How-To Guide: Mass Import Vendor Characteristics for RFM Solutions by Utopia

Applies to

Utopia Solutions for MDG RFM

Summary

MDG for RFM include standard implementations of the Mass Import that reads the data from file which captured from other system. The data in the file can be saved to 'Active Area' directly or 'Staging Area' based on the options chosen in the Import Master Data and Mapping Information screen. The standard implementations support Key Mapping and Value Mapping.

This guide describes the necessary configuration steps for implementing Mass Import. This guide explains the Mass Import for Vendor Characteristics.

You can perform most configuration tasks in Customizing for Master Data Governance under SAP Reference IMG > Cross Application Components à Processes and Tools for Enterprise Applications > Master Data Governance.

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Created On: November 18, 2020

Version: 1.0

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Introduction

This reference guide helps you understand the Mass Import of Article Master Vendor Characteristics in Utopia Retail and Fashion Management (RFM) S/4HANA on MDG. This guide also provides the background information about the Data Import Framework (DIF) and describes process of using DIF to upload Article data from an xml file.

Target Audience

The target audience for this guide comprises:

- Technology Consultants
- Security Consultants
- System Administrators

Business Scenario Overview

Utopia Retail and Fashion Management (RFM) extension for Master Data Governance (MDG) Retail Article (MDG-RFM) provides business processes to find, create and change Material Master data, and to mark it for deletion. It supports the governance of Article Master data on a central hub and the distribution of Article 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.

You can use the Import Master Data service to import files containing article and Vendor Characteristics data to the Master Data Governance (MDG) system. The data from these files can update existing master data records (Active Area records only), or create new ones using the options available in the Import Master Data service.

General Background Information for Data Transfer

Data transfer represents a collection of functions and features that you can use to move master data and map information between the systems and the clients. Examples of the systems include existing ERP systems and your Master Data Governance hub system.

To transfer master data and mapping information, use the following steps:

1. Export the master data and mapping information from the source system to an xml file. This file is saved 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 using the Data Import Framework (DIF).
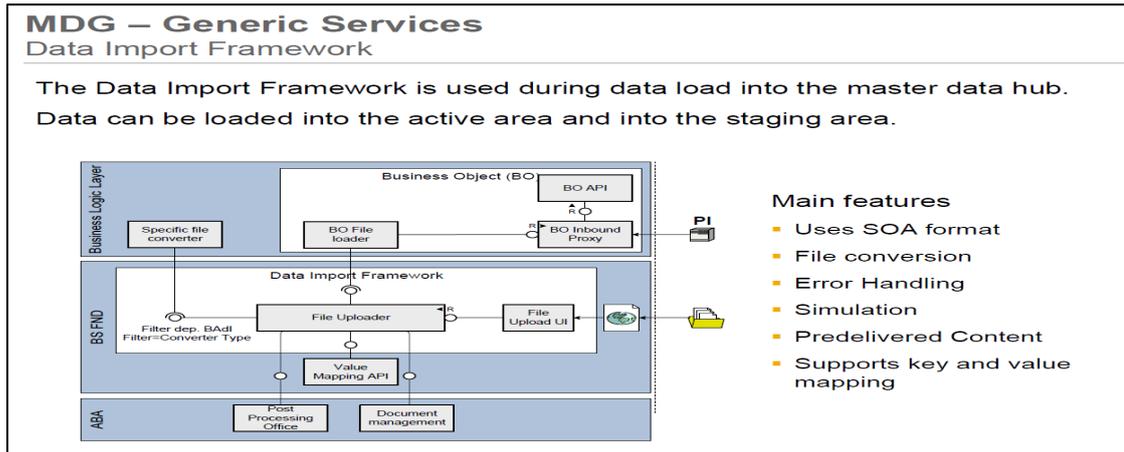
Using DIF for Vendor Characteristics Data Overview

This section provides the background information about using the DIF for Article Vendor Characteristics data.

Limitation

It is possible to create Material Master data in the Staging or Active Area. In standard, updating an existing Article Master is currently only possible in the Active Area. However, this was made possible even in staging area for Article Master - Vendor Characteristics as per the customer requirements

Customizing

Define Object Types

Use the following steps to define Object Types:

1. Go to Master Data Governance > General Settings > Data Transfer > Define Object Types and define the following 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

The customizing delivered with the solution enables you to run DIF with the SAP Standard Basic Types for Additional (MMADDI). If you want to use a Custom Basic Type, you need to enhance this customizing activity.

2. In MDGIMG customizing, Define New Object Types for Data Transfer.

    Note: In this case, a new Object Type for Retail Article is provided as an example.
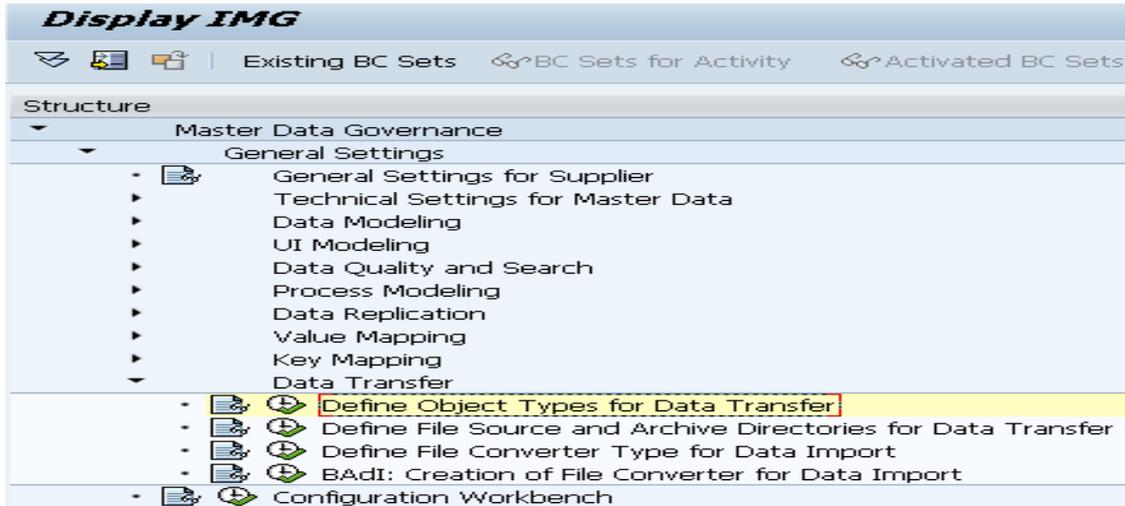
It is assumed that BO Type is defined earlier and is assigned the same BO Type to the Retail Article Data Model. BO Type is essentially an alias to main entity in the Data Model.
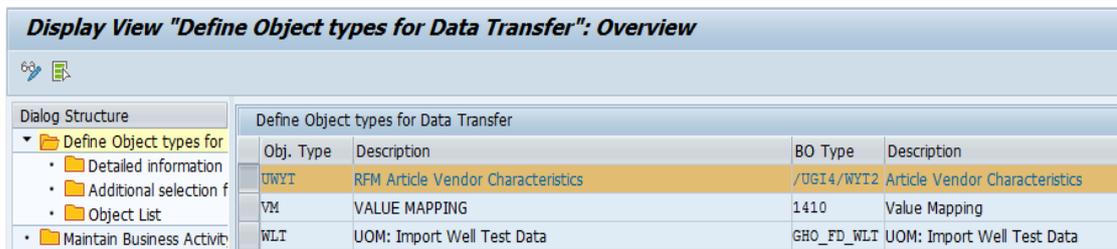

3. Specify the Msg. Data Type.

    In Retail Article, it is expected that the VCHARVAL01 IDoc is imported.

    You can define different Msg. Data Type and assign a different Import Class. The import class is the main program that imports of the data.

4. Set the "Active Import" checkbox.

    Note: If the "Active Import checkbox" is not checked, the Object type is not displayed in the drop-down list of the import application. You can use the same import class for the different message data types (for example, VCHARVAL01.)
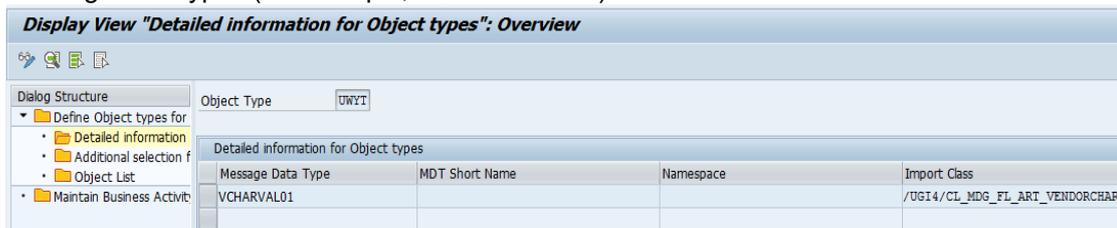
You can maintain several and different objects for an Object Type. It is mandatory to have the Object Type in the Object List.
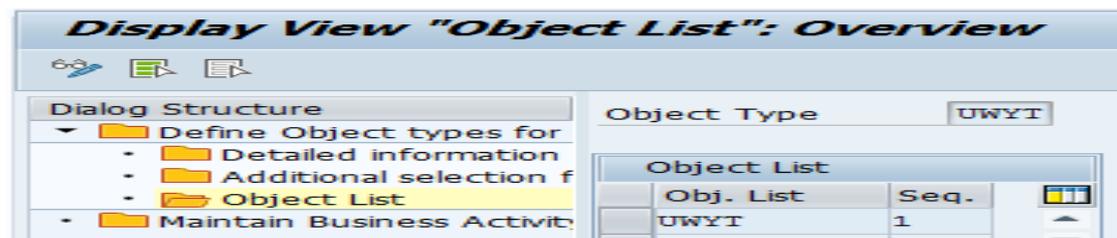
The sequence column determines the position where the objects appear in the popup as displayed in the following screen.

5. Maintain the Business Activity for the Object Type. Select the Mass Change Business Activity.

Change View "Business Activity: Definition": Overview

New Entries 🗋 🗋 ⚙ 🗎 🗎 🗎

Business Activity: Definition

Bus.Acty	Description (medium text)	D..	Description (medium text)	BO Type	Description	Log. Action	Description
AD01	Display Article	AR	Article Maintenance	AR_BO_ART	MDG Article	CHANGE	Change
AR01	Article Master Create	AR	Article Maintenance	AR_BO_ART	MDG Article	CREATE	Create
AR02	Article Master Change	AR	Article Maintenance	AR_BO_ART	MDG Article	CHANGE	Change
AR03	Article Master Display	AR	Article Maintenance	AR_BO_ART	MDG Article	DISPLAY	Display
AR0A	Article Master Mass Change	AR	Article Maintenance	AR_BO_ART	MDG Article	MASS	Mass Processing

File Source and Archive Directories

While setting up the data import, you should define source and archive logical directories in the MDG Data Transfer Customizing Activity Master Data Governance > General Settings > Data Transfer > Define File Source and Archive Directories for Data Transfer.

For more information on logical directories, see the documents for the Customizing Activity Define File Source and Archive Directories for Data Transfer.

Logical source directories can be defined on the application server, where the files for the import are stored. After import, the system automatically moves the processed files to the defined archive directory for the given object type.

To assign directories as source or archives:

- The physical directory paths must first be created in the file system.
- The SAP transaction code FILE must be used to map them to logical names. You can use these logical names in the above-mentioned Customizing activity.
- Consider creating several object-specific logical directories.
- You can use the SAP t-code CG3Z to upload a file from the local file system to the application server.

Setup FILE Transaction in MDG-RFM

Use the following steps to set up File transaction in MDG-RFM:

1. Set up the following logical paths in the transaction FILE:
- Path for the import files: ZMDG_RETAIL_ADDIMPORT
- Path for the archive folder: ZMDG_RETAIL_ARCHIVE
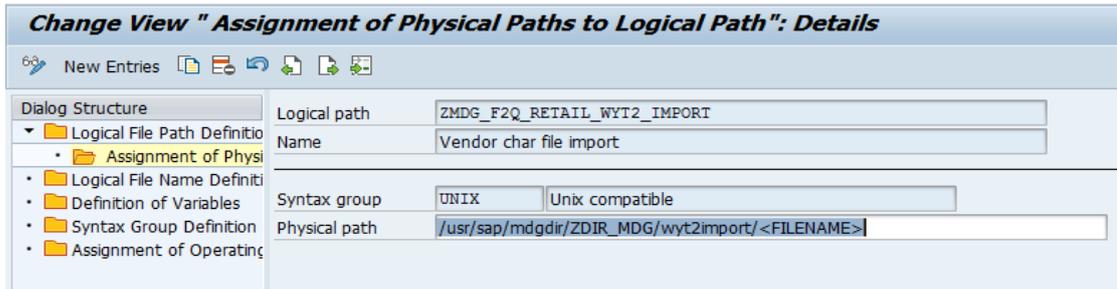
Change View "Logical File Path Definition": Overview
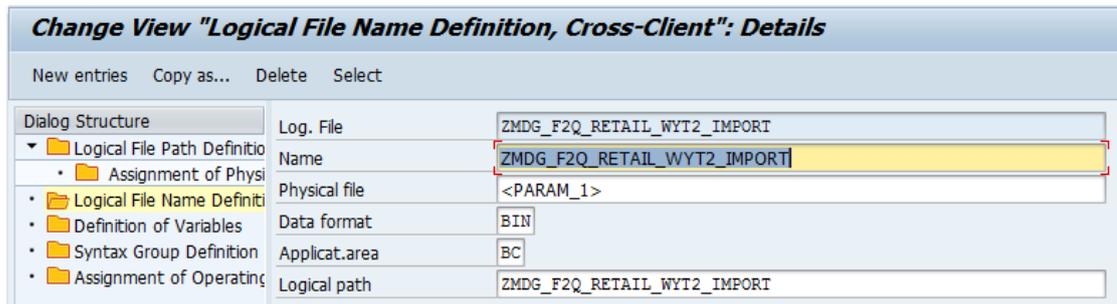
Copy as...   Delete   Deselect all

Dialog Structure

▼ 📁 Logical File Path Definitio
  • 📁 Assignment of Physi
• 📁 Logical File Name Definiti
• 📁 Definition of Variables
• 📁 Syntax Group Definition
• 📁 Assignment of Operating

Create a logical file path

Logical File Path	Name
ZMDG_F2Q_RETAIL_SUBS_IMPORT	Substitution file import
ZMDG_F2Q_RETAIL_WYT2_IMPORT	Vendor char file import

Change View " Assignment of Physical Paths to Logical Path": Details

New Entries

Dialog Structure		
▼ 🗀 Logical File Path Definitio	Logical path	ZMDG_F2Q_RETAIL_WYT2_IMPORT
• 🗀 Assignment of Physi	Name	Vendor char file import
🗀 Logical File Name Definiti		
• 🗀 Definition of Variables	Syntax group	UNIX Unix compatible
• 🗀 Syntax Group Definition	Physical path	/usr/sap/mdgdir/ZDIR_MDG/wyt2import/<FILENAME>
• 🗀 Assignment of Operating		

2. Set up the Logical File Name Definition.

a. Keep <PARAM_1> for the Physical file.

b. Point the Logical File Name Definition to the Logical Path defined.

Change View "Logical File Name Definition, Cross-Client": Details

New entries   Copy as...   Delete   Select

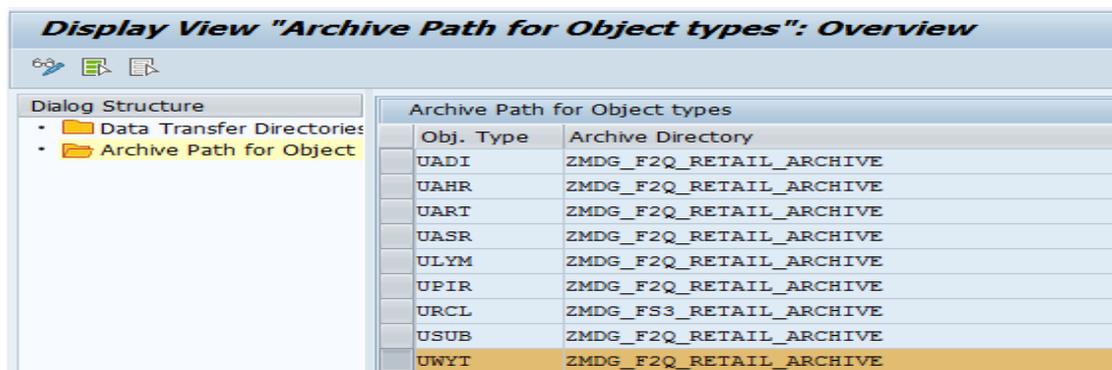| Dialog Structure		
▼ 🗀 Logical File Path Definitio	Log. File	ZMDG_F2Q_RETAIL_WYT2_IMPORT
• 🗀 Assignment of Physi	Name	ZMDG_F2Q_RETAIL_WYT2_IMPORT
• 🗀 Logical File Name Definiti	Physical file	<PARAM_1>
• 🗀 Definition of Variables	Data format	BIN
• 🗀 Syntax Group Definition	Applicat.area	BC
• 🗀 Assignment of Operating	Logical path	ZMDG_F2Q_RETAIL_WYT2_IMPORT

Define File Source and Archive Directories for Data Transfer

The logical file path that was created in t-code FILE is used. It is necessary to have an archive path for importing object types.

