How-To Guide: Extend MDG Catalog Code groups & codes Solutions in the U1 Data Model

Applies to

SAP Master Data Governance for EAM Objects

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.

This document explains how to extend U1 data model for Catalog Code groups & codes object. An example of Catalog Code group is considered with an entity type CODGRPHDR. You can follow the same procedure for other entity objects like SELSETHDR.

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Company: Prometheus Group.

Created On: 05-Aug-2020

Version: 1.0

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Scenario

High Level Requirements

The business requires the new attributes as part of the MDG Catalog Code group & codes U1 Data Model.

You want to extend the (Type1) entity type CODGRPHDR to include attributes: ZZFNAME, ZZEMPID.

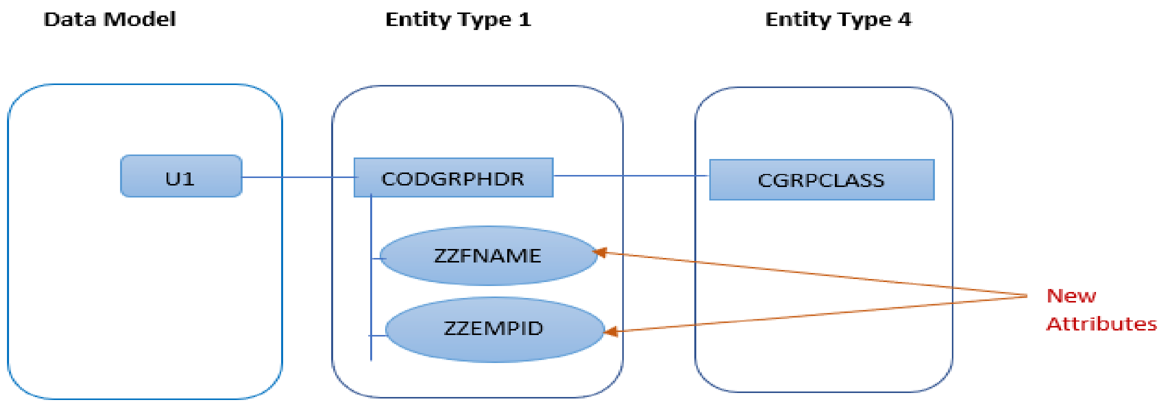
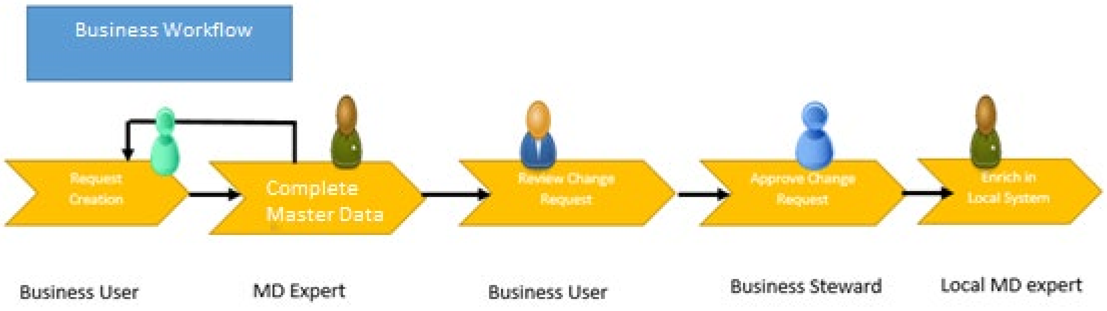


Figure: Data Model – Catalog Code Groups Object with custom Entity 'ZZFNAME' and "ZZEMPID".

Governance Process

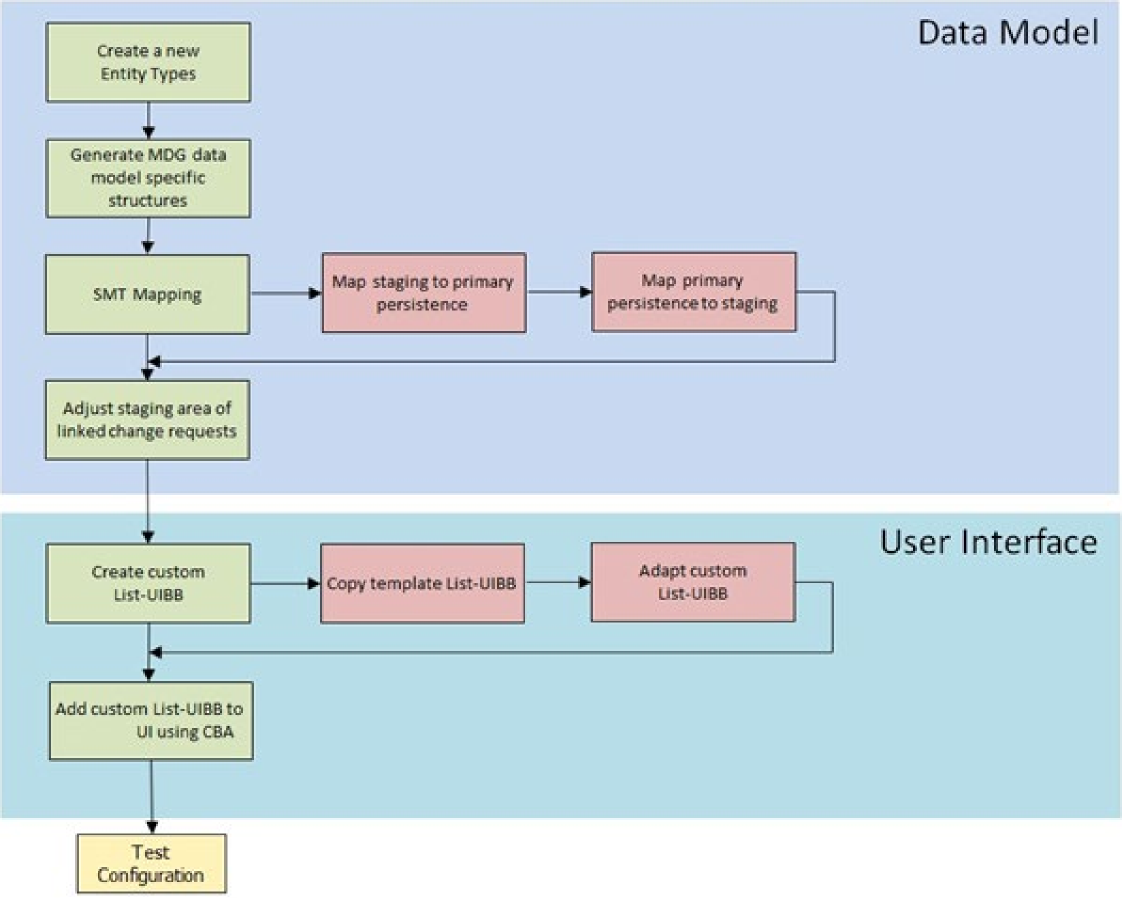
The default governance process delivered with MDG is used. No changes to the governance process are necessary as part of this scenario.



Implementation

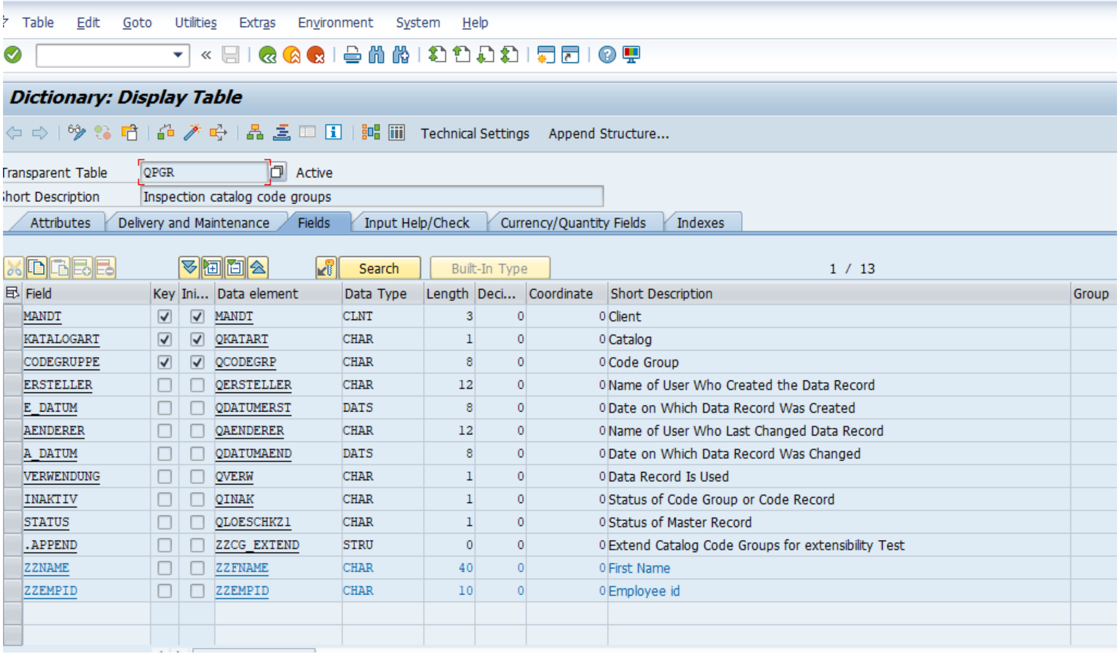
Two major building blocks make up the implementation of the entity type extension. In the first phase, you extend the MDG Data Model. In the second phase, you extend the user interface to include the new entity type.

