

PUBLIC

How to Enhance Business Rule Framework Plus (BRFplus) Decision Tables in Rule-Based Workflow Example Using BAdI USMD_SSW_RULE_CONTEXT_PREPARE

Applicable Releases:

From EHP6 for SAP ERP 6.0 and from S/4HANA 1511 $\,$

Version 2.1

December 2024



Document History

_							
п	\sim	CI		\mathbf{m}	\sim	n	٠
u	u	u	ш		ㄷ		L

Version	Description	
1.0	First official release of this guide (April 2021)	
1.10	Note 1700197	
1.20	Note 1837696	
2.0	Rework	
2.1	Adapt current template	

Table of contents

1. Introduction	4
2. SAP Notes	4
3. Prerequisites	4
4. Background Information	
5. Steps	
5.1. Customizing	5
5.1.1. Create a Change Request Type	5
5.1.2. Define a Service Name	
5.2. Enhancement Spot USMD_SSW_SERVICE_PROCESSOR	7
5.2.1. Create an Enhancement Implementation	7
5.2.2. Create a BAdl implementation	8
5.2.3. Define a BAdl filter	10
5.2.4. Configure BRFplus customizing tables	10
6. Try-out	19
7. Additional Information	21
7.1. Further Reading	21
7.1.1. Information on SAP MDG on SAP S/4HANA	21
7.1.2. SAP Roadmap Explorer	21
7.1.3. Related Information	21
7.2 SAP Notes	21

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.

This How To Guide describes the solution to add additional fields from the data model MM to the user agent decision table in Business Rule Framework plus (BRFplus).

This scenario addresses the customer requirement to have more process options dependent on additional fields from the data model MM. In this example we show how to determine either user 01 or 02 dependent on the value from field LABOR.

2. SAP Notes

<u>1700197</u> - Rework example BAdI implementations

1837696 - BAdI enhancement with inactive data for change request

3. Prerequisites

For this How To Guide you should have access to your system with appropriate access rights.

You will need some basic understanding of the following topics:

- SAP MDG
- BRFplus

4. Background Information

A BAdI is used to get additional parameters to the BRFplus user decision table.

You can use the BAdI USMD_SSW_RULE_CONTEXT_PREPARE to implement extensions of the BRFplus rule context in the rule-based workflow. This BAdI uses the method PREPARE_RULE_CONTEXT to get specific BRFplus rule context values from the workflow generic-context table and from change request data. The input is the change request number. The method uses the change request number to retrieve data from the change request. It then fills the BRFplus rule context table with specific values from the change request.

With this BAdI, it is also possible to change the workflow generic-context table and also export both the BRFplus rule context table and message table.

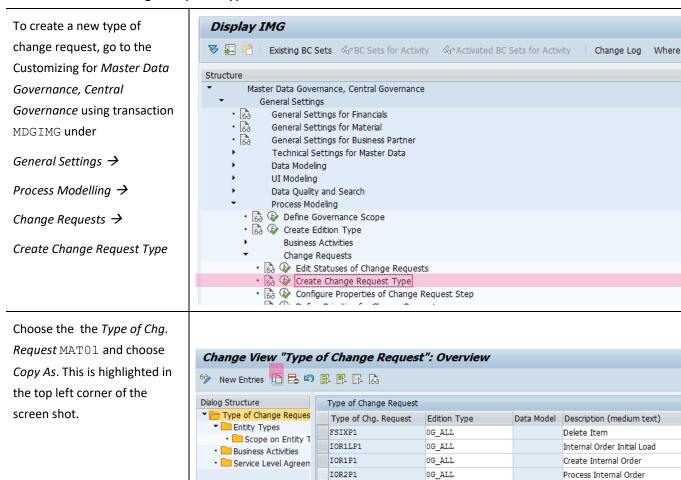
In MDG, change requests can be created and then processed by multiple people. The function of this rule context BAdI is to route that CR at a certain step to specific user/group/role.

For example, if a company has placed all responsibilities on one person to be the processor of a specific material group as they are the expert on that material group. You can use the rule context BAdI to route all change requests of that material to be processed by that expert, ensuring any change request made containing that material will be processed by that expert and only that expert.