Change View "Logical File Name Definition, Cross-Client": Overview

Detail   New entries   Select all   Select   Configuration

Dialog Structure		
▼ 🗀 Logical File Path Definitio	Logical file	Name
• 🗀 Assignment of Physi		
• 🗀 Logical File Name Definiti	ZMDG_F2Q_RETAIL_WYT2_IMPORT	ZMDG_F2Q_RETAIL_WYT2_IMPORT
• 🗀 Definition of Variables		
• 🗀 Syntax Group Definition		
• 🗀 Assignment of Operating		

The Archive Path and the Logical File Path id displayed in the following screen:

Display View "Archive Path for Object types": Overview

| Dialog Structure	Archive Path for Object types	
• 🗀 Data Transfer Directories	Obj. Type	Archive Directory
• 🗀 Archive Path for Object	UADI	ZMDG_F2Q_RETAIL_ARCHIVE
	UAHR	ZMDG_F2Q_RETAIL_ARCHIVE
	UART	ZMDG_F2Q_RETAIL_ARCHIVE
	UASR	ZMDG_F2Q_RETAIL_ARCHIVE
	ULYM	ZMDG_F2Q_RETAIL_ARCHIVE
	UPIR	ZMDG_F2Q_RETAIL_ARCHIVE
	URCL	ZMDG_FS3_RETAIL_ARCHIVE
	USUB	ZMDG_F2Q_RETAIL_ARCHIVE
	UWYT	ZMDG_F2Q_RETAIL_ARCHIVE

Set up File Import Folder

Use the following steps to setup the File Import folder.

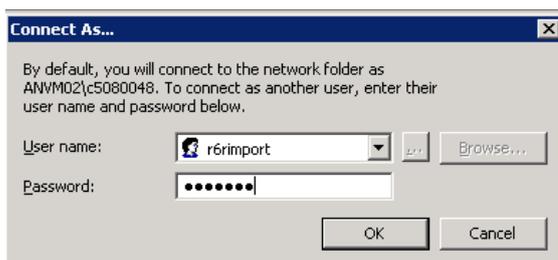1. From toolbar, click Tools > Map Network Drive.
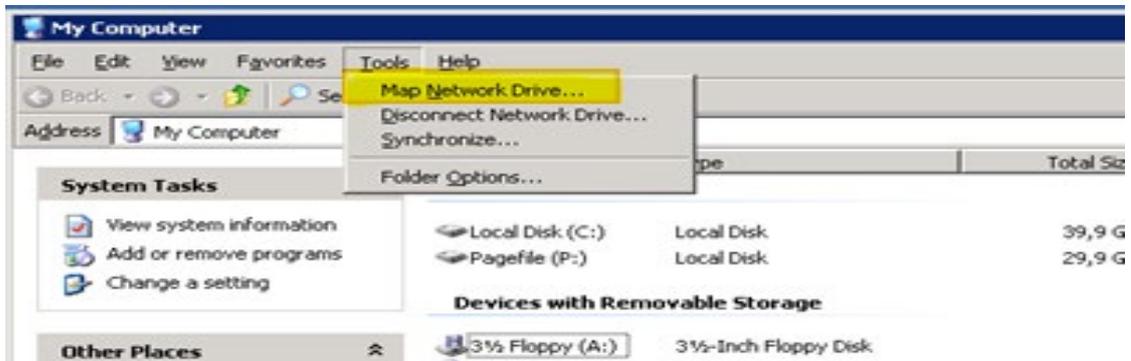
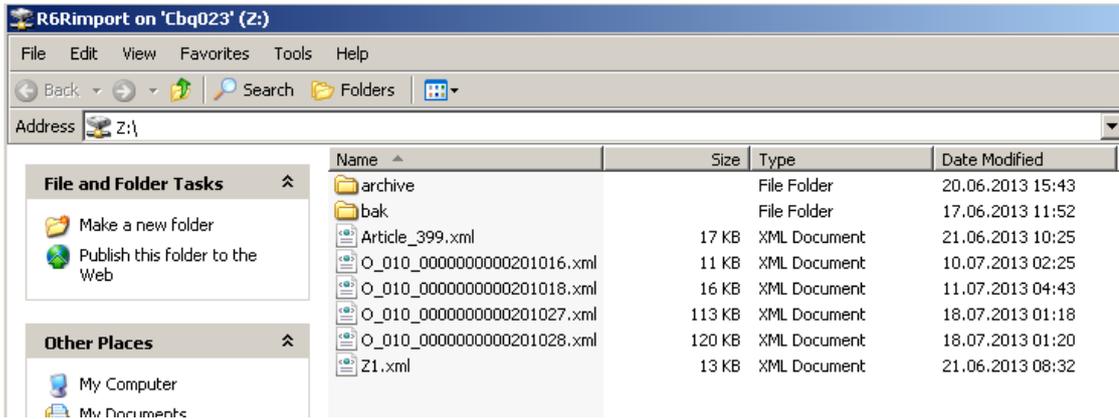The system displays the Map Network Driver window.

2. Select the relevant folder from the Folder dropdown list.
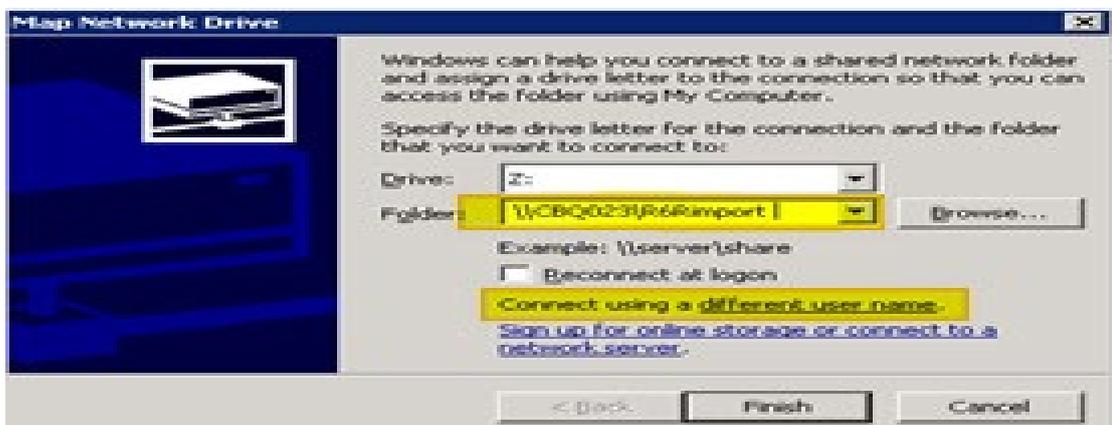
3. Click Browse. The system displays the Connect As popup.
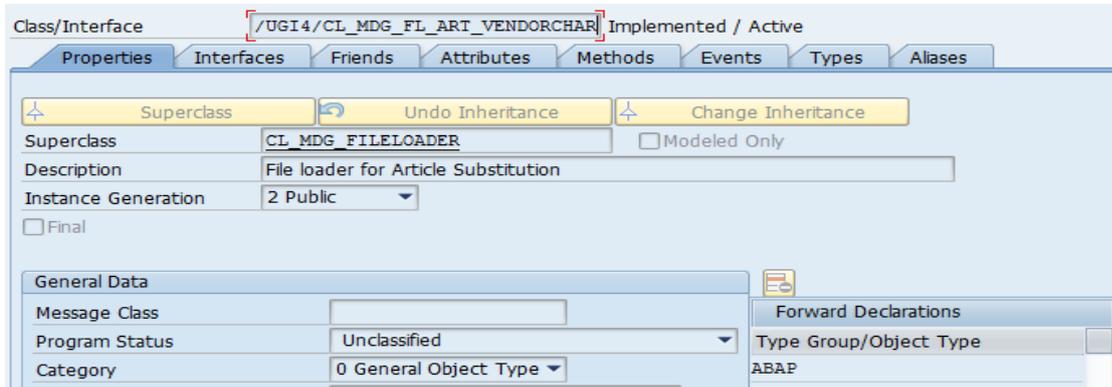4. Enter the credentials.

5. Click "OK" button.

   The import file folder is created. Import xml files are saved in this folder as displayed in the following screen.

Loader Class

Class: /UGI4/CL_MDG_FL_ART_VENDORCHAR

Note: /UGI4/CL_MDG_FL_ART_VENDORCHAR was written with reference from CL_MDG_BS_FL_MATERIAL.

The importing class needs to inherit from the superclass CL_MDG_FILELOADER.

Methods of Loader Class

The following methods are discussed in this section:

- LOAD Method
- GET_INBOUND_STRUCTURE
- LOG_CREATE
- GET_IDoc_DATA
- SET_PROXY_PERSISTANCE
- Register

LOAD Method

This is the main method run by the import class to load the IDoc data into Staging or Active Area. One IDoc can contain multiple articles.

Below are the important points of a loader class.

- The DTIMPORT framework setting is read using the method "read_user_settings".

- One of the import parameters in this method iv_content brings in business data in xml content that is converted into various IDoc segments using method "get_idoc_data" in an external format.
- The external format data from the IDoc segments is segregated into Internal formatted IDoc segments using the methods "convert_idoc_ctrl_records" and "convert_idoc_data_records".
- The IDoc segments are looped for each control segment record nested looped for data segment records on "Docnum" key.
- Vendor Characteristics are imported to Active Area. If Governance process is chosen, and results in error, then only import to Staging Area is possible.
- It is mandatory to fill the Object keys using method call "fill_objectkeys".

GET_INBOUND_STRUCTURE

Specific structure "MDG_IDoc_DATA" maintained for IDoc is parsed in this method. This method fetches the inbound structure from the parameter ev_name.

LOG_CREATE

The method is implemented to create log objects that can be viewed using t-code SLG0.
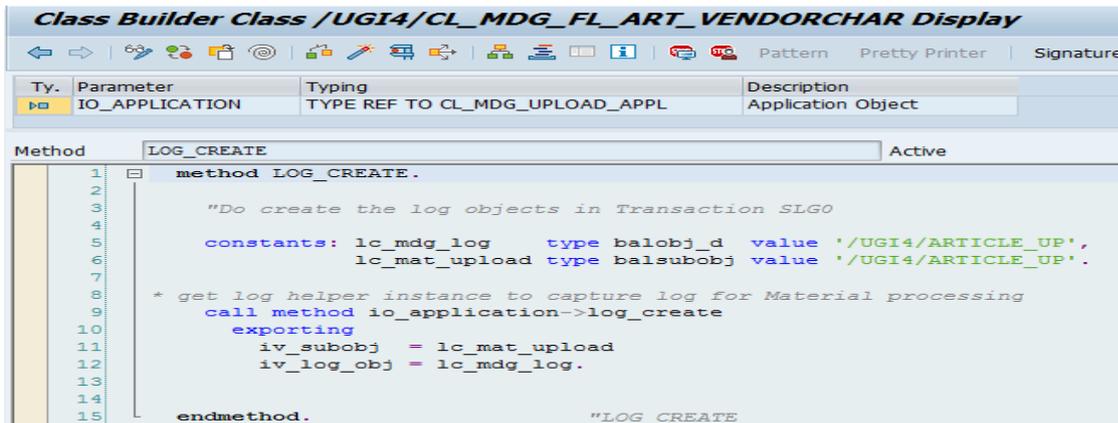
GET_IDoc_DATA

This method is used to convert the xml data to IDoc data.
One of the import parameters "iv_content" in Load method holds business data in xml format which is converted to various IDoc segments using this GET_IDoc_DATA method in an external format (RAW).

SET_PROXY_PERSISTANCE

This method writes Proxy Persistence to global data (1: Staging 2: Active, 3: Active with Err) which is used by standard Governance APIs to process the data.

- If user choose Persistence choice = 1 it writes to Staging or if user chooses persistence choice as 3 it writes Active Area with Errors sent to Staging
- Data Import for Vendor Characteristics is possible only to Active Area, for example, Proxy persistence equal to 2.

Register

The method REGISTER needs to be re-defined by registering that this class handles the message type.
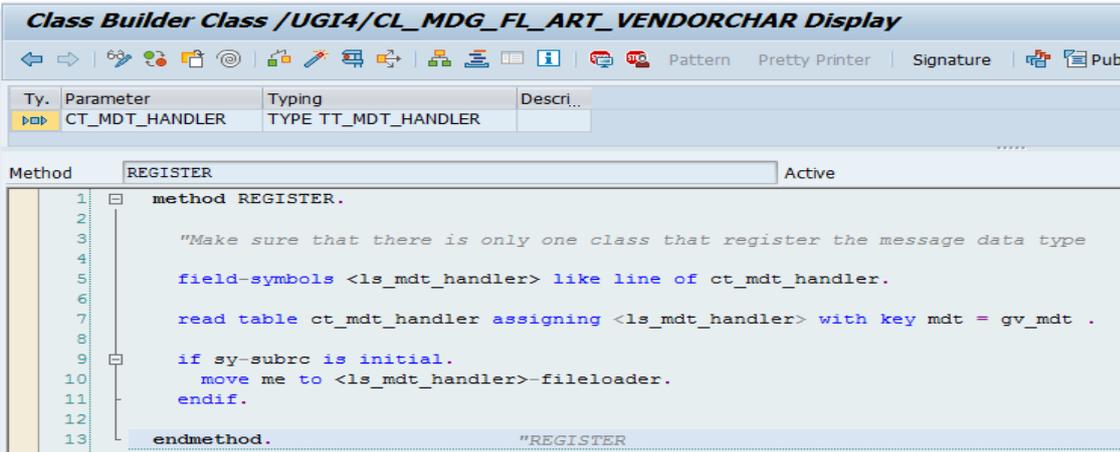
Testing Importing Class

After creating the class, it is mandatory to test. For testing the import class, we follow below steps.

Note that if the user uses the front-end Web Dynpro application mdg_bs_file_import to import the files, then a job is scheduled in the background. This hinders the user for debugging the import class. For testing the class, the following steps are followed:

1. Set the parameter MDG_DL_DEBUG = X in your user parameters tab.

2. This parameter is read in class CL_MDG_UPLOAD_UI_ASSIST method FILE_UPLOAD. If the parameter is set, then users can put a remote breakpoint in the /UGI4/CL_MDG_FL_ART_VENDORCHAR class to debug.

Export File for Article using IDoc

IDoc Name: /UGI4/VENDORCHAR

To export Article Master data, you need to configure a logical system for xml-IDoc extraction to the application server file system (in each client system). To achieve this, use the following:
1. Create a Logical System (SALE)
2. Add IDoc type VCHARVAL to Distribution Model (BD64)
3. Create an Outbound Partner Profile (t-code WE20)
4. Create an xml-file port for IDoc processing (t-code WE21)
5. Send article data with t-code BD10, including Vendor Characteristics data.

Import Options

It is possible to perform a data import for one or more Vendor Characters (VCHARVAL) IDoc xml files, with one or more IDoc's per xml file, and with each IDoc containing one or more Articles.
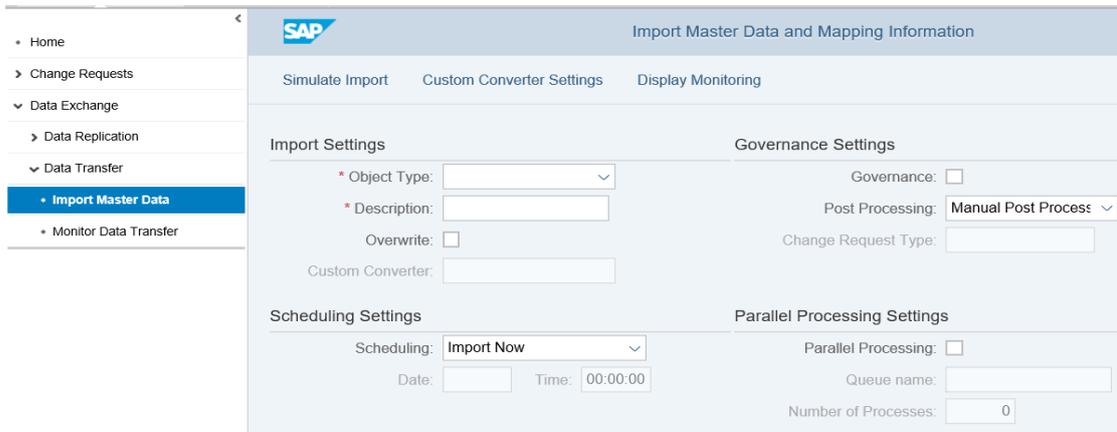
Note:
The class to be assigned to Article must have been created in the MDG system before importing the Vendor Characteristics data.

Select options on MDG_BS_FILE_IMPORT (DTIMPORT) is available for Import (Create/Change) article to Active Area with Vendor Characteristics.

Use the following steps to import:

1. Go to NWBC > Click on Master Data Governance for RFM > Data Exchange > Data Transfer > Import Master Data.

2. Enter the details for the fields as described in the following table:

Field	Description
Object Type	Choose Article AR0A
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. • If you want to overwrite an Article in the Active Area, this indicator must be set. Otherwise, the import to the Active Area for an existing article will fail. If the Overwrite indicator is set, the article in the Active Area will be overwritten. • If the Overwrite indicator is not set and the article is already in the Active Area, the article 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).
Governance	If activated, data is loaded into the staging area (a change request will be created).
Post Processing	Post processing for failed objects can 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 t-code SMQ2 • Number of Processes: The 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 (for example Article) and sub object types (for example vendor characteristics, 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.

Scheduling File Import for MDG-RFM

Use the following steps to schedule file import for MDG-RFM:

1. Ensure that the MDG_DL_DEBUG parameter is absent.

2. Run t-code DTIMPORT and select Scheduling for Future Import (select a future timestamp).

Note: You need at least one file in the folder before the user can schedule the import (standard MDG behavior).

Import Master Data and Mapping Information

| Import | Simulate Import | Custom Converter Settings | Display Monitoring |

Import Settings

* Object Type:	RFM Article Vendor Cha ∨
* Description:	VENDOR CHAR
Overwrite:	☑
Custom Converter:	

Governance Settings

Governance:	☑
Post Processing:	Defined by Change Req
* Change Request Type:	AR0B

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
Article Vendor Characteristics	ZMDG_F2Q_RETAIL_WYT2_IMPORT

3. Click Import.

Import Master Data and Mapping Information

| Import | Simulate Import | Custom Converter Settings | Display Monitoring |

✅ Data import started with run number 10000059

4. Run t-code SM37 to display the scheduled job created from DTIMPORT.

Simple Job Selection

🕹 Execute   ▶ Extended Job Selection   ℹ Information

Job Name	*
User Name	PHARIDASAN

Job Status

☐ Sched.   ☑ Released   ☑ Ready   ☑ Active   ☑ Finished   ☑ Canceled

Job Start Condition

From	03.01.2018	To	03.01.2018
From		To	

Or after event

Job Step

ABAP Program Name

The job JOB_DATALOAD_IMPORT released is displayed.

Job Overview

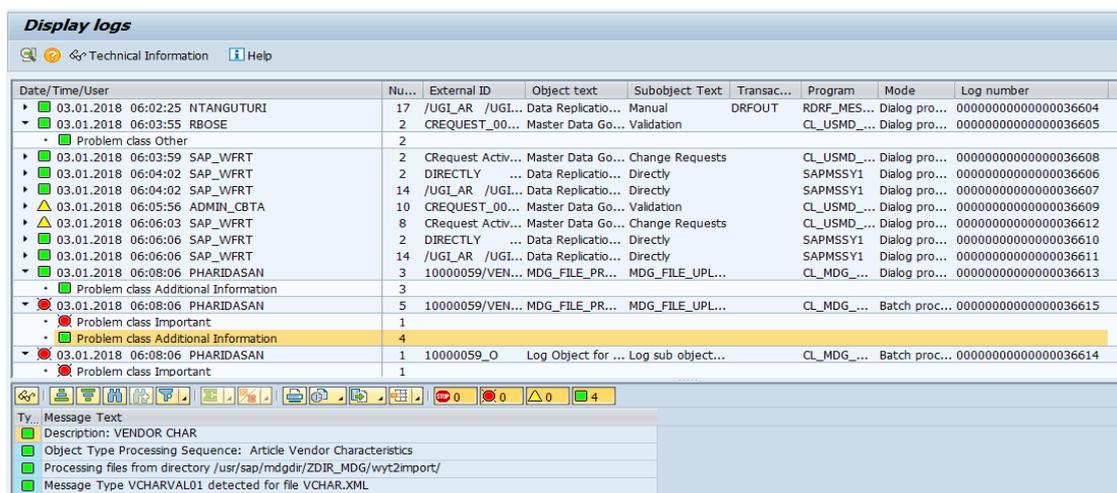🔄 Refresh   📍 Release   🛑 🗑 📊 Spool   📄 Job log   📑 Step   🔍 Job details | 📁 Application servers   ▦ 🔻 📊 📊

```
Job overview from:  03.01.2018 at:    :  :
            to:     03.01.2018 at:    :  :
Selected    job names: *
Selected user names:    PHARIDASAN

☐ Scheduled  ☑ Released    ☑ Ready   ☑ Active   ☑ Finished   ☑ Canceled
☐ Event-Driven      Event ID:
☐ ABAP program      Program name :
```

JobName	Spool	Job doc	Job CreatedB	Status	Start date	Start Time	Duration(sec.)	Delay	Cli	Re
JOB_DATALOAD_IMPORT			PHARIDASAN	Finished	03.01.2018	04:57:10	1	0	100	
RUN_RBDSER04_IDOC_FRM_F2QCLNT200			PHARIDASAN	Released			0	0	200	

5. Copy the job to a new custom job.
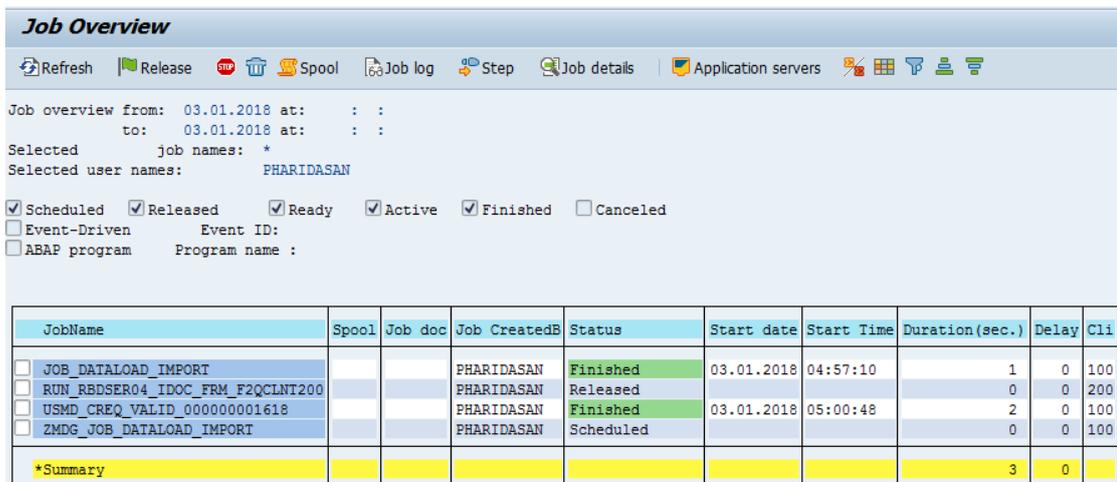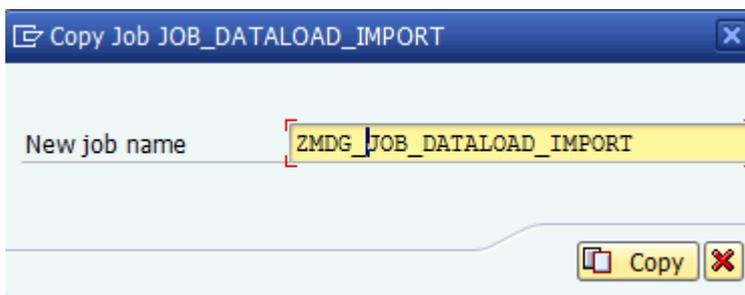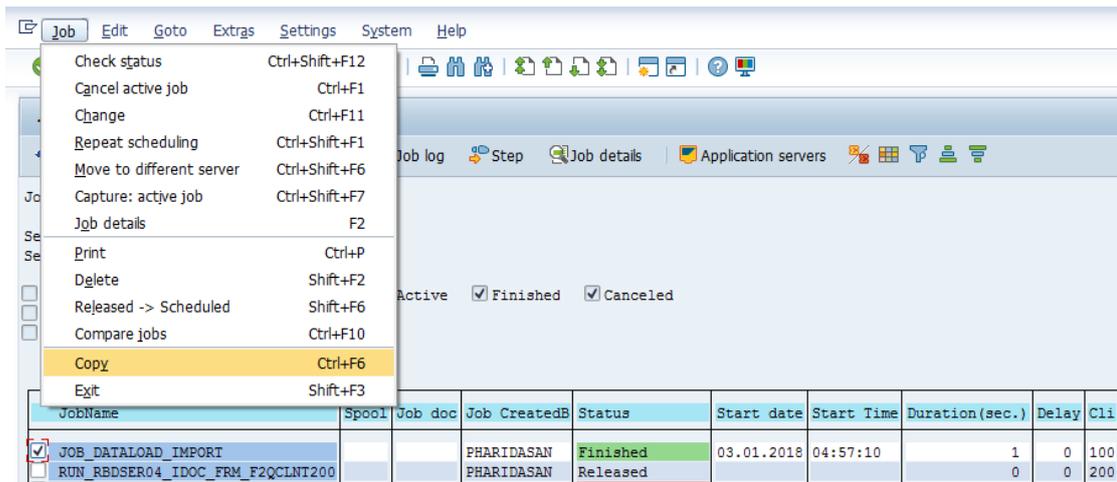
6. Once the job has been copied, you can set the periodic value.
7. Save and start the job immediately.
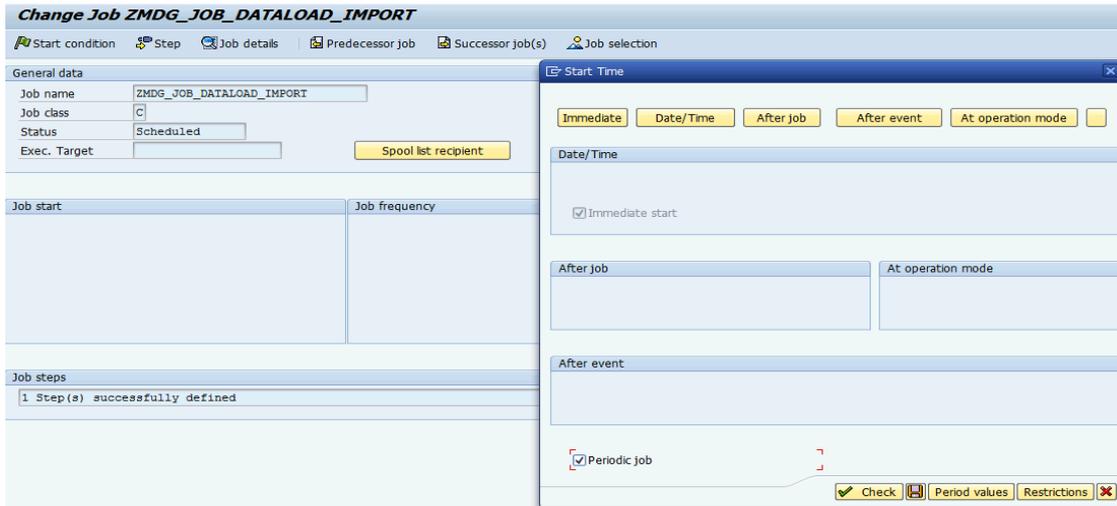
7. The job is displayed with a release status.

8. Run t-code SLG1 for any errors.

Error Handling

It is possible to perform data import for one or more MATMAS IDoc xml files, with one or more IDoc 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
1IDoc, 1 article	1 xml	If article has invalid data, import for the IDoc fails, with an error message providing what went wrong.	If article has invalid data, writing to Active Area fails and it is written to the staging area. An error message is displayed in log providing information on what went wrong while saving to the Active Area, along with the created change request number. If article is rejected while writing to staging area, an error message is displayed providing information on what went wrong.	If one article is rejected while writing to the staging area, all additional from the whole IDoc xml are rejected (all or nothing) and an error message is displayed providing information on what went wrong. Article import is rejected; Article & is not in Active Area.
1 IDoc and n article	1 xml	If one of the IDoc has individual data (e.g. invalid Season), all the article in IDoc are rejected (all or nothing behavior of BAPI_IDoc_INPUT1). For conditions like article already present in Active Area or locked in open CR, specific article objects will be rejected, while other article objects from the IDocs are processed normally.	If one article in IDoc has invalid data (e.g. invalid Season Data), writing to Active Area fails and all article in IDoc are written to the staging area. If article is rejected by staging area, reject all article from the whole IDoc xml that should have been posted to staging area. An error message is placed providing information what went wrong.	
N IDocs and 1 article each	1 xml/ IDoc	Same as row 2 – 1 IDoc n 1 article	Same as row 2 – 1 IDoc n 1 Material	
N IDoc and 1 article	1 xml for all IDoc	Data import fails for the IDoc containing the erroneous article, with error message providing information on what went wrong. Other IDocs are processed manually.	If one article in IDoc has invalid data (e.g. Season), writing to the Active Area fails and all article in that IDoc are written to the staging area. If materials are rejected by the staging area, reject all articles from the whole IDoc xml that should have been posted to the staging area. An error message is displayed providing information on what went wrong.	
n IDoc and m article each	1 xml for all IDoc	If one article in IDoc has invalid data (e.g Invalid UoM). All article in that IDoc are rejected. (Other IDocs in the same xml without erroneous article will be processed normally). For conditions like article already present in Active Area or locked in other open CR, specific article objects will be rejected while other article objects from IDocs are processed normally.		
n IDocs and m article	1 xml/ IDoc	Same as row 3 – 1 Doc n article		

Glossary

This section provides the list of key terms, abbreviations and acronyms.

Term/Abbreviations	Description
BOM	Bill of Material
CR	Change Request
DB	Database
EAM	Enterprise Asset Management
GW	Gateway
ICF	Internet Communication Framework
IDoc	Intermediate Document
MRO	Maintenance, Repair, and Overhaul
NW	NetWeaver
OData	Open Data Protocol
RFM	Retail and Fashion Management
t-code	SAP Transaction Code
UI	User Interface