



# Accelerators

Informatica MDM - Product 360

Version: 8.1.1

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Accelerators are functioning implementations which can be used out of the box under specific circumstances only. Usage of these accelerators in the context of the concrete customer's use cases and requirements with the customer's data and within its specific environment might need adaptations like configuration, additional scripting, or programming of add-on functionalities which have to be provided through additional professional services. For example the eCommerce integration provide the fully functioning transfer of a set of data based on the Product 360's standard repository and according to the selected sample implementation of the WebShop. As soon the data set needs to be adapted to the concrete needs of the customer's web shop or adapting to the customer's individual Product 360 data repository layout additional customization might be needed.

## 2 Demandware Accelerator



Informatica MDM Product 360 is certified for by Demandware for the version 15.1.0. This accelerator consists of an export template adapter for product and category data publication to the Demandware backend. With the provided export templates it is easy to export enriched data from Product 360 into a file and import it automatically into the Demandware system.

This documentation describes how the systems work together and how to get started. The required templates can be downloaded from the Demandware marketplace: <http://www.demandware.com/link-marketplace/informatica>

### 2.1 Summary

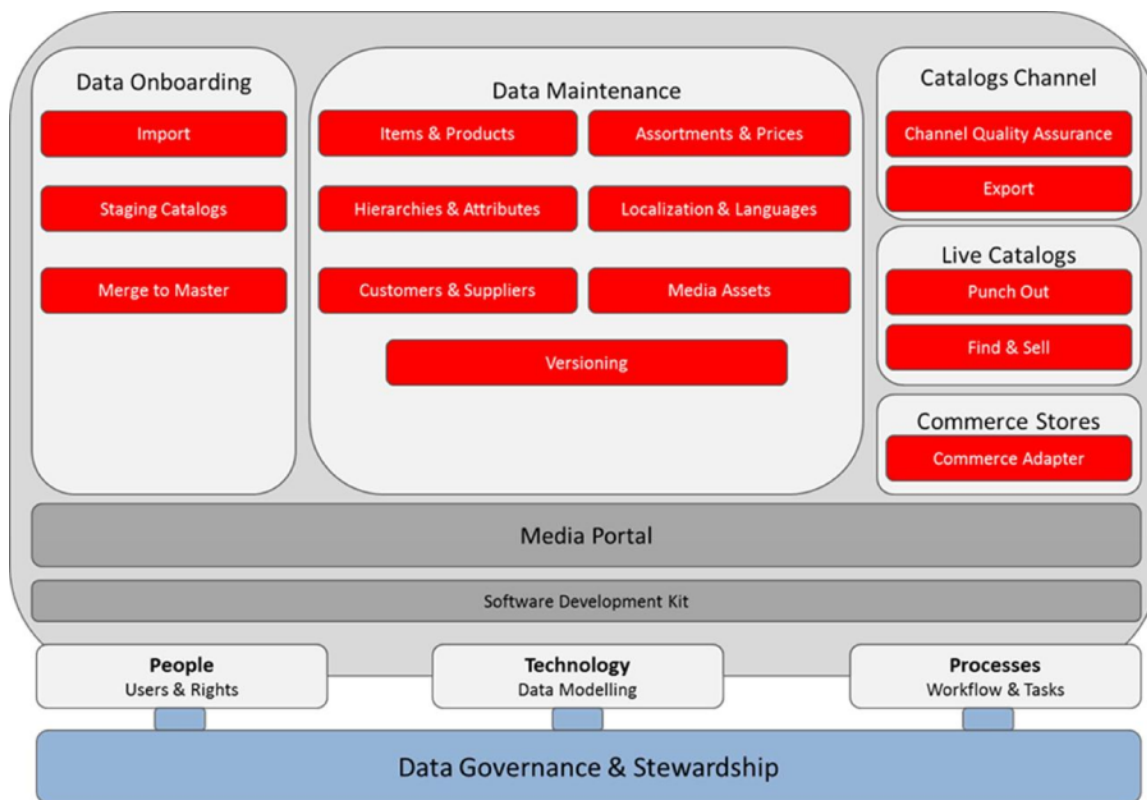
The Informatica MDM - Product 360 application is the central Master Data Platform for e-commerce and multi channel. Wholesale distributors, mail order businesses and manufacturers can increase marketing productivity and sales figures by applying the central Product 360 solution.

It provides distributors and manufacturers with master data management (MDM) for all product data in a central data source for all sales channels and languages. Any time, any place.

The main areas of the solution are the central storage and maintenance of highly structured product data as well as assigned media assets, the central integration and publication of that information to e.g. ERP or shop systems managed by the central platform and the web based online presentation of the product information.

A multi channel architecture includes the Product 360 solution which is responsible for product data on-boarding (import), data maintenance (management and enrichment) and data distribution (export) to all sales channels like e-commerce, print and electronic catalogs.

Online shoppers attach great importance to product presentation and accurate product information when browsing for both technical and consumer products. E-commerce can only be a success with perfect product information. In this way, cross-selling potential can actually be used.



## 2.2 Component Overview

### 2.2.1 Functional Overview

Informatica MDM - Product 360 imports, stores, manages and exports all kinds of product information including images and other kinds of multimedia attachments (e.g. videos).

The functionality of the Product 360 solution can be divided in three major areas:

- Import of product data
- Management of product data
- Export of data

The goal of the solution is to aggregate the product data from different sources (e.g. suppliers) and manage it centrally. The product information relevant for all sales channels (web-shops, print catalogs, electronic procurement systems, etc.) is enriched, maintained and managed in Product 360. Using the configurable export templates of Product 360, the data can be exported.

- The described solution is an export adapter interface (pre-configured template) for product and category data publication to the Demandware back end
- No modifications of the storefront necessary

### 2.2.2 Use Cases

The process covered by Product 360 can be described like this:

#### Import of product data

Product information from supplier can be imported, quality checked and enriched within a staging area of the Product 360 server. Parts of the supplier's product information can be merged into the master catalog (main assortment).

## Management of product data (data maintenance and enrichment)

Product information can be maintained and enriched very easy. Mass data operations and assortment analysis are also part of data maintenance. Attributes and features can be handled in the Product 360 Desktop or Web client with ease enabling powerful facet search, after search, targeting, SEO and recommendations in the storefront. All relevant attributes and features need to be also defined in the Demandware system.

### Export of data

The described interface to Demandware is implemented as an export of products and its assignments in Product 360. The output templates can be defined within Desktop client based on an export editor. The integration between Product 360 and Demandware is realized based on the export functionality of the Product 360 system. The proposed solution exports rich product information from Product 360 into files. The output is a catalog feed that can be imported automatically to Demandware using WebDAV. Such an export can be triggered on demand or on a scheduled basis. Full loads or deltas can be exported. The import in Demandware business manager can be started manually.

### 2.2.3 Limitations, Constraints

If the Demandware system is able to import the standard catalog feed, there are no limitations. Typically the export adapter will be customized in customer projects depending on the customer data repository and the needed fields on Demandware side.

Some additional data maintenance may be required in the business manager, if categories or attribute definitions should be changed.

### 2.2.4 Compatibility

Informatica MDM - Product 360 Version 7.1.04 and later, Demandware 15.1.0

### 2.2.5 Privacy, Payment

No customer or credit card data is accessed or used.

## 2.3 Implementation Guide

### 2.3.1 Setup

The interface is implemented as export template on Informatica MDM - Product 360. It's based on a standard distribution without any customization. The Demandware package consists of two export templates and two example export output files using the export templates. Furthermore the `catalog.xsd`, `metadata.xsd` and the `xml.xsd` files are included. These validation schemas from Demandware are used to validate the export result on the Product 360 side.

For the setup, the export templates have to be uploaded in Product 360. In settings of the template the included xsd files have to be uploaded to the Product 360 server so they can be used. The templates can be configured and adjusted to your needs.

The first export template (Demandware Metadata) is used to create a `metadata.xml` file which can be used to register all custom attributes for a specific type. The basic template exports all mapped attributes for a selected structure system. So instead of managing these attributes inside the business manager of Demandware you can easily import them automatically. The second export template (Demandware Catalog) is used to export all product data (including images) which are filtered by selectable variables. Following variables are used to limit or specify the export data.

- Assortment
- Type of change (New Products, Changed Products, New and changed product)
- Version
- Customer
- Language
- Reference Date
- Structure

No configuration is required on Demandware

### **2.3.2 Configuration**

Category synchronization for category assignment in Product 360 (category maintenance is done in the business manager), mapping of attributes and variation attributes.

### **2.3.3 Custom Code**

No custom code on Demandware.

### **2.3.4 External Interfaces**

Upload of the catalog files is done by WebDAV. Therefore a catalog feed has to be created in Demandware. The same applies to the media assets.

### **2.3.5 Testing**

Test cases are the following:

Create items in Product 360 and then do an export to Demandware. If the items appear in Demandware either the business manager or the storefront, the interface works as designed.

Modify an item in Product 360 and then do an export to Demandware. If the changes appear in Demandware either the business manager or the storefront, the interface works as designed.

Send a batch of items in an export to Demandware from Product 360. If the changes appear in Demandware either the business manager or the storefront, the interface works as designed.

## **2.4 Operations, Maintenance**

### **2.4.1 Data Storage**

No external data storage necessary for the interface, no custom objects in demandware.

### **2.4.2 Availability**

Not applicable. Informatica MDM - Product 360 is only for maintaining product information. In urgent cases like legal issues or wrong pricing, the products may be amended or taken offline using the business manager.

### **2.4.3 Support**

Customers need a licensed Informatica MDM - Product 360 application. Support for all standard functionality of the export engine is part of a customer maintenance contract.

## **2.5 User Guide**

### **2.5.1 Roles, Responsibilities**

Informatica MDM - Product 360 handles all product information like descriptions, media attachments, attribute values, category assignment etc. Additional information like template assignment, landing pages, recommendations and so on is handled directly in demandware. The typical roles working with it are product data maintenance users (buyers, category managers or product managers).


### **2.5.2 Business Manager**

No changes or additional functionality in business manager.

### **2.5.3 Storefront Functionality**

No additional storefront functionality.

### 3 IBM WebSphere Commerce Accelerator

 This document describes the data exchange interface between Informatica Product 360 Version 8.0.6 and IBM WebSphere Commerce Version 8.

Informatica Product 360 has officially been recognized as a verified solution for IBM WebSphere Commerce Version 8. Find more information here: <http://www.ibm.com/software/commerce/websphere-commerce/technology-partners/>



The commerce accelerator supports the new IBM attribute dictionary model that enables reduced maintenance and reuse across multiple products. When a common attribute in the dictionary is changed it is reflected in the attribute for all products in the catalog thereby simplifying the process of keeping attribute names and values consistent across a commerce site.

It also enables a commerce site to provide complex search, filter and product comparison capabilities which helps provide enhanced service to the customer.

The accelerator can be used to simplify and expedite the implementation of common use cases by providing support for hierarchies, descriptions, media assets pricing information, marketing associations and attributes out of the box.

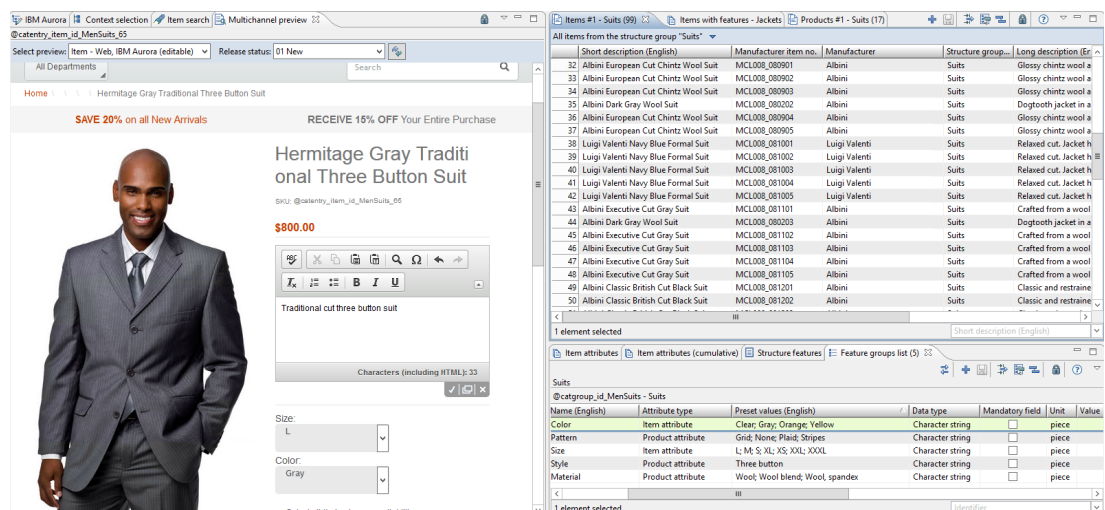
The built in data quality module and the preview templates of the Product 360 application ensures the quality, envisioning of the product on how it would display on the commerce site to take the appropriate action and conformity of the data which is transferred to the commerce site.

Different export scenarios pertaining to full catalog, delta or the possibility to trigger the publication of selected products instantly with just a click are supported.

Overall it helps improve operations by providing sophisticated capabilities to manage products and catalogs to deliver a seamless, cross-channel shopping experience for commerce.

To verify the data quality of the assortment which will be published to the IBM store the data quality engine of the Product 360 system should be used. This ensure that no errors occur during the load of the IBM commerce system.

Please consider the allowed lengths of the IBM Websphere Commerce system which are documented on the field mappings site.





## 3.1 Functional scope

The accelerator features three ways to transfer data from the Product 360 System to the IBM WebSphere Commerce System.

The full data load is designed to transfer all relevant information, including the attribute dictionary, catalog groups, product and item information to IBM, often used for an initial load of the data.

The delta data load is designed to run scheduled in an recurrent manner and transfer the changes which happend since the last run to the IBM system. It takes not only product and item changes but also changes in the attribute dictionary or taxonomy into account. Changing the parent of a catalog group is not supported, as well as changing the type or target of a marketing association of an item or a product.

The third way to transfer data to the IBM system is the immediate export. With this functionality it is possible to transfer a single item or product, as well as a selection of items to the IBM store. This functionality is designed to work for smaller time-critical changes of an item, like changing text information and updating it as soon as possible in the store. Structural changes (like changing the attribute dictionary, catalog groups or group assignment) are not in the scope of this data load.

## 3.2 Installation Guide

The Product 360 WebSphere Commerce Accelerator will be available as ZIP file. Specific folders of this ZIP have to get moved to the Product 360 environment, others to the IBM WebSphere Commerce Shop environment.

### 3.2.1 Pre-Installation Checklist

#### WCS environment

An IBM WebSphere Commerce 8 must be installed.

A file share must be available for the Product 360 export and the dataload into the IBM WebSphere Commerce Shop server (<SHARED\_DIRECTORY\_PATH> ). We assume that this is D:/Filetransfer. In case you chose any other directory, you need to change some paths which will be described later.

#### Product 360 environment

The version of the installed Product 360 must be 8.0.6 or higher.

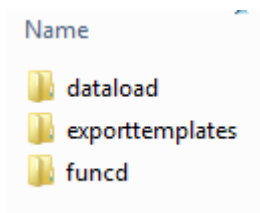
### 3.2.2 Install the IBM WebSphere Accelerator

#### Download the Product 360 - WebSphere Accelerator zip

If you have not downloaded Product 360 - WebSphere Accelerator already, please contact the Informatica Support to get all necessary data.

#### Extract the WebSphere Accelerator zip

Unpack the **Product 360\_<Version>\_<Revision>\_resources\_websphere.delta.zip** to a temporary directory on the Product 360 environment.



The temporary directory is containing files for the Informatica Product 360 environment and also for the IBM WebSphere Commerce environment.

## WCS environment configuration

Copy following files from the unpacked **Product**

**360\_<Version>\_<Revision>\_resources\_websphere.delta.zip** to the **<SHARED\_DIRECTORY\_PATH>** on the IBM WebSphere Commerce environment:

- dataload
- funcd

Open the `wc-dataload-env.xml` in the `dataload` folder and adjust the database configuration.

If your **<SHARED\_DIRECTORY\_PATH>** differs to the standard path (`D:/Filetransfer`) the following files in the `dataload` directory have to get adjusted:

- buildSOLRindex.bat
- buildSOLRindex\_Delta.bat
- cleanupFolders.bat
- load\_multimedia.bat

If the installation path of the IBM WebSphere Commerce differs to `D:\IBM\WCDE_ENT70` and the catalog id is not `10001`, please adjust following files in the `dataload` directory:

- load\_multimedia.bat
- load1-structure.bat
- load2-entries.bat
- load2-entries.index.bat
- load3-prices.bat
- loadZ-delete.bat

## Install Java

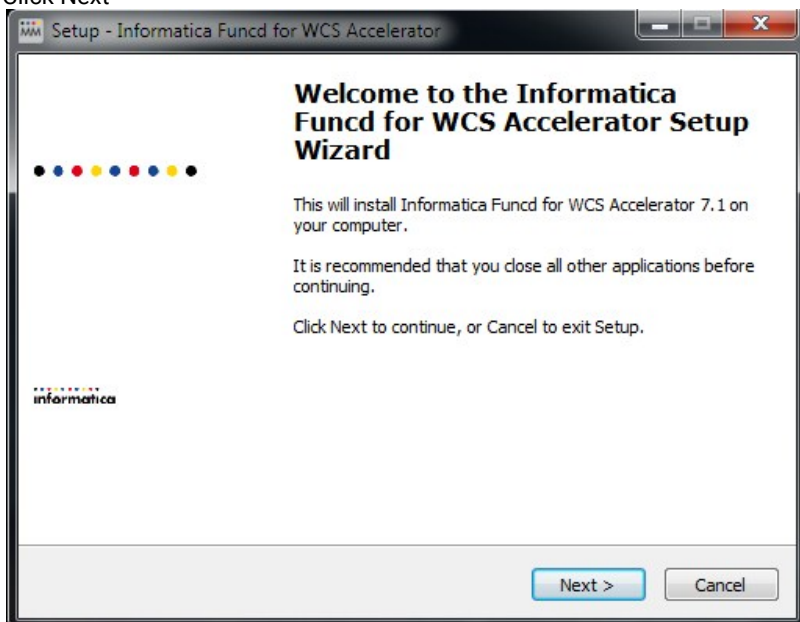
The images will be transferred in zips from Product 360 to WCS. For unzipping those, Java JDK is needed. If you took another path than `C:\Program Files (x86)\Java\jdk1.7.0_25`, please adjust the `dataload\load_multimedia.bat` file.

## Install Informatica Funcd for WCS Accelerator

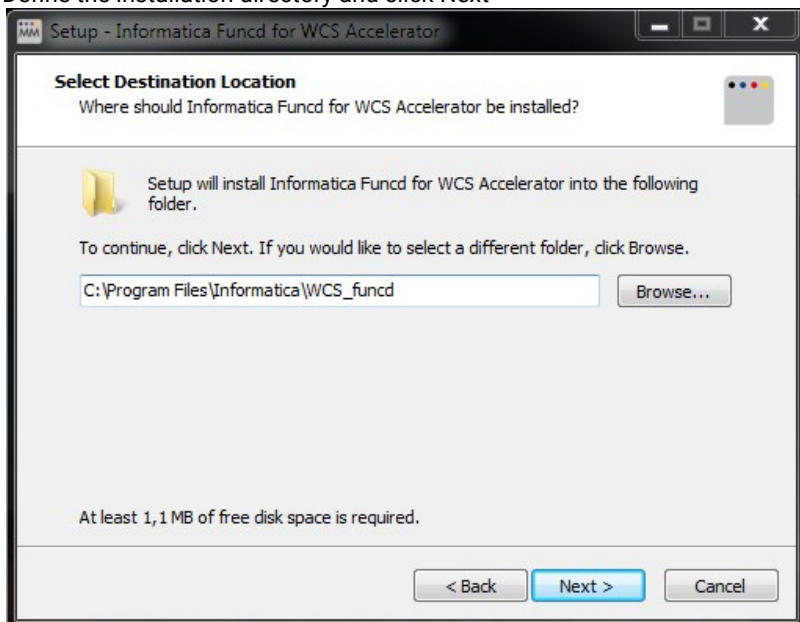
This tool is needed, to poll a specific directory. The Product 360 export will put files inside, which will trigger the necessary bat or cmd file to start the dataload in the IBM WebSphere Commerce.

1. Unpack the zip inside the `funcd` folder in the share folder of the IBM WebSphere Commerce environment
2. Execute the `Setup_WCS_Funcd.exe`

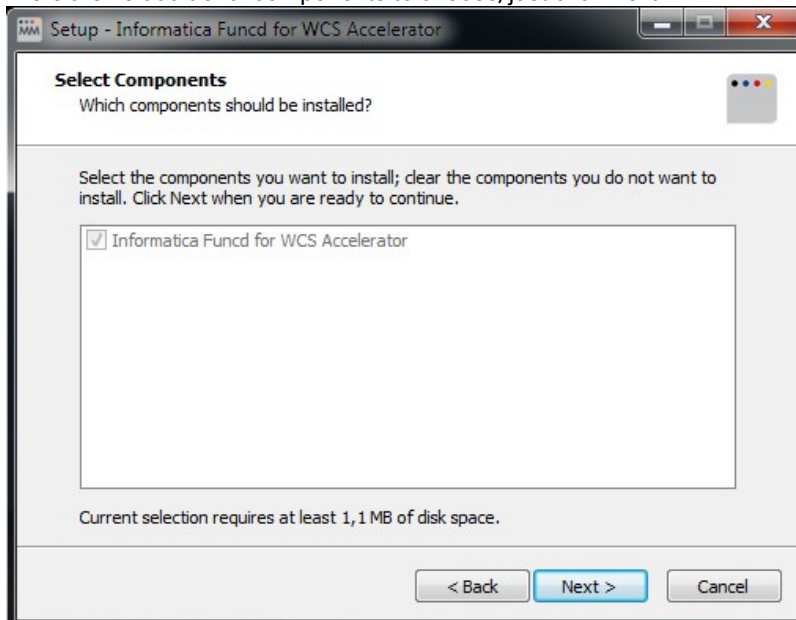
3. Click Next



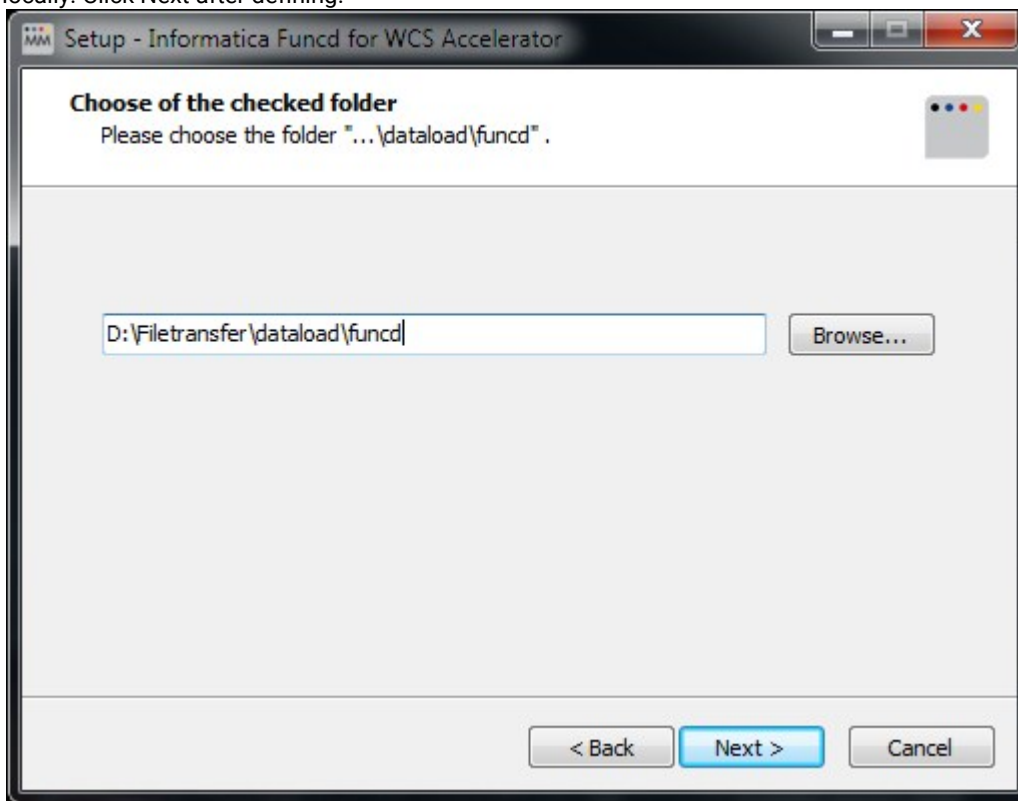
4. Define the installation directory and click Next



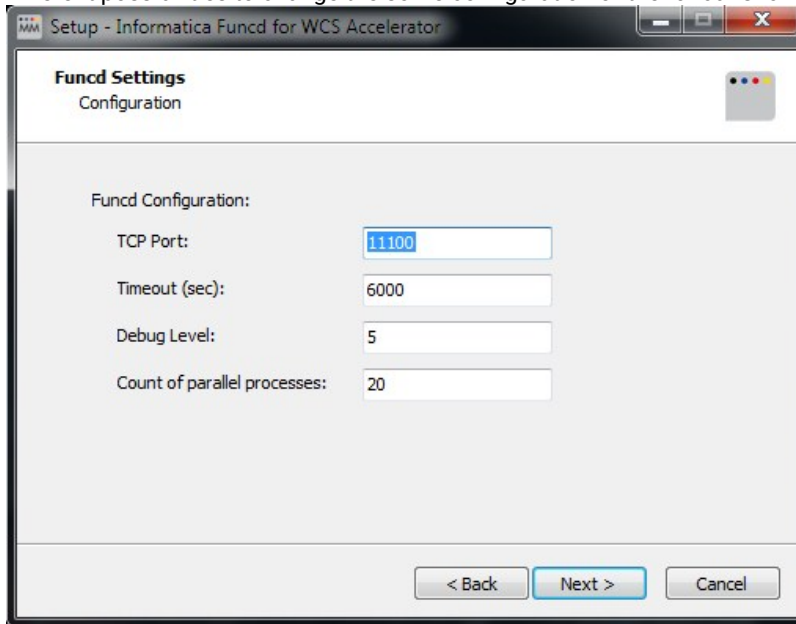
5. There are no additional components to choose, just click Next



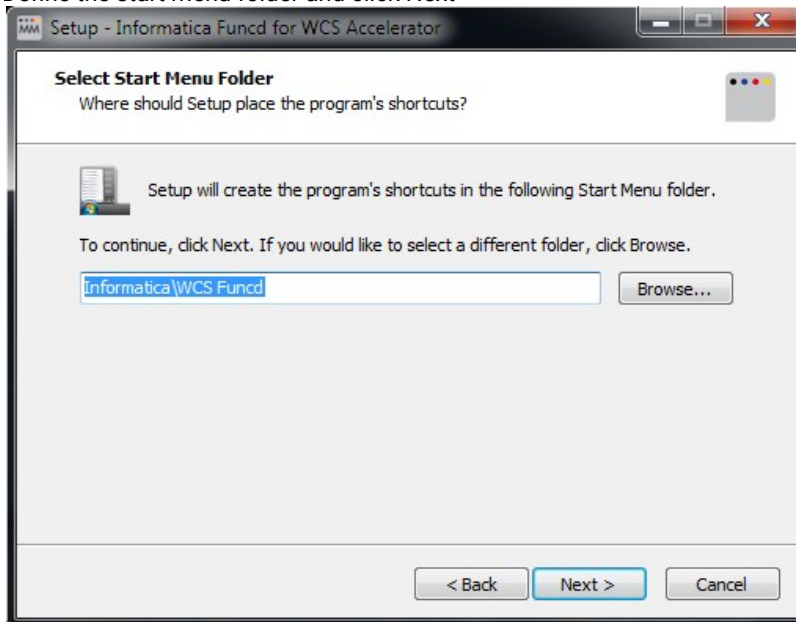
6. Define the folder which you want to poll. In our example we used **<SHARED\_DIRECTORY\_PATH>** \dataLoad\funcd. The path must be in the shared folder because the Product 360 export needs a way to start the cmd and bat files locally. Click Next after defining.



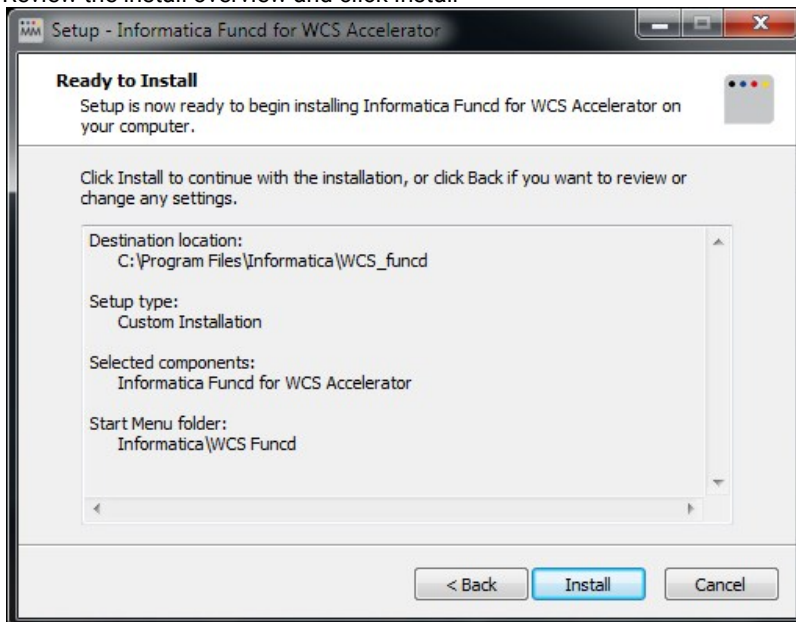
7. Different possibilities to change the some configuration of the funcd. Click Next



8. Define the start menu folder and click Next



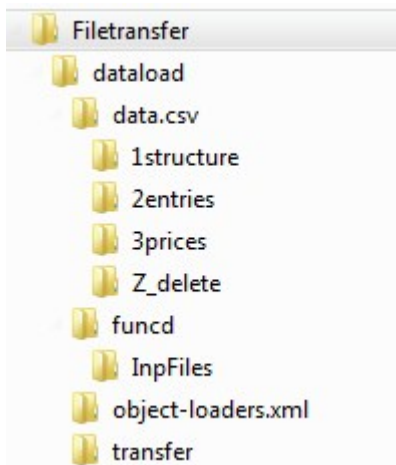
9. Review the install overview and click Install



10. After a successful installation the tool can be started, There are 3 different ways to do this:

- Start the tool direct over the Startmenu /Start/All Programs/Informatica/WCS Funcd/Start WCS Funcd (Attention: This procedure has to be done after every reboot of the server)
- Start the tool with the scheduled service of the server
- Create a windows service for the FUNCD. Therefore go to the installed program directory. There are 2 batch files (MakeService.bat and RemoveService.bat) which creates or removes a service. (Attention: Adapt the settings of the service i.e. automatic start)

After all steps above the shared directory should have following structure



## Product 360 environment configuration

### Product 360 server

Unpack the archive **Product 360\_<Version>\_<Revision>\_server\_websphere\_i18n.delta.zip** into the Product 360 server folder.

## Product 360 client

1. Unpack the archive **Product 360\_<Version>\_<Revision>\_client\_websphere\_i18n.delta.zip** into the Product 360 client folder.
2. Start the client and save the export format templates from the unpacked zip `exporttemplates` folder into the database.
3. The templates variables needs to get adjusted by your own system specific values.
4. The post export steps needs to get adjusted to the **<SHARED\_DIRECTORY\_PATH>**

## 3.3 Attribute Dictionary

### 3.3.1 What is an attribute dictionary?

An IBM Websphere Commerce attribute dictionary is a set of attributes and attribute values. The attribute dictionary can contain attributes with predefined values and attributes with assigned values. Predefined value attributes get a set of values that define the list of allowed values for the respective attribute. Assigned value attributes don't define such an allowed values list, assigned values are specified individually for each catalog entry.

Attributes and attribute values are independent from any catalog entries. You can assign attributes from the attribute dictionary to catalog entries (items and products) for use as defining attributes or descriptive attributes.

### 3.3.2 How does the attribute dictionary model match the Product 360 attribute model?

#### The problem

In WSC, all attributes of the attribute dictionary have a unique identifier.

In Product 360, we have two levels of (structure/ structure group) attributes:

- the pool (each pool feature has a unique identifier)
- structure group level (one pool feature can be used at several structure groups with different data types, preset values, ...)

--> We need to combine data of the two levels to create as few as possible unique attributes, the algorithm must provide reproducible results.

#### The solution: One pool feature - many structure group attributes - some attributes for the attribute dictionary

We use the following algorithm to collect data for the attribute dictionary:

- collect all structure group attributes
- group them by identifier (it's the identifier of the pool feature) and data type
- cumulate the preset values of each attribute group
- each group will become an attribute of the dictionary, the identifier is *<structure attribute identifier>\_<id of the data type>*, e.g. **size\_1** (the "size" feature with `string` data type), **size\_4** (the "size" feature with `integer` data type)

#### Example: Cumulating attributes

There're some features defined for the structure. One of it is "Size":

|   | Identifier          | Name (English)    | Name (German)   | Purpose     |
|---|---------------------|-------------------|-----------------|-------------|
| 1 | SF_SIZE             | Size (en)         | Größe (de)      | Defining    |
| 2 | SF_COLOR            | Color (en)        | Farbe (de)      | Defining    |
| 3 | SF_MATERIAL         | Material          | Material        | Defining    |
| 4 | SF_CARE_INSTRUCTION | Care instructions | Pflegehinweise  | Descriptive |
| 5 | SF_FIT              | Fit               | Passform        | Descriptive |
| 6 | SF_MADE_IN_GERMANY  | Made in Germany   | Made in Germany |             |
| 7 | SF_MADE_IN_CHINA    | Made in China     | Made in China   |             |
| 8 | SF_ISNEW            | Is new            | Ist neu         |             |
| 9 | SF_WASH_TEMP        | Washing temp.     | Waschtemperatur |             |

The "Size" feature is used at the "Pants" structure group as character string data type with preset values:

|   | Identifier          | Name (English)    | Name (German)   | Data type        | Preset values (English)     | Purpose            |
|---|---------------------|-------------------|-----------------|------------------|-----------------------------|--------------------|
| 1 | SF_COLOR            | Color (en)        | Farbe (de)      | Character string | black; blue; white          | Defining           |
| 2 | SF_SIZE             | Size (en)         | Größe (de)      | Character string | L; M; S                     | Defining           |
| 3 | SF_FIT              | Fit               | Passform        | Character string | comfortable; elastic; tight | Descriptive        |
| 4 | SF_CARE_INSTRUCTION | Care instructions | Pflegehinweise  | Character string |                             | Descriptive; Print |
| 5 | SF_MADE_IN_GERMANY  | Made in Germany   | Made in Germany | Character string | No; Yes                     | Descriptive        |
| 6 | SF_MADE_IN_CHINA    | Made in China     | Made in China   | Character string | No; Yes                     | Descriptive        |

The "Size" feature is used at the "Shoes" structure group as integer data type without preset values:

|   | Identifier          | Name (English)    | Name (German)   | Data type        | Preset values (English) | Purpose            |
|---|---------------------|-------------------|-----------------|------------------|-------------------------|--------------------|
| 1 | SF_COLOR            | Color (en)        | Farbe (de)      | Character string | black; red; white       | Defining           |
| 2 | SF_MATERIAL         | Material          | Material        | Character string | Leather; Textile        | Defining           |
| 3 | SF_SIZE             | Size (en)         | Größe (de)      | Integer          |                         | Defining           |
| 4 | SF_CARE_INSTRUCTION | Care instructions | Pflegehinweise  | Character string |                         | Descriptive; Print |
| 5 | SF_MADE_IN_GERMANY  | Made in Germany   | Made in Germany | Character string | No; Yes                 | Descriptive        |
| 6 | SF_MADE_IN_CHINA    | Made in China     | Made in China   | Character string | No; Yes                 | Descriptive        |
| 7 | SF_ISNEW            | Is new            | Ist neu         | Character string |                         |                    |

The algorithm for collecting attribute dictionary data identifies two attributes named "Size":



| AttributeIdentifier | Type    | AttributeType  | LanguageId | Name    |
|---------------------|---------|----------------|------------|---------|
| SF_SIZE_1           | STRING  | AllowedValues  | -3         | "Größe" |
| SF_SIZE_1           | STRING  | AllowedValues  | -1         | "Size"  |
| SF_SIZE_4           | INTEGER | AssignedValues | -3         | "Größe" |
| SF_SIZE_4           | INTEGER | AssignedValues | -1         | "Size"  |

### Example: Collecting preset values of attributes

The "Size" attribute is used at "Women - Shirts" structure group with preset values "L", "M", and "S":

| Identifier            | Name (English)     | Name (German)   | Data type        | Preset values (English)     | Preset values (German)          | Purpose            |
|-----------------------|--------------------|-----------------|------------------|-----------------------------|---------------------------------|--------------------|
| 1 SF_COLOR            | Color (en)         | Farbe (de)      | Character string | black; blue; red; white     | blau; dunkelrot; schwarz; weiß  | Defining           |
| 2 SF_SIZE             | Size (en)          | Größe (de)      | Character string | L; M; S                     | L; M; S                         | Defining           |
| 3 SF_FIT              | Fit                | Passform        | Character string | comfortable; elastic; lo... | bequem; elastisch; eng anlie... | Descriptive        |
| 4 SF_CARE_INSTRUCTION | Care instructio... | Pflegehinweise  | Character string |                             |                                 | Descriptive; Print |
| 5 SF_MADE_IN_CHINA    | Made in China      | Made in China   | Character string | No; Yes                     | Ja; Nein                        | Descriptive        |
| 6 SF_MADE_IN_GERMANY  | Made in Germ...    | Made in Germ... | Character string | No; Yes                     | Ja; Nein                        | Descriptive        |

The "Size" attribute is used at "Men - Shirts" structure group with preset values "L", "M", "XL", and "XXL":

| Identifier            | Name (English)     | Name (German)   | Data type        | Preset values (English) | Preset values (German)      | Purpose     |
|-----------------------|--------------------|-----------------|------------------|-------------------------|-----------------------------|-------------|
| 1 SF_COLOR            | Color (en)         | Farbe (de)      | Character string | blue; green; red; white | blau; dunkelrot; grün; weiß | Defining    |
| 2 SF_SIZE             | Size (en)          | Größe (de)      | Character string | L; M; XL; XXL           | L; M; XL; XXL               | Defining    |
| 3 SF_CARE_INSTRUCTION | Care instructio... | Pflegehinweise  | Character string |                         |                             | Descriptive |
| 4 SF_MADE_IN_GERMANY  | Made in Germ...    | Made in Germ... | Character string | No; Yes                 | Ja; Nein                    | Descriptive |
| 5 SF_MADE_IN_CHINA    | Made in China      | Made in China   | Character string | No; Yes                 | Ja; Nein                    | Descriptive |

The algorithm for collecting attribute dictionary data cumulates the preset values for the "SIZE\_1" attribute:

| AttributeIdentifier | ValueIdentifier | Value |
|---------------------|-----------------|-------|
| SF_SIZE_1           | SV_SIZE_S       | "S"   |
| SF_SIZE_1           | SV_SIZE_M       | "M"   |
| SF_SIZE_1           | SV_SIZE_L       | "L"   |
| SF_SIZE_1           | SV_SIZE_XL      | "XL"  |
| SF_SIZE_1           | SV_SIZE_XXL     | "XXL" |

## Limitation

### Computing the list of dictionary attributes

We only use the structure attribute identifier and the data type of the structure group attributes to compute the list of attributes for the attribute dictionary. We ignore other data that might be necessary in other scenarios, like units.

### Multi value support

The multi value support for describing catalog entry attributes is disabled to avoid attribute value cumulation.

disabled multi value support in wc-loader-catalog-entry-AD-attribute-relationship.xml

```
<_config:property name="supportMultipleValuesForADAttributes" value="false" />
```

### Product 360 field - WCS field mapping

Some WCS fields are filled with constant values because there're no matching standard fields in Product 360. For custom solutions it is possible to use appropriate repository reserve fields.

### Deleted allowed values, deleted attributes

We don't support the export of deleted attributes or attribute allowed values.

### 3.3.3 Attributes

The corresponding WCS business object is *AttributeDictionaryAttributeAndAllowedValues*.

Detailed information on the fields can be found in the IBM Knowledge Center.

### Types of dictionary attributes

#### Allowed value attributes - assigned value attributes

Dictionary attributes can have a set of allowed values. Assigned value attributes don't define such an allowed values list, assigned values are specified individually for each catalog entry.

The type of an attribute cannot be changed.

#### Defining attributes - describing attributes

The usage of an attribute is specified in the relationship between catalog entries and dictionary attributes.

### Export enhancements

The new structure export data provider sub-data type "**Attribute dictionary attributes**" (identifier "ADAttributes") exports data needed for dictionary attributes. It combines several repository entities to collect corresponding data. In addition, it provides two new fields that contain data to fill the "Identifier" and "AttributeType" columns of the "ADAttributes.csv" file. It provides the logical key "Language" of the StructureGroupAttributeLang repository sub-entity as data type filter as well as the attribute "Purpose".

Involved repository entities:

- StructureGroupAttribute
- StructureGroupAttributeLang
- (hidden: StructureGroupAttributePresetValue)
- StructureFeature: transition StructureGroupAttribute.StructureAttribute can be used

Additional provided fields:

- Has preset values -> determine AttributeType "AllowedValues" or "AssignedValues"

- Dictionary attribute identifier

Data type filter:

- Language
- Purpose
- Hidden: Feature name

### 3.3.4 Allowed values

The corresponding WCS business object is *AttributeDictionaryAttributeAllowedValues*.

Detailed information on the fields can be found in IBM Knowledge Center.

#### Export enhancements

The new sub-data type "**Attribute dictionary attribute values**" (Identifier "ADAttributeAllowedValues") of structure export data providers exports data needed for dictionary attribute allowed values. It combines several repository entities to collect corresponding data. In addition, it provides the new "DictionaryAttributeIdentifier" field to fill the "Identifier" column of the "ADAttributeAllowedValues.csv" file. The logical keys "Feature name" and "Preset values" are hidden whereas "Language" and "Purpose" are available data type filters here.

Involved repository entities:

- StructureGroupAttribute
- StructureGroupAttributePresetValue
- StructureValue
- StructureValueLang

Additional provided field:

- Dictionary attribute identifier

Data type filter:

- Language
- Purpose
- Hidden: feature name
- Hidden: Preset value

### 3.3.5 Attribute - catalog entry mapping

The corresponding WCS business object is *CatalogEntryAttributeDictionaryAttributeRelationship*.

Detailed information on the fields can be found in IBM Knowledge Center.

The following types of catalog entry to attribute mappings are exported:

1. Defining attributes for items
2. Describing attributes for products
3. Describing attributes for items

It is not necessary to build a relation between a product and the defining attributes used by the child items of the product. Only the item-to-attribute relation has to be considered for defining item attributes.

#### Export enhancements

##### "GetWCSAttributeUsage" export function

The "GetWCSAttributeUsage" export function calculates the value to be passed as "Usage" column value of the "CatEntryADAttributeValues.csv" file. Return values of that function are "Defining" and "Descriptive".

That function evaluates the attribute purpose given as parameter. It returns "Defining" in case the passed value equals "Defining" or contains "Defining" as one of multiple passed purposes. In any other case "Descriptive" is returned.

Note: The defining attribute purpose has to be defined in the repository enumeration "Enum.AttributePurpose" as enum param with the name "Websphere.defining", current value is "DEFINING".

### "Attribute dictionary attribute relations" sub-data type

The "**Attribute dictionary attribute relations**" (Identifiers "DataTypeADAttributeArticleRelations", "DataTypeADAttributeProductRelations") export sub-data types are available for all item and product export data providers. They are based on the "Feature values" ("DataTypeArticleFeatureValues" resp. "DataTypeProductFeatureValues") data types. The new data types provide the "Dictionary attribute identifier" field to can identify the dictionary attribute the item resp. product is mapped to.

Involved repository entities:

- ArticleAttribute/ Product2GAttribute
- ArticleAttributeLang/ Product2GAttributeLang
- ArticleAttributeValue/ Product2GAttributeValue

Additional provided field:

- Dictionary attribute identifier

Data type filter:

- Language
- Purpose
- Hidden: attribute name
- Hidden: value identifier

### 3.3.6 New and changed attributes and values

The export of new and changed dictionary attributes and allowed values is supported by the "Changed structure data" export data provider.

The following data maintenance operations cause a delta export to grab attribute data during next run:

- create or change structure group attributes
- create or change structure attributes mapped to structure group attributes
- create or change structure values used as allowed value of a structure group attribute

## 3.4 Data Exchange

### 3.4.1 Scenarios

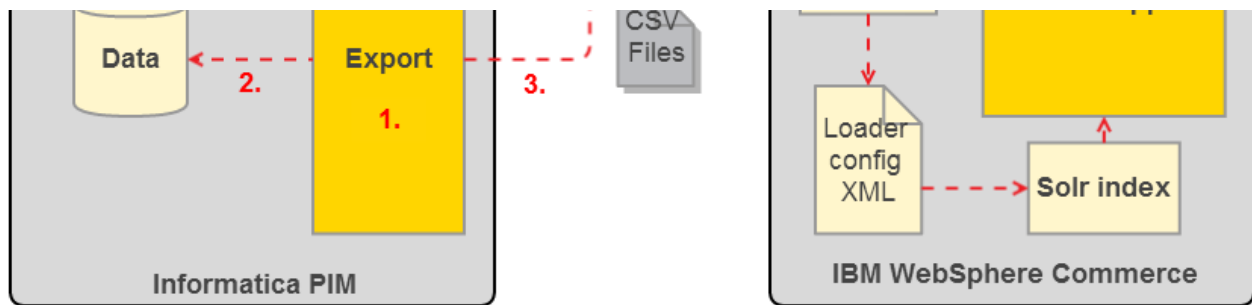
The WCS Accelerator provides different pre-configured files of export format templates to execute a full export, a delta export or a delta export of a specific product or item. To execute those export format templates, the available variables needs to be configured.

#### Limitations:

- It is not allowed to change the identifier of product/items/groups because this is the mapping to the WCS data
- It is not allowed to move a catalog group (which is already imported in the WCS) to another parent.
- It is not allowed to change the association type or the referenced entry of an product or item. Please delete the association entry and create a new one instead of changing.

### 3.4.2 General Workflow

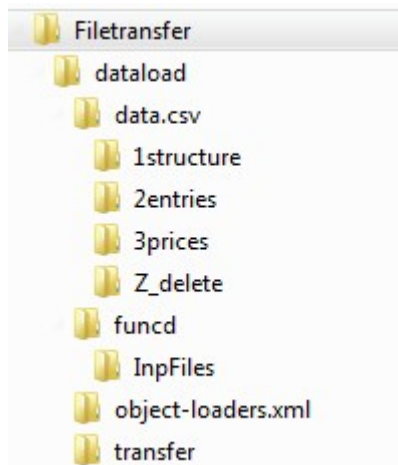




### 3.4.3 WCS Data Loader Environment

#### Overview

The WCS data loader configurations and working area is provided as directory hierarchy which looks like described below. The root directory `Filetransfer` is a shared folder. This is necessary because the Product 360 export need to transfer the exported files to the WCS environment.



The `dataload` directory contains bat and cmd files, which are starting the image- or data import into the WCS. It also contains WC data load configuration files which define which business object config file of sub-directory `\object-loaders.xml` is mapped to which CSV file of the sub-directory `/data-csv`.

At the beginning of the data load sequence (`start_dataLoad_*.cmd`) the files are transferred to the directory `\data.csv`. Those CSV files in the sub-directories are used to perform the wcs dataload.




(Optional!)The sub-directory `\funcd` is used to start the dataload from the Product 360 export post export step. The export will move a specific `*.inp` file in the frequently polled directory. The `inp`-file will contain the call to a specific cmd file.

The sub-directory `\object-loaders.xml` contains the data loader configuration for the certain CSV data files, where the CSV columns are mapped to the business objects properties for loading.









































The sub-directory `\transfer` is the location where the CSV files from the Product 360 export are transferred to initially.

The following icons are used to mark files in the listings below according to their use:




























| Files marked with this icon | are needed for... |
|-----------------------------|-------------------|
| ★                           | full load         |

| Files marked with this icon                                                       | are needed for... |
|-----------------------------------------------------------------------------------|-------------------|
|  | delta load        |
|  | immediate update  |
|  | delete all data   |

### Files of the dataLoad directory

-   start\_dataLoad\_full.cmd (controls the data load sequence for a full import)
-  start\_dataLoad\_delta.cmd (controls the data load sequence for a delta import)
-  start\_dataLoad\_delta\_catEntries.cmd (controls the data load sequence for a product and/or item import)
-  start\_dataLoad\_deleteAll.cmd (controls the data load sequence for a full delete)
-    cleanupFolders.bat (deletes all CSV files of the data.csv sub-directories if exist)
-  prepareFiles.bat (copies needed files from transfer directory to the according sub-directory of data.csv)
-   prepareDeltaFiles.bat (copies needed files from transfer directory to the according sub-directory of data.csv)
-  prepareDeleteFiles.bat (copies needed files from transfer directory to the according sub-directory of data.csv)
-   load1-structure.bat (starts loading the catalog groups using wc-dataload-1structure.xml)
-   load2-entries.bat (starts loading the catalog entries using wc-dataload-2entries.xml)
-  load2-entries.index.bat (starts loading the catalog entries using wc-dataload-2entries-searchIndex.xml)
-    load3-prices.bat (starts loading the catalog entries' prices using wc-dataload-3prices.xml)
-   loadZ-delete.bat (starts deleting the catalog groups and entries using wc-dataload-deleteAll.xml)
-    buildSOLrindex.bat (starts rebuild of the SOLr index used by WCS)
-  buildSOLrindex\_Delta.bat (starts a delta rebuild of the SOLr index used by WCS)
-     wc-dataload-env.xml (declares the environment variables used by the data loader see [The environment configuration file](#))
-   wc-dataload-1structure.xml (controls the data load sequence for catalog groups see [Data load sequence of structure](#))
-   wc-dataload-2entries.xml (controls the data load sequence for catalog entries see [Data load sequence of entries](#))
-  wc-dataload-2entries-searchIndex.xml (controls the data load sequence for catalog entries with search index )
-    wc-dataload-3prices.xml (controls the data load sequence for catalog entries' prices see [Data load sequence of prices](#))
-   wc-dataload-deleteAll.xml (controls the data load sequence for deleting catalog groups and entries)

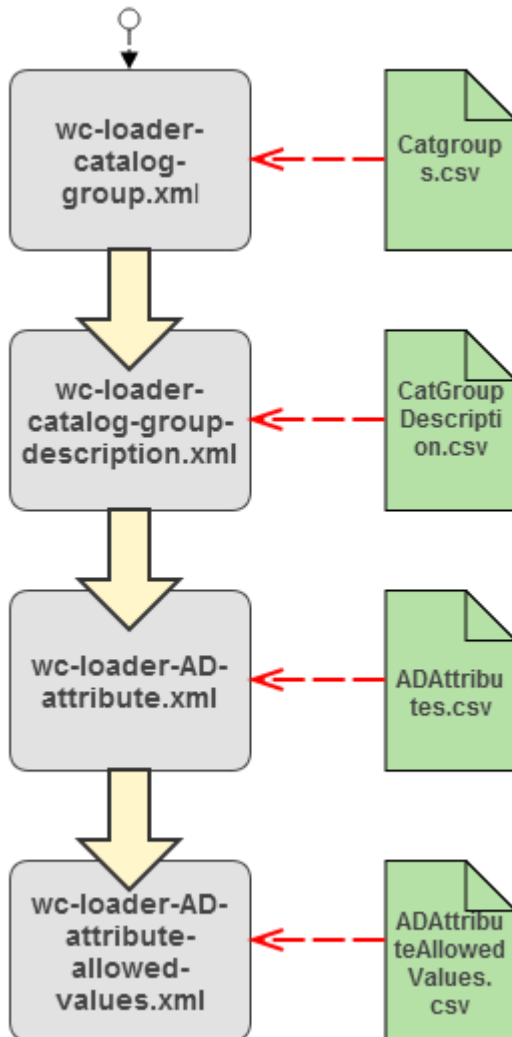
### Files of the object-loaders.xml directory

-    wc-loader-catalog-group.xml
-   wc-loader-catalog-group-description.xml
-   wc-loader-AD-attributes.xml
-   wc-loader-AD-attribute-allowed-values.xml
-     wc-loader-catalog-entry.xml
-  wc-loader-catalog-entry\_DELTA.xml
-    wc-loader-catalog-entry-description.xml
-    wc-loader-catalog-entry-AD-attribute-relationship.xml
-     wc-loader-catalog-entry-association.xml
-    wc-loader-catalogentry-offer-pricelist.xml

## WCS object loader mapping

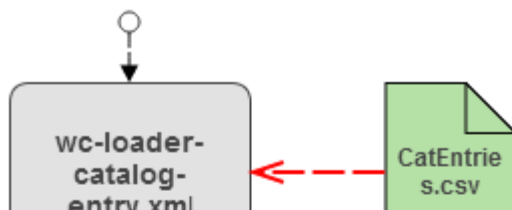
### Data load sequence of structure

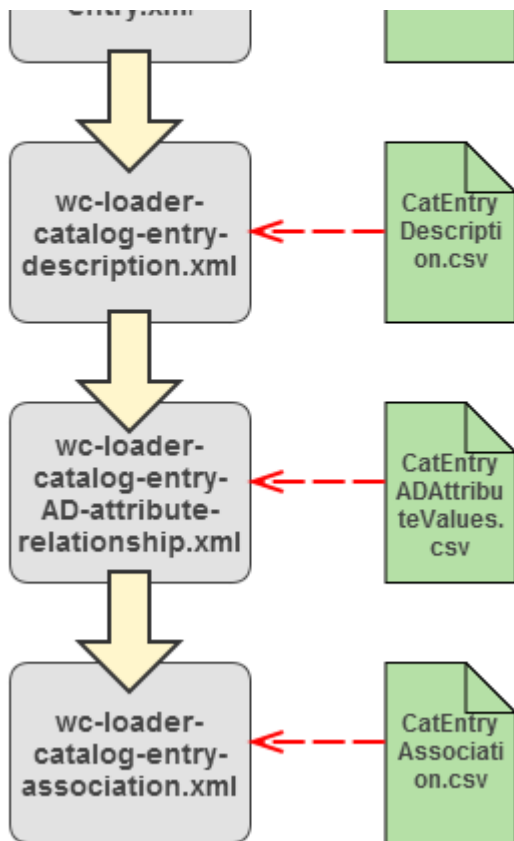
wc-dataload-1structure.xml:



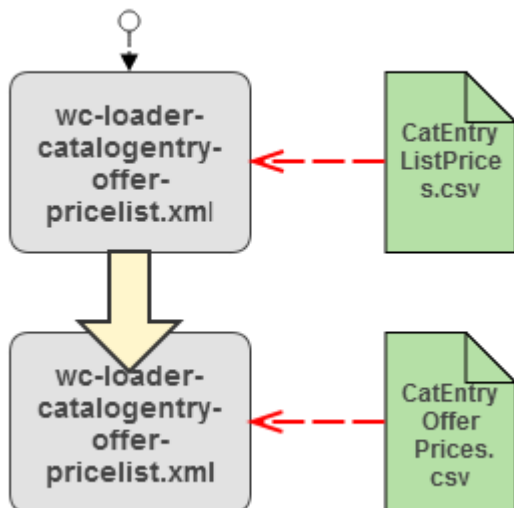
### Data load sequence of entries

wc-dataload-2entries.xml:





Data load sequence of prices  
[wc-dataload-3prices.xml](#):

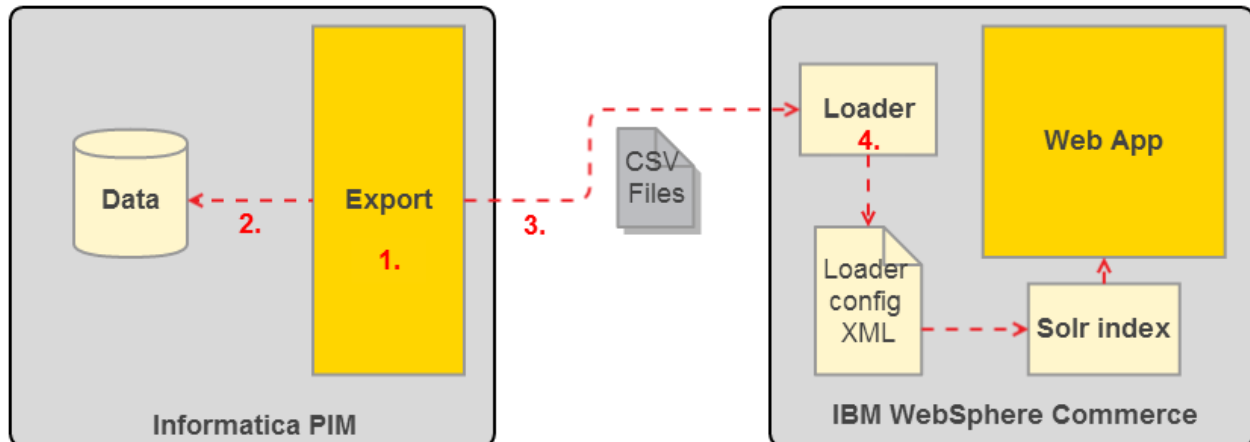




### 3.4.4 Workflows

#### ★Full load

After maintaining the data in a Product 360 system a full export is needed to transfer all necessary data from the Product 360 System to a IBM WebSphere Commerce System. If this transfer is happening the very first time, a full export is needed for this.



