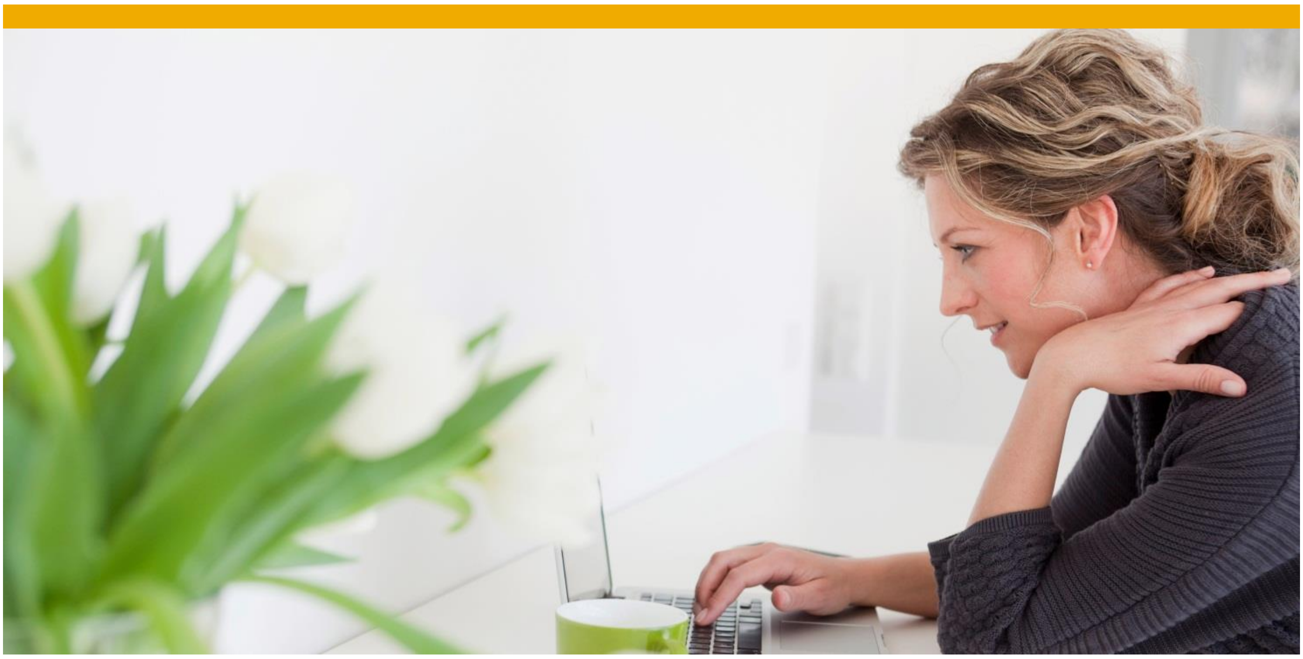

How To... Master Data Governance for Material: Create Custom Print Forms

Applicable Releases:
All

Version 2

December 2020

Document History

Document Version	Description
1.00	First official release of this guide
2.00	Small updates

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1. BUSINESS SCENARIO

SAP Master Data Governance for Material (MDG-M) provides business processes to find, create, change, and mark material master data for deletion. It supports the governance of material master data on a central hub and the distribution of material master data to connected operational and business intelligence systems.

The processes are workflow-driven and can include several approval and revision phases, including collaboration between all users participating in master data maintenance.

With MDG 7 SAP delivers a new print form, `MDG_BS_MAT_PDF_04`, in package `MDG_BS_MAT_PDF`. Consider also the subsequent forms like `MDG_BS_MAT_PDF_05` and `MDG_BS_MAT_PDF_06`, delivered in later releases.

This guide shows you how to create a custom print form to support different layouts and custom fields.

2. BACKGROUND INFORMATION

MDG-M uses *Adobe LiveCycle Designer* to create the forms used to print material master data.

