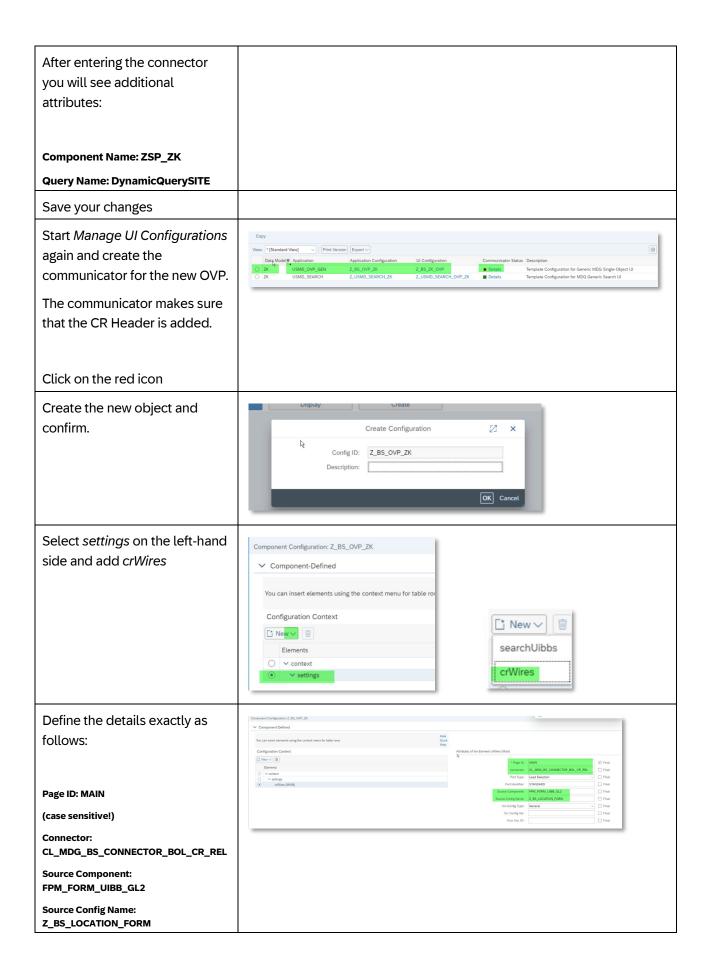
5.2. Single Processing UI







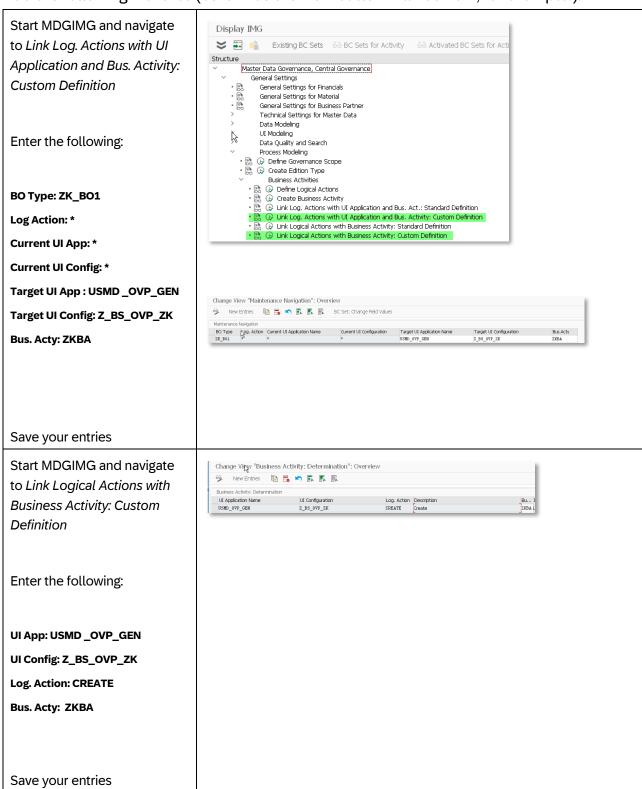




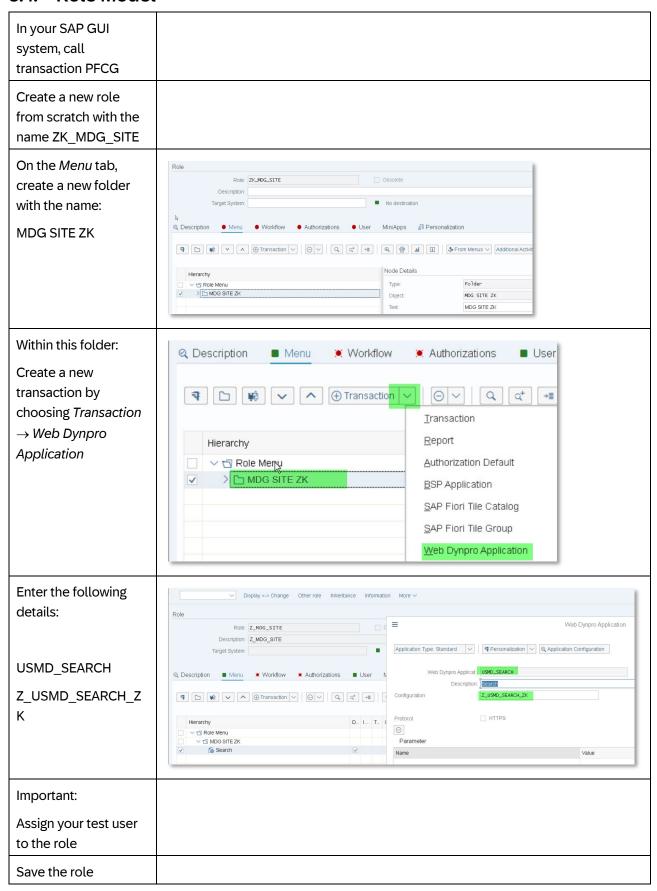
Save your changes

5.3. Link UIs to Actions

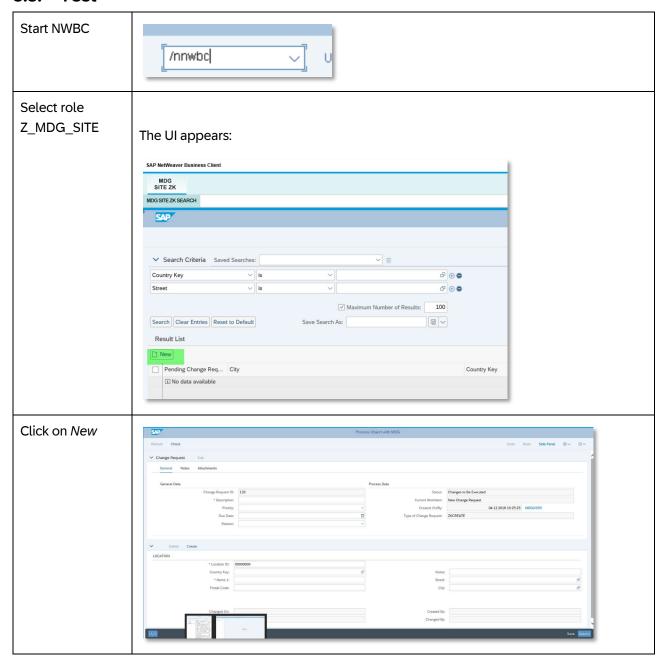
Add the following 2 entries (otherwise the New button will not work, for example!):

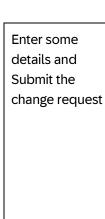