#### 1. Export template

The "WCS - full Export" export format template is gathering all necessary data and has several post-export step.

#### 2. Exported data

Following data will be exported:

- Collecting data for the [Attribute Dictionary](#).
- Structure group with their language-specific data and file attachments
- Product/Item with their language-specific data, file attachments, referenced products/items, selling price, offer price and attribute values

#### 3. Created Files

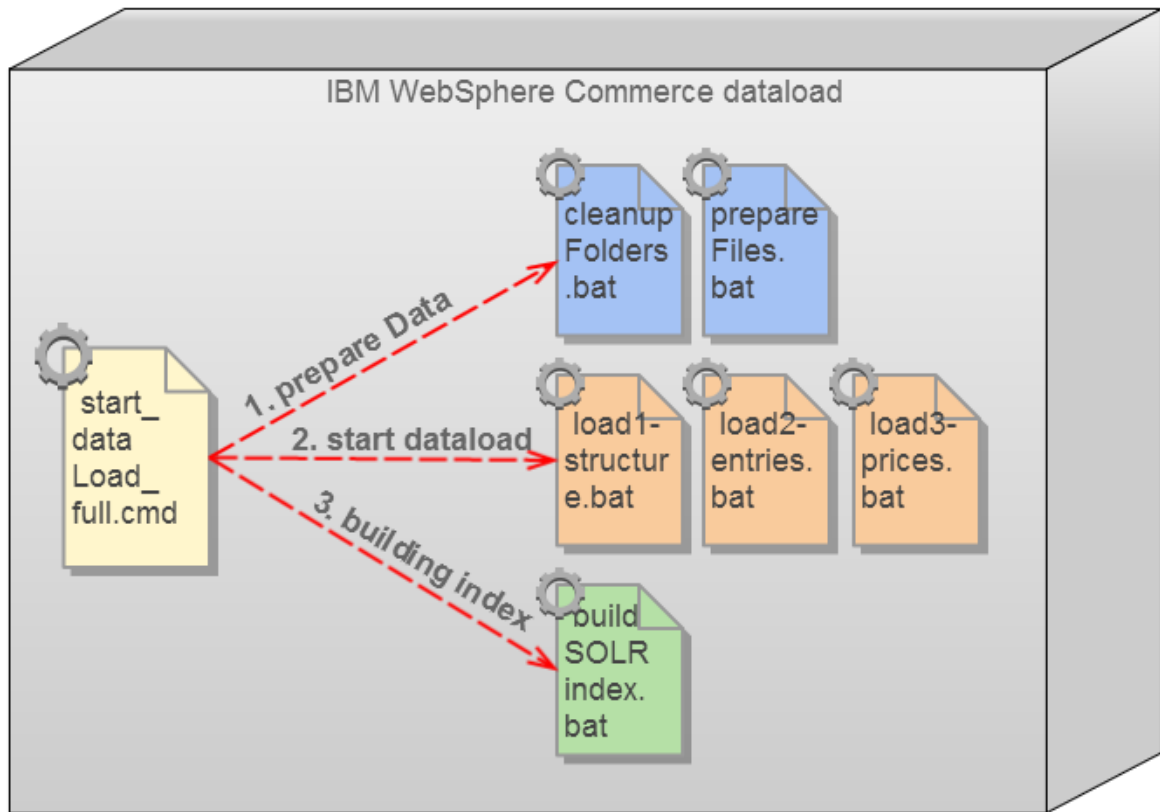
- Multimedia.zip
- ADAttributes.csv
- CatEntries.csv
- CatEntryADAttributeValues.csv
- CatEntryAssociation.csv
- CatEntryDescription.csv
- CatEntryListPrices.csv
- CatEntryOfferPrices.csv
- CatGroupDescription.csv
- CatGroups.csv
- ADAttributeAllowedValues.csv

#### 4. WCS loader

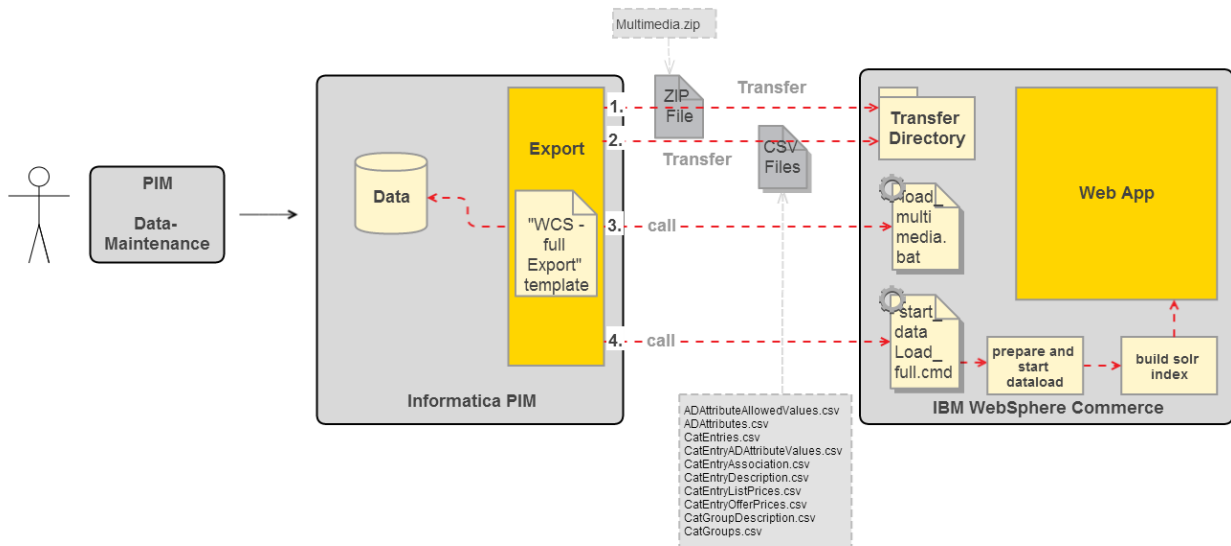
##### a. Multimedia

load\_multimedia.bat - will unzip the Multimedia.zip via java command and copy the pictures to the file path. The path is configured in the bat file and probably need to get changed.

##### b. Data load

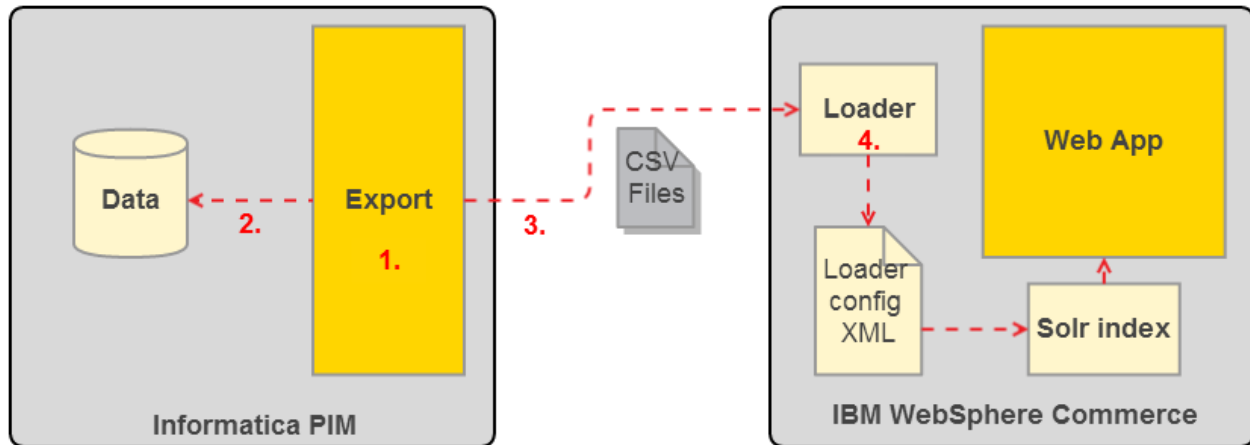


### Detailed Overview of full export



## ★Delta load

After data is already available in the IBM WebSphere Commerce System and maintaining of data in the Product 360 system was continuing a delta export is needed to transfer all new and changed data from the Product 360 System to the mentioned WCS System. This delta update should usually be triggered by a scheduled job.



### 1. Export template

The "WCS - Delta Export" export format template is gathering all necessary deleted, new and changed data and has several post-export step.

### 2. Exported data

Following data will be exported:

- Products/Items to delete and/or their references, structure group assignment, item to product assignment
- Structure groups to delete
- Collecting data for changed and new [Attribute Dictionary](#).
- Changed and new Structure group with their language-specific data and file attachments
- Changed and new Product/Item with their language-specific data, file attachments, referenced products/items, selling price, offer price and attribute values

### 3. Created Files

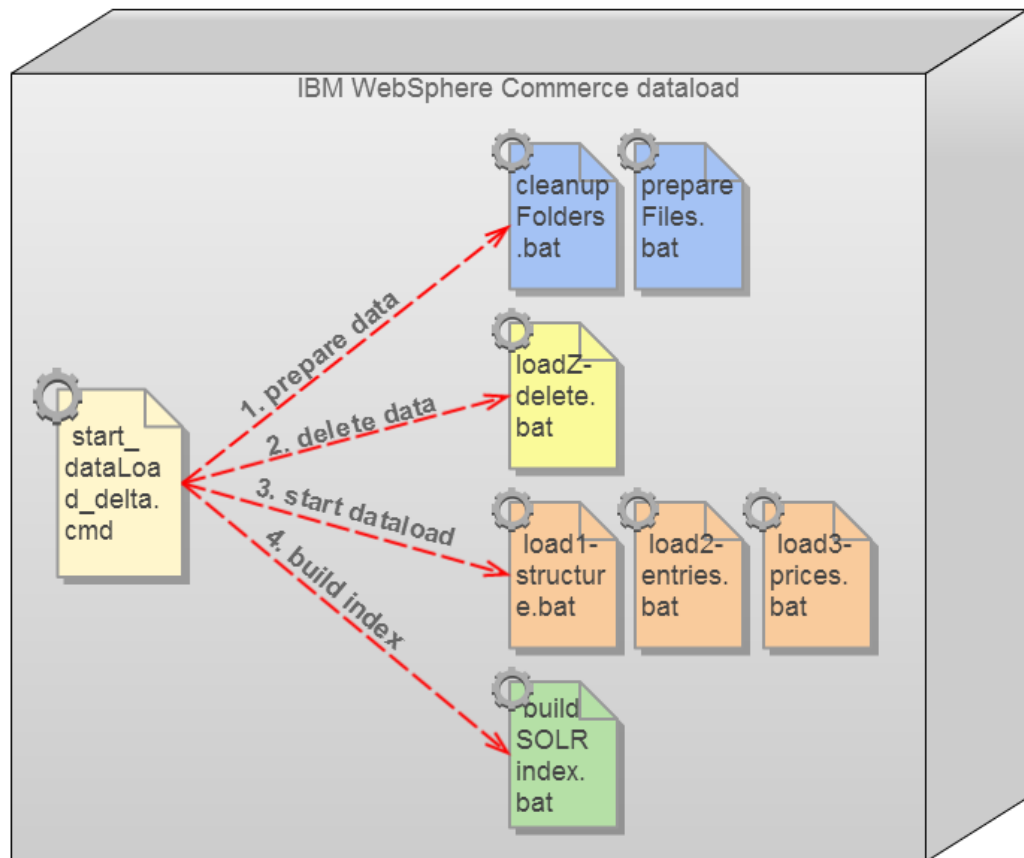
- Multimedia.zip
- ADAttributes.csv
- CatEntries.csv
- CatEntryADAttributeValues.csv
- CatEntryAssociation.csv
- CatEntryDescription.csv
- CatEntryListPrices.csv
- CatEntryOfferPrices.csv
- CatGroupDescription.csv
- CatGroups.csv
- ADAttributeAllowedValues.csv
- Z\_CatEntriesDelete\_Items
- Z\_CatEntriesDelete\_Products
- Z\_CatEntryAssociation
- Z\_CatGroupsDelete

#### 4. WCS loader

##### a. Multimedia

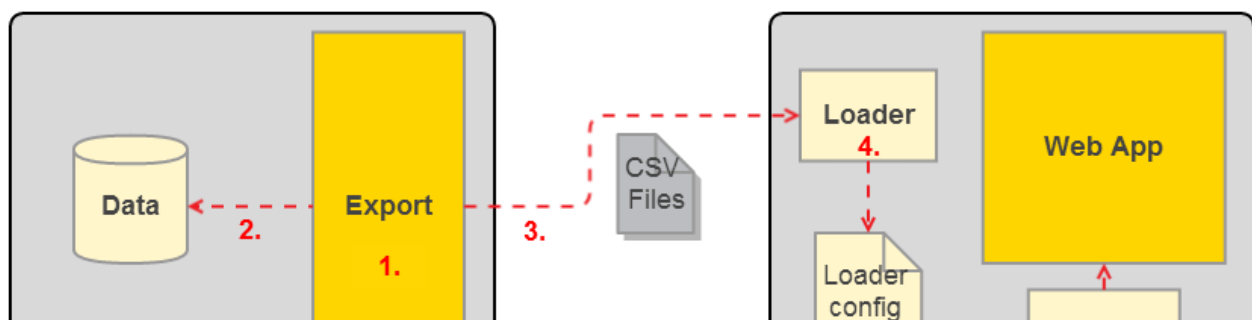
load\_multimedia.bat - will unzip the Multimedia.zip via java command and copy the pictures to the file path. The path is configured in the bat file and probably need to get changed.

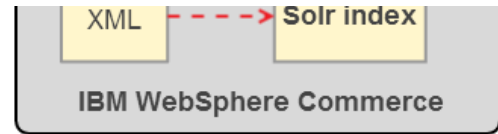
##### b. Data load



#### ★ Immediate Update

After data is already available in the IBM WebSphere Commerce System and maintaining of data in the Product 360 system was continuing and you want to export some minor changes for an item or a product with its items.





### 1. Export template

The "WCS - immediate item export" export format template is gathering all item data for creating a delta update.  
The "WCS - immediate product with items export" export format template is gathering all product and assigned items data for creating a delta update.

### 2. Exported data

Following data will be exported:

- Product/Item with their language-specific data, file attachments, referenced products/items, selling price, offer price and attribute values

### 3. Created Files

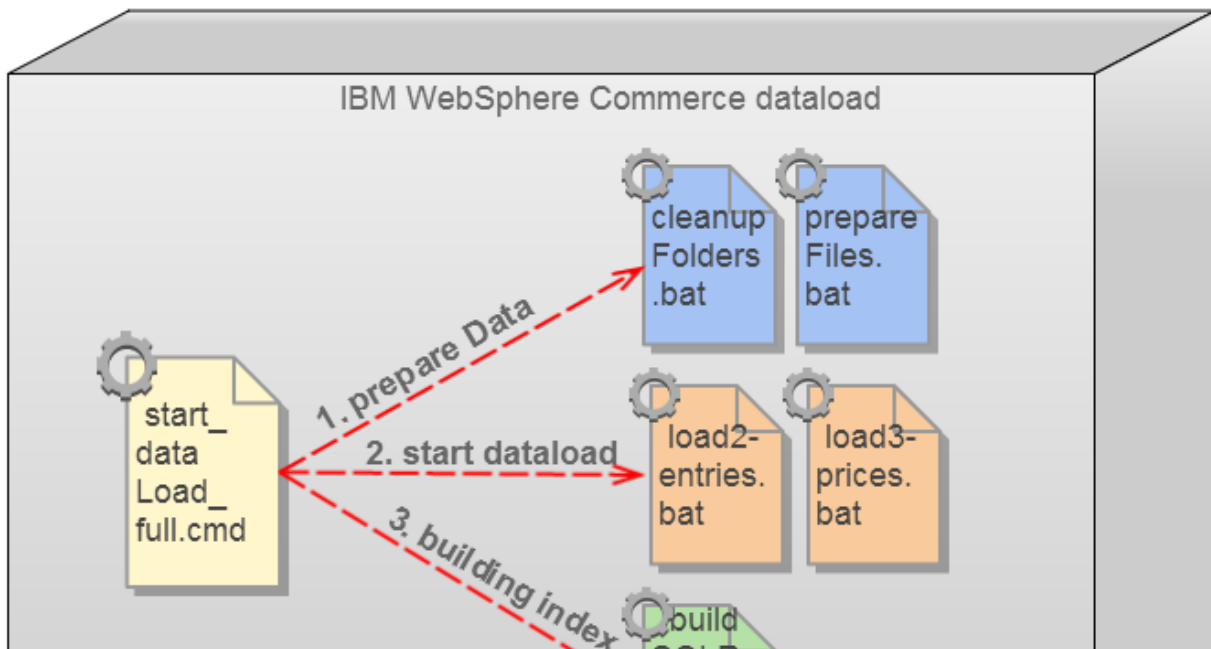
- Multimedia.zip
- CatEntries.csv
- CatEntryADAttributeValues.csv
- CatEntryAssociation.csv
- CatEntryDescription.csv
- CatEntryListPrices.csv
- CatEntryOfferPrices.csv

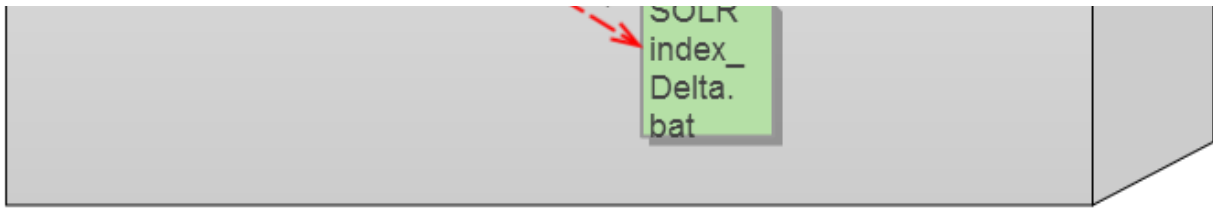
### 4. WCS loader

#### a. Multimedia

load\_multimedia.bat - will unzip the Multimedia.zip via java command and copy the pictures to the file path.  
The path is configured in the bat file and probably need to get changed.

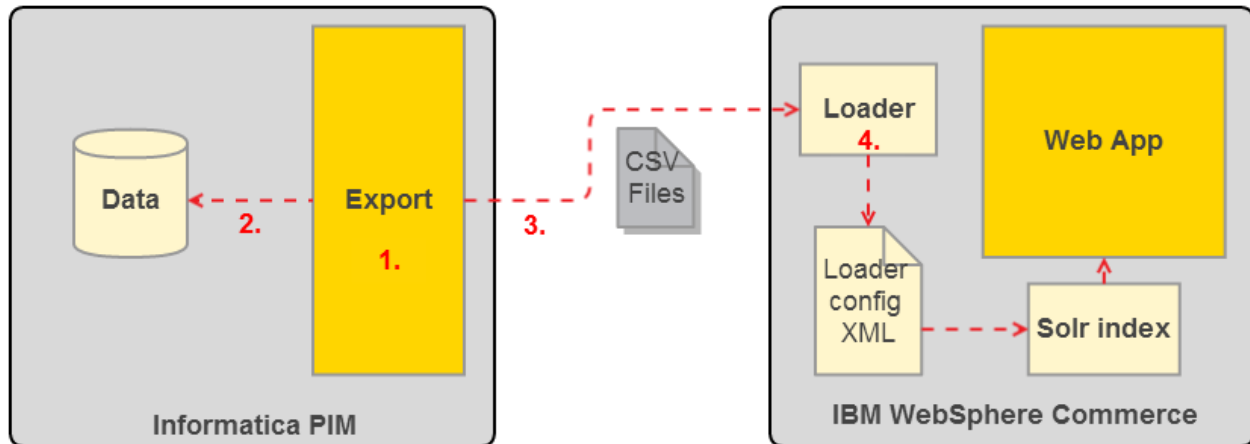
#### b. Data load





## Delete all data

Specially during testing phase it's important to have the possibility to delete all data on the IBM WebSphere Commerce System. This export format template will export all available data of Product 360 with a deletion flag.



### 1. Export template

The "WCS - Delete Items, Products, Structure groups" export format template is gathering all available data of the Product 360 and marks them as deleted.

### 2. Exported data

Following data will be exported:

- Structure groups
- Products/Items

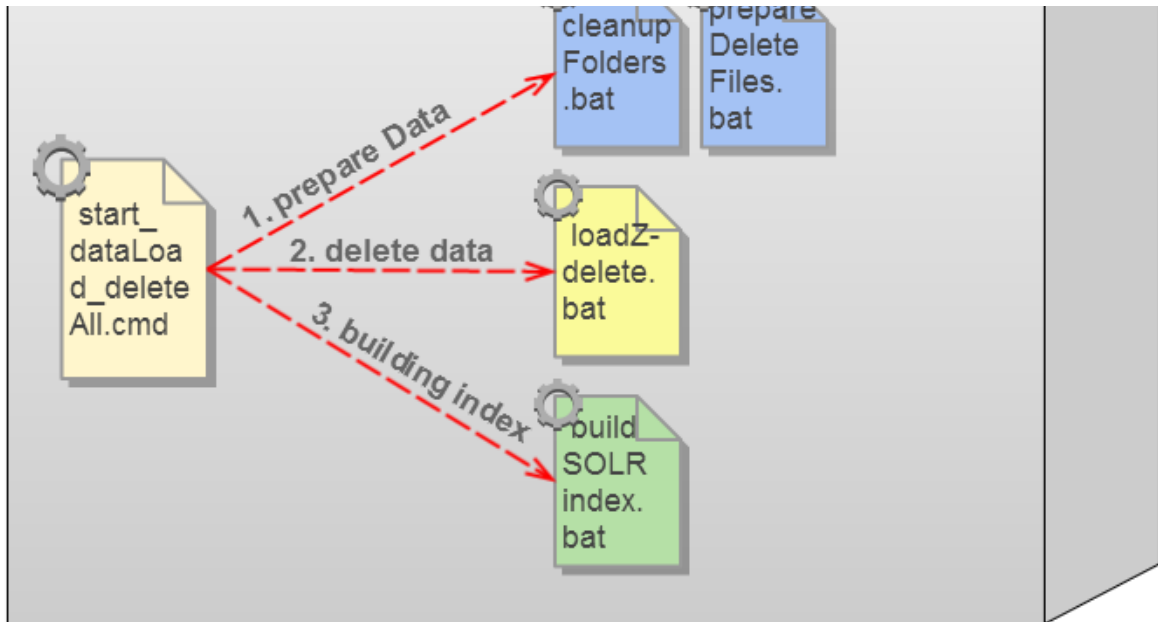
### 3. Created Files

- Z\_CatEntriesDelete\_Items
- Z\_CatEntriesDelete\_Products
- Z\_CatGroupsDelete

### 4. WCS loader

#### a. Data load





### 3.4.5 WCS data load configuration

#### The data load utility configuration files

The central configuration file for the data load utility consists of two files, the environment configuration file and the data load sequence configuration file.

#### The environment configuration file

See the file `wc-dataLoad-env.xml` in the root of the data load directory. There are two configuration areas which possibly have to be adapted; the *business context* and the *database connection* parameters.

The business context parameters (element `<_config:BusinessContext ...>`) are:

| Attribute         | Meaning                                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| storeIdentifier   | The store external identifier of the store. The utility resolves the store internal identifier based on the external identifier.<br>Default is: Aurora       |
| catalogIdentifier | The catalog external identifier of the catalog. The utility resolves the catalog internal identifier based on the external identifier.<br>Default is: Aurora |

If any of these properties does not match your environment it has to be adapted. Especially the `storeIdentifier` and/or the `catalogIdentifier` might be subjects to change.

The database connection settings (element `<_config:Database ...>`) are:

| Attribute | Meaning                                                                                                                                                                                                                         |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type      | The database type. Supported values are "derby", "db2" and "oracle". Preset here: "db2"                                                                                                                                         |
| Name      | The name of the database the data is being loaded into. Preset here: DEVFEP7                                                                                                                                                    |
| User      | The database user ID.<br>Preset here: db2admin                                                                                                                                                                                  |
| password  | The database password. The database password must be encrypted. You can also leave the password field empty. At the data load runtime, the user will be prompted to enter the password on the command line.<br>Preset here: "". |
| server    | The name of the server the database is on.<br>Preset here: localhost                                                                                                                                                            |
| Port      | The port to connect to the database.<br>Preset here: 50000                                                                                                                                                                      |
| schema    | The name of the database schema.<br>Preset here: db2admin                                                                                                                                                                       |

Refer to the IBM documentation too:

[http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.data.doc/code/wc-dataload-env.xsd/WC/xml/config/xsd/wc-dataload-env.xsd\\_doc/main.html](http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.data.doc/code/wc-dataload-env.xsd/WC/xml/config/xsd/wc-dataload-env.xsd_doc/main.html)

### The configuration files for the data load sequence

This configuration contains two main areas of configuration.

First a reference to the environment configuration file (see above) which is provided by the element:

```
<_config:DataLoadEnvironment configFile="wc-dataload-env.xml" />
```

Second the element `<_config:LoadOrder ...>` where the load items are listed in the sequence the data load should be performed.

A load item contains the mapping between a data file (in our case a CSV file in the directory data) and the corresponding data loader mapping file (an XML file in the directory object-loaders.xml). See the sample:

```
<_config:LoadItem name="CatalogGroup" loadSequence="1.0"
businessObjectConfigFile="object-loaders.xml/wc-loader-catalog-group.xml">
  <_config:DataSourceLocation location="data.csv/1structure/CatGroups.csv" />
</_config:LoadItem>
```

Additionally the element `<_config:LoadOrder ...>` supports attributes which allow to control the data load process:



| Attribute    | Meaning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dataLoadMode | <p>The data load mode. Data load utility modes:</p> <ul style="list-style-type: none"> <li>• Insert: All data is inserted into the database. The utility generates insert SQL statements. Use this mode for initial data load.</li> <li>• Delete: All data is deleted from the database. The utility generates the delete SQL statements.</li> <li>• Replace (Default): All of the data in the database is replaced. The utility generates the insert, update or delete SQL statements depending on the data. Replace mode replace the existing data with the input data. That is, if some column information is not in the input data, the column value is updated to null or the default value, if any.</li> </ul> <p>If defined at the load order level, all load items inherit this value. The value can be overridden at the load item level.</p> |
| commitCount  | <p>Specifies how many lines to process before calling database commit. The default setting is 1. If the commitCount is 0, it means it will not commit until this load item finishes processing all of its input data. If defined at the load order level, all load items inherit this value. The value can be overridden at the load item level.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| batchSize    | <p>The batch size specifies how many lines of records to process when using JDBC batch. The default value is 1, JDBC batch update is not used. If the batchSize is 0, batches all of processed input data for the entire load item. If defined at the load order level, all load items inherit this value. The value can be overridden at the load item level.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| maxError     | <p>This attribute is a setting for the error tolerance during the data load process for a load item. Default is: 1. The utility continues to load data for a load item until the error tolerance level is reached; then the utility exits. Note that for configuration and system errors the utility ends before reaching the tolerance level. If defined at the load order level, all load items inherit this value. The value can be overridden at the load item level.</p>                                                                                                                                                                                                                                                                                                                                                                          |
| retry        | <p>A flag indicating that if an error occurs during the data load process, the utility retries to load the data. If configuration errors or system errors occur, the utility ends. Default is: false. If defined at the load order level, all load items inherit this value. The value can be overridden at the load item level.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

Refer to the IBM documentation too:

[http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.data.doc/code/wc-dataload.xsd/WC/xml/config/xsd/wc-dataload.xsd\\_doc/main.html](http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.data.doc/code/wc-dataload.xsd/WC/xml/config/xsd/wc-dataload.xsd_doc/main.html)

## 3.5 Data Maintenance

### 3.5.1 Objective

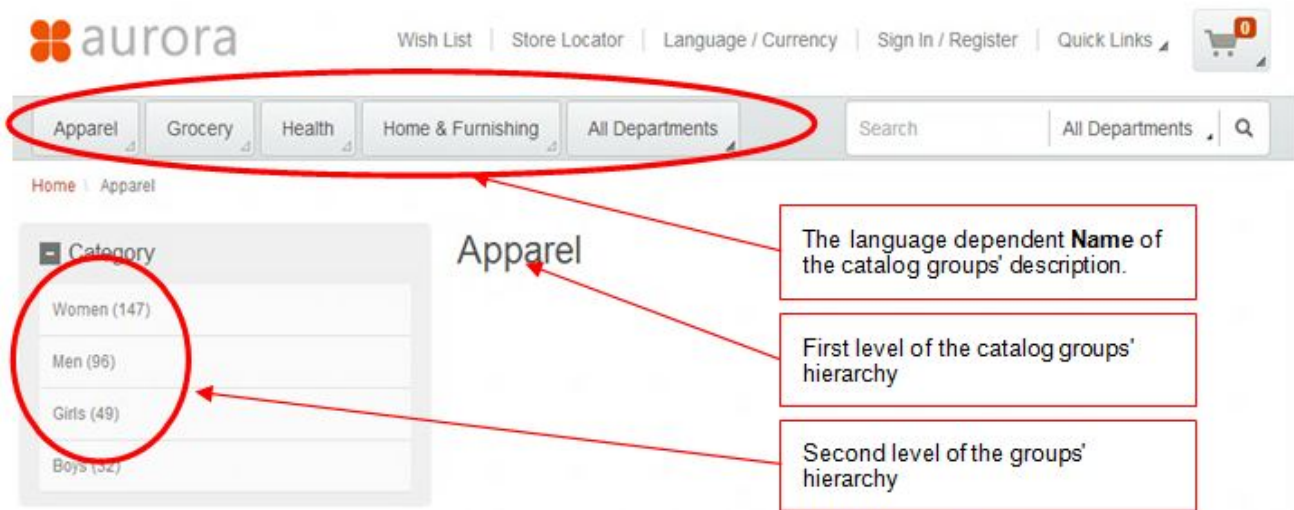
The standard data transfer in the context of the WebSphere Commerce 8 accelerator of Product 360 is optimized for the data entities, functionality and front-end provided by the IBM's sample implementation called Aurora Starter Store.

This documentation provides an overview which data entities are supported by this WebSphere Commerce sample and which data entities and data fields of the standard repository of Product 360 are used to feed the data transfer interface.

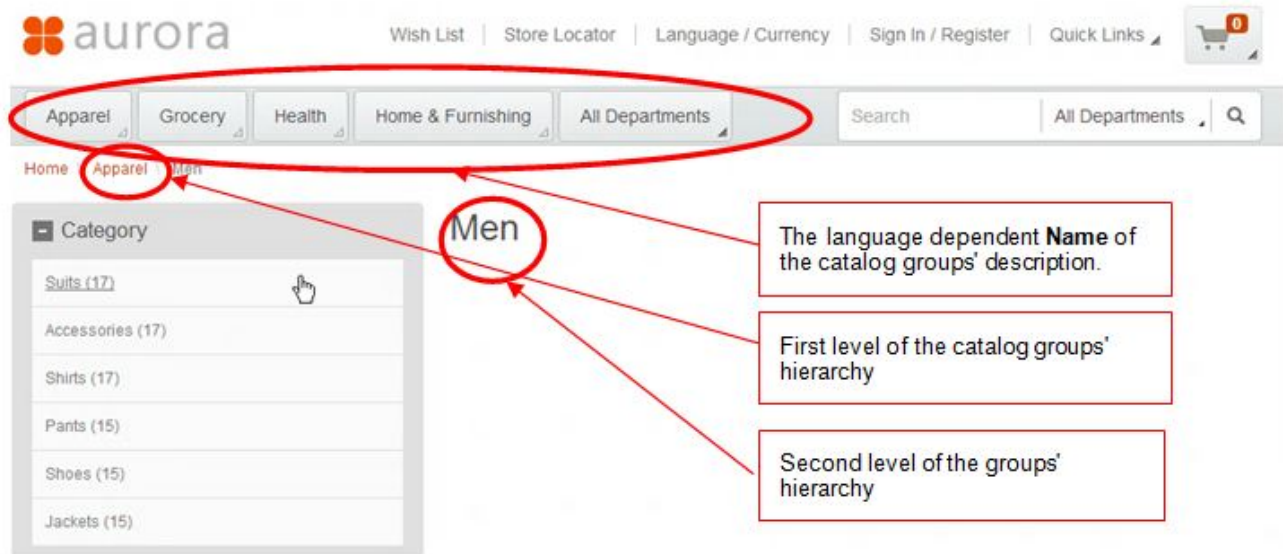
Rules and recommendation for the data maintenance are given to fulfill the requisitions of the target system.

### 3.5.2 The catalog groups' data maintenance

The IBM WebSphere Commerce platform follows a hierarchical structure system of displaying the different categories in a catalog. It follows the 2 tier hierarchy model.



Home page of a certain top level group (here Apparel):



Home page of a sub-group (here Apparel / Men):

#### Catalog groups maintenance in Product 360

Basically a structure system has to be provided in Product 360 which represents the Master Catalog of the WebSphere Commerce store.

Creating and maintaining structure systems is a functionality of the perspective *Structures* in the Product 360 client.

The image shows two instances of the 'Edit structure' dialog box. The left instance is in the 'Header data' tab, showing fields for 'Name (English)' (IBM Aurora), 'Full name', 'Identifier' (HellerStandard), and 'Description (English)'. The right instance is in the 'Details' tab, showing 'Depth of structure' (Limit maximum depth checked, Maximum number of levels: 99), 'Assignment of items and products' (Multiple assignment possible and Allow assignment for all levels unchecked), and 'Pattern for hierarchical number' (###-###-###).

A language dependent name and a unique identifier (used in Product 360 only) have to be provided. The depth of the structure system has to be limited to that level the target system is made for. The master catalog structure of WebSphere commerce expects a unique product/ item assignment (→ switch off the "Multiple item assignments possible") and product/item assignments are only allowed on leaf level (→ switch off the "Allow item assignment for all levels").

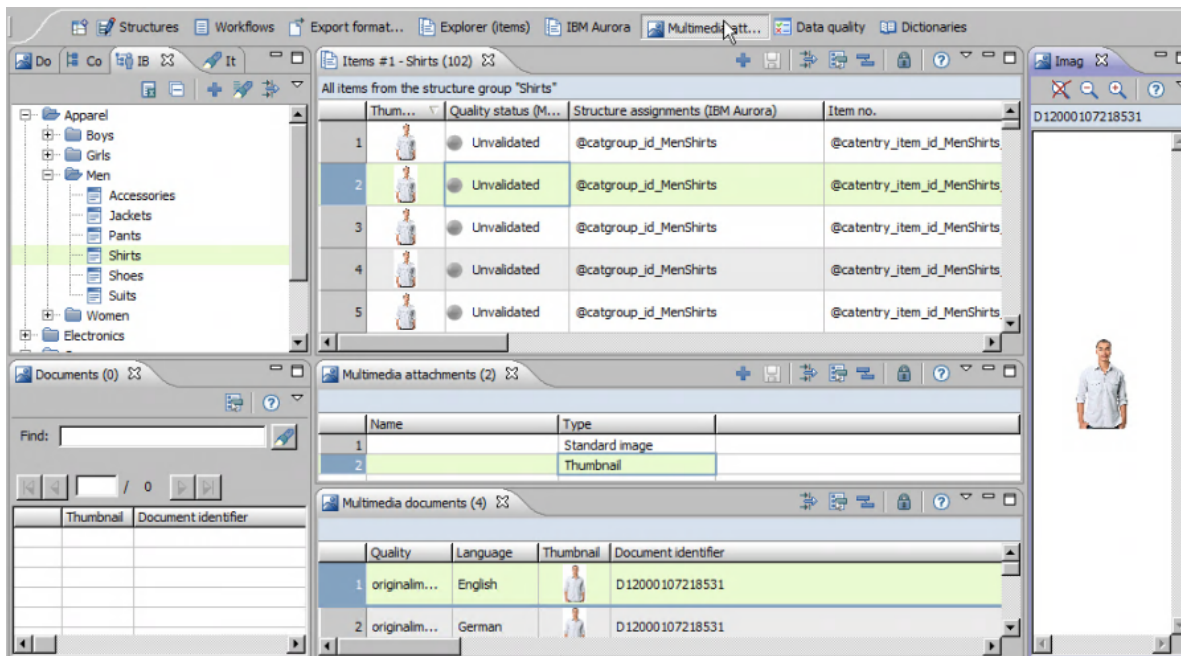
**i** The Aurora starter store used as a sample is optimized for a two level hierarchy. The sample data provided also represents a two level hierarchy, but you are not limited to that.

The image shows the IBM MDM console interface. The left pane displays a tree view of categories: Apparel (Boys, Girls, Men), Accessories (Jackets, Pants, Shirts, Shoes, Suits), Women, Electronics, Grocery, Health, Home & Furnishing, and Newsletters & Magazines. The 'Men' category is selected. The right pane shows the 'Class details' for the 'Men' group, with fields for Name (English), Parent identifier, Structure group identifier, Hierarchical number, and Sequence. The 'Structure features (259)' pane is also visible, showing a 'Grouping' table with columns for Unit and Count.

**Hint:** The sample screen above shows the group's identifier mapping to the group's name. This is not necessarily needed and only given by the sample data used here.

The structure *group identifier* as well as the *parent identifier* are used in the background to identify the group uniquely, control the parent child relationship, and built the structure's hierarchy. In Product 360 the maintenance of the parent child relationship can easily be done via drag 'n' drop.

Images can be assigned to the structure groups via drag 'n' drop, or specially maintained using the perspective *Multimedia attachments*.



Perspective Multimedia attachments used for the maintenance of structure groups images.

Images are generally maintained language dependent in Product 360 and WCS as well. The following table shows the image settings to be used; pre-defined by the standard WebSphere Commerce data export.

| WCS Image  | Product 360 image type | Product 360 image quality | Description                                                                                                                                                                                                                                                                                                                                      |
|------------|------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Full image | Standard image         | Internet image            | Provide a full image for structure groups using the Product 360 image type <i>Standard image</i> and the HPM image quality <i>Internet image</i> .<br><br>The visualization of these images in the Aurora starter store sample is optimized for for images of 588px width and a height between 130px and 160px                                   |
| Thumbnail  | Thumbnail              |                           | Provide a thumbnail image for structure groups using the Product 360 image type <i>Thumbnail</i> and the Product 360 image quality <i>Internet image</i> .<br><br>The visualization of these images in the Aurora starter store sample is optimized for 192px width and a height of about 94px (for sub-groups, 142px × 118px top level groups). |

The data field *Sequence* controls the display order of the top level groups and the sub-ordinate groups below its parent. In Product 360 the sequence of the top level groups can be maintained simply by drag 'n' drop, or by editing the numeric sequence value (a whole number) in the class details view in relation to the other top level groups.

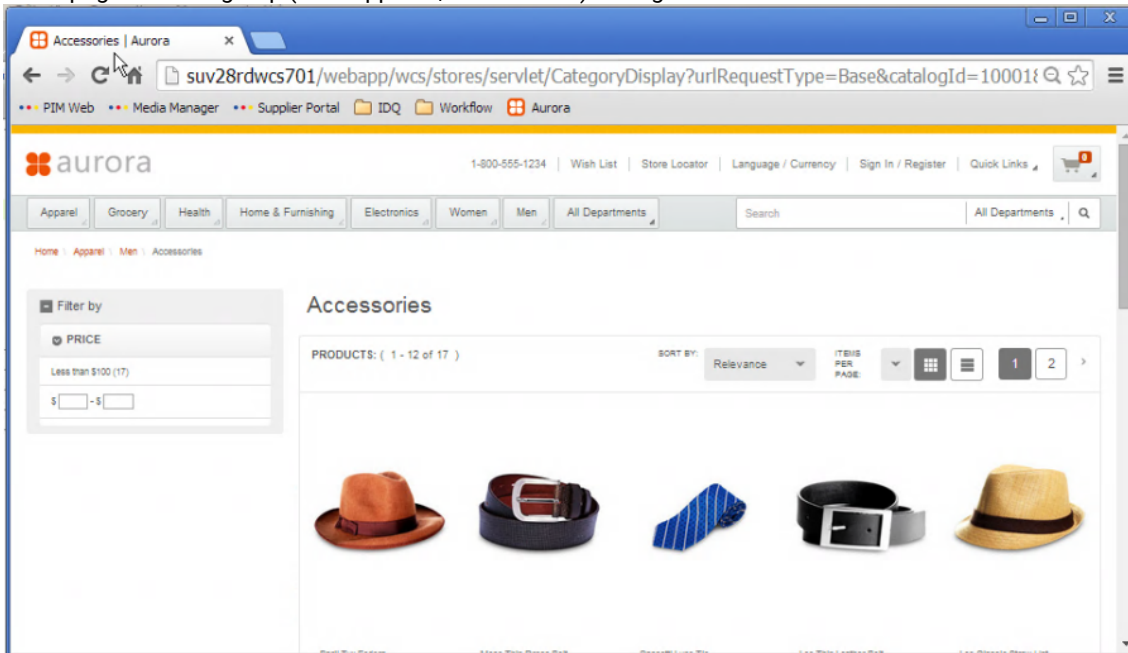
## Data fields of structure groups used for the standard interface

| Product 360 data field                                                                                                                                                                                                                |                           | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Structure group identifier<br>(Rep. Ident.:<br>StructureGroup.Identifier)                                                                                                                                                             | GroupIdentifier           | The unique group identifier of the group. (Mandatory, 254 bytes* maximum)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Parent group identifier<br>(Rep. Ident.:<br>StructureGroup.ParentId)                                                                                                                                                                  | ParentGroupIdentifier     | The unique group identifier of the parent group. (Mandatory, 254 bytes* maximum)                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Sequence<br>(Rep. Ident.:<br>StructureGroup.DisplayOrder)                                                                                                                                                                             | TopGroupSequence Sequence | Controls the display order of the groups below their parent. Optional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Language Dependent Texts</b>                                                                                                                                                                                                       |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Name (English)<br>Name (German)<br>Name (...)<br>(Rep. Ident.:<br>StructureGroupLang.Name)                                                                                                                                            | Name                      | Language dependent name of the structure group. (Mandatory, cut to 254 bytes* maximum)                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Language Dependent Images</b>                                                                                                                                                                                                      |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Multimedia attachments of the Structure group for each language<br><br>The data field used is the Document identifier which is concatenated to a relative image URL.<br>(Rep. Ident.:<br>StructureGroupMediaAssetDocument.Identifier) | FullImage<br>Thumbnail    | In Product 360 file attachments are identified by several key values. These are the language, the image type and quality.<br>Images have to be maintained for all languages explicitly even they are not language dependent in their presentation. Use the following key values for the WCS accelerator:<br>For Full Image:<br>Quality: Internet image<br>Type:Standard image<br>For Thumbnail:<br>Quality: Internet image<br>Type:Thumbnail<br>The documentidentifier id mandatory, 239 bytes* maximum, if the checks fail the image data set is removed. |

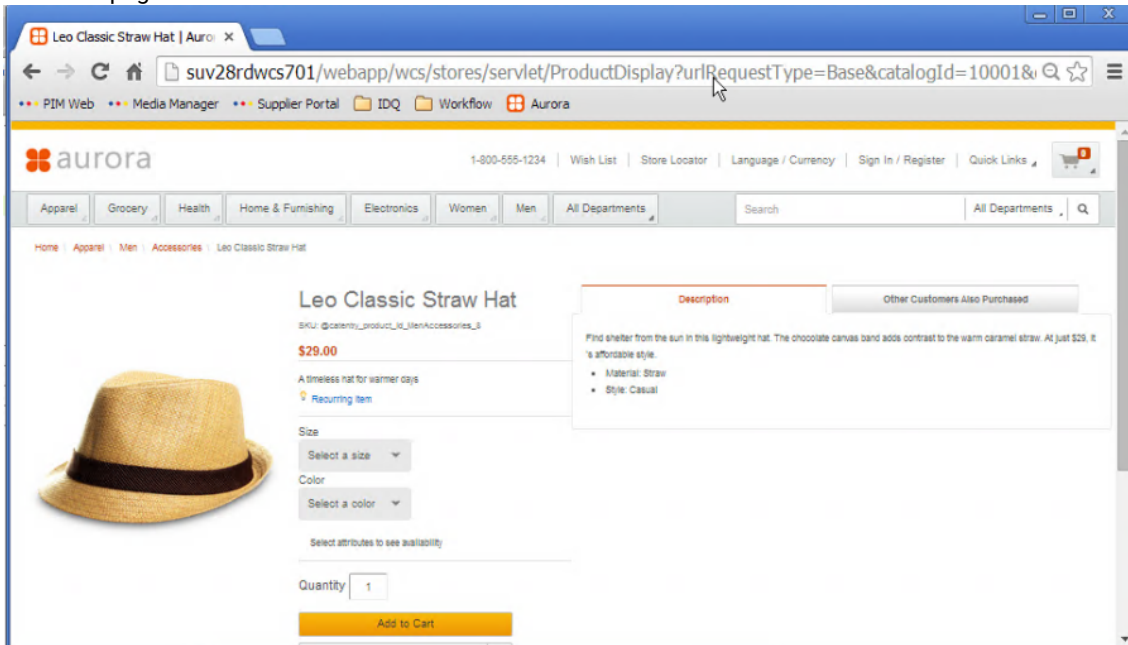
\* Most of the WebSphere Commerce text containing data base fields in Oracle are defined as varchar2 (nnn BYTE). Due UTF8 text coming from Product 360 can have 1 to 3 bytes per character this text has to be checked and trimmed by special algorithm to the byte length without damaging the UTF-8 characters.

### 3.5.3 The catalog entries' data maintenance

Home page of a sub-group (here Apparel | Accessories) having items:



The detail page of an item:



Based on the structure in the commerce site, products and items – have to be maintained with text and image information. This allows having a more common description for the product (valid for all variants) and additionally individual and specific text or image information for the variants.

#### Products and items maintenance in Product 360

Each product is uniquely assigned to the Product 360 structure system which is used as Master Catalog for the WebSphere Commerce Shop.



The product view A in our sample below shows the products of the category *Accessories* selected in the tree on the left. The detail views B visualize the language dependent text information of the product. These are the unique product number, manufacturer number, a short and a long description. The detail view C shows the preview of the product and its items.

The screenshot displays the IBM Aurora software interface. On the left, a tree view shows the product hierarchy with 'Accessories' selected. The main window is divided into three sections: A, B, and C.

**Section A: Product Catalog**

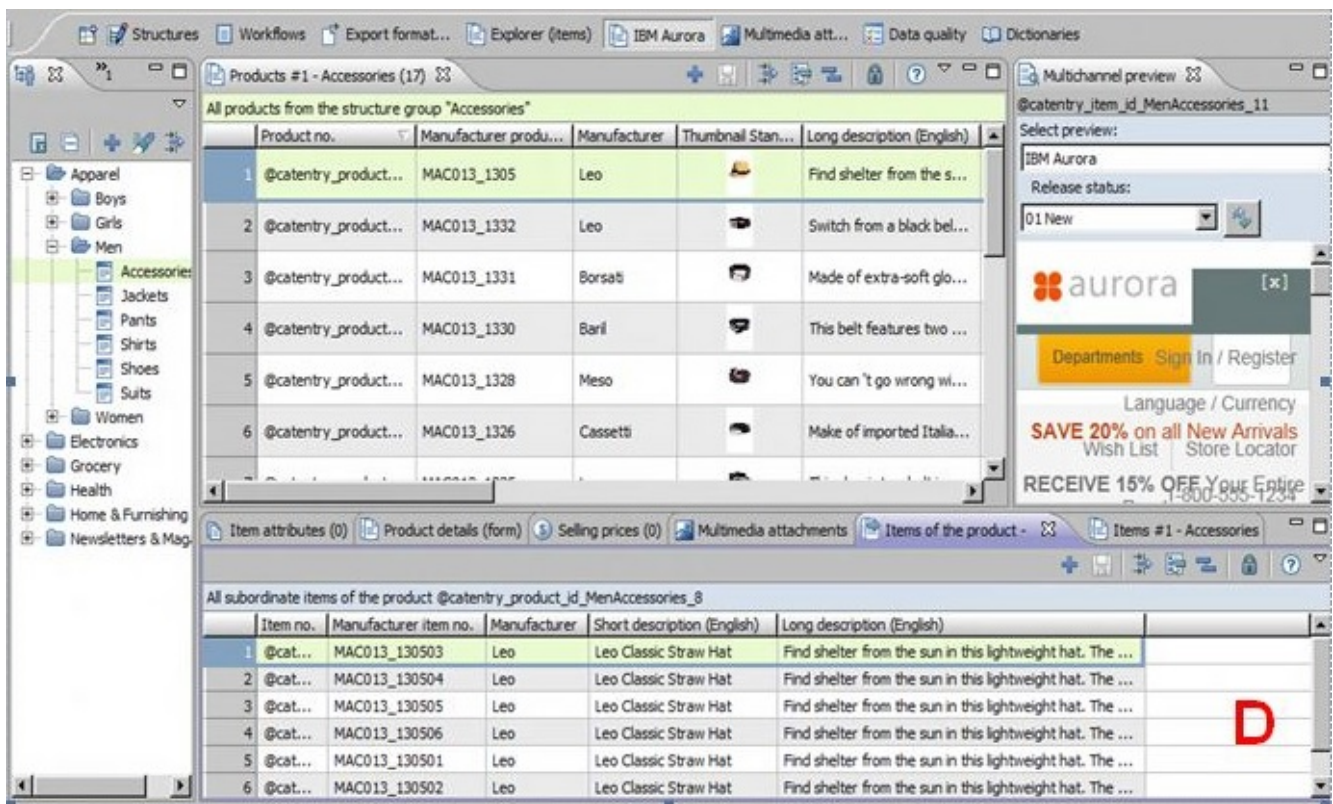
| Product no. | Manufacturer produ... | Manufacturer | Thumbnail Stan... | Long description (English) |
|-------------|-----------------------|--------------|-------------------|----------------------------|
| 1           | @catentry_product...  |              |                   | Find shelter from the s... |
| 2           | @catentry_product...  | MAC013_1332  | Leo               | Switch from a black bel... |
| 3           | @catentry_product...  | MAC013_1331  | Borsati           | Made of extra-soft glo...  |
| 4           | @catentry_product...  | MAC013_1330  | Baril             | This belt features two ... |
| 5           | @catentry_product...  | MAC013_1328  | Meso              | You can't go wrong wi...   |
| 6           | @catentry_product...  | MAC013_1326  | Cassetti          | Make of imported Italia... |

**Section B: Product Details (form)**

Product no.: @catentry\_product\_id\_MenAccessories\_8  
 Manufacturer product no.: MAC013\_1305  
 Manufacturer: Leo  
 Short description (English): Leo Classic Straw Hat  
 Long description (English):

**Section C: Multichannel preview**

Select preview: IBM Aurora  
 Release status: 01 New  
 Preview image: Leo Classic Straw Hat  
 SKU: 1305



The view *D* shows the associated items for the selected product. As one can see that the attributes defined at the product level are inherited by the subordinate items. The purpose of these product attributes has to be Descriptive. In the Aurora Starter Store on product level the descriptive attributes are shown below the long description on an informational level. The purpose of these item attributes has to be Defining. The defining attributes are used to select the concrete variant (size, color, etc.) of the product to be ordered. Each of the items pertaining to the different variant is displayed in view *D*. Any edits to the attribute values in Product 360 will be reflected in the Aurora Store.