There is a lot of information on the SAP Community Network (https://community.sap.com) and at http://www.adobe.com.

SAP also provides a course with further information on print forms, BC480 (PDF-based Print Forms).

3. STEP BY STEP EXPLANATION

The following explanation shows how to create a custom print form to support different layouts and custom fields.

3.1. Prerequisite

To be able to edit the forms delivered by SAP you have to install *Adobe LiveCycle Designer* on your computer. SAP Note 1522483 describes how to get and install the tool. Also, you may want view the SAP help portal (http://help.sap.com) and search with keywords “Adobe LiveCycle Designer Installation” to get the relevant information on how to install and work with *Adobe LiveCycle Designer*. After installation, you’ll find a folder (named similar to `C:\Program Files (x86)\Adobe\Designer 9.0\Documentation`) on your hard disk with offline documentation in different languages (for example, subfolder `EN` for English). The file `Designer.chm` is opened when pressing the `F2` key within the form layout editor.

3.2. Components

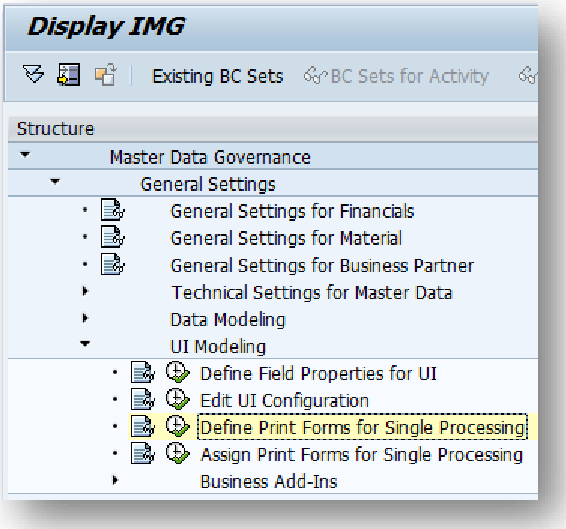
Four components are involved in printing:

- A UI with a print button that creates an event when clicked
- A print program/method (`CL_MDG_BS_MAT_PDF=>PRINT_MATERIAL`) that is called by the event handler (`CL_MDG_BS_MAT_APPCC->/PLMU/IF_EX_FRW_APPCC_OVP~PROCESS_EVENT`) to read the data to be printed
- A form interface (`MDG_BS_MAT_PDF`) that defines the data that can be added to the layout of the form
- A print form (`MDG_BS_MAT_PDF_04` or subsequent) that defines the layout of the form

3.3. Create new Print Form

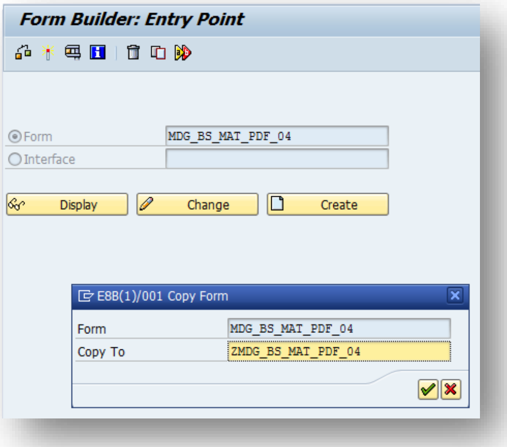
SAP recommends that you make a copy and make changes to the copy, rather than changing the delivered form. The copied form can easily be assigned within the customizing to be used by the application (see chapter 3.11 Customizing: Assign new Form to UI Configuration).

Execute the *Define Print Forms for Single Processing* Customizing under *Master Data Governance* → *General Settings* → *UI Modeling* or you can use transaction `SFP` directly.



- Master Data Governance
  - General Settings
    - General Settings for Financials
    - General Settings for Material
    - General Settings for Business Partner
    - Technical Settings for Master Data
    - Data Modeling
    - UI Modeling
      - Define Field Properties for UI
      - Edit UI Configuration
      - Define Print Forms for Single Processing
      - Assign Print Forms for Single Processing
      - Business Add-Ins

Copy the SAP-delivered print form `MDG_BS_MAT_PDF_04` or a subsequent form to a new one:


Form Builder: Entry Point

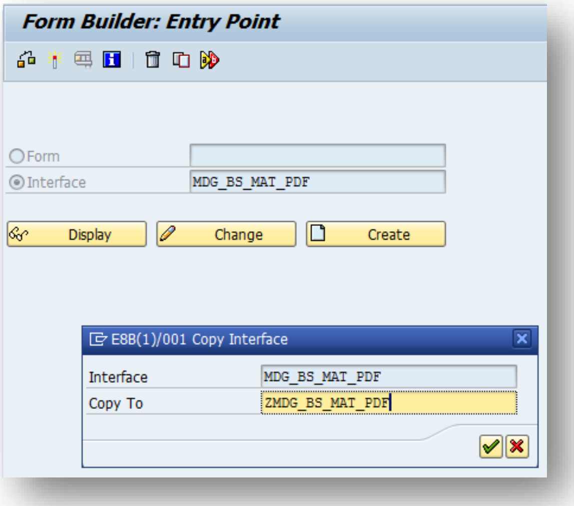
● Form MDG_BS_MAT_PDF_04
○ Interface

E8B(1)/001 Copy Form

Form MDG_BS_MAT_PDF_04
Copy To ZMDG_BS_MAT_PDF_04

3.4. Create New Interface

If you intend to pass additional or different data to the form you must copy the interface as well:

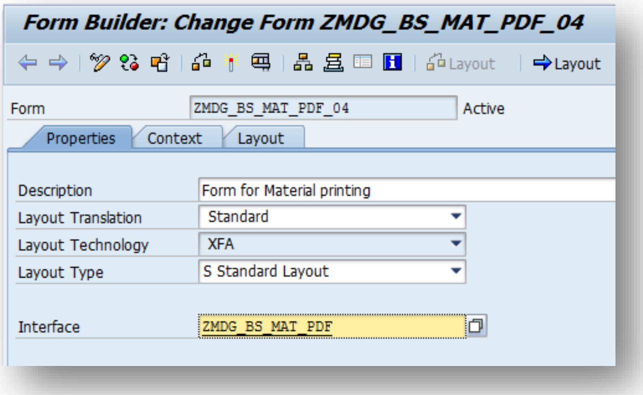

Form Builder: Entry Point

○ Form
● Interface MDG_BS_MAT_PDF

E8B(1)/001 Copy Interface

Interface MDG_BS_MAT_PDF
Copy To ZMDG_BS_MAT_PDF

Afterwards, you assign the copied interface to the copied form:


Form Builder: Change Form ZMDG_BS_MAT_PDF_04

Form ZMDG_BS_MAT_PDF_04 Active

Description: Form for Material printing
Layout Translation: Standard
Layout Technology: XFA
Layout Type: S Standard Layout

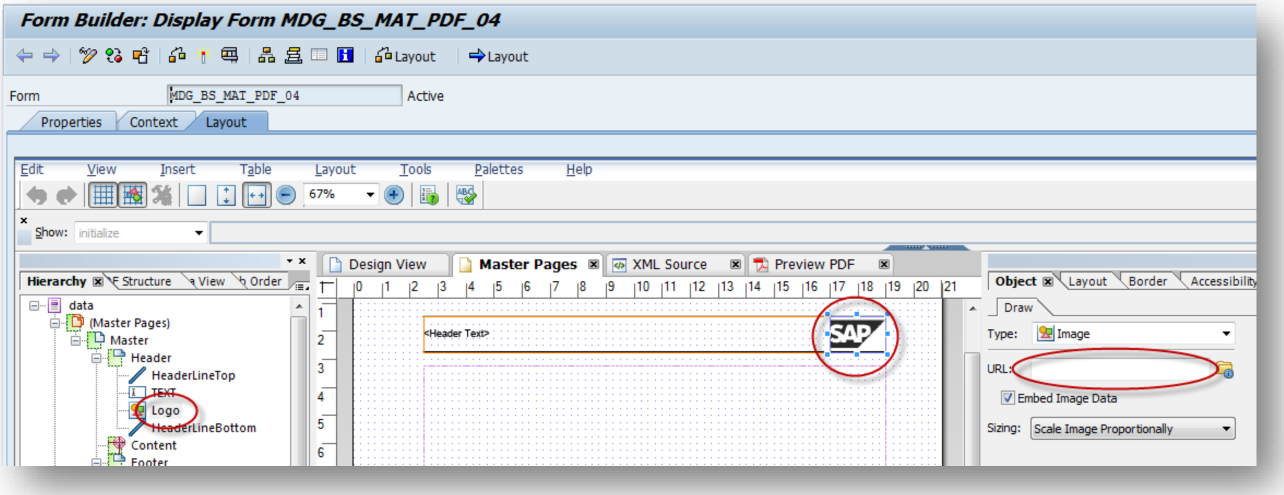
Interface: ZMDG_BS_MAT_PDF

Data is passed to the print form using parameter `IS_DATA`. It is of type `MDG_BS_MAT_S_MAT_PDF` that can be enhanced deeply, so it is generally not necessary to exchange the interface. Only if you want to pass additional parameters or custom entities you need to do so. But be aware that you then also have to modify the print method

`CL_MDG_BS_MAT_PDF=>PRINT` and maybe also `CL_MDG_BS_MAT_PDF=>PRINT_MATERIAL` because these methods are currently not designed for customer extensions.

3.5. Change Logo

The logo in the upper right corner of the form has been defined on the master page within sub form *Header*. It can be replaced by your own logo by specifying the URL of the logo.



Form Builder: Display Form MDG_BS_MAT_PDF_04

Form MDG_BS_MAT_PDF_04 Active

- data
  - (Master Pages)
    - Master
      - Header
        - HeaderLineTop
        - TEXT
        - Logo
        - HeaderLineBottom
      - Content
      - Footer

Type: Image

URL:

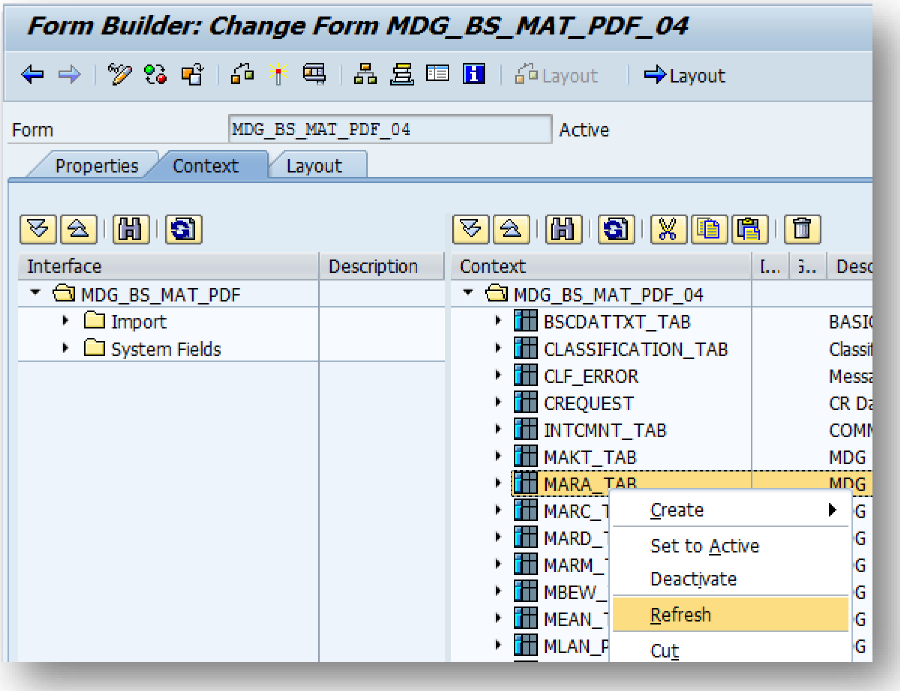
☑ Embed Image Data

Sizing: Scale Image Proportionally

If the logo should be embedded into the form, select the *Embed Image Data* option.

3.6. Add Custom Field

After the extension of a database table (for example, `MARA`), the corresponding structure (for example, `MDG_BS_MAT_S_MARA`) already contains the new fields and the only thing to do is a refresh of the corresponding context element within the form context.



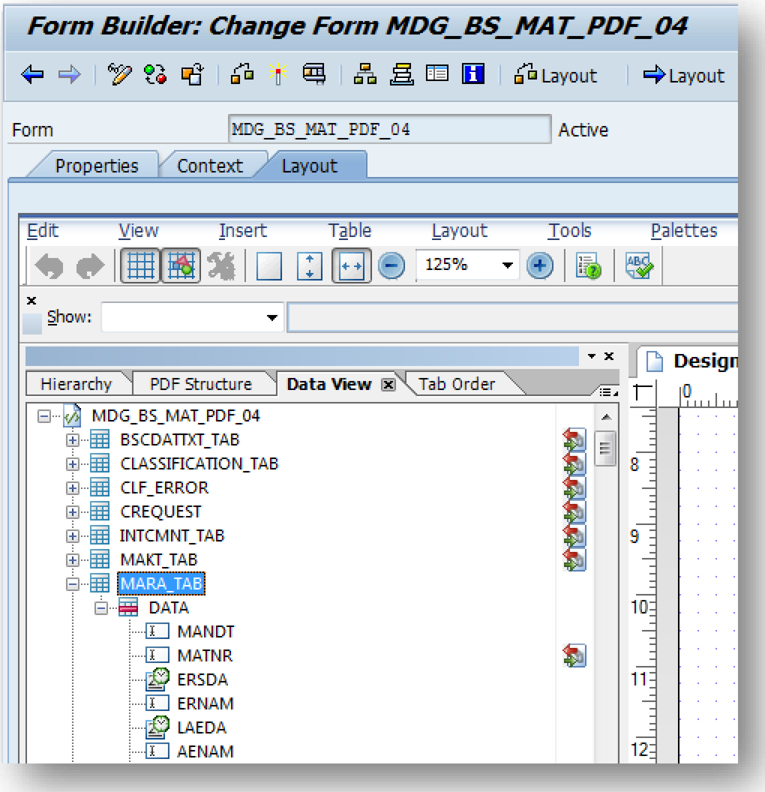
Form Builder: Change Form MDG_BS_MAT_PDF_04

Form MDG_BS_MAT_PDF_04 Active

Interface	Description
MDG_BS_MAT_PDF	
Import	
System Fields	

Context	Desc
MDG_BS_MAT_PDF_04	
BSCDATTXT_TAB	BASI
CLASSIFICATION_TAB	Classi
CLF_ERROR	Messa
CREQUEST	CR Da
INTCMNT_TAB	COMN
MAKT_TAB	MDG
MARA_TAB	MDG
MARC_T	G
MARD_	G
MARM_	G
MBEW_	G
MEAN_	G
MLAN_P	G

Afterwards the new fields are available within the data view of the layout.



Form MDG_BS_MAT_PDF_04 Active

The text of a field value (for example, text *Kilogram* for value *KG*) is stored in a separate sub structure for each table structure. It is called `USMD_DESCRIPTION` and must be enhanced by a customer include with a field of type `USMD_TXTLG`. The field name needs to be the same as the data field (for example, `GEWEI` for weight unit) within the corresponding table structure. The text of the field value is determined automatically because of the text table reference definition within the data dictionary. In special cases it might be necessary to adapt this text field value determination. It is located in method `CL_MDG_BS_MAT_TEXT->GET_TEXT_FIELD_VALUE`.

3.7. Delete Field

A field that should not be displayed can be deleted easily by selecting the field within the design view or the hierarchy view and pressing the delete key.

3.8. Multiple Usage of a Field

It is not possible to display a field value at multiple places by defining the data binding to the same context field.

The data binding of the corresponding fields can be defined as *Use global data*. All fields with this name will then have the same value. This may be risky if a field name has been used within different structures and the field values are not the same at runtime. Another problem is that the usage of such fields is not visible within the data view.

Use global data has been used with field *Change Request ID* (`CR_ID`) that is in sub form *Footer* of the master page and on page *ChangeRequest* in sub form *GeneralData*.

Another possibility is using scripting.

> Example:
>
> Field *GEWEI* is used twice on page *Material*, sub form *BasicData*, sub form *Dimension*. The second usage has no data binding as it is defined at the first field (`$.MARA_TAB.DATA[*].GEWEI`), but a script at event `form:ready`:

```
$.rawValue = $.parent.GEWEI.rawValue
```

The value of the second field *GEWEI* references to the value of field *GEWEI* that is within the current sub form (specified by parent).

If a reference to a field on a different page or sub form is required, `.parent` has to be used for each upper level within the object hierarchy up to a common node. Navigation down the object hierarchy to the required field is done by specifying the names of the pages and/or sub forms.

3.9. Placeholder in Header Line

Scripting is used to replace placeholders (for example, `&LGNUM&` within header line *Warehouse &LGNUM&: Data*) in text values. A special hidden page, *Scripts_Deactivated_NotVisible*, has been created to replace such placeholders at a central place.

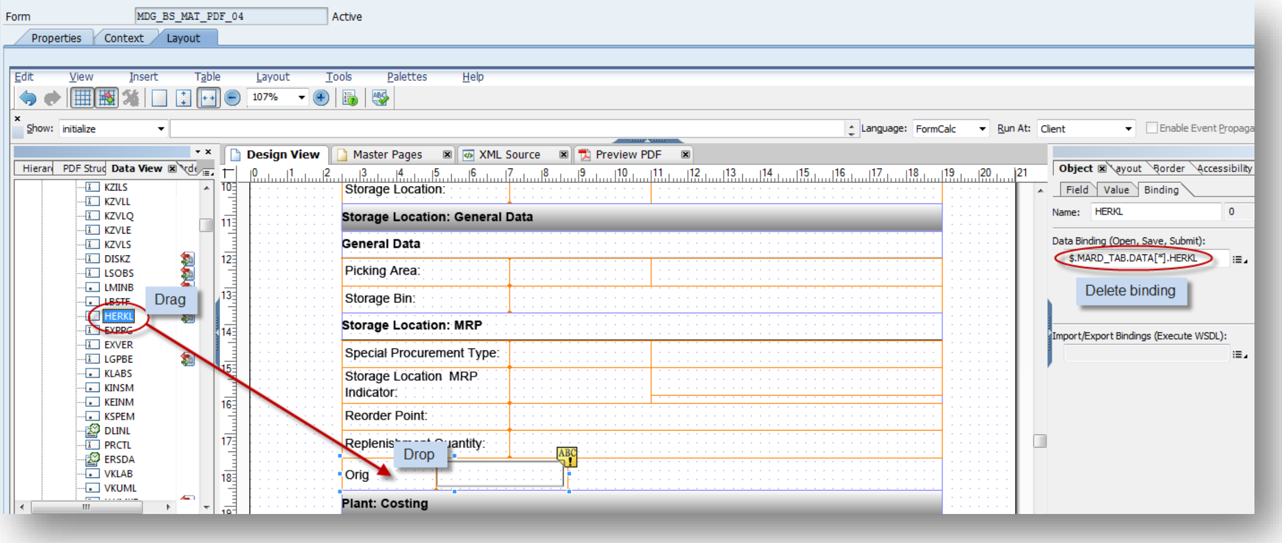
Example:

```
Material.WarehouseLGNUMData.Heading =
Replace(Material.WarehouseLGNUMData.Heading.rawValue, "&LGNUM&",
$.CURRENT_LGNUM.rawValue)
```