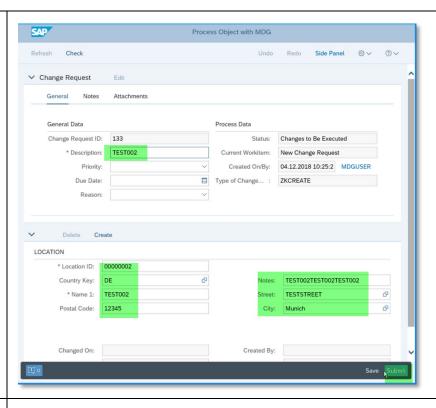
5.4. Role Model



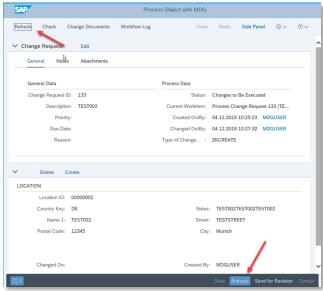
5.5. Test



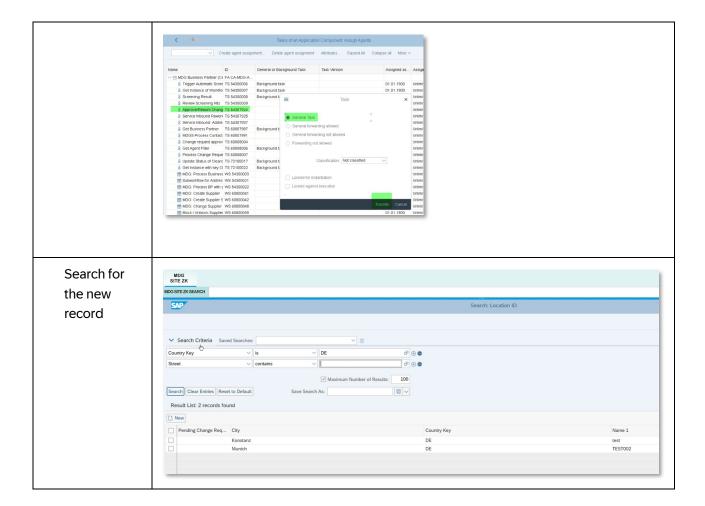




Refresh & Activate



Info: If the task assignment (log no current processor) fails, please check if the base configuration of MDG is done. You might need to configure the task 54307924 as a general task as shown here:



6. Next Steps

To enrich the application, you may want to do the following things:

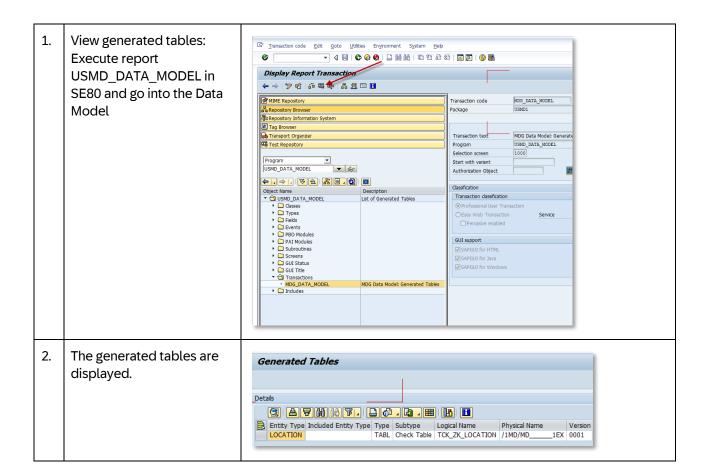
- 1. Add more entities and attributes to the data model and use relationships
- 2. Build a Change Request Type for log. action CHANGE to be able to modify existing records
- 3. Use multi-record processing mode
- 4. Use CBA to have a more dynamic UI
- 5. Introduce an auto ID for the Site/Location ID
- 6. Switch to a reuse model

7. Hints & additional information

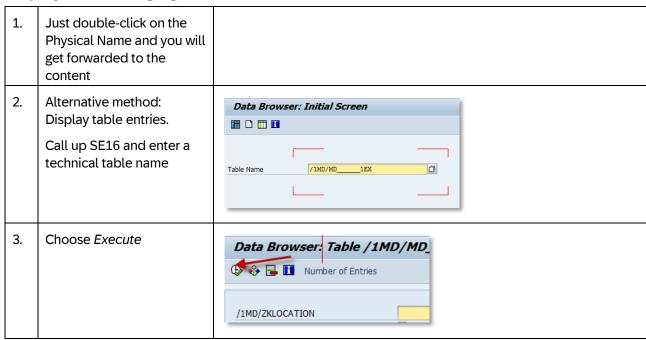
Helpful Transactions:

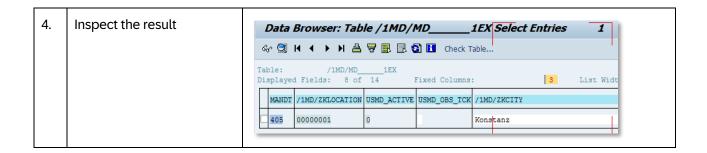
- Tcode USMD_DELETE_CREQUEST
- Tcode genil_model_browser
- Tcode USMD_DATA_MODEL

View the generated data model:



Display data in staging table:





Tcode USMD_DELETE_DATA_MODEL (delete a data model)

If you want to delete a data model (and all dependent objects), you can do the following:

- 1. Make sure you are in the cross-system client.
- 2. Call up MDGIMG \rightarrow General Settings \rightarrow Data Modeling \rightarrow Edit Data Model.
- 3. Select the corresponding data model and delete the line.
- 4. If this is not possible due to an active version, call up SE80 and run USMD_DELETE_DATA_MODEL. This will delete the active version and all dependent objects (except UI Configurations).
- 5. Repeat Step 3.
- 6. Important: You must SAVE and EXIT the MDGIMG when you're done.

8. Additional Information

8.1. Further Reading

8.1.1. Information on SAP MDG on SAP S/4HANA

- Exchange knowledge: <u>SAP Community</u> | <u>Q&A</u> | <u>Blog</u>
- Try SAP Master Data Governance on S/4HANA for free: Trial Version
- Try SAP Master Data Governance on S/4HANA on the SAP Cloud Appliance Library: S/4HANA 2022 FPS1
- Learn more: Latest Release | Help Portal | How-to Information | Key Presentations

8.1.2. SAP Roadmap Explorer

• Please see the <u>roadmap for SAP Master Data Governance</u>

8.1.3. Related Information

• Learn more: Floorplan Manager for Web Dynpro ABAP | How to Adapt FPM | FPM Blog | How-to Information | Service Mapping Tool | SAP S/4HANA Cookbook CVI

8.2. SAP Notes

In addition to the detailed explanations written in this document, please see the following SAP Notes for further important information.

Note	Description
3043582	MDG Customer Connection 2020
3194967	MDG Customer Connection 2021 for S/4HANA 2022
3311039	MDG Customer Connection 2023
3428179	Master Data Governance: Continuous Influence
1619534	How to Create, Enhance and Adapt FPM Applications
1637249	MDG: Information for efficient message processing
2105467	MDG Performance
2561461	Scope of support for SAP Master Data Governance (MDG)
1637249	MDG: Information for efficient message processing