5. Steps

5.1. Customizing

5.1.1. Create a Change Request Type



MAT01 MAT02

MAT06

Process Material

Mark Material for Deletion

MM

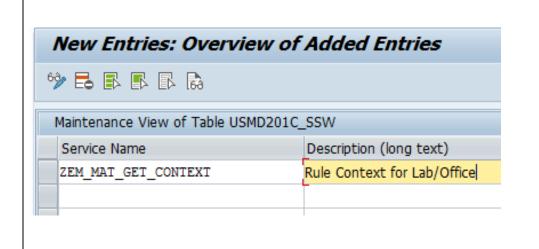
Next, you can add the details of your change request.	f Change Request": Overview of Selected Set Type of Change Request					
	Type of Chg. Request	Edition Type	Data Model	Description (medium text)	Objects Re	
	EM_MATCK	7,7	MM	EM-Create Material (Get Context)		
Save your changes.						

5.1.2. Define a Service Name

To define a service go to the Customizing for Master Data Display IMG Governance, Central
 ▼
 Image: Existing BC Sets
 Sets
 Sets for Activity
 Sets Activated BC Sets for Activity
 Change Log Where Else Used Governance using transaction Structure MDGIMG under Master Data Governance, Central Governance General Settings General Settings for Financials General Settings for Material General Settings for Business Partner General Settings → Technical Settings for Master Data Data Modeling **UI** Modeling Process Modelling → Data Quality and Search Process Modeling

• 🗟 🚱 Define Governance Scope
• 🗟 🚱 Create Edition Type Workflow → Business Activities Change Requests Workflow Rule-Based Workflow → Activate Event Type Linkage
Configure Workflow Tasks
Define Change Request Actions **Define Service Names** • 🗟 🕟 Define Change Request Step Types and Assign Actions Rule-Based Workflow Befine Change Request Steps for Rule-Based Workflow
 Befine Service Names for Rule-Based Workflow
 Configure Rule-Based Workflow Business Add-Ins Other MDG Workflows

Define the service name as shown.



5.2. Enhancement Spot USMD_SSW_SERVICE_PROCESSOR

5.2.1. Create an Enhancement Implementation

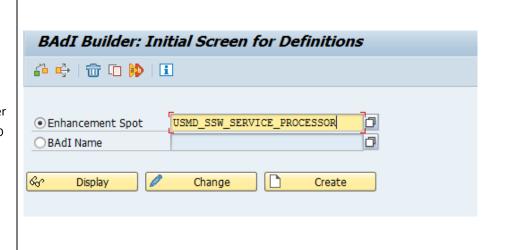
Using transaction SE18, enter USMD_SSW_SERVICE_PROCESSO

R for the *Enhancement Spot* and then choose *Display*.

We now need to create an

enhancement

implementation.



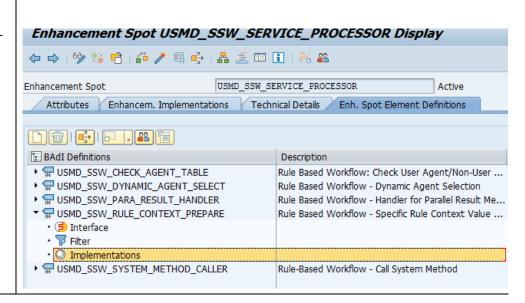
Expand BAdI definition

USMD_SSW_RULE_CONTEXT_

PREPARE and then open the context menu on

Implementations and choose

Create BAdI Implementation.

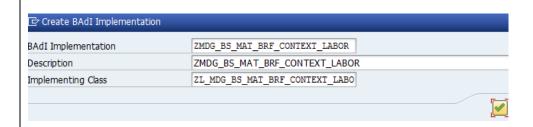


5.2.2. Create a BAdI implementation

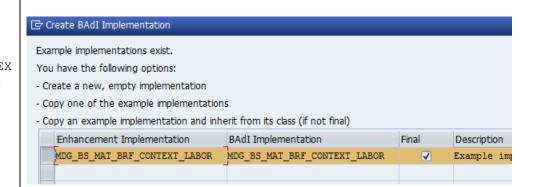
The window shown is the screen shot that opens. Select MDG_BS_MAT_BRF_CONTEXT_LABOR and choose Ok.