At event, `form:ready` of page *Scripts_Deactivated_NotVisible* replaces `&LGNUM&` within above specified example header line, that is on page *Material* within sub form `WarehouseLGNUMData` and there in text field *Heading*. The replaced value is stored in field *CURRENT_LGNUM* that is on the current page and has a data binding to context structure `HEADER`, field *CURRENT_LGNUM*.

3.10. Field Templates

When dropping a field from the data view to the layout, the field gets a default layout. If the layout does not meet the requirements, it must be changed for each field separately.



Form: MDG_BS_MAT_PDF_04 Active

Show: initialize

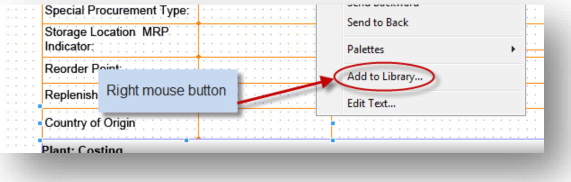
Language: FormCalc

Run At: Client

Name: HERKL

Data Binding (Open, Save, Submit): $.MARD_TAB.DATA[*].HERKL

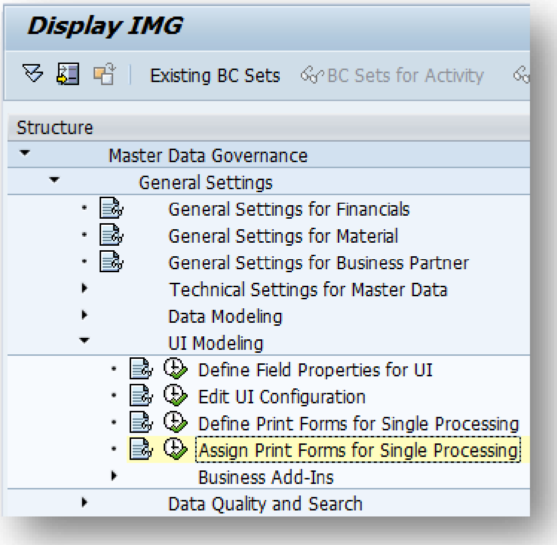
When a field layout has been changed it can be stored as template.



Then it can be used for further fields with the same layout. The layout should be stored without binding. It may lead to confusion if it is not changed properly after using the template. Other layout elements like header lines or groups of objects can be stored as template.

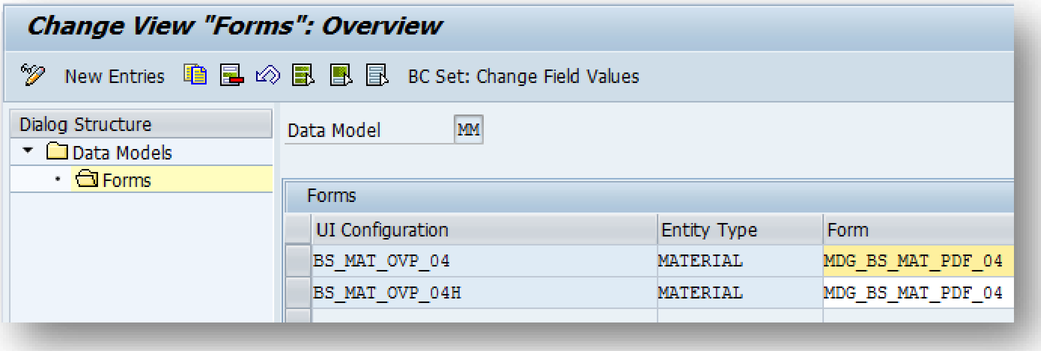
3.11. Customizing: Assign new Form to UI Configuration

To assign your print form to your UI configurations go to Customizing under *Master Data Governance → General Settings → UI Modeling → Assign Print Forms for Single Processing.*



Structure

- Master Data Governance
  - General Settings
    - General Settings for Financials
    - General Settings for Material
    - General Settings for Business Partner
    - Technical Settings for Master Data
    - Data Modeling
    - UI Modeling
      - Define Field Properties for UI
      - Edit UI Configuration
      - Define Print Forms for Single Processing
      - Assign Print Forms for Single Processing
      - Business Add-Ins
    - Data Quality and Search

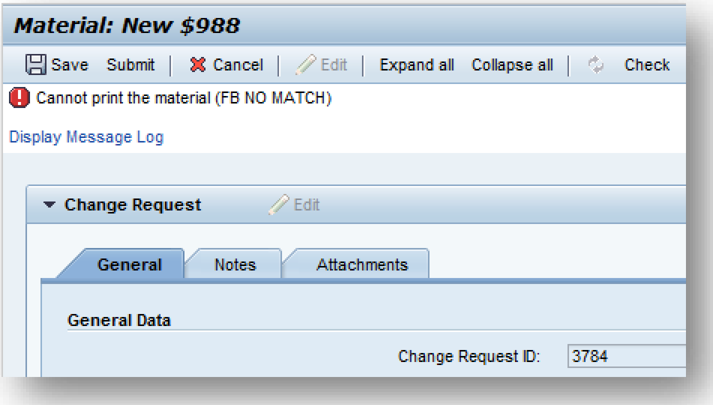


Data Model: MM

Forms

UI Configuration	Entity Type	Form
BS_MAT_OVP_04	MATERIAL	MDG_BS_MAT_PDF_04
BS_MAT_OVP_04H	MATERIAL	MDG_BS_MAT_PDF_04

If no form for the current UI configuration can be found message `MDG_BS_MAT_PDF 015` is displayed.



Cannot print the material (FB NO MATCH)

Change Request ID: 3784

3.12. Error Analysis

There are several causes why a field value may be not visible on a form. The following list provides some hints on what to check:

1. Be sure that the changed form has been activated and that the MDG-M session has been restarted. Otherwise the old but active form and its function module are used. For more information, see item 7 below.

2. Data to be printed is read in method `CL_MDG_BS_MAT_PDF=>PRINT_MATERIAL`. Check there whether the corresponding entity data has been read.

3. Entity data is mapped to its corresponding table fields of structure `MDG_BS_MAT_S_MAT_DATA` in the methods called for each entity by `CL_MDG_BS_MAT_PDF=>PRINT_MATERIAL`. Method `CL_MDG_BS_MAT_SERVICES=>MAP_MODEL_2_API` does the data transfer from entity or model structure to the API structure. The transfer to the form structure `MDG_BS_MAT_S_MAT_PDF` is done by method `CL_ABAP_TOOL=>MOVE_COMPLEX` whenever necessary.

4. As already mentioned in chapter 3.6 Add Custom Field, the text value of a field value is be determined automatically within method `CL_MDG_BS_MAT_PDF=>SET_DESCRIPTION`. A prerequisite is that the text field is defined within the sub structure `USMD_DESCRIPTION` with the same name as the data field and that a corresponding data field exists.

5. If the same field has been used multiple times, be sure to have taken into account the hints from chapter 3.8 Multiple Usage of a Field.

6. Check whether the data binding of the field to the context field within the form layout is correct. You may also want to check whether a field has a data binding by checking the usage icon on the right side of a field within the data view of the form layout.

7. Each activated form has a corresponding generated function module. The name of the function module is displayed when testing the form. You can also set a breakpoint within function module `FP_FUNCTION_MODULE_NAME` to get the corresponding function module name of the form.

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