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


Data Model
Create a new Entity Types
Generate MDG data model specific structures
SMT Mapping
Map staging to primary persistence
Map primary persistence to staging
Adjust staging area of linked change requests
User Interface
Create custom List-UIBB
Copy template List-UIBB
Adapt custom List-UIBB
Add custom List-UIBB to UI using CBA
Test Configuration

Data Model Extension

You want to extend the MDG Data Model for Catalog Code Groups (U1) by the additional new Entity ZZFNAME and ZZEMPID. The following fields from QPGR table should be modelled as attribute of entity type in MDG.



Dictionary: Display Table

ransparent Table: QPGR Active

hort Description: Inspection catalog code groups

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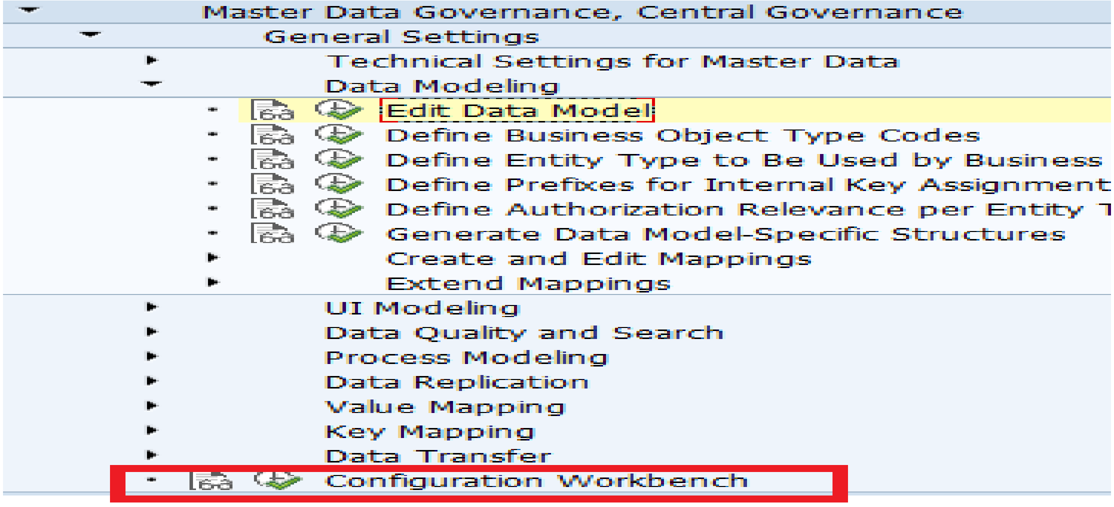
Field	Key	Ini...	Data element	Data Type	Length	Deci...	Coordinate	Short Description	Group
MANDT	☑	☑	MANDT	CLNT	3	0	0	Client	
KATALOGART	☑	☑	QKATART	CHAR	1	0	0	Catalog	
CODEGRUPPE	☑	☑	QCODEGRP	CHAR	8	0	0	Code Group	
ERSTELLER	□	□	QERSTELLER	CHAR	12	0	0	Name of User Who Created the Data Record	
E_DATUM	□	□	QDATUMERST	DATS	8	0	0	Date on Which Data Record Was Created	
AENDERER	□	□	QAENDERER	CHAR	12	0	0	Name of User Who Last Changed Data Record	
A_DATUM	□	□	QDATUMAEND	DATS	8	0	0	Date on Which Data Record Was Changed	
VERWENDUNG	□	□	QVERW	CHAR	1	0	0	Data Record Is Used	
INAKTIV	□	□	QINAK	CHAR	1	0	0	Status of Code Group or Code Record	
STATUS	□	□	QLOESCHKZ1	CHAR	1	0	0	Status of Master Record	
.APPEND	□	□	ZZCG_EXTEND	STRU	0	0	0	Extend Catalog Code Groups for extensibility Test	
ZZNAME	□	□	ZZFNAME	CHAR	40	0	0	First Name	
ZZEMPID	□	□	ZZEMPID	CHAR	10	0	0	Employee id	

Add Custom Entity Type to Existing Data Model U1

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

1. Log into system for cross client maintenance.
2. Start Customizing for Master Data Governance (transaction MDGIMG). Go to > General Settings > Configuration Workbench > Select Data Model U1 > Click the “Edit” button > In the left-hand table with the list of Entity Types click the “New” button.

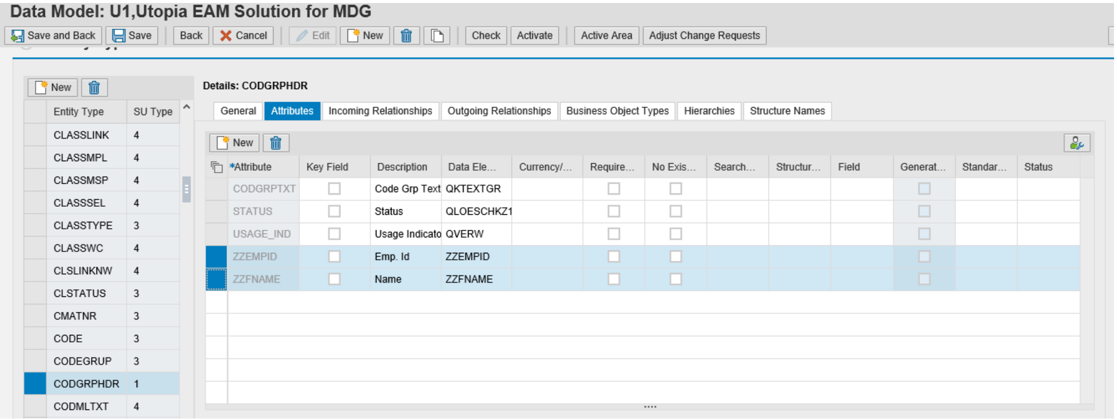


Master Data Governance, Central Governance
General Settings
Technical Settings for Master Data
Data Modeling
Edit Data Model
Define Business Object Type Codes
Define Entity Type to Be Used by Business
Define Prefixes for Internal Key Assignment
Define Authorization Relevance per Entity T
Generate Data Model-Specific Structures
Create and Edit Mappings
Extend Mappings
UI Modeling
Data Quality and Search
Process Modeling
Data Replication
Value Mapping
Key Mapping
Data Transfer
Configuration Workbench

3. Add the attributes of Entity Type CODGRPHDR as shown in the following screen.
4. 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.

   In the following steps, you define new entity types that are needed to define the key fields using relationships.



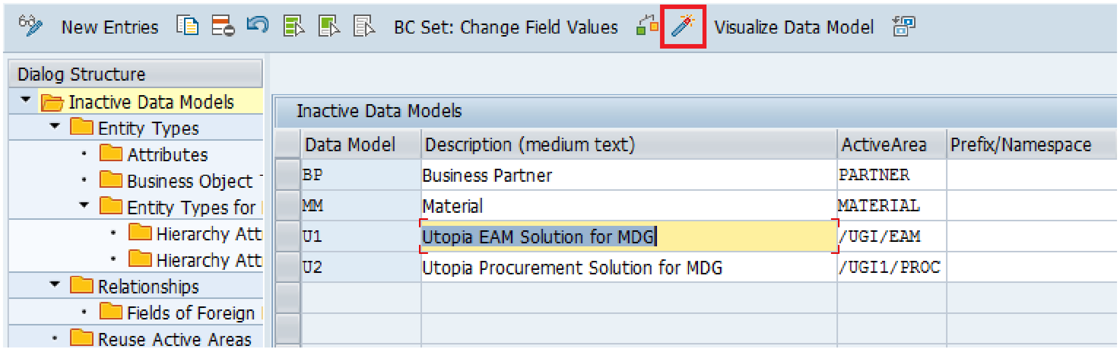
Data Model: U1,Utopia EAM Solution for MDG

Entity Type	SU Type
CLASSLINK	4
CLASSMPL	4
CLASSMSP	4
CLASSSEL	4
CLASSTYPE	3
CLASSWC	4
CLSLINKNW	4
CLSTATUS	3
CMATNR	3
CODE	3
CODEGRUP	3
CODGRPHDR	1
CODMLTXT	4

Details: CODGRPHDR

*Attribute	Key Field	Description	Data Ele...	Currency/...	Require...	No Exis...	Search...	Structur...	Field	Generat...	Standar...	Status
CODGRPTXT	☐	Code Grp Text	QKTEXTGR		☐	☐				☐		
STATUS	☐	Status	QLOESCHKZ1		☐	☐				☐		
USAGE_IND	☐	Usage Indicato	QVERW		☐	☐				☐		
ZZEMPID	☐	Emp. Id	ZZEMPID		☐	☐				☐		
ZZFNAME	☐	Name	ZZFNAME		☐	☐				☐		

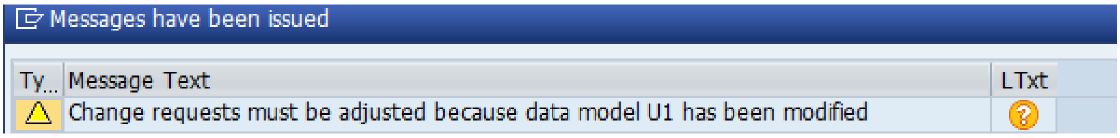
5. Activate the extended Data Model.



Inactive Data Models

Data Model	Description (medium text)	ActiveArea	Prefix/Namespace
BP	Business Partner	PARTNER	
MM	Material	MATERIAL	
U1	Utopia EAM Solution for MDG	/UGI/EAM	
U2	Utopia Procurement Solution for MDG	/UGI1/PROC	

After activation, the following information message is displayed.


Messages have been issued

Ty..	Message Text	LTxt
⚠	Change requests must be adjusted because data model U1 has been modified	?

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

Generate MDG Data Model-Specific Structures

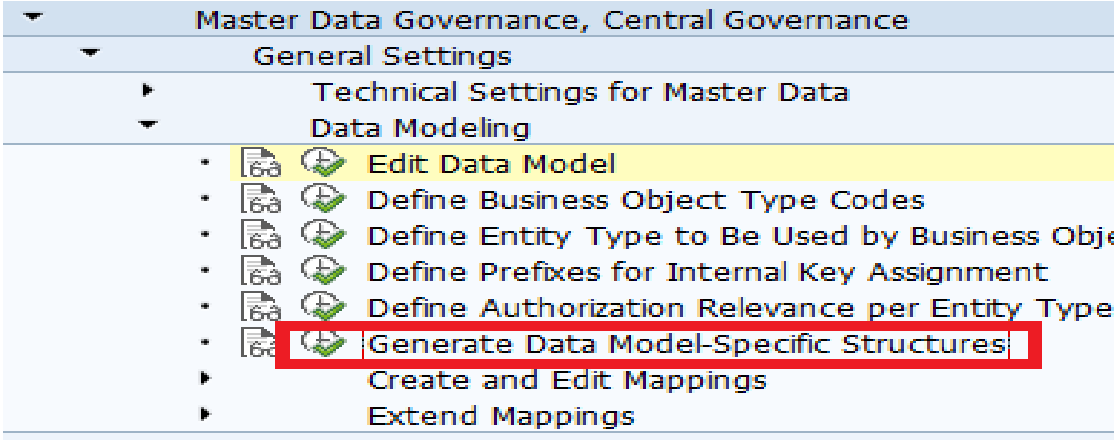
In general, if you change a Data Model (for example, if you change attributes of entity types or relationships) you need to regenerate the structures. You can assign a prefix and a package directly in the Data Model. Then the structures will be generated automatically with activation of the Data Model.

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.

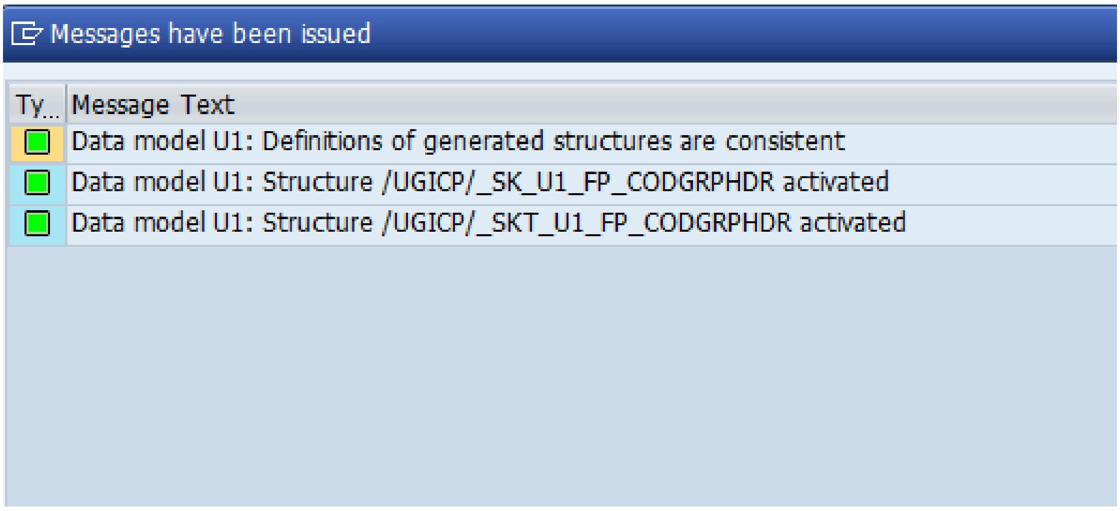
Note: In general, if you change a Data Model (for example, if you change attributes of entity types or relationships); you need to regenerate the structures.

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


Master Data Governance, Central Governance
General Settings
Technical Settings for Master Data
Data Modeling
Edit Data Model
Define Business Object Type Codes
Define Entity Type to Be Used by Business Obje
Define Prefixes for Internal Key Assignment
Define Authorization Relevance per Entity Type
Generate Data Model-Specific Structures
Create and Edit Mappings
Extend Mappings

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.

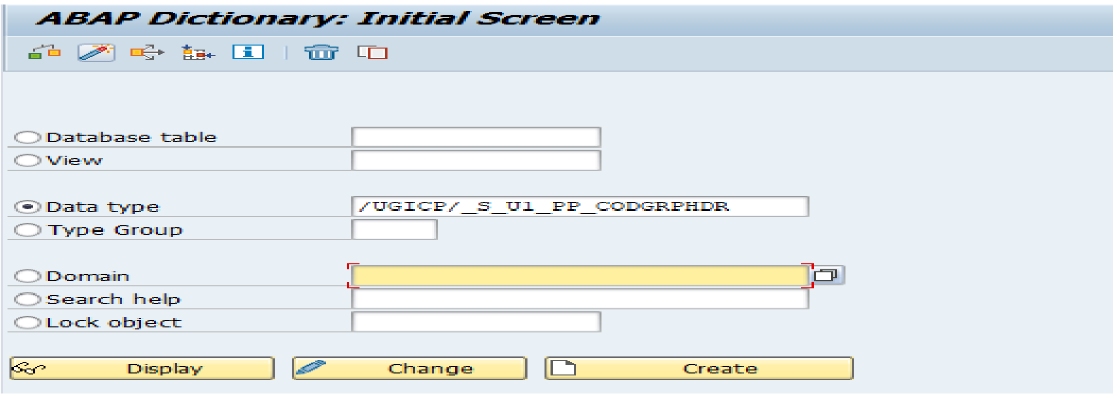


Messages have been issued

Ty...	Message Text
🟩	Data model U1: Definitions of generated structures are consistent
🟩	Data model U1: Structure /UGICP/_SK_U1_FP_CODGRPHDR activated
🟩	Data model U1: Structure /UGICP/_SKT_U1_FP_CODGRPHDR activated

In the following steps, you verify that one of the active area mapping structures was successfully generated with new fields.

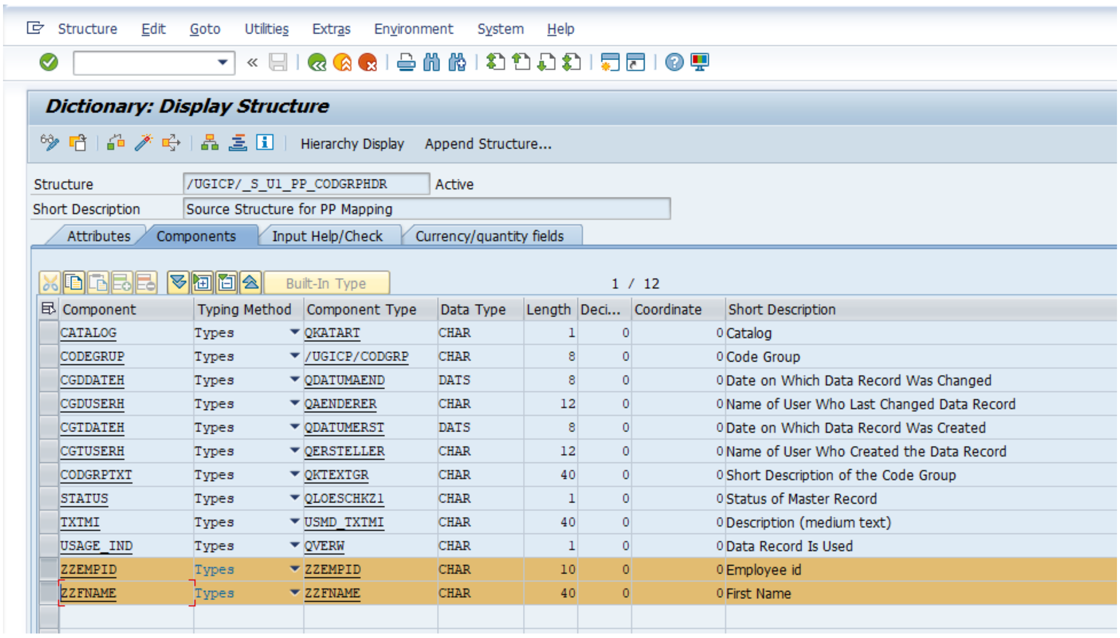
4. Start t-code SE11 > Display structure /UGICP/_S_U1_PP_CODGRPHDR.



ABAP Dictionary: Initial Screen

○ Database table
○ View
● Data type: /UGICP/_S_U1_PP_CODGRPHDR
○ Type Group
○ Domain
○ Search help
○ Lock object

You have now verified that the structure /UGICP/_S_U1_PP_CODGRPHDR has been generated.



Dictionary: Display Structure

Structure: /UGICP/_S_U1_PP_CODGRPHDR Active
Short Description: Source Structure for PP Mapping

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Component	Typing Method	Component Type	Data Type	Length	Deci...	Coordinate	Short Description
CATALOG	Types	QKATART	CHAR	1	0	0	Catalog
CODEGRUP	Types	/UGICP/CODGRP	CHAR	8	0	0	Code Group
CGDDATEH	Types	QDATUMAEND	DATS	8	0	0	Date on Which Data Record Was Changed
CGDUSERH	Types	QAENDERER	CHAR	12	0	0	Name of User Who Last Changed Data Record
CGTDATEH	Types	QDATUMERST	DATS	8	0	0	Date on Which Data Record Was Created
CGTUSERH	Types	QERSTELLER	CHAR	12	0	0	Name of User Who Created the Data Record
CODGRPTXT	Types	QKTEXTGR	CHAR	40	0	0	Short Description of the Code Group
STATUS	Types	QLOESCHKZ1	CHAR	1	0	0	Status of Master Record
TXTMI	Types	USMD_TXTMI	CHAR	40	0	0	Description (medium text)
USAGE_IND	Types	QVERW	CHAR	1	0	0	Data Record Is Used
ZZEMPID	Types	ZZEMPID	CHAR	10	0	0	Employee id
ZZFNAME	Types	ZZFNAME	CHAR	40	0	0	First Name

SMT Mapping

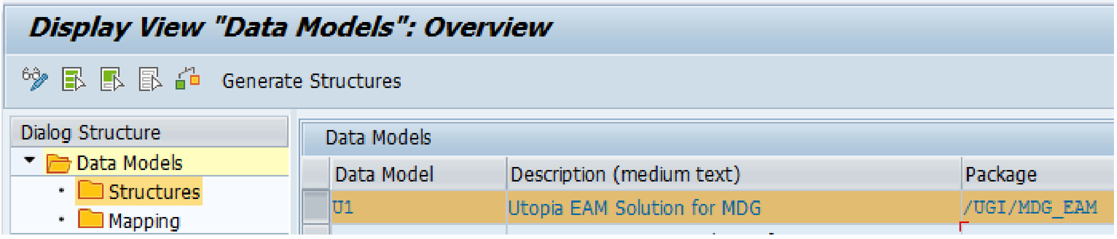
You extend mappings by creating new transformations (complex transformations, field mappings) and field checks for them or by editing them.

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 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.

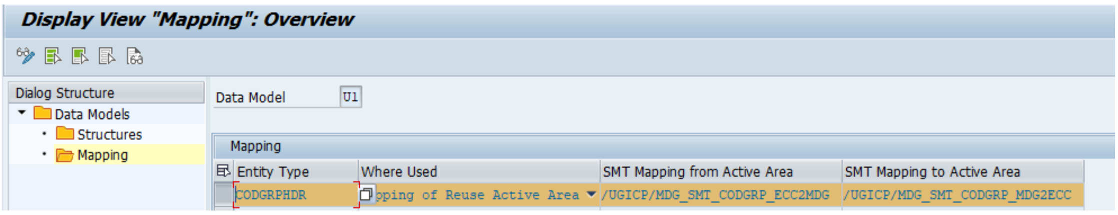


Display View "Data Models": Overview

Data Models

Data Model	Description (medium text)	Package
U1	Utopia EAM Solution for MDG	/UGI/MDG_EAM

The SMT mappings for Entity Type CODGRPHDR as displayed.



Display View "Mapping": Overview

Data Model U1

Mapping

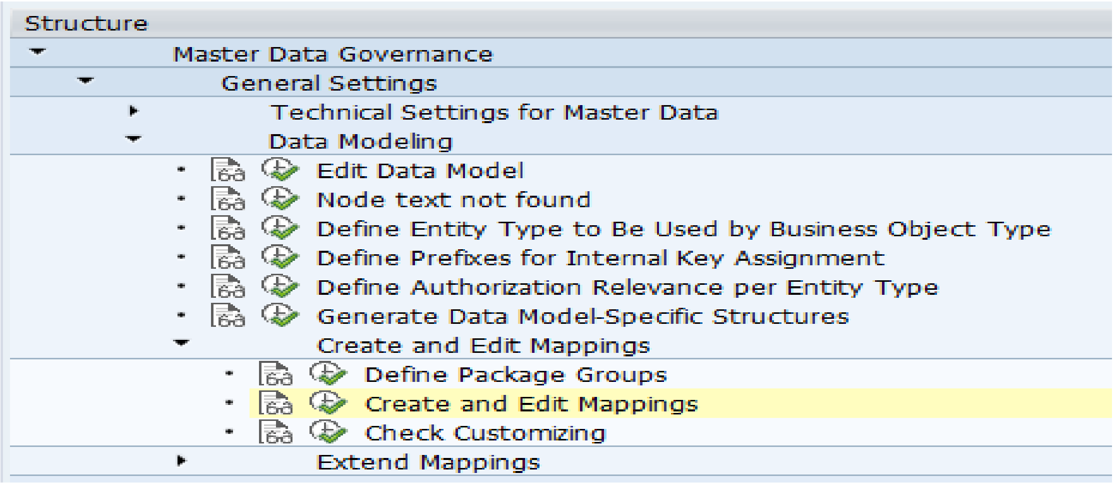
Entity Type	Where Used	SMT Mapping from Active Area	SMT Mapping to Active Area
CODGRPHDR	pping of Reuse Active Area	/UGICP/MDG_SMT_CODGRP_ECC2MDG	/UGICP/MDG_SMT_CODGRP_MDG2ECC

SMT Mapping - Primary Persistence to Staging

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

1. Log into 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.

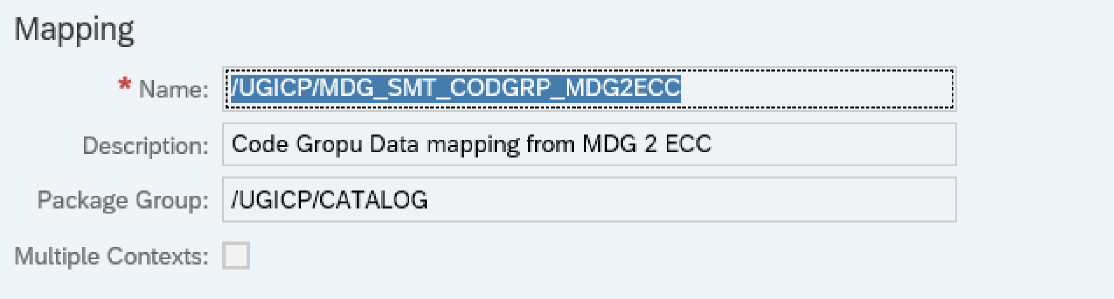
   Note: For new Entity Types, it is recommended to create a new mapping. When extending existing Entity Types, it is recommended to extend the existing mapping.



Structure

- Master Data Governance
  - General Settings
    - Technical Settings for Master Data
    - Data Modeling
      - Edit Data Model
      - Node text not found
      - Define Entity Type to Be Used by Business Object Type
      - Define Prefixes for Internal Key Assignment
      - Define Authorization Relevance per Entity Type
      - Generate Data Model-Specific Structures
      - Create and Edit Mappings
        - Define Package Groups
        - Create and Edit Mappings
        - Check Customizing
      - Extend Mappings

2. Extend mapping /UGICP/MDG_SMT_CODGRP_MDG2ECC.

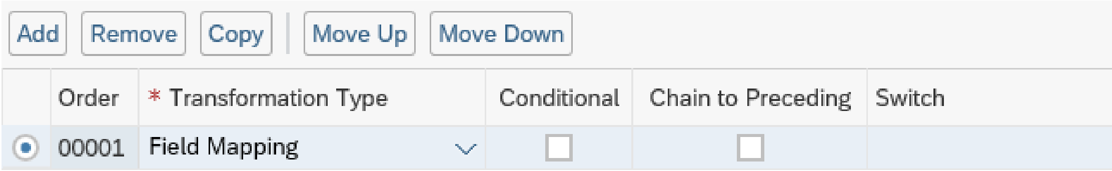


Mapping

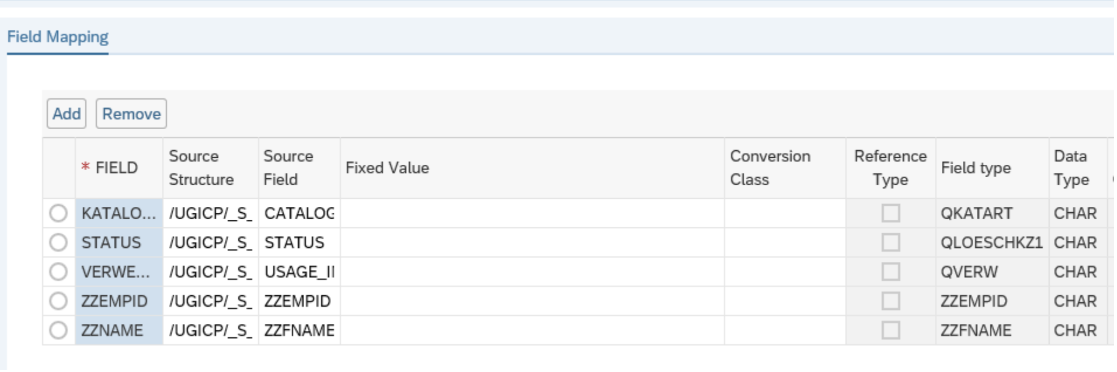
* Name:	/UGICP/MDG_SMT_CODGRP_MDG2ECC
Description:	Code Gropu Data mapping from MDG 2 ECC
Package Group:	/UGICP/CATALOG
Multiple Contexts:	□

3. Select mapping step and choose the “Details” button.
4. Map the fields as shown in the following screen.

   Add a mapping step -Assign Source Structure /UGICP/_S_U1_PP_CODGRPHDR, Assign Target QPGR Structure.

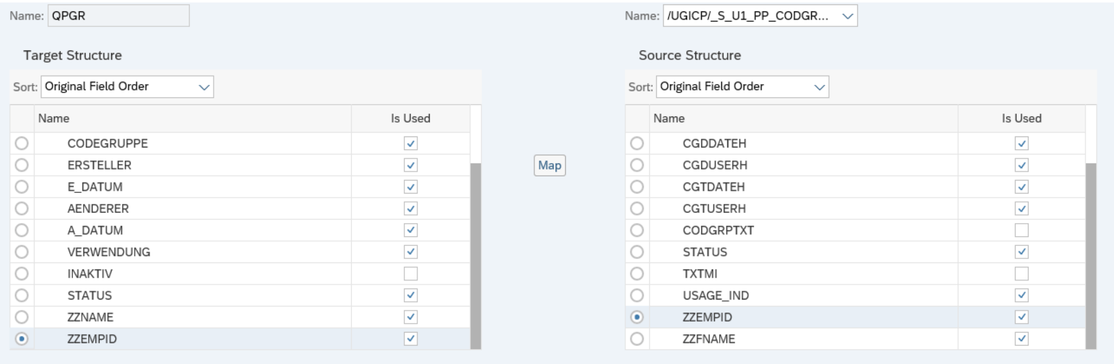


	Order	* Transformation Type	Conditional	Chain to Preceding	Switch
●	00001	Field Mapping	□	□	



Field Mapping

	* FIELD	Source Structure	Source Field	Fixed Value	Conversion Class	Reference Type	Field type	Data Type
○	KATALO...	/UGICP/_S_	CATALOG			□	QKATART	CHAR
○	STATUS	/UGICP/_S_	STATUS			□	QLOESCHKZ1	CHAR
○	VERWE...	/UGICP/_S_	USAGE_II			□	QVERW	CHAR
○	ZZEMPID	/UGICP/_S_	ZZEMPID			□	ZZEMPID	CHAR
○	ZZNAME	/UGICP/_S_	ZZFNAME			□	ZZFNAME	CHAR



Name: QPGR

Target Structure

Sort: Original Field Order

	Name	Is Used
○	CODEGRUPPE	☑
○	ERSTELLER	☑
○	E_DATUM	☑
○	AENDERER	☑
○	A_DATUM	☑
○	VERWENDUNG	☑
○	INAKTIV	□
○	STATUS	☑
○	ZZNAME	☑
●	ZZEMPID	☑

Name: /UGICP/_S_U1_PP_CODGR...

Source Structure

Sort: Original Field Order

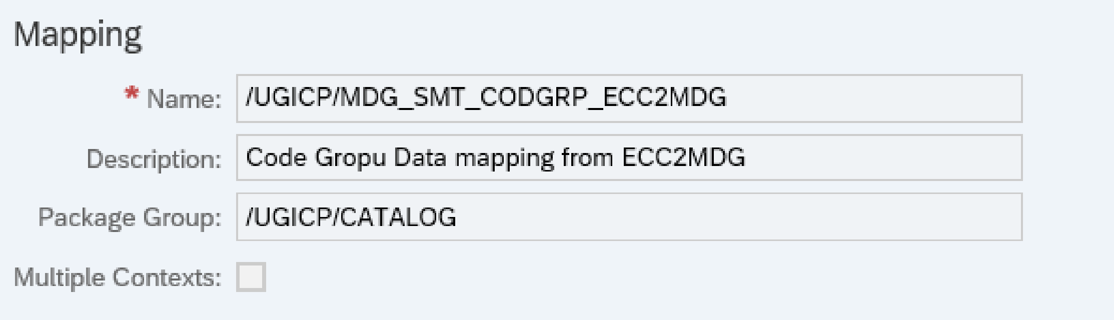
	Name	Is Used
○	CGDDATEH	☑
○	CGDUSERH	☑
○	CGTDATEH	☑
○	CGTUSERH	☑
○	CODGRPTXT	□
○	STATUS	☑
○	TXTMI	□
○	USAGE_IND	☑
●	ZZEMPID	☑
○	ZZFNAME	☑

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 /UGICP/MDG_SMT_CODGRP_ECC2MDG



Mapping

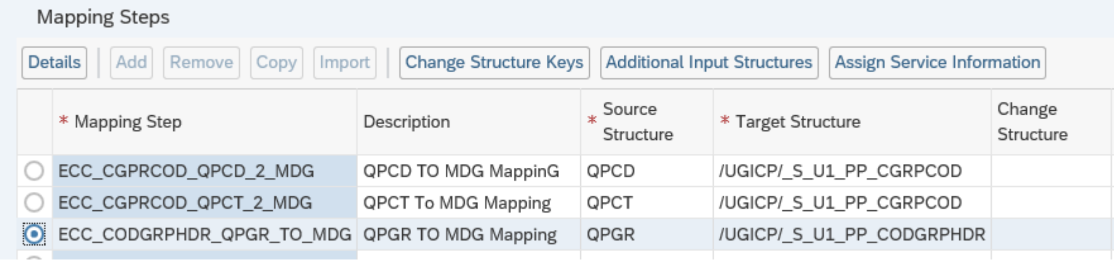
* Name: /UGICP/MDG_SMT_CODGRP_ECC2MDG

Description: Code Gropu Data mapping from ECC2MDG

Package Group: /UGICP/CATALOG

Multiple Contexts: □

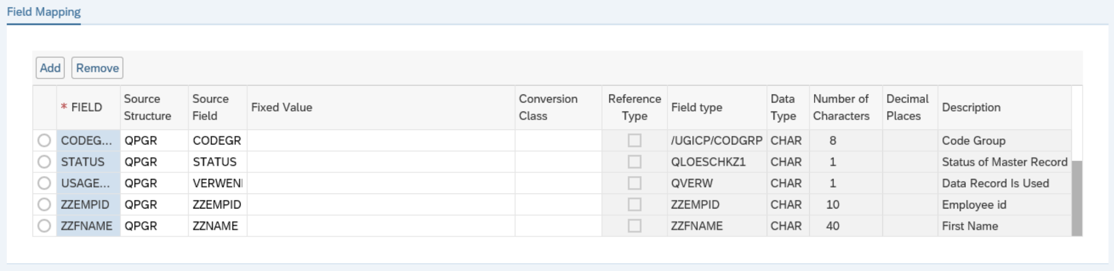
2. Select mapping step and choose the “Details” button. Map the fields as displayed in the following screen.



Mapping Steps

	* Mapping Step	Description	* Source Structure	* Target Structure	Change Structure
○	ECC_CGPRCOD_QPCD_2_MDG	QPCD TO MDG MappinG	QPCD	/UGICP/_S_U1_PP_CGRPCOD	
○	ECC_CGPRCOD_QPCT_2_MDG	QPCT To MDG Mapping	QPCT	/UGICP/_S_U1_PP_CGRPCOD	
●	ECC_CODGRPHDR_QPGR_TO_MDG	QPGR TO MDG Mapping	QPGR	/UGICP/_S_U1_PP_CODGRPHDR	

3. Add a mapping step - Assign Source Structure QPGR and Assign Target Structure /UGICP/_S_U1_PP_CODGRPHDR.



Field Mapping

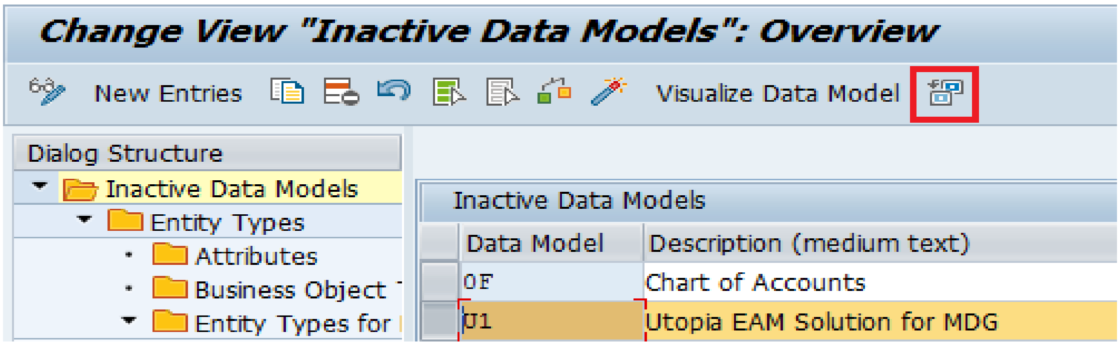
	* FIELD	Source Structure	Source Field	Fixed Value	Conversion Class	Reference Type	Field type	Data Type	Number of Characters	Decimal Places	Description
○	CODEG...	QPGR	CODEGR			□	/UGICP/CODGRP	CHAR	8		Code Group
○	STATUS	QPGR	STATUS			□	QLOESCHKZ1	CHAR	1		Status of Master Record
○	USAGE...	QPGR	VERWENI			□	QVERW	CHAR	1		Data Record Is Used
○	ZZEMPID	QPGR	ZZEMPID			□	ZZEMPID	CHAR	10		Employee id
○	ZZFNAME	QPGR	ZZNAME			□	ZZFNAME	CHAR	40		First Name

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.

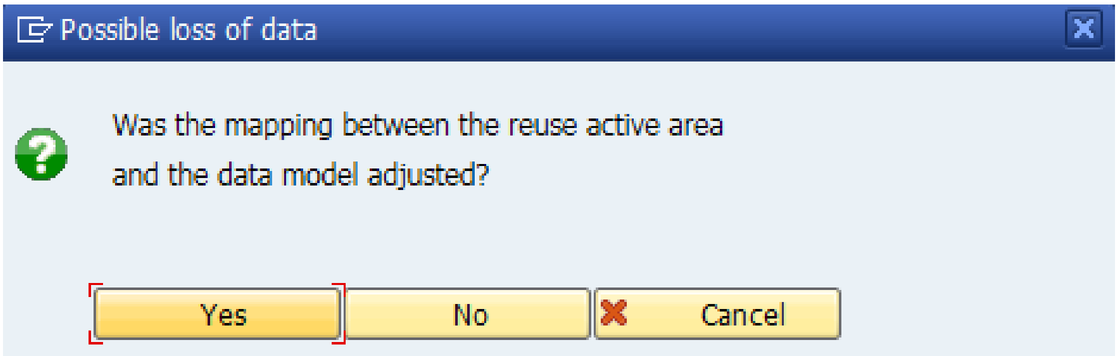


Change View "Inactive Data Models": Overview

Inactive Data Models

Data Model	Description (medium text)
0F	Chart of Accounts
U1	Utopia EAM Solution for MDG

2. Choose the "Yes" button.

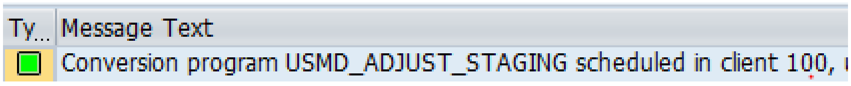


Possible loss of data

Was the mapping between the reuse active area and the data model adjusted?

The following message appears.

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

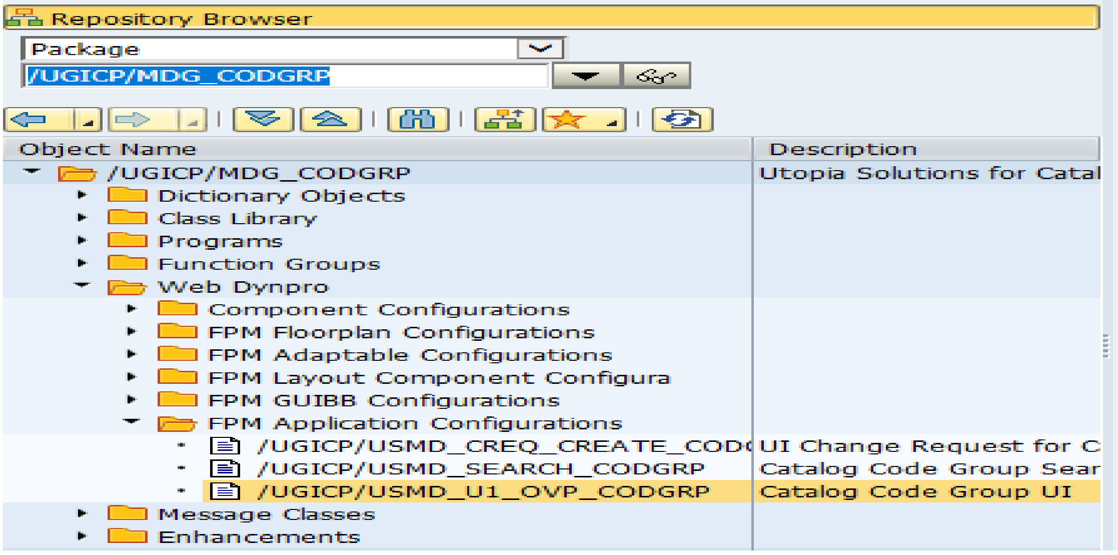


Ty...	Message Text
🟩	Conversion program USMD_ADJUST_STAGING scheduled in client 100,

Extending the UI Configuration

Use the following steps to add customization to UI.

1. Start t-code SE80 > In the drop down select Package > In the input field enter /UGICP/MDG_CODGRP> Navigate to Web Dynpro > FPM Application Configurations > /UGICP/USMD_U1_OVP_CODGRP.



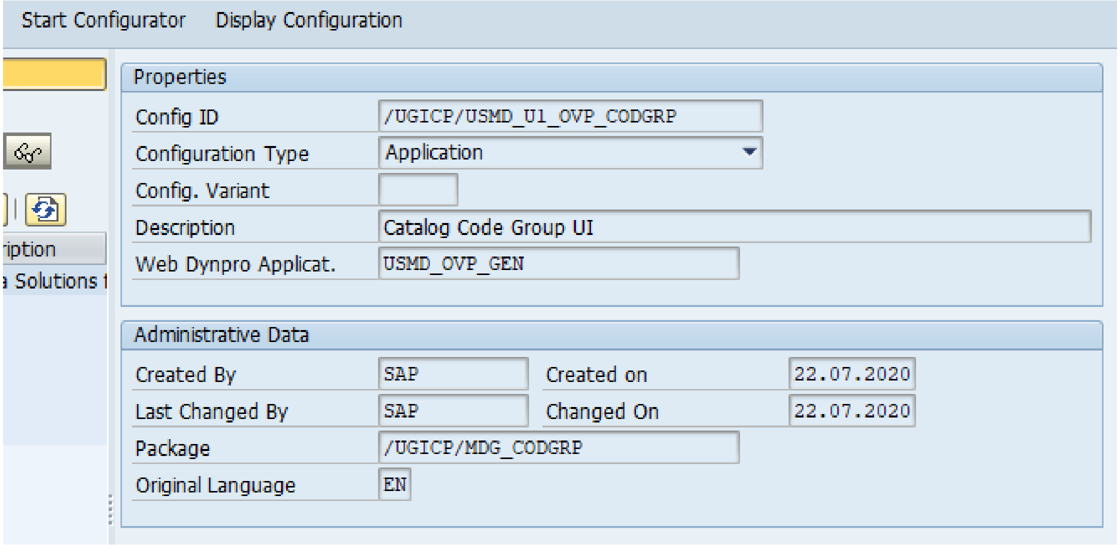
Repository Browser

Package

/UGICP/MDG_CODGRP

Object Name	Description
▾ /UGICP/MDG_CODGRP	Utopia Solutions for Catal
▸ Dictionary Objects	
▸ Class Library	
▸ Programs	
▸ Function Groups	
▾ Web Dynpro	
▸ Component Configurations	
▸ FPM Floorplan Configurations	
▸ FPM Adaptable Configurations	
▸ FPM Layout Component Configura	
▸ FPM GUIBB Configurations	
▾ FPM Application Configurations	
/UGICP/USMD_CREQ_CREATE_COD(	UI Change Request for C
/UGICP/USMD_SEARCH_CODGRP	Catalog Code Group Sear
/UGICP/USMD_U1_OVP_CODGRP	Catalog Code Group UI
▸ Message Classes	
▸ Enhancements	

2. Click the “Start Configurator” button.



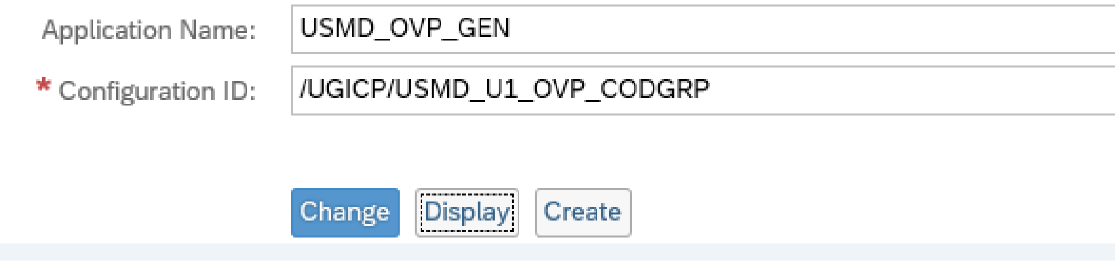
Properties

Config ID	/UGICP/USMD_U1_OVP_CODGRP
Configuration Type	Application
Config. Variant	
Description	Catalog Code Group UI
Web Dynpro Applicat.	USMD_OVP_GEN

Administrative Data

Created By	SAP	Created on	22.07.2020
Last Changed By	SAP	Changed On	22.07.2020
Package	/UGICP/MDG_CODGRP		
Original Language	EN		

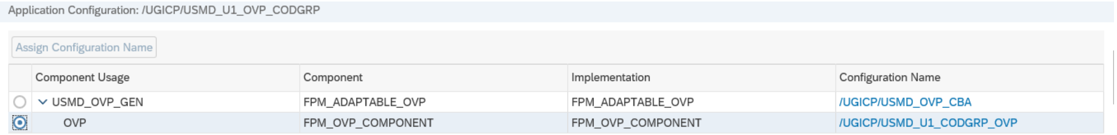
3. In the web browser, click on “Continue in Display Mode”.



Application Name: USMD_OVP_GEN

* Configuration ID: /UGICP/USMD_U1_OVP_CODGRP

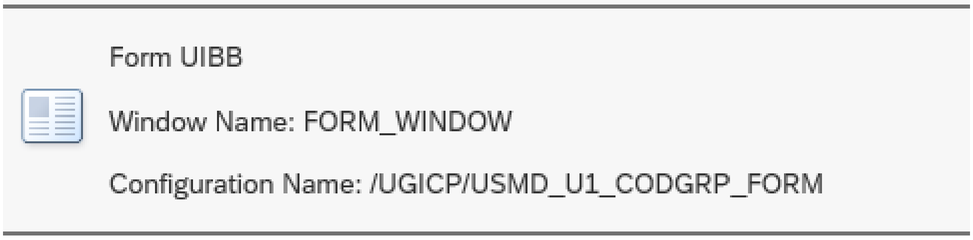
4. Click on the configuration /UGICP/USMD_U1_CODGRP_OVP.



Application Configuration: /UGICP/USMD_U1_OVP_CODGRP

	Component Usage	Component	Implementation	Configuration Name
○	⌄ USMD_OVP_GEN	FPM_ADAPTABLE_OVP	FPM_ADAPTABLE_OVP	/UGICP/USMD_OVP_CBA
●	OVP	FPM_OVP_COMPONENT	FPM_OVP_COMPONENT	/UGICP/USMD_U1_CODGRP_OVP

5. Select the UIBB where you want to add new attributes and click on "Edit UIBB 🔧"

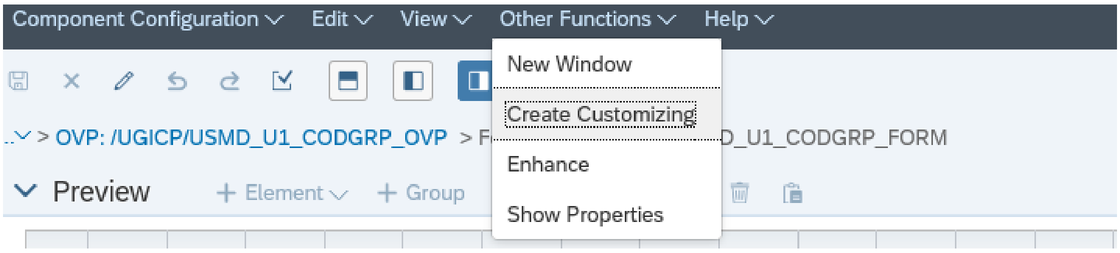


Form UIBB

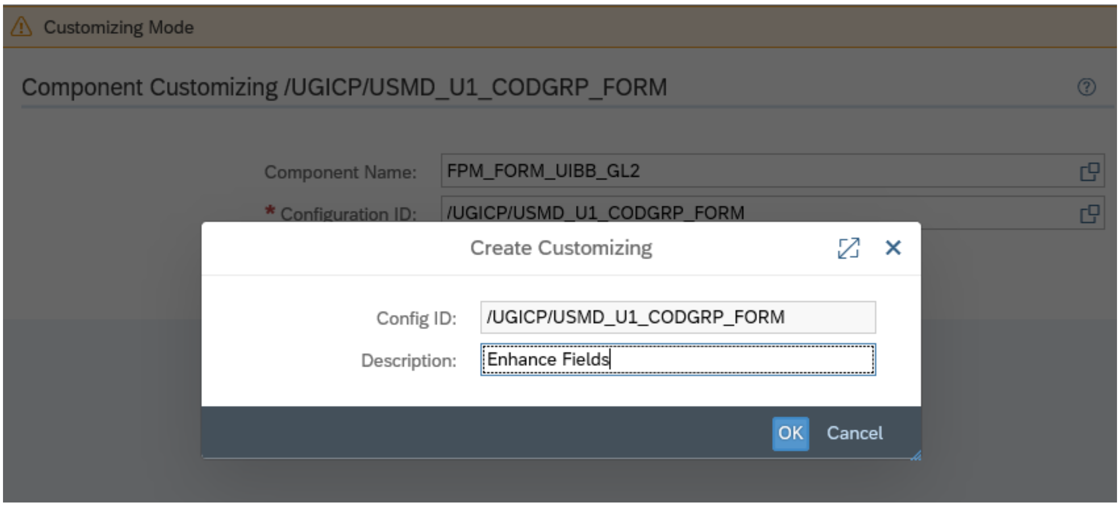
Window Name: FORM_WINDOW

Configuration Name: /UGICP/USMD_U1_CODGRP_FORM

6. Click on Additional Functions > Create Customizing.



7. Click on OK.



Customizing Mode

Component Customizing /UGICP/USMD_U1_CODGRP_FORM

Component Name: FPM_FORM_UIBB_GL2

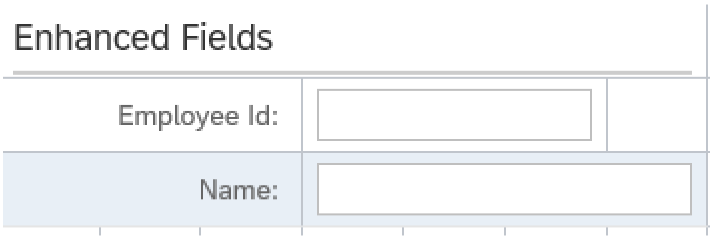
* Configuration ID: /UGICP/USMD_U1_CODGRP_FORM

Create Customizing

Config ID: /UGICP/USMD_U1_CODGRP_FORM

Description: Enhance Fields

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



Enhanced Fields

Employee Id:

Name:

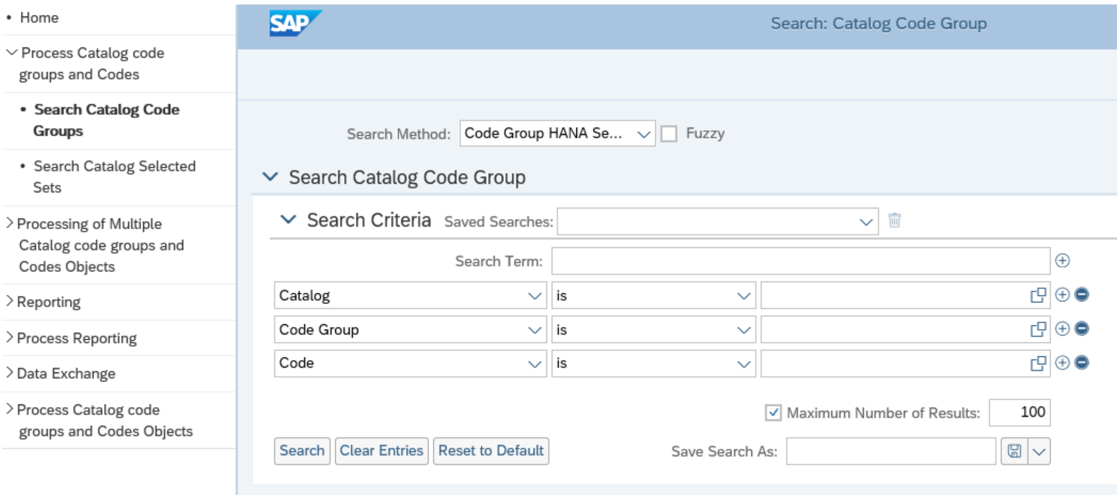
Testing the Configuration

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 Catalog Code groups 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=/UGICP/USMD_U1_OVP_CODGRP#

1. Go to t-code PFCG > enter role name /UGICP/_MDGCP_REQ and click the “Display” button - Select the Menu – Tab > In the hierarchy window navigate to Role Menu > Master Data Governance for Catalog code groups and Codes > Process Catalog Code groups and Codes> Search Catalog Code groups > Right-Click on Search Catalog Code Groups and select Execute from the drop-down.

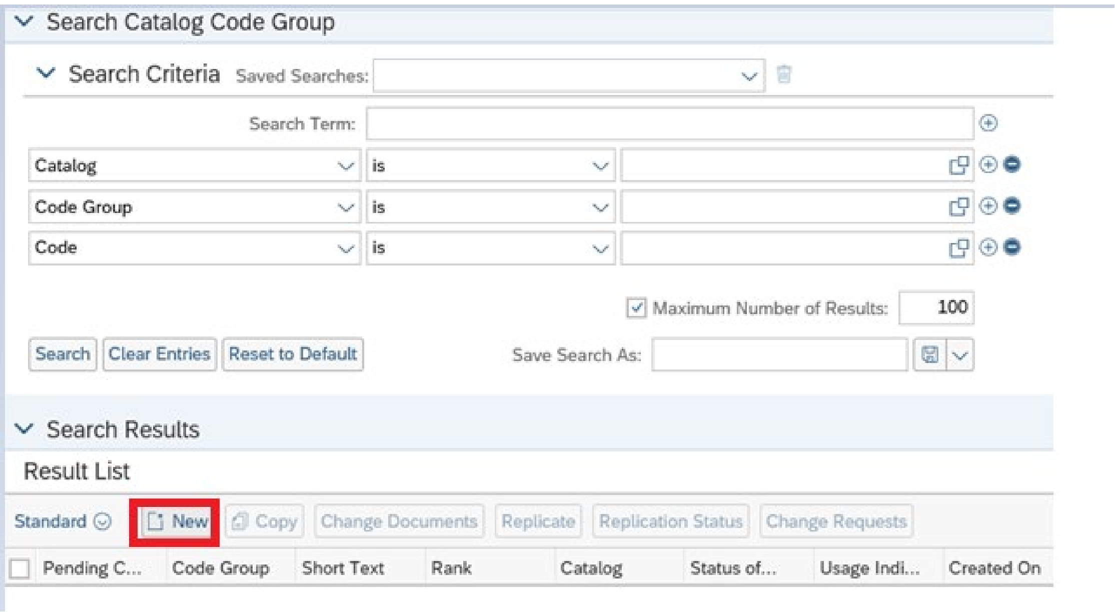

Home
Process Catalog code groups and Codes
Search Catalog Code Groups
Search Catalog Selected Sets
Processing of Multiple Catalog code groups and Codes Objects
Reporting
Process Reporting
Data Exchange
Process Catalog code groups and Codes Objects
SAP
Search: Catalog Code Group
Search Catalog Code Group
Search Criteria
Saved Searches:
Search Term:
Search
Clear Entries
Reset to Default
Save Search As:

Search Method: Code Group HANA Se... □ Fuzzy

Catalog	is	
Code Group	is	
Code	is	

☑ Maximum Number of Results: 100

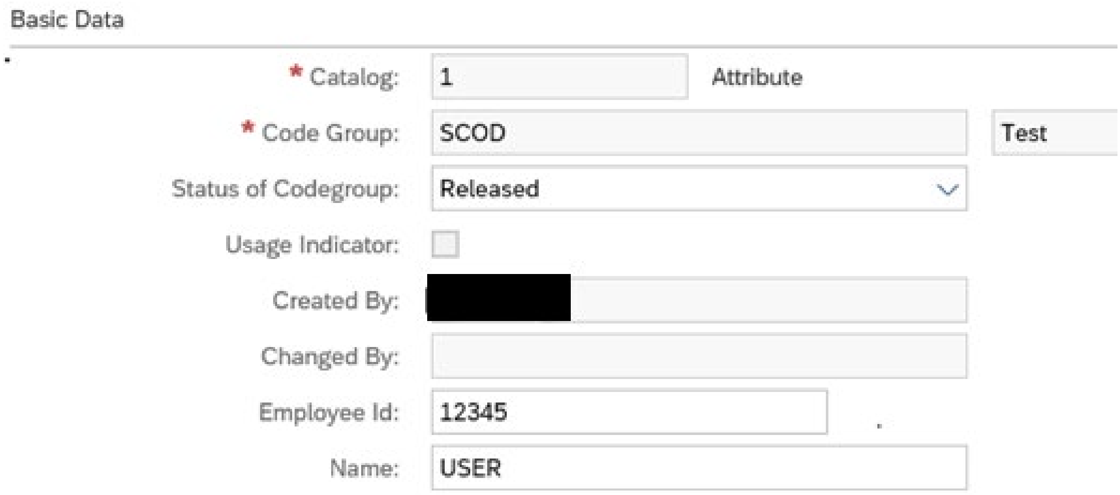
In UI click on NEW button.



Catalog	is	
Code Group	is	
Code	is	

☑ Maximum Number of Results: 100

□	Pending C...	Code Group	Short Text	Rank	Catalog	Status of...	Usage Indi...	Created On



Basic Data

* Catalog:	1	Attribute
* Code Group:	SCOD	Test
Status of Codegroup:	Released	
Usage Indicator:	□	
Created By:	[redacted]	
Changed By:		
Employee Id:	12345	
Name:	USER	

2. Save and Submit the CR. Finalize processing and Approve.
3. After activation use t-code SE16 and open table QPGR. Verify attributes have been transferred correctly.

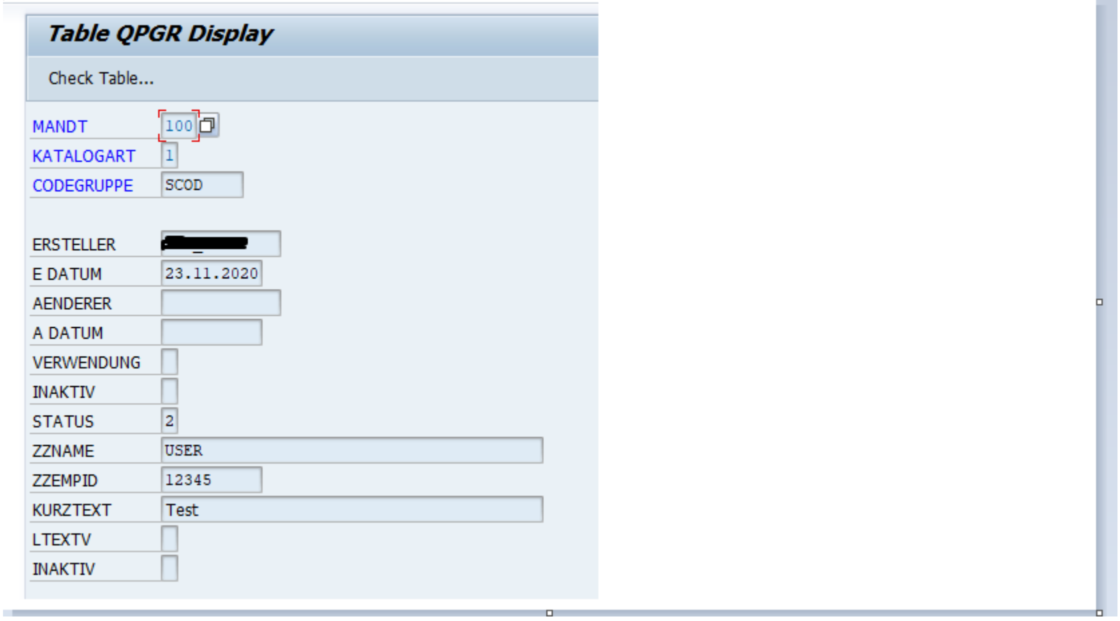


Table QPGR Display

MANDT	100
KATALOGART	1
CODEGRUPPE	SCOD
ERSTELLER	[redacted]
E DATUM	23.11.2020
AENDERER	
A DATUM	
VERWENDUNG	□
INAKTIV	□
STATUS	2
ZZNAME	USER
ZZEMPID	12345
KURZTEXT	Test
LTEXTV	□
INAKTIV	□