Enter the details of the BAdI implementation as shown in this screen shot.



Select the Enhancement Implementation MDG_BS_MAT_BRF_CONTEX T_LABOR_and choose Copy

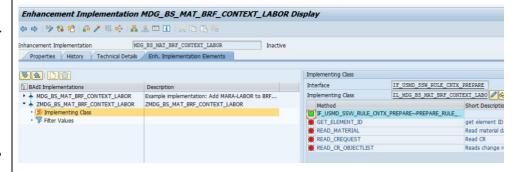


Expand your new BAdI Implementation

Sample Class.

ZMDG_BS_MAT_BRF_CONTEX
T LABOR

Display the Implementing
Class and open the
IF_USMD_SSW_RULE_CNTX_P
REPARE method.

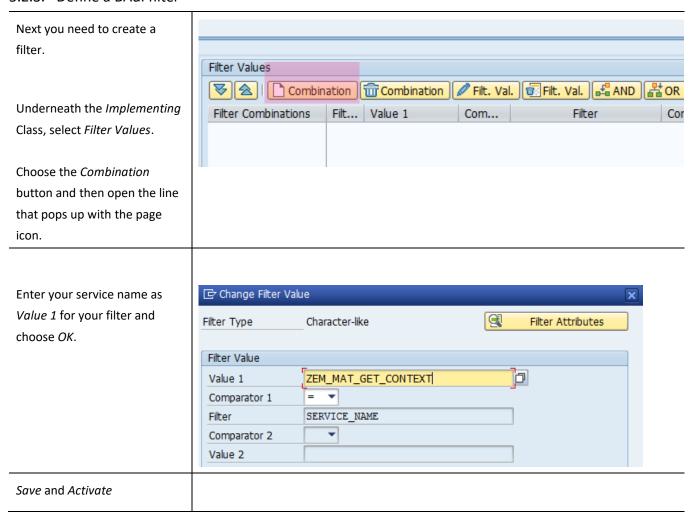


This is the code for your BAdI.

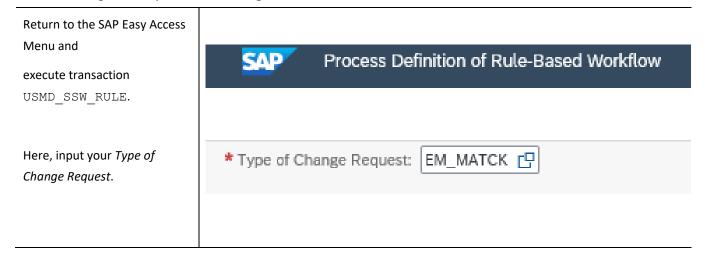
Take a look through the code and change it if necessary, then choose *Save* and *Activate* when you are done.

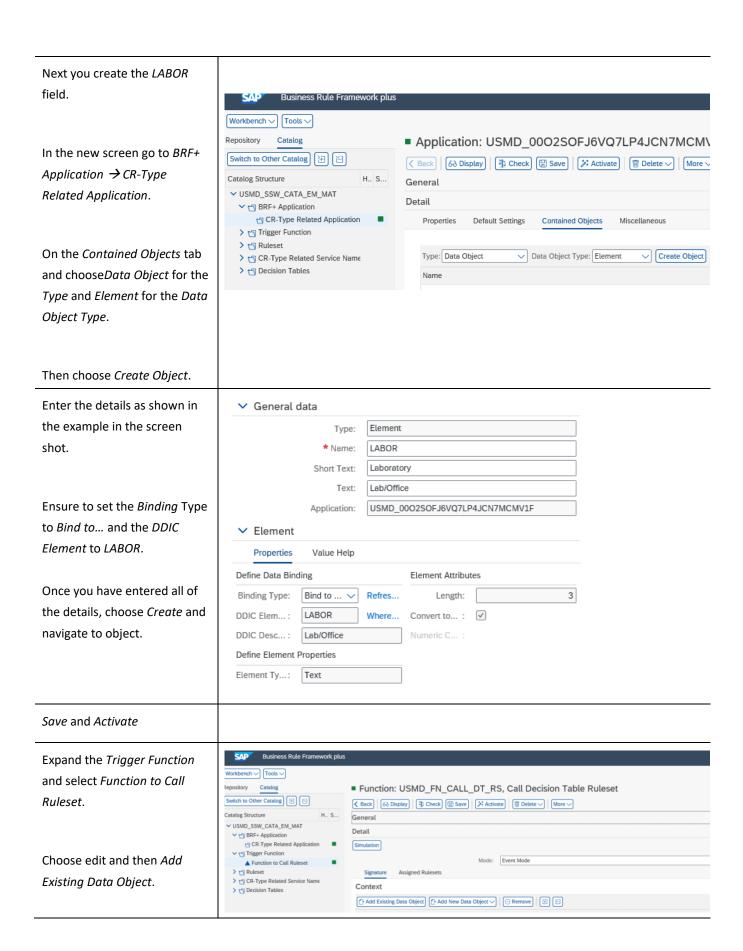
```
lass Builder Class ZL_MDG_BS_MAT_BRF_CONTEXT_LABO Display
🖒 | 🦫 😘 🕝 📵 | 🚰 🥕 📮 📫 | 📇 💆 💷 🗓 | 📵 👰 Pattern Pretty Printer | Signature
   IF_USMD_SSW_RULE_CNTX_PREPARE~PREPARE_RULE_CONTEXT
    ☐ METHOD IF USMD SSW_RULE CNTX_PREPARE~PREPARE_RULE_CONTEXT.
    ## Add one decision table parameter "Labor" (MARA-LABOR)
      * to the user agent decision table
       DATA: lv_brf_expr_id TYPE if_fdt_types=>id.
       6
       DATA: ls_material
                         TYPE /mdgmm/_s_mm_pp_material.
       FIELD-SYMBOLS: <value> TYPE any.
      * Prepare export parameters
 10
       CLEAR et message.
       CLEAR et_rule_context_value.
 11
      * Read the one and only material of the CR
 13
       CALL METHOD read_material
         EXPORTING
```

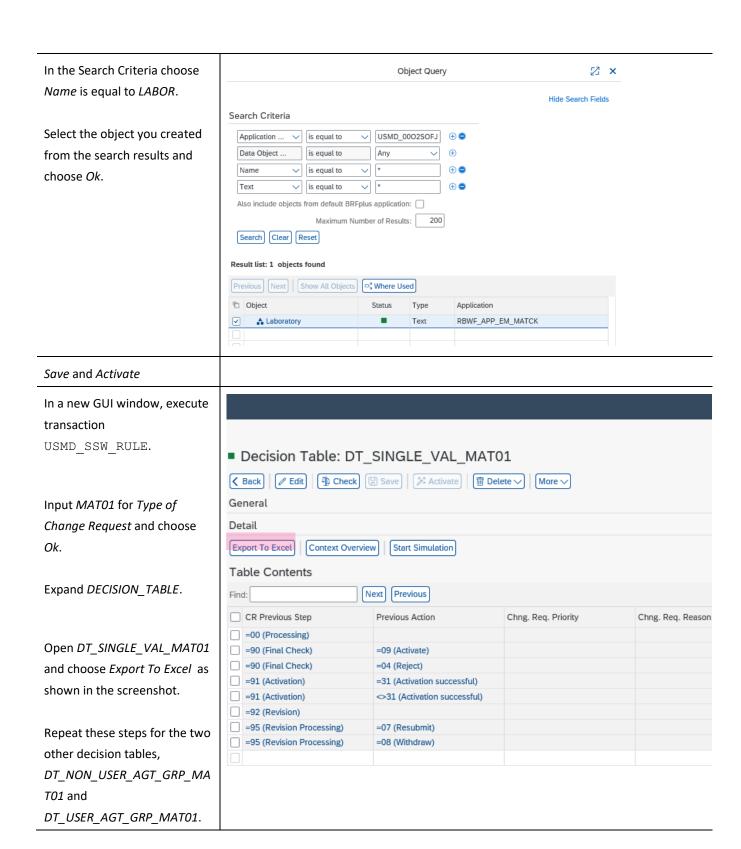
5.2.3. Define a BAdI filter



5.2.4. Configure BRFplus customizing tables

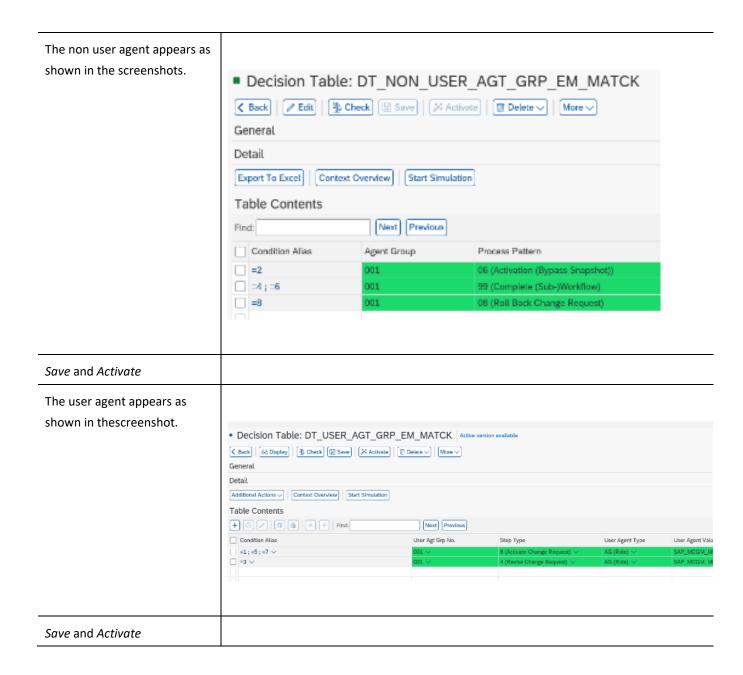






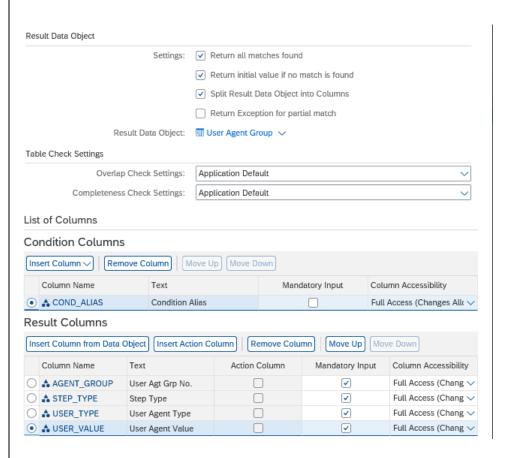
Returning to your workflow configuration for your change request type. Decision Table: DT NON USER AGT GRP EM MATCK Open the decision tables like you did in the previous step. General You will notice these decision Detail tables are blank. Additional Actions V Context Overview Start Simulation Check Completeness Check Overlaps | ^ V | Find: Next Previous Next, you have to import the Rearrange... Agent Group Merge Rows tables from the excel. rows. Use "Insert New Row" to add conditions. Import From Excel Export To Excel Choose Additional Actions → Import From Excel. Do this for the three decision tables. ∨ ♂ Search Downloads Organize ▼ New folder ₩ - □ (Ensure you select the correct Name Date modified * Favorites Desktop desktop.ini 2/1/2021 9:22 AM Configuration sett.. 1 KB excel file for each DT_NON_USER_AGT_GRP_MAT01.xlsx Downloads 2/3/2021 10:22 AM Microsoft Excel W... 9 KB Recent places DT_SINGLE_VAL_MAT01.xlsx 2/3/2021 10:22 AM Microsoft Excel W... corresponding decision table DT_USER_AGT_GRP_MAT01.xlsx 2/3/2021 10:22 AM Microsoft Excel W... 9 KB ı≡ wdflbmt7096 or this will not work. The single value table appears as shown in the screenshot. Decision Table: DT_SINGLE_VAL_EM_MATCK

 ⟨ Back | 6ð Display | ② Check | ② Save | ※ Activate | ② Delete ✓ | More ✓ |
 | More ✓ |
 General Detail Additional Actions V Context Overview Start Simulation Table Contents + 🖯 🎤 👩 📵 🐧 🔻 Find: Next Previous CR Previous Step Condition Alias New Chrig. Reg. Step New CR Status Previous Action ♥ =00 ∨ =90 v =09 (Activate) ~ =04 (Reject) V =31 (Activation successful) V =91 💛 <>31 (Activation successful) V =92 💛 =95 ~ =07 (Resubmit) V =08 (Withdraw) V =95 ~ Save and Activate.



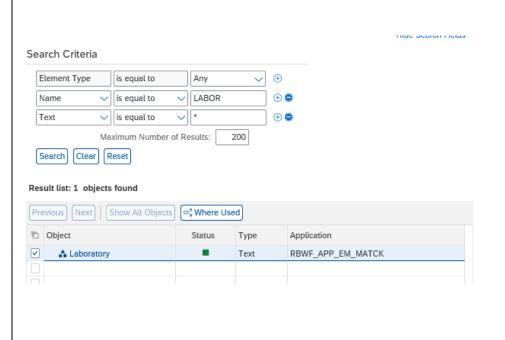
The user agent table must be altered to contain Laboratory. In edit mode, choose *Table Settings*, which is located on the right-hand side above the decision table.

You will now be brought to the screen shown. Choose *Insert*Column → From Context Data
Objects



In the Search Criteria search for Name is equal to LABOR and select the data object Laboratory that you created.

Choose Ok.



Your condition column appears as shown in the Result Data Object screenshot. Settings: Return all matches found Return initial value if no match is found ▼ Split Result Data Object into Columns Choose Ok. Return Exception for partial match Result Data Object: III User Agent Group V Table Check Settings Overlap Check Settings: Application Default Completeness Check Settings: Application Default List of Columns Condition Columns Insert Column

Remove Column | Move Up | Move Down Column Name Mandatory Input Column Accessibility Condition Alias Full Access (Changes All Laboratory Full Access (Changes Alla V Result Columns Insert Column from Data Object Insert Action Column Remove Column Move Up Move Down Column Name Action Column Mandatory Input Column Accessibility **v** Full Access (Chang V User Agt Grp No. **~** Full Access (Chang V Step Type **~** Full Access (Chang V User Agent Type ● USER_VALUE User Agent Value Full Access (Chang 🗸 OK Cancel Your user agent table appears as in the screen shot. Decision Table: DT_USER_AGT_GRP_EM_MATCK Save and Activate.
 ✓ Back
 ✓ Edit

 ¶ Check

 ☐ Save

 ✓ Activate

 ☐ Delete ✓ | More ✓
 General You need to modify this Detail decision table. Export To Excel | Context Overview | Start Simulation Table Contents Next Previous Find: Condition Alias Laboratory User Agt Grp No. User Agent Ty 8 (Activate Change Request) =1;=5;=7 AG (Role) =3 4 (Revise Change Request)

Modify the user decision table so that it appears as shown in ■ Decision Table: DT USER AGT GRP EM MATCK the screen shot.
 ⟨ Back | 6ô Display | ♠ Check Save | ★ Activate | ₱ Delete ∨ | More ∨
 General Additional Actions > | Context Overview | Start Simulation You are creating conditions for **Table Contents** Labs 001, 002, E1, E2 and E3. + 🗇 🅒 📵 📵 \land 🔻 Find: Next Previous Laboratory User Agt Grp No. Step Type User Agent Type User Agent Value =001 (Laboratory 1) ~ =002 (Laboratory 2) V =E1 ~ =E1;=E3 ∨ Save and Activate. Now that you have changed the User Agent Type to US User Agent Type User Agent Value (User), it is important to input a value for that User Agent US (User) ~ i000 V Type. US (User) ~ i000 V US (User) ~ i000 V US (User) V i000 V US (User) ~ i352778 V AG (Role) ~ i000 🗸 AG (Role) ~ i000 V Save and Activate. Next you must add the service name that you created earlier. Workbench ✓ Tools ✓ Repository Catalog Constant: CNST PROC DT SN EM MATCK Expand CR-Type Related Switch to Other Catalog
 ✓ Back
 ✓ Edit

 ¶ Check

 ⊞ Save

 Mactivate

 □ Delete ✓ More ✓

 Catalog Structure Status General Service Name and choose Set ✓ USMD_SSW_CATA_EM_1 Detail > 📆 BRF+ Application Service Name. Context Overview Start Simulation > Trigger Function > 📆 Ruleset * Element Type: Text V ∰ CR-Type Related St E Set Service Name Result Data Object: 🛕 Service Name 🗸 V 📆 Decision Tables Value: ■ Non-User Agent E I User Agent Decisi Single Value Deci

Input the service name you created.	■ Constant: CNST_PROC_DT_SN_EM_MATCK (Back	Rule Context for Lab/Office
Save and Activate.		

6. Try-out

To test your configurations, create a material with LAB 001 SAP Material Governance and check to see if it must be processed by user i000. Material Processing Search Material Open NWBC and go to the Create Material Material tab. Change Material Mark for Deletion Choose Search Material from Processing of Multiple Materials the Material Processing list. Create Change Request Mass Change File Download File Upload Here, you can search for a material. It is recommended to **√** 🗓 search for the material you are Search Criteria going to create to ensure it is rg ① ① ₽ ⊕ • not already in the system. Choose New. Search Active Data Only: Search Clear Reset Page Result List New Copy M D P. Material (i) No data available Select the change request you created. Available Change Request Types 🔀 🗙 List of Available Change Request Types Change Request Type Description EM-Create Material (Get Context) Create Material Create Material w. Lean Classification OK Cancel

Fill in the details of your material.

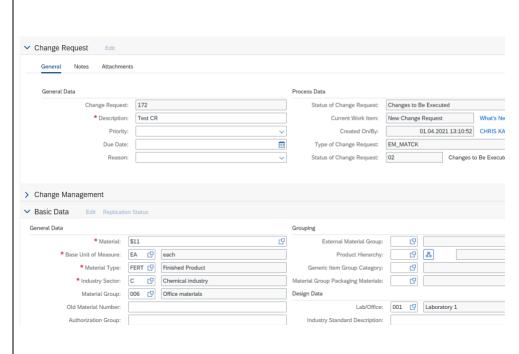
Input the *Laboratory* value as *001*.

Also make sure to add a description.

Choose Submit.

After submitting, the system will push this request to the designated processor in our workflow as the lab value was 001.

In the example, the *Requestor* is although the *Processor* is *User Test* (i000).





7. Additional Information

7.1. Further Reading

7.1.1. 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

7.1.2. SAP Roadmap Explorer

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

7.1.3. 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

7.2. SAP Notes

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

Note	Description
3134600	MDG-M: Supported fields in Data Model MM
1806108	Functional restrictions in MDG-M in MDG7 (incl. SP02)
2129261	Functional restrictions in MDG-M in MDG8
2284745	Functional Restrictions in MDG for Material with SAP Master Data Governance 9.0
<u>2461516</u>	Functional Restrictions in MDG for Material with SAP Master Data Governance 9.1
2656693	Functional Restrictions in MDG for Material in SAP Master Data Governance 9.2 and on SAP S/4HANA 1809
<u>2816571</u>	Functional Restrictions in MDG for Material on SAP S/4HANA 1909
2948873	Functional Restrictions in MDG for Material on SAP S/4HANA 2020
3070012	Functional Restrictions in MDG for Material on SAP S/4HANA 2021
3219945	Functional Restrictions in MDG for Material on SAP S/4HANA 2022
3374998	Functional Restrictions in MDG for Material on SAP S/4HANA 2023

2105467	MDG Performance
<u>2561461</u>	Scope of support for SAP Master Data Governance (MDG)
1637249	MDG: Information for efficient message processing