



PUBLIC

How-To: Use the Data Import Framework for Material

Applicable Releases:
All

Version 9.1
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Document History

Document Version	Description
1.0	First official release of this guide
2.0	Additional SAP notes
3.0	Background information for using DIF for Material
4.0	Small corrections in chapter 6
5.0	Overwrite in Staging; additional information in chapter 4.2.1 and 4.2.2
6.0	Additional SAP notes
7.0	Additional SAP notes and Excel link
8.0	Small updates
9.0	Layout update (April 2022)
9.1	Small updates (August 2022)

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1. BUSINESS SCENARIO

SAP Master Data Governance 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.

You can use the Import Master Data service to import files containing material and classification data to the Master Data Governance system. You can also import key and value mapping information. The data from these files can update existing master data records or create new ones using the options available in the Import Master Data service.

This guide provides background information about the Data Import Framework (DIF) and describes how to use the DIF to upload material data from a CSV file using a BAdI for the file conversion.

2. BACKGROUND INFORMATION

Documentation for data transfer in [MDG9.2](#) or [S/4HANA](#):

Use

Data transfer represents a collection of functions and features that enable you to move master data and mapping information between systems and clients. Examples of these systems include existing ERP systems and your Master Data Governance hub system. To transfer master data and mapping information, follow this process:

1. Export the master data and mapping information from the source system to an XML file. This file rests on your application server.
2. Copy the XML file from the application server of the source system to the application server of your target system.
3. Import the master data and mapping information to the target system.

The master data governance business functions for supplier and customer support the export, import, monitoring, and conversion of business partner data and key mapping information. The Master Data Governance for Material business functions support the import and monitoring of material master data and key mapping information.

3. INFORMATION ABOUT USING DIF FOR MATERIAL MASTER DATA

3.1. Limitation

You can create material master data in the staging or active area. Updating an existing material master record is possible in the active area, and with MDG 7.0 and SAP Notes 2045848 and 2035892 it is also possible to update an existing material in the staging area.

IDocs do not support flex entities, as they don't write into active area. Therefore, the DIF can only be used to load reuse entities in the staging or active area.

A single IDoc XML file can either contain MATMAS IDocs or CLFMAS IDocs, but not both. Workaround: Create separate XML files for MATMAS IDocs and CLFMAS IDocs, put them in 2 different source directories, and run the import.

If you change/overwrite an existing material, you have to fill all relevant fields, otherwise the data is overwritten with blank values. The NODATA sign is only considered during upload into active area.

3.2. Performance

See SAP Notes 2298612 (<https://launchpad.support.sap.com/#/notes/2298612>) and 2196009 (<https://launchpad.support.sap.com/#/notes/2196009>)

	Master Data Import (DIF)
Process type	Asynchronous
Parallel processing possible if dependencies can be excluded through cross-references	Yes
For each upload, only one entity type possible	No
Flex and reuse data model	Yes
Flex entity in reuse data model	No
Number of data records to be uploaded	> 1000
Creation of data	Yes
Change of data	Yes
Error tolerance <i>If a data record is blocked by another change request (of another user) or a data record has errors, the system still performs the upload process.</i>	Yes
Load reuse entities directly as active data <i>In this case, the data is updated directly as active data without being previously written to a change request. In this case, the governance process is avoided. This may make sense during the initial loading of data, for example.</i>	Yes
Load data as inactive data <i>Here, the data is written to the staging using change requests and is subject to the governance process.</i>	Yes
Data format	XML <i>As a result of a conversion exit, a conversion from CSV* to XML may be carried out.</i>

The Data Import Framework is not meant to be a typical migration tool. It is designed primarily for importing smaller volumes of data into staging area. Of course, you can import a large number of material records, but you should consider a longer run time.

You must exercise prudence while defining scenarios involving the use of DIF to import of large number of material records into staging area with a single change request. Questions should be asked, such as - "what will the processor do with a CR containing thousands of objects?", as then it may not be possible to check each object in such a big change request. In many such scenarios it may be a better to clean up your master data and import it directly into the active area using traditional data migration tools.

The number of records you can import using DIF with an acceptable performance depends on the size of your objects (such as number of plants assigned for the material, classification and so on). It also depends upon the checks turned on in the customizing for the change request step, the number of parallel processes used, and of course the hardware.

3.3. Customizing

3.3.1. Define Object Types

Go to *Master Data Governance* → *General Settings* → *Data Transfer* → *Define Object Types*

- Relationship to Business Object Type/Message Data Type
- Implementing Classes
- Additional Selection Fields
- Sequence of Objects to be processed
- Business Activity to be used in import

SAP delivers Object type 194 for material with business activity MATB. The delivered customizing here enables you to run DIF only with the SAP standard Basic Types for MATMAS (MATMAS01- MATMAS05). You only have to change this customizing if you want to use an own import class.

With SAP notes 1962155 'Object Type descriptions' and 1966991 'Data Import parameter' you can create more than one object type for the BO type 194. With this function it is possible to assign other business activity. For example, for object type Z194 assign business activity MATM. That means, you can assign a Multi-Record Processing change request types for the data import.

Display View "Define Object types for Data Transfer": Overview of Sele

Obj. Type	Description	BO Type	Description
194	Material	194	Material
Z194	Material with Multi Record Processing MATM	194	Material
ZZ19	Material with MATA	194	Material

Display View "Maintain Business Activity": Overview of Selected Set

Obj. Type	BO Type	Bus.Acty	Description
194	194	MATB	Material
Z194	194	MATM	Material
ZZ19	194	MATA	Material

Import Master Data and Mapping Information

Import | Simulate Import | Custom Converter Settings | Display Monitoring

Import Settings

Object Type: * Material with Multi Recor
Description: * TEST MULTI REC
Overwrite: ☒
Custom Converter:

Governance Settings

Governance: ☒
Post Processing: Defined by Change Req
Change Request Type: * MATLMRP
Edition:

Scheduling Settings

Scheduling: Import Now
Date:
Time: 00:00:00

Parallel Processing Settings

Parallel Processing: ☐
Queue name:
Number of Processes: 0

Data Sources

Add | Show Directory Content

Object Type	Source Directory
Material	MDG_TRANSFER_MAT_IN04

3.3.2. File Source and Archive Directories

When setting up the data import, you have to define source and archive *logical directories* in the MDG Data Transfer Customizing activity (cross client) *Master Data Governance → General Settings → Data Transfer → Define File Source and Archive Directories for Data Transfer*. For more information on logical directories, see the documentation for the Customizing activity *Define File Source and Archive Directories for Data Transfer*.

One or more logical source directories can be defined on the application server, where files for the import may be stored. After completion of the import, the system automatically moves the processed files to the defined archive directory for the given object type.

To assign directories as sources or archives, the physical directory paths must first be created in the file system. Then, the SAP transaction *FILE* must be used to map them to logical names. You can then use these logical names in the above-mentioned Customizing activity. Consider creating several object-specific logical directories.

Transaction: FILE

1. Logical File Path Definition: Create a logical file path
2. Assignment of Physical Paths to Logical Path: assign the physical path
3. Logical File Name Definition, Cross-Client: assign the logical path to logical file

You can use the SAP transaction *CG3Z* to upload a file from the local file system to the application server. Also consider other possibilities (remote access to the application server directories).

3.4. Web Dynpro Applications

In EhP6, the new Web Dynpro application *MDG_BS_FILE_IMPORT* (transaction code *DTIMPORT*) is delivered.

The new Web Dynpro applications support

- one step process
- aligned look & feel
- enhanced file handling for import
- improved mass import capabilities (allows asynchronous, scheduled and parallel processing via Web User Interface)
- enhanced monitoring

For imports from the local file system, you can use the EhP5 Web UI *MDG_FILE_UPLOAD_CMP* (for low data volume only). The Web Dynpro application is still available in later releases.

With the application parameter *PROCESS* and *CRTYPE* you can default then different change request types. Here as an example *MAT0A*:

Web Dynpro Application

Application Type: Standard | Personalization | Application Configuration

Web Dynpro Applicat. MDG_BS_FILE_IMPORT

Description Data Import with Parameters MATA + 194 + MAT0A

Application Config. MDG_BS_FILE_IMPORT_CONF_ID

Protocol ☐ HTTPS

Name	Value
PROCESS	MATA
OTC	194
CRTYPE	MAT0A

3.5. Import Options

It is possible to perform a data import for one or more materials (MATMAS) IDoc XML files, with one or more IDoc's per XML file, and with each IDoc containing one or more materials.

It is possible to assign classification data to a material using data import. This can be done by importing one or more CLFMAS IDoc XML files, with one or more IDoc's per XML file, and with each IDoc containing **ONE** E1OCLFM segment.

Note: The class that is to be assigned to a material must have been created in the MDG system before performing the import of classification data.

The following options are available for

- Import (Create/Change) material to Active Area with Classification
- Import (Create/Change) material to Active Area without Classification
- Import (Create) material to Staging Area with Classification
- Import (Create) material to Staging Area without Classification
- Import (Create/Change) material to Active Area with Classification in case of errors write to Staging
- Import (Create/Change) material to Active Area without Classification in case of errors write to Staging

3.5.1. Select Options on MDG_BS_FILE_IMPORT

Object Type

Choose Material 194 or Classification

Description

Description that helps identify import processes in the monitoring / logging

Overwrite

The overwrite option controls whether existing objects in the target system are overwritten. It can only be set if the IDOC will be imported to the active area. With MDG7.0 and SAP notes 2045848 and 2035892 it is also possible to set the flag if you want to import to the staging area. If you want to overwrite a material, this indicator **MUST** be set. Otherwise, the import for an existing material will fail. If the Overwrite indicator is set, the material will be overwritten. If the Overwrite indicator is not set and the material is already in the active area, the material is rejected during import (and not written to the staging area).

Custom Converter

User defined conversion. Usually there is no additional transformation needed in this step (if the format is a SAP standard format - either IDoc or SOA based). See chapter [6 Data Import Framework using CSV File](#).

Governance

If activated, data is loaded into the staging area (a change request will be created).

Post Processing

Post processing for failed objects can either be done manually (using "Forward Error Handling" or IDoc Monitoring) or can be supported by a change request process.

Change Request Type

You have to select a change request type if “Governance” is set or “Post Processing defined by Change Request” is selected.

Scheduling / Date

Scheduling: indicator to determine if import is done immediately or at a scheduled date.

Date: scheduling date and time

Parallel Processing / Queue Name / Number of Processes

Parallel Processing: indicator to determine if the import will be done with parallel processes

Queue Name: qRFC queue name which has been registered in transaction SMQ2

Number of Processes: maximum number of parallel processes used

Data Sources

Selection of source directories for the object types. This can be one or many per object type, and depending on the data transfer customizing, there might be main object types (e.g. Material) and sub object types (e.g. Classification, Key Mapping, Value Mapping).

Import, Simulate Import

Starts the import process or a simulated import

Custom Converter Settings

A customer-defined converter can be leveraged by the import process. This converter can be defined and integrated in the Customizing activity Master Data Governance → General Settings → Data Transfer → Define Filter Converter Type / BAdI: Filter dependent BAdI for file converter. See chapter [6 Data Import Framework using CSV File](#).

Display Monitoring

After the import has been started, you can navigate directly to the Monitoring. Web Dynpro application:

MDG_BS_DL_MONITOR_CONF

Object Type	Source Directory
Material	MDG_TRANSFER_MAT_IN01
Classification (ERP/ALE)	MDG_TRANSFER_MAT_IN02

3.6. IDoc Reduction

Scenario:

You have created a reduced message type. You want to use this to import material into the active area.

Steps:

A 'reduced' message type can be created from a IDoc using transaction BD53. For information on how to create a reduced message type, refer to this link: <http://wiki.scn.sap.com/wiki/display/ABAP/Reduced+Message+Types>

IDoc reduction creates a new message type that is then assigned to the IDoc. This technique enables sending a subset of data that is relevant for the receiving system.

The logic of Material Data Import checks if there are any IDoc fields that are not available in the imported IDoc. For the missing fields, the NODATA sign ('/') is set (prerequisite are SAP Notes 2005559 and 1885531).

Important:

The NODATA sign ('/') is only considered during upload into active area. If you upload it into staging the NODATA sign ('/') is not considered correctly. You have to fill all the fields to import into staging.

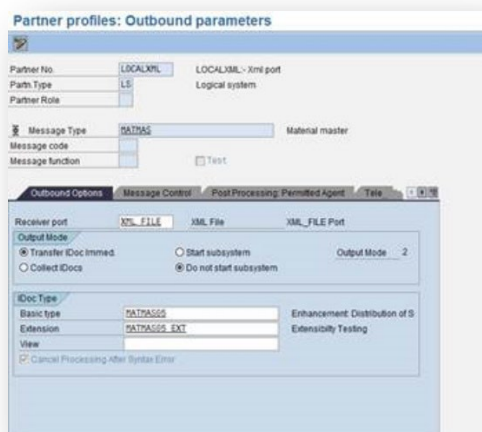
3.7. IDoc Extension

Scenario:

You have extended the IDoc MATMAS05 to include custom fields that are also under governance. You want to use this extended IDoc in import material.

Steps:

- Create a custom segment (WE31)
- Create IDoc extension and add the new custom segment (WE30)
- Release segment and IDoc extension (WE31)
- Add the new entry for MATMAS and its extension (WE82)
- Check and transport IDoc extension (WE30)
- Execute transaction CMOD and activate the Enhancement. Provide a project name and select Enhancement Assignments. Provide the enhancement MGV00001. Provide implementation for the user exits:
EXIT_SAPLMV01_002 for outbound processing and EXIT_SAPLMV01_002 for inbound processing.
- Provide the new entries for inbound function module IDOC_INPUT_MATMAS01 (WE57)
- Make the adjustment for the partner profiles (WE20)



Note:

Only if you have created an extension to SAP standard Basic Type you have to create a partner profile for DIF.

Solution:

If the IDoc can be uploaded to the active area, the custom fields are correctly defined in the data model MM, and an SMT mapping between the active and the staging area exists, then the IDoc can also be uploaded into the staging area.

Usually the IDoc is processed with function module IDOC_INPUT_MATMAS01 during an import to the active area. If this is not sufficient for your extension it is possible to change the way, the data is processed.

The *process code* defines the type of data processing that happens during an import to the active area. By default, the process code MATM is used to process MATMAS data during import, which performs the processing using Function Module IDOC_INPUT_MATMAS01.

If required, you can define a new inbound process code with own function module using transaction WE42, and use the same while defining a partner profile for the sender system using transaction WE20.

3.8. Key Mapping for material numbers

For the import of material data, a material number has to be provided in the file. The import can then be done either with harmonized keys (where the key from the source system is adopted), or with key mapping turned on.

Scenario:

If you are working with multiple connected systems, key mapping may be required if the material keys were not harmonized across the MDG hub and client systems during the initial load process.

Solution:

Perform the following steps to configure the key mapping function on the MDG hub.

1. Navigate to the MDG Customizing activity *Master Data Governance* → *General Settings* → *Data Replication* → *Define Custom Settings for Data Replication* → *Define Technical Settings* → *Define Technical Settings for Business Systems*
2. Select a connected business system and choose *Define Bus. Systems. BOs*.
3. Select BO Type 194 (Material)
4. Choose *Define Bus. Systems. BOs, Communication Channel*
5. For the Communication Channel 'Replication via IDoc', in the *Key Harm.* column, select 'Key Mapping' or 'Harmonized IDs' as needed

The screenshot shows the SAP MDG Customizing activity 'Define Bus. Systems, BOs, Communication Channel'. The title bar reads 'Change View "Define Bus. Systems, BOs, Communication Channel": Overview'. The interface includes a 'Dialog Structure' tree on the left with nodes for 'Define Business Systems', 'Define Bus. Systems', and 'Define Bus. Systems, BOs, Communication Channel'. The main area displays configuration details for Business System 'QM8_421', Bus. Obj. Type '194', and Description 'Material'. Below this is a table titled 'Define Bus. Systems, BOs, Communication Channel' with columns: 'C. Channel', 'Key Harm.', 'Upd. KM', 'Storage Repl. Data', and 'Sup. Time Dep.'. The row for 'Replication via IDoc' shows 'Key Mapping' selected in the 'Key Harm.' column, 'Not Defined' in 'Storage Repl. Data', and 'Not Defined' in 'Sup. Time Dep.'. The 'Upd. KM' column has a checked checkbox.

C. Channel	Key Harm.	Upd. KM	Storage Repl. Data	Sup. Time Dep.
Replication via IDoc	Key Mapping	<input checked="" type="checkbox"/>	Not Defined	Not Defined

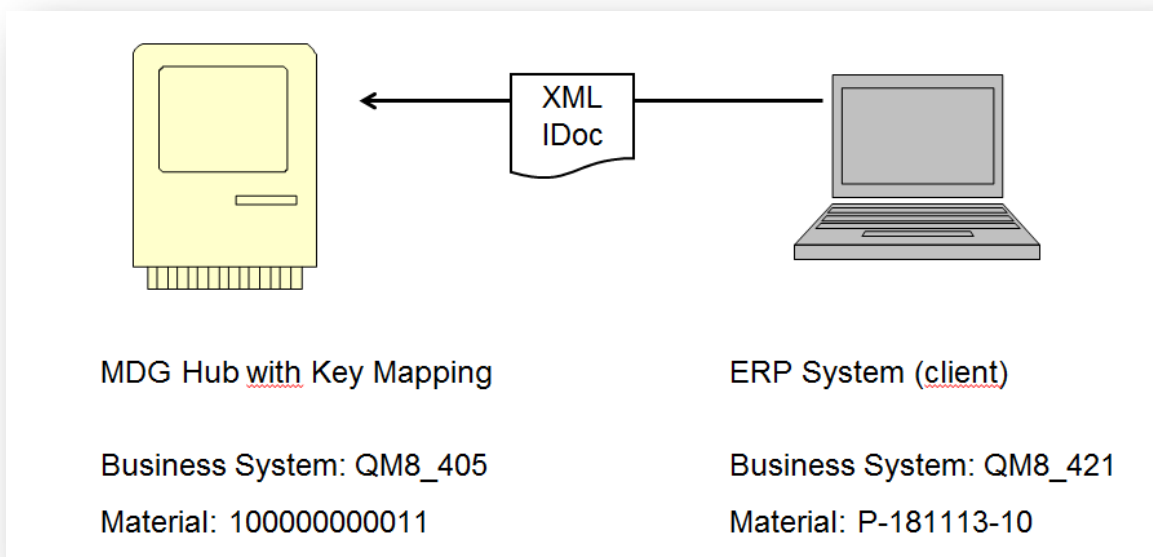
If required, specific key mappings can be maintained in the *Material Governance work center*. To maintain key mapping in the Material Governance work center, within the Data Exchange section, navigate to the Data Replication work set and select *Create and Edit Key Mapping* as shown below.

*No.	*System ID	*Business Object Type	Object ID Type	*Object ID
1	QM8_421	Material	Material ID (internal format) (ERP)	P-181113-10
2	QM8_405	Material	Material ID (internal format) (ERP)	000000010000000011

3.8.1. Key Mapping and only Internal Number Range

Scenario:

You have to maintain the key mapping before the data import is started. Alternatively, if a given material key mapping is not found and only internal number assignment is configured for the given material type, the data import logic will draw a new internal number and will automatically create the required key mapping.



Solution:

Example for material type HIBE with step by step explanation:

Key mapping is enabled in this example for client system QM8CLNT421.

Change View "Define Bus. Systems, BOs, Communication Channel": Overview

Dialog Structure: Define Business Systems > Define Bus. Systems > Define Bus. System

Business System: QM8_421
 Bus. Obj. Type: 194
 Description: Material

Define Bus. Systems, BOs, Communication Channel					
C. Channel	Key Harm.	Upd. KM	Storage Repl. Data	Sup. Time Dep.	
Replication via IDoc	Key Mapping	<input checked="" type="checkbox"/>	Not Defined	Not Defined	

Material

type HIBE has only an internal number range in the MDG Hub QM8_405.

Group Overview: Number Range Material master

Group	Element	Elem. Text	From No.	To No.	NR Status	Ext.
theo 01						
	HIBE	Operating supplies	10000000000	20000000000	10000000019	
			10000000000	20000000000	10000000019	

Received IDoc XML for DIF import with external number from client system QM8CLNT421 with material type HIBE:

```
<?xml version="1.0" encoding="UTF-8"?>
- <MATMAS05>
  - <IDOC BEGIN="1">
    - <EDI_DC40 SEGMENT="1">
      <TABNAM>EDI_DC40</TABNAM>
      <MANDT>421</MANDT>
      <DOCNUM>0000000000215027</DOCNUM>
      <DOCREL>731</DOCREL>
      <STATUS>30</STATUS>
      <DIRECT>1</DIRECT>
      <OUTMOD>2</OUTMOD>
      <IDOCTYP>MATMAS05</IDOCTYP>
      <MESTYP>MATMAS</MESTYP>
      <SNDPOR>SAPQM8</SNDPOR>
      <SNDPRT>LS</SNDPRT>
      <SNDPRN>QM8CLNT421</SNDPRN>
      <RCVPOR>XML_PORT</RCVPOR>
      <RCVPRT>LS</RCVPRT>
      <RCVPRN>QM8CLNT405</RCVPRN>
      <CREDAT>20131113</CREDAT>
      <CRETIM>122115</CRETIM>
      <SERIAL>20131113122115</SERIAL>
    </EDI_DC40>
    - <E1MARAM SEGMENT="1">
      <MSGFN>005</MSGFN>
      <MATNR>P-181113-10</MATNR>
      <ERSDA>20131111</ERSDA>
      <ERNAM>SINHAAK</ERNAM>
      <LAEDA>00000000</LAEDA>
      <PSTAT>KDLVC</PSTAT>
      <MTART>HIBE</MTART>
      <MBRSH>C</MBRSH>
      <MATKL>01</MATKL>
      <MEINS>EA</MEINS>
      <BLANZ>000</BLANZ>
      <I ΔROR>001</I ΔROR>
```

During data import generated change request with internal number for material P-181113-10:

Change Request

General

Notes

Attachments

General Data

Change Request ID: 104709

Description: Created Using MDG Initial Load

Priority:

Due Date:

Reason:

Process Data

Status: Changes to Be Executed

Current Workitem:

Created On/By: 18.11.2013 14:45:55

Changed On/By: 18.11.2013 14:45:56

Basic Data

Edit

Details

General Data

Material: 10000000011

Base Unit of Measure: EA each

Material Type: HIBE Operating supplies

Industry Sector: C Chemical industry

Material Group: 01 Material group 1

Old Material Number:

Authorization Group:

Grouping

External Material Group:

Product Hierarchy: 00001 Tools

Generic Item Group Category: NORM Standard item

Material Group Packaging Mate...

Design Data

Lab/Office: 001 Laboratory 1

Industry Standard Description:

During data import generated key mapping:

Search Key Mapping

Object Type: * Material

Object Identifier: Material ID (internal format) (ERP)

Business System: QM8_421

ID Value: P-181113-10

Search Objects

Clear Search Criteria

Selected Objects

View: [Standard View]

Print Version

Export

Business System	ID Value	Description of Object ID Type
QM8_421	P-181113-10	Material ID (internal format) (ERP)

Existing Key Mappings for Material / Material ID (internal format) (ERP) / QM8_421 / P-181113-10

View: [Standard View]

Print Version





Export

Object Number	Business System	ID Value	Description of Object ID Type	Description of Business Object Type
1	QM8_421	P-181113-10	Material ID (internal format) (ERP)	Material
2	QM8_405	000000010000000011	Material ID (internal format) (ERP)	Material

3.9. Key mapping for other keys

Key mapping can be used to map the keys of the MDG system to the keys of the external (client) systems. For more information on key mapping, see the documentation of the Customizing activity *Master Data Governance → General Settings → Key Mapping*.

We deliver a default set of fields relevant for IDoc key mapping. If required, you can add more fields to this list, which can be accessed using the Customizing activity *Master Data Governance → Master Data Governance for Material → Maintain Fields for IDoc Key Mapping*.

Display View "ID Mapping": Overview				
   				
ID Mapping				
Field Name	Segment type	BO Type	Object ID Type	
AENMR	E1MARAM	45	25	
AESZN	E1MARAM	45	25	
BMATN	E1MARAM	194	20	
KUNNR	E1MARAM	159	918	

Note: This IMG activity was introduced with MDG6.1. With MDG7.0, a customer namespace was introduced to allow a modification free insertion of customer segments/fields. The corresponding maintenance view MDG_MAT_IDMAP_V was introduced with EhP6.

To enable key mapping, you may need to define new BO types, ID types and if necessary ID structure for complex keys in the IMG activities *Master Data Governance → General Settings → Key Mapping → Enhance Key Mapping Content*. Key mappings can be maintained in the *Material Governance work center*. To maintain key mapping in the Material Governance work center, within the Data Exchange section, navigate to the Data Replication work set and select *Create and Edit Key Mapping* as shown below.

► Change Requests

▼ Data Exchange

▼ Data Replication

- Replicate by Material Selection
- Replicate by Replication Model
- Monitor Replication
- Define Filter Criteria
- Search Key Mapping
- Create and Edit Key Mapping

Key Mapping Plant : 0001

Save

Object Selection

Business Object Type: * Plant

Business System: * E8B_001

Object ID Type/Object ID: * Plant ID (ERP) / 0001

Show

Mapped Objects

Add Row Change Row Delete Row Undo Changes

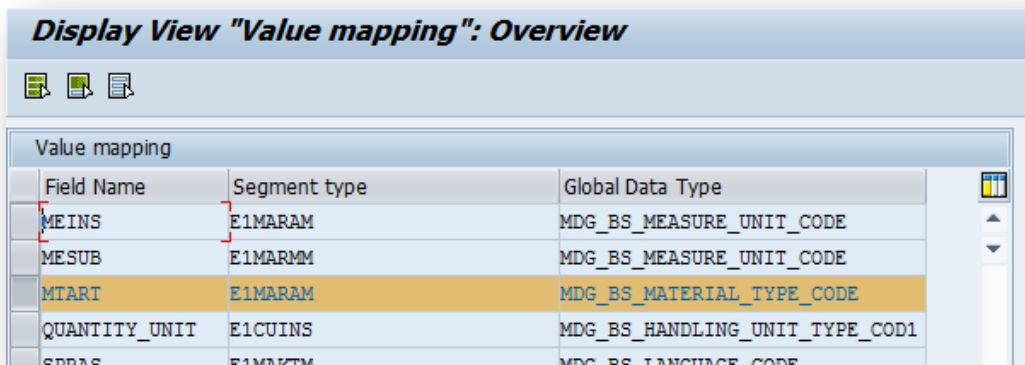
*No.	*System ID	*Business Object Type	Object ID Type	*Object ID
1	E8B_001	Plant	Plant ID (ERP)	0001
2	▼ Q7V_405	Plant	Plant ID (ERP)	ABCD

3.10. Value Mapping

Value mapping can be used to map the internal code values to the code values of a given external list. For more information on value mapping, see the documentation of the Customizing activity *Master Data Governance → General Settings → Value Mapping*.

We deliver a default set of fields relevant for IDoc value mapping. If required, you can add more fields to this list, which can be accessed using the Customizing activity *Master Data Governance* → *Master Data Governance for Material* → *Maintain Fields for IDoc Value Mapping*.

Display View "Value mapping": Overview

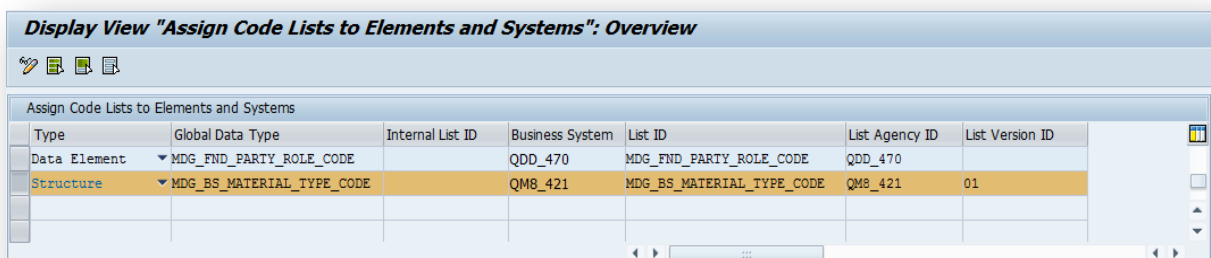


Field Name	Segment type	Global Data Type
MEINS	E1MARAM	MDG_BS_MEASURE_UNIT_CODE
MESUB	E1MARM	MDG_BS_MEASURE_UNIT_CODE
MTART	E1MARAM	MDG_BS_MATERIAL_TYPE_CODE
QUANTITY_UNIT	E1CUINS	MDG_BS_HANDLING_UNIT_TYPE_CODE
SPRAS	E1MAKTM	MDG_BS_LANGUAGE_CODE

Note: This IMG activity was introduced with MDG6.1. With MDG7.0, a customer namespace was introduced to allow a modification free insertion of customer segments/fields. The corresponding maintenance view MDG_MAT_VALMAP_V was introduced with EhP6.

Note: Even though the IDoc contains the ISO representation of e.g. Unit of Measurements, Language Codes and Country Codes, the MDG value mapping uses the internal representation. For example: Unit "Cubic Centimeters" has internally the code CCM, the corresponding ISO code is CMQ. Without value mapping, the IDoc sends CMQ, whereas the value mapping needs to map CCM instead of CMQ. Prerequisite is SAP note 2036316.
To enable value mapping, assign the code list for the data element in the MDG hub configuration (as shown below with an example for material type code) using the Customizing activity *Master Data Governance* → *General Settings* → *Value Mapping* → *Assign Code Lists to Elements and Systems*.

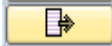
Display View "Assign Code Lists to Elements and Systems": Overview



Type	Global Data Type	Internal List ID	Business System	List ID	List Agency ID	List Version ID
Data Element	MDG_FND_PARTY_ROLE_CODE		QDD_470	MDG_FND_PARTY_ROLE_CODE	QDD_470	
Structure	MDG_BS_MATERIAL_TYPE_CODE		QM8_421	MDG_BS_MATERIAL_TYPE_CODE	QM8_421	01

For example, the correct data type for field MARA-MTART (Material Type) is MDG_BS_MATERIAL_TYPE_CODE; for field MARC-MMSTA (Plant-Specific Material Status) it is "MDGCO_PROD_LOG_PROCUSABPR_CODE".

Next, execute the Customizing activity *Master Data Governance* → *General Settings* → *Value Mapping* → *Maintain Value Mapping*.

To start maintaining value mappings, select the navigation button  next to the Customizing element, and maintain the values as shown below.

Display View "Assign Code Lists": Overview

Dialog Structure

Assign Code Lists

Define Value Mapping

Object Type

TABL

Global Data Typ

MDG_BS_MATERIAL_TYPE_CODE

Assign Code Lists

Mapping ID	List Agency ID	List ID	List Version ID	Internal List ID	Outb. Def.	No Map.	Mapping Class
1	QMS_421	MDG_BS_MATERIAL_TYPE_CODE	01		<input type="checkbox"/>	<input type="checkbox"/>	

Display View "Define Value Mapping": Overview

Dialog Structure

- Assign Code Lists
 - Define Value Mapping

Object Type: TABL

Global Data Type: MDG_BS_MATERIAL_TYPE_CODE

Mapping ID: 1

External Codelist

External Codelist

Map Comb.	Internal Code Value	Description	External Code Value	Inb. Def	Outb. Def.
1	FERT	Finished Product	HERS	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.11. Export File for Material using IDoc's - MATMAS / CLFMAS

To export material master data, you need to configure a logical system for XML-IDoc extraction to the application server file system (in each client system).

Steps:

- Create a Logical System (SALE)
- Add IDoc types "MATMAS" and "CLFMAS" to Distribution Model (BD64)
- Create an Outbound Partner Profile (WE20)
- Create a XML-file port for IDoc processing (WE21)
- Send material data with transaction BD10 – including classification data.

See also Configuration Guide; section *Data Export from Source System* ([click here](#)).

3.12. Error Handling

It is possible to perform data import for one or more MATMAS IDoc XML files, with one or more IDoc's per XML file, and with each IDoc containing one or more materials.

Scenario	No of XML files	Import to Active Area	Import to Active Area, with Errors sent to Staging Area	Import to Staging Area
1 IDoc 1 Material	1 XML	If material has invalid data, import for the IDOC fails, with an error message providing information on what went wrong.	If material has invalid data, writing to active area fails and the material is written to the staging area. An error message is displayed in the logs providing information on what went wrong while saving to the active area, along with the created change request number. If the material is rejected while writing to staging area, an error message is displayed providing information on what went wrong.	If one material is rejected while writing to the staging area, ALL materials from the whole IDoc XML are rejected (all or nothing), and an error message is displayed providing information on what went wrong.
1 IDoc and n Materials	1 XML	If one material in the IDOC has invalid data (e.g. invalid UoM), all materials in that IDOC are rejected (all or nothing behavior of IDOC_INPUT_MATMAS01). For conditions like material already present in active area or locked in open CR, specific material objects will be rejected, while other material objects from the IDOC are processed normally.	If one material in the IDOC has invalid data (e.g. invalid UoM), writing to the active area fails and all materials in that IDOC are written to the staging area. If materials are rejected by the staging area, reject all materials from the whole IDoc XML that should have been posted to the staging area (Gov. API is "all or nothing"). An error message is displayed providing information on what went wrong.	
n IDoc's and 1 Material each	1XML / IDoc	Same as Row (2) 1 IDoc 1 Material	Same as Row (2) 1 IDoc 1 Material	
n IDoc's and 1 Material each	1XML for all IDoc's	Data import fails for the IDOC containing the erroneous material, with error messages providing information on what went wrong. Other IDOCs are processed normally.	If one material in the IDOC has invalid data (e.g. invalid UoM), writing to the active area fails and all materials in that IDOC are written to the staging area. If materials are rejected by the staging area, reject all materials from the whole IDoc XML that should have been posted to the staging area (Gov. API is "all or nothing"). An error message is displayed providing information on what went wrong.	
n IDoc's and m Materials	1XML for all n IDoc's	If one material in the IDOC has invalid data (e.g. invalid UoM), all materials in that IDOC are rejected. (Other IDOCs in the same XML without erroneous material will be processed normally). For conditions like material already present in active area or locked in open CR, specific material objects will be rejected, while other material objects from the IDOC are processed normally.		
n IDoc's and m Materials	1XML / IDoc	Same as Row (3) 1 IDoc n Materials		

4. RECOMMENDATION FOR MATERIAL CREATION FROM CSV FILE

1. To change/create a small number of entities in staging, use the standard file upload function (USMD_FILE_UPLOAD).
2. Use the Data Import Framework (DIF) with converter to create a complete material in the staging area
 - a. SAP Note for Example implementation: 1819039
 - b. Additional required SAP Note: 1780815
 - c. Note: All governance-relevant entities are created for the given keys (plant, distribution chain, and so on)
 - d. This may result in a large maintenance status.
 - e. This can result in additional mandatory fields, for example, Weight UOM for the sales view.
3. There are other alternatives such as a custom program using direct input or LSMW if you want to create a complete material in the active area.

The following chapters describe option 2 with the Data Import Framework (DIF).

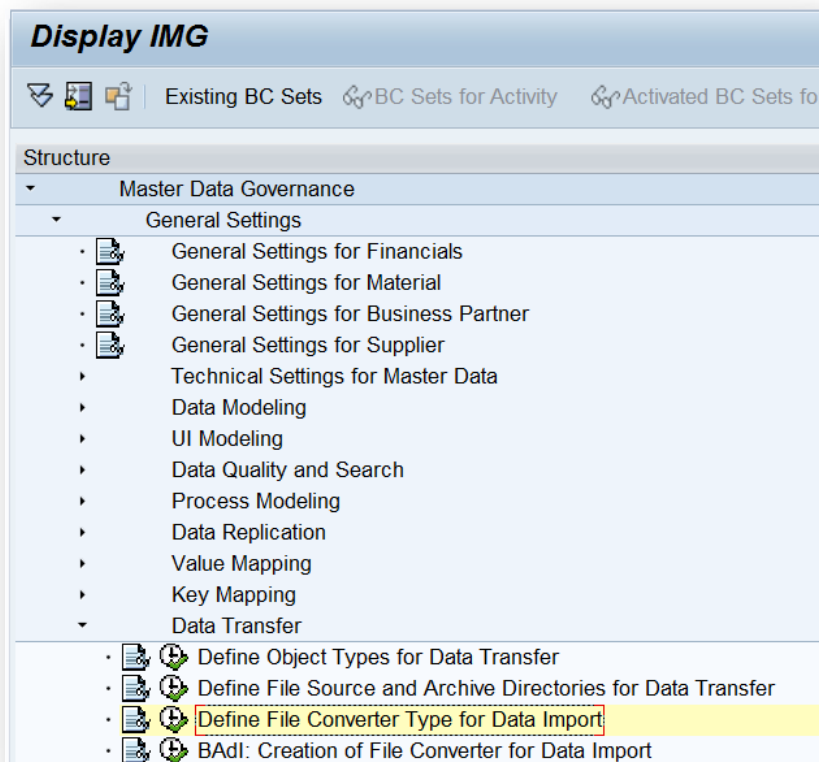
Material change in the staging area with DIF is not possible; it is only possible in the active area.

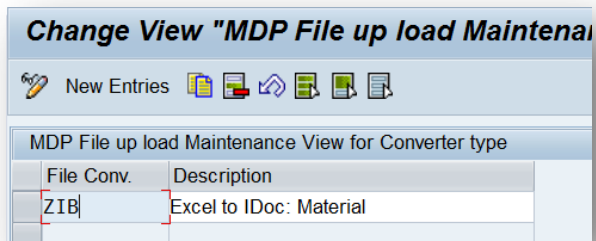
5. DATA IMPORT FRAMEWORK USING CSV FILE

Some configuration is necessary to use the Data Import Framework for uploading material data from a CSV file. Follow the steps shown in the screenshots below to define a new custom converter type and to create a BAdI implementation.

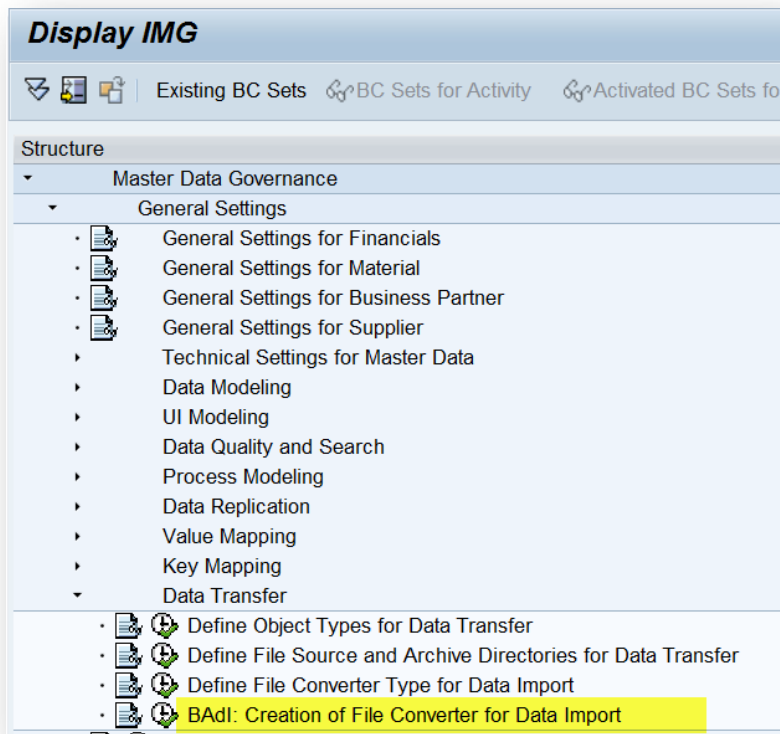
5.1. File Converter Type

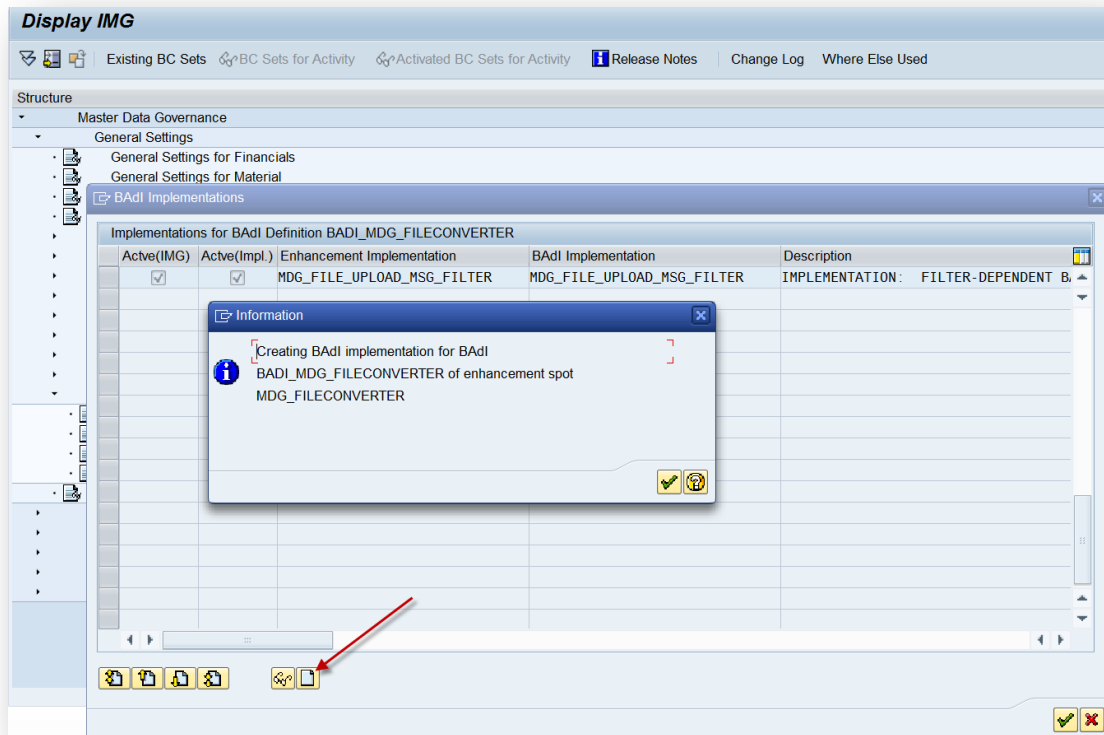
- Define File Converter
Customer-specific converter to be processed immediately before import (can be used to map data from the XML file)
- BAdI for File Converter
Implementation for File Converter



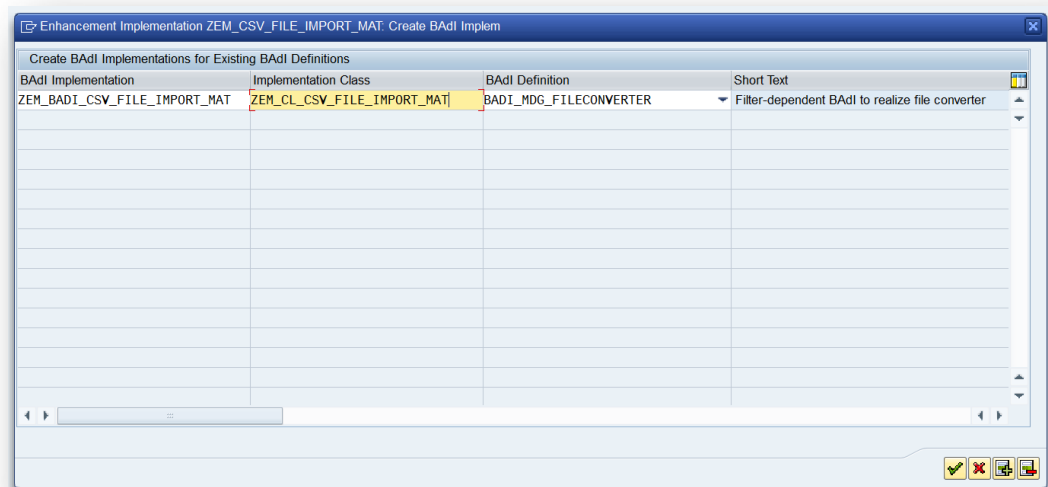
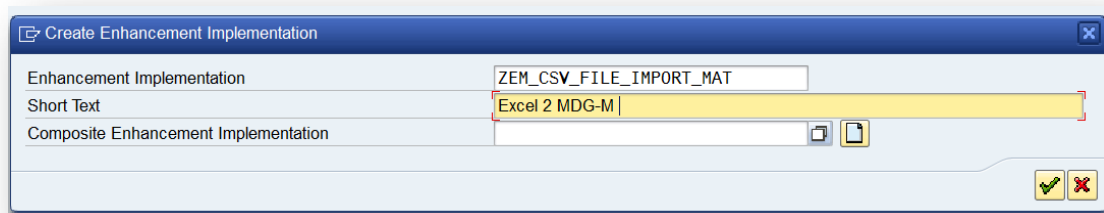


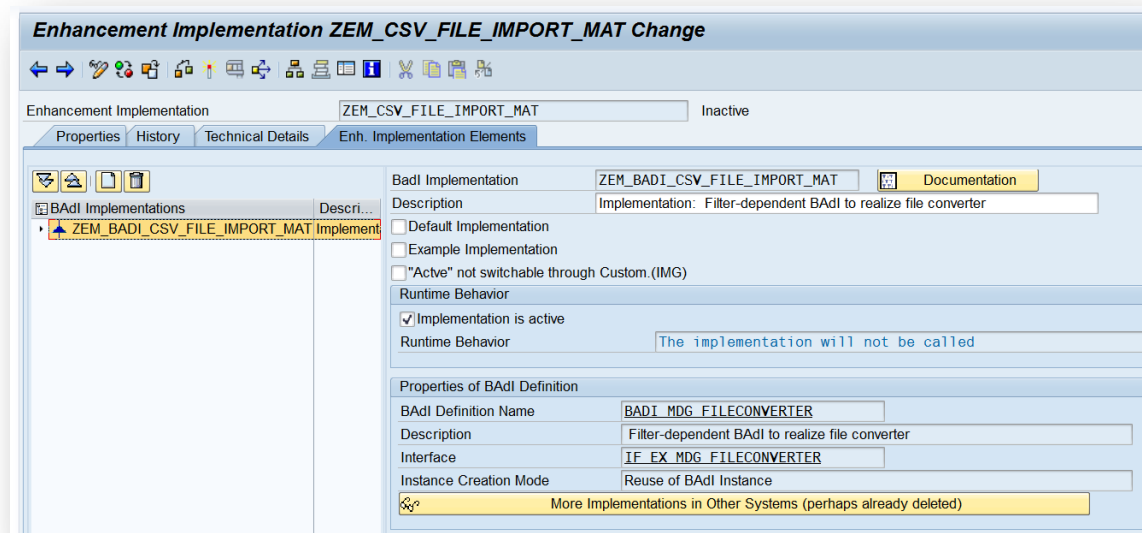
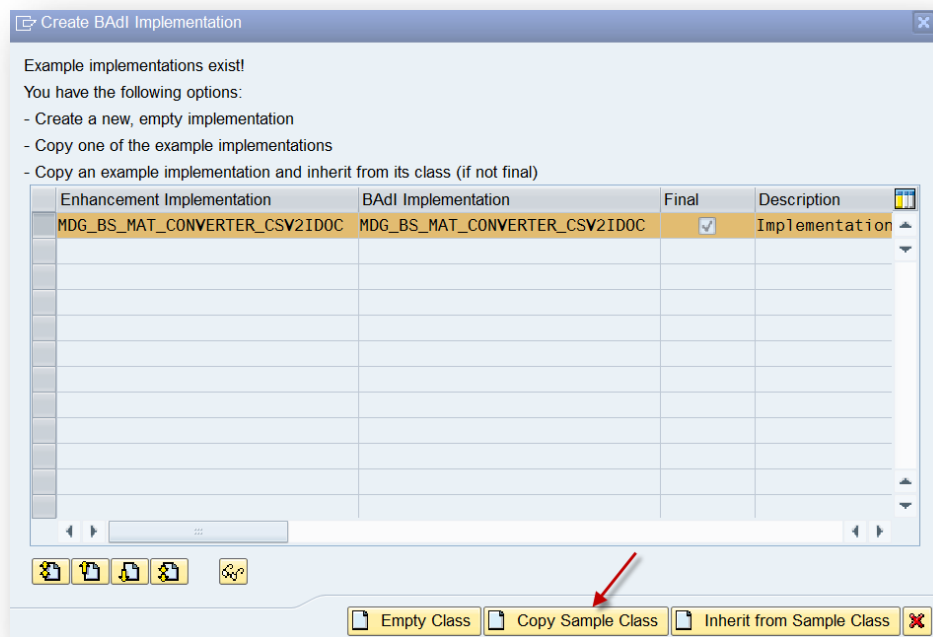
5.2. BAdI



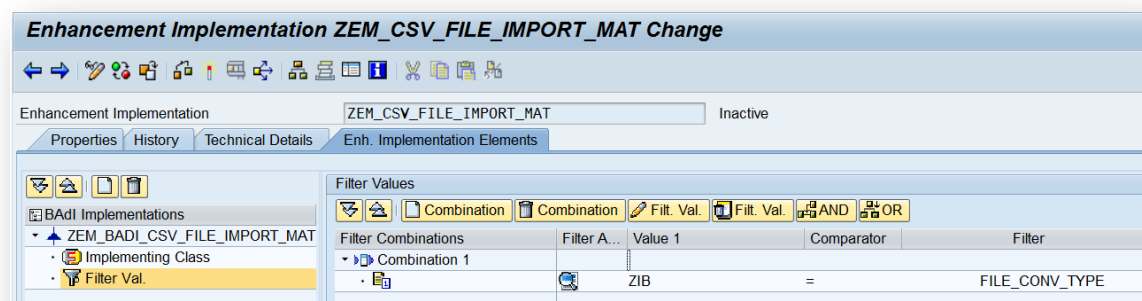


Enhancement Spot: MDG_FILECONVERTER
 BAdI Definition: BADI_MDG_FILECONVERTER
 BAdI Implementation (Example Implementation): SAP Note 1819039





Set the filter with your new converter type:



Note: If you want to use XLS files instead of CSV files you have to enhance the converter. If you are familiar with /SAPSRM/EXCEL, you could copy the code from the standard SRM package that exists to handle XLS files.

Note: If you want to support internal numbering, you can call BAPI_STDMATERIAL_GETINTNUMBER to derive a new material number for the loaded materials in the GET_DATA method of your converter BAdI implementation.

5.3. Test

For testing, you can use a CSV file like this:

Material number	Material type	Industry sector	Base unit of measurement (ISO)	Material group	Weight unit (ISO)	Material description		
XXX DEMO20130207_III	FERT	M	EA	1	KG	First Test Material	YYY	
XXX DEMO20130207_IV	HAWA	C	PF	2	TO	Second Test Material	YYY	

You can copy and paste from here, to create this file:

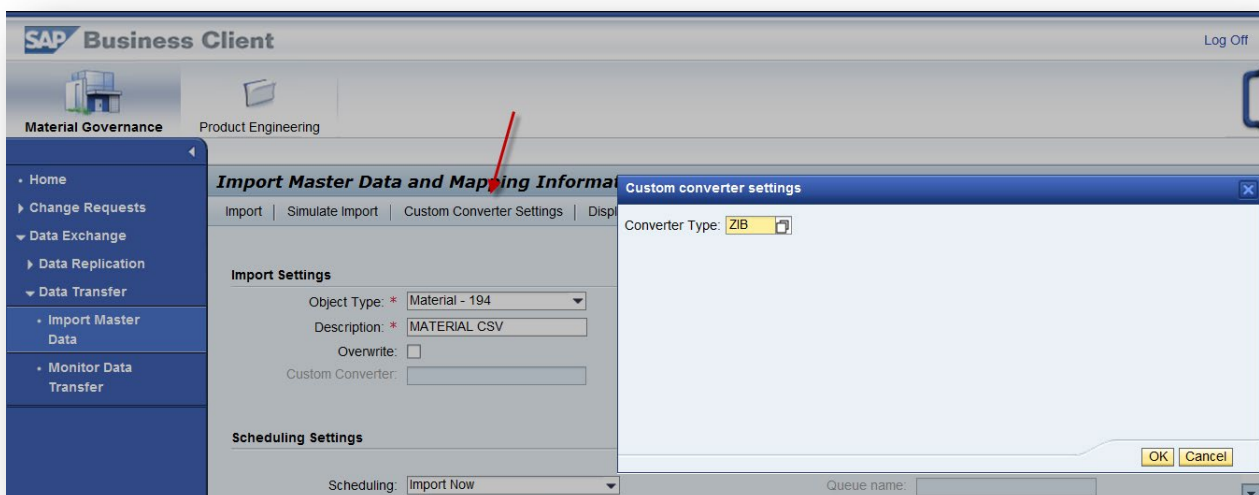
	Material number	Material type	Industry sector	Base unit of measurement (ISO)	Material group	Weight unit (ISO)	Material description	
XXX	DEMO20130207_III	FERT	M	EA	1	KG	First Test Material	YYY
XXX	DEMO20130207_IV	HAWA	C	PF	2	TO	Second Test Material	YYY

Hints for the example BAdI implementation provided by SAP (class CL_MDG_BS_MAT_CONVERT_CSV2IDOC)

- It uses delimiters XXX and YYY to mark the beginning and end of a line in the CSV file
- The CSV format expected by the example BAdI implementation is different from the file format provided by the entity based USMD_FILE_DOWNLOAD WebDynpro application

Note: Ensure that the delimiter used in the CSV file is the same as the one used in the converter BAdI implementation. The example BAdI implementation uses the semicolon (;) as delimiter.

To upload a CSV file, use the standard UI for importing master data and select the custom converter to handle the CSV file.



If the end user loads the CSV file directly from the front end, the user's role must contain the configuration MDG_FILE_UPLOAD_CMP_CONF_ID (see also chapter 4.4).

The screenshot shows the 'Web Dynpro Application' configuration window. At the top, there are tabs for 'Application Type: Standard', 'Personalization', and 'Application Configuration'. The 'Application Configuration' tab is active. Below the tabs, there are three input fields: 'Web Dynpro Applicat.' with the value 'MDG_FILE_UPLOAD_CMP', 'Description' with the value 'DIF including converter', and 'Application Config.' with the value 'MDG_FILE_UPLOAD_CMP_CONF_ID'. Below these fields is a table with two columns: 'Name' and 'Value'. The table is currently empty. At the bottom left, there are two small icons: a green checkmark and a red X.

Name	Value

6. ADDITIONAL INFORMATION

6.1. Further Reading

Information on SAP MDG on SAP S/4HANA

- Exchange knowledge: [SAP Community](#) | [Q&A](#) | [Blog](#)
- Try SAP Master Data Governance on S/4HANA for free: [Trial Version](#)
- Learn more: [Latest Release](#) | [Webinars](#) | [Help Portal](#) | [How-to Information](#) | [Key Presentations](#)

SAP Roadmap Explorer

- Please see the [roadmap for SAP Master Data Governance](#)

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](#) |

6.2. SAP Notes

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

<u>Note Number</u>	Note Description
2313368	Functional restrictions in MDG for Business Partner / Customer / Supplier with SAP Master Data Governance 9.0
2472845	Functional restrictions in MDG for Business Partner / Customer / Supplier with SAP Master Data Governance 9.1
2656712	Functional restrictions in MDG for Business Partner / Customer / Supplier in SAP Master Data Governance 9.2 and on SAP S/4HANA 1809
2816557	Functional restrictions in MDG for Business Partner / Customer / Supplier on SAP S/4HANA 1909
2925030	Functional restrictions in MDG for Business Partner / Customer / Supplier on SAP S/4HANA 2020
3070003	Functional restrictions in MDG for Business Partner / Customer / Supplier on SAP S/4HANA 2021
3194967	MDG Customer Connection 2021 for S/4HANA 2022
3043582	MDG Customer Connection 2020
2462331	MDG: Performance issue in DIF
2434150	DIF: Improvements for Error Handling with Custom Converters
2431689	MDG MM: Long runtime during data import
2418293	MDG: Performance Improvement for Field Property Determination

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