## Catalog Entries Description

### Language dependent texts

In the WebSphere Commerce three main texts of the catalog entry are displayed in different situations on different pages – name, short description and long description. Three text fields of the standard repository of Product 360 are used and mapped to the WCS text information by the standard data transfer – the *Short description*, the *Other remarks*, and the *Long description*.

See the mapping in the following table:

| HPM data field                                                                | WCS data field                  |
|-------------------------------------------------------------------------------|---------------------------------|
| Product/Item Short description<br>(Rep. Ident.: ArticleLang.DescriptionShort) | Catalog Entry Name              |
| Product/Item Other remarks<br>(Rep. Ident.: ArticleLang.Remarks)              | Catalog Entry Short Description |



| HPM data field                                                              | WCS data field                 |
|-----------------------------------------------------------------------------|--------------------------------|
| Product/Item Long description<br>(Rep. Ident.: ArticleLang.DescriptionLong) | Catalog Entry Long Description |

## Images

In the WebSphere Commerce two main images are used – a thumbnail and a full image. There are some more places, e. g. the shopping cart and the wish list where product or item images are displayed too.

Product 360 allows assigning multiple images (or other file attachments) to an item or a product. These are differentiated by quality and type; and are all language dependent.

For the thumbnail image and the full image used by the WebSphere Commerce Shop a corresponding type/quality combination has to be defined front up. This has to be considered for data maintenance.

See the following table for the pre-defined settings for the thumbnail and full image used by the standard data transfer for WebSphere Commerce:

| WCS Image  | Product 360 image type | Product 360 image quality | Description                                                                                                                                                                                                                                                                      |
|------------|------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Full image | Standard image         | Internet image            | Provide a full image for products and/or items using the Product 360 image type <i>Standard image</i> and the Product 360 image quality <i>Internet image</i> .<br><br>The visualization in the Madisons starter store sample is optimized for images of the size 160px × 160px. |
| Thumbnail  | Thumbnail              |                           | Provide a thumbnail image for products and/or items using the Product 360 image type <i>Thumbnail</i> and the Product 360 image quality <i>Internet image</i> .<br><br>The visualization in the Aurora starter store sample is optimized for images of the size 70px × 70px.     |

## Catalog Entries Prices

### Prices in WebSphere Commerce

WebSphere Commerce supports two types of prices; a list price and the offer prices.

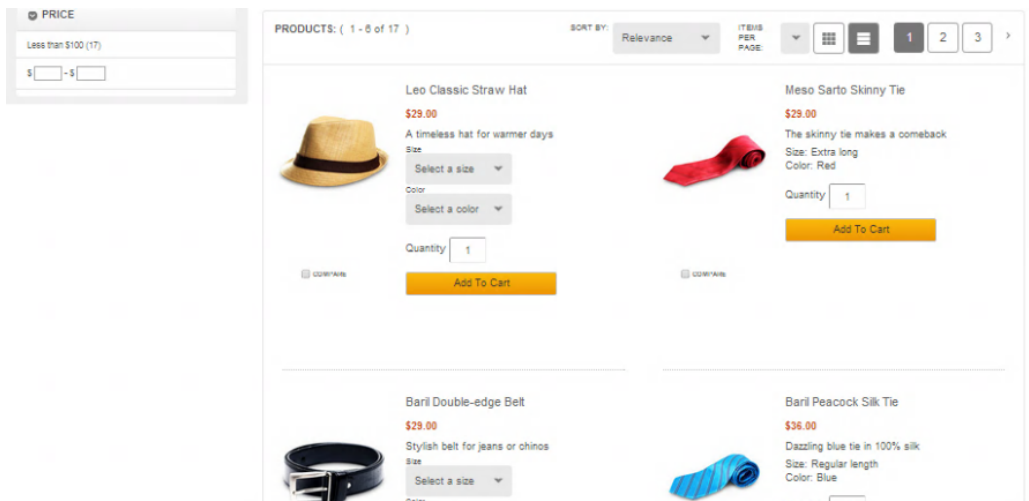
The list price is directly assigned to the catalog entry and unique per currency. There is no quantity dependent scaling and no time period of validity which can be provided.

Offer prices are connected to a catalog entry through an offer. The offer allows specifying a start date end an end date. This can be used to specify time periods for the validity.

Additionally a minimum quantity can be specified by an offer, the offer price attached is valid from. Through this mechanism order quantity dependent sliding scale prices can be provided.



**Hint:** The Aurora starter store sample implementation shows issues with time periods and sliding scale prices when using product-item relations. Therefore it is not recommended to use this type of prices. Single items being not connected to a product seem to work properly in that area.

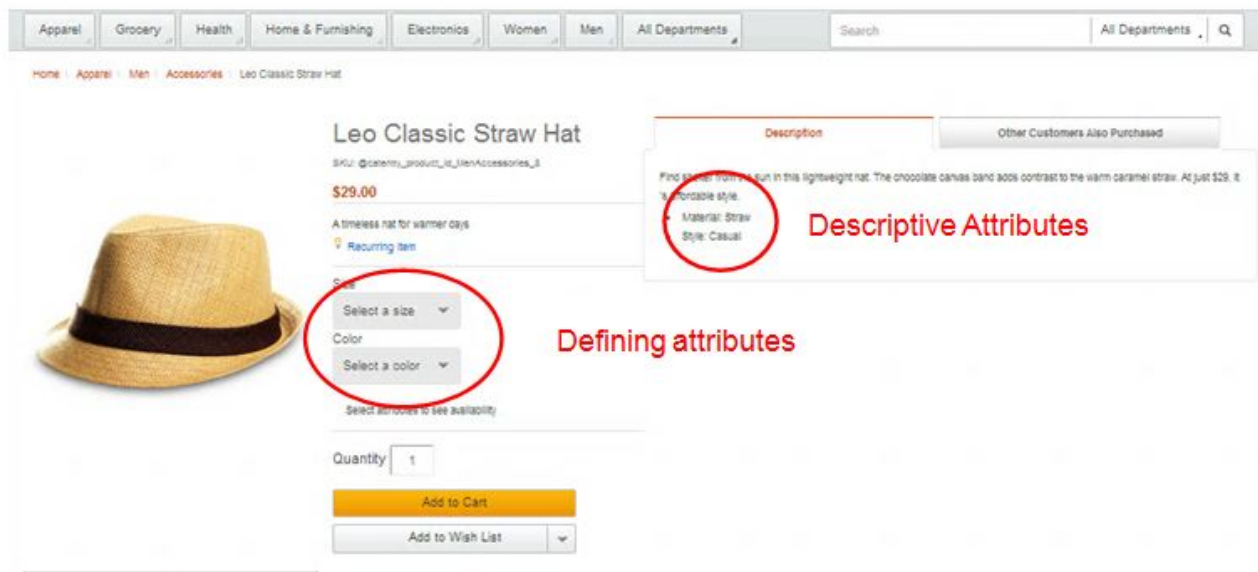


In the Aurora store implementation of WebSphere Commerce the list price is optional. An offer price has to be provided. Without an offer price no price information is displayed, no putting to shopping cart and no ordering is possible even a list price would be available. Simply the offer price is shown.

## Attributes

### Attributes in WebSphere Commerce

WebSphere Commerce allows having attributes on product and/or item level. There are two types of attributes known, the *descriptive attributes* and the *defining attributes*.



**Descriptive attributes** are for information and display reasons only. They provide values and information which is valid for all variants of the products.

In the Aurora Starter Store implementation they are displayed for products on the bottom of its long description. Descriptive attributes of items are not displayed at all even they're supported by WebSphere Commerce in general.

**Defining attributes** on product level provide a selection of allowed values for each of the defining attributes. Each unique

combination of values represents a variant of the product available.

Through the selection of a value for each of the defining attributes the item to order (the variant) is concretely specified – in this area the term *SKU resolution* is also familiar.

## Attributes in Product 360

Product 360 in general distinguishes between the so called features and the attributes. The features are a kind of attribute template declared on structure group level.

The screenshot displays the IBM Aurora interface for managing product data. The left pane shows a hierarchical tree of product categories, with 'Accessories' selected under 'Men'. The main pane is divided into two sections. The top section, titled 'All products from the structure group "Accessories"', shows a list of products with columns for Product no., Manufacturer product no., and Manufacturer. The bottom section, titled 'All subordinate items of the product @catentry\_product\_id\_MenAccessories\_8', shows a list of items with columns for Item no., Manufacturer item no., Manufacturer, Short description (English), and Long description (English). A right-hand pane titled 'Feature groups list (5)' shows a table of features for the selected product group, including Color, Feature, Material, Size, and Style, each with a mandatory field checkbox, name, data type, and unit.

| Mandatory field                     | Name (English)              | Data type        | Unit |
|-------------------------------------|-----------------------------|------------------|------|
| <input checked="" type="checkbox"/> | Color (MenAccessories_5)    | Character string | piec |
| <input type="checkbox"/>            | Feature (MenAccessories_6)  | Character string | piec |
| <input type="checkbox"/>            | Material (MenAccessories_2) | Character string | piec |
| <input checked="" type="checkbox"/> | Size (MenAccessories_4)     | Character string | piec |
| <input type="checkbox"/>            | Style (MenAccessories_1)    | Character string | piec |

Attributes belong to the products or items and provide a value for the structure group's feature the attribute is assigned to. Attributes declaration starts on structure group level, where a feature list is provided specifying the attribute templates with the name, the data type and unit, etc.

The *Attribute type* signals the usage of the feature for products (*Product attribute*) or for items (*Item attribute*). Features of the attribute type *All* are used for both.

If a product is assigned to a structure group attributes for the features of the type *Product attribute* or *All* are created automatically.

If an item is assigned to a structure group attributes for the features of the type *Item attribute* or *All* are created automatically.

If a product with items already assigned will be added to a structure group the attributes on product and item level are created accordingly the types specified automatically.



**Hint:** The usage of the correct Attribute type setting is helpful for efficient data maintenance on HPM side. It is not responsible for the usage of the attribute at the IBM WebSphere interface.

To control the usage of the attributes for WebSphere Commerce the right purpose has to be set. There are two purposes defining and descriptive which correspond with the meaning of that term in WebSphere Commerce.

Due descriptive attributes are only displayed on product level in the Aurora Starter Store implementation it makes sense to use this purpose in combination with the attribute type *Product attribute* and maintain values on product level only.

Descriptive attributes are optional.

For defining attributes the products do not provide any value in Product 360. Specific values for the defining attributes are provided by the items representing a specific characteristic. Therefore it makes sense to combine the purpose *Defining* with the attribute type *Item attribute*.

| Purpose     | Attribute type    |                                                                                                                                                                                      |
|-------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Defining    | Item attribute    | Must. Each item of a product has to provide a value for each defining attribute. The set of values over all defining attributes has to be unique within the variants of the product. |
| Descriptive | Product attribute | Optional. As shown above descriptive attributes are displayed on product level in the Madisons store implementation.                                                                 |
| Defining    | Product attribute | No.                                                                                                                                                                                  |
| Descriptive | Item attribute    | No, descriptive attributes on item level are not displayed in the Madisons store implementation.                                                                                     |

The WebSphere Commerce system knows defining attributes on product level where the allowed values are maintained and stored. In HPM all defining attributes declared in the feature list of a structure group are exported as defining attributes for each product of that group.

The list of allowed values provided for these defining attributes on product level are calculated from the distinct values of the corresponding defining attribute of the items assigned to the product automatically.

It has to be ensured that

- Every item has a value for each of the defining attributes
- The combination of values for all defining attributes has to be unique, specifying a unique variant of the product.
- Combinations not provided would lead to a message in the shops front-end when trying to add this combination to shopping cart.

For each item each defining attribute with the item specific value is exported additionally.



**Hint:** All products and their items do share the same defining attributes as long they belong to the same structure group.

#### Some rules for proper features and attributes maintenance:

It is absolutely essential to have the feature list on group level properly defined:

- Ensure all feature do have a name in all languages transferred to WebSphere commerce.
- Ensure to have the *Purpose* of each feature defined well as *Descriptive* or *Defining*. Feature which should not be considered for WebSphere Commerce may not have one of these two purposes.
- Maintain the Attribute type maintained properly. Usually all descriptive features do have the attribute type Product attribute all defining features do have the attribute type Item attribute.
- Maintain the *Data type* for each feature properly. The data types being able to convert to the WebSphere Commerce types are Character string, Integer, Decimal, Floating point and Date. All other data types or if none is given will be interpreted as STRING by the data transfer.
- Maintain the field Sequence of the feature which will be used and interpreted with in the group's features of the same purpose.

A product will get attributes generated for each of the group's descriptive features (as long they are declared as Product attributes) when the product is assigned to the group.

These attributes will have the same names than the features and each of the attributes will be assigned to one of the features (see data field Assignment).

- To have this assignment in place is essential. If it got lost it has to be rebuilt by using the functionality called *Cumulative feature transfer* or manually by drag the products attribute onto the feature it has to be assigned to.
- Maintain a value for each of that descriptive attributes for each language which is transferred to WebSphere Commerce.
- For the data transfer only the value is taken from the attribute; all other data is taken from the group's feature.

An item will get attributes generated for each of the group's defining features (as long they are declared as Item attributes) when the item is assigned to the group or the product the item belongs to is assigned to the group.

These attributes will have the same names than the features and each of the attributes will be assigned to one of the features (see data field Assignment).

- To have this assignment in place is essential. If it got lost it has to be rebuilt by using the functionality called *Cumulative feature transfer* or manually by drag the products attribute onto the feature it has to be assigned to.
- Maintain a value for each of that defining attributes for each language which is transferred to WebSphere Commerce.
- For the data transfer only the value is taken from the attribute; all other data is taken from the group's feature.



**Hint:** It is absolutely essential that all items do have the complete set of defining attributes declared for the group and specify a value for these attributes in all languages.

The evaluation of the defining attributes per product and the allowed values list needed for WebSphere Commerce depends on this.

Standalone items – not belonging to a product – may not have defining attributes. Therefore they may not be provided within structure groups where defining attributes are declared.

### 3.5.4 Attribute Dictionary

An IBM WebSphere Commerce attribute dictionary is a set of attributes and attribute values. The attribute dictionary can contain attributes with predefined values and attributes with assigned values. Predefined value attributes get a set of values that define the list of allowed values for the respective attribute. Assigned value attributes don't define such an allowed values list, assigned values are specified individually for each catalog entry.

Attributes and attribute values are independent from any catalog entries. You can assign attributes from the attribute dictionary to catalog entries (items and products) for use as defining attributes or descriptive attributes.

In WSC, all attributes of the attribute dictionary have a unique identifier. In order to meet the need we do the following:

In Product 360 we have two levels of (structure/ structure group) attributes:

- The pool (each pool feature has a unique identifier)
- Structure group level (one pool feature can be used at several structure groups with different data types, preset values, ...)

We combine data of the two levels to create as few as possible unique attributes. So one pool feature - many structure group attributes - some attributes for the attribute dictionary

The following algorithm is used to collect data for the attribute dictionary:

- Collect all structure group attributes.
- Group them by identifier (it's the identifier of the pool feature) and data type.
- Cumulate the preset values of each attribute group.

So each group will become an attribute of the dictionary, the identifier is *<structure attribute identifier>\_<id of the data type>*, e.g. **size\_1** (the "size" feature with `string` data type), **size\_4** (the "size" feature with `integer` data type).

Please refer to Attribute Dictionary for further details.

To make sure that a structure group feature will be exported, ensure following steps:

- the structure group feature has to be mapped to a structure feature

- the structure group feature has to be mapped to at least one item and/or product. Free attributes are not exported.

The screenshot displays the IBM MDM interface. On the left, a tree view shows the hierarchy: Furniture > Table Lamps (highlighted with a red circle). Below this, a 'Feature groups list (5)' shows attributes for 'Table Lamps':

| Identifier         | Name (English)  |
|--------------------|-----------------|
| 1 SA_1281620232060 | Assortment      |
| 2 SA_1281620232098 | Bulb            |
| 3 SA_1281620232094 | Height (inches) |
| 4 SA_1281620232092 | Shade Material  |
| 5 SA_1281620232096 | Width (inches)  |

The main pane shows 'All items from the structure group "Table Lamps"':

| Thumbnail... | Item no.  | Structure assignments (IBM ...) | Short description (English) | Short description                  |
|--------------|-----------|---------------------------------|-----------------------------|------------------------------------|
|              | FUTA-0101 | Table Lamps                     | Mocha Linen Table Lamp      | Tischlampe mit m Schirm aus Leiner |
|              | FUTA-0201 | Table Lamps                     | Beige Linen Table Lamp      | Tischlampe mit be Leinen           |
|              | FUTA-0301 | Table Lamps                     | Brown Linen Table Lamp      | Tischlampe mit br Leinen           |
|              | FUTA-0401 | Table Lamps                     | Mocha Linen Table Lamp      | Tischlampe mit m Schirm aus Leiner |

Below this, the 'Item attributes (1)' pane shows details for 'FUTA-0401 - Mocha Linen Table Lamp':

| Identifier         | Name (English) | Assignments                           | Description (English) |
|--------------------|----------------|---------------------------------------|-----------------------|
| 1 SA_1281620232060 | Assortment     | IBM Madisons, Table Lamps, Assortment |                       |

- the attribute needs to have a valid value.

The preset values of a structure group feature will be accumulated for each attribute group, hence there may be not a single entry per preset value.

### Computing the list of dictionary attributes

We only use the structure attribute identifier and the data type of the structure group attributes to compute the list of attributes for the attribute dictionary. We ignore other data that might be necessary in other scenarios, like units.

### Multi value support

The multi value support for describing catalog entry attributes is disabled to avoid attribute value cumulation.

### Product 360 field - WCS field mapping

Some WCS fields are filled with constant values because there're no matching standard fields in Product 360. For custom solutions it is possible to use appropriate repository reserve fields.

### Features without preset values

The value will be only available in one language for features without preset values. This is the actual last exported language entry of one specific attribute dictionary value in the CSV file.

### Item/Product attributes

Free attributes won't get exported, only mapped attributes will be gathered.

### Deleted allowed values, deleted attributes

We don't support the export of deleted attributes or attribute allowed values respectively attribute dictionary entries and attribute dictionary values entries.

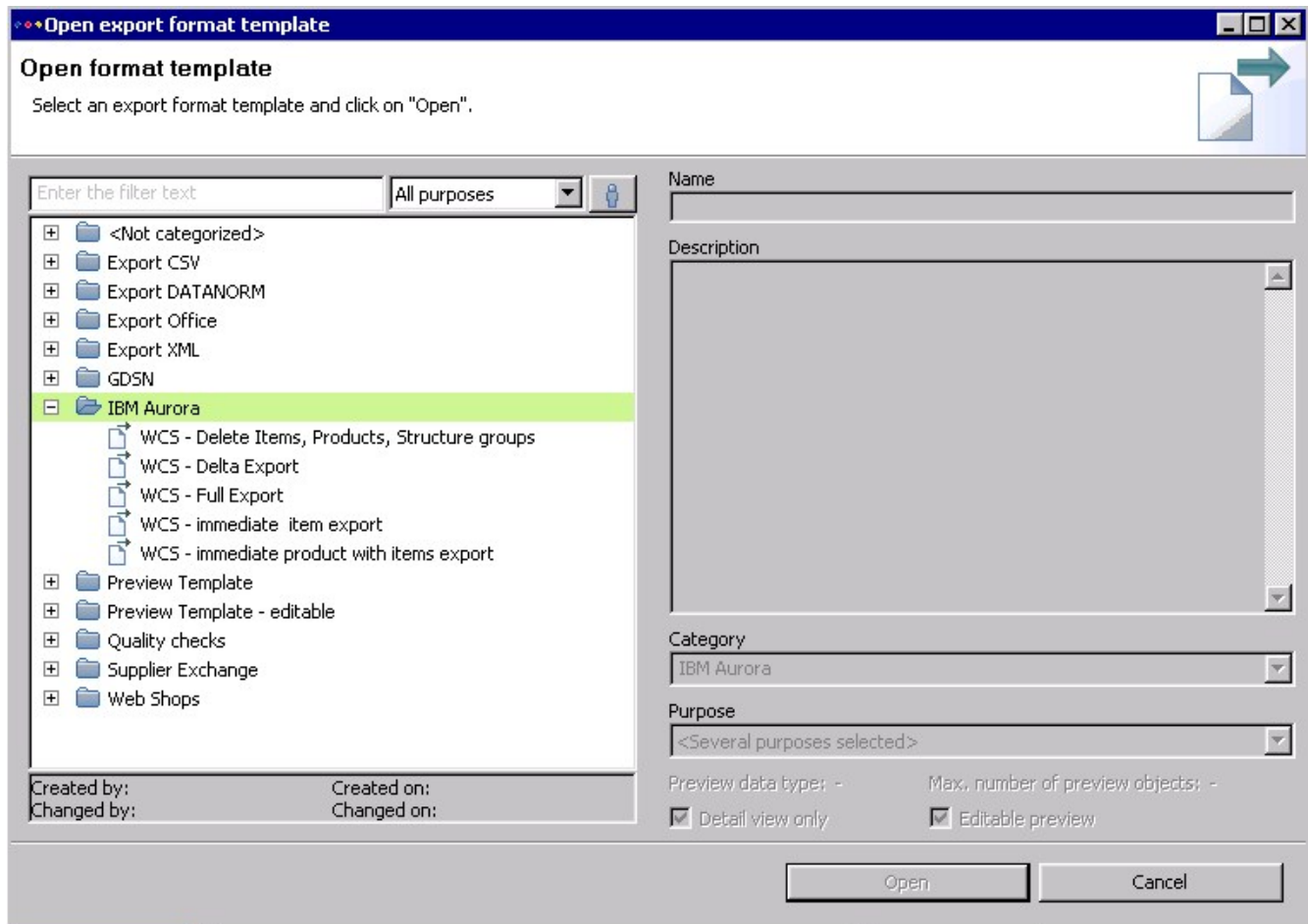
## 3.5.5 Exports

Exports out of Product 360 to WebSphere Commerce can be triggered the following ways:

1. Quick Update
2. Delta Export
3. Full Export.



The following export templates are provided to meet the above functionalities:



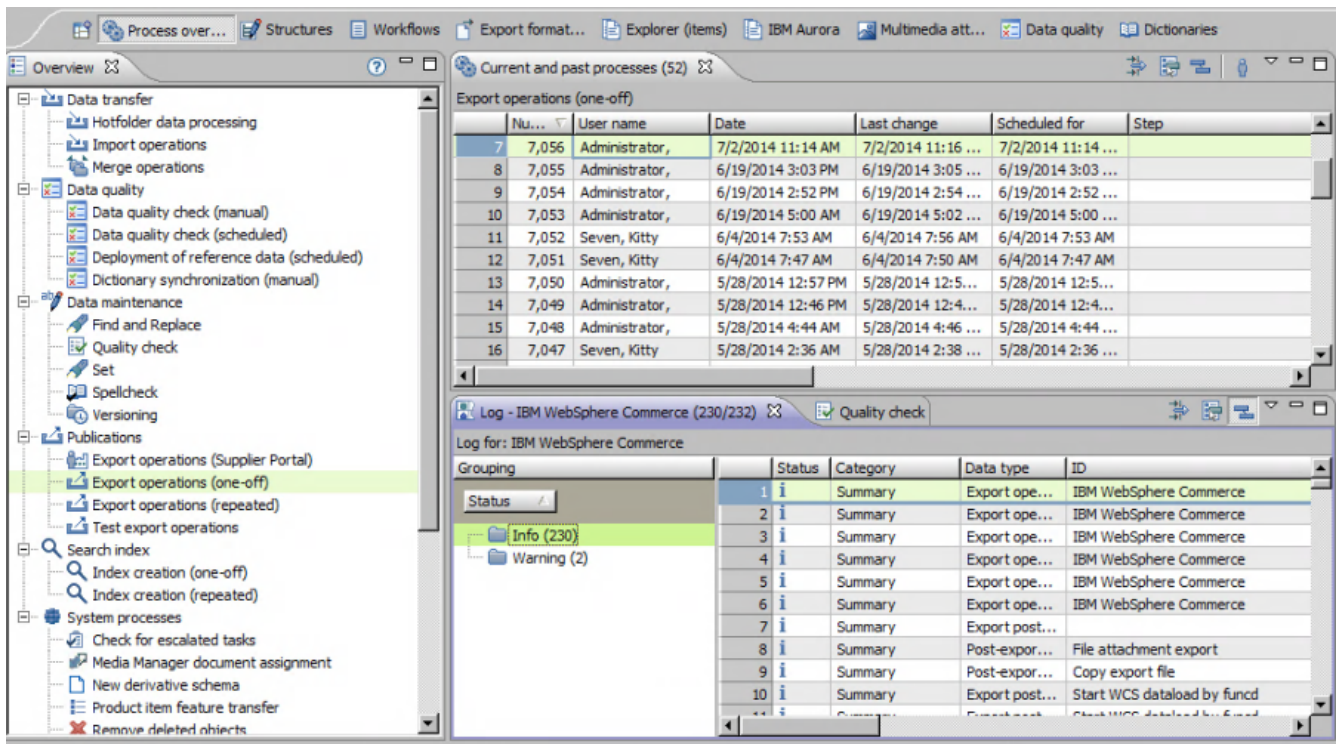
For immediate export right click on a product or an item, go to "Generate Immediate Export" then click on "WCS-Immediate product with item Export" to trigger the job to WCS as shown the picture below

The screenshot shows the IBM Aurora software interface. On the left is a product structure tree with categories like Apparel, Boys, Girls, Men, Accessories, Jackets, Pants, Shirts, Shoes, Suits, Women, Electronics, Grocery, Health, Home & Furnishing, and Newsletters & Magazines. The main area displays a table titled "All products from the structure group 'Accessories'". The table has columns: Product no., Manufacturer produ..., Manufacturer, Thumbnail Stan..., Long description (English), and Short description (English). A context menu is open over the table, showing options like Copy, Paste, Clone, Delete, Select All, Refresh, Find/Replace/Set value..., Tasks, Compare, Versioning, Arrangement by assortment, Generate preview, Show subordinate items, Show list of assigned structure groups for, Show assigned structure groups in structure tree for, Delete all structure assignments of the selected products to, Delete structure assignment: IBM Aurora "Accessories", Properties..., Object rights..., and Show all changes.

| Product no. | Manufacturer produ... | Manufacturer | Thumbnail Stan... | Long description (English) | Short description (English) |
|-------------|-----------------------|--------------|-------------------|----------------------------|-----------------------------|
| 1           | @catentry_product...  | MAC013_1305  | Leo               | Find shelter from the s... | Leo Classic Straw Hat       |
| 2           | @catentry_product...  | MAC013_1332  | Leo               | Swi                        |                             |
| 3           | @catentry_product...  | MAC013_1331  | Borsati           | Ma                         |                             |
| 4           | @catentry_product...  | MAC013_1330  | Baril             | Thi                        |                             |
| 5           | @catentry_product...  | MAC013_1328  | Meso              | You                        |                             |
| 6           | @catentry_product...  | MAC013_1326  | Cassetti          | Ma                         |                             |
| 7           | @catentry_product...  | MAC013_1325  | Leo               | Thi                        |                             |
| 8           | @catentry_product...  | MAC013_1324  | Leo               | Thi                        |                             |

To monitor the progress please go to the "Process Overview Perspective" to check for status of the job.





## Limitations

### Exporting into the master catalog of Websphere

Adding a new category to the master catalog does not automatically add that category to the visible Websphere store. The final step is to link your new master catalog category to the sales catalog for the Aurora esite store. You can find the steps described here: [http://www.ibm.com/support/knowledgecenter/SSZLC2\\_8.0.0/com.ibm.commerce.management-center.doc/tasks/tpnlinkctgctlog.htm](http://www.ibm.com/support/knowledgecenter/SSZLC2_8.0.0/com.ibm.commerce.management-center.doc/tasks/tpnlinkctgctlog.htm)

### Descriptive products attributes without preset values

Currently only one language of the exported attribute values will be imported in the WebSphere Commerce system. There is actually no workaround for this.

### Delta Export

Changes to Product/Item association types and referenced number is not supported. The workaround is to delete the reference and create a new one.

Moving structure groups to another parent is not supported. The workaround is to create a new structure and reassign the Products/Items.

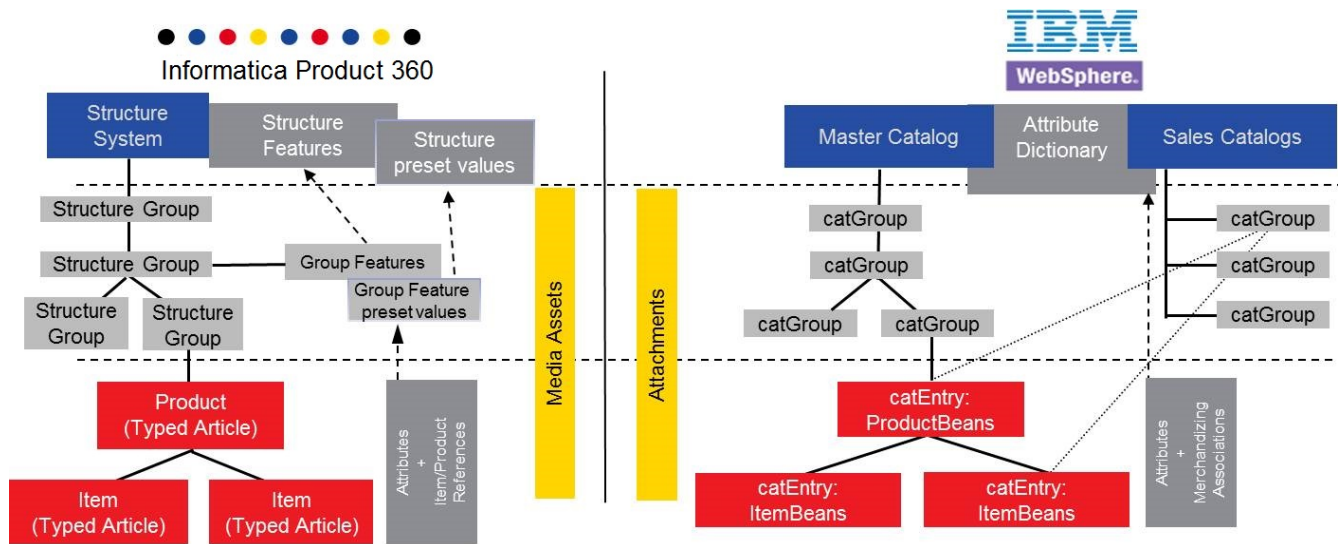
### Immediate Export

The immediate Export format templates will never export deleted data. Furthermore the export will fail if the following Objects are not already on the WCS system:

- The new mapped attribute values must be already in the WebSphere Commerce system.
- The Structure group of the Product/Item must be in the Websphere Commerce system.
- The parent product of an item must already be there if an item is being exported.

## 3.6 Field mapping

### 3.6.1 Overview



On the image above you can see some differences of the Informatica Product 360 model compared to the IBM WebSphere Commerce model. This page is describing how the Product 360 fields got mapped to the according IBM fields.

### 3.6.2 Formatting and mapping for export format templates

#### Numbers

Numbers will be formatted by the FormatDecimal export function.

Example: `{?FormatDecimal {&Selling price.Price (from 1)}, ".", 2}`

#### Dates

Dates will be formatted by the FormatDate export function.

Example: `{?FormatDate {&Selling prices (with price tiers).Valid from}, "yyyy-MM-dd 00:00:00.000000"}`

#### Language

The language id mapping is resolved by the GetWCSLanguageId export function.

Example: `{?GetWCSLanguageId {&Language-specific data.Language}}`

All supported languages are listed in the [Appendix B: Language Mapping](#). If you miss a language mapping you can add it to the plugin\_customization.ini file as follows:

#### plugin\_customization.ini - language mapping

```
# pattern: hpm.lang.<internal language id>=<WCS language id>
# Dutch
com.heiler.ppm.export.extension.ibm.core/hpm.lang.19=-17
```

## Data type

The data type mapping is resolved by the `GetWCSDatatype` export function.

Example: `{?GetWCSDatatype {&Attribute dictionary attributes.Data type}}`

The supported data types are listed in the [Appendix C: Data types Mapping](#).

### plugin\_customization.ini - data type mapping

```
# pattern: hpm.datatype.<key of the Enum.Datatypes enumeration>=<WCS data type identifier>
# Integer
com.heiler.ppm.export.extension.ibm.core/hpm.datatype.4=INTEGER
```

## Association type

The association type mapping is resolved by the `GetWCSItemReferenceType` export function.

Example: `{?GetWCSItemReferenceType {&Referenced products.Reference type}}`

Find the association type mapping in the [Appendix D: Item Reference Types Mapping](#).

### plugin\_customization.ini - association type mapping

```
# pattern: hpm.reftype.<key of the Enum.ArticleReferenceType enumeration>=<WCS association identifier>
# accessories
com.heiler.ppm.export.extension.ibm.core/hpm.reftype.6=ACCESSORY
```

## Sequence

The default value of sequences in Product 360 is 2147483647 which means "the sequence is not maintained yet", the corresponding default value for WCS is 0.

That's why the output of sequences should be adjusted using the `GetWCSDisplaySequence` export function.

Example: `{?GetWCSDisplaySequence{&ADAttributeRelations.Sequence}}`

## Strings

Names, descriptions, etc. have to be escaped by the `EscapeValue` export function.

Example: `{?EscapeValue {&Language-specific data.Name}}`

## Keywords

Keywords have to be separated by commas and included in quotation marks.

The output of keywords has to be adjusted using the `Replace` export function, all semicolons have to be replaced by commas.

Example: `{?EscapeValue {?Replace {&Language-specific data.Keywords},";",",",""}}`

## Images

There're two information of images that need to be exported: the image itself and the path under which the image is stored in the zip file.

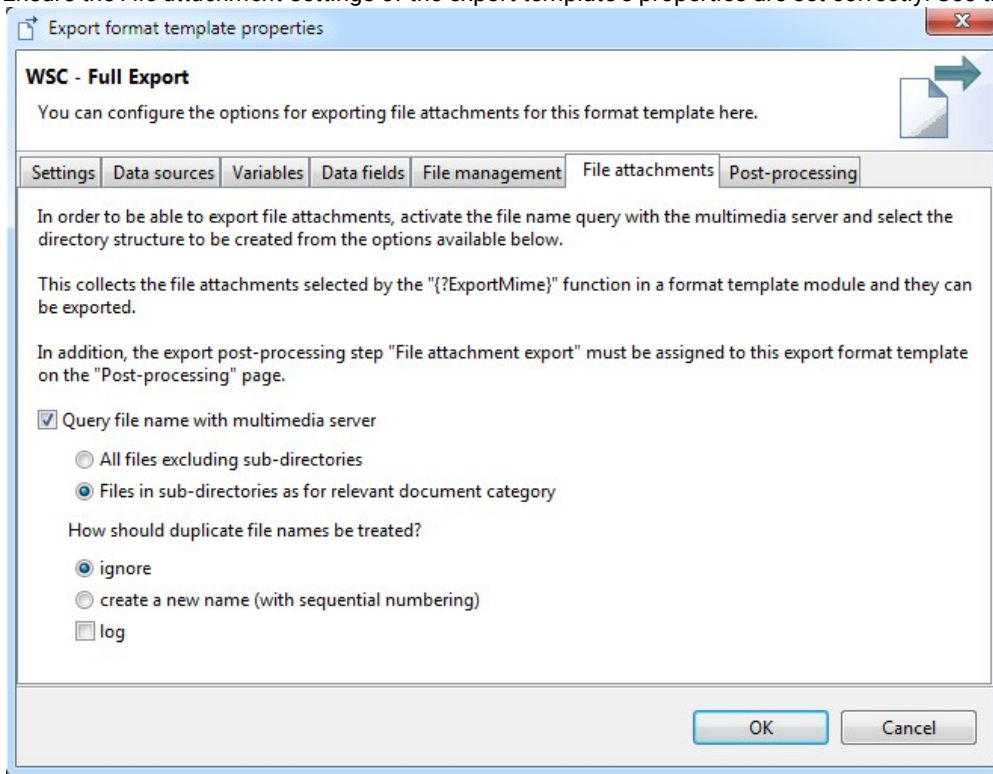
The `ExportMime` export function is used to mark the image as to be exported and outputs the relative path of the respective file.

All images (full images, thumbnails of structure groups, products, items) are exported like this:

{%IMAGE\_PATH\_RELATIVE}{?ExportMime {&Document identifier}, {&Quality}}

Note: the image path depends on the respective Product 360 system, use the IMAGE\_PATH\_RELATIVE variable to adapt the resulting path with a prefix, e.g. "images/catalog/".

Ensure the *File attachment* settings of the export template's properties are set correctly. See the following screen shot.



### 3.6.3 Data consistency

#### Data field length

Most of the WebSphere Commerce text containing data base fields in Oracle are defined as varchar2 (nnn BYTE). Due UTF-8 text coming from Product 360 can have 1 to 3 bytes per character this text has to be checked and trimmed to the byte length by the "May not be longer than the maximum number of bytes" data field validation rule without damaging the UTF-8 characters.

### 3.6.4 The Attribute Dictionary data exchange

An attribute dictionary is a set of common attributes and attribute values that can be reused by multiple products.

#### Attribute Dictionary - Attributes

Contains attribute dictionary attributes. These attributes can be used for descriptive or SKU resolution purposes, and can be shared by catalog entries.

#### Template Configuration

- Export data provider: Structure
- Export data type: Attribute dictionary attributes

## Data type filter

- Purpose: <all purposes>
- Language: "English" (Variable defaultLanguage), "German" (Variable secondaryLanguage)

## Output file

- ADAttributes.csv

## Sample for an attribute dictionary attributes' import file

| ADAttributes.csv                                                                                                                    |        |                  |         |  |  |                       |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------|--------|------------------|---------|--|--|-----------------------|--|--|--|
| AttributeIdentifier Type AttributeType LanguageId Name Description Sequence Displayable Searchable Comparable Merchandisable Delete |        |                  |         |  |  |                       |  |  |  |
| SF_COLOR_1                                                                                                                          | STRING | AllowedValues -1 | "Color" |  |  | true true true true 0 |  |  |  |
| SF_COLOR_1                                                                                                                          | STRING | AllowedValues -3 | "Farbe" |  |  | true true true true 0 |  |  |  |
| SF_SIZE_1                                                                                                                           | STRING | AllowedValues -3 | "Größe" |  |  | true true true true 0 |  |  |  |
| ...                                                                                                                                 |        |                  |         |  |  |                       |  |  |  |

## Field mapping

| CS<br>V<br>col<br>um<br>n<br>na<br>me | WC<br>Col.<br>Nam<br>e               | WC<br>Col.<br>Type                              | WC Description                                                 | Product 360 data<br>field                                                                                                                                                         | Pro<br>duct<br>360<br>data<br>type | Note                                                                                |
|---------------------------------------|--------------------------------------|-------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------|
| Attr<br>ibut<br>eld<br>enti<br>fier   | ATT<br>R.<br>IDE<br>NTI<br>FIER      | VAR<br>CHA<br>R<br>(254<br>)<br>NOT<br>NUL<br>L | An external identifier for the attribute.                      | computed field:<br>Attribute<br>dictionary<br>attributes.Dictionary attribute<br>identifier<br>(StructureFeature.<br>Identifier + "_" +<br>StructureGroupAt<br>tribute. Datatype) | Stri<br>ng,<br>64                  | Special field of<br>"Attribute<br>dictionary<br>attributes" export<br>sub-data type |
| Typ<br>e                              | ATT<br>R.<br>ATT<br>RTY<br>PE_I<br>D | CHA<br>R<br>(16)<br>NOT<br>NUL<br>L             | The attribute type. For example,<br>INTEGER, STRING, or FLOAT. | Attribute<br>dictionary<br>attributes.Data<br>type<br>(StructureGroupAt<br>tribute. Datatype)                                                                                     | Lon<br>g                           |                                                                                     |

| CS<br>V<br>col<br>um<br>n<br>na<br>me | WC<br>Col.<br>Nam<br>e                   | WC<br>Col.<br>Type                  | WC Description                                                                                                                                                                                                                                                                                                                                                                                                           | Product 360 data<br>field                                                                     | Pro<br>duct<br>360<br>data<br>type | Note                                                                                                                                                                                                                                        |
|---------------------------------------|------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Attr<br>ibut<br>eTy<br>pe             | ATT<br>R.<br>ATT<br>RUS<br>AGE           | INTE<br>GER                         | Defines the usage of the attribute. 1 - Attribute with allowed values. When assign this type of attribute to catalog entry, user need to choose from the predefined allowed values. 2 or null - Attribute with assigned values. This type of attribute does not have predefined allowed value. When assign this type of attribute to catalog entry, user need to input a value. This value belongs to the catalog entry. | Attribute dictionary attributes.Has preset values                                             | Boolean                            | Special field of "Attribute dictionary attributes" export sub-data type, evaluates if the cumulated preset values list is empty. <ul style="list-style-type: none"> <li>• yes = "AssignedValues"</li> <li>• no = "AllowedValues"</li> </ul> |
| Lang<br>uage<br>Id                    | ATT<br>RDE<br>SC.<br>LANG<br>UAGE_I<br>D | INTE<br>GER<br>NOT<br>NULL          | The language for this attribute description.                                                                                                                                                                                                                                                                                                                                                                             | Attribute dictionary attributes.Language of the name (StructureGroupAttributeLang.LanguageID) | Long                               |                                                                                                                                                                                                                                             |
| Na<br>me                              | ATT<br>RDE<br>SC.<br>NAME                | VAR<br>CHAR<br>(254)<br>NOT<br>NULL | The name of the attribute.                                                                                                                                                                                                                                                                                                                                                                                               | Attribute dictionary attributes.Name (StructureGroupAttributeLang.Name)                       | String,<br>200                     |                                                                                                                                                                                                                                             |
| Des<br>crip<br>tion                   | ATT<br>RDE<br>SC.<br>DE<br>SCRIPTION     | VAR<br>CHAR<br>(254)                | The attribute description.                                                                                                                                                                                                                                                                                                                                                                                               | Attribute dictionary attributes.Description (StructureGroupAttributeLang.Description)         | String,<br>unli<br>mited           | The data field length is checked and will be truncated with warning if necessary.                                                                                                                                                           |

| CS<br>V<br>col<br>um<br>n<br>na<br>me | WC<br>Col.<br>Nam<br>e               | WC<br>Col.<br>Type                                 | WC Description                                                                                                                                                                                                                                                                                                                                                                                                                                             | Product 360 data<br>field                                                                            | Pro<br>duct<br>360<br>data<br>type | Note |
|---------------------------------------|--------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------|------|
| Seq<br>uen<br>ce                      | ATT<br>R.<br>SEQ<br>UEN<br>CE        | DOU<br>BLE<br>NOT<br>NUL<br>L<br>DEF<br>AUL<br>T 0 | The display order of attributes in an attribute group or in the root of the attribute dictionary.                                                                                                                                                                                                                                                                                                                                                          | Attribute dictionary attributes.Sequence (StructureGroupAttribute.DisplayOrder)                      | Inte<br>ger,<br>unli<br>mited      |      |
| Dis<br>pla<br>yab<br>le               | ATT<br>R.<br>DIS<br>PLA<br>YAB<br>LE | INTE<br>GER                                        | This flag identifies if this attribute is displayable on the store front. This flag can be used to temporarily hide an attribute on the store front. It can also be used for attributes that belong to a web crawler (such as Google's web crawling robot), that is not for display to customer. A value of 1 or null indicates that the attribute is displayable, while a value of 0 indicates that the attribute is not displayable.                     | static value "true"<br>(after <a href="#">Repository configuration</a> StructureFeature.Displayable) |                                    |      |
| Sea<br>rch<br>abl<br>e                | ATT<br>R.<br>SEA<br>RCH<br>ABL<br>E  | INTE<br>GER                                        | This flag identifies if this attribute can be searched. Searchable attributes can be indexed to search engine. A value of 1 indicates that the attribute is searchable, while a value of 0 or null indicates that the attribute is not searchable.                                                                                                                                                                                                         | static value "true"<br>(after <a href="#">Repository configuration</a> StructureFeature.Searchable)  |                                    |      |
| Co<br>mp<br>ara<br>ble                | ATT<br>R.<br>CO<br>MP<br>ARA<br>BLE  | INTE<br>GER                                        | This flag identifies if this attribute can be used for comparison. A value of 1 indicates that the attribute can be used for comparison, while a value of 0 or null indicates that the attribute cannot be used for comparison. For example, attribute "Auto On/Off" is marked as comparable for all coffee makers. If a shopper selects this attribute on the store front page, only coffee makers that have the "Auto On/Off" feature will be displayed. | static value "true"<br>(after <a href="#">Repository configuration</a> StructureFeature.Comparable)  |                                    |      |

| CS<br>V<br>col<br>um<br>n<br>na<br>me | WC<br>Col.<br>Nam<br>e                      | WC<br>Col.<br>Type | WC Description                                                                                                                                                                                                                                 | Product 360 data<br>field                                                                                  | Pro<br>duct<br>360<br>data<br>type | Note                                 |
|---------------------------------------|---------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------|
| Mer<br>cha<br>ndi<br>sab<br>le        | ATT<br>R.<br>MER<br>CHA<br>NDI<br>SAB<br>LE | INTE<br>GER        | Specifies that the attribute is used in creating merchandising rules. This indicates that the attribute is for internal business use only and does not display to customers unless it is also set to be displayable, searchable, or facetable. | static value "true"<br><br>(after <a href="#">Repository configuration</a> StructureFeature.Merchandisabe) |                                    |                                      |
| Del<br>ete                            |                                             |                    |                                                                                                                                                                                                                                                | static value 0                                                                                             |                                    | For insert/update = 0, to delete = 1 |

### Attribute Dictionary – Allowed Values

The attribute values that can be shared globally by different attributes of different catalog entries.

### Template Configuration

- Export data provider: Structure
- Export data type: Attribute dictionary attribute values

### Data type filter

- Purpose: <all purposes>
- Language: "English" (Variable defaultLanguage), "German" (Variable secondaryLanguage)

### Output file

- ADAttributeAllowedValues.csv

### Sample for an 'attribute dictionary attributes allowed values' import file

#### ADAttributeAllowedValues.csv

```
AttributeIdentifier|ValueIdentifier|Sequence|Value|ValueUsage|Image1|Image2|LanguageId|Delete
SF_COLOR_1|SV_RED||"rot"|1||-3|0
SF_COLOR_1|SV_RED||"red"|1||-1|0
SF_COLOR_1|SV_BLUE||"blau"|1||-3|0
SF_COLOR_1|SV_BLUE||"blue"|1||-1|0
...
SF_SIZE_1|SV_SIZE_S||"S"|1||-1|0
SF_SIZE_1|SV_SIZE_S||"S"|1||-3|0
SF_SIZE_1|SV_SIZE_M||"M"|1||-1|0
SF_SIZE_1|SV_SIZE_M||"M"|1||-3|0
...
```



## Field mapping

| CSV column name      | WC Col. Name                                           | WC Col. Type                        | WC Description                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Product 360 data field                                                                                                                                 | Product 360 data type | Note                                                                          |
|----------------------|--------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------|
| Attribute identifier | ATTRVAL.ATTR_ID                                        | BIGINT NOT NULL                     | The external identifier for the attribute. Which is resolved to the internal unique identifier (ATTR.ATTR_ID) for this attribute through table ATTR.                                                                                                                                                                                                                                                                                                                 | computed field: Attribute dictionary attributes.Dictionary attribute identifier (StructureFeature.Identifier + "_" + StructureGroupAttribute.Datatype) | String, 64            | Special field of "Attribute dictionary attribute values" export sub-data type |
| Value identifier     | ATTRVAL.IDENTIFIER                                     | VARCHAR (254)                       | An external identifier for the attribute value.                                                                                                                                                                                                                                                                                                                                                                                                                      | Attribute dictionary attribute values.Preset value.Identifier (StructureValue.Identifier)                                                              | String, 60            |                                                                               |
| Sequence             | ATTRVAL.DESC.SEQUENCE                                  | DOUBLE                              | A number that determines the display order of a list of allowable attribute values for a given attribute.                                                                                                                                                                                                                                                                                                                                                            | Attribute dictionary attribute values.Preset value sequence (StructureGroupAttributePresetValue.DisplayOrder)                                          | Integer, unlimited    |                                                                               |
| Value                | ATTRVAL.DESC.STRINGVALUE or INTEGERVALUE or FLOATVALUE | VARCHAR (2000) or INTEGER or DOUBLE | If this type of attribute value is STRING, then this column will hold the attribute value. If the type is not STRING, then this column will be NULL.<br>If this type of attribute value is INTEGER, then this column will hold the attribute value. If the type is not INTEGER, then this column will be NULL.<br>If this type of attribute value is FLOAT, then this column will hold the attribute value. If the type is not FLOAT, then this column will be NULL. | Attribute dictionary attribute values.Name (StructureValue.Name)                                                                                       | String, 2000          |                                                                               |

| CSV column name | WC Col. Name              | WC Col. Type  | WC Description                                                                                                                                                                                                                                                                                                                                                                 | Product 360 data field                                                                    | Product 360 data type | Note                                   |
|-----------------|---------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------|----------------------------------------|
| ValueUsage      | ATTRVAL. VALUSAGE         | INTEGER       | <b>1</b> Predefined allowed value. (For example, one of the allowed values of Color is Blue)<br><b>2</b> Default predefined allowed value (When assign attribute to catalog entry, default predefined allowed value will be selected by default)<br><b>null</b> Assigned attribute value. (For example Product's Length is 30. Length attribute does not have allowed values). | Static value '1'<br>(after <a href="#">Repository configuration</a> StructureValue.Usage) |                       | Always part of the allowed value list. |
| Image1          | ATTRVAL DESC. IMAGE1      | VARCHAR (254) | The path of the first image of this attribute value.                                                                                                                                                                                                                                                                                                                           | (empty)                                                                                   |                       | Not supported                          |
| Image2          | ATTRVAL DESC. IMAGE2      | VARCHAR (254) | The path of the second image of this attribute value.                                                                                                                                                                                                                                                                                                                          | (empty)                                                                                   |                       | Not supported                          |
| LanguageId      | ATTRVAL DESC. LANGUAGE_ID |               | The language for this attribute value description.                                                                                                                                                                                                                                                                                                                             | Attribute dictionary attribute values.Language (StructureValueLang. LanguageID)           |                       |                                        |
| Delete          |                           |               |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                           |                       | For insert/update = 0, to delete = 1   |

### 3.6.5 The catalog groups data exchange

One of the structure systems maintained in Product 360 can be used as the master catalog structure to be transferred to WCS.

#### Catalog Groups

With the catalog groups file the most basic information on catalog groups is provided; the unique group identifier and the information if a certain group is a top group. Top level groups have to be marked with TRUE in the column TopGroup. Non top level groups have to have the value FALSE for this column.

#### Template Configuration

- Export data provider: Structure groups (All groups in structure system (with product filter))
- Export data type: Structure group

## Data provider parameter

- Structure system: the structure system specified for "structure system" data provider
- Product assortment (filter): none  
That means all structure groups are exported, irrespective of whether there're mapped to products or not

## Sorting

Structure group.Level: Catalog groups have to be sorted by their levels because we first need the parent groups and then the children

## Output file

- CatGroups.csv

## Sample for a catalog groups' import file

| CatGroups.csv   |                       |          |          |                 |            |        |
|-----------------|-----------------------|----------|----------|-----------------|------------|--------|
| GroupIdentifier | ParentGroupIdentifier | TopGroup | Sequence | Name            | LanguageId | Delete |
| SG_MEN          | TRUE                  | 1001     | SG_MEN   | -1              | 0          |        |
| ...             |                       |          |          |                 |            |        |
| SG_WOMEN_SHIRTS | SG_WOMEN              | FALSE    | 10       | SG_WOMEN_SHIRTS | -1         | 0      |
| SG_MEN_SHOES    | SG_MEN                | FALSE    | 3        | SG_MEN_SHOES    | -1         | 0      |
| SG_WOMEN_PANTS  | SG_WOMEN              | FALSE    | 20       | SG_WOMEN_PANTS  | -1         | 0      |
| SG_MEN_PANTS    | SG_MEN                | FALSE    | 2        | SG_MEN_PANTS    | -1         | 0      |
| ...             |                       |          |          |                 |            |        |

## Field mapping

| CSV column name         | WC Col. Name        | WC Col. Type                          | WC Description                                                                                                        | Product 360 data field                      | Product 360 data type | Note                                                                                               |
|-------------------------|---------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------|
| Group identifier        | CATGROUP_IDENTIFIER | VARCHAR2 (254 BYTE)                   | The external name that is used to identify the catalog group. Along with MEMBER_ID, these columns are a unique index. | Structure group. Structure group identifier | String, 60            | The unique identifier of the group.                                                                |
| Parent Group identifier | CATGROUP_PARENT_ID  | NUMBER NOT NULL [VARCHAR2 (254 BYTE)] | The source catalog group of this relationship.                                                                        | Structure group. Parent identifier          | String, 60            | The unique group identifier of the desired parent group. Must stay empty for the top level groups. |

| CSV column name | WC Col. Name                                                | WC Col. Type                                            | WC Description                                                                                                 | Product 360 data field                                            | Product 360 data type | Note                                                                                                                                         |
|-----------------|-------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| TopGroup        |                                                             |                                                         |                                                                                                                | static value "TRUE" or "FALSE" (depends on Structure group.Level) |                       | "TRUE" for top level groups, "FALSE" for all children (any level > 1)                                                                        |
| Sequence        | CATGROUP.<br>SEQUENCE<br><br>resp.<br>CATGROUP.<br>SEQUENCE | DOUBLE<br>resp.<br>DOUBLE<br>NOT<br>NULL<br>(DEFAULT 0) | The display sequence for top level groups.<br><br>resp.<br><br>The display sequence for none top level groups. | Structure group.<br>Sequence                                      | Integer               | May stay empty.                                                                                                                              |
| Name            | CATGROUP.<br>DESC.<br>NAME                                  | VARCHAR2<br>(254<br>BYTE)<br>NOT<br>NULL                | The language- dependent name of this catalog group.                                                            | Structure group.<br>Structure group identifier                    | String,<br>60         | The unique identifier is used as dummy field. The structure group names will be imported by the <a href="#">Catalog Groups Description</a> . |
| Language        | CATGROUP.<br>DESC.<br>LANGUAGE_ID                           | NUMBER<br>NOT<br>NULL                                   | The identifier of the language. For a list of language components, see the LANGUAGE table.                     | Variable:<br>defaultLanguage (by default English)                 | Long                  | The variable must be equals to the WC shop default language.                                                                                 |
| Delete          | CATGROUP.<br>MARKFORDELETE                                  | INTEGER<br>NOT<br>NULL                                  | Indicates if this catalog group has been marked for deletion:<br>0 = No, 1 = Yes                               |                                                                   | Timestamp             | For insert/update = 0, to delete = 1                                                                                                         |

### Catalog Groups Description

With the catalog groups description file the language dependent text information plus image paths are transported.

### Template Configuration

- Export data provider: Structure groups (All groups in structure system (with product filter))
- Export data type: Language-specific data

### Data type filter

- Language = "English" (Variable defaultLanguage), "German" (Variable secondaryLanguage)

## Output file

- CatGroupDescription.csv

## Collecting image data

There're two sub-modules in the export templates for collecting both image types, full images and thumbnails.

### Full image data

#### Template Configuration

- Export data provider: Structure groups (All groups in structure system (with product filter))
- Export data type: Structure group file attachments

#### Data type filter

- Quality = "Internet image" (Variable FULLIMAGE\_QUALITY)
- Type = "Standard image" (Variable FULLIMAGE\_TYPE)
- Language = "English" (Variable defaultLanguage), "German" (Variable secondaryLanguage)

### Thumbnail data

#### Template Configuration

- Export data provider: Structure groups (All groups in structure system (with product filter))
- Export data type: Structure group file attachments

#### Data type filter

- Quality = "Internet image" (Variable THUMBNAIL\_QUALITY)
- Type = "Thumbnail" (Variable THUMBNAIL\_TYPE)
- Language = "English" (Variable defaultLanguage), "German" (Variable secondaryLanguage)

## Field mapping

| CSV file column | Product 360 data field                                                     | Remarks    |
|-----------------|----------------------------------------------------------------------------|------------|
| FullImage       | {%IMAGE_PATH_RELATIVE}<br>{?ExportMime {&Document identifier}, {&Quality}} | See Images |
| LanguageId      | Language                                                                   |            |

## Sample for a catalog groups' description import file

### CatGroupsDescription.csv

```
GroupIdentifier|LanguageId|Name|ShortDescription|LongDescription|Published|Keyword|Note|FullImage|Thumbnail|Delete
...
SG_MEN_SHIRTS|-1|"Shirts"|"Short description: Shirts"|"Long description: Shirts"|1|||images/IMG_0019_e.jpg|images/
IMG_0019_e.jpg|0
SG_MEN_SHIRTS|-3|"Hemden"|"Kurzbeschreibung: Hemden"|"Langbeschreibung: Hemden"|1|||images/IMG_0028_e.jpg|images/
IMG_0028_e.jpg|0
SG_WOMEN_SHIRTS|-1|"Shirts"|"Short description: Shirts"|"Long description: Shirts"|1|||images/IMG_0117_e.jpg|images/
IMG_0117_e.jpg|0
...
```

## Field mapping

| CSV column name   | WC Col. Name                  | WC Col. Type                          | WC Description                                                                             | Product 360 data field                                                                      | Product 360 data type | Note                                                                                |
|-------------------|-------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|
| Group identifier  | CATGRPD ESC. CATGROUP_ID      | NUMBER NOT NULL [VARCHAR2 (254 BYTE)] | The internal reference number of the catalog group.                                        | Structure group. Structure group identifier                                                 | String, 60            | The unique identifier provided before is resolved to the corresponding internal id. |
| Language id       | CATGRPD ESC. LANGUAGE_ID      | NUMBER NOT NULL                       | The identifier of the language. For a list of language components, see the LANGUAGE table. | Structure group. Language                                                                   | Long                  |                                                                                     |
| Name              | CATGRPD ESC. NAME             | VARCHAR2 (254 BYTE) NOT NULL          | The language-dependent name of this catalog group.                                         | Structure group. Name                                                                       | String, 250           |                                                                                     |
| Short Description | CATGRPD ESC. SHORTDESCRIPTION | VARCHAR2 (254 BYTE)                   | A short description of this catalog group.                                                 | Structure group. Description                                                                | String, unlimited     | The data field length is checked and will be truncated with warning if necessary.   |
| Long Description  | CATGRPD ESC. LONGDESCRIPTION  | VARCHAR2 (4000 BYTE)                  | A long description of this catalog group.                                                  | Structure group. Comment                                                                    | String, unlimited     | The data field length is checked and will be truncated with warning if necessary.   |
| Published         | CATGRPD ESC. PUBLISHED        | NUMBER NOT NULL                       | Indicates whether this catalog group should be displayed for the language.                 | static value "1" (after <a href="#">Repository configuration</a> Structure group.Published) |                       | Publish = 1<br>Don't publish = 0                                                    |
| Keyword           | CATGRPD ESC. KEYWORD          | VARCHAR2 (254 BYTE)                   | A keyword used for searching.                                                              | Structure group.Keywords                                                                    | String, 250           | The data field length is checked and will be truncated with warning if necessary.   |

| CSV column name | WC Col. Name           | WC Col. Type         | WC Description                                                     | Product 360 data field                                                         | Product 360 data type | Note                                                             |
|-----------------|------------------------|----------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------|
| Note            | CATGRPD ESC. NOTE      | VARCHAR2 (4000 BYTE) | The footnotes or extended long description for this catalog group. | Not used (after <a href="#">Repository configuration</a> Structure group.Note) |                       | The sample implementation does not use and visualize this field. |
| FullImage       | CATGRPD ESC. FULLIMAGE | VARCHAR2 (254 BYTE)  | The full image path of this catalog group.                         | see Collecting image data                                                      | String, 2000          |                                                                  |
| Thumbnail       | CATGRPD ESC. THUMBNAIL | VARCHAR2 (254 BYTE)  | The thumbnail image path of this catalog group.                    | see Collecting image data                                                      | String, 2000          |                                                                  |
| Delete          |                        |                      |                                                                    |                                                                                |                       | For insert/update = 0, to delete = 1                             |

### 3.6.6 The catalog entries data exchange

Catalog entries in the understanding of IBM WebSphere Commerce are represented by the logical data entities Product and Item of Informatica Product 360.

#### Catalog Entries

With the catalog entries' import file the basic information on catalog entries is provided; the unique part number and the object type (Product or Item) and its name in the defined language. In addition the mapping of the catalog entries (both products and items) to the master catalog groups is imported (ParentGroupIdentifier) and the unique part number of the parent catalog entry (the product) an item belongs to (ParentPartNumber). The field Buyable signals if the item is buyable in general.

#### Template Configuration

- Export data provider: Product list, Items by product assignments
- Export data type: Product, Item

#### Output file

- CatEntries.csv

#### Sample for a catalog entries' import file

| CatEntries.csv |  |         |  |                       |  |                  |  |      |  |            |  |         |  |        |
|----------------|--|---------|--|-----------------------|--|------------------|--|------|--|------------|--|---------|--|--------|
| PartNumber     |  | Type    |  | ParentGroupIdentifier |  | ParentPartNumber |  | Name |  | LanguageId |  | Buyable |  | Delete |
| P2_D           |  | Product |  | SG_WOMEN_SHIRTS       |  | P2_D             |  | -1   |  | 0          |  | 0       |  |        |
| P2_D           |  | Product |  | SG_WOMEN_SHIRTS       |  | P2_D             |  | -3   |  | 0          |  | 0       |  |        |

```

...
A8|Item|P2_D|A8|-1|1|0
A8|Item|P2_D|A8|-3|1|0
A7|Item|P2_D|A7|-1|1|0
A7|Item|P2_D|A7|-3|1|0
...

```

## Field mapping

| CSV col. name          | WC Col. Name                  | WC Col. Type                         | WC Description                                                                                                                                                                 | Product 360 data field                               | Product 360 data type | Note                                                                                                                                        |
|------------------------|-------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Part Number            | CATENTRY. PARTNUMBER          | VARCHAR2(64 BYTE) NOT NULL           | The reference number that identifies the part number of the catalog entry. Along with the MEMBER_ID, these columns are a unique index.                                         | Product. Product no., Items. Item no.                | String, 250           | The unique identifier for the catalog entry.                                                                                                |
| Type                   | CATENTRY. CATENTTYPE_ID       | VARCHAR2(16 BYTE) NOT NULL           | Identifies the type of catalog entry. Foreign key to the CATENTTYPE table. The supported default types are: ProductBean, ItemBean, PackageBean, BundleBean and DynamicKitBean. | static value "Product" or "Item"                     |                       | Due data export for products and items in Product 360 is performed in separate modules fix values can be provided.                          |
| ParentGroup Identifier | CATGPENREL. CATGROUP_ID       | NUMBER NOT NULL [VARCHAR2(254 BYTE)] | The source catalog group of this relationship.                                                                                                                                 | Product. Structure group. Structure group identifier | String, 250           | The unique group identifier provided with catalog group before is resolved to the corresponding internal id. It's only filled for products. |
| ParentPart Number      | CATENTREL. CATENTRY_ID_PARENT | NUMBER NOT NULL [VARCHAR2(64 BYTE)]  | The reference number of the source catalog entry in this relationship.                                                                                                         | Higher-level product. Referenced product number      | String, 250           | The unique part identifier of the product is resolved to the corresponding internal id. It's only filled for items.                         |
| Name                   | CATENTDESC. NAME              | VARCHAR2 (128 BYTE)                  | The language- dependent name of this catalog entry.                                                                                                                            | Product. Product no., Item. Object no.               | String, 250           | Dummy field, needed for WCS. Will be overwritten with the Product/Item name during "CatalogEntryDescription" import                         |



| CSV col. name | WC Col. Name                 | WC Col. Type    | WC Description                                                                             | Product 360 data field                                                                                                                                       | Product 360 data type | Note                                                                                                                |
|---------------|------------------------------|-----------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------|
| LanguageId    | CATALOGENTRYDESC.LANGUAGE_ID | NUMBER NOT NULL | The identifier of the language. For a list of language components, see the LANGUAGE table. | Product. Language-specific data. Language                                                                                                                    | Long                  | Dummy field, needed for WCS. Will be overwritten with the Product/Item name during "CatalogEntryDescription" import |
| Buyable       |                              |                 |                                                                                            | static value for products = 0 (not buyable); for items = 1 (buyable)<br><br>(after <a href="#">Repository configuration</a> Product. Buyable, Item. Buyable) |                       |                                                                                                                     |
| Delete        |                              |                 |                                                                                            |                                                                                                                                                              |                       | For insert/update = 0, to delete = 1                                                                                |

### Catalog Entries Description

The file for the catalog entries' descriptions transports the language dependent text information, keywords and images. The publication state of a catalog entry is also part of this import file.

### Template Configuration

- Export data provider: Product list, Items by product assignments
- Export data type: Language-specific data



Please be aware that image paths will only be exported if there are descriptions in corresponding languages.

### Data type filter

- Language: "English" (Variable defaultLanguage ), "German" (Variable secondaryLanguage)

### Output file

- CatEntryDescription.csv

## Collecting image data

There're two sub-modules in the export templates for collecting the both image types, full images and thumbnails.

### Full image data

#### Template Configuration

- Export data provider: Product list, Items by product assignments
- Export data type: File attachments

#### Data type filter

- Quality = "Internet image" (Variable FULLIMAGE\_QUALITY)
- Type = "Standard image" (Variable FULLIMAGE\_TYPE)
- Language = "English" (Variable defaultLanguage ), "German" (Variable secondaryLanguage)

### Thumbnail data

#### Template Configuration

- Export data provider: Product list, Items by product assignments
- Export data type: File attachments

#### Data type filter

- Quality = "Internet image" (Variable THUMBNAIL\_QUALITY)
- Type = "Thumbnail" (Variable THUMBNAIL\_TYPE)
- Language = "English" (Variable defaultLanguage ), "German" (Variable secondaryLanguage)

## Field mapping

| CSV file column | Product 360 data field                                                     | Remarks                    |
|-----------------|----------------------------------------------------------------------------|----------------------------|
| LanguageId      | Language                                                                   |                            |
| FullImage       | {%IMAGE_PATH_RELATIVE}<br>{?ExportMime {&Document identifier}, {&Quality}} | See <a href="#">Images</a> |

## Sample for a catalog entries' descriptions import file

#### CatEntriesDescription.csv

```
PartNumber|Type|LanguageId|Name|ShortDescription|LongDescription|AuxDescription1|AuxDescription2|Keyword|Published|
FullImage|Thumbnail|Delete
0001.01|Product|-1|"Fitted Shirt"|"Lightweight casual shirt"|"The unique fabric..."|||"shirt"|1|images/IMG_0101_f.jpg|
images/IMG_0101_t.jpg|0
0001.01|Product|-3|"Tailliertes Hemd"|"Hemd aus leichtem Stoff"|"Eine einmaligen Qualität..."|||"Hemd"|1|images/
IMG_0101_f.jpg|images/IMG_0101_t.jpg|0
...
0099.02|Item|-1|"Dress Shirt"|"Tailored Dress Shirt"|"This dress shirt features..."|||"Shirt"|1|images/IMG_9902_f.jpg|
images/IMG_9902_t.jpg|0
0099.02|Item|-3|"Anzughemd"|"Tailliertes Anzughemd"|"Dieses Anzughemd..."|||"Anzughemd"|1|images/IMG_9902_f2.jpg|images/
IMG_9902_t2.jpg|0
...
```

## Field mapping

| CSV Col. name     | WC Col. Name                     | WC Col. Type                            | WC Description                                                                                                                                                                 | Product 360 data field                               | Product 360 data type | Note                                                                                                               |
|-------------------|----------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------|
| Part Number       | CATENTDESC.<br>CATENTRY_ID       | NUMBER NOT NULL<br>[VARCHAR2 (64 BYTE)] | The target catalog entry of this relationship.                                                                                                                                 | Product.Product no.,<br>Item.Item no.                | String , 250          | The unique part identifier provided with catalog entry before is resolved to the corresponding internal id.        |
| Type              | CATENTRY.<br>CATENTTYPE_ID       | VARCHAR2(16 BYTE)<br>NOT NULL           | Identifies the type of catalog entry. Foreign key to the CATENTTYPE table. The supported default types are: ProductBean, ItemBean, PackageBean, BundleBean and DynamicKitBean. | static value "Product" or "Item"                     |                       | Due data export for products and items in Product 360 is performed in separate modules fix values can be provided. |
| Language          | CATENTDESC.<br>LANGUAGE_ID       | NUMBER NOT NULL                         | The identifier of the language. For a list of language components, see the LANGUAGE table.                                                                                     | Product.Language,<br>Item.Language                   | Long                  |                                                                                                                    |
| Name              | CATENTDESC.<br>NAME              | VARCHAR2 (128 BYTE)                     | The language- dependent name of this catalog entry.                                                                                                                            | Product.Short description,<br>Item.Short description | String , 254          | The data field length is checked and will be truncated with warning if necessary.                                  |
| Short Description | CATENTDESC.<br>SHORT DESCRIPTION | VARCHAR2 (254 BYTE)                     | A short description of this catalog entry.                                                                                                                                     | Products.Other remarks,<br>Item.Other remarks        | String , 254          | The data field length is checked and will be truncated with warning if necessary.                                  |
| Long Description  | CATENTDESC.<br>LONG DESCRIPTION  | CLOB                                    | A long description of this catalog entry.                                                                                                                                      | Products.Long description,<br>Item.Long description  | String , unlimited    |                                                                                                                    |

| CSV Col. name    | WC Col. Name                    | WC Col. Type               | WC Description                                                                                                                                                                      | Product 360 data field                                                                                          | Product 360 data type | Note                                                                              |
|------------------|---------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|
| Aux Description1 | CATENTDESC. AUXDESCRIPTI<br>ON1 | VARCHAR2<br>(4000<br>BYTE) | Additional description for this catalog entry.                                                                                                                                      | (after <a href="#">Repository configuration</a><br><br>Product.AuxDescription1,<br>Item.AuxDescription1)        |                       |                                                                                   |
| Aux Description2 | CATENTDESC. AUXDESCRIPTI<br>ON2 | VARCHAR2<br>(4000<br>BYTE) | Additional description for this catalog entry.                                                                                                                                      | (after <a href="#">Repository configuration</a><br>Product.<br>AuxDescription2, Item.<br>AuxDescription2)       |                       |                                                                                   |
| Keyword          | CATENTDESC. KEYWORD             | VARCHAR2<br>(254<br>BYTE)  | A keyword used for searching.                                                                                                                                                       | Products.Keywords,<br>Item.Keywords                                                                             | String<br>, 50        | The data field length is checked and will be truncated with warning if necessary. |
| Published        | CATENTDESC. PUBLISHED           | NUMBER NOT<br>NULL         | Indicates whether this catalog entry should be displayed for the language indicated by LANGUAGE_ID: 0= catalog entry should not be displayed, 1= catalog entry should be displayed. | static value<br>"1"<br>(after <a href="#">Repository configuration</a><br>Product.Published,<br>Item.Published) |                       |                                                                                   |
| Full image       | CATENTDESC. FULLIMAGE           | VARCHAR2<br>(254<br>BYTE)  | The full image path of this catalog entry.                                                                                                                                          | see <a href="#">Collecting image data</a>                                                                       | String<br>, 2000      |                                                                                   |
| Thumbnail        | CATENTDESC. THUMB<br>NAIL       | VARCHAR2<br>(254<br>BYTE)  | The thumbnail image path of this catalog entry.                                                                                                                                     | see <a href="#">Collecting image data</a>                                                                       | String<br>, 2000      |                                                                                   |
| Delete           |                                 |                            |                                                                                                                                                                                     |                                                                                                                 |                       | For insert/update = 0, to delete = 1                                              |

## Catalog Entries' Attribute Values

Contains the catalog entry and attribute dictionary attribute relationship.

### Template Configuration

- Export data provider: Products, Items
- Export data type: Attribute dictionary attribute relations

### Data type filter

- Structure system: Variable "MASTERCATALOG\_STRUCTURE"
- Purpose: <all purposes>
- Language: "English" (Variable defaultLanguage), "German" (Variable secondaryLanguage)

### Data field validation

- Field: ArticleAttributeValue.Value  
Validation: May not be blank  
Action on error: remove data record  
Error classification: warning

### Output file

- CatEntryADAttributeValues.csv

### Sample for a catalog entries' attribute values import file

#### CatEntryADAttributeValues.csv

```
PartNumber|Type|AttributeIdentifier|LanguageId|ValueIdentifier|Value|Usage|Sequence|Delete
0001.01|Product|SF_CARE_INSTRUCTION_1|-3||"waschen"|Descriptive||0
0001.01|Product|SF_CARE_INSTRUCTION_1|-1||"n/a"|Descriptive||0
0001.01|Product|SF_MADE_IN_GERMANY_1|-3|SV_YES||Descriptive||0
0001.01|Product|SF_MADE_IN_GERMANY_1|-1|SV_YES||Descriptive||0
0001.01|Product|SF_MADE_IN_CHINA_1|-3|SV_NO||Descriptive||0
0001.01|Product|SF_MADE_IN_CHINA_1|-1|SV_NO||Descriptive||0
...
```

### Field mapping

| CSV column name | WC Column Name           | WC Column Type  | WC Description                                                                      | Product 360 data field             | Product 360 data type | Note                                                    |
|-----------------|--------------------------|-----------------|-------------------------------------------------------------------------------------|------------------------------------|-----------------------|---------------------------------------------------------|
| Part Number     | CATENTRYATTR.CATENTRY_ID | BIGINT NOT NULL | The logical identifier of the catalog entry. Resolved to a unique catalog entry id. | Product.Product no., Item.Item no. | String , 250          | The unique part identifier provided with catalog entry. |
| Type            |                          |                 | The object type of the catalog entry (product or item).                             | static value "Product" or "Item"   |                       |                                                         |

|                      |                         |                           |                                                                                                                                                             |                                                                                                                                              |                    |                                                                                                                                                                                            |
|----------------------|-------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Attribute Identifier | CATENTRYATTR.ATTR_ID    | BIGINT NOT NULL           | The logical identifier of the attribute. Resolved through the attributes' dictionary (ATTR) to a unique attribute id.                                       | computed field: ADAttributeRelations. Dictionary attribute identifier (StructureFeature.Identifier + "_" + StructureGroupAttribute.Datatype) | String, 64         | Special field of "Attribute dictionary attribute relations" export sub-data type                                                                                                           |
| Language Id          |                         |                           |                                                                                                                                                             | ADAttributeRelations. Language of value (ProductAttributeValue. LanguageID, ArticleAttributeValue. LanguageID)                               | Long               |                                                                                                                                                                                            |
| Value Identifier     | CATENTRYATTR.ATTRVAL_ID | BIGINT NOT NULL DEFAULT 0 | The reference number to an attribute value in the ATTRVAL table. The value 0 means the attribute is assigned to the catalog entry without a specific value. | ADAttributeRelations. Structure preset value identifier (StructureValue.Identifier)                                                          |                    | The identifier of the assigned preset value in case there is a preset value.                                                                                                               |
| Value                |                         |                           |                                                                                                                                                             | ADAttributeRelations. Attribute value (ProductAttributeValue. Value, ArticleAttributeValue. Value)                                           | String, 2000       | Empty if there is a ValueIdentifier.                                                                                                                                                       |
| Usage                | CATENTRYATTR.USAGE      | CHAR(1) NOT NULL          | '1' for defining attribute (sku resolution)'2' for descriptive attribute.                                                                                   | for Items: ADAttributeRelations. Purpose (ArticleAttribute.Purpose)<br>for Products: static value "Descriptive"                              | String, 1000       | Note: The defining attribute purpose has to be defined in the repository enumeration "Enum.AttributePurpose" as enum param with the name "Websphere.defining", current value is "DEFINING" |
| Sequence             | CATENTRYATTR.SEQUENCE   | DOUBLE                    | A number that determines the display order of an attribute for a given catalog entry.                                                                       | ADAttributeRelations. Sequence (ProductAttribute.DisplayOrder, ArticleAttribute.DisplayOrder)                                                | Integer, unlimited |                                                                                                                                                                                            |

|            |  |  |  |  |  |  |
|------------|--|--|--|--|--|--|
| Delet<br>e |  |  |  |  |  |  |
|------------|--|--|--|--|--|--|

### Catalog Entries' Associations

With the catalog entries' merchandising associations import file the marketing oriented mappings between catalog entries (both products and items) are imported.

### Template Configuration

- Export data provider: Product list, Items by product assignments
- Export data type: Referenced products, Referenced items

### Data type filter

- Reference type = Accessories, Cross selling, Successor item, Up selling
- Product assortment = ProductAssortment (Variable)
- Item assortment = ItemAssortment (Variable)

### Output file

- CatEntryAssociation.csv

### Sample for a catalog entries' associations import file

| CatEntryAssociation.csv |                 |                  |          |          |        |  |
|-------------------------|-----------------|------------------|----------|----------|--------|--|
| PartNumber              | AssociationType | TargetPartNumber | Sequence | Quantity | Delete |  |
| P11 UPSELL P13 1 1 0    |                 |                  |          |          |        |  |
| P3_D X-SELL P1_D 1 1 0  |                 |                  |          |          |        |  |
| P12 UPSELL P13 1 1 0    |                 |                  |          |          |        |  |
| P5 X-SELL P1_D 1 1 0    |                 |                  |          |          |        |  |
| A19 ACCESSORY A1 1 2 0  |                 |                  |          |          |        |  |
| ...                     |                 |                  |          |          |        |  |

### Field mapping

| CSV column name | WC Column Name                | WC Column Type                          | WC Description                                          | HPM data field                       | HPM data type | Note                                                                                                        |
|-----------------|-------------------------------|-----------------------------------------|---------------------------------------------------------|--------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------|
| Part Number     | MASSO CCECE. CATENTRY_ID_FROM | NUMBER NOT NULL (VARCHAR (64) NOT NULL) | The CatalogEntry that is the source of the association. | Product. Product no., Item. Item no. | String , 250  | The unique part identifier provided with catalog entry before is resolved to the corresponding internal id. |

| CSV column name  | WC Column Name              | WC Column Type                          | WC Description                                                                                                                           | HPM data field                                                                         | HPM data type              | Note                                                                                                                                                        |
|------------------|-----------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AssociationType  | MASSO CCECE. MASSO CTYPE_ID | VARCHAR 2 (32 BYTE) NOT NULL            | The Identifier of the association type. Foreign key to the MASSOCTYPE table (allowed values are:X-SELL, UPSELL, ACCESSORY, REPLACEMENT). | Referenced products. Reference type, Referenced items. Reference type                  | Converted to allowed value | The HPM item reference identifier is converted to the WC identifier by export function GetWCItemReferenceType. See Appendix D: Item Reference Types Mapping |
| TargetPartNumber | MASSO CCECE. CATENTRY_ID_TO | NUMBER NOT NULL (VARCHAR (64) NOT NULL) | The CatalogEntry that is the target of the association.                                                                                  | Referenced products. Referenced object number, Referenced items. Referenced object no. | String , 250               | The unique part identifier of the referenced part is resolved to the corresponding internal id.                                                             |
| Sequence         | MASSO CCECE. RANK           | NUMBER(20,5)                            | The sequence number used for display order.                                                                                              | Referenced products. Sequence, Referenced items. Sequence                              | Long                       | Default is "1"                                                                                                                                              |
| Quantity         | MASSO CCECE. QUANTITY       | NUMBER                                  | The quantity related to this association.                                                                                                | Referenced products. Number, Referenced items. Number                                  | Integer                    | The number of items referenced.                                                                                                                             |
| Delete           |                             |                                         |                                                                                                                                          |                                                                                        |                            | For insert/update = 0, to delete = 1                                                                                                                        |

### Catalog Entries Prices - list prices

Prices of catalog entries are imported in two portions, the list price and the offer price(s) for each catalog entry.

Several prices in different currencies may be provided per catalog entry.

### Template Configuration

- Export data provider: Product list, Items by product assignments
- Export data type: Selling price

### Data type filter

- Currency = "US Dollar" (Variable LISTPRICE\_CURRENCY)
- Customer = "<Public>" (Variable LISTPRICE\_CUSTOMER)



- Price type = "Non-binding price recommendation" (Variable LISTPRICE\_PRICETYPE)
- Time of validity = TODAY (dynamic variable)
- Valid in region = "USA" (Variable LISTPRICE\_TERRITORY)

## Output file

- CatEntryListPrices.csv

## Sample for a catalog entries' list price import file:

| CatEntryListPrices.csv |            |       |              |        |  |  |
|------------------------|------------|-------|--------------|--------|--|--|
| PriceListName          | PartNumber | Price | CurrencyCode | Delete |  |  |
| AuroraList             | P9         | 99.99 | USD          | 0      |  |  |
| AuroraList             | P4         | 99.99 | USD          | 0      |  |  |
| ...                    |            |       |              |        |  |  |

## Field mapping

| CSV column name | WC Column Name        | WC Column Type            | WC Description                                                                 | Product 360 data field              | Product 360 data type | Note                                                                                                        |
|-----------------|-----------------------|---------------------------|--------------------------------------------------------------------------------|-------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------|
| PriceListName   |                       |                           | The name of the price list the price belongs to.                               | variable                            |                       | Variable PRICELIST_NAME, by default "AuroraList"                                                            |
| PartNumber      | LISTPRICE.CATENTRY_ID | NUMBER NOT NULL           | The target catalog entry of this relationship.                                 | Product. Product no, Item. Item no. | String, 250           | The unique part identifier provided with catalog entry before is resolved to the corresponding internal id. |
| Price           | LISTPRICE.LISTPRICE   | NUMBER (20,5) NOT NULL    | The amount of the ListPrice.                                                   | Selling price. Price (from 1)       | BigDecimal            | Formatted by export function FormatDecimal using "." as decimal separator and two fraction digits.          |
| PriceCurrency   | LISTPRICE.CURRENCY    | VARCHAR2(3 BYTE) NOT NULL | The currency of the prices. This is a currency code as per ISO 4217 standards. | Selling price. Currency             | String, 3             | Provided as 3-digit ISO code by export function IsoCodeCurrency.                                            |
| Delete          |                       |                           |                                                                                |                                     |                       | For insert/update = 0, to delete = 1                                                                        |

## Catalog Entries Prices - offer prices

Prices of catalog entries are imported in two portions, the list price and the offer price(s) for each catalog entry.

Prices for several currencies may be provided per catalog entry.

## Template Configuration

- Export data provider: Product list, Items by product assignments
- Export data type: Selling price ( with price tiers)

## Data type filter

- Currency = "US Dollar" (Variable OFFERPRICE\_CURRENCY)
- Customer = "<Public>" (Variable OFFERPRICE\_CUSTOMER)
- Price type = "Net customer price" (Variable OFFERPRICE\_PRICETYPE)
- Time of validity = TODAY (dynamic variable, contains the respective current date)
- Valid in region = "USA" (Variable OFFERPRICE\_TERRITORY)

## Output file

- CatEntryListPrices.csv

## Sample for a catalog entries' offer price import file

| CatEntryOfferPrices.csv |            |                 |            |                 |              |                 |        |
|-------------------------|------------|-----------------|------------|-----------------|--------------|-----------------|--------|
| PriceListName           | PartNumber | StartDate       | EndDate    | Price           | CurrencyCode | MinimumQuantity | Delete |
| Aurora P9               | 2014-04-02 | 00:00:00.000000 | 9999-12-31 | 23:59:59.999999 | 45.00 USD    | 1.00 0          |        |
| Aurora P4               | 2014-04-02 | 00:00:00.000000 | 9999-12-31 | 23:59:59.999999 | 67.00 USD    | 1.00 0          |        |
| Aurora P13              | 2014-04-02 | 00:00:00.000000 | 9999-12-31 | 23:59:59.999999 | 33.00 USD    | 1.00 0          |        |
| ...                     |            |                 |            |                 |              |                 |        |

## Field mapping

| CSV column name | WC Column Name    | WC Column Type                       | WC Description                                                                                                | Product 360 data field                        | Product 360 data type | Note                                                                                                        |
|-----------------|-------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------|
| PriceListName   |                   |                                      | The name of the price list the price belongs to.                                                              | Variable                                      |                       | Variable PRICELIST_NAME, by default "AuroraList"                                                            |
| PartNumber      | OFFER.CATENTRY_ID | NUMBER NOT NULL [VARCHAR2 (64 BYTE)] | The target catalog entry of this relationship.                                                                | Product. product no., Item. item no.          | String, 250           | The unique part identifier provided with catalog entry before is resolved to the corresponding internal id. |
| StartDate       | OFFER.START DATE  | TIMESTAMP(6)                         | The price for the nominal quantity (see CATENTSHIP. NOMINALQUANTITY) of the product referred to by the Offer. | Selling prices (with price tiers). Valid from | Date                  | Formatted as "yyyy-MM-dd 00:00:00.000000"                                                                   |

| CSV column name | WC Column Name         | WC Column Type            | WC Description                                                                                                | Product 360 data field                              | Product 360 data type | Note                                                                                               |
|-----------------|------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------|
| EndDate         | OFFER. ENDDATE         | TIMESTAMP(6)              | The currency of the prices. This is a currency code as per ISO 4217 standards.                                | Selling prices (with price tiers). Valid until      | Date                  | Formatted as "yyyy-MM-dd 23:59:59.999999"                                                          |
| Price           | OFFERPRICE. PRICE      | NUMBER(20,5) NOT NULL     | The price for the nominal quantity (see CATENTSHIP. NOMINALQUANTITY) of the product referred to by the Offer. | Selling prices (with price tiers). Price (from 1)   | BigDecimal            | Formatted by export function FormatDecimal using "." as decimal separator and two fraction digits. |
| CurrencyCode    | OFFERPRICE. CURRENCY   | VARCHAR2(3 BYTE) NOT NULL | The currency of the prices. This is a currency code as per ISO 4217 standards.                                | Selling prices (with price tiers). Currency         | String, 3             | Provided as 3-digit ISO code by export function IsoCodeCurrency.                                   |
| MinimumQuantity | OFFER. MINIMUMQUANTITY | NUMBER                    | The minimum quantity that can be purchased in a single Order under this Offer.                                | Selling prices (with price tiers). Lower price tier | BigDecimal            | Formatted using "." as decimal separator and two fraction digits.                                  |
| Delete          |                        |                           |                                                                                                               |                                                     |                       | For insert/update = 0, to delete = 1                                                               |

### 3.6.7 Appendix A: Variables of the Export Templates

The variables ensure values used at different places of the export template are the same at each usage. The value can be maintained at a central place at the export template's setting.

Please adapt the values to your Product 360 – WC – System environment.

| Variable            | Default value  | Description                                                                                          |
|---------------------|----------------|------------------------------------------------------------------------------------------------------|
| <b>Images</b>       |                |                                                                                                      |
| IMAGE_PATH_RELATIVE |                |                                                                                                      |
| FULLIMAGE_QUALITY   | Internet image | The Product 360 image quality to be used for the full image of products, items and structure groups. |

|                       |                                   |                                                                                                                               |
|-----------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| FULLIMAGE_TYPE        | Standard image                    | The Product 360 image type to be used for the full image of products, items and structure groups.                             |
| THUMBNAIL_QUALITY     | Internet image                    | The Product 360 image quality to be used for the thumbnail image of products, items and structure groups.                     |
| THUMBNAIL_TYPE        | Thumbnail                         | The Product 360 image type to be used for the thumbnail image of products, items and structure groups.                        |
| <b>Prices</b>         |                                   |                                                                                                                               |
| LISTPRICE_PRICE_TYPE  | Non-binding price recommendation  | The Product 360 price type used for the list price.                                                                           |
| LISTPRICE_TERRITORY   | USA                               | The Product 360 validity region the list price is valid for. Product 360 needs for price access, there is no meaning for WC.  |
| LISTPRICE_CUSTOMER    | <Public>                          | The Product 360 customer the list price is valid for. Product 360 needs for price access, there is no meaning for WC.         |
| LISTPRICE_CURRENCY    | US Dollar                         |                                                                                                                               |
| PRICELIST_NAME        | AuroraList                        | Name for price list of list prices                                                                                            |
| TODAY                 | Always evaluated the current date | The current date to evaluate the valid list price for.                                                                        |
| OFFERPRICE_PRICE_TYPE | Net customer price                | The Product 360 price type used for the offer price.                                                                          |
| OFFERPRICE_TERRITORY  | USA                               | The Product 360 validity region the offer price is valid for. Product 360 needs for price access, there is no meaning for WC. |
| OFFERPRICE_CUSTOMER   | <Public>                          | The Product 360 customer the offer price is valid for. Product 360 needs for price access, there is no meaning for WC.        |
| OFFERPRICE_CURRENCY   | US Dollar                         |                                                                                                                               |
| OFFERPRICELIST_NAME   | Aurora                            | Name for price list of offer prices:                                                                                          |
| <b>Different</b>      |                                   |                                                                                                                               |

|                         |                                     |                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MASTERCATALOG_STRUCTURE | (To be defined before first usage)  | The Product 360 Structure System to be used as master catalog for the Web Shop System.<br>Select from the structure systems available in your Product 360.                                                                                                                                                                                                                                   |
| DELIMITER               |                                     | <p>Defines the token delimiter to be used in exported files.</p> <p>The token delimiter can be configured in the WCS data loader configuration files ("wc-loader*.xml"):</p> <pre> wc-loader-*.xml  &lt;_config:DataReader   className="com.ibm.commerce.foundation.dataload.datareader.CSVReader"   tokenDelimiter=" "   firstLineIsHeader="true" useHeaderAsColumnName="true" /&gt; </pre> |
| defaultLanguage         | English                             | This is the language on WCS side. It's also used to export the language specific data of Product 360.                                                                                                                                                                                                                                                                                        |
| secondaryLanguage       | German                              | The secondary is used, next to the defaultLanguage, for all language specific data.                                                                                                                                                                                                                                                                                                          |
| exportMultimedia        | Yes                                 | Specifies if the "Multimedia export" post step should run                                                                                                                                                                                                                                                                                                                                    |
| ProductAssortment       | (To be defined before first usage)  | Specifies the products to be exported; all products should be mapped to the MASTERCATALOG_STRUCTURE. In addition, the item assortment is computed by that given product assortment.                                                                                                                                                                                                          |
| updateItemAssortment    | Yes                                 | The item assortment will be used to filter the item associations. In this way external associations won't get exported. This flag indicates if the item assortment( should be updated or not.                                                                                                                                                                                                |
| updateProductAssortment | Yes                                 | Used to compute the new and changed products and assigned items. With this flag you can define if the product assortment should be updated or not.                                                                                                                                                                                                                                           |
| DELTA_FROM_DATE         | 6/5/2014 12:56 PM (must be changed) | This date variable is used to define a date from which the delta should be taken.                                                                                                                                                                                                                                                                                                            |

### 3.6.8 Appendix B: Language Mapping

The language id mapping between Product 360 and WCS:

| Language     | Product 360 | WCS |
|--------------|-------------|-----|
| English (US) | 9           | -1  |
| French       | 12          | -2  |

|         |    |     |
|---------|----|-----|
| German  | 7  | -3  |
| Dutch   | 19 | -17 |
| Russian | 25 | -20 |
| Czech   | 5  | -41 |
| Slovak  | 27 | -42 |

### 3.6.9 Appendix C: Data Types Mapping

The data types mapping between Product 360 and WCS:

| Product 360<br>(Key, Synonym) | Product 360Display Name(en) | Product 360Display Name (de) | WCS        |
|-------------------------------|-----------------------------|------------------------------|------------|
| 1, STRING                     | Character string            | Zeichenkette                 | STRING     |
| 4, INTEGER                    | Integer                     | Ganzzahl                     | INTEGER    |
| 2, DECIMAL                    | Decimal                     | Dezimal                      | FLOAT      |
| 3, DOUBLE                     | Floating point              | Fließkomma                   | FLOAT      |
| 6, DATETIME                   | Date                        | Datum                        | DATETIME   |
| -                             | -                           | -                            | FREEFORM   |
| -                             | -                           | -                            | BIGINT     |
| -                             | -                           | -                            | ATTACHMENT |
| 5, BOOLEAN                    | Logical value               | Wahrheitswert                | STRING     |

### 3.6.10 Appendix D: Item Reference Types Mapping

The item reference types mapping between Product 360 and WCS:

| Product 360 | Product 360 Display Name (en) | Product 360 Display Name (de) | WCS    | WCS Description                       |
|-------------|-------------------------------|-------------------------------|--------|---------------------------------------|
| 10, xsell   | Cross-selling                 | Cross-Selling                 | X-SELL | Cross-sell merchandising relationship |

|                |                |                  |             |                                      |
|----------------|----------------|------------------|-------------|--------------------------------------|
| 11, upsell     | Up-selling     | Up-Selling       | UPSELL      | Up-sell merchandising relationship   |
| 6, accessories | Accessories    | Zubehör          | ACCESSORY   | Accessory merchandising relationship |
| 3, followup    | Successor item | Nachfolgeartikel | REPLACEMENT | Replacement relationship             |


### 3.6.11 Appendix E: Object Types Mapping

The object types mapping between Product 360 and WCS:

| Product 360 | WCS     |
|-------------|---------|
| Article     | Item    |
| Product     | Product |

### 3.6.12 Repository configuration


The standard Product 360 repository doesn't contain all necessary fields to match all available fields of IBM. Therefore the standard WCS export format templates are using static variables. To use all available fields instead of static variables are following repository changes necessary.

 Please note that this is a demo showcase which will use repository reserve fields.


#### Changes in Repository Types

Change used reserve fields from inactive to active

#### Changes in repository custom

 Please set the new created fields to visible and also set the export purpose to (at least) 1. For further information about repository field type properties see Domain Model (Repository).

## Field length

 Please also adjust the max length of the fields to the limits which are supported by the IBM WebSphere Commerce system. Find more information on [Field mapping](#).

## Added fields to Structure Feature

| Displayable |                                  |
|-------------|----------------------------------|
| Identifier  | StructureFeature.WCS.Displayable |
| Field Type  | StructureFeatureType.Res_Bit_01  |

| Searchable |                                 |
|------------|---------------------------------|
| Identifier | StructureFeature.WCS.Searchable |
| Field Type | StructureFeatureType.Res_Bit_02 |

| Comparable |                                 |
|------------|---------------------------------|
| Identifier | StructureFeature.WCS.Comparable |
| Field Type | StructureFeatureType.Res_Bit_03 |

| Merchandisable |                                     |
|----------------|-------------------------------------|
| Identifier     | StructureFeature.WCS.Merchandisable |
| Field Type     | StructureFeatureType.Res_Bit_04     |

## Added fields to Structure Value

| Usage       |                               |
|-------------|-------------------------------|
| Identifier  | StructureValue.WCS.Usage      |
| Field Type  | StructureValueType.Res_Bit_01 |
| Lower Bound | 1                             |
| Upper Bound | 1                             |
| Value       | 1                             |

## Added fields to Structure Group

| Published  |                               |
|------------|-------------------------------|
| Identifier | StructureGroup.WCS.Published  |
| Field Type | StructureGroupType.Res_Bit_01 |



| Published   |   |
|-------------|---|
| Lower Bound | 1 |
| Upper Bound | 1 |
| Value       | 1 |

| Note       |                                  |
|------------|----------------------------------|
| Identifier | StructureGroup.WCS.Note          |
| Field Type | StructureGroupType.Res_Text2G_01 |
| Max Length | 4000                             |

#### Added fields to Item

| Buyable     |                        |
|-------------|------------------------|
| Identifier  | Article.WCS.Buyable    |
| Field Type  | ArticleType.Res_Bit_01 |
| Lower Bound | 1                      |
| Upper Bound | 1                      |
| Value       | 1                      |

| Published   |                                   |
|-------------|-----------------------------------|
| Identifier  | Identifier: Article.WCS.Published |
| Field Type  | ArticleType.Res_Bit_02            |
| Lower Bound | 1                                 |
| Upper Bound | 1                                 |
| Value       | 1                                 |

#### Added fields to Item language specific data

| AuxDescription1 |                                 |
|-----------------|---------------------------------|
| Identifier      | ArticleLang.WCS.AuxDescription1 |
| Field Type      | ArticleLangType.Res_Text2G_01   |
| Max Length      | 4000                            |

| AuxDescription2 |                                 |
|-----------------|---------------------------------|
| Identifier      | ArticleLang.WCS.AuxDescription2 |
| Field Type      | ArticleLangType.Res_Text2G_02   |
| Max Length      | 4000                            |

#### Added fields to Product

| Buyable     |                        |
|-------------|------------------------|
| Identifier  | Product2G.WCS.Buyable  |
| Field Type  | ArticleType.Res_Bit_01 |
| Lower Bound | 1                      |
| Upper Bound | 1                      |
| Value       | 0                      |

| Published   |                         |
|-------------|-------------------------|
| Identifier  | Product2G.WCS.Published |
| Field Type  | ArticleType.Res_Bit_02  |
| Lower Bound | 1                       |
| Upper Bound | 1                       |
| Value       | 1                       |

#### Added fields to Product language specific data

| AuxDescription1 |                                   |
|-----------------|-----------------------------------|
| Identifier      | Product2GLang.WCS.AuxDescription1 |
| Field Type      | ArticleLangType.Res_Text2G_01     |
| Max Length      | 4000                              |

| AuxDescription2 |                                   |
|-----------------|-----------------------------------|
| Identifier      | Product2GLang.WCS.AuxDescription2 |
| Field Type      | ArticleLangType.Res_Text2G_02     |
| Max Length      | 4000                              |

## 3.7 Sample data

The IBM WebSphere Commerce Accelerator is delivered with sample data to show the functionality.

### 3.7.1 How to add sample data

The following steps and import files are only usable with the classic provider

1. Create maintenance structure with identifier "WCS"
2. Import all import projects
  - Adjust "Structure" parameter value for following import mappings and fields if structure identifier is not "WCS":
    - i. 5\_StructureGroupFeatures: "Feature name (key)"
    - ii. 6\_StructureGroupFeaturePresetValues: "Feature name (key)"
    - iii. 7\_BaseData: "Structure"
    - iv. 12\_FeatureValues: "Structure"
3. Unzip the Multimedia.zip file in the "filestorage.mime.path" which is defined in the server.properties

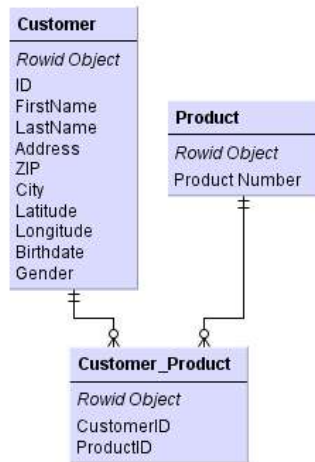
## 4 Informatica Customer MDM Accelerator

It is possible to access MDM customer data of items directly in Product 360. A new Customer entity has been added to the Product 360 repository, whose fields are filled with data from Informatica MDM using the REST based MDM Composite Object API.

In order to utilize the Product 360 - MDM customer data features you need to perform the following set up steps:

### 4.1 Setting up MDM data model

The first step is to make your MDM data model ready to be used with the Product 360 Customer entity model. Therefore you need to set up the following MDM schema:



Please refer to the MDM user manual on how to set up a data model in MDM version 10, as well as how to configure the model to be bound to the Composite Object API.

The model contains both Customer and Product tables, connected by an n:m relationship Customer\_Product.

- Customer table: Contains all relevant customer data to be displayed in PIM
- Product table: Just contains the PIM item number for being able to do the customer lookups for an item.
- Customer\_Product table: Mapping between Customer and Product table.

## 4.2 Adding item customer data into MDM via Composite Object API

Once the MDM data model is set up, records to be accessed via Product 360 can be added via the Composite Object API.

### 4.2.1 Create customer

|               |                  |
|---------------|------------------|
| URL Pattern   | /Customer.json   |
| Method        | POST             |
| Parameters    | systemName       |
| Content types | application/json |
| Media types   | application/json |

#### Content

The content has to be a JSON object Customer which includes the properties listed below.

| Properties for Customer |          |                               |
|-------------------------|----------|-------------------------------|
| Field                   | Datatype | Description                   |
| firstname               | String   |                               |
| lastname                | String   |                               |
| address                 | String   |                               |
| ZIP                     | String   |                               |
| city                    | String   |                               |
| latitude                | int      | Customer's location latitude  |
| longitude               | int      | Customer's location longitude |
| gender                  | String   | male or female                |
| birthdate               | DateTime |                               |

Example:

```
{
  firstname : "David",
  lastname : "Cameron",
  address : "10 Downing Street",
  ZIP : "SW1A 2AA",
  city : "London",
  latitude : 51.503363,
  longitude : -0.127625,
  gender : male,
```

```
    birthdate : "1966-10-09T00:00:00"
  }
```

#### 4.2.2 Create product

|               |                  |
|---------------|------------------|
| URL Pattern   | /Product.json    |
| Method        | POST             |
| Parameters    | systemName       |
| Content types | application/json |
| Media types   | application/json |

##### Content

The content has to be a JSON object Product which includes the properties listed below.

| Properties for Product |             |                                                                 |
|------------------------|-------------|-----------------------------------------------------------------|
| Field                  | Datatype    | Description                                                     |
| productNumber          | String      | Here the PIM item no. goes                                      |
| key                    | JSON object | Key object, containing the PIM item no. as property "sourceKey" |

Example:

```
{
  key : {
    sourceKey: "123456789"
  },
  productNumber: "123456789"
}
```

#### 4.2.3 Reference product to customer

|               |                                    |
|---------------|------------------------------------|
| URL Pattern   | /Product/{product-row-id}/Customer |
| Method        | POST                               |
| Parameters    | systemName                         |
| Content types | application/json                   |
| Media types   | application/json                   |

##### Content

The content has to be a JSON object which includes the properties listed below.

| Properties |             |                                                        |
|------------|-------------|--------------------------------------------------------|
| Field      | Datatype    | Description                                            |
| customer   | JSON object | Customer object, containing the row-id of the customer |

Example:

```
{
  customer : {
    rowidObject: "20005"
  }
}
```

## 4.3 Installation of Accelerator Package

The Product 360 - MDM accelerator package can be downloaded from the Informatica shipping or partner portal, respectively. It consists of additional plugins/features, which need to be copied into the server and client installation folders..

The **com.heiler.ppm.feature.mdm.\*** features needed for activating the MDM features are shipped within two separate ZIP files for server and client:

1. **PIM\_8.0.00.00\_server\_mdm.zip** - Unpack content of server folder into server installation folder (e.g. C:\Informatica\PIM\server)
2. **PIM\_8.0.00.00\_client\_mdm.zip** - Unpack content into client installation folder (e.g. C:\Informatica\PIM\client)

## 4.4 Configuration

In order to configure the REST connection to the MDM system, following server settings need to be provided in server.properties file:

| Setting             | Description                                                              |
|---------------------|--------------------------------------------------------------------------|
| infa.mdm.host       | Hostname of MDM system                                                   |
| infa.mdm.port       | Port of MDM system                                                       |
| infa.mdm.base.url   | Base URL of MDM Composite Object API, e.g. cmx/cs/localhost-orcl-CMX_ORS |
| infa.mdm.systemName | MDM system name                                                          |
| infa.mdm.user       | MDM user with access rights on Composite Object API                      |
| infa.mdm.password   |                                                                          |

## 4.5 Customer Views

MDM customer views have been added to both Product 360 Desktop and Web client.

## 4.5.1 Desktop client

Items Customers view provides customer information for a selected item.

The screenshot shows the Informatica PIM 8.0 Desktop Client interface. The main window displays a table of customers for a selected item. The table has columns for First name, Last name, Address, ZIP code, City, Latitude, Longitude, Birthdate, and Gender. The data is as follows:

| First name | Last name | Address                     | ZIP code | City          | Latitude    | Longitude    | Birthdate          | Gender |
|------------|-----------|-----------------------------|----------|---------------|-------------|--------------|--------------------|--------|
| Angela     | Merkel    | Platz der Republik 1        | 11011    | Berlin        | 52.51894000 | 13.37551000  | 7/17/1954 12:00 AM | female |
| Barack     | Obama     | 600 Pennsylvania Avenue...  | 20500    | Washington DC | 38.89768000 | -77.03653000 | 8/4/1961 12:00 AM  | male   |
| Wladimir   | Putin     | Somewhere in Moscow         | 103073   | Moscow        | 55.74257000 | 37.63939000  | 10/7/1952 12:00 AM | male   |
| Stephen    | Harper    | Wellington Street           |          | Ottawa        | 45.27476000 | -75.79186000 | 4/30/1959 12:00 AM | male   |
| Francois   | Hollande  | 55 Rue du Faubourg Saint... | 75008    | Paris         | 48.87060100 | 2.31695300   | 8/12/1954 12:00 AM | male   |
| David      | Cameron   | 10 Downing Street           | SW1A 2AA | London        | 51.50336300 | -0.12762500  | 10/9/1966 12:00 AM | male   |

## 4.5.2 Web client

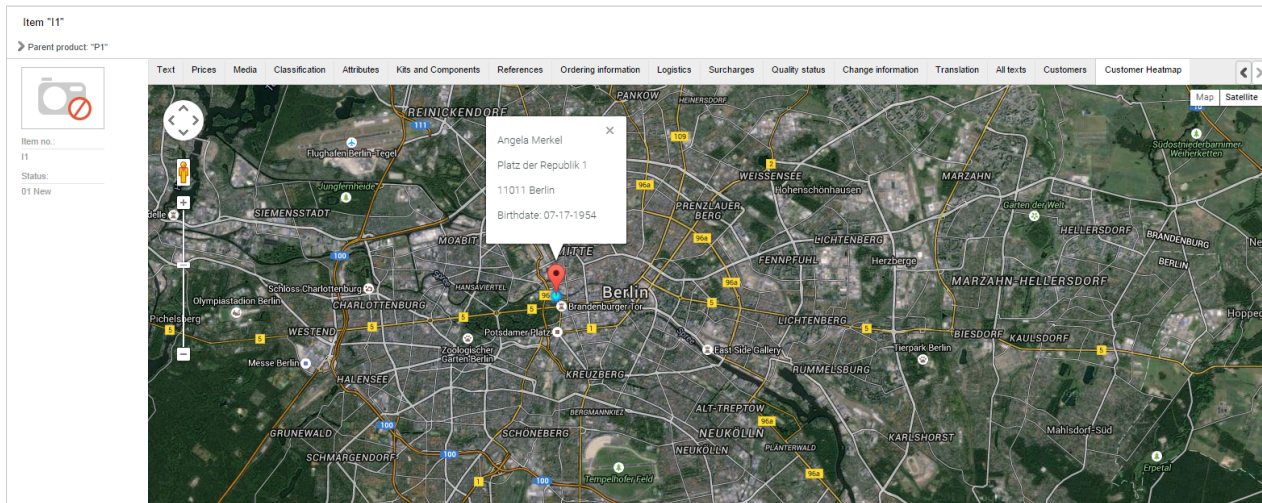
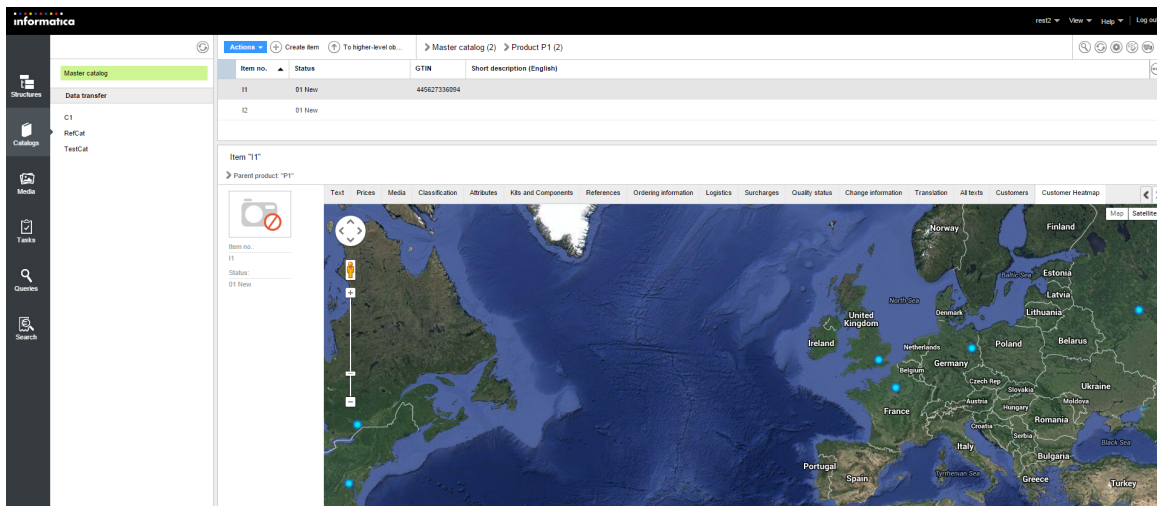
### Customers table view

The screenshot shows the Informatica PIM 8.0 Web Client interface. The main window displays a table of customers for a selected item. The table has columns for First name, Last name, Address, ZIP code, City, and Longitude. The data is as follows:

| First name | Last name | Address                           | ZIP code | City          | Longitude    |
|------------|-----------|-----------------------------------|----------|---------------|--------------|
| Angela     | Merkel    | Platz der Republik 1              | 11011    | Berlin        | 13.37551000  |
| Barack     | Obama     | 600 Pennsylvania Avenue Northwest | 20500    | Washington DC | -77.03653000 |
| David      | Cameron   | 10 Downing Street                 | SW1A 2AA | London        | -0.12762500  |
| Francois   | Hollande  | 55 Rue du Faubourg Saint-Honore   | 75008    | Paris         | 2.31695300   |
| Stephen    | Harper    | Wellington Street                 |          | Ottawa        | -75.79186000 |
| Wladimir   | Putin     | Somewhere in Moscow               | 103073   | Moscow        | 37.63939000  |

### Customer Heat-map View

Customer heat-map view shows all customer locations for the selected item on Google Maps and aggregates in heat-maps, therefore having a good overview where your customers accumulate the most and where there might be potential for future sales initiatives.



## 5 Product DaaS Accelerator

The DaaS accelerator package provides features regarding price intelligence and product content benchmarking via mocked data.

### 5.1 Installation

The PIM DaaS accelerator consists of additional plugins/features (download from INFA shipping portal or partner portal, respectively) as well as a handy export preview template, which provides an example how competitor data provided as DaaS can be exported along normal PIM item data in order to show an aggregated market overview of the item.

For installing the package, following steps need to be performed:

1. Deploy the additional DaaS features to the PIM server and PIM Rich Client installation.  
The **com.heiler.ppm.feature.daas.\*** features needed for activating the DaaS features are shipped within two separate ZIP files for server and client:
  - a. **PIM\_8.0.00.00\_server\_daas.zip** - Unpack content of server folder into server installation folder (e.g. C:\Informatica\PIM\server)



- b. **PIM\_8.0.00.00\_client\_daas.zip** - Unpack content into client installation folder (e.g. C:\Informatica\PIM\client)
2. Add the following settings in PIM server's plugin\_customization.ini:
  - a. **com.heiler.ppm.daas.server/daas.competitors = 19:QVC, 65:Costco Wholesale, 24:Amazon.com, 61:Best Buy, 313:TigerDirect.com, 2644:Dell, 272:Sears Marketplace, 50:Sears, 106:Rakuten.com, 23:Walmart, 2633:Buydig**
  - b. **com.heiler.ppm.daas.server/daas.useRestServiceMock = true**
3. The export preview template files are attached to this wiki page. In PIM Rich Client, go to *Export Format Templates* Perspective, load the included DaaSPriceIntelligenceSheet.ext preview template and store it in PIM.

## 5.2 Mapping DaaS Products

Before external data as a service can be accessed for a PIM item, its corresponding product first has to be mapped.

For mapping a DaaS product to an PIM item, right click an the item and select "Map DaaS product". The DaaS provider's search API is then utilized to find potential matches based on already available data in PIM fields such as GTIN, MPN as well as the short description in English. Select one of the suggested entries or manually enter a DaaS product identifier (32 digit hex value).

**DaaS Product Mapping**

Map a product from DaaS provider for Item 1-1

Please provide the product identifier from your DaaS provider you want to map or search for a potential match.

DaaS product identifier  
6fb39889d76a27c416b3518c187261d5

Query Samsung LED TV

UPC MPN

Search

| Title                                                  | Brand   | UPC          | MPN        | DaaS product identifier          |
|--------------------------------------------------------|---------|--------------|------------|----------------------------------|
| Samsung UN48H8000 Curved 48-Inch 1080p 240Hz 3D Sm...  | Samsung | 887276564098 | UN48H8000  | 6fb39889d76a27c416b3518c187261d5 |
| Samsung UN50HU8550 50-Inch 4K Ultra HD 120Hz 3D Sm...  | Samsung | 887276976013 | UN50HU8550 | f6330fb948adc005c6f6e8e4ca56ab57 |
| Samsung UN48H6350 48-Inch 1080p 120Hz Smart LED TV ... | Samsung | 887276693002 | UN48H6350  | 825ac55a72616de12552b97a9401de7c |

OK Cancel

## 5.3 DaaS Price Intelligence

### 5.3.1 DaaS Product Offers

The corresponding DaaS product offers can be displayed in PIM Rich Client by opening the table view called DaaS product offers:

|   | Store             | Availability    | Sale price | Average rating | Number of ratings | Price history ava...                | Product Url                       | Last recorded at  |
|---|-------------------|-----------------|------------|----------------|-------------------|-------------------------------------|-----------------------------------|-------------------|
| 1 | Amazon.com        | Little in stock | 1,489.99   | 5              | 149               | <input checked="" type="checkbox"/> | http://www.amazon.com/dp/B0...    | 10/13/2015 1:35 F |
| 2 | Costco Wholesale  | Not in stock    | 1,489.99   | 4              | 53                | <input checked="" type="checkbox"/> | http://www.costco.com             | 10/13/2015 1:35 F |
| 3 | Best Buy          | In stock        | 1,499.99   | 4              | 14                | <input checked="" type="checkbox"/> | http://www.bestbuy.com/site/s...  | 10/13/2015 1:35 F |
| 4 | Sears             | In stock        | 1,499.99   | 4              | 22                | <input checked="" type="checkbox"/> | http://www.sears.com/samsung...   | 10/13/2015 1:35 F |
| 5 | TigerDirect.com   | Not in stock    | 1,497.99   | 4              | 12                | <input checked="" type="checkbox"/> | http://www.tigerdirect.com/app... | 10/13/2015 1:35 F |
| 6 | Sears Marketplace | Little in stock | 1,497.99   | 4              | 25                | <input checked="" type="checkbox"/> | http://www.sears.com/samsung...   | 10/13/2015 1:35 F |
| 7 | Buydig            | In stock        | 1,597.99   | 4              | 3                 | <input checked="" type="checkbox"/> | http://www.buydig.com/Shop/...    | 10/13/2015 1:35 F |
|   |                   |                 |            |                |                   |                                     |                                   |                   |
|   |                   |                 |            |                |                   |                                     |                                   |                   |
|   |                   |                 |            |                |                   |                                     |                                   |                   |
|   |                   |                 |            |                |                   |                                     |                                   |                   |
|   |                   |                 |            |                |                   |                                     |                                   |                   |
|   |                   |                 |            |                |                   |                                     |                                   |                   |

1 element selected

Store

Since this data is entity detail model based, it will remain cached in memory as long as the PIM server is running. In order to reload the data from the DaaS provider, press the refresh button on top of the view.

A double click on any of the offer rows opens the external system web browser and loads the corresponding offer web site. There is also a PIM integrated browser view called **DaaS product offer website** which also loads the web site when selecting the offer rows.

### 5.3.2 Using DaaS in Data Quality

Since PIM 7.1.03 it is possible to use transition fields as input for Data Quality ports. As Article and DaaSProduct entities are connected via a transition proxy field on Article level, data quality rules can be built which evaluate both item and corresponding data from the mapped DaaS product. One example would be a price comparison / alert rule, which takes the current PIM price and the DaaS product offer price of a competitor and returns a proper status if the PIM price is not in a defined range regarding the competitor. Such a rule could look for instance like this:

Data quality configuration

Name: ComparePricesToAmazon

Description:

Rule name: Compare\_Prices

Data type: Item

| Input port       | Data type     | Field                                     |
|------------------|---------------|-------------------------------------------|
| PIM_Price        | decimal(10,2) | Non-binding price recommendation (from 1) |
| Competitor_Price | decimal(10,2) | DaaS product -> Sale price (Amazon.com)   |
| Competitor_Name  | string(125)   | DaaS product -> Store                     |
| LowerBound       | integer(10)   | "10"                                      |
| UpperBound       | integer(10)   | "10"                                      |

Data type: Item

| Output port    | Data type    | Field   |
|----------------|--------------|---------|
| Status_Message | string(4096) | Message |
| Status_code    | string(10)   | Status  |

| Items #1 - Master catalog (3) |               |              |                             |                                                                         |                                           |                                        |
|-------------------------------|---------------|--------------|-----------------------------|-------------------------------------------------------------------------|-------------------------------------------|----------------------------------------|
| All items from master catalog |               |              |                             |                                                                         |                                           |                                        |
| Item no.                      | GTIN          | Manufacturer | Short description (English) | DaaS product title                                                      | Non-binding price recommendation (from 1) | DaaS product-> Sale price (Amazon.com) |
| 1-1                           | 4013458549584 | Samsung      | Samsung UN48H8000 Curv...   | Samsung UN48H8000 Curved 48-Inch 1080p 240Hz 3D Smart LED TV 2014 Mo... | 1,849.99                                  | 1,489.99                               |
| 2                             | 4087623476872 | Samsung      | Samsung UN48H8001 Curv...   | Samsung UN48H8000 Curved 48-Inch 1080p 240Hz 3D Smart LED TV 2014 Mo... | 1,799.99                                  | 1,489.99                               |
| 3                             | 4233249583334 | Samsung      | Samsung UN48H8002 Curv...   | Samsung UN48H8000 Curved 48-Inch 1080p 240Hz 3D Smart LED TV 2014 Mo... | 1,399.99                                  | 1,489.99                               |

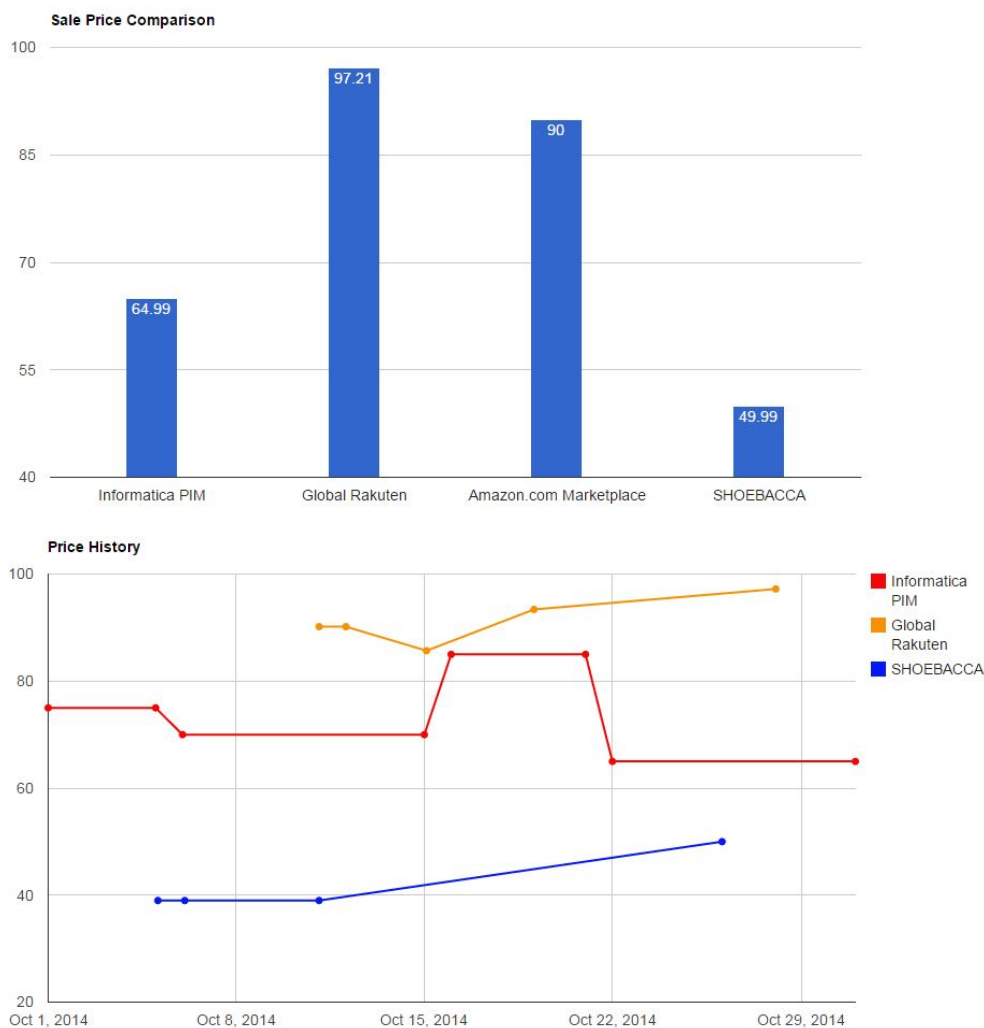
1 element selected

| Quality status (1)                           |        |                                                                |                    |  |
|----------------------------------------------|--------|----------------------------------------------------------------|--------------------|--|
| Selling prices (1)                           |        |                                                                |                    |  |
| I-1 - Samsung UN48H8000 Curved 48-Inch 1080p |        |                                                                |                    |  |
| Rule                                         | Status | Message                                                        | Last execution     |  |
| 1 ComparePricesToAmazon                      | Failed | Cheaper (-19.46%): Amazon.com (1489.99) - Our price (1849.99). | 10/13/2015 4:47 PM |  |

This sample DQ rule called *Compare\_Prices* can be found in the attachments of this wiki page.

### 5.3.3 Exporting DaaS Product Information

Fields from the virtual DaaSProduct entity and sub entities can be exported like usual PIM entities. As usual, fields from DaaSProduct entity need to be fully qualified when utilized from Item root level in the export format template. There are export data types for DaaS offers as well as price history, too, which can be used in sub modules. Those data types are used in the sample DaaSDataSheet preview template, which enables exporting for instance competitor price charts like this:



## 5.4 DaaS Content Benchmarking

The DaaS product accelerator package also contains features for content benchmarking. This means that item data as e.g. descriptions or attributes can be compared and enriched based on data obtained from your DaaS provider.

### 5.4.1 Content Enhancement View

This view enables comparing and ingesting item field values from your configured stores. Differing values are highlighted and ingestion of data is performed by dragging and dropping values from the corresponding column.

By means of this view, the user gets a consolidated overview and status of how a particular item is labelled at various stores and can easily make adaptations by transferring existing attributes.

The screenshot shows the 'DaaS content enhancement' interface. It features a tree view on the left with categories like 'Data type', 'Item', 'Header data', 'Prices', 'Classification and properties', and 'Attributes'. The main area is a table with columns for different data sources: PIM (Base), Costco Wholesale, Amazon.com, Best Buy, TigerDirect.com, Sears Marketplace, Sears, Buydig, and Aggregated Info. The table contains rows for various attributes, with some cells highlighted in red to indicate differences. A dialog box is open in the foreground, asking 'Do you really want to copy the selected field value?' with fields for 'Item', 'Data type', 'Data field', and 'New value'.

## 6 Oracle ATG Accelerator

This is the information space for the ATG adapter. The documentation facilities divide into several underlying links:

- [ATG commerce Introduction - Basic Concept](#)
- [ATG Installation, execution and configuration](#)
- [ATG Sample data](#)
- [ATG Exporttemplate](#)
- [PIM- ATG Fieldmapping](#)
- [Tutorial To Update ATG Store With Test Data](#)

### 6.1 ATG commerce Introduction - Basic Concept

#### 6.1.1 Catalog Repository

ATG Commerce uses the ATG SQL Repository to define the product catalog.

A catalog repository is similar to any other SQL repository. There are three main parts:

- The database schema on your SQL database server.
- The repository component, which is of class `atg.adapter.gsa.GSARepository`.
- The **repository definition file**, which is an XML file that defines the relationship between the SQL database and the Dynamo repository component.

ATG Commerce comes with SQL scripts for creating the schema for the standard product catalog and the repository definition file that corresponds to this schema. If you use the standard product catalog without modification, you do not need to configure anything.

You can extend the standard catalog or create an entirely different catalog structure in several ways:

- To modify the standard product catalog by adding or removing items or properties, change the standard **repository definition file**, then use the startSQLRepository script to generate the database schema.
- To design your catalog from scratch, write the **repository definition file**, then use the startSQLRepository script to generate the database schema.
- To use an existing database schema, write a **repository definition file** that corresponds to that schema.

If you replace the standard **repository definition file** or extend it through XML file combination, you must configure the SQL repository component appropriately.

### 6.1.2 Categories and Products

Categories and products are the heart of the catalog structure. Categories organize your catalog into a hierarchy that provides a navigational framework for your commerce site. A category can contain other categories, products, or both. A product is a navigational end-point in the catalog. However, products do not represent the items that customers actually purchase. The purchased items are called stock keeping units (SKUs). A product can have several different SKUs associated with it, representing different varieties, sizes, and colors. The hierarchy defined by products and categories is not rigid. Each category or product can be the child of one or more categories.

Category and product have own properties, e.g in the standard product catalog:

- category properties: ancestorCategories, childCategories, childCategoryGroup, childProductGroup, childProducts, description, displayName, largeImage, root, thumbnailImage ...
- product properties: ancestorCategories, childSKUs, dateAvailable, description, displayName, largeImage, thumbnailImage ...

In an ATG Commerce catalog, a starting point is called a **root category**(the top level of the product catalog). Designate a category as a root category by setting the value of its root property to true.

The hierarchical relationships between categories and products are determined by their properties.

- The **childCategories** and **childProducts** properties of a category define the list of categories and products that are children of the category.
- The value of the **childCategories** property are set by merging the lists of categories in the **fixedChildCategories** and **dynamicChildCategories** properties.
- The **childProducts** property of the category is computed by using the **fixedChildProducts**, **dynamicChildProducts**, and **childProductGroup** properties.
- The category item has a property named **relatedCategories**. This property defines a list of categories that are related to the category, but which do not form a hierarchy with it.
- The value of the **relatedCategories** property are set by merging the lists of categories in the **fixedRelatedCategories** and **dynamicRelatedCategories** properties.
- The product item has a **relatedProducts** property that is computed in the same way, using the **fixedRelatedProducts**, **dynamicRelatedProducts**, and **relatedProductGroup** properties.

Dynamically related products or categories can be removed properties from the repository definition. System performance improves when only fixed relationships are used.

The **childSKUs** property of a product is a list of all the SKUs that are children of the product.

### 6.1.3 SKU Items and SKU Links

A product is a navigational end-point in the catalog. However, customers do not actually purchase the product; they purchase a **SKU (stock keeping unit)**. A product can have several different SKUs associated with it, representing varieties, sizes, and colors.

A SKU usually represents an indivisible unit that can be purchased. However, the standard catalog includes a **SKU link** item type that you can use to create SKU bundles, which are virtual SKUs that are composed of several other SKUs. Bundles allow the product catalog to offer a SKU that can be purchased as a single item, although it is treated as multiple items in fulfillment.

You can also create SKUs as configurable if they have components that might vary depending on customer preferences.

SKU item and SKU link have own properties, e.g in the standard product catalog:

- SKU item: auxiliaryMedia, bundleLinks, description, displayName, dynamicAttributes, largeImage, thumbnailImage, listPrice, onSale, salePrice, wholesalePrice, template ...
- SKU link: description, displayName, item, quantity...

The SKU item has four price properties: wholesalePrice, listPrice, onSale, and salePrice.

**ListPrice** is required, but the **wholesalePrice** and **salePrice** can be undefined. When the sale price is defined and **onSale** is set to true, the pricing calculators assume the SKU is on sale and adjust the price. Placing the prices at the SKU level allows each individual SKU to have its own price, but adds complexity to pricing administration. If your product catalog does not need to price each SKU separately, then the **listPrice**, **salePrice**, and **onSale** properties can be moved to the product item type to simplify maintenance. If the price properties are moved, the list and sale price calculators will require a small change in configuration.

A SKU bundle is designated with the **bundleLinks** property which is a list whose elements are of a SKU link. If the SKU is not a bundle, then bundleLinks is null. Each SKU link includes a SKU and a quantity. A SKU bundle can include any number of SKU links.

The base SKU definition does not include any configuration properties such as size, color, etc. but you can extend SKU Item Type

- Differentiates the SKUs for a product through the description properties of the SKUs. However, this approach can become awkward if there are several different configuration variables.
- Adds properties to the SKU item type
- Creates sub-types of the SKU item type that include additional properties.
- Stores configuration information in the **dynamicAttributes** property. The property is a Map that stores a key/value pair for attribute. This mechanism is very flexible but data is stored less efficiently.

A **configurable SKU** holds other SKUs, in a different way than linked SKUs do. Configurable items consist of a “base SKU” and a number of optional subSKUs for the user to choose among.

#### 6.1.4 Folders and Media Items

A SQL Repository can be configured as a content repository which is composed of folder and content repository items. The standard product catalog defines folder and media item types that correspond to these two parts of the repository. Folders can be used to organize media elements. Both the folder and media items define several administrative properties: version, creationDate, startDate, endDate, and description.

The media item cannot be instantiated itself. The item type is marked as abstract and defines two properties: **data** and **url**. These properties are intended to be overridden in the sub-types.

The media item includes a property named **type** that is used to specify the media sub-type of the item. The standard catalog includes three sub-types:

- media-external: This item type references a piece of content that is stored outside the database. The content can be either a binary file or a text file.
- media-internal-binary: This item type can be used to store binary objects (such as images) in the catalog database.
- media-internal-text: This item type can be used to store text files (such as JSPs) in the catalog database.

Folder item and media item have following properties in the standard product catalog:

- folder: version, creationDate, startDate, endDate, description, name, parentFolder and path
- media: startDate, endDate, mimeType, url, data, description, name, parentFolder and path

#### 6.1.5 Designing a Multi-Locale Product Catalog

If you are designing a multi-locale site with catalog repository content, you can set up your catalog repository in one of two ways. You can create a separate repository for each language or with a single repository for all languages.

- Multiple Repositories: Create a separate content repository for each language. This requires separate targeting rules for each locale, in which each rule references the appropriate language repository. This is the simpler of the two methods.

- One Repositor: Configure a single repository for all languages and include a language attribute in each repository item. This method requires you to develop logic that uses the RequestLocale's localeString property to get the property values corresponding to the proper locale.

## 6.2 ATG Installation, execution and configuration

### 6.2.1 Install

1. Copy **AE10.zip** (under \\<Your host>\ATG\ATG\_Install) to a temp directory.
2. Extract this zip file under C:\. (It is Important, because we need use the predefined configurations and save the time)
3. Go to the extracted directory C:\AE10
4. Setup
  - a. For the first-time setup, runs the C:\AE10\Training\COM\setup\setup\_comm.bat
  - b. For reinstall, runs the cleanup\_comm\_all.bat at first, then the setup\_comm.bat
5. For ATG CRS International Modul (multilingual)
  - a. copy **dynamo.env**(under \\<Your host>\ATG\ATG\_Install) to C:\AE10\jboss-5.0.1.GA\server\atg\_commprod\deploy\commprod.ear\atg\_bootstrap.war\WEB-INF\ATG-INF
  - b. copy **jboss-classpath-service.xml**(under \\<Your host>\ATG\ATG\_Install) to C:\AE10\jboss-5.0.1.GA\server\atg\_commprod\deploy\commprod.ear

### 6.2.2 Start application

After Install, a directory names "**COMM\_Shortcuts**"(identified as [\$COMM\_Shortcuts]) will be created at the desktop

- set system variables JAVA\_HOME and Path for the first time
  - Further information about JDK is here([http://www.atg.com/repositories/ContentCatalogRepository\\_en/supported\\_envs/atg\\_10\\_0\\_1.htm](http://www.atg.com/repositories/ContentCatalogRepository_en/supported_envs/atg_10_0_1.htm))
  - A avaialbe version for JDK is under the extracted directory(C:\AE10\jdk1.6.0\_18)
  - e.g.: JAVA\_HOME = C:\AE10\jdk1.6.0\_18\, PATH = %JAVA\_HOME%\bin;%JAVA\_HOME%\jre\bin;...
- set more RAM for the parameter -Xms and -Xmx of the JBoss Start Skript( C:\AE10\jboss-5.0.1.GA\bin\run\_atg\_comm\_prod.bat), if you want to accelerate the application.
- run "[\${COMM\_Shortcuts}]\servers\Production Server" to start the server
- run "[\${COMM\_Shortcuts}]\Visit Production Store" to open the webpage of the ATG store application.

### 6.2.3 ATG store URL

Now you can visit the ATG store per URL <http://localhost:8180/crs/>

### 6.2.4 Tools

- **Dynamo Admin**tool for developer
  - This tool is used for developer to get the Information of the Item in repository or rather run a XML Operation Tags on the corresponding repository.
  - steps to run
    1. runs "[\${COMM\_Shortcuts}]\Production Dynamo Admin" to open the "Dynamo Administration"at a browser, then inputs "**admin**" as user and "admin" as password.
    2. clicks the links at the opened page consecutively: Component Browser -> atg -> commerce -> catalog -> ProductCatalog (url: <http://localhost:8180/dyn/admin/nucleus/atg/commerce/catalog/ProductCatalog/>), at this page you can test on the Repository(/**atg/commerce/catalog/ProductCatalog**)
    3. clicks the links at the opened page consecutively: Component Browser -> atg -> commerce -> pricing -> priceLists -> PriceLists (url: <http://localhost:8180/dyn/admin/nucleus/atg/commerce/pricing/priceLists/PriceLists/>), at this page you can test on the Repository(/**atg/commerce/pricing/priceLists/PriceLists**/)
- **CMS(Catalog Maintenance Service)**
  - This service should be called after update of the catalog repository(e.g.: Date-Import).

- step to run: open the following links in a web browser, then click at "Start Process" to run CMS(Catalog Maintenance Service): <http://localhost:8180/dyn/admin/atg/commerce/admin/en/maintenance/startService.jhtml?process=BasicMaintProcess>
- **InvalidateCaches**
  - This service should be run each time before you run CMS.
  - step to run: open the following links in a web browser, then click at "invoke method" to invalidate the caches: <http://localhost:8180/dyn/admin/nucleus/atg/registry/ContentRepositories/ProductCatalog/?shouldInvokeMethod=invalidateCaches>
- **ACC(ATG Control Center)**
  - This tool is useful for get a overview of the repository
  - steps to run
    1. open the following links in a web browser, then click at "start ACC in separate VM" to start ACC(ATG Control Center): <http://localhost:8180/dyn/admin/atg/dynamo/admin/en/start-acc.jhtml>
    2. User: admin, password: admin, port: 8160
    3. You can get further information as following:
      - a. click at "Catalog Management" --> "Catalogs"
      - b. click at a catalog folder
      - c. double click at the belonging catalog
      - d. Now you can get all catalog information under this catalog.
- **defaultCacheCheckSeconds**
  - This service is used to set the value for the property defaultCacheCheckSeconds which is used to cache the html page but brings developer sometimes to be confused about unchanged page content.
  - step to run: open the following links, you can set the new value(e.g 60) in the textfield under "New value", then click at the button "Change Value": <http://localhost:8180/dyn/admin/nucleus/atg/dynamo/droplet/Cache/?propertyName=defaultCacheCheckSeconds>
- **ATG LogColorizer**
  - This service is used to set the console color of "production server"
  - steps to run:
    1. copy **ATGLogColorizer\_v1\_2.exe** (under \\<Your host>\ATG\ATG\_Install) to a folder(e.g C:\AE10\ATG10.0.1\home\bin)
    2. change the console color with the "standard" Dos color: white --> Screen Text and black --> Screen background
    3. change JBoss Start Skript(e.g C:\AE10\jboss-5.0.1.GA\bin\run\_atg\_comm\_prod.bat) like the following example, so that the Java commando is piped to LogColorizer
      - before

#### Before change

```
:RESTART
"%JAVA%" %JAVA_OPTS% ^
-Djava.endorsed.dirs="%JBoss_ENDORSED_DIRS%" ^
-classpath "%JBoss_CLASSPATH%" ^
org.jboss.Main %*
```

- after

#### after change

```
:RESTART
"%JAVA%" %JAVA_OPTS% ^
-Djava.endorsed.dirs="%JBoss_ENDORSED_DIRS%" ^
-classpath "%JBoss_CLASSPATH%" ^
org.jboss.Main %*|C:\AE10\ATG10.0.1\home\bin\ATGLogColorizer_v1_2.exe
```



### 6.2.5 Batch commands to update the data in ATG-Store

With the batch commands under "\\<Your host>\ATG\ATG\_utilities" you can update ATG-Store with your test data or restore it with original data. After calling such commands you have to run "**InvalidateCaches**" and then the "**Catalog Maintenance Service**" to refresh the webpage. If it does not work, you should restart the "production server".

- Clean up (For the first time after installation, you have to add "**-Datg.allowRemoveAllItems=true**" to the JAVA\_ARGS in your <ATG10dir>\home\localconfig\postEnvironment.bat or postEnvironment.sh file (e.g. C:\AE10\ATG10.0.1\home\localconfig\postEnvironment.bat)):
  1. **cleanup-catalog.bat**: delete catalog data from ATG
  2. **cleanup-pricelist.bat**: delete pricelists data from ATG
  3. **cleanup-all.bat**: delete catalog and pricelists data from ATG
- Import:
  1. **import-catalog.bat**: import catalog data from healer to ATG, for this purpose the appropriate catalog.xml must be copied to //<Your host>\ATG\ATG\_utilities\import\_data/.
  2. **import-pricelist.bat** -- import catalog data from healer to ATG, for this purpose the appropriate pricelists.xml must be copied to //<Your host>\ATG\ATG\_utilities\import\_data/.
  3. **import-all.bat** -- import catalog and pricelist data from healer to ATG, for this purpose the appropriate catalog.xml and pricelists.xml must be copied to //<Your host>\ATG\ATG\_utilities\import\_data/.
- Restore
  1. **restore-catalog.bat**: restore all original catalog data(non-international) in ATG
  2. **restore-pricelists.bat**: restore all original pricelist data(non-international) in ATG
  3. **restore-all.bat**: restore all original catalog and pricelist data(non-international) in ATG

### 6.2.6 Tutorial to update ATG store with test data.

This tutorial indicates how to update ATG-Store with test data.

#### Clean up data of ATG-Store

For the first time after installation, you have to add "**-Datg.allowRemoveAllItems=true**" to the JAVA\_ARGS in your //<ATG10dir>\home\localconfig\postEnvironment.bat or postEnvironment.sh file (e.g. C:\AE10\ATG10.0.1\home\localconfig\postEnvironment.bat).

1. run **cleanup-all.bat** to delete all data in ATG-Store. (Actually only the following items will be deleted: catalog, catalogFolder, category, product, clothing-sku, furniture-sku, sku and price)
2. run the service **InvalidateCaches**
3. run the service **Catalog Maintenance Service**
4. refresh the page of ATG-Store

#### Import test data in ATG-Store

1. run **cleanup-all.bat** to delete all data in ATG-Store. (Actually only the following items will be deleted: catalog, catalogFolder, category, product, clothing-sku, furniture-sku, sku and price)
2. create the test files (catalog.xml and pricelist.xml) with HPM export template.
3. copy these test files to \\<Your host>\ATG\ATG\_utilities\import\_data
4. run **import-all.bat** -- import catalog and pricelist test data from healer to ATG,
5. run the service **InvalidateCaches**
6. run the service **Catalog Maintenance Service**
7. refresh the page of ATG-Store
8. by the first time or after cleaning up from original data, you may have to restart the production server and then repeat the steps 5 to 7.

#### Restore the original data in ATG-Store

1. run **cleanup-all.bat** to delete all data in ATG-Store. (Actually only the following items will be deleted: catalog, catalogFolder, category, product, clothing-sku, furniture-sku, sku and price)
2. run **restore-all.bat** to restore all original catalog and pricelist data(non-international) in ATG
3. run the service **InvalidateCaches**

4. run the service **Catalog Maintenance Service**
5. refresh the page of ATG-Store

## 6.3 ATG Export Template

PIM provides an export template which is used to modify repository's database(add, update, remove or import repository items ) for ATG catalog repository.

### 6.3.1 ATG Export template file

This is the link to the ATG export template which is the base for the ATG connector:

ATG Exporttemplate.ext (2011-04-21)

### 6.3.2 Basis for Template

**Introduction to repository definition file**

**Repository API**

**Repository Items**

**Item descriptors**

**Repository queries**

**operation tags to develop SQL repository template**

#### **Adding Items**

You can use an XML template to add repository items. Use an **<add-item>** tag for each repository item you want to add. Each **<add-item>** tag must include an item-descriptor attribute to specify the name of the item descriptor to which this repository item should belong. You can nest **<set-property>** tags within the **<add-item>** tag to set property values of the new repository item. Any properties you do not set have the default property value for that item descriptor.

If you specify the ID of an existing repository item, you update that item, overwriting the values of the existing item with the values you specify in the **<add-item>** tag. Any add or remove attributes in a **<set-property>** tag within an **<add-item>** tag are ignored.

#### **Updating Items**

#### **Removing Items**

#### **Querying Items**

#### **Importing and Exporting Items and DDLs**

### 6.3.3 Developing and Testing an SQL Repository

The XML document type definition for the SQL repository includes **operation tags** whose primary purpose is to help you develop, test, and debug your SQL repository template. You can use these tags to modify your repository's database to perform the following tasks:

- Adding Items
- Updating Items

- Removing Items
- Querying Items
- Importing and Exporting Items and DDLs

These tags are used by the startSQLRepository script, or used in "Production Dynamo Admin" Page. "Production Dynamo Admin" is rather considered as a developer tool, while import is usually performed with startSQLRepository script. The tags which will be run with "Production Dynamo Admin" must be appropriate and compliant with the installed and running modul. E.g. if a **ATG-CRS-International** modul is installed and running, the item **"product"** can not have a field **"<displayName>"** which is only compliant with **ATG-Core** modul, but a **"<displayNameDefault>"** which is compliant with this **ATG-CRS-International** modul. But a tags which is only compliant with **ATG-Core** modul can be used with the startSQLRepository command.

- Uses developmental tags in "Production Dynamo Admin" Page
  - Go to the repository's page in the Administration Interface. For example, for theProductCatalog Repository, go to: (//hsis540 or //hsdemo070) http://localhost:8180/dyn/admin/nucleus/atg/commerce/catalog/ProductCatalog/
  - In the "Run XML Operation Tags on the Repository" text area, enter the developmental tags and click Enter.
- Uses developmental tags by running **startSQLRepository** script from a command line.
  - Create an XML repository definition file
  - Pass it to the startSQLRepository script with appropriate arguments.
  - E.g.: Under the installed directory (e.g.: C:\AE10\ATG10.0.1\home\bin ) run the following command to import the content of the file D:\temp\add\_sku.xml to repository "/atg/commerce/catalog/ProductCatalog".

```
startSQLRepository -m DCS -m MyStoreFakeXA -import D:\temp\add_sku.xml -repository /atg/commerce/catalog/ProductCatalog
```

- run **Catalog Maintenance Service**(see [ATG Installation, execution and configuration](#)), so that the webshop will be updated with new date.

## Examples for operation on the Repository

The following tutorial indicates how to modify the page content of "ATG Store" by using developmental tags in "Production Dynamo Admin" Page. If you want to run it with **startSQLRepository** , you have to save all relevant XML clauses in a XML file and als import argument. Don't forget to add a header like following:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE gsa-template SYSTEM "http://www.atg.com/dtds/gsa/gsa_1.0.dtd">
```

And don't forget also to be enclosed with **<import-items>**, As child elements of **<import-items>**, **<add-item>** tags are processed differently in that they can have forward references. When the template is parsed, the parser makes three passes through the **<add-item>** tags in an **<import-items>** tag. On the first pass, the items are created. On the second pass, it sets required properties and properties that do not reference other items, then calls add-item. On the final pass, it sets any remaining properties and calls update-item if necessary. That is very important and useful, because with it you don't need to sort the dependence of items and make the thing easier.

## Add a new SKU to a existing product

- xml:

### creating definition of clothing-sku:xsku2535\_1\_my

```
<!-- Neue SKU mit gelb, 11 erzeugen -->
<add-item item-descriptor="clothing-sku" id="xsku2535_1_my">
  <set-property name="colorSwatch"><![CDATA[xm1011]]></set-property>
  <set-property name="size"><![CDATA[11]]></set-property>
```

```

<!-- ronly <set-property name="parentProducts"><![CDATA[xprod2535]]></set-property> -->
<set-property name="color"><![CDATA[Yellow]]></set-property>
<set-property name="displayName"><![CDATA[My A-Line Skirt]]></set-property>
<!-- ronly derived <set-property name="derivedCatalogs"><![CDATA[masterCatalog]]></set-property> -->
<!-- export is false <set-property name="version"><![CDATA[3]]></set-property> -->
<set-property name="creationDate"><![CDATA[5/7/2010 09:16:57]]></set-property>
<set-property name="siteIds"><![CDATA[storeSiteUS,storeSiteDE]]></set-property>
<!-- ronly <set-property name="replacementProducts"><![CDATA[__NULL__]]></set-property> -->
<!-- derived <set-property name="catalogs"><![CDATA[masterCatalog]]></set-property> -->
<set-property name="computedCatalogs"><![CDATA[masterCatalog]]></set-property>
<set-property name="type"><![CDATA[clothing-sku]]></set-property>
</add-item>

```

#### updating existing definition of product:xprod2535

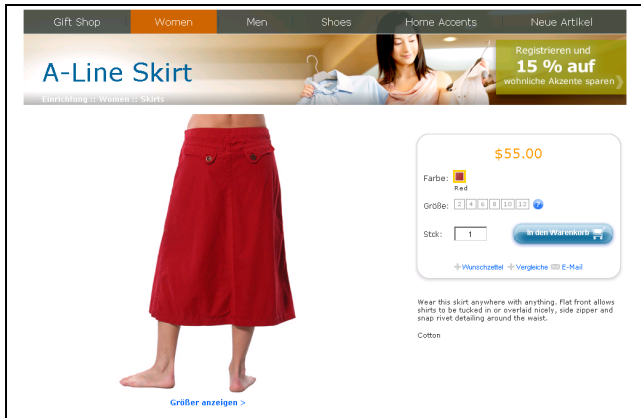
```

<!-- xsku2535_1_my zusaetzlich einhaengen (gelb, 11) -->
<add-item item-descriptor="product" id="xprod2535">
  <!-- ronly derived <set-property name="daysAvailable"><![CDATA[1210]]></set-property> -->
  <set-property name="childSKUs"><![CDATA[xsku2535_1,xsku2535_2,xsku2535_3,xsku2535_4,xsku2535_5,xsku2535_6,xsku2535_1_my]]></set-property>
  <set-property name="description"><![CDATA[The simple perfect A line]]></set-property>
  <set-property name="thumbnailImage"><![CDATA[m3241]]></set-property>
  <set-property name="ancestorCategories"><![CDATA[rootCategory,cat50001,cat70008]]></set-property>
  <!-- ronly <set-property name="ancestorCategoryIds"><![CDATA[rootCategory,cat50001,cat70008]]></set-property> -->
  <set-property name="brand"><![CDATA[ATG Store Apparel]]></set-property>
  <set-property name="features"><![CDATA[cotton]]></set-property>
  <set-property name="new"><![CDATA[false]]></set-property>
  <!-- ronly <set-property name="dynamicRelatedProducts"><![CDATA[__NULL__]]></set-property> -->
  <set-property name="displayName"><![CDATA[A-Line Skirt]]></set-property>
  <!-- ronly <set-property name="dynamicUpsellProducts"><![CDATA[__NULL__]]></set-property> -->
  <!-- ronly derived <set-property name="derivedCatalogs"><![CDATA[masterCatalog]]></set-property> -->
  <!-- export is false <set-property name="version"><![CDATA[3]]></set-property> -->
  <set-property name="longDescription"><![CDATA[Wear this skirt anywhere with anything. Flat front allows shirts to be tucked in or overlaid nicely, side zipper and snap rivet detailing around the waist.]]></set-property>
  <set-property name="smallImage"><![CDATA[m3244]]></set-property>
  <!-- ronly <set-property name="relatedProducts"><![CDATA[__NULL__]]></set-property> -->
  <set-property name="creationDate"><![CDATA[12/3/2007 14:14:19]]></set-property>
  <set-property name="keywords"><![CDATA[skirt,simple,snap,flat,line,overlaid,waist,front,detailing,side,shirts,zipper,perfect,rivet,wear]]></set-property>
  <set-property name="siteIds"><![CDATA[storeSiteUS,storeSiteDE]]></set-property>
  <set-property name="parentCategoriesForCatalog"><![CDATA[masterCatalog=cat70008]]></set-property>
  <set-property name="largeImage"><![CDATA[m3242]]></set-property>
  <set-property name="template"><![CDATA[xm1004]]></set-property>
  <!-- derived <set-property name="catalogs"><![CDATA[masterCatalog]]></set-property> -->
  <!-- ronly <set-property name="parentCategories"><![CDATA[cat70008]]></set-property> -->
  <set-property name="relatedProductGroup"><![CDATA[]]></set-property>
  <set-property name="computedCatalogs"><![CDATA[masterCatalog]]></set-property>
  <!-- ronly derived <set-property name="dateAvailable"><![CDATA[12/3/2007 14:14:19]]></set-property> -->
  <set-property name="detailImage"><![CDATA[m3245]]></set-property>
  <set-property name="briefDescription"><![CDATA[The simple perfect A line]]></set-property>
  <!-- ronly <set-property name="upsellProducts"><![CDATA[__NULL__]]></set-property> -->
  <set-property name="promoImage"><![CDATA[m3243]]></set-property>
  <!-- ronly <set-property name="NavigableProducts"><![CDATA[true]]></set-property> -->
</add-item>

```

- Effect at ATG Store web-page

before modification:



after modification:



## Add a new product(with 2 SKUs) to a existing category

- xml

### creating definition of clothing-sku:mySKU\_3

```
<!-- Neue SKU mit gelb, 3 erzeugen -->
<add-item item-descriptor="clothing-sku" id="mySKU_3">
  <set-property name="colorSwatch"><![CDATA[xml011]]></set-property>
  <set-property name="size"><![CDATA[3]]></set-property>
  <!-- ronly <set-property name="parentProducts"><![CDATA[myPROD]]></set-property> -->
  <set-property name="color"><![CDATA[Yellow]]></set-property>
  <set-property name="displayName"><![CDATA[My Yellow Display]]></set-property>
  <!-- ronly derived <set-property name="derivedCatalogs"><![CDATA[masterCatalog]]></set-property> -->
  <!-- export is false <set-property name="version"><![CDATA[3]]></set-property> -->
  <set-property name="creationDate"><![CDATA[5/7/2010 09:16:57]]></set-property>
  <set-property name="siteIds"><![CDATA[storeSiteUS,storeSiteDE]]></set-property>
  <!-- ronly <set-property name="replacementProducts"><![CDATA[_NULL_]]></set-property> -->
  <!-- derived <set-property name="catalogs"><![CDATA[masterCatalog]]></set-property> -->
  <set-property name="computedCatalogs"><![CDATA[masterCatalog]]></set-property>
  <set-property name="type"><![CDATA[clothing-sku]]></set-property>
</add-item>
```

#### creating definition of clothing-sku:mySKU\_4

```
<!-- Neue SKU mit rot, 4 erzeugen -->
<add-item item-descriptor="clothing-sku" id="mySKU_4">
  <set-property name="colorSwatch"><![CDATA[xml012]]></set-property>
  <set-property name="size"><![CDATA[4]]></set-property>
  <!-- ronly <set-property name="parentProducts"><![CDATA[myPROD]]></set-property> -->
  <set-property name="color"><![CDATA[Red]]></set-property>
  <set-property name="displayName"><![CDATA[My Red Display]]></set-property>
  <!-- ronly derived <set-property name="derivedCatalogs"><![CDATA[masterCatalog]]></set-property> -->
  <!-- export is false <set-property name="version"><![CDATA[3]]></set-property> -->
  <set-property name="creationDate"><![CDATA[5/7/2010 09:16:57]]></set-property>
  <set-property name="siteIds"><![CDATA[storeSiteUS,storeSiteDE]]></set-property>
  <!-- ronly <set-property name="replacementProducts"><![CDATA[__NULL__]]></set-property> -->
  <!-- derived <set-property name="catalogs"><![CDATA[masterCatalog]]></set-property> -->
  <set-property name="computedCatalogs"><![CDATA[masterCatalog]]></set-property>
  <set-property name="type"><![CDATA[clothing-sku]]></set-property>
</add-item>
```

#### creating definition of product:myPROD

```
<!-- myPROD zusaetzlich einhaengen MySKU_3(gelb, 3) and MySKU_4(rot,4)-->
<add-item item-descriptor="product" id="myPROD">
  <!-- ronly derived <set-property name="daysAvailable"><![CDATA[1210]]></set-property> -->
  <set-property name="childSKUs"><![CDATA[MySKU_3,MySKU_4]]></set-property>
  <set-property name="description"><![CDATA[My first Product]]></set-property>
  <set-property name="thumbnailImage"><![CDATA[m3241]]></set-property>
  <set-property name="ancestorCategories"><![CDATA[rootCategory,catMen,catMenShorts]]></set-property>
  <!-- ronly <set-property name="ancestorCategoryIds"><![CDATA[rootCategory,cat50001,cat70008]]></set-property>
  -->
  <set-property name="brand"><![CDATA[ATG Store Apparel]]></set-property>
  <set-property name="features"><![CDATA[cotton]]></set-property>
  <set-property name="new"><![CDATA[false]]></set-property>
  <!-- ronly <set-property name="dynamicRelatedProducts"><![CDATA[__NULL__]]></set-property> -->
  <set-property name="displayName"><![CDATA[My Display Name]]></set-property>
  <!-- ronly <set-property name="dynamicUpsellProducts"><![CDATA[__NULL__]]></set-property> -->
  <!-- ronly derived <set-property name="derivedCatalogs"><![CDATA[masterCatalog]]></set-property> -->
  <!-- export is false <set-property name="version"><![CDATA[3]]></set-property> -->
  <set-property name="longDescription"><![CDATA[My Long Description]]></set-property>
  <set-property name="smallImage"><![CDATA[m3244]]></set-property>
  <!-- ronly <set-property name="relatedProducts"><![CDATA[__NULL__]]></set-property> -->
  <set-property name="creationDate"><![CDATA[12/3/2007 14:14:19]]></set-property>
  <set-property name="keywords"><![CDATA[skirt,simple,snap,flat,line,overlaid,waist,front,detailing,side,shirts,zipper,perfect,rivet,wear]]></set-property>
  <set-property name="siteIds"><![CDATA[storeSiteUS,storeSiteDE]]></set-property>
  <set-property name="parentCategoriesForCatalog"><![CDATA[masterCatalog=catMenShorts]]></set-property>
  <set-property name="largeImage"><![CDATA[m3242]]></set-property>
  <set-property name="template"><![CDATA[xml004]]></set-property>
  <!-- derived <set-property name="catalogs"><![CDATA[masterCatalog]]></set-property> -->
  <!-- ronly <set-property name="parentCategories"><![CDATA[cat70008]]></set-property> -->
  <set-property name="relatedProductGroup"><![CDATA[]]></set-property>
  <set-property name="computedCatalogs"><![CDATA[masterCatalog]]></set-property>
  <!-- ronly derived <set-property name="dateAvailable"><![CDATA[12/3/2007 14:14:19]]></set-property> -->
  <set-property name="detailImage"><![CDATA[m3245]]></set-property>
  <set-property name="briefDescription"><![CDATA[Brief Description]]></set-property>
```

```

<!-- ronly <set-property name="upsellProducts"><![CDATA[__NULL__]]></set-property> -->
<set-property name="promoImage"><![CDATA[m3243]]></set-property>
<!-- ronly <set-property name="NavigableProducts"><![CDATA[true]]></set-property> -->
</add-item>

```

#### updating existing definition of category:catMenShorts

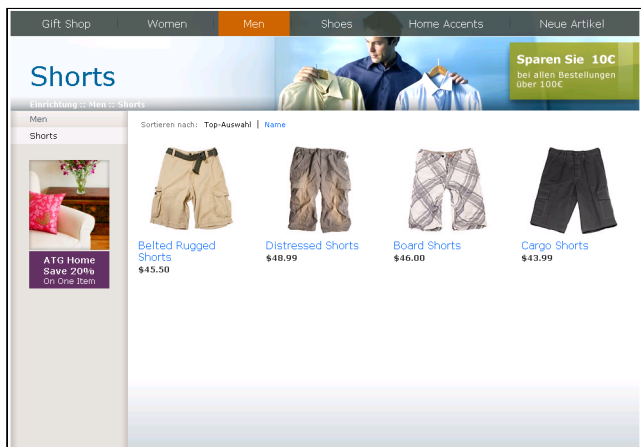
```

<!-- Fuege Produkt myPROD zu Kategorie hinzu -->
<add-item item-descriptor="category" id="catMenShorts">
  <!-- ronly <set-property name="fixedParentCategories"><![CDATA[catMen]]></set-property> -->
  <set-property name="description"><![CDATA[]]></set-property>
  <set-property name="ancestorCategories"><![CDATA[rootCategory,catMen]]></set-property>
  <!-- ronly <set-property name="ancestorCategoryIds"><![CDATA[rootCategory,catMen]]></set-property> -->
  <!-- export is false <set-property name="categoryInfos"><![CDATA[masterCatalog=cati10049]]></set-property> -->
  <set-property name="displayName"><![CDATA[Shorts]]></set-property>
  <!-- ronly <set-property name="childCategories"><![CDATA[__NULL__]]></set-property> -->
  <!-- export is false <set-property name="version"><![CDATA[5]]></set-property> -->
  <!-- ronly <set-property name="dynamicRelatedCategories"><![CDATA[__NULL__]]></set-property> -->
  <set-property name="longDescription"><![CDATA[]]></set-property>
  <!-- ronly <set-property name="relatedCategories"><![CDATA[__NULL__]]></set-property> -->
  <!-- ronly <set-property name="dynamicChildProducts"><![CDATA[__NULL__]]></set-property> -->
  <set-property name="fixedChildProducts"><![CDATA[prod20014,prod20018,prod20017,prod20016,myPROD]]></set-property>
  <set-property name="creationDate"><![CDATA[1/17/2008 14:57:26]]></set-property>
  <!-- ronly <set-property name="childProducts"><![CDATA[prod20014,prod20018,prod20017,prod20016]]></set-property> -->
  <set-property name="parentCategoriesForCatalog"><![CDATA[masterCatalog=catMen]]></set-property>
  <set-property name="siteIds"><![CDATA[storeSiteUS,storeSiteDE]]></set-property>
  <set-property name="template"><![CDATA[xm1002]]></set-property>
  <!-- ronly derived <set-property name="catalog"><![CDATA[masterCatalog]]></set-property> -->
  <!-- derived <set-property name="catalogs"><![CDATA[masterCatalog]]></set-property> -->
  <set-property name="computedCatalogs"><![CDATA[masterCatalog]]></set-property>
  <!-- ronly <set-property name="dynamicChildCategories"><![CDATA[__NULL__]]></set-property> -->
</add-item>

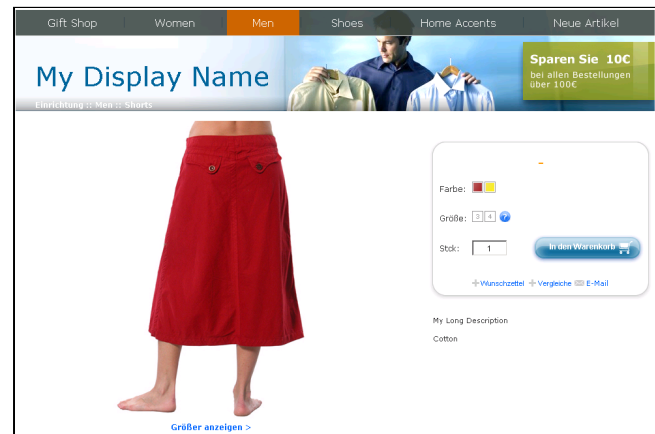
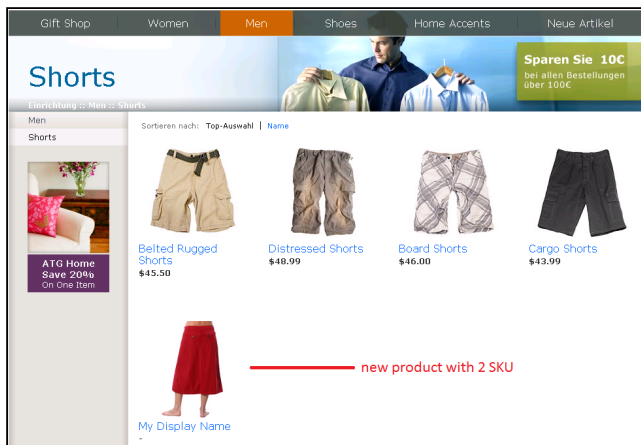
```

- at ATG Store web-page

before modification:



after modification:



## Add a image and create reference for it

Images are not stored internal in ATG, but mapped with item "media-external" as following:

- copy a image file(e.g.: **JPG\_NAME.jpg**) at C:  
\AE10\jboss-5.0.1.GA\server\atg\_commprod\deploy\commprod.ear\storedocroot.war\images\products (assumed it is a image of product)
- create a "media-external" item with a reference id (e.g.: "new-item-id"), then you can use this image with this id.

```
<add-item item-descriptor="media-external" id="new-item-id" no-checkin="false">
  <set-property name="parentFolder" add="false" remove="false"><![CDATA[productImageFolder]]></set-property>
  <set-property name="creationDate" add="false" remove="false"><![[]]></set-property>
  <set-property name="url" add="false" remove="false"><![CDATA[/crsdocroot/images/products/JPG_NAME.jpg]]></set-property>
  <set-property name="path" add="false" remove="false"><![CDATA[/Images]]></set-property>
  <set-property name="type" add="false" remove="false"><![CDATA[external]]></set-property>
  <set-property name="name" add="false" remove="false"><![CDATA[/crsdocroot/images/products/JPG_NAME.jpg]]></set-property>
</add-item>
```

## Remove all items of Repository

- adding **-Datg.allowRemoveAllItems=true** to the JAVA\_ARGS in your <ATG10dir>/home/localconfig/postEnvironment.bat or postEnvironment.sh file
- create a remove xml file as following

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE gsa-template SYSTEM "dynamosystemresource:/atg/dtds/gsa/gsa_1.0.dtd">
<gsa-template>
  <remove-all-items item-descriptor="category"/>
  <remove-all-items item-descriptor="product"/>
  ...
</gsa-template>
```

- call this file with StartSQLRepository: startSQLRepository -m DCS -m MyStoreFakeXA -m MyStore.ESStore.International -repository /atg/commerce/catalog/ProductCatalog -import <path to remove file>

## 6.3.4 Important for ATG 10 Template

- Since ATG 10 each category must be defined with a property "sitelds" ("Store instance") like following templat:



```

<add-item item-descriptor="category" id="Apparel">
  <set-property name="displayName"><![CDATA[Kleidung]]></set-property>
  ...

  <set-property name="siteIds"><![CDATA[storeSiteUS,storeSiteDE]]></set-property>
  ...
</add-item>

```

And this "siteIds" is optional for other items. It can be derived at product and SKU level according to corresponding category. Basically we can also export it at product and SKU level, or we can calculate it with a ATG service. For a larger data volume, the more PIM prepares, the better.

## 6.4 PIM - ATG Fieldmapping

This documentation provides an overview which data entities are supported by the ATG Commerce and which data entities and data fields of the standard repository of PIM are used to feed the data transfer interface.

### 6.4.1 Fields of Category Structure

ATG export template module: Categories

| ATG Category         | HPM Category                                                                  | Descripton                                                                                                      |
|----------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| id                   | Structure group.Structure group identifier                                    |                                                                                                                 |
| displayName          | Strukturgruppe.Name (Language)                                                |                                                                                                                 |
| template             | %ATG_DEFAULT_CATEGORY_TEMPLATE_ID                                             | "xm1002" for "Template - Subcategory" (jsp), is hardcoded in export template!                                   |
| fixedChildProducts   | all products under structure group                                            | Only the last level category has this property                                                                  |
| fixedChildCategories | subordinate structure groups                                                  | Only the first 2 level categories have this property                                                            |
| titleImage           | Structure group.Media Asset.Alternative text(English) (type = Standard image) | Only the second level category has this property. (The first level category is rootCategory which is invisible) |

### 6.4.2 Fields of product

ATG export template module: Products

| ATG Product          | HPM                                                                | Description                                                                                               |
|----------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| productnumber        | Product.Product no.                                                |                                                                                                           |
| template             | Product.Attribute value of template(Language independent, DEFAULT) | "xm1003" for "Template- Single SKU" (jsp)<br>"xm1004" for "Template- Product Color and Size Picker" (jsp) |
| brand                | Product.Manufacturer                                               |                                                                                                           |
| ancestorCategories   | Product.Structure assignments                                      |                                                                                                           |
| childSKUs            | product/item references                                            | all referenced items for product                                                                          |
| fixedRelatedProducts | item references                                                    | Reference type: Cross selling.                                                                            |
| ATG Product Lang     | HPM                                                                |                                                                                                           |
| displayName          | Product.Short description                                          |                                                                                                           |
| description          | Product.Other remarks                                              |                                                                                                           |
| longDescription      | Product.Long description                                           |                                                                                                           |
| briefDescription     | Product.Other remarks                                              |                                                                                                           |
| keywords             | Product.Keywords                                                   |                                                                                                           |

Descriptive attributes like Material "Cotton" are stored on Product level as property "feature". There are 12 default in system defined "feature": cashmere, cotton, eco\_friendly, ergonomic, handcrafted, leather, microfiber, organic, recycled, silk, solid\_wood, wool.

### Media-Assets

The technical identifier (e.g. 'm2278') is stored in the column 'alternate text (english)'  
{\*}MediaAsset Type Mapping \*The follow-ing table shows the image settings to be used.

| ATG Image      | HPM image type | HPM image quality |
|----------------|----------------|-------------------|
| promolImage    | Other          | internet image    |
| thumbnailImage | Logo           | internet image    |

| ATG Image  | HPM image type | HPM image quality |
|------------|----------------|-------------------|
| smallImage | Thumbnail      | internet image    |
| largeImage | Standard image | internet image    |

### 6.4.3 Fields of sku

ATG export template module: Items, Inventory

| ATG SKU                    | HPM item                                              | Description                                        |
|----------------------------|-------------------------------------------------------|----------------------------------------------------|
| item-descriptor(attribute) | Item.Attribute value (Sku Type, English)              | Value here in sample data is always "clothing-sku" |
| id                         | Item.Object no.                                       |                                                    |
| displayName                | Item.Short description (Language)                     |                                                    |
| description                | Item.Short description (Language)                     |                                                    |
| type                       | Item.Attribute value (Sku Type, English)              | Value here in sample data is always "clothing-sku" |
| giftWrapEligible           | Item.Attribute value (Wrap as gift eligible, English) | Value is true/false                                |

#### SKU-Attributes

| ATG SKU     | HPM item                                                              | Description                |
|-------------|-----------------------------------------------------------------------|----------------------------|
| color       | color                                                                 | available for clothing-sku |
| size        | size                                                                  | available for clothing-sku |
| colorSwatch | value of attribute 'color' at SKU level with identifier 'colorSwatch' | available for clothing-sku |

### 6.4.4 Price Mapping

The following table shows the price settings to be used. Note that the sale price is mandatory.

ATG export template module: Prices

| ATG price              | HPM price                                                                                                                                |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| list price             | Price type: Non-binding price recommendation<br>Currency: US Dollar<br>Customer: <Public><br>Lower price tier: 1<br>Valid in region: USA |
| sale price( = reduced) | Price type: Net customer price<br>Currency: US Dollar<br>Customer: <Public><br>Lower price tier: 1<br>Valid in region: USA               |

## 6.5 Tutorial To Update ATG Store With Test Data

This tutorial indicates how to update ATG-Store with test data. All tests run in the VM //hsis540. The in this tutorial referenced Batch commands and tools are described in [ATG Installation, execution and configuration](#).

### 6.5.1 Clean up data of ATG-Store

For the first time after installation, you have to add "-Datg.allowRemoveAllItems=true" to the JAVA\_ARGS in your <ATG10dir>/home/localconfig/postEnvironment.bat or postEnvironment.sh file (e.g. C:\AE10\ATG10.0.1\home\localconfig\postEnvironment.bat).

1. run **cleanup-all.bat** to delete all data in ATG-Store.(Actually only the following items will be delete: catalog, catalogFolder, category, product, clothing-sku, furniture-sku, sku and price)
2. run the service **InvalidateCaches**
3. run the service **Catalog Maintenance Service**
4. refresh the page of ATG-Store

### 6.5.2 Import test data in ATG-Store

1. run **cleanup-all.bat** to delete all data in ATG-Store.(Actually only the following items will be delete: catalog, catalogFolder, category, product, clothing-sku, furniture-sku, sku and price)
2. create the test files(catalog.xml and pricelist.xml) with HPM export template.
3. copy these test files to \\hsis540\ATG\ATG\_utilities\import\_data
4. run **import-all.bat** – import catalog and pricelist test data from heiler to ATG,
5. run the service **InvalidateCaches**
6. run the service **Catalog Maintenance Service**
7. refresh the page of ATG-Store
8. by the first time or after cleaning up from original data, you may have to restart the production server and then repeat the steps 5 to 7.

### 6.5.3 Restore the original data in ATG-Store

1. run **cleanup-all.bat** to delete all data in ATG-Store.(Actually only the following items will be delete: catalog, catalogFolder, category, product, clothing-sku, furniture-sku, sku and price)
2. run **restore-all.bat** to restore all original catalog and pricelist data(non-international) in ATG
3. run the service **InvalidateCaches**
4. run the service **Catalog Maintenance Service**
5. refresh the page of ATG-Store

## 6.6 ATG Demo Cookbook

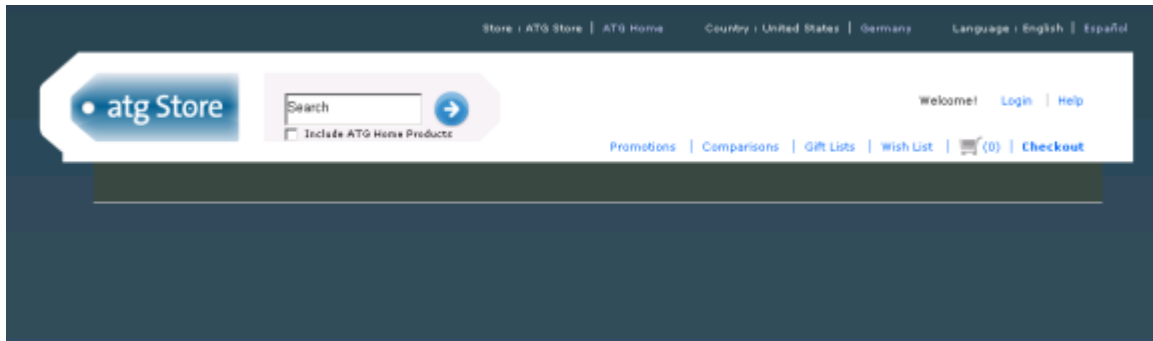
### 6.6.1 Before the demo

#### 6.6.2 Check the demo servers for its initial state

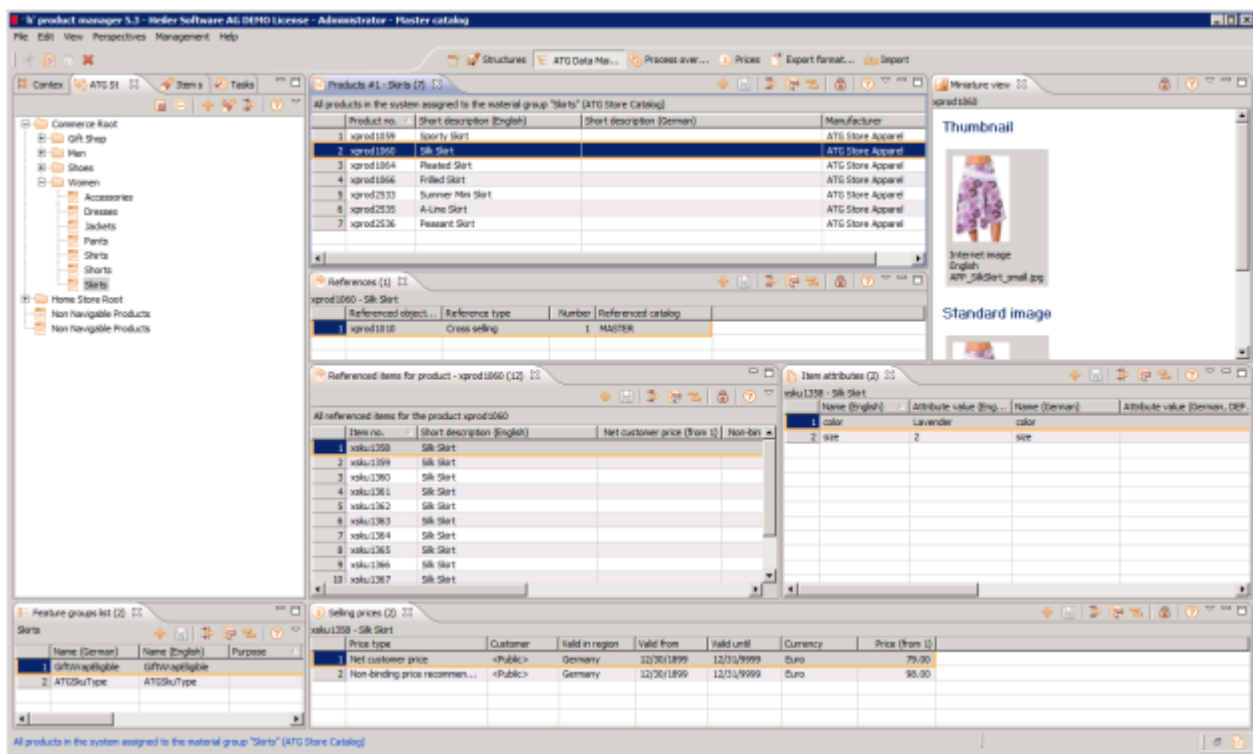
To perform the demo as described in chapter 3 the Heiler Product Managers server, the ATG Production server and the clients you use have to be in an initial state.

Walk through the check list below to ensure this state is given otherwise you have to bring the system and its applications into that state.

- Start the ATG store using the desktop link provided. The ATG's standard 'ATG store' is shown.
- This store has to be empty. There are no catalog groups available on the top navigation bar.
  - If it is not empty perform the Export Profile named *ATG 10 CRS (Purge Store)* from the HPM client. This will clear the ATG store (takes about 60 seconds). Check if it is empty afterwards.
- Don't forget to purge the shopping cart at the end of your training before you start your demo
- Don't forget to purge the store afterwards with the Export Profile named *ATG 10 CRS (Purge Store)*
- Repeat the same steps which are described in chapter „**ATG shop refresh**". Result is an empty ATG store:

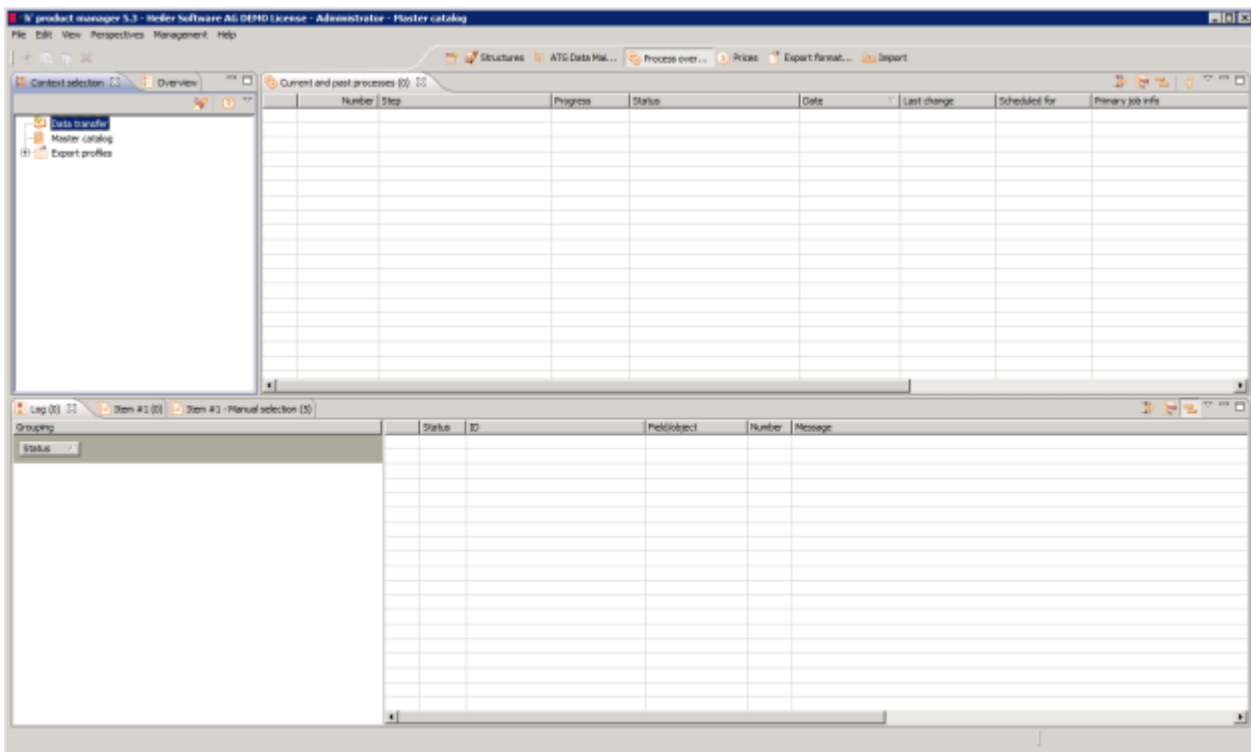


- Keep the Firefox with the ATG-Store open.
- Start the HPM client of the language you desire to use by double clicking the corresponding desktop link. The HPM user is **Administrator** with the standard password **Administrator**
- The first perspective presented is the *ATG Data Maintenance* perspective shown in the screen below

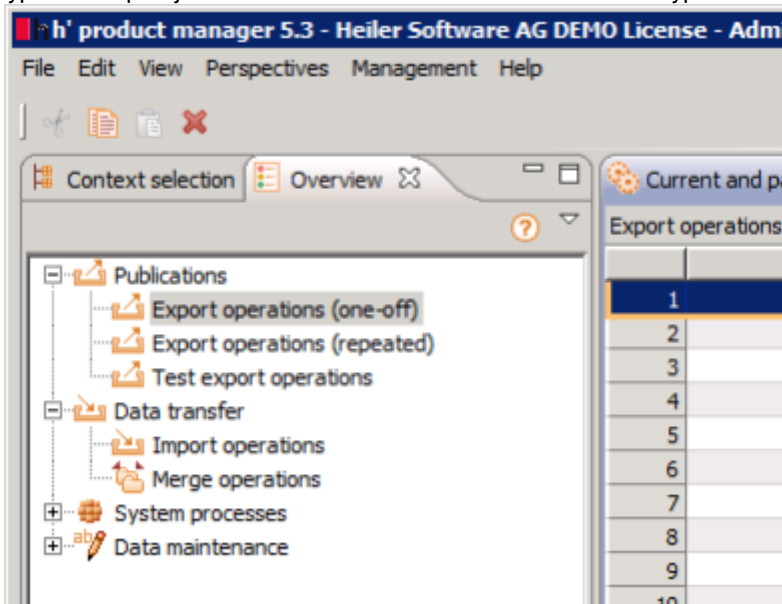


- Ensure the structure system named *ATG Store Catalog* is loaded in english.
- Ensure the structure group *Skirts* below *Commerce Root / Women* is opened
- Select the product *Silk Skirt (xprod1060)*
  - Ensure that this product has only one cross selling reference
- Ensure product miniature views are shown on the right and the references of the product below. Check if the References and the Miniature View are obtaining its content exclusively from the Product #1 view.
- Ensure that the referenced items of the product are shown below (should be 12 variants of the product). Check that the Selling prices view is obtaining its content exclusively from the Referenced items of product view.

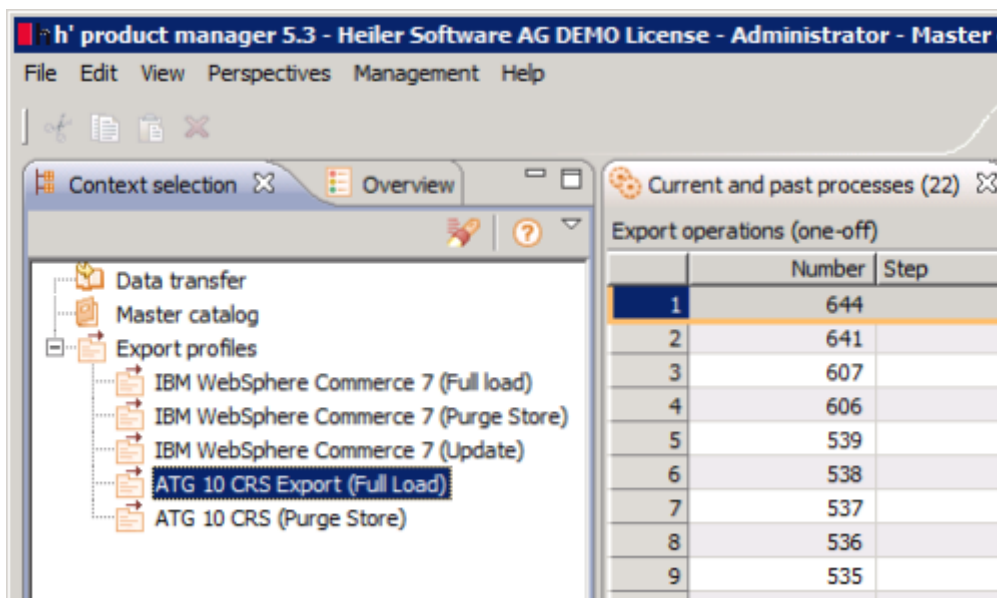
Go to the Process overview perspective



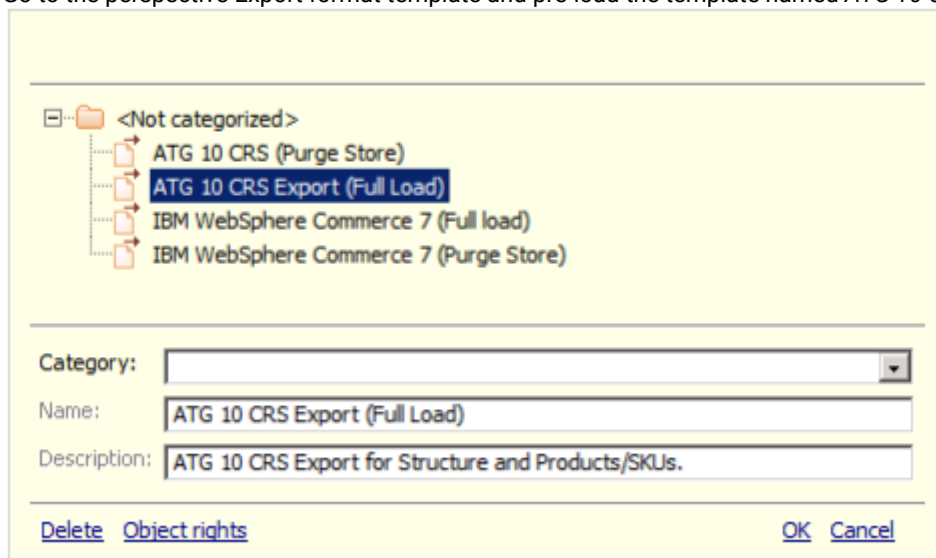
Activate the view named Overview (on the left) and select the tree node Publications\Export operations (one-off). This will list the past processes of this type. Our export job to transfer data to ATG later will be of this type too.



Return to the view Context selection and open the Export profiles. These are needed to start the export later.



Go to the perspective Export format template and pre-load the template named *ATG 10 CRS Export (Full load)*.



Return to the perspective *ATG Data Maintenance*. Close the tree so only the top level groups are show. Selecting one of the top level groups clear all the other views visible.

### 6.6.3 Perform the demo

Show empty ATG store

The demo starts with an empty ATG store. Explain that this is an empty demo store of the ATG showing a sample implementation of a shop based on sample data.

Introduce the data entities which will be provided by HPM later along the usage of the data in the target system.

Perform initial load

Go to HPM and switch to the perspective named *Process overview*. In the view *Context selection* (on the left) select the Export profile named *ATG 10 CRS Export (Full Load)*. Perform a right mouse click and select the menu item *Export...* from the context menu coming up.

The settings in the dialog coming up should be set correctly. The assortment to be used is ATG items – 782 objects and ATG



products – 93 objects. Start the data transfer by clicking Finish in that dialog. After a short while in the view on the right (Current and past processes) a new entry at the top of the table should be visualized.

The data export itself takes about 40 to 50 seconds. After this the post export steps start.

- Data files deployment (to the location where the data load to the ATG will be performed)
- The data load process (data load utility of the ATG platform) itself is performed

The post-export steps need another 60 to 70 s where the data load takes the biggest part of.

The whole process of data transfer is performed within about 2 minutes.

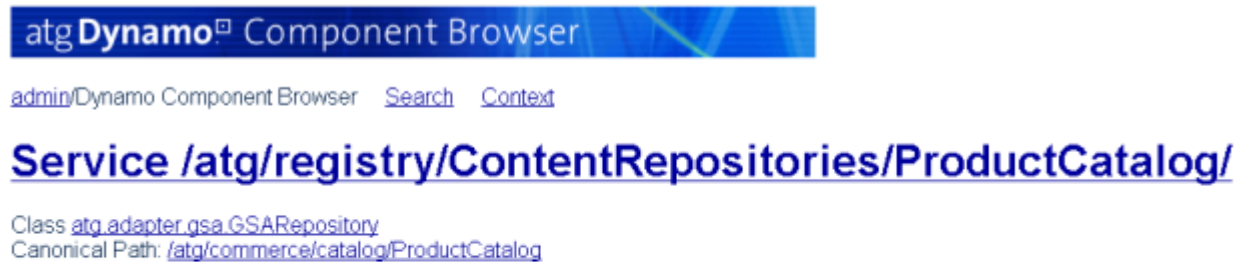
After the export has finished (post-export steps are running) you can refresh the log view at the bottom of the perspective.

#### ATG shop refresh

When the export is finished double click the *ATG\_Maintenance\_invalidateCaches* shortcut on the desktop.



Now the Firefox browser opens with the cache invalidate site. When an authentication question occurs, then enter "admin" as user and "admin" as password.

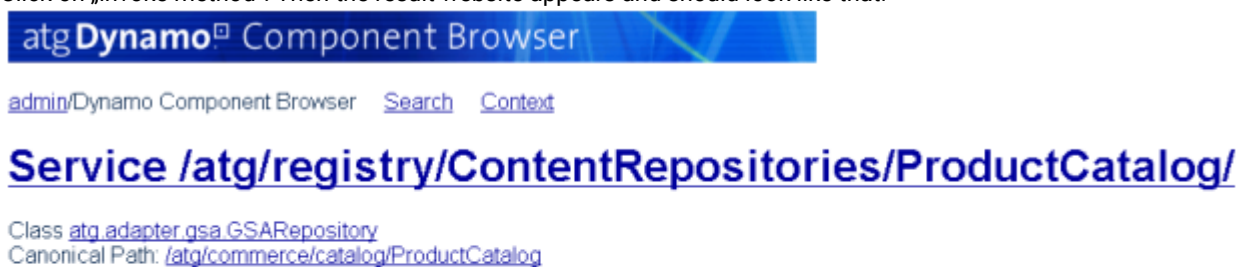


### Invoke Method `invalidateCaches`?

Warning: invoking methods should only be performed by developers aware of potential side effects that this method might have. You



Click on „invoke method“. Then the result website appears and should look like that:

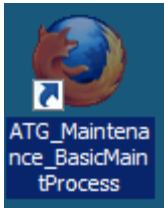


### Method `invalidateCaches` invoked

#### Returned Object



After that double click on the ATG\_Maintenance\_BasicMaintProcess shortcut on your desktop.



Now the Firefox browser opens with the catalog maintenance site. When an authentication question occurs, then enter "admin" as user and "admin" as password.



[admin/Commerce](#) /Basic Catalog Maintenance

## Basic Catalog Maintenance

The following services are executed as part of the basic catalog maintenance process.

### Ancestor Generator [\(View Service Component\)](#)

Generates computed property values used by DCS for catalog navigation and search

**Categories:** catalogs, ancestorCategories, parentCategoriesForCatalog, siteIds

**Products:** catalogs, ancestorCategories, parentCategoriesForCatalog, siteIds

**Skus:** catalogs, siteIds

**Catalog Repository:**

Start Process

---

Click on „Start process“. Then the result website appears and should look like that:

## Catalog Maintenance Last Execution Log

This information is only relative to the last execution of Catalog Maintenance on this server logs.

**Repository processed** ProductCatalog

**Start Time** 05/01/2011 07:49:07

**Finish Time** still executing [Refresh Status](#)

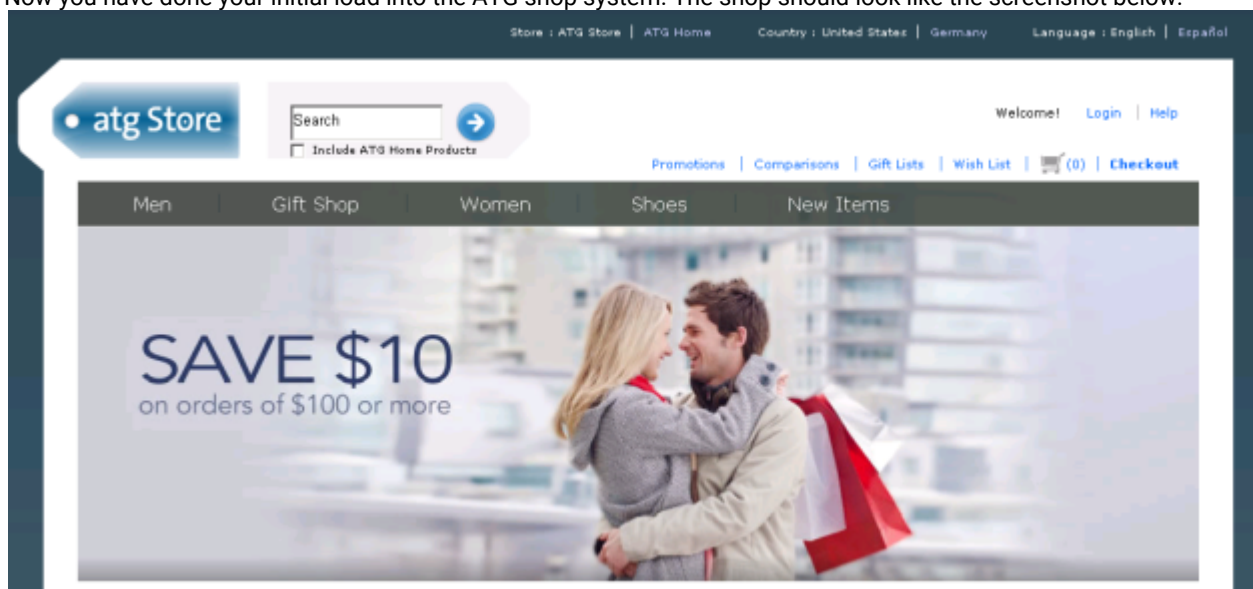
### Message Totals:

All Messages: 30, [Errors](#): 0, [Warnings](#): 0, [Information](#): 30

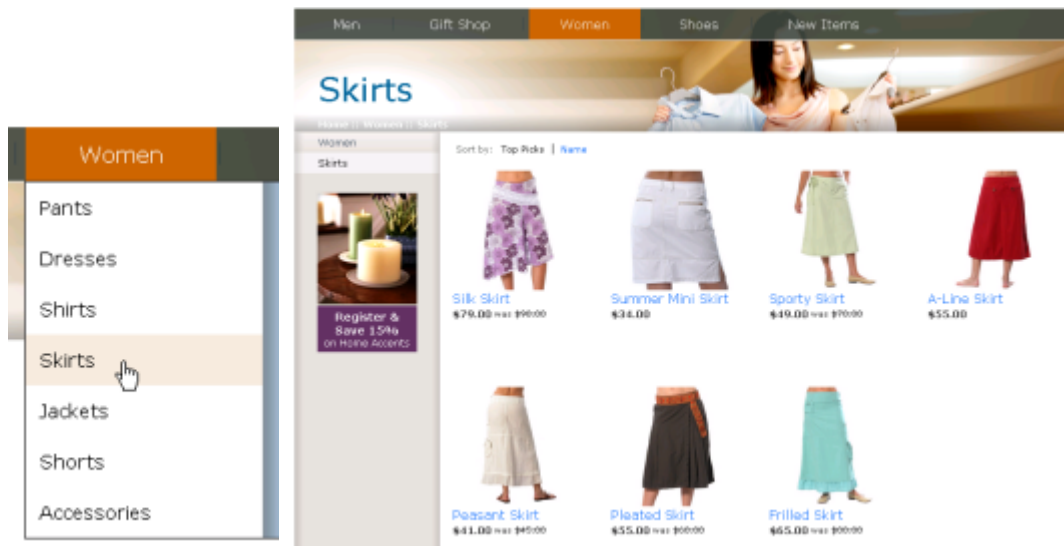
### Show ATG content

After those two steps the ATG is prepared for show its content in his webshop. Now you can go back to the ATG store website on your Firefox Browser. The shop is empty until you press F5 for a reload operation.

Now you have done your initial load into the ATG shop system. The shop should look like the screenshot below.



Click on the *Women* category to shows the contained sub categories, in the menu click on *Skirts*.





Select the *Silk Skirt*. Explain the data entities of the products and the items which can be maintained and provided by the Heiler Product Manager (name, short description, long description, normal image, full size image, thumbnail image, prices and cross selling associations).

[Men](#)
[Gift Shop](#)
[Women](#)
[Shoes](#)
[New Items](#)

# Silk Skirt

Home :: Women :: Skirts

[View Larger >](#)

**\$79.00** was ~~\$90.00~~

Color:

Size: 2 4 6 8 10 12 [?](#)

Qty:


[Add to Cart](#)

[+ Wish List](#) [+ Comparisons](#) [Email](#)

Cute and playful skirt that still has an elegant look so it can be worn for work or for play. It has a sleek fit and a fitted waist. Side zip. Dry clean.

**Item Cannot be Gift Wrapped**

Our Designers also suggest:



**Shoulder Bag**  
\$99.00 was ~~\$120.00~~

## Change data for ATG

Bring the Heiler Product Manager back into front. Open perspective *ATG Data Maintenance*.

- Ensure the structure group *Skirts* below *Commerce Root / Women* is opened
- Select the product *Silk Skirt* (*xprod1060*)

Add cross selling reference to product *Elegant Sandal* (*xprod1038*).

| References (2) X       |                |                    |                          |        |          |
|------------------------|----------------|--------------------|--------------------------|--------|----------|
| xprod1060 - Silk Skirt |                |                    |                          |        |          |
|                        | Reference type | Referenced catalog | Referenced object number | Number | Sequence |
| 1                      | Cross selling  | MASTER             | xprod1010                | 1      |          |
| 2                      | Cross selling  | MASTER             | xprod1038                | 1      |          |

You can show the referenced product in the demo if this is desired. You can find the *xprod1038* in the category *Shoes / Women's Shoes*.

Perform an export to ATG: Repeat the same steps which are described in chapter „**Perform initial load**“.

Reload the *Silk Skirt* site. A new cross selling reference to "Elegant Sandal" should occur.



[View Larger >](#)

Our Designers also suggest:



**Elegant Sandal**

**\$100.00**



**Shoulder Bag**

**\$99.00** was ~~\$120.00~~

#### **Experimental – do not use currently:**

Bring the Heiler Product Manager back into front. Open perspective *ATG Data Maintenance*.

- Ensure the structure group *Men* below *Commerce Root / Accessories* is opened
- Select the product *Distressed Brown Belt* (*prod20011*)

- Select a SKU of this product and execute the clone function via rightclick -> clone. (If you do this inside the 'normal' item view you can avoid the 'Is already mapped to the product' message)
- SKU object number should be 'sku401331'
- Change size attribute value to 40
- Add this SKU to the ATG item assortment

Open Richtext Editor for the field *long description (english)* and remove the last sentence 'This leather belt will get plenty of wear.'

The screenshot shows two panels in the ATG Data Maintenance application. The left panel, titled 'Referenced items for product - prod20011 (6)', displays a table of all referenced items for product prod20011. The right panel, titled 'Item attributes (2)', shows the attributes for the selected item, sku40134 - Distressed Brown Belt.

|   | Item no. | Short description (English) | Net customer price (from 1) | Non-binding |
|---|----------|-----------------------------|-----------------------------|-------------|
| 1 | sku40124 | Distressed Brown Belt       |                             |             |
| 2 | sku40127 | Distressed Brown Belt       |                             |             |
| 3 | sku40129 | Distressed Brown Belt       |                             |             |
| 4 | sku40131 | Distressed Brown Belt       |                             |             |
| 5 | sku40133 | Distressed Brown Belt       |                             |             |
| 6 | sku40134 | Distressed Brown Belt       |                             |             |

|   | Name (English) | Attribute value (Eng.) |
|---|----------------|------------------------|
| 1 | color          | Brown                  |
| 2 | size           | 40                     |

Perform an export to ATG: Repeat the same steps which are described in chapter „**Perform initial load**“. Reload the *Distressed Brown Belt* site. The long description of the Belt was changed.

Finish the HPM / WebSphere Commerce demo at this point or continue with other topics

## Clean up data

Bring the Heiler Product Manager back into front. Open perspective *ATG Data Maintenance*.

- Select the structure group *Skirts* below *Commerce Root / Women*
- Select the product *Silk Skirt (xprod1060)*

Delete cross selling reference to product *Elegant Sandal (xprod1038)*.

- Ensure the structure group *Men* below *Commerce Root / Accessories* is opened
- Select the product *Distressed Brown Belt (prod20011)*
- Select SKU 'sku401331' and remove it out of the assortment
- Delete the SKU

## 7 Informatica BPM

The Informatica BPM Accelerator Package contains:

- [Example workflows](#)
- [Required default workflow](#)

### 7.1 Example workflow projects

- [Approve/reject/comment for entity changed trigger](#)
- [Workflow Task Demo example workflow](#)

### 7.1.1 Approve/reject/comment for entity changed trigger

As part of the Accelerator Package there is an example workflow project with approve/reject/comment functionality available. You can find this Informatica BPM designer project packaged in the archive *Approve-Reject Samples.zip* within the Accelerator Package.

#### Content of the example package

The designer project contains an example workflow including tasks in serial, parallel, approval and comment functionality. This example workflow can be used in combination with an "Entity changed" trigger.

#### Prerequisites for getting the example workflow up and running

To get the example workflow up and running you have to proceed the following steps.

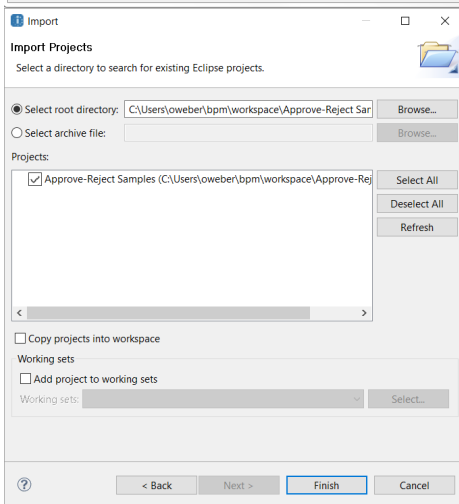
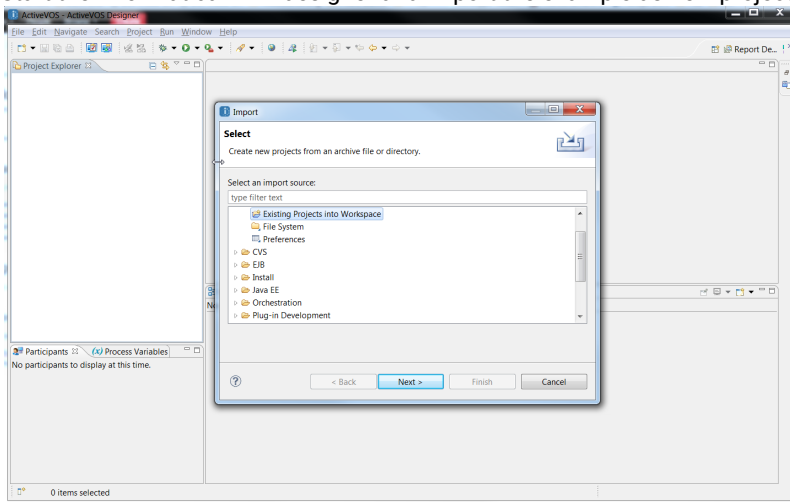
#### Deployment of the workflow in Informatica BPM

The easiest way of deploying the example workflow to the Informatica BPM is to import the whole example project into the Informatica BPM designer.

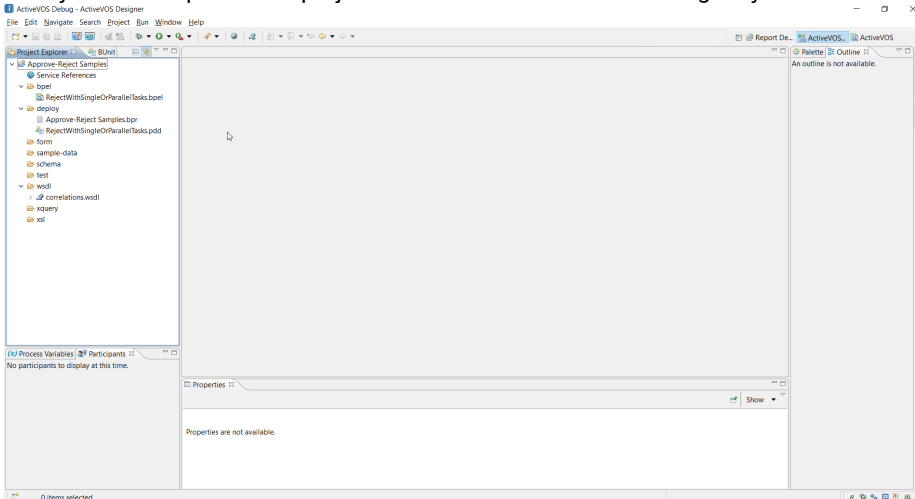
- Copy the archive *Approve-Reject Samples.zip* from the Accelerator package to your Informatica BPM designer workspace directory and extract it there



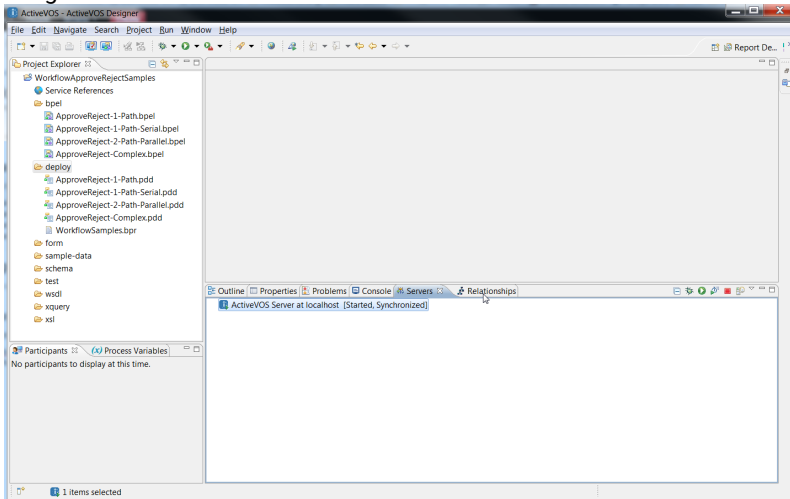
- Start the Informatica BPM designer and import the example as new project



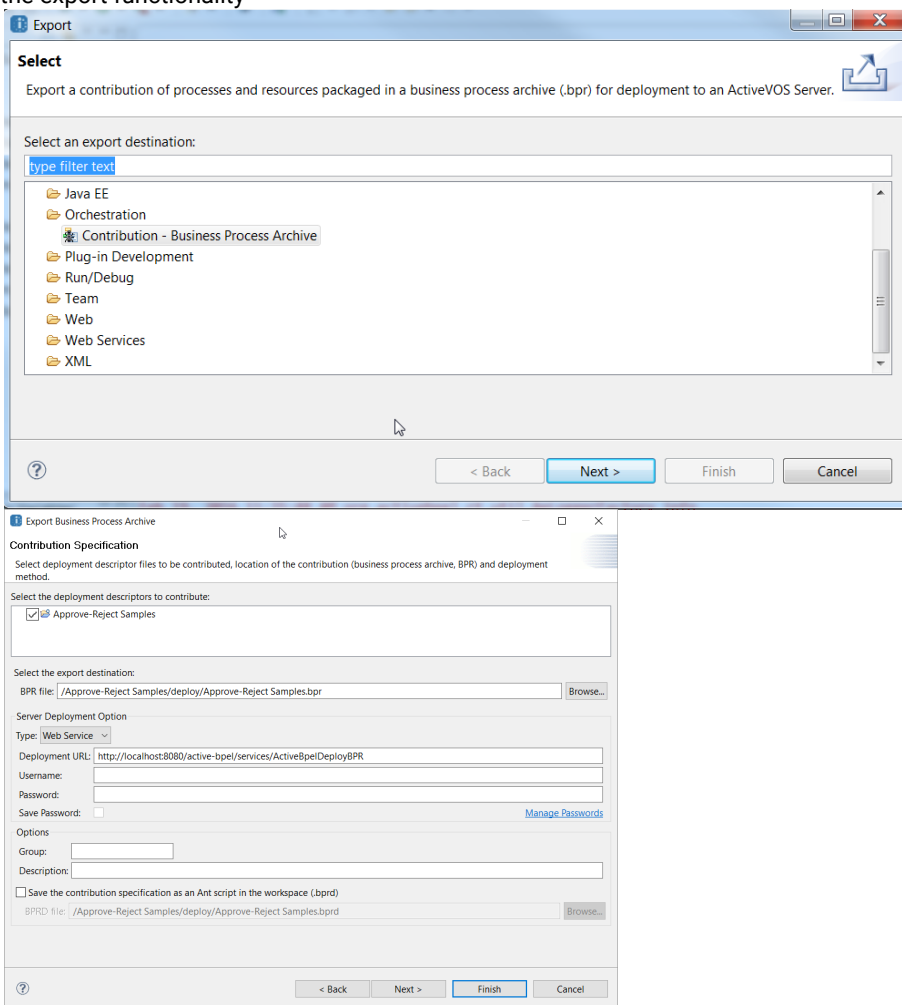
- After you have imported the project into the Informatica BPM designer you should see the following project structure

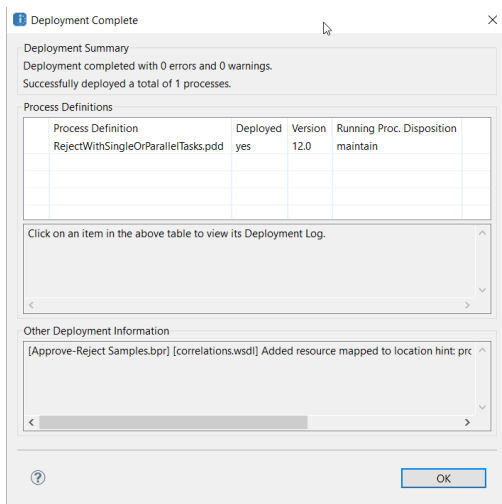


- To be able of deploying the workflow definitions you have to create a server definition within the the Informatica BPM designer and of course start the server

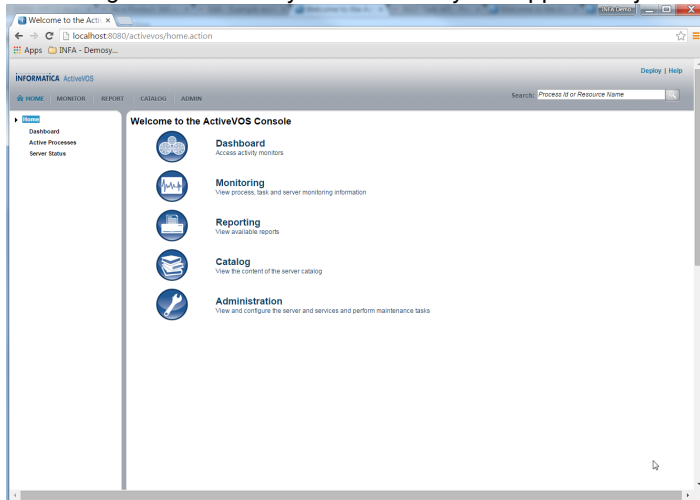


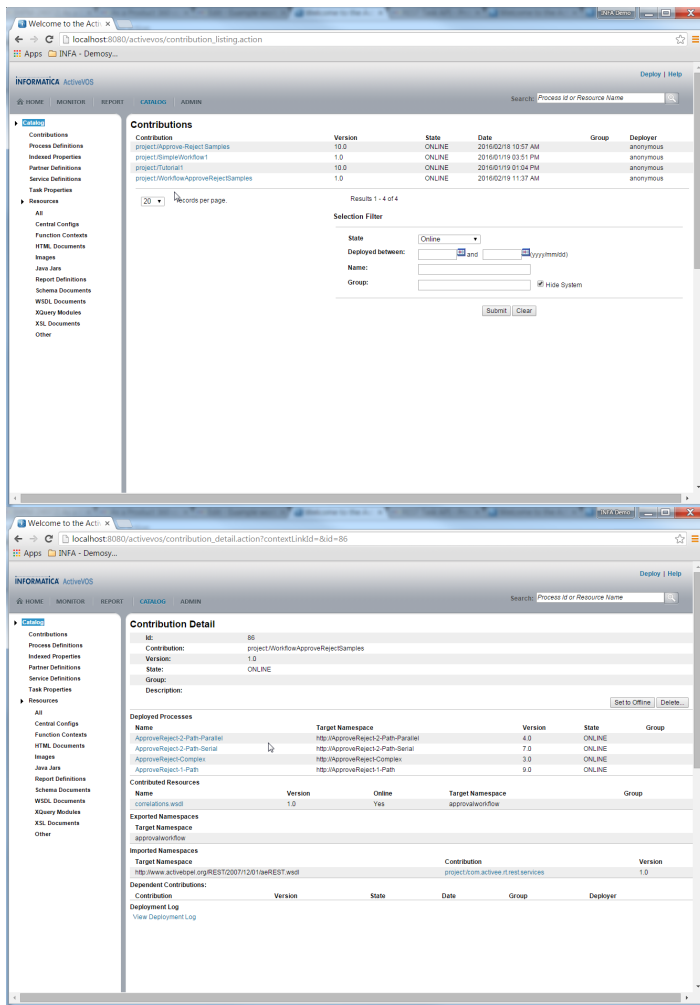
- After the server has been started you are ready to deploy the workflow definitions to the server instance by choosing the export functionality





- The last step is to check if the workflow definitions are available on the server, to do so you can use the browser based administration interface of the Informatica BPM
- Open your web browser and go to <http://localhost:8080/activevos>, you now should see the web console and if you go to "Catalog/Contributions" you should see your "Approve-Reject Samples" available and online





## Requirements on Product 360 server side

There are also some prerequisites on Product 360 server side to get the example workflows up and running.

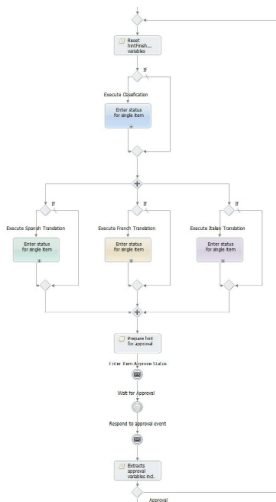
At some points of the workflow definitions the Informatica BPM server creates workflow tasks via the Product 360 Service API. At least the following users and user groups have to be created:

- User that is able of accessing the P360 Service API, for getting the example workflows working without modifications a user called (rest:heiler) has to be created
- A user group called "AllRights" has to be created

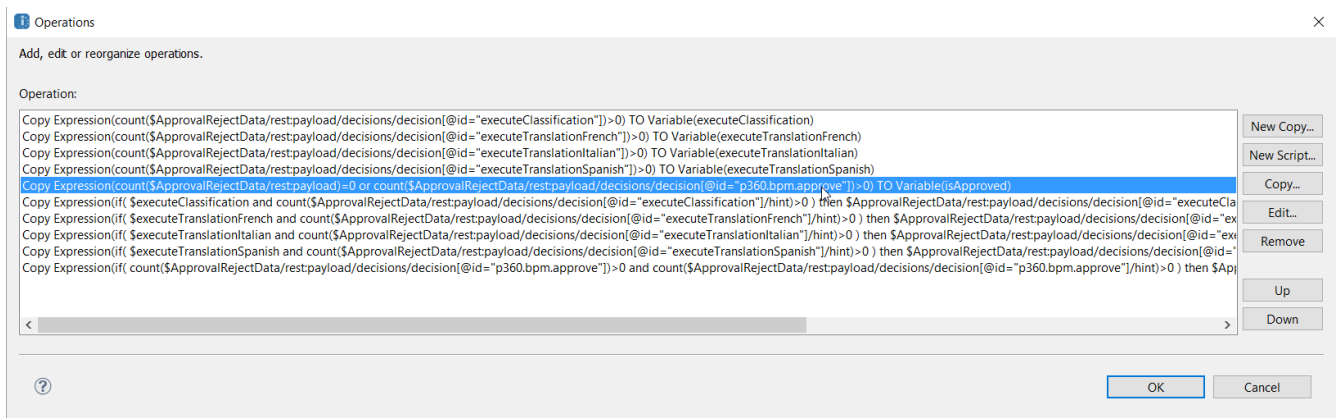
## Example workflows in detail

To create an approval workflow it is required to "repeat" some parts of a workflow definition based on external input. The external input in our case, which decides if a specific block of the workflow has to be repeated, is triggered by the "approve/reject" action during a specific workflow task state.

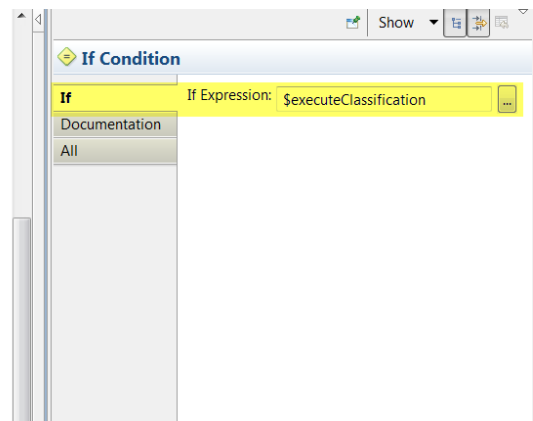
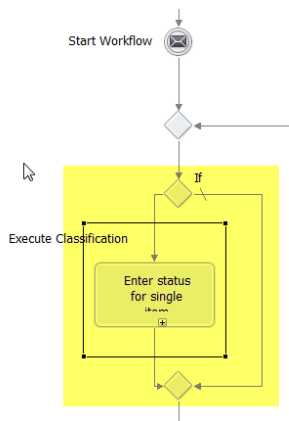
Such a repeating block is designed based on a "RepeatUntil-component" in the workflow and the decision if the block should be repeated again is based on a Boolean expression. In this example case the block will be repeated until the variable "isApproved" is true.



The variable itself will be set after the approval endpoint has been called with the decision data made by the approval user. Details can be found if you click on the "Script" block just after the activity "Respond to approval event". In this case the variable is set in dependence if there is a rest payload or not, which is equal to the user rejected something or not.




If you now think on workflow definitions which not only contain one workflow task, it is required of repeating only specific tasks again on the approvers decision. To be able of defining parts of the workflow which should be executed based on an external decision these parts have to be wrapped within an "Elseif-component" and the decision, which path to execute has to be made based on a variable. In our example the variable "executeClassification" is used to decide if the block has to be executed or just skipped.



## Tip & Tricks

If you send JSON payload to the P360 Service API, it is very important to correctly escape special characters in strings and variables.

Please see following example from the Informatica BPM Designer expression builder how to escape the quote character ( " ), carriage return ( \r ) and linefeed ( \n ) in the variable \$hintFinishComment:

 `replace ( replace ( replace ( $hintFinishComment, "\"", "\\\"", "\r", "" ), "\n", "\\n" )`

## 7.1.2 Workflow Task Demo example workflow

### Preface

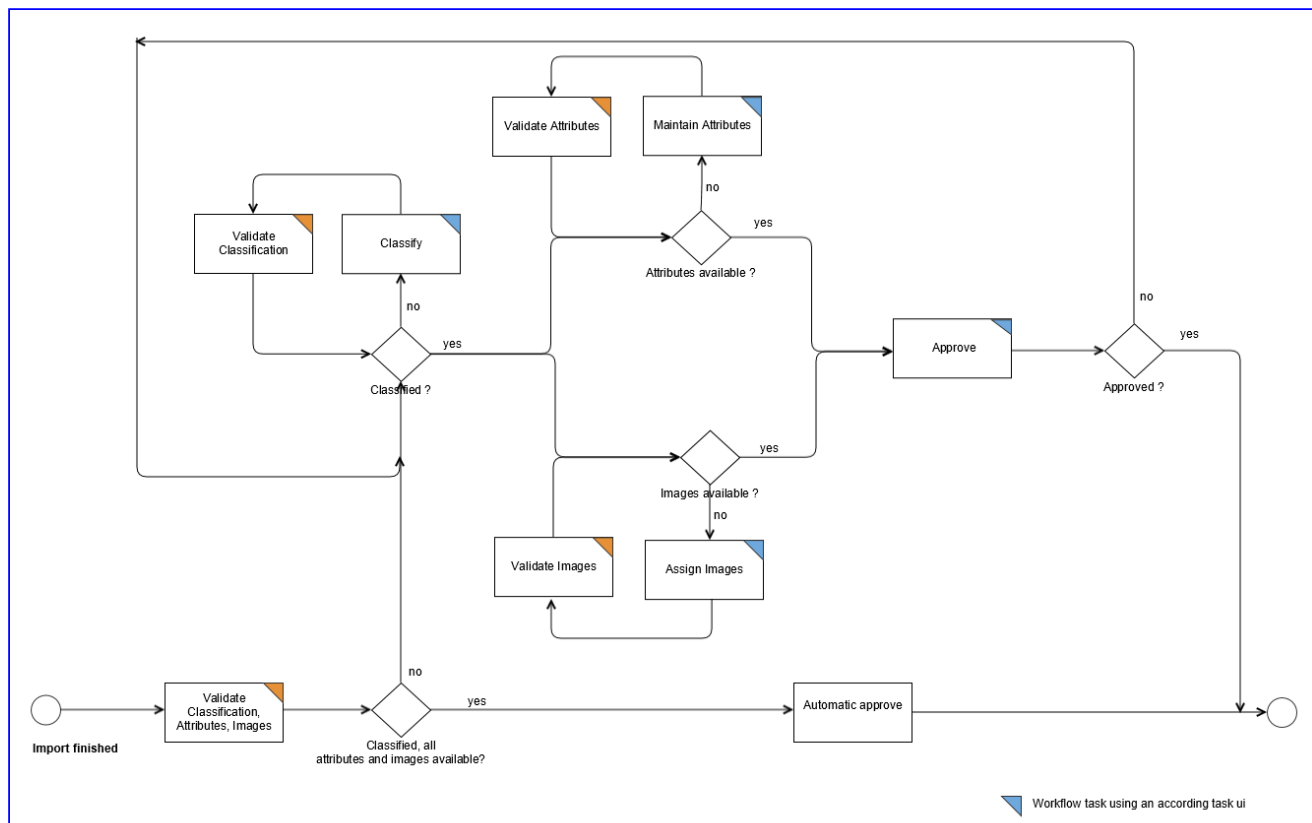
The workflow is an example to demonstrate how you can work with workflow tasks controlled by the Business Process Management. The start-point is a finished import. Afterwards there are different DQ checks and dependent on the result of those checks the affected items will be:

- automatically approved or
- assigned to different workflow tasks

The Workflow Task Demo project can be found within the "Business Process Management Accelerator Package" (WorkflowTaskDemo.zip).

### High-level workflow

The following diagram show a high-level view of the demo workflow.



## Implementation in BPM

The workflow was splitted in a main and in a sub task. This splitting was necessary, because when you work with workflow tasks each item is processed independently of every other item inside the workflow.

## Variables

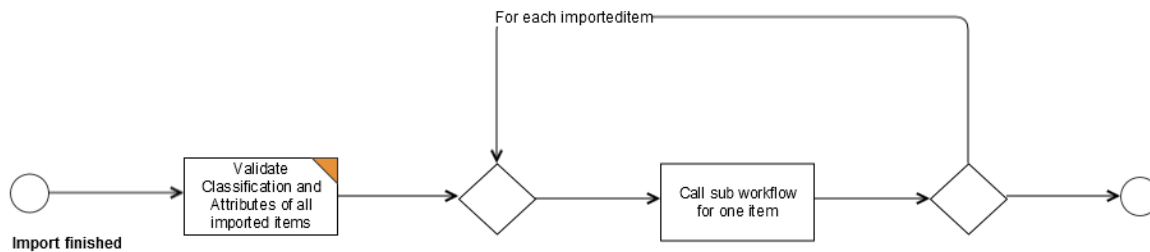
Both workflows (main and sub) use a common variable set, which is set at the beginning of the workflow. These values can be easily adapted to another system, without changing other code inside the workflow.

| Name             | Value                             | Description                                                                                                                           |
|------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| workflowName     | "WorkflowTaskDemo"                | Name of the workflow                                                                                                                  |
| userName         | "Administrator"                   | Name of the Product 360 user, which triggers the import. The default value is only used, when the import is triggered via hot-folder. |
| workflowStatus1  | "(1) Add classification"          | This workflow status will be assigned to the item, if the item is not classified                                                      |
| workflowStatus2  | "(2) Update mandatory attributes" | This workflow status will be assigned to the item, if there are missing mandatory attributes                                          |
| workflowStatus3  | "(2) Add Images"                  | This workflow status will be assigned to the item, if there are missing images                                                        |
| workflowStatus4  | "(3) Approve items"               | This workflow status will be assigned to the item, if a manual approval will be needed                                                |
| dqRule1          | "Items Classified"                | This dq rule will be executed to determine whether the item is classified or not                                                      |
| dqRule2          | "Mandatory Attributes Set"        | This dq rule will be executed to determine whether mandatory attributes are missing or not                                            |
| dqRule3          | "Main Image assigned"             | This dq rule will be executed to determine whether images have been assigned or not                                                   |
| dqRule4          | "Items approved for next step"    | This dq rule will be executed to determine whether current state of the item is approved or not                                       |
| userGroupDefault | "Global Product Marketing"        | All tasks will be assigned to this user group, besides the approve task                                                               |
| userGroupApprove | "Managers"                        | User group for the approve task                                                                                                       |
| uiTemplate1      | "Item classification UI.wft"      | UI template to classify items                                                                                                         |

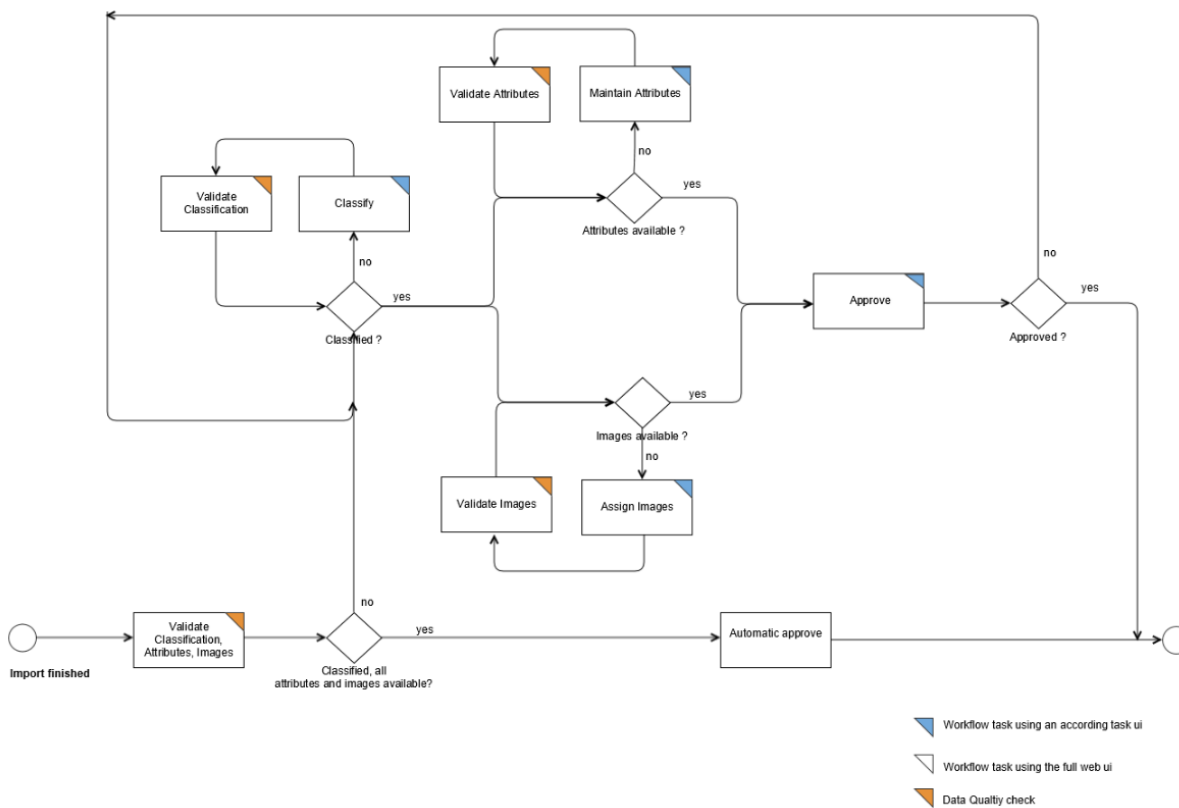
| Name                     | Value                       | Description                                                                      |
|--------------------------|-----------------------------|----------------------------------------------------------------------------------|
| uiTemplate2              | "Item attributes<br>UI.wft" | UI template to maintain attributes                                               |
| uiTemplate3              | "Item Multimedia<br>UI.wft" | UI template to maintain images                                                   |
| uiTemplate4              | "Item approve<br>UI.wft"    | UI template for manual approval                                                  |
| CurrentState<br>New      | "01 New"                    | Current state of new item                                                        |
| CurrentState<br>Accepted | "02 Accepted"               | Current state of accepted item                                                   |
| CurrentState<br>Rejected | "03 Rejected"               | Current state of rejected item                                                   |
| CurrentState<br>Changed  | "04 Changed"                | Current state of changed item                                                    |
| processId                | abx:getProcessId()          | This unique Id is used to control the callback calls from the Product 360 server |
| hintStep1                | ""                          | Variable holding the comment for step 1                                          |
| hintStep2                | ""                          | Variable holding the comment for step 2                                          |
| hintStep3                | ""                          | Variable holding the comment for step 3                                          |
| hintStep4                | ""                          | Variable holding the comment for step 4                                          |

### Splitting

The next 2 images are showing the split of the workflow in a main and in a subworkflow.

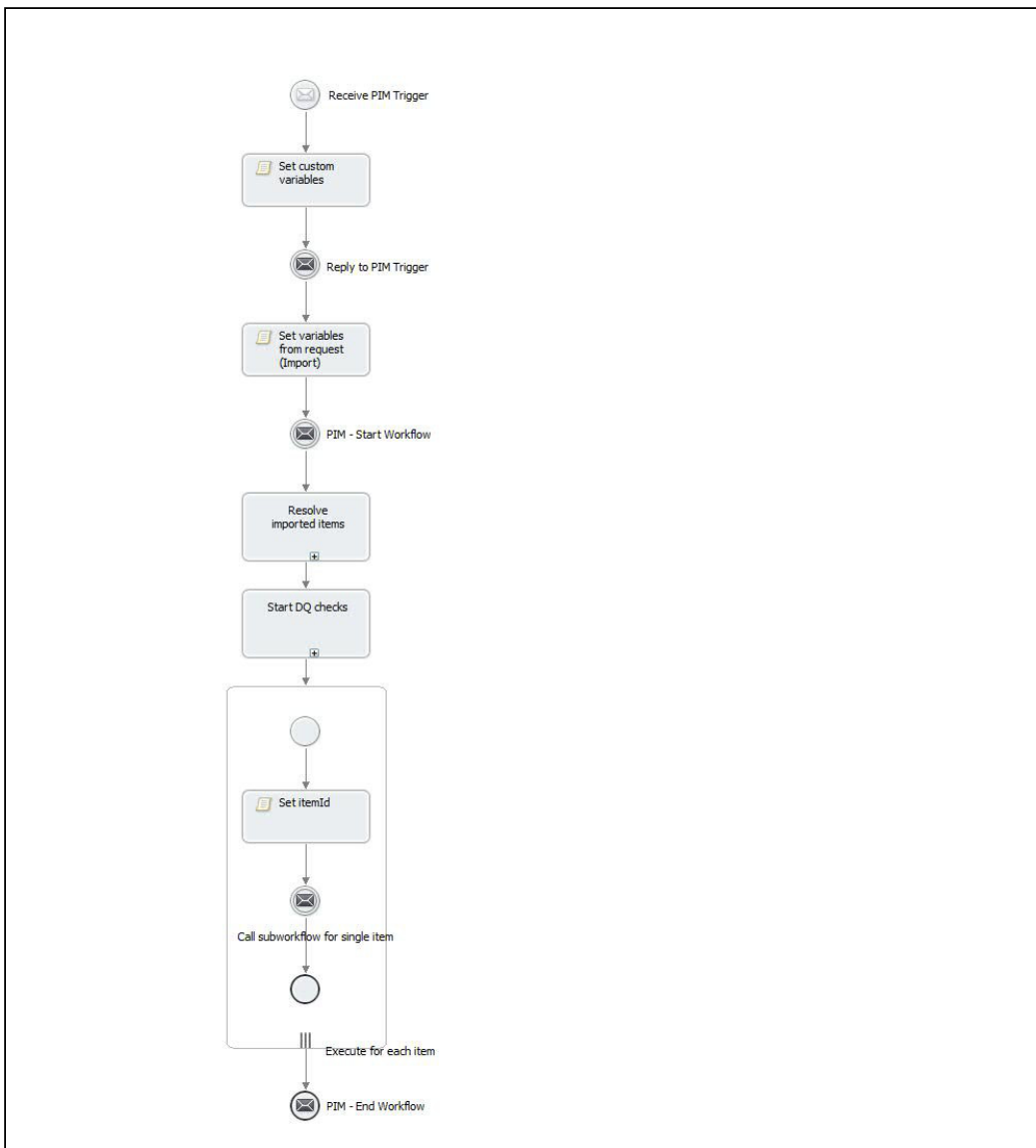






## Main process: WorkflowTaskDemo

The main workflow is designed in the BPM Designer, like it is shown in the next screenshot.



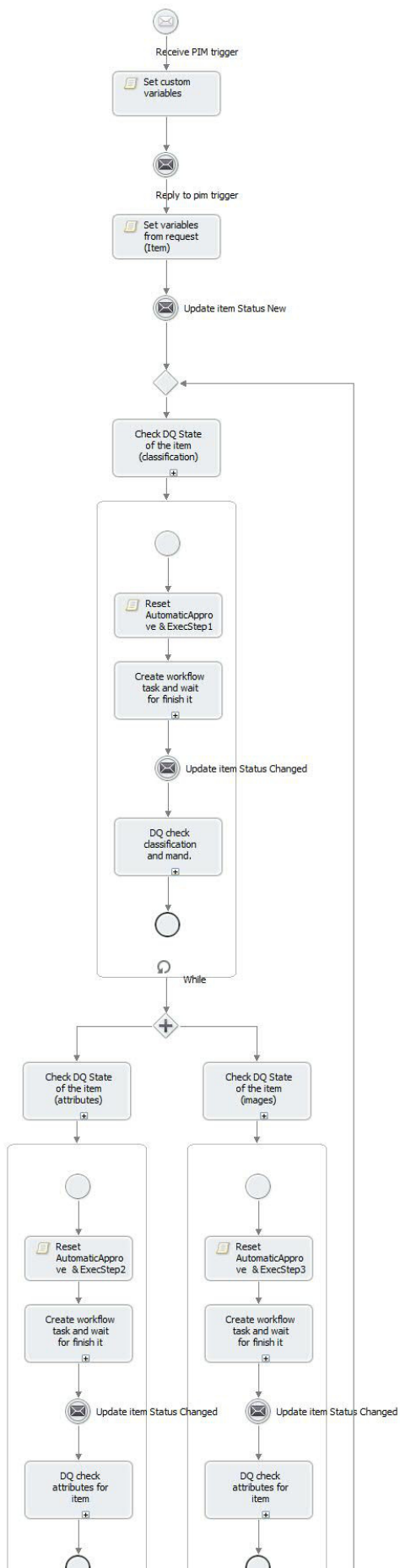
## Partner links

The service endpoints are defined in the partner links section, which is stored in the pdd file of the workflow. These partner links contain information about the name of the endpoint as well as address and password information. If you want to change the address of the Product 360 server, which will provide the Rest services, you have to adapt your changes here.

| Name of the partner link | Name of the endpoint             | Description                                  | Changes possible, when you adapt the workflow to your system |
|--------------------------|----------------------------------|----------------------------------------------|--------------------------------------------------------------|
| PIM-Trigger-Consumer     | WorkflowTaskDemo_StartPostImport | This is the start point of the main workflow | The name of the Endpoint can be changed                      |

| Name of the partner link | Name of the endpoint                   | Description                                                                                            | Changes possible, when you adapt the workflow to your system                                                                                               |
|--------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PIM-REST-API             | -                                      | This is the base reference to call rest services at the Product 360 server                             | Ip adress of the product 360 server (localhost)<br>Port of the rest services (1512)<br>Product 360 username (NPI Workflow)<br>Password (Heiler33!) CRYPTED |
| PIM-FinishDQJob-Consumer | WorkflowTaskDemo_CallbackDQJobFinished | This is the callback endpoint, which is used when a DQ job execution will be started over the workflow | The name of the Endpoint can be changed                                                                                                                    |
| LocalBPMServer           | -                                      | This is the base reference to call the sub workflow over rest service within BPM                       | Ip adress of the BPM server (localhost)<br>Port of the rest services (8080)<br>Product 360 username (admin)<br>Password (admin) CRYPTED                    |

**Sub process: WorkflowTaskDemoSingleItem**



## Partner links

| Name of the partner link         | Name of the endpoint                               | Description                                                                                                            | Changes possible, when you adapt the workflow to your system                                                                                                                                    |
|----------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PIMTrigger Consumer              | WorkflowTaskDemo_StartCheckSingleObject            | This is the start point of the sub workflow. This service will be called from the main workflow                        | The name of the Endpoint can be changed, but if you do this you also have to adapt these changes in the main workflow!                                                                          |
| PIM-REST-API                     | -                                                  | This is the base reference to call REST services at the Product 360 server                                             | Ip address of the product 360 server (localhost)<br>Port of the rest services (1512)<br>Product 360 username (NPI Workflow)<br>Password (Heiler33!) CRYPTED                                     |
| PIMFinishDQJobConsumer           | WorkflowTaskDemo_CallbackDQJobFinishedSingleObject | This is the callback endpoint, which is used when a DQ job execution will be started over the workflow                 | The name of the Endpoint can be changed                                                                                                                                                         |
| PIMWorkflowTaskFinishedConsumer1 | WorkflowTaskDemo_FinishTaskObject1                 | This is the callback endpoint, which is used when an item will be finished in status "(1) Add classification"          | The name of the Endpoint can be changed, but if you do this you also have to adapt these changes in the main workflow! This name is used in the call PIM - Start Workflow in the main workflow. |
| PIMWorkflowTaskFinishedConsumer2 | WorkflowTaskDemo_FinishTaskObject2                 | This is the callback endpoint, which is used when an item will be finished in status "(2) Update mandatory attributes" | The name of the Endpoint can be changed, but if you do this you also have to adapt these changes in the main workflow! This name is used in the call PIM - Start Workflow in the main workflow. |
| PIMWorkflowTaskFinishedConsumer3 | WorkflowTaskDemo_FinishTaskObject3                 | This is the callback endpoint, which is used when an item will be finished in status "(2) Add Images"                  | The name of the Endpoint can be changed, but if you do this you also have to adapt these changes in the main workflow! This name is used in the call PIM - Start Workflow in the main workflow. |
| PIMWorkflowTaskFinishedConsumer4 | WorkflowTaskDemo_FinishTaskObject4                 | This is the callback endpoint, which is used when an item will be approved or rejected                                 | The name of the Endpoint can be changed, but if you do this you also have to adapt these changes in the main workflow! This name is used in the call PIM - Start Workflow in the main workflow. |

## 7.2 Required default workflow

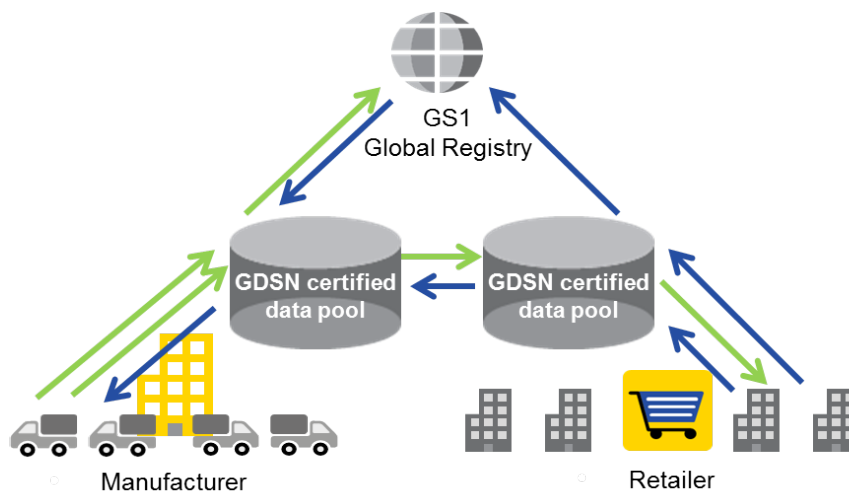
The Business Process Archive *P360\_BPM\_Management.bpr* contains a workflow process terminating a workflow process instance provided as parameter. This workflow process is needed for the Product 360 "Terminate workflow" functionality and therefore has to be deployed to the Informatica BPM Server.

## 8 GDSN Accelerator (Major Release 3)

### 8.1 Providing an interface to the Global Data Synchronization Network (GDSN) for accurate product data exchange

This add-on to Product 360 lets you synchronize product data with GS1 GDSN standards. Throughout the lifecycle of a product, many people rely on access to information about that product and that product information must constantly be maintained and updated by manufacturers and brands. After all, reliable and even more detailed product information is required to comply with changing regulations and satisfy consumer expectations of accessing product information from any channel. Distributors, retailers, and operators are constantly challenged with insufficient and inaccurate product data across their warehouses, stores or online.

Enter the Global Data Synchronization Network (GDSN), a system of interoperable data pools and a global product classification system and registry, that enables companies to exchange standardized and synchronized supply chain data with their trading partners. Suppliers and retailers can cut down the cost of building point-to-point integrations and speed product introductions by accessing the most accurate and most current product information.



The **Informatica GDSN Accelerator** is an add-on to the Informatica Product 360 system that provides access to the 1WorldSync Item Management and Data Sync Engine - two GDSN-certified data pools. It is designed to help organizations securely and continuously exchange, update, and synchronize product data with trading partners according to the standards defined by GS1.

After being integrated in your Product 360 system, the GDSN accelerator helps

you easily transfer product data to the data pool and fully control the information shared with a specific trading partner. The solution offers great flexibility to map item attributes to the GDSN standard and can be tailored to customer specific needs like providing industry-specific or optional fields.

#### 8.1.1 There are many benefits of using the GDSN Accelerator:

- Provides improved and consistent product data quality across the entire supply chain, increasing the accuracy of orders, reducing invoice errors, streamlining processes and slashing supply-chain costs
- Improves efficiency and collaboration with trading partners as it shares and updates product information quickly
- Streamlines and accelerates item setup processes and automates data exchange between data sources and recipients by accessing a single source of the truth. This helps speed time to market and time to shelf for new products or products with modified attributes like ingredients or package sizes.
- Can support manufacturers, suppliers and retailers to comply with regulations, and satisfies consumer and regulatory demands for more and better product information
- Informatica is a partner of 1WorldSync and GS1 Germany

#### 8.1.2 Item Management

Item Management "IM" is the data pool solution for former 1Sync. This is mainly used in USA.

### 8.1.3 Data Sync Engine

Data Sync Engine "DSE" is the data pool solution for former SA2 WorldSync. This pool is more commonly used in Europe.

## 8.2 The GDSN accelerator for Product 360 and B2B DX

The GDSN accelerator consists of three main features. The first one is the data model extension. For GDSN Major Release 3, we made our data model compliant and added further parts of the GDSN Extension *Food and Beverage*. The second feature provided with the GDSN accelerator is a lot of data quality rules and rule configurations to check if the data which will be sent to the GDSN data pool is valid. Last but not least it contains templates to export the data in the corresponding format which will be accepted by the GDSN data pool.

### 8.2.1 Data model extension

The Product 360 data model supports the core GDSN data model attributes, most of the Food and Beverage extension and the Canada extension (IM only). A complete list of all provided fields can be found in the chapter "GDSN Accelerator field list".

#### Packaging hierarchies

GDSN defines a special hierarchy for items, the so-called packaging hierarchy. In Product 360 this packaging hierarchy is represented by a special reference type called *Next lower level*. You can build a packaging hierarchy by creating a reference of type *Next lower level* from one item to another. The important thing here is that the parent has a reference to the child with the corresponding quantity (number). One example is shown in the screenshot below where a case was dropped on a pallet to create a packaging hierarchy. Here the created packaging hierarchy will contain one pallet with 25 cases.

Drag & Drop event

**Drag & Drop event**

You have selected "Pallet" of type "Item" as the target.

☒ Create a reference between the item "Case" and the item "Pallet"

Reference type:

Number:

☐ Create a component

The item is added to the selected kit as a static or variable component.

Component type:

Sequence:

Quantity:

OK Cancel

The existing "Item references" view can be used to edit respectively delete the *Next lower level* references:





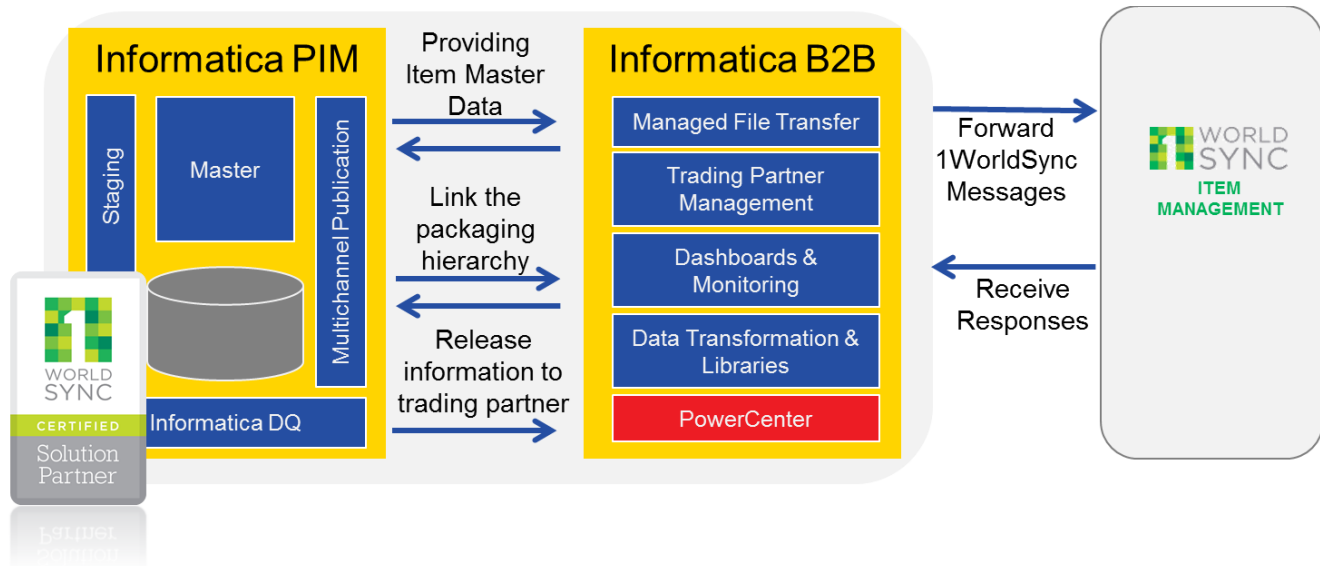
The screenshot displays the Informatica PIM 7.1 interface, which is used for managing product information. The top section shows a list of items from a supplier catalog, with columns for Item no., GTIN, and EAN UCC codes. Below this, a detailed view for a specific item, 'Coffee Supreme X1D 1000', is shown. This view includes various tabs for different types of information, such as GDSN General Data, EAN UCC codes, GDSN Target Market Data, and Food and beverage information. The 'GDSN Target Market Data' tab is currently active, showing fields for Target market, Languages, and various GDSN attributes like 'Is active in market', 'Is orderable unit', and 'Is dispatch unit'. The bottom section of the interface shows a sidebar with navigation options like 'Master catalog', 'Data transfer', and 'Catalogs'.

## Limitations of Product 360 Web:

- The publication status view is also not available in Product 360 Web
- In Product 360 Web language specific GDSN attributes can only be maintained in the key language, but it is possible to adjust the XML configurations

### 8.2.3 Communicating with the GDSN data pool using Informatica B2B DX

Product 360 uses the core competence of its export to send the data to the GDSN pool. The export creates an XML file according to an XSD schema defined by the pool in use. This file will be sent to Informatica B2B DX which forwards it to the connected GDSN pool. Informatica B2B DX can be seen as a mediator who communicates with the GDSN pool, does some data transformation and writes the answers from the GDSN pool back to Product 360. The picture below gives an overview of the interaction of all three systems.



#### Answers from Informatica B2B DX and the GDSN pool

After Informatica B2B DX receives a message from Product 360, it immediately writes a "Publication status" back to Product 360 to indicate that the message was received. The message will be forwarded to the GDSN pool and the answer of the pool will be transferred from Informatica B2B DX to Product 360 by writing a "Publication status" via the Product 360 Rest API.

### 8.2.4 Media assets

The data model of media assets was enhanced with five new GDSN related fields. The field "Uniform resource identifier" contains the URL to the image to add to your data in the GDSN pool.

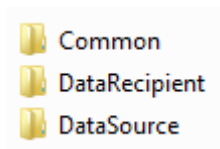
Please note that there is currently no supported way to upload physical images to the GDSN pool.

## 8.3 GDSN Accelerator package content

The GDSN accelerator package comes in the folder PIM\_8.0.5.00\_GDSN in a zip file called PIM\_8.0.5.00\_Accelerators.zip and contains the following content.

- PIM\_8.0.5.00\_Rev-49395\_client\_gdsn.delta.zip
- PIM\_8.0.5.00\_Rev-49395\_resources\_gdsn.delta.zip
- PIM\_8.0.5.00\_Rev-49395\_server\_gdsn.delta.zip

While the client and server zip contains the GDSN bundles which have to be simply installed via control center the "resources" package contains additional content which is shown below.



### 8.3.1 Selecting the right package

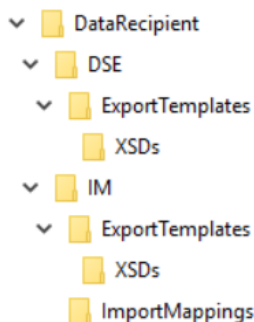
Before the GDSN accelerator is installed, it has to be clear which scenario is applicable. We support two different GDSN data pools, Item Management (IM) and Data Sync Engine (DSE). For both we support the data source as well as the data recipient side which leads to 4 different configuration possibilities. Depending on your scenario the corresponding export templates, import mappings and data quality rules have to be selected.

#### The "Common" folder

The "Common" folder contains things that are required for all scenarios, for example the GPC structure import which is relevant for the data recipient scenario as well as for the data source scenario and of course for both GDSN data pools.

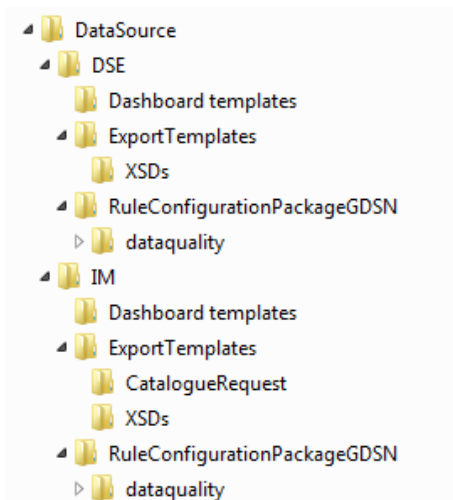
#### The "DataRecipient" folder

The "DataRecipient" folder contains all things necessary to install the data recipient scenario. This folder is divided again into the subfolders "DSE" and "IM" to differentiate between the GDSN data pools. For the recipient we currently only provide some export templates as well as basic import mapping to be able to import CINs into Product 360.



#### The "DataSource" folder

The "DataSource" folder contains all things necessary to install the data source scenario. Like the data recipient folder it is divided into a "DSE" and "IM" subfolder which contains the corresponding Dashboard templates, Export templates (with XSD schema files) and rule configurations. The dashboard templates are examples how a dashboard could be configured for a corresponding business user working with GDSN. Due to the fact that the choreography is different between IM and DSE the dashboards are also different. The export templates and the corresponding XSD schema files are also different depending on the GDSN data pool. This has to be considered when importing them. Last but not least there are the rule configurations files. While Product 360 provides a lot of standard GDSN rule configurations which are applicable for DSE and IM data pool, there are also a lot of additional IM specific rule configurations which are located in the IM folder.



## 8.4 GDSN Accelerator installation

### 8.4.1 Prerequisites

#### B2B Data Exchange environment

The installation of the Informatica B2B Data Exchange - 1SYNC Accelerator is required to use the GDSN Accelerator successfully. For more information, see the corresponding Release Notes available in the Informatica MySupport portal. Based on the information there, you can find ongoing information in chapter ["B2B Data Exchange"](#).

The receive endpoint directory for Informatica B2B

DX `wf_m_1Sync_message_from_ds_to_sdp` is called `<B2B_DS_INPUT_PATH>` hereafter.

#### Product 360 environment

The version of the installed Product 360 must be 8.0.5 or higher. Also the standard Data Quality Rules and reference data (contained in the DataSource folder of the file `PIM_<Version>_Rev-xxxxx_resources_gdsn.delta.zip`) have to be installed.

### 8.4.2 Installing the GDSN Accelerator

#### Download GDSN Accelerator zip

The **GDSN Accelerator** is available via Informatica Shipping. It consists of the folder `PIM_<Version>_GDSN` in the file `PIM_<Version>_Accelerators.zip`.

#### Extract the GDSN Accelerator zip

Unpack the file `PIM_<Version>_Accelerators.zip` to a temporary directory on the Product 360 environment. It contains the following artefacts:

- `PIM_<Version>_Rev-xxxxx_client_gdsn.delta.zip`
  - contains PIM Desktop feature and plugins
- `PIM_<Version>_Rev-xxxxx_resources_gdsn.delta.zip`
  - contains export templates, import mappings, DQ rules and rule configurations, Product 360 Web view definitions
- `PIM_<Version>_Rev-xxxxx_server_gdsn.delta.zip`
  - contains PIM Desktop feature and plugins

## Product 360 environment configuration

Unpack the archive **PIM\_<Version>\_Rev-xxxxx\_resources\_gdsn.delta.zip** into a temporary folder **<GDSN\_RESOURCES\_PATH>**.

## Product 360 Server

1. Unpack the archive **PIM\_<Version>\_Rev-xxxxx\_server\_gdsn.delta.zip** into the Product 360 server folder or use the PIM Control Center.

## Install GDSN Data Quality Rule Configurations

1. Backup the Product 360 server's **dataquality** folder (PIM 8.0: **<PIM\_SERVER\_SHARED\_DIR>/dataquality**).
2. Copy (and replace) the file **StandardDataQualityMappingProfile.xml** to the subfolder **config** of the Product 360 server's **dataquality** folder. (**<PIM\_SERVER\_SHARED\_DIR>/dataquality/config**)
  - a. For IM the **StandardDataQualityMappingProfile.xml** to be used can be found here:  
**\DataSource\IM\RuleConfigurationPackageGDSN\dataquality\config**
  - b. For DSE the **StandardDataQualityMappingProfile.xml** to be used can be found here:  
**\DataSource\DSE\RuleConfigurationPackageGDSN\dataquality\config**



If there are problems during startup due to same objects (because of same identifiers) used in both configuration sets, the server won't start. The logs give detailed information about conflicting objects.

Later after the complete GDSN accelerator installation/migration, execute DQ runs to get a status for the item for each of the new rule configurations. And the channels status is restored as well.

## Adjust Repository

It is not necessary to do repository adjustments for IM. During the start of the Product 360 server the repository will be adjusted automatically according to the configured GDSN pool.

Those steps are described in the "[Repository configurations](#)" chapter as well as options for manual custom-specific repository adjustments.

If you are using the DSE pool, please have a look at "[Configuration for DSE](#)", to see the necessary adjustments.

## Adjust application modules

In the "application\_modules.properties" file you have to activate the used GDSN modules, see chapter "[Application modules](#)" for more details.

## Product 360 Database

In the table **ArticleDetail** of the **master database** extend the index **XIE3\_ArticleDetail** with the column **DeletionTimestamp**.

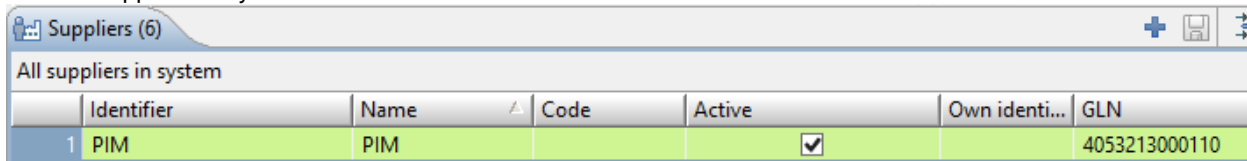
## Product 360 Desktop Client

### Install Product 360 Desktop Client enhancements

1. Unpack the archive **PIM\_<Version>\_Rev-xxxxx\_client\_gdsn.delta.zip** into the Product 360 client folder.
2. Start the client.

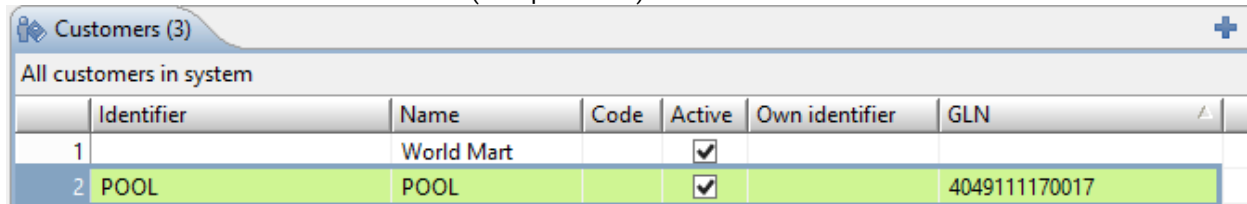
## Create supplier and customer

1. Create a supplier with your **own** Information Provider GLN



| All suppliers in system |            |      |      |                                     |               |               |
|-------------------------|------------|------|------|-------------------------------------|---------------|---------------|
|                         | Identifier | Name | Code | Active                              | Own identi... | GLN           |
| 1                       | PIM        | PIM  |      | <input checked="" type="checkbox"/> |               | 4053213000110 |

2. Create a customer with your own Information Provider GLN (this is needed for publication to market groups(IM Only))
3. Create a customer with the GDSN Pool GLN (=recipient GLN)



| All customers in system |            |            |      |                                     |                |               |
|-------------------------|------------|------------|------|-------------------------------------|----------------|---------------|
|                         | Identifier | Name       | Code | Active                              | Own identifier | GLN           |
| 1                       |            | World Mart |      | <input checked="" type="checkbox"/> |                |               |
| 2                       | POOL       | POOL       |      | <input checked="" type="checkbox"/> |                | 4049111170017 |

4. Maintain the GLN on all your customers

The GLNs are necessary to get the answers from the pool back to the PIM and are used by the B2B to create the publication status messages.

## Load and save export templates

See ["Export templates"](#) for instructions.

## Install GDSN Data Quality rules and reference data

1. Add GDSN specific rules:
  - a. Open the perspective "Data quality"
  - b. Select any custom rule configuration
  - c. Open the "Select data quality rule" dialog (".."button) (If the rule configurations are read only, create new one to be able to import rules.)
  - d. Click the button "Add rules from file"
  - e. choose the file **<GDSN\_RESOURCES\_PATH>/Common/RulePackageGDSN/Informatica\_PIM\_GDSN.xml**
  - f. Wait until the rules were added successfully
2. Add GDSN specific reference data
  - a. In the "Select data quality rule" dialog (see step 2.c. above) click the button "Add reference data from file"
  - b. Choose the file **<GDSN\_RESOURCES\_PATH>/Common/RulePackageGDSN/Informatica\_PIM\_GDSN.zip**
  - c. in the "Adding reference data" dialog leave the defaults and click "OK".
  - d. Wait, until all dictionaries are deployed, which is done automatically within a server job of type "Deployment of reference data (scheduled)".

## Import GPC Structure

1. Download the latest files from the GS1 website: <http://www.gs1.org/gpc/production>
  - a. It is recommended to download the **Combined Published Schema, or the subset of the required industry**
  - b. The excel file **GS1 Combined Published\_Schema as at 0000000.xlsx** from the zip archive is needed
2. Create a new **output** structure system with identifier "GPC". Configure that multiple assignments are not possible for this structure system.
3. Use the import mapping **<GDSN\_RESOURCES\_PATH>/Common/GPC structure import/GPC en.him** to import the downloaded excel file
4. Switch the structure system to type "classification system"

## Load Dashboard

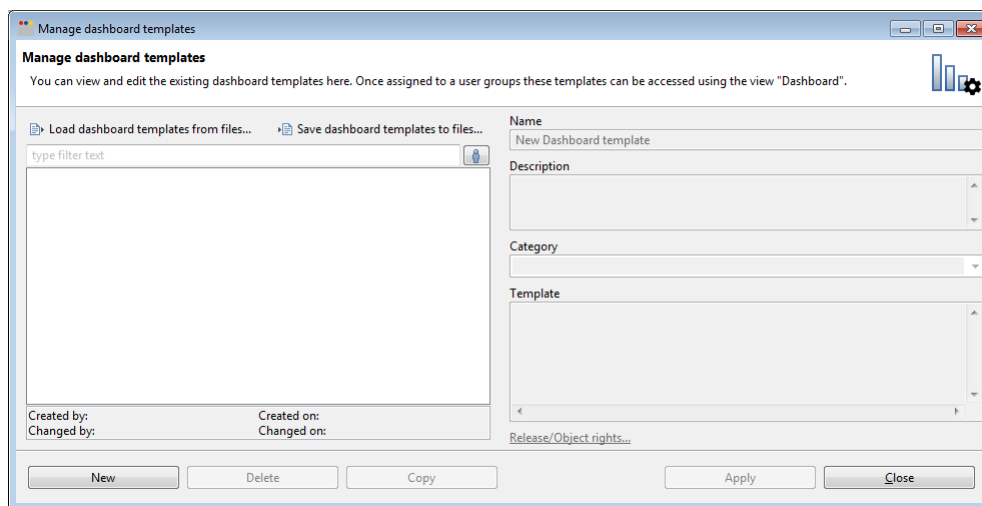
The GDSN accelerator package contains 2 dashboard templates, one for IM data source scenario and one for DSE data source scenario. The templates are designed for business users who are working with GDSN and contain typical widgets for their daily work such as a widget showing how many items are already sent to the pool or how many items are already published.

To use the dashboards please open the "Manage Dashboard templates" dialog at the menu "Management". Then click on "Load dashboard templates from file" and select your dashboard. You can assign this dashboard to your GDSN user group in the organization perspective (in the view "User groups"), so it will be opened whenever a user of this user group opens the web client.

Some parameters need to be adjusted to the company's details:

```
<parameter key="groupingField" value="Article.Status->PublicationStatusEntry.ResponseType('Super CPG','World Mart',DE,PUBLICATION_RESPONSE,$Default)"/>
```

- 'Super CPG' should be replaced with the Name of the Supplier holding the GLN of the own company
- 'World Mart' should be replaced with the Name of the default customer who should be visualized
- DE should be replaced with the required Target Market



### 8.4.3 Application modules

With Product 360 8.0.5 the application module concept was introduced. A module can be seen as business functionality which can be enabled or disabled. Therefore a new property file called "application\_modules.properties" located in the configuration folder of the server was introduced. Currently it is possible to enable/disable different GDSN scenarios and the Food and beverage module. When activated, the corresponding perspectives, views and other things like reports and export datatypes are available for the user to import/maintain/export food and beverage or GDSN data.

**By default "GDSN" as well as "FoodAndBeverage" are set to "false"** and must be activated during the accelerator installation (food and beverage only if needed).

The Food and Beverage module can be used independently of GDSN.

An example for the application\_modules.properties file is given in the screenshot below. Please see the following chapters for a specific "DSE" or "IM" configuration.

```

# Defines if the GDSN extension is installed (true) or not (false)
GDSN = true

# Defines if the GDSN pool "IM" is used (true) or not (false) if the GDSN extension is installed.
gdsn_pool_im = false


# Defines if the GDSN pool "DSE" is used (true) or not (false) if the GDSN extension is installed.
gdsn_pool_dse = true


# Defines if the GDSN extension is used in "data source" mode (true) or not (false) if installed.
gdsn_data_source = true

# Defines if the GDSN extension is used in "data recipient" mode (true) or not (false) if installed
gdsn_data_recipient = false

# Defines if the food and beverage module is activated (true) or deactivated (false).
FoodAndBeverage = true

```

 Please note that both, running multiple pools at the same time and activating more than one role (dataSource and dataRecipient) is not supported.

 Please also note that if GDSN should be used, the corresponding GDSN plugins need to be installed in the client and server.

## Configuration for DSE

The following settings are needed in the application\_modules.properties file for GDSN pool "DSE", data source scenario. If the data recipient scenario should be installed, "gdsn\_data\_source" has to be set to "false" and "gdsn\_data\_recipient" has to be set to "true". Again, having both scenarios active at the same time is not supported.

```

# Defines if the GDSN extension is installed (true) or not (false)
GDSN = true

# Defines if the GDSN pool "IM" is used (true) or not (false) if the GDSN extension is installed.
gdsn_pool_im = false

# Defines if the GDSN pool "DSE" is used (true) or not (false) if the GDSN extension is installed.
gdsn_pool_dse = true

# Defines if the GDSN extension is used in "data source" mode (true) or not (false) if installed.
gdsn_data_source = true

# Defines if the GDSN extension is used in "data recipient" mode (true) or not (false) if installed
gdsn_data_recipient = false

# Defines if the food and beverage module is activated (true) or deactivated (false).
FoodAndBeverage = true

```

## Configuration for IM

The following settings are needed in the application\_modules.properties file for the GDSN pool "IM", data source scenario. If the data recipient scenario should be installed, "gdsn\_data\_source" has to be set to "false" and "gdsn\_data\_recipient" has to be set to "true". Again, having both scenarios active at the same time is not supported.



```

# Defines if the GDSN extension is installed (true) or not (false)
GDSN = true

# Defines if the GDSN pool "IM" is used (true) or not (false) if the GDSN extension is installed.
gdsn_pool_im = true

# Defines if the GDSN pool "DSE" is used (true) or not (false) if the GDSN extension is installed.
gdsn_pool_dse = false

# Defines if the GDSN extension is used in "data source" mode (true) or not (false) if installed.
gdsn_data_source = true

# Defines if the GDSN extension is used in "data recipient" mode (true) or not (false) if installed
gdsn_data_recipient = false

# Defines if the food and beverage module is activated (true) or deactivated (false).
FoodAndBeverage = true

```

#### 8.4.4 B2B Data Exchange

##### Introduction

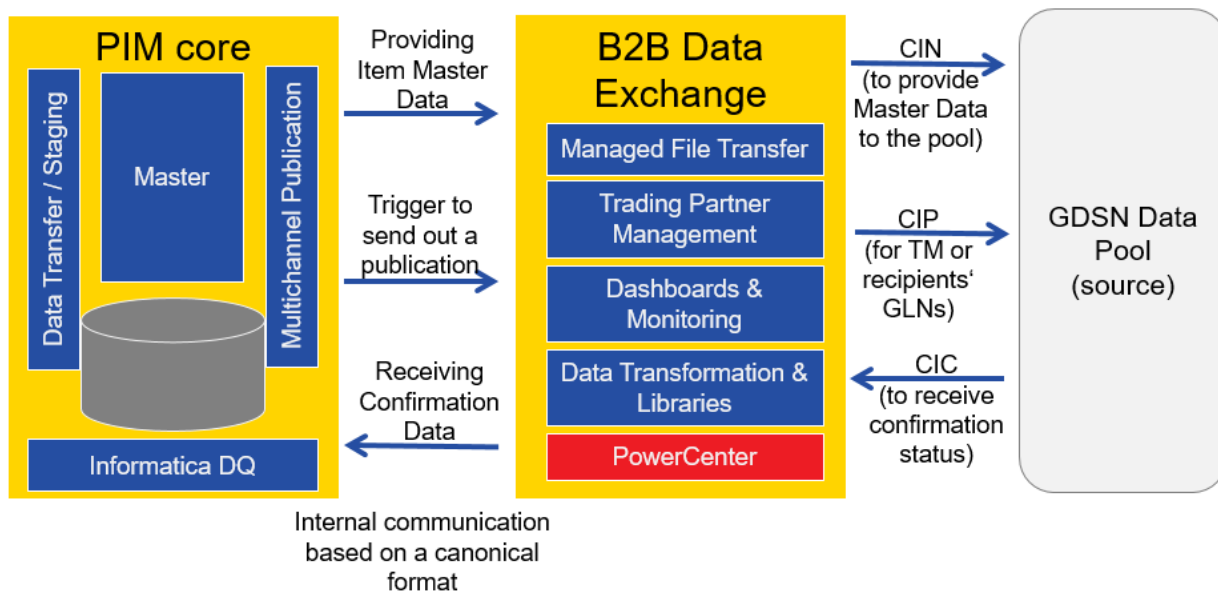
B2B Data Exchange GDSN Accelerator provides a packaged B2B Data Exchange solution that addresses common business-to-business GDSN integration use cases for vertical industries and reduces implementation efforts. It processes the exchanged messages, mediates communication between GDSN data pools and partners and tracks the correlation between messages sent to the data pool and the responses/acknowledgments received from the data pool through the reconciliation status.

##### B2B Data Exchange GDSN Accelerator Components

B2B Data Exchange GDSN Accelerator comprises of several Informatica products:

- Managed File Transfer (MFT) - connect to GDSN data pool using AS2/SFTP protocols
- Dashboards and Monitoring - manage and monitor data communication using B2B Data Exchange Operator Console.
- Data Transformation (DT) - transforms data from one format to another. In the GDSN context, DT handles the transformation between the Product 360 format and the GDSN data pool message format.
- PowerCenter - Integration layer with workflows containing DT services, B2B Data Exchange transformations, request-response data correlation, and more.

The image below shows the architecture data flow of the B2B Data Exchange GDSN Accelerator in the Data Source scenario.



## Item Management (IM) & Data Sync Engine (DSE)

Product 360 can exchange product data information with two different GDSN data pools - IM and DSE. These data pools handle different data formats, which is the basis of how the data is being represented and exchanged between Product 360 and GDSN.

This difference means that while most of the B2B Data Exchange GDSN Accelerator components remain the same, the DT services are different when working with IM and DSE data pool.

## Prerequisites

Before you install the B2B Data Exchange GDSN Accelerator, ensure that you have a valid license with the GDSN options. Ensure that you have installed the following products:

- PowerCenter
- Data Transformation
- B2B Data Exchange
- MFT (In case the customer has its own MFT solution, then Informatica MFT is not required.)

**Note:** Informatica product version may vary. The obtained B2B Data Exchange GDSN Accelerator should be compatible with whatever Informatica product version you installed.

## Installation

Configure Informatica application services based on the products and functionality that are required to deploy the GDSN Accelerator. For example, if you use PowerCenter to run the B2B Data Exchange GDSN Accelerator, you need to configure the following:

1. PowerCenterRepositoryService
2. PowerCenter Integration Service
3. Web Services Hub Service



Install and configure the different components of the B2B Data Exchange GDSN Accelerator - Follow the instructions as described in the Release Note document, which is included in the B2B Data Exchange GDSN Accelerator package.

## B2B Data Exchange GDSN Accelerator configuration

### DX Endpoints

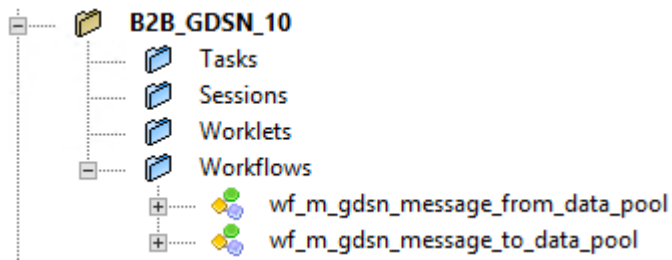
Configure the DX endpoints to ensure correct data exchange between the different products that are involved in the GDSN solution.

The image below is from B2B Data Exchange Operator Console and it shows the DX Endpoints that are part of the GDSN Accelerator that needs to be configured.

| Endpoints                                                   |                      |                                                                                                                                                                                                               |
|-------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Find                                                        | <input type="text"/> | <input type="button" value="Search"/>   |
| Name ▲                                                      | Type                 | Partner                                                                                                                                                                                                       |
| <a href="#">endpoint_gdsn_message_from_data_pool</a>        | File receive         | Data Pool (GDSN)                                                                                                                                                                                              |
| <a href="#">endpoint_gdsn_message_from_dx_to_data_pool</a>  | File send            | Data Pool (GDSN)                                                                                                                                                                                              |
| <a href="#">endpoint_gdsn_message_from_dx_to_PIM</a>        | File send            | PIM                                                                                                                                                                                                           |
| <a href="#">endpoint_gdsn_message_from_PIM_to_data_pool</a> | File receive         | PIM                                                                                                                                                                                                           |

For example, the DX endpoint "endpoint\_gdsn\_messgae\_from\_PIM\_to\_data\_pool" specifies where B2B Data Exchange will receive the files that were exported from Product 360. Then, according to the B2B Data Exchange GDSN Accelerator specification, since the format of the exported file from Product 360 doesn't comply with the data pool expected format, B2B Data Exchange sends the file to a PowerCenter workflow for further processing and data transformation.

The image below is from the WorkflowManager client tool and it shows the PowerCenter workflows that are part of the GDSN Accelerator.



For example, the PowerCenter workflow "wf\_m\_gdsn\_message\_to\_data\_pool" execute set of tasks to process the exported file from Product 360 before it's sent to the data pool.

Within the WorkflowManager you specify the JMS, JNDI and Http connections that are required for the GDSN Accelerator to work. For more information, please refer to the Release Notes documentation that is part of the GDSN package.

## MFT

In case the customer wants to use Informatica MFT product for data communication with GDSN data pool, then a set of steps are required to be performed in MFT and B2B Data Exchange.

## 8.4.5 Repository configurations

### Repository auto-adjustments

During the start of the Product 360 server the repository will be adjusted automatically according to the configured GDSN pool. The following steps will be done:

#### Activate GDSN repository entities

The GDSN modules are implemented as second-level entities below the "Item" root entity. In this context, the terms "GDSN modules" and "GDSN specific repository entities" are used interchangeably.

All GDSN specific repository entities are deactivated by default in the repository. If GDSN is installed and activated (see ["Application modules"](#)), all GDSN repository entities will be enabled during server start.

**Note:** The "Active" attribute of the repository entities is the only one that is changed here. All other attributes - like name, import purpose, ... - as well as the fields and the sub-entities can be configured in the repository as usual.

In addition to that, there're few data fields that are pool-specific. They will be disabled during the server start according to the configured GDSN pool.

**Attention:** It is strongly recommended that you don't change the "scope" settings of repository fields.

#### Activate enumeration entries of GDSN enumerations

The entries of GDSN enumerations defined in the "EnumFragment.repository" file will be added to the enumerations.

There're some enumeration entries that are pool-specific. That's why some enumeration entries got an additional "scope" parameter that is analysed during server startup and ensures consistent valid value lists. Not applicable enumeration entries will not be added.

**Attention:** It is strongly recommended that you don't change the "scope" settings of enumeration entries.

#### "Next lower level" item reference type

The GDSN packaging hierarchy is implemented by an additional item reference type "Next lower level". That reference type will be added to the "Enum.Article.Article.ReferenceTypes" repository enumeration, the default value is "12000". In addition to that, an enum param "GDSN.packagingHierarchy.reference" is added to that enumeration, it is needed by the business layer, e.g. to provide the hierarchy view with appropriate data.

## Manual repository adjustments

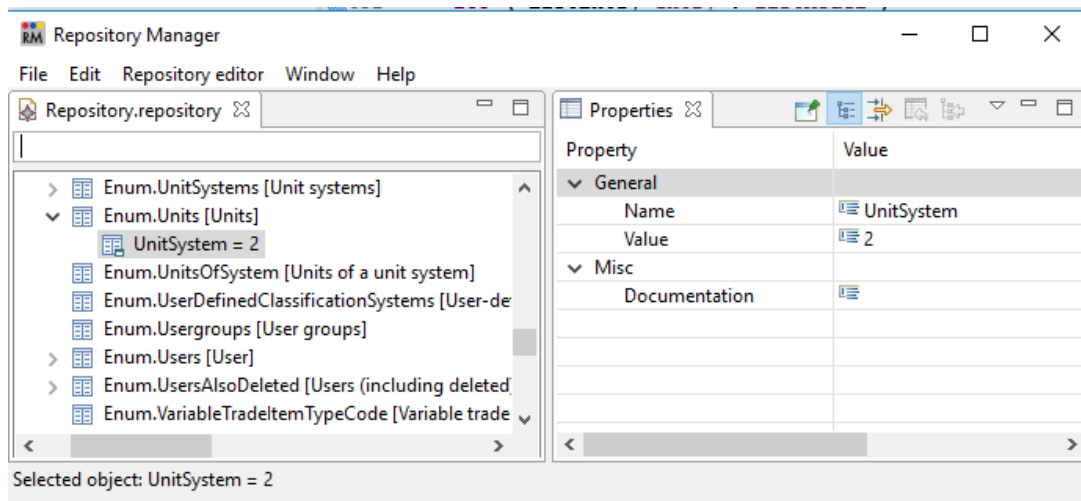
Depending on your needs, you need to make some settings manually.

**i** For all GDSN specific enumerations (e.g. Enum.PreparationType) the standard repository file (repository.repository) only contains header information. The enumeration entries itself can be found in the repository fragment file **EnumFragment.repository**. This file is located in **<PIM\_CONTROL\_CENTER\_INSTALLATION\_FOLDER>/configuration/HPM/gdsn**. It can be opened with the Repository Manager similar to the standard repository file.

## Set GDSN unit system as default unit system

By default, the unit system "System units" (2) is used by the "Units" repository enumeration. All GDSN UOM fields have got own unit enumerations according to the GDSN specification.

If you want non-GDSN fields to use only GDSN units you should switch the default unit system to "70".

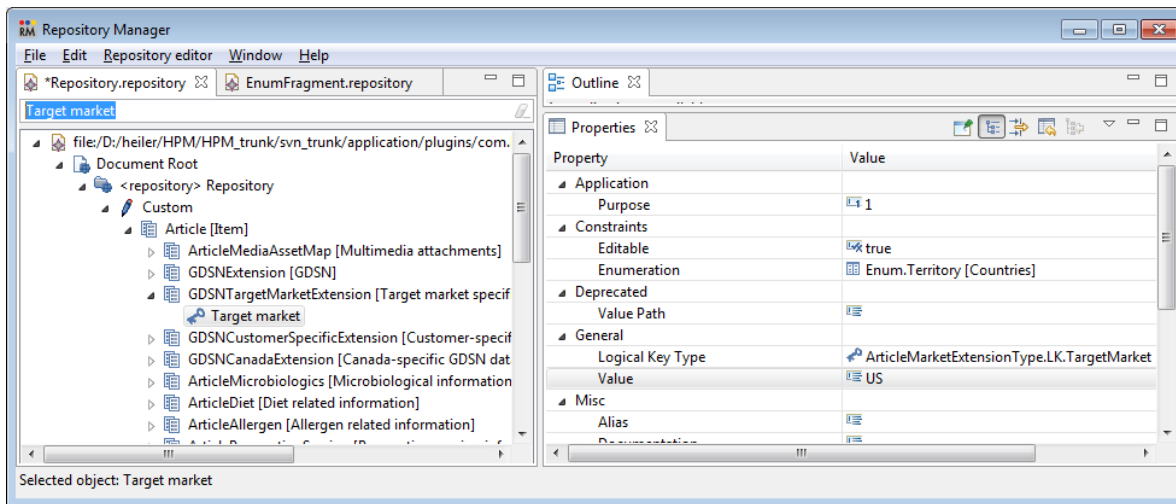


## Change default field qualification

In order to work more efficiently, you should set the default values of some logical keys to your needed value. Note that you don't have to set the values of non-editable or non-visible logical keys and fields; for editable fields it's sufficient to set the logical key value.

## Target market

There's a lot of target market specific fields. If you want to mainly use one dedicated target market you should set the default value of the corresponding logical keys and fields to that target market code.



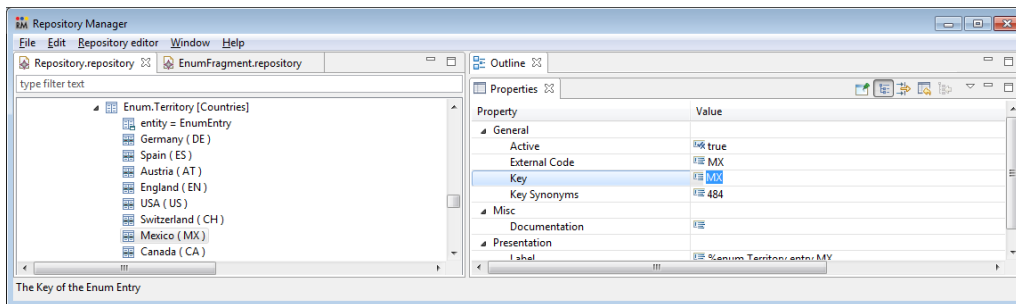
## UOM type

The default uom type value is "metric" (METRIC). If you maintain imperial unit of measures primarily you should change the default value to "IMPERIAL":

## Additional enumeration entries

### Target markets

If needed, enhance the enumeration **Countries** (Enum.Territory) with further target markets.



For each target market, also add an entry in the server's plugin\_customization.ini like the following:

**com.heiler.ppm.gdsn.core<pool code>.Enum.Territory.<enum\_key> = <TM\_key>** (where <pool code> is 1WS (for IM) or GDSN (for DSE), <enum\_key> is the key of the enum entry, <TM\_key> is the pool specific key of the target market)

#### IM specific target market entries in plugin\_customization.ini

```
# mexico
com.heiler.ppm.gdsn.core/1WS.Enum.Territory.MX = MX
# canada
com.heiler.ppm.gdsn.core/1WS.Enum.Territory.CA = CA
```

#### DSE specific target market entries in plugin\_customization.ini

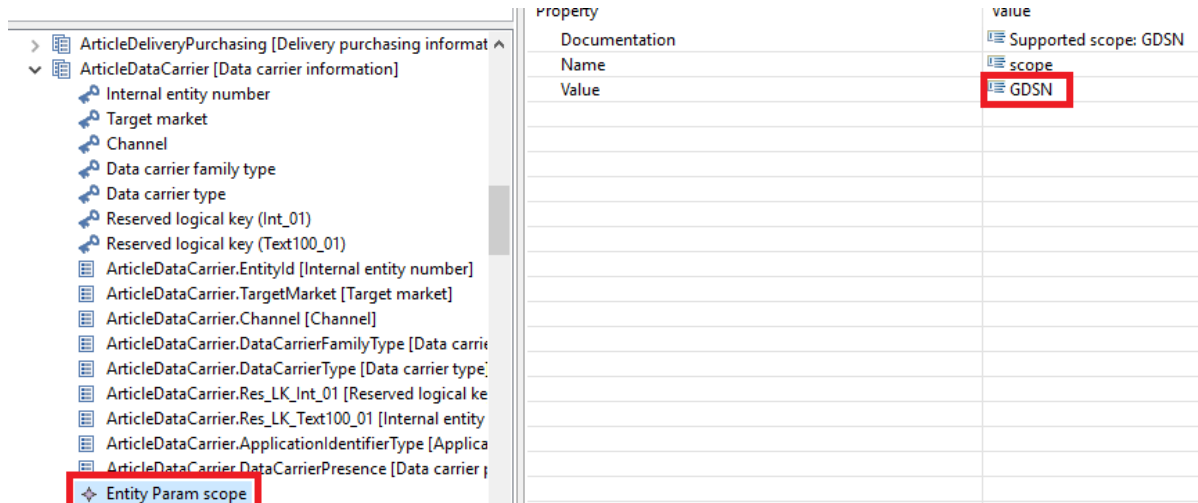
```
# mexico
```

```
com.heiler.ppm.gdsn.core/GDSN.Enum.Territory.MX = 484
# canada
com.heiler.ppm.gdsn.core/GDSN.Enum.Territory.CA = 124
```

## Customizing

### Hide a GDSN module

When you do not want to deal with an entity which is not needed for your scenario, it is possible to deactivate the entity in the Repository Manager. Select the unwanted entity and edit the "Entity Param scope" of the entity.



When deleting the value GDSN those entities won't be activated during server start anymore. Furthermore, the corresponding views are not available in the UI.

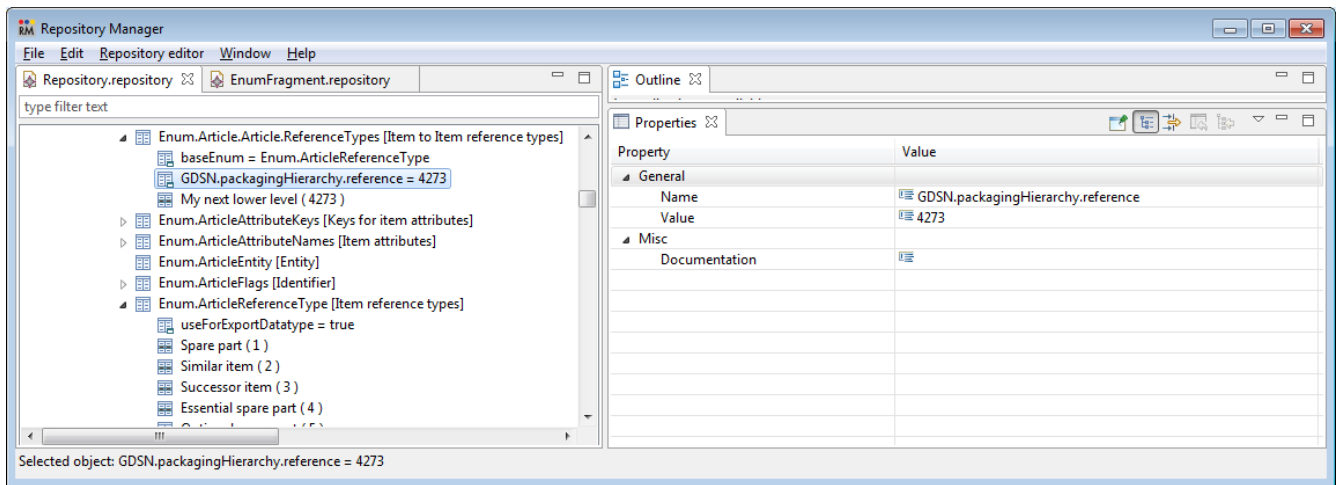
Take care when deactivating an entity because all **references** to the entity in other Product 360 components have to be deleted manually.

Example for these components are:

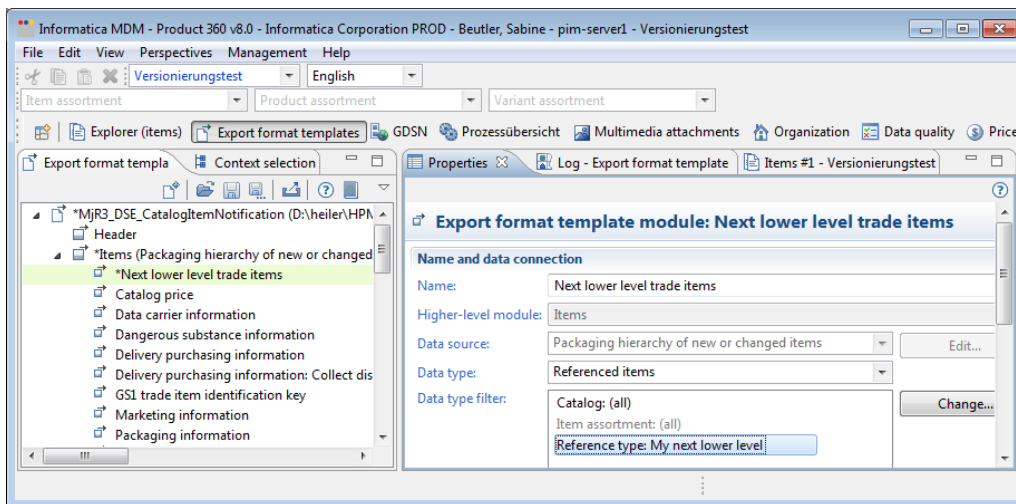
- Export templates
- Import mapping
- Custom article detail XML files
- DQ rule configurations
- Product 360 customizations

### Change the "Next lower level" reference type

If you want to use another reference type for the packaging hierarchy of items, you have to ensure this reference type is part of the "Enum.Article.Article.ReferenceTypes" repository enumeration. Furthermore, you have to add an enumeration parameter "GDSN.packagingHierarchy.reference" with your reference type as value to that enumeration.



In case you're using DSE you have to adjust the CatalogItemNotification export template accordingly:



## Configuration for DSE

There're some additional repository changes needed if you want to use the DSE GDSN pool.

## Adjust length of repository fields

| Field identifier                             | Field length (repository) | Field length (DSE) |
|----------------------------------------------|---------------------------|--------------------|
| GDSNTargetMarketExtensionLang.FunctionalName | 70                        | 35                 |
| GDSNTargetMarketExtensionLang.Variant        | 70                        | 35                 |

**Please note:** Although this could be also done automatically during startup we decided to leave it as a manual step. This has mainly transparency reasons but also has the advantage that field length can still be changed by Professional Services, e.g. when the data model is used in another context than GDSN.

## 8.5 GDSN Accelerator setup

After installing the GDSN accelerator you should do some steps to setup the Product 360 working environment, like arrange suitable perspectives if needed, configure GDSN export templates, setup jobs to automatically create and send GDSN messages.

### 8.5.1 Export templates

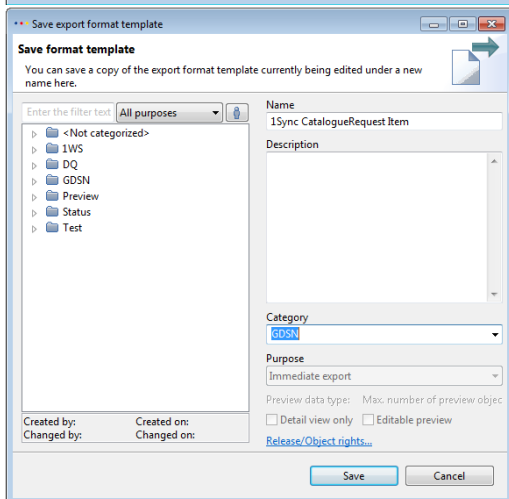
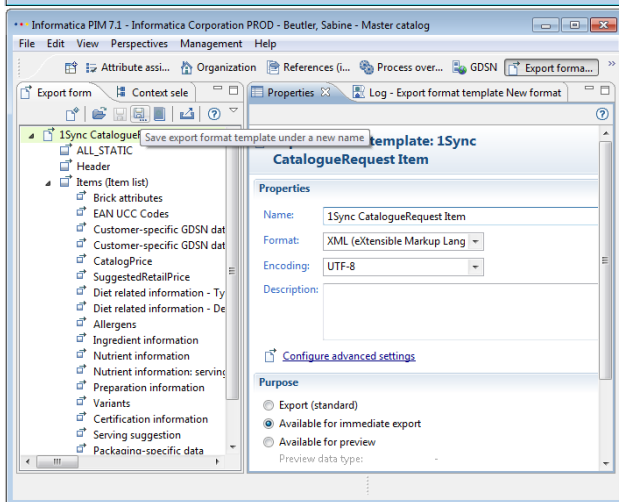
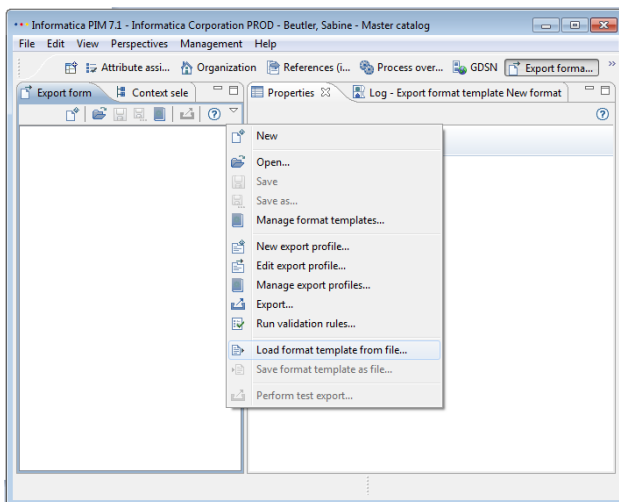
Note: If you want to export to the DSE pool adjust the repository like described in "[Configuration for DSE](#)".

#### Load and save the export templates

The GDSN accelerator package contains various export template files that you should load and then save within Product 360. This is necessary to be able to configure the export templates, to schedule repeating export jobs as well as to create one-click exports for immediate data transfer to the GDSN pool. Depending on the GDSN data pool the export templates are completely different. In the subchapters it is described which are needed for the corresponding IM or DSE data pool.

Open the "Export format templates" perspective, choose "Load format template from file...", select one export format template file, assign or create an appropriate category, for example "GDSN", and save the template into Product 360 and repeat those steps for all export format templates:

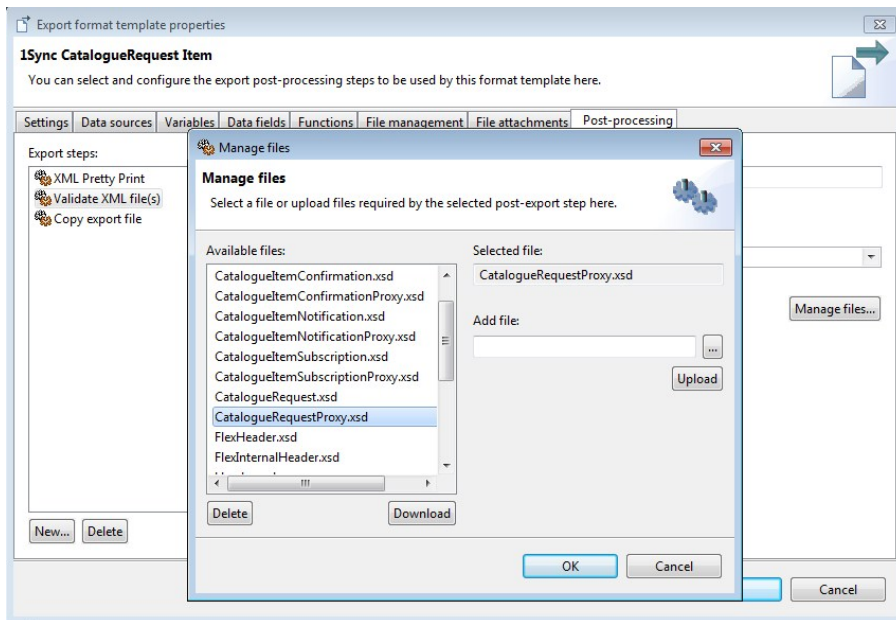




## Add XSD schema files

After saving the export templates, you need to make sure that the needed XSD files are already uploaded to the Product 360 system. Therefore go to the "Post-processing" tab in the property dialog of any export format template and select "Validate XML file(s)" export step. Press on "Manage files..." and examine if the delivered XSD files (e.g.

CatalogueRequestProxy.xsd) are already in the "Available files" list. In case those are not uploaded yet, find the XSD files to upload in the GDSN accelerator package and upload them here. Again it is important to upload the XSD files which are appropriate for your GDSN data pool, locations can be found in the subchapters for IM and DSE.



The upload of the XSD files has only to be done once. They will be available for all export format templates.

## Export templates for DSE

All important export templates for the Data Sync Engine (DSE) can be found within the DSE folders of the GDSN accelerator package. There are different export templates for the data recipient and the data source scenario, see the chapters below for more details.

- ▼ PIM\_8.0.5.05.00\_Rev-55577\_resources\_gdsn.delta
  - > Common
  - ▼ DataRecipient
    - ▼ DSE
      - ▼ ExportTemplates
        - XSDs
    - ▼ IM
      - ▼ ExportTemplates
        - XSDs
        - ImportMappings
  - ▼ DataSource
    - ▼ DSE
      - Dashboard templates
      - ▼ ExportTemplates
        - XSDs
    - > RuleConfigurationPackageGDSN
    - > IM

## Data source export templates

These are the following data source export templates:

- Catalog Item Notification (CIN\_CatalogItemNotification.ext)
- Catalog Item Publication (CIP\_CatalogItemPublication.ext)
- Catalog Item Publication Withdrawal (CIPHW\_CatalogItemPublicationHierarchyWithdrawal.ext)

### Catalog Item Notification

The *Catalog Item Notification* export template outputs a "Catalog Item Notification" GDSN message containing items. Depending on the configuration, you can transfer new and/or modified trade item information with all detailed data maintained.

More information about provided data fields can be found in chapter "[GDSN Accelerator field list](#)".

*Available Operations:*

**ADD:** Adds the item to the pool (can also be used to update the current item). This is the operation that should be used for the automated *Catalog Item Notification* export job.

**CORRECT:** Is used to update the values for the current item in the pool. It can be used for manual triggered *Catalog Item Notification* exports.

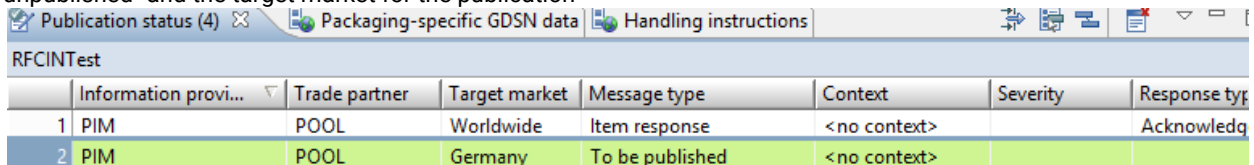
**CHANGE\_BY\_REFRESH:** Updates the current hierarchy for the item in the pool if there is no active publication. This operation should only be used for dedicated item hierarchies that are to be transferred to the GDSN pool by manual started *Catalog Item Notification* exports.

### Catalog Item Publication

The *Catalog Item Publication* export template creates a GDSN message containing publications for all given items. Depending on the publication status of the items, you can add or delete publications. Furthermore, the message can be sent to a target market or for all GLNs an item is assigned to. You can find more information about the publication in the corresponding "[Publication](#)" chapter.

A publication will be sent if the items to publish follow these conditions:

- The items have been sent to the pool already, there's an Item response publication status for each item
- All items which should be published have to have a publication status entry with "To be published" or "To be unpublished" and the target market for the publication



The screenshot shows a software window titled 'RFCINTest' with a table of publication status. The table has columns: Information provi..., Trade partner, Target market, Message type, Context, Severity, and Response typ. There are two rows of data.

|   | Information provi... | Trade partner | Target market | Message type    | Context      | Severity | Response typ |
|---|----------------------|---------------|---------------|-----------------|--------------|----------|--------------|
| 1 | PIM                  | POOL          | Worldwide     | Item response   | <no context> |          | Acknowledg   |
| 2 | PIM                  | POOL          | Germany       | To be published | <no context> |          |              |

- The configured target market in the export format template corresponds to the target market of the item in "Target market specific GDSN data"
- If you want to publish to specific customers, you have to add a valid trade partner with a valid GLN.

**Note:** If there is the "<Public>" customer specified instead of a valid trade partner for the publication of the item it will be published to the whole target market taken from the parameter "Target market".

### Catalog Item Publication Withdrawal

The *Catalog Item Publication Withdrawal* export template is used to manually modify a publication of single items for a given GLN. Depending on the configuration, you can delete the active GLN publication on an item or change the hierarchy within the item.

A publication withdrawal will be sent if the item follows these conditions:

- The configured target market in the export format template corresponds to the target market of the item in "Target market specific GDSN data".

*Available Operations:*

**PUBLICATION WITHDRAWAL:** Used when deleting an active publication.

**HIERARCHY\_LINK\_CORRECTION:** Used if you want to change the hierarchy of the specified item. After sending this operation, you can send your item with the changed hierarchy information with a Catalog Item Notification. The publication will be automatically resumed when the new Catalog Item Notification was sent.

### Data recipient export templates

These export templates can only be used if you are a data recipient. To change Product 360 to the data recipient mode have a look at the chapter "[Application modules](#)".

- Catalog Item Subscription (CIS\_CatalogItemSubscription.ext)
- Request For Catalog Item (RFCIN\_RequestForCatalogItem.ext)
- Catalog Item Confirmation (CIC\_CatalogItemConfirmation.ext)

### Export template parameters

Export template parameters can be parameters of data sources, parameters of export post steps or variables. Furthermore variables can be used as parameters of data sources or export post steps.

There are a lot of parameters you can configure in the export templates. All of them can be assigned to one of the following two categories:

#### Identify

Each of the export templates has two mandatory parameters needed for the communication with the GDSN pool. It is recommended to set the correct values and make those parameters invisible.

- "Information provider" and "Information provider GLN" respectively  
This is the supplier representing your own GLN.
- "Recipient" and "Recipient GLN" respectively  
This is the customer representing the pool GLN.

Both values have to exist in PIM, otherwise the responses from the pool will not be written back to PIM. Make sure you created the values like described in the section about the creation of supplier and customer.

#### Select data

Most parameters are used to qualify which data should be exported.

First of all, there is a catalog and an item assortment to determine which items are to be exported.

In addition to that, the target market, a language, a price type, etc. specify which details of items are to be exported.

### Export data source configuration

Most GDSN export templates use a form of the [hierarchy of new and changed items data provider](#) as data source. If you want to schedule repeated export jobs, you usually want to send only new and changed items to the pool.

| Setting        | Value                                      | Editable |
|----------------|--------------------------------------------|----------|
| Catalog        | Master catalog                             | true     |
| Assortment     | <empty>                                    | true     |
| Currency       | Euro                                       | true     |
| Reference date | Variable "ReferenceDate", see next chapter | true     |

| Setting           | Value                 | Editable |
|-------------------|-----------------------|----------|
| Type of change    | New and changed items | false    |
| Update assortment | empty                 | true     |
| GPC structure     | GPC                   | false    |
| Version           | Working version       | false    |

You can specify appropriate values for the visible parameters in the export profiles you create of them.

It is recommended to set the "Update assortment" value to "true" for scheduled export jobs, but if you want to start a single export it may be not necessary to update the assortment.

## Parameters

Most parameters of the export template have to have fixed values. You should set those values to the export templates and switch the corresponding parameters to "Not editable" to hide them for further use.

## Reference date

If you want a [scheduled export job](#) to export all items that have been created or updated after the last run, you can use the variable "Reference date" that gets updated with the corresponding date and time for every export job run.

The important step is to select "Update" and "after exporting" for the variable.

**New export profile - 1Sync CatalogueRequest Item 2**

**Export parameter configuration**  
Set the export parameters for executing this export.

Data source "Changed and new items"

Catalog:\* Master catalog

Assortment:

Update assortment: Yes

Variables

Now:\* Default value (8/18/2015)

**ReferenceDate:\*** 8/18/2015 4:22 PM ☒ Update after exporting

operation (ADD or MODIFY):\* ADD

< Back Next > Finish Cancel

## XSD schema files

For DSE all available XSD schema files for all GDSN modules are delivered although only some of them are supported out of the box and so are really needed.

They are provided to make it easier for IPS or partners to extend the datamodel with new modules and have a consistent set of XSD files. This is also important because B2B has the same set of XSD schema files and they have to match to guarantee a working process.

Please note that B2B also has the full XSD schema file set which means there is nothing to do on B2B side when adding new modules or attributes.

## Informatica B2B DX receive endpoint directory

The path to the B2B DX receive endpoint directory is set by the value for "Target directory" of the "Copy export file" export post step. As this is a fixed value you should set this parameter to not editable.

## Use export templates

After you have configured the export templates you can use them to create export profiles for manual export or for scheduled export jobs.

The manual export can also be triggered by an immediate export. Therefore your template must match the needs of the immediate export:

- The purpose "Available for immediate export" must be set in the template
- The export format template for the immediate export must contain the value "Editable" in the data sources for the "Catalog" and "Assortment" parameters.

## Post processing

### Validate

All created XML files by the export will be validated against the corresponding XSD file. The "Validate XML file(s)" export post step will cancel the export if the validation fails.

*Export post step name:* Validate XML file(s)

*Parameter name:* Cancel export in case of error

### Transfer

After an export has been finished successfully, the created XML file will be transferred to the B2B DX receive endpoint directory. The path to that folder is a parameter of the "Copy export file" export post step.

*Export post step name:* Copy export file

*Parameter name:* Target directory

## Export templates for IM

### Data source export templates

All messages sent to the GDSN pool are transferred as XML files created by exports. For this purpose, there are four export format template files provided as mentioned below.

### Catalog Request Item

The *CR\_CatalogueRequest Item* export template outputs a "Catalog request" GDSN message containing items. Depending on the configuration, you can transfer new or modified trade item information with all detailed data maintained.

More information about provided data fields can be found in chapter "GDSN field list".

*Allowed values:* ADD, MODIFY

*Note:* The operation (ADD or MODIFY) specified in the GDSN message is a parameter of the export template. You have to ensure the correct value for that parameter, otherwise the pool will send an error response.

### Catalog Request Link Add

The *1CR\_CatalogueRequest Link ADD* export template outputs all packaging hierarchy information that has not been sent to the GDSN pool yet.

Technically, new item references of the "Next lower level" type are exported. The following rules apply:

- The referencing item (the parent item) and the referenced item (the child item) have been successfully sent at least once to the pool
- The link between the two items does not exist in the pool

*Note:* The export of item reference information has to analyse existing publication status data of according items. The publication status of items will be updated as a result of the response messages sent from the GDSN pool. That is why it may take a while until a new reference for a new item will be picked up by a "Link ADD" export.

### Catalog Request Link Delete

The *CR\_CatalogueRequest Link DELETE* export template outputs all deleted packaging hierarchy information that has been sent to the GDSN pool before.

Technically, deleted item references of the "Next lower level" type are exported. The following rules apply:

- The referencing item (the parent item) and the referenced item (the child item) have been successfully sent at least once to the pool
- The link between the two items exists in the pool
- The link between the two items has been deleted

### Catalog Request Publication

The *1Sync CatalogueRequest Publication CR\_CatalogueRequest Publication* export template creates a "Catalog request" GDSN message containing publications for all given items. Depending on the publication status, you can add or delete publications. Furthermore, the message can be sent for a market group or for all GLNs an item is assigned to. You can find more information in the chapter "[Publication](#)".

A publication will be sent if the items to publish follow these conditions:

- The configured target market in the export format template corresponds to the target market of the item in "Target market specific GDSN data"
- If you publish to a GLN, then the field "Trade partner" must be filled with the according customer
- If you want to publish to a market group you have to add the market group to the field "Context" and leave the field "Trade partner" blank

**Note:** Either the field context has to be filled with the market group or at least one "Trade partner" entry has to exist for each exported item. Otherwise an invalid XML file will be created and the export will be canceled.

As alternative you can use the *CR\_CatalogueRequest Publication\_ByVariables* export template export template in order to configure all the parameters manually.

### Catalog Request Publication Withdrawal

The *CR\_CatalogueRequest Publication HW* export template is used to withdraw a published hierarchy from the pool. It can be specified to unpublish the article from the market group or the GLN.

Afterwards the hierarchy can be changed and republished again. This has to be done with the Catalog Request Publication template.

### Data recipient export templates

These export templates can only be used if you are a data recipient. To change Product 360 to the data recipient mode have a look at the chapter Application modules.

- Catalog Item Subscription (CIS\_CatalogItemSubscription.ext)
- Catalog Item Confirmation (CIC\_CatalogItemConfirmation.ext)

### Export template parameters

Export template parameters can be parameters of data sources, parameters of export post steps or variables. Furthermore variables can in turn be used as parameters of data sources or export post steps.

There are a lot of parameters you can configure in the export templates. All of them can be assigned to one of the following two categories:

#### Identify

Each of the export templates has three mandatory parameters needed for the communication with the GDSN pool. It is recommended to set the correct values and make those parameters invisible.

- "Information provider" and "Information provider GLN" respectively  
This is the supplier representing your own GLN
- "Recipient" and "Recipient GLN" respectively  
This is the customer representing the 1WorldSync pool GLN
- "User Id"  
This is the user id to authenticate yourself against the IM pool

The "Information provider" and the "Recipient" have to exist in Product 360, otherwise the answers from the pool will not be written back to Product 360. Make sure you created the values like described in the section about the creation of supplier and customer.

#### Select data

Most parameters are used to qualify which data should be exported.

First of all, there is a catalog and an item assortment to determine which items are to be exported.

In addition to that, the target market, a language, a price type, etc. specify which details of items are to be exported.

### Export data source configuration

All GDSN export templates use the "Item list" as data source. If you want to schedule repeated export jobs, you usually want to send only new and changed items to the pool. That is why you have to change the data source of the corresponding export template.

To change the data source to "Changed and new items" you need to do following steps:

1. Open the properties dialog of your export format template and go to the "Data sources" tab



2. Press the "New..." button and choose the "Changed and new items" data source. Close the property dialog after by pressing "OK"
3. Open the "Items" module of your export format template by double click
4. Change the data source from "Item list" to "Changed and new items" in the property view of the module
5. Go back to properties dialog and open "Data sources" tab
6. Select data source "Item list" and press "Delete" button

The following settings are recommended for the "Changed and new items" data source:

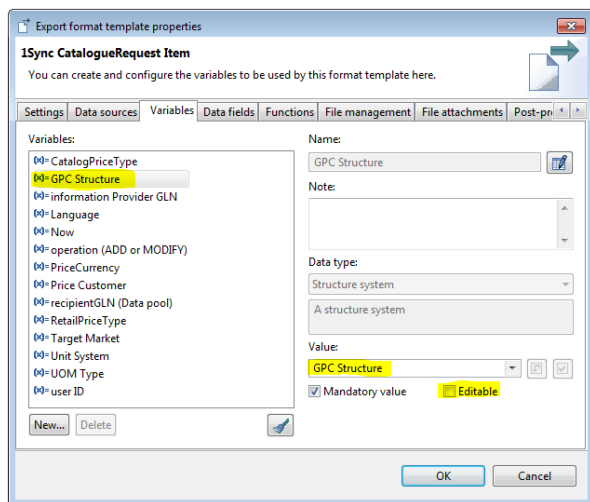
| Setting           | Value                                             | Editable |
|-------------------|---------------------------------------------------|----------|
| Catalog           | Master catalog                                    | true     |
| Assortment        | <empty>                                           | true     |
| Reference date    | <i>Variable "ReferenceDate", see next chapter</i> | true     |
| Type of change    | New and changed items                             | false    |
| Update assortment | empty                                             | true     |
| GPC structure     | GPC                                               | false    |
| Version           | Working version                                   | false    |

You can specify appropriate values for the visible parameters in the export profiles you create of them.

It is recommended to set the "Update assortment" value to "true" for scheduled export jobs, but if you want to start a single export it may be not necessary to update the assortment.

## Parameters

Most parameters of the export template have to have fixed values. You should set those values to the export templates and switch the corresponding parameters to "Not editable" to hide them for further use.



If you then use an export template to create an export profile, you will see only parameters that are really needed to be configured, for example the operation "ADD" or "MODIFY" in the export profile.

Reference date

If you want a [scheduled export job](#) to export all items that have been created or updated after the last run, you can use a variable that gets updated with the corresponding date and time for every export job run.

First, you create a variable of type "Date and time". Then you assign this variable as value for the "Reference date" parameter of the "Changed and new items" data source. The last step is to configure the variable in an export profile: select "Update" and "after exporting" for the variable.

**Export format template properties**

**1Sync CatalogueRequest Item**

You can create and configure the variables to be used by this format template here.

Settings | Data sources | **Variables** | Data fields | Functions | File management | File attachments | Post-processing

Variables:

- 0+ CatalogPriceType
- 0+ GPC Structure
- 0+ information Provider GLN
- 0+ Language
- 0+ Now
- 0+ operation (ADD or MODIFY)
- 0+ PriceCurrency
- 0+ Price Customer
- 0+ recipientGLN (Data pool)
- 0+ ReferenceDate
- 0+ RetailPriceType
- 0+ Target Market
- 0+ Unit System

New... Delete

Name: ReferenceDate

Note:

Data type: Date and time

A date and the time The default value is the current date. The input format is 8/18/2015 11:24 AM or 2015-08-18

Value:

☒ Mandatory value ☒ Editable

OK Cancel

**Export format template properties**

**1Sync CatalogueRequest Item**

You can select and configure the data sources to be used by this format template here.

Settings | **Data sources** | Variables | Data fields | Functions | File management | File attachments | Post-processing

Data sources:

- Changed and new items
- Item list

New... Delete

Name: Changed and new items

Parameter:

Catalog: Master catalog

☒ Mandatory value ☒ Editable

Assortment:

☐ Mandatory value ☐ Editable

Reference date:

0+ ReferenceDate

**New export profile - 1Sync CatalogueRequest Item 2**

**Export parameter configuration**

Set the export parameters for executing this export.

Data source "Changed and new items"

Catalog:\* Master catalog

Assortment:

Update assortment: Yes

Variables

Now:\* Default value (8/18/2015)

ReferenceDate:\* 8/18/2015 4:22 PM ☒ Update: after exporting

operation (ADD or MODIFY):\* ADD

< Back Next > Finish Cancel

## Informatica B2B DX receive endpoint directory

The path to the B2B DX receive endpoint directory is set by the value for "Target directory" of the "Copy export file" export post step. As this is a fixed value you should set this parameter to not editable.

## Use export templates

After you have configured the export templates you can use them to create export profiles for manual export or for scheduled export jobs.

The manual export can also be triggered by an immediate export. Therefore your template must match the needs of the immediate export:

- The purpose "Available for immediate export" must be set in the template
- The export format template for the immediate export must contain the value "Editable" in the data sources for the "Catalog" and "Assortment" parameters

## Post processing

### Validate

The created XML file will be validated against the corresponding XSD file. The "Validate XML file(s)" export post step will cancel the export if the validation fails.

*Export post step name:* Validate XML file(s)

*Parameter name:* Cancel export in case of error

### Transfer

After an export has been finished successfully, the created XML file will be transferred to the B2B DX receive endpoint directory. The path to that folder is a parameter of the "Copy export file" export post step.

As this is a fixed value you should set this parameter to not editable.

*Export post step name:* Copy export file

*Parameter name:* Target directory

## Packaging hierarchy data providers

The pools differentiate in how they accept items and their hierarchies. The case for the DSE pool you have to send the whole hierarchy of the item on the initial export. There is no way to add the hierarchy afterward like in the IM scenario.

To be able to support this case there are 2 additional hierarchy data providers available, which can be used for all GDSN scenarios.

### Complete packaging hierarchy

*Note:* In the GDSN scenario this data provider makes only sense when sending "Catalog Item Notification" messages to the DSE data pool.

### Configuration

To configure the data provider you can look at the "Export data source configuration" on the page ["Export templates for DSE"](#).

### Mode of operation

When using this data provider for an export template it will automatically export the whole hierarchy where the article is included. If the article is included in more than 1 hierarchy both hierarchies are exported.

This data provider only accepts valid hierarchies. A hierarchy is considered valid if there are no endless loops in it and if there're not more than 10 levels. (An invalid hierarchy is indicated in the packaging hierarchy view with a yellow triangle.) Otherwise this data provider will cancel the export immediately.

### Data quality checks

When using a data quality run as a pre-export step, this data provider will re-evaluate the results of the data quality result.

It will only export items with the following criteria:

- The item is considered valid from DQ
- All items of the hierarchy are considered valid from DQ

All other items and hierarchies are not exported.

*Hint:* It is best practice to create an assortment with all items which only include the top level of the packaging hierarchies and then export the whole assortment.

### Packaging hierarchy of new and changed items

*Note:* In the GDSN scenario this data provider makes only sense when sending "Catalog Item Notification" messages to the DSE data pool.

This data provider is very helpful when there are packaging hierarchies which are target market specific.

### Configuration

To configure the data provider you can look at the "Export data source configuration" section on the chapter ["Export templates for DSE"](#).

### Mode of operation

Like the "Complete packaging hierarchy" provider it checks the assortment for endless hierarchy loops and cancels the export when doing so. It also exports the whole hierarchy of the items in the assortment.

The differences to the Complete packaging hierarchy provider are the following:

- Only items within the given assortment are exported, even if a hierarchy is not complete in that assortment. That allows you to export target market specific hierarchies.
- It is possible to specify a "reference date" to the data source parameter. This allows the export to only consider hierarchies that contain items which were changed after the last export. For more information check the "Reference date" section on the chapter ["Export templates for DSE"](#).

### Data quality checks

When using a data quality run as pre-export step, this data provider will re-evaluate the results of the data quality result.

It will only export items with the following criteria:

- The item is considered valid from DQ
- All items of the hierarchy are considered valid from DQ

All other items and hierarchies are not exported.

### Technical details

### Special export functions

#### GDSNDocumentId

The GDSNDocumentId and GDSNParentDocumentId export functions create unique identifiers for each document output in an export file. *Note:* these functions are only used and available for the IM pool.

#### EnumerationKey

Usually, GDSN messages contain codes for attributes that refer to a valid values list. By default, an exports output the labels for such attributes. The EnumerationKey export function is used to output the code instead of the label of enumeration values.

## EnumerationKeyStandard

In contrast to the function `EnumerationKey`, this function can only be used for data having an enumeration assigned which is an extension of a standard enumeration. The function only returns a key if the value is contained in the standard enumeration, keys of the extended enumeration won't be returned.

This is needed for data fields that are logical keys in the data model but should be empty in the context of GDSN. Those fields got enumerations providing all valid GDSN values and a "<no code>" value.

### Example

Enumeration of the "ArticlePackaging.PackagingType" field is `Enum.PackagingTypeCode.WithOptionalCode`. That enumeration is an extension of the `Enum.PackagingTypeCode` enumeration.

The function call with that field returns an empty string for the value "<No code>", and "BBG" for the field value "Bag in box".

## GDSNEnumerationCode

Some GDSN attributes use other codes than the codes maintained in PIM. This function reads the GDSN codes from the corresponding configuration. It is possible to add additional codes, see [Repository configurations](#).

## GDSNDutyFeeTaxAgencyCode

The value for `DutyFeeTaxAgencyCode` depends on the target market and the tax type. The DSE specific export function `GDSNDutyFeeTaxAgencyCode` returns the configured value for "DutyFeeTaxAgencyCode" depending on target market and tax type.

Similar to the enumeration codes you can configure the values for `DutyFeeTaxAgencyCode` in the `plugin_customization.properties` file. The pattern of such entries is

```
com.heiler.ppm.gdsn.core/GDSN.dutyFeeTaxAgencyCode.<target market code>.<tax type code> =  
<DutyFeeTaxAgencyCode>
```

```
# Germany  
com.heiler.ppm.gdsn.core/GDSN.dutyFeeTaxAgencyCode.276.VAT = 246  
# Austria  
com.heiler.ppm.gdsn.core/GDSN.dutyFeeTaxAgencyCode.040.VAT = 294
```

## General approach to output data

### Empty values

All optional fields don't create a XML tags in case there is no value maintained. This is needed because an error will occur for empty tags. For this the export function `CreateXMLTagWithValue` respectively `CreateXMLTagWithContent` are used.

### Format numbers and dates

It is important to format the numbers and dates in the needed format of the GDSN pool.

Therefore all fields with numbers must use the `FormatDecimal` export function. This function is responsible for formatting and transferring the given number according to the specified decimal separator and the number of decimal places. The decimal separator must be always "." for decimal values. All used date fields will use the `FormatDate` export function which is formatting the given date with a given pattern to match the needed format.

### Encoding

There is need for defining or prevent the encoding of strings according to their encoding setting. There are possibilities to define this actively by the export functions `IfNotEmptyThenNotEnc` or `IfEmptyThenNotEnc` and inactively by using export function which are handling the encoding already like `CreateXMLTagWithValue` which returns the transferred fragment itself as not encoded.

## Conