

## How-To Guide: Extend MDG-uEQUIP in the U1 Data Model

### Applies to

MDG EAM Solutions by Utopia

For more information, visit the SAP Master Data Governance homepage.

( <http://scn.sap.com/community/mdm/master-data-governance> )

### Summary

SAP Master Data Governance provides an out-of-the box solution for the central management of various master data objects such as financial objects, supplier and material. In addition, SAP Master Data Governance also provides the flexibility to customize the solution, in cases where the pre-delivered content does not fully match customer requirements. You can use this guide to extend the MDG-U1 Data Model by a new entity type. The attribute values of the new entity type will be copied to the corresponding ERP tables (reuse option) after activation of the Change Request.

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## Scenario

### High Level Requirements

The business requires the new attributes called “User Detail” as part of the MDG Equipment Data Model.

You want to extend the (Type1) entity type EQUI to include attributes: ZZNAME, ZZID.

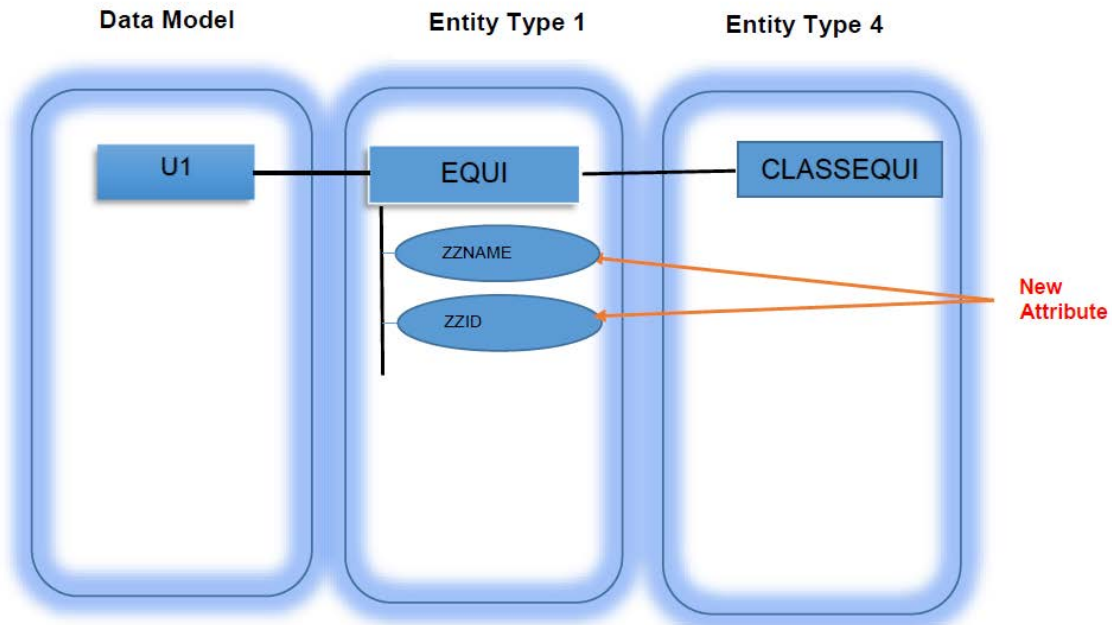


Figure: Data Model – Equipment (Scope of 2017 Delivery) with custom attributes ‘ZZNAME’ and ‘ZZID’

### Governance Process

The default governance process delivered with MDG is used. No changes to the governance process are necessary as part of this scenario.

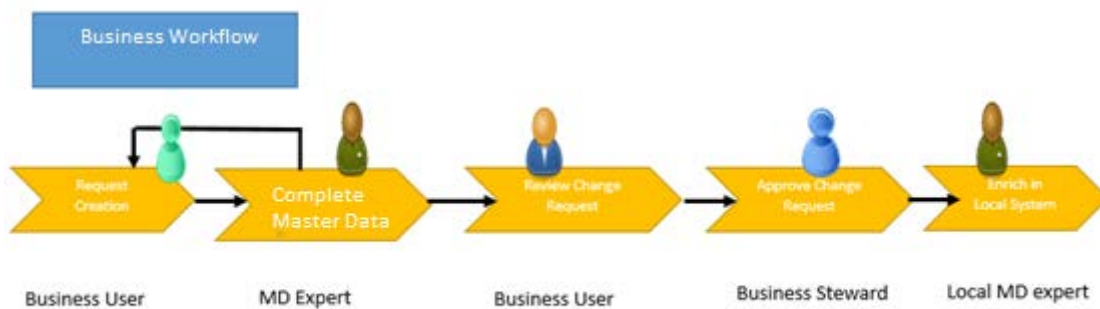


Figure: Equipment processing in Master Data Governance

## Implementation

Two major building blocks make up the implementation of the entity type extension. In the first phase, you extend the MDG Data Model. In the second phase, you extend the User Interface to include the new entity type.

The following flow diagram displays the detailed implementation steps. It is recommended that you use it as an orientation.

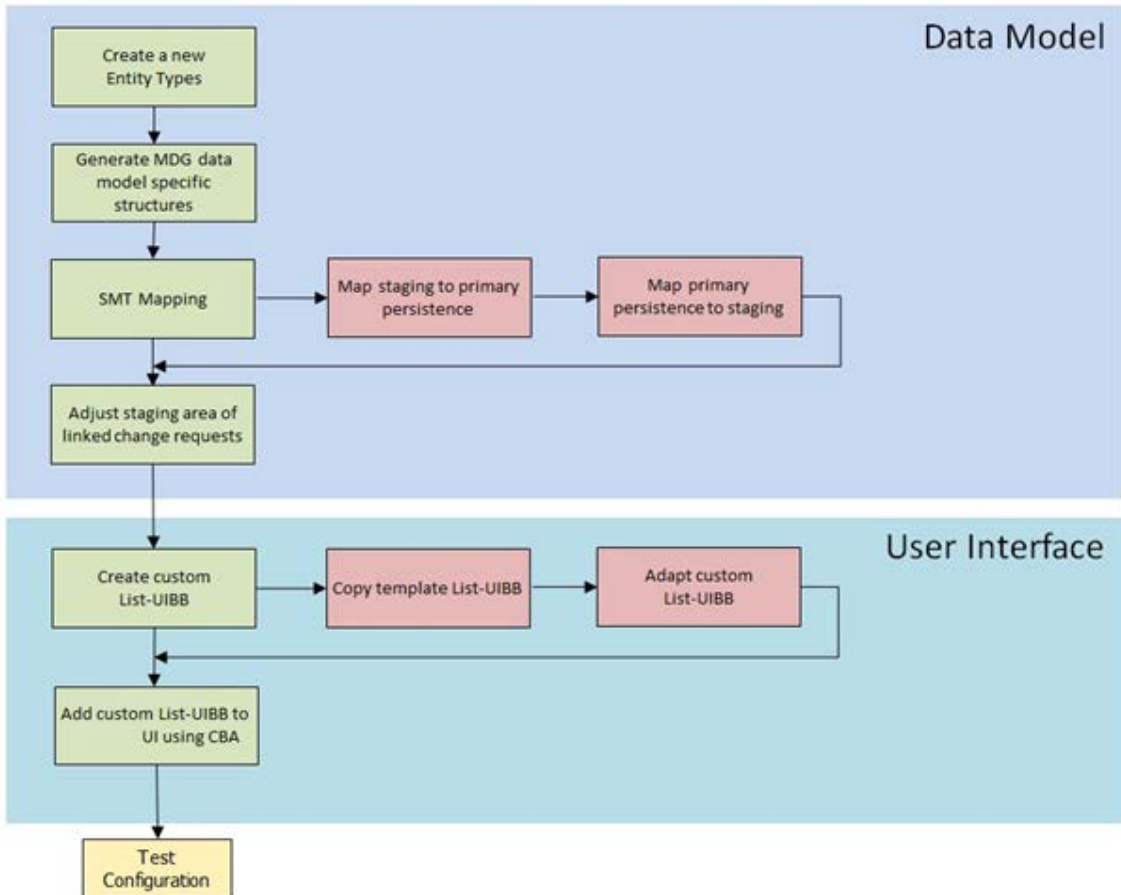


Figure: Implementation steps for re-use Entity-Type extension

## Data Model Extension

You want to extend the MDG Data Model for Equipment (U1) with the additional attributes ZZITO\_NAME and ZZITO\_ID. The following fields from EQUI table should be modelled as attribute of entity type EQUI in MDG.

**Dictionary: Display Table**

Transparent Table: EQUI    Active

Short Description: Equipment master data

Attributes    Delivery and Maintenance    **Fields**    Input Help/Check    Currency/Quantity Fields    Indexes

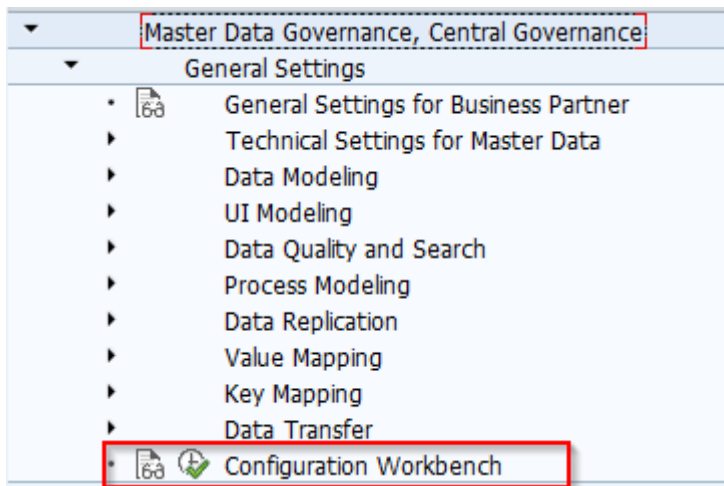
Field	Key	Ini...	Data element	Data Type	Length	Deci...	Short Description
J_3GBELTYP	<input type="checkbox"/>	<input type="checkbox"/>	J_3GBELTYP	CHAR	15	0	Document Categories Allowed
MEINS	<input type="checkbox"/>	<input type="checkbox"/>	MEINS	UNIT	3	0	Base Unit of Measure
J_3GKZLADG	<input type="checkbox"/>	<input type="checkbox"/>	J_3GKZLADG	CHAR	1	0	Indicator: Relevancy to Loading Costs
J_3GKZBERG	<input type="checkbox"/>	<input type="checkbox"/>	J_3GKZBERG	CHAR	1	0	Indicator for Provision Fees
J_3GEIFR	<input type="checkbox"/>	<input type="checkbox"/>	J_3GEIFR	CHAR	1	0	Indicator for Own/External Equipment
J_3GVERMEIN	<input type="checkbox"/>	<input type="checkbox"/>	J_3GVERMEIN	UNIT	3	0	Unit of Measure for Settlement
J_3GZULNR	<input type="checkbox"/>	<input type="checkbox"/>	J_3GLICENCE_NUM	CHAR	15	0	License Plate Number
/SAPCEM/ABRECHVH	<input type="checkbox"/>	<input type="checkbox"/>	/SAPCEM/ABRECHVH	CHAR	1	0	Settlement Using Shipping Document
/SAPCEM/ABRECHLG	<input type="checkbox"/>	<input type="checkbox"/>	/SAPCEM/ABRECHLG	CHAR	1	0	Settlement Using PBE Document
/SAPCEM/DISPOGR	<input type="checkbox"/>	<input type="checkbox"/>	/SAPCEM/DISPOGR	CHAR	4	0	Planning Group
.APPEND	<input type="checkbox"/>	<input type="checkbox"/>	ZEXTENSION TEST	STRU	0	0	Extensibility Testing
ZZITO_ID	<input type="checkbox"/>	<input type="checkbox"/>	ZZITO_ID	CHAR	10	0	User ID
ZZITO_NAME	<input type="checkbox"/>	<input type="checkbox"/>	ZZITO_NAME	CHAR	40	0	Data Element for User Name

You first create the attributes ZZITO\_NAME, ZZITO\_IID in entity type EQUI.

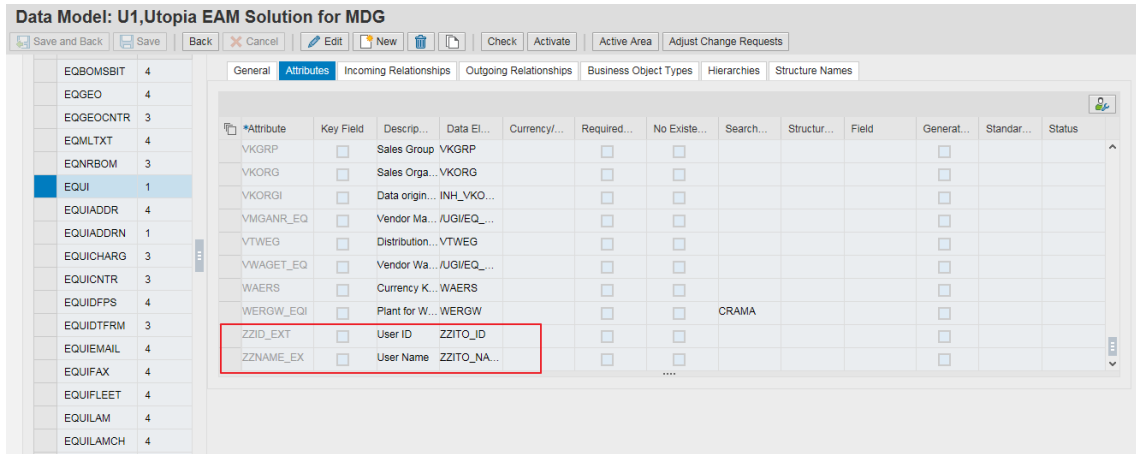
### Add attributes to existing Entity Type

Use the following steps to add attributes to existing Entity Type.

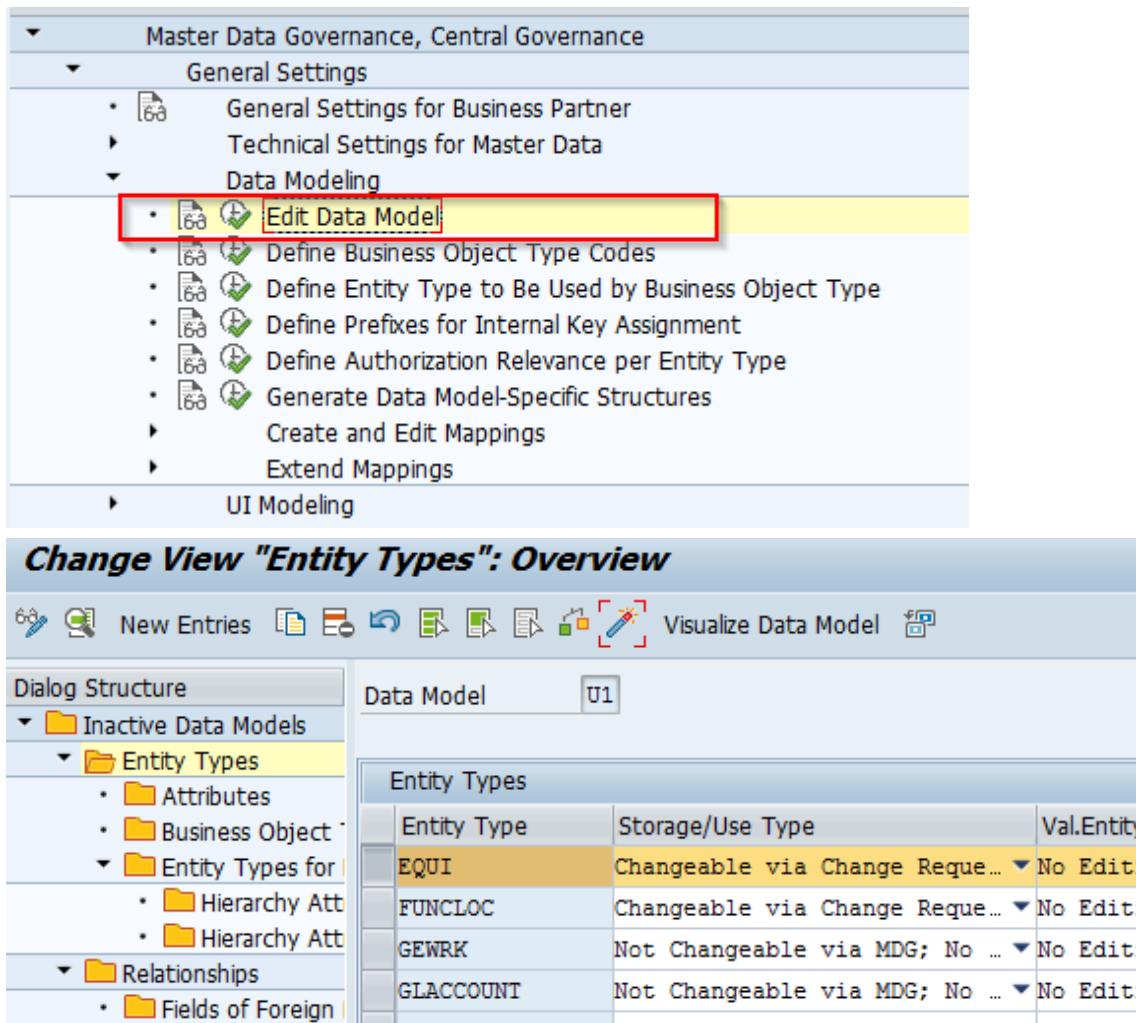
1. Log into the system for cross client maintenance.
2. Start Customizing for Master Data Governance (transaction MDGIMG). Go to > General Settings > Configuration Workbench.



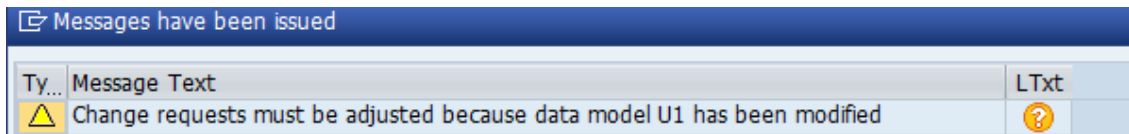
3. Inside the Configuration Workbench, select Data Model U1 > Click the “Edit” button > Select EQUI from the list of Entity Types in the left side table- > Click on the tab “Attributes” in the right side > Click the “New” button.
4. Add the new attributes of Entity Type EQUI as displayed in the following screen.



5. Save your settings.  
It is recommended to assign a Search Help to a Data Element in exceptional circumstances. If you do this, the input help executes the search help instead of reading the data in the check table or the fixed values of data element's domain.
6. Activate the extended Data Model from MDG system via Edit Data Model option as displayed in the following screen.



After activation the following information message is displayed.



7. Make Change Request adjustments after creating the SMT mapping.

## Generate MDG Data Model-Specific Structures

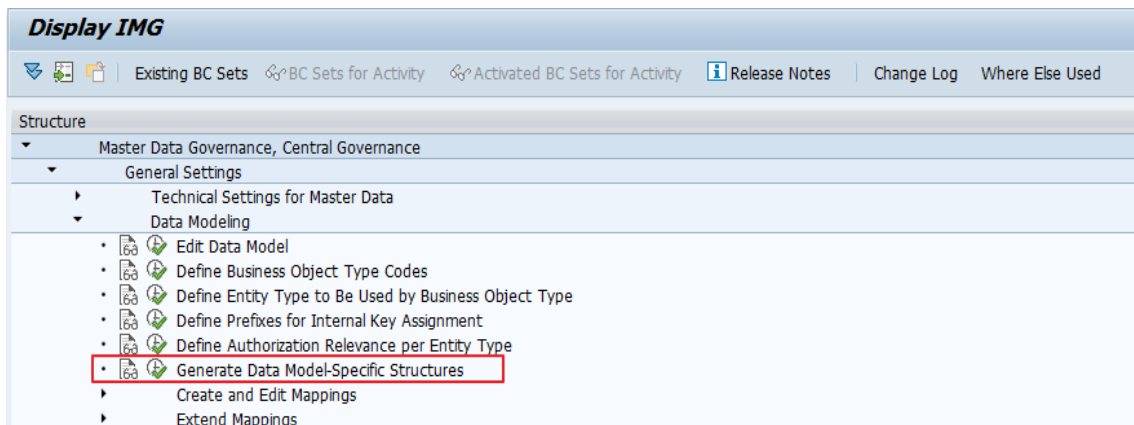
In general, if you change a Data Model (for example, if you change attributes of entity types or relationships) you need to regenerate the structures. You can assign a prefix and a package directly in the Data Model. Then the structures will be generated automatically with activation of the Data Model.

Older releases: Since the MDG Data Model was changed you need to regenerate the tables. In this Customizing activity, for each Data Model and entity type you generate technical structures and tables in the ABAP Dictionary. The system uses these structures internally for implementing the staging area. To generate these Data Model-Specific structures follow the steps below.

**Note:** In general, if you change a Data Model (for example, if you change attributes of entity types or relationships); you need to regenerate the structures.

Use the following steps to generate Data Model Specific Structures.

1. Start Customizing for Master Data Governance (transaction MDGIMG).  
Go to > General Settings > Data Modeling > Generate Data Model-Specific Structures.



2. Select the row with Data Model U1 > Double-Click Structures in the left-hand panel > Choose the “Generate Selected Structures” button.
3. Verify that your structures were successfully generated.

Ty...	Message Text
<input checked="" type="checkbox"/>	Data model U1: Definitions of generated structures are consistent
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_S_U1_EQUI activated
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_S_PU1_EQUI activated
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_SF_PU1_EQUI activated
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_S_EU1_EQUI activated
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_S_FU1_EQUI activated
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_S_FU1_EQUI activated
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_S_U1_EQUI activated
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_S_PU1_EQUI activated
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_SF_PU1_EQUI activated
<input checked="" type="checkbox"/>	Data model U1: Structure CI_MDG_S_FU1_EQUI activated

4. In the following steps, you verify that one of the active area mapping structures was successfully generated with new fields.  
 Start transaction SE11 > Display structure /UGI/\_S\_U1\_PP\_EQUI.

The screenshot shows the SAP SE11 transaction interface. The 'Data type' field is selected and contains the value '/UGI/\_S\_U1\_PP\_EQUI'. Other fields like 'View', 'Type Group', 'Domain', 'Search help', and 'Lock object' are empty. At the bottom, there are buttons for 'Display', 'Change', and 'Create'.

You have now verified that the structure /UGI/\_S\_U1\_PP\_EQUI has been generated.

**Dictionary: Display Structure**

Structure: /UGI/\_S\_U1\_PP\_EQUI Active  
 Short Description: Source Structure for PP Mapping

Attributes | Components | Input Help/Check | Currency/quantity fields

Component	Typing Method	Component Type	Data Type	Length	Decl...	Short Description	Group
VGHLDT_EQ	Types	/UGI/EQUI_VBDI	DATS	8	0	Vendor Guarantee Begin Date	
VGWLEN_EQ	Types	/UGI/EQ_GWLEN_V	DATS	8	0	Date on which the warranty ends	
VKBUR	Types	VKBUR	CHAR	4	0	Sales office	
VKGRP	Types	VKGRP	CHAR	3	0	Sales group	
VKORG	Types	VKORG	CHAR	4	0	Sales Organization	
VKORGI	Types	INH_VKORGI	CHAR	1	0	Data origin for sales organization field	
VMGANR_EQ	Types	/UGI/EQ_MGANR_V	CHAR	20	0	Master warranty number(V)	
VIWEG	Types	VIWEG	CHAR	2	0	Distribution Channel	
VNAGET_EQ	Types	/UGI/EQ_WAGET_V	CHAR	1	0	Indicator, Whether Technical Object Should Inherit Warranty	
WAERS	Types	WAERS	CUKY	5	0	Currency Key	
WERGW_EQI	Types	WERGW	CHAR	4	0	Plant associated with main work center	
WERK_EQUI	Types	WERKS_D	CHAR	4	0	Plant	
.INCLUDE	Types	CI_MDG_S_PU1_EQ...		0	0	Customizing Include for Active Area Mapping	
ZZID_EXI	Types	ZZITO_ID	CHAR	10	0	User ID	
ZZNAME_EX	Types	ZZITO_NAME	CHAR	40	0	Data Element for User Name	



## SMT Mapping

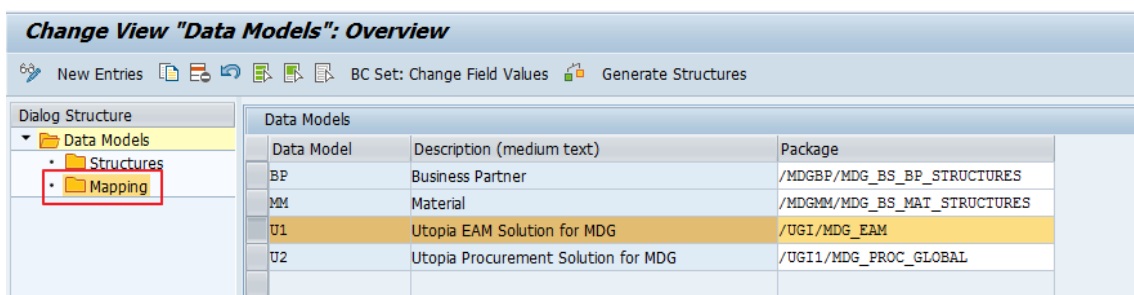
You extend mappings by creating new transformations (complex transformations, field mappings) and field checks for them or by editing them.

**Important:** When the mappings are saved, the system generates the corresponding coding. Make sure that all relevant structures are ready before you start.

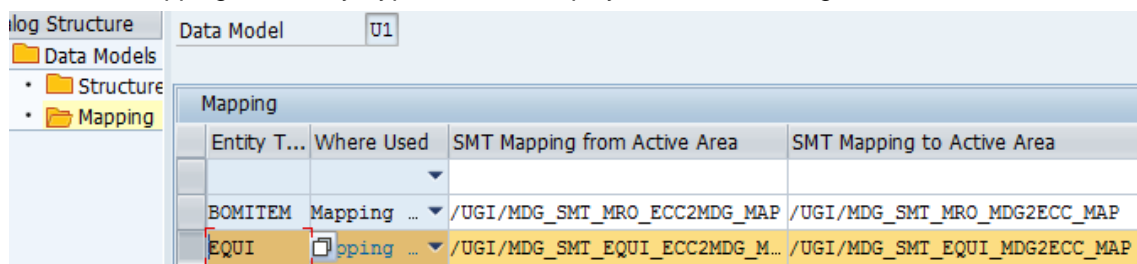
### SMT Mapping – Get Mapping Names from Data Model U1

Use the following steps to get the mapping names:

1. Log into the system for cross-client maintenance. Start Customizing for Master Data Governance (transaction MDGIMG).  
Go to > General Settings > Data Modelling > Generate Data Model Specific Structures > Select Data Model U1 > Double-Click on Mapping.



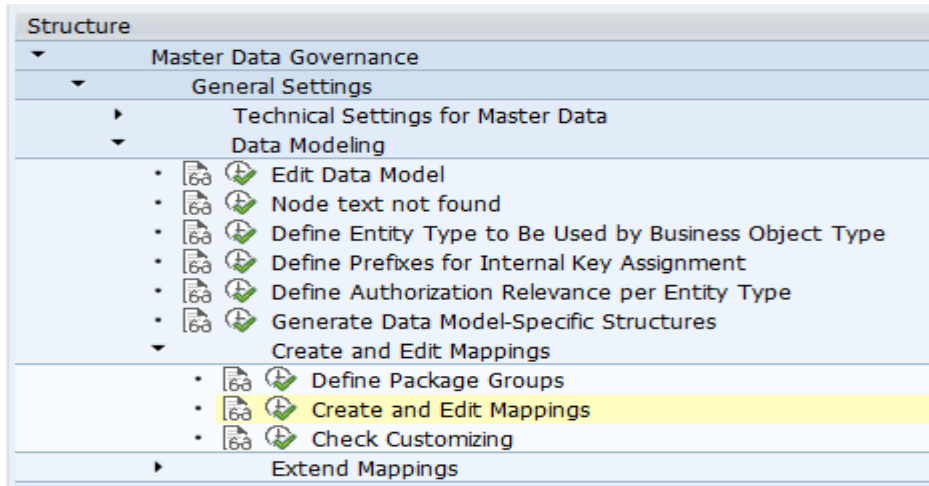
The SMT mappings for Entity Type EQUI as displayed in the following screen.



### SMT Mapping - Primary Persistence to Staging

Use the following steps for SMT Mapping from Primary Persistence to Staging area.

1. Log into the system for cross-client maintenance. Start Customizing for Master Data Governance (transaction MDGIMG).  
Go to > General Settings > Data Modeling > Create and Edit Mappings > Create and Edit Mappings.  
**Note:** For new Entity Types, it is recommended to create a new mapping. When extending existing Entity Types, it is recommended to extend the existing mapping.



2. Extend mapping /UGI/MDG\_SMT\_EQUI\_ECC2MDG\_MAP.

The screenshot shows the 'Mapping' configuration form. The fields are:
 

- Name: /UGI/MDG\_SMT\_EQUI\_ECC2MDG\_MAP
- Description: SMT Mapping from ECC to MDG
- Package Group: /UGI/EAM
- Multiple Contexts:

3. Select Mapping Step /UGI1/MDG\_SMT\_ITOB\_PROP and select the "Details" button.

*Mapping Step	Description	*Source Structure	*Target Structure	Change Structure	Change Structure Keys Exist
/UGI/MDG_SMT_EQBS_TO_STAGE	Equipment Master Serial number stock segment data Mapping	EQBS	/UGI/_S_U1_PP_EQUISTOCK		<input type="checkbox"/>
/UGI/MDG_SMT_EQUI_DFPS_STAGE	Equipment DFPS data	/ISDFPS/LMEQEXT	/UGI/_S_U1_PP_EQUIDFPS		<input type="checkbox"/>
/UGI/MDG_SMT_EQUI_FLEET_STAGE	Equipment Fleet data	FLEET	/UGI/_S_U1_PP_EQUIFLEET		<input type="checkbox"/>
/UGI/MDG_SMT_EQUI_PROP	Equipment Master data Mapping	EQUI	/UGI/_S_U1_PP_EQUI		<input type="checkbox"/>
/UGI/MDG_SMT_EQUI_PRT_STAGE	Equipment PRT Information	CRFHD	/UGI/_S_U1_PP_EQUIPRT		<input type="checkbox"/>
/UGI/MDG_SMT_EQUI_TO_STAGE	Equipment Master data Mapping	EQUI	/UGI/_S_U1_PP_EQUI		<input type="checkbox"/>
/UGI/MDG_SMT_EQUZ_TO_STAGE	Equipment time segment	EQUZ	/UGI/_S_U1_PP_EQUI		<input type="checkbox"/>
/UGI/MDG_SMT_ILOA_TO_STAGE	Object Location and Account Assignment	ILOA	/UGI/_S_U1_PP_EQUI		<input type="checkbox"/>
/UGI/MDG_SMT_ITOB_PROP	Equipment ITOB field properties Mapping	ITOB	/UGI/_S_U1_PP_EQUI		<input checked="" type="checkbox"/>
/UGI/MDG_SMT_MASE_TO_STAGE	Serial Number for Material	MASE	/UGI/_S_U1_PP_EQUI		<input type="checkbox"/>

4. Add a mapping step – Assign Source Structure EQUI, assign target structure /UGI/\_S\_U1\_PP\_EQUI.

The screenshot shows the 'Transformations' configuration form. It has buttons for 'Add', 'Remove', 'Copy', 'Move Up', and 'Move Down'. Below these is a table with two entries:

Order	*Transformation Type
00001	Field Mapping
00002	Field Mapping

Mapping /UGI/MDG\_SMT\_EQUI\_ECC2MDG\_MAP > Mapping Step /UGI/MDG\_SMT\_ITOB\_PROP  
 Mapping Description: SMT Mapping from ECC to MDG Package Group: /UGI/EAM

No Messages

Save Close Edit Copy Delete Mapping External You Can Also

Field Checks Transformations

Order	*Transformation Type	Conditional	Chain to Preceding	Switch	Description
00001	Field Mapping	<input type="checkbox"/>	<input type="checkbox"/>		
00002	Field Mapping	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

Details for Transformation Order 00002

Field Mapping

*FIELD	Source Structure	Source Field	Fixed Value	Conversion Class	Reference Type	Field type	Data Type	Number of Characters	Decimal Places	Description
ZZID_EXT	ITOB	ZZITO_ID			<input type="checkbox"/>	ZZITO_ID	CHAR	10		User ID
ZZNAME_EX	ITOB	ZZITO_NAME			<input type="checkbox"/>	ZZITO_NAME	CHAR	40		Data Element for User Name

Tree structures are available to the user to automatically Assign or Map structure fields to a Field Check, a Condition, a Complex Transformation, or a Mapping using the appropriate button or drag and drop Hide

Target Structure Assign Name: /UGI\_S\_U1\_PP\_EQUI

Source Structure Assign Name: ITOB

5. Save your changes.

## SMT Mapping - Staging to Primary Persistence

Use the following steps for SMT Mapping from Staging area to Primary Persistence.

1. Extend mapping /UGI/MDG\_SMT\_EQUI\_MDG2ECC\_MAP.

**Mapping**

\* Name: /UGI/MDG\_SMT\_EQUI\_MDG2ECC\_MAP

Description: SMT MAPPING FROM MDG TO ECC

Package Group: /UGI/EAM

Multiple Contexts:

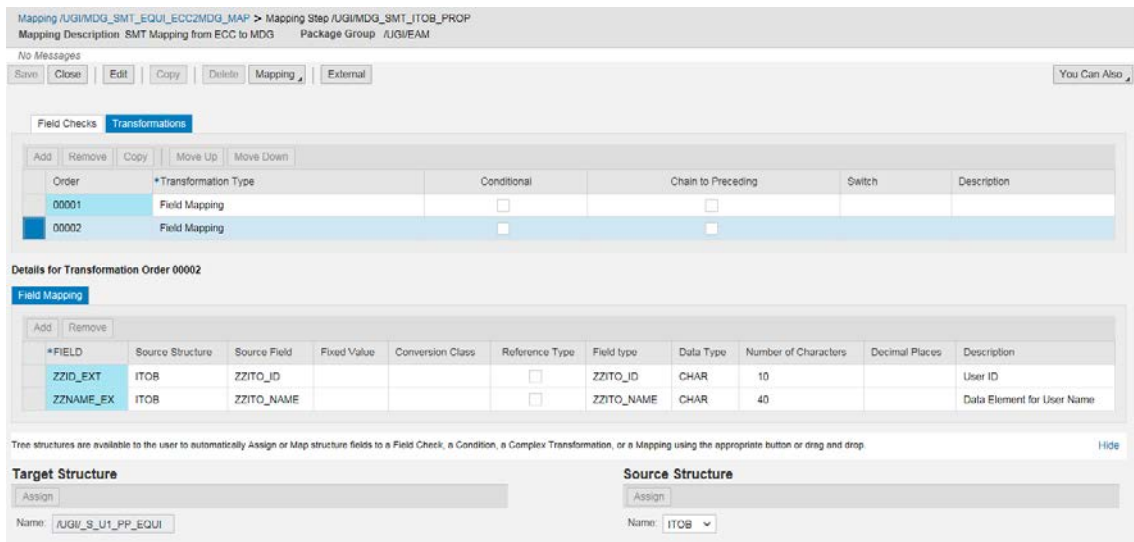
2. Select mapping step and choose the “Details” button. Map the fields as displayed in the following screen.

**Mapping Steps**

Details Add Remove Copy Import Change Structure Keys Additional Input Stru

*Mapping Step	Description	*Source Structure
/UGI/MDG_SMT_STAGE_TO_ITOB	Equipment Master Data	/UGI_S_U1_PI

3. Add Mapping Step – Assign target structure ITOB and Assign Source Structure /UGI/\_S\_U1\_PP\_EQUI.

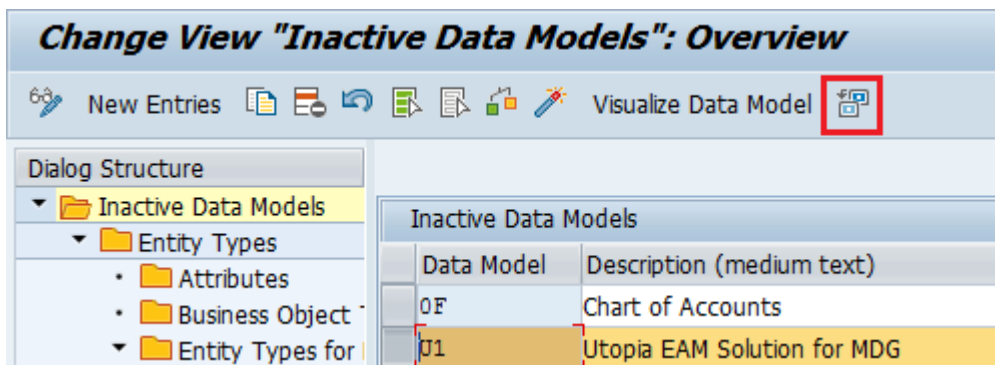


4. Save your changes.

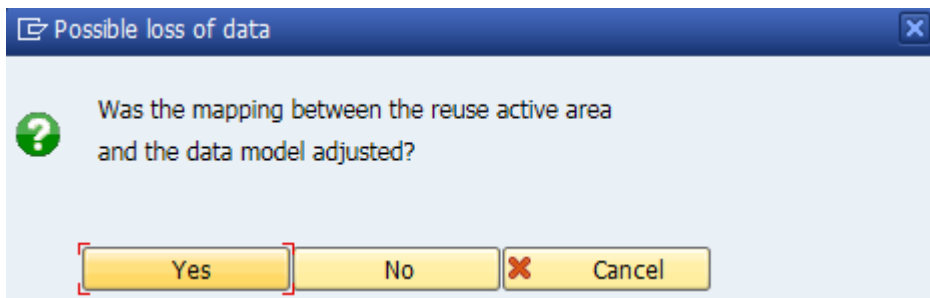
## Adjust Staging Area of Linked Change Requests

**Note:** This step is necessary to adjust any open Change Requests after you have changed the Data Model.

1. Start Customizing for Master Data Governance (transaction MDGIMG).  
Go to > General Settings > Data Modeling > Edit Data Model > Select Data Model U1 > Double-Click on Entity Types > Choose the “Adjust staging area of linked Change Requests” button.

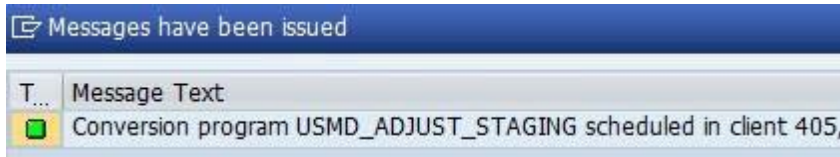


2. Choose the “Yes” button.



The following message appears.

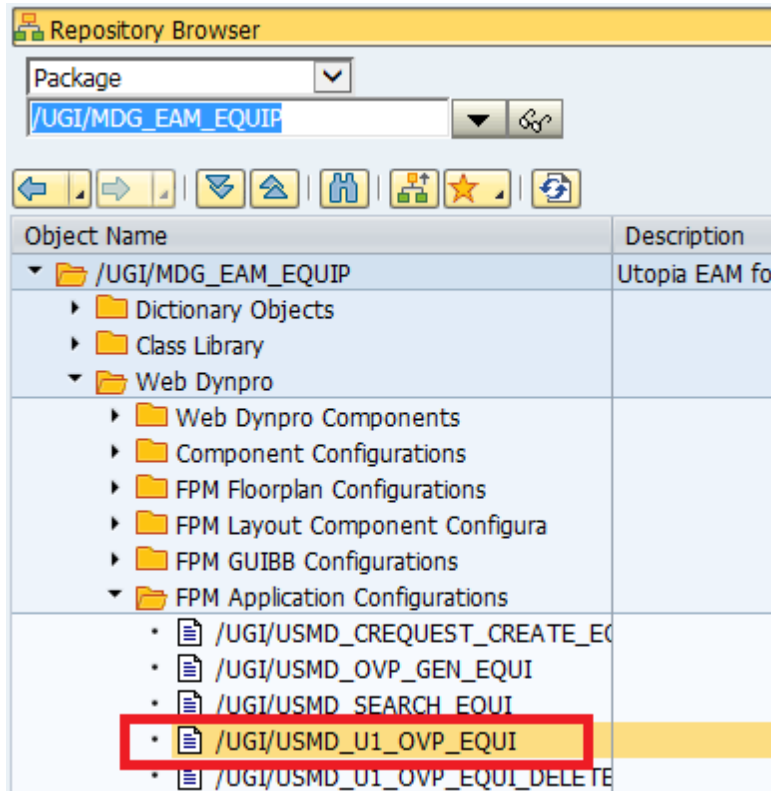
**Note:** Make sure that user DDIC exist in all relevant clients.



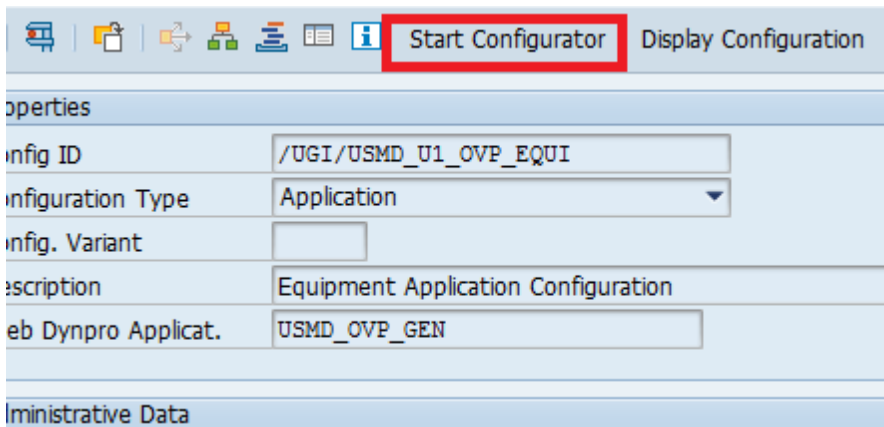
## Extending the UI Configuration

Use the following steps to add customization to UI:

1. Start transaction SE80 > In the drop down select Package > In the input field enter /UGI/MDG\_EAM\_EQUIP > Navigate to Web Dynpro > FPM Application Configurations > UGI/USMD\_U1\_OVP\_EQUI.



2. Enter the “Start Configurator” button.



3. In the web browser, click on “Continue in Display Mode”.

Application Configuration

Application Name:

\* Configuration ID:

- 4. Click on the configuration UGI/USM\_U1\_EQUI\_OVP.

**Assign Web Dynpro Component**

Assign Configuration Name

Component Usage	Component	Implementation	Configuration Name
USMD_OVP_GEN	FPM_ADAPTABLE_OVP	FPM_ADAPTABLE_OVP	USMD_OVP_CBA
OVP	FPM_OVP_COMPONENT	FPM_OVP_COMPONENT	<b>/UGI/USMD_U1_EQUI_OVP</b>

- 5. Select the UIBB where you want to add new attributes and click on “Configure UIBB” button.

**Overview Page Schema**    Toolbar Schema    Wire Schema

Page Master Area    Section    **UIBB**    Up    Down   

Element	Component	Config ID	Window Name
Section: SECTION_1			
<b>UIBB: Equipment Master...</b>	<b>FPM_FORM_UIBB_GL2</b>	<b>/UGI/USMD_U1_EQUI_FORM</b>	<b>FORM_WINDOW</b>
Section: SECTION_2			

- 6. Click on Additional Functions > Create Customizing.

**Additional Functions**

- New Window
- Create Customizing**
- Enhance
- Show Properties
- Test

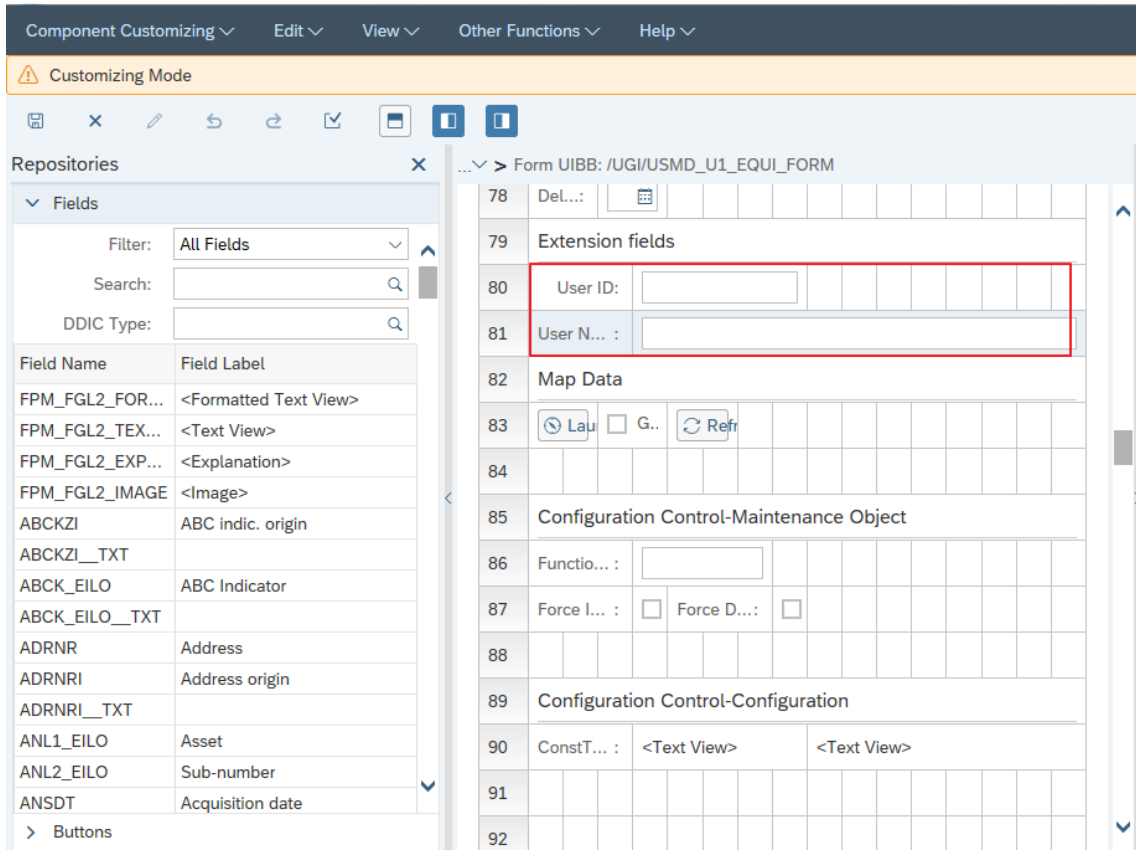
- 7. Click on the “OK” button.

**Create Customizing**

Config ID:

Description:

8. Change your UI. Add new fields that is added in entity EQUI.



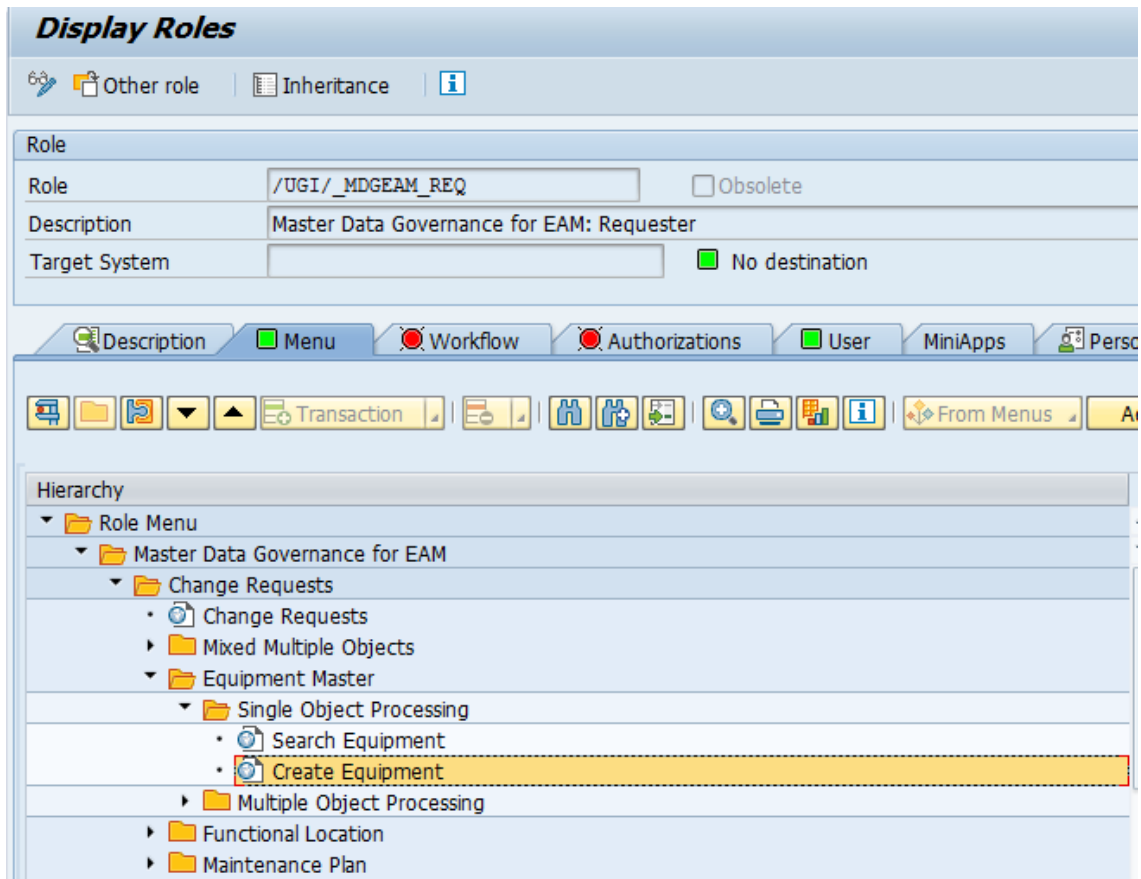
## Testing the Configuration

**Note:** If you extend the Data Model according to the guidelines shown below, but the fields are not populated when you Activate the Data Model, see SAP Note [1641867](#) - Values for extension field missing after CR activation.

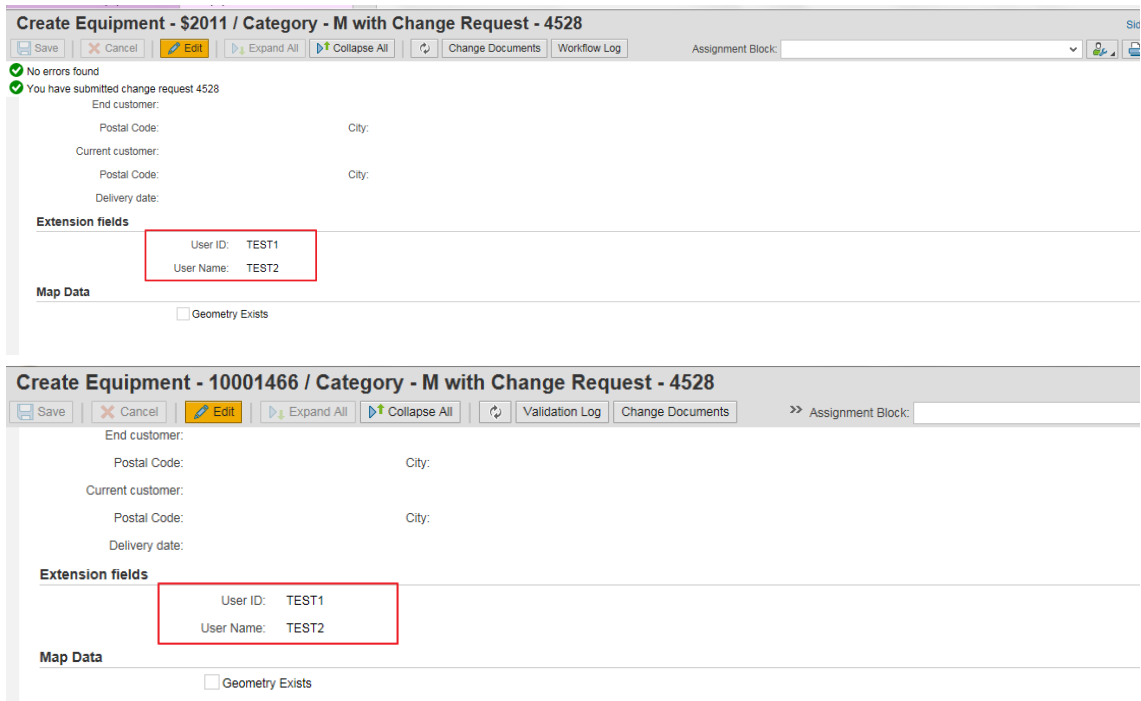
To test your configuration, start the MDG Equipment Master UI using the following URL (replace the parameters host, port and client-id to match your landscape):

```
https://<host>:<port>/sap/bc/webdynpro/sap/usmd_ovp_gen?
ACTION=CREATE&FPM_EDIT_MODE=E&saplanguage=EN&WDCONFIGURATIONID=
%2fUGI1%2fUSMD_U1_OVP_EQUI#
```

1. Start transaction PFCG > Enter role name /UGI/\_MDGEAM\_REQ and click the "Display" button > Select the Menu – Tab > In the hierarchy window navigate to Role Menu > Master Data Governance for EAM > Change Request > Equipment Master > Single Object Processing > Right-Click on Create Equipment and select Execute from the drop-down.



2. Save and Submit the CR. Finalize processing and Approve.



3. After activation, check table EQUI and verify that the attributes have been transferred correctly.



<b>Table EQUI Display</b>	
Check Table...	
MANDT	100
EQNR	10001466
ERDAT	21.09.2018
ERNAM	SAP_WFRT
EQASP	EN
AEDAT	
AENAM	
BEGRU	
EQTYP	M
EQART	
LVORM	
INVNR	
GROES	
BRGEW	0,000
GEWEI	
ANSDT	
ANSWT	0,00
WAERS	
ELIEF	
GWLEN	
GWLDT	
WDBWT	0,00
HERST	
HERLD	

Custom attributes have been populated correctly.

<b>Table EQUI Display</b>	
Check Table...	
EQUI SNTYPE	<input type="checkbox"/>
EQLB DUTY	<input type="checkbox"/>
EQLB HIDE	<input type="checkbox"/>
J 3GDISPO	<input type="checkbox"/>
J 3GZDEQUI	<input type="checkbox"/>
J 3GEQART	<input type="checkbox"/>
J 3GKZMENG	<input type="checkbox"/>
J 3GKONDE	<input type="checkbox"/>
J 3GFIKTIV	<input type="checkbox"/>
J 3GBELTYP	<input type="checkbox"/>
MEINS	<input type="checkbox"/>
J 3GKZLADG	<input type="checkbox"/>
J 3GKZBERG	<input type="checkbox"/>
J 3GEIFR	<input type="checkbox"/>
J 3GVERMEIN	<input type="checkbox"/>
J 3GZULNR	<input type="checkbox"/>
/SAPCEM/ABRECHVH	<input type="checkbox"/>
/SAPCEM/ABRECHLG	<input type="checkbox"/>
/SAPCEM/DISPOGR	<input type="checkbox"/>
ZZITO ID	TEST1
ZZITO NAME	TEST2
EQKTX	TESTTEXT
KZLTX	<input type="checkbox"/>
TXASP	X
EQKTU	TESTTEXT

## Custom Validations/Derivations for lean classification

As part of SAP OSS Note [2479869](#) customers can implement the CROSS\_ENTITY\_BADI for adding customized error handling/derivations for their scenarios.

BADI definition provided by SAP is USMD\_RULE\_SERVICE\_CROSS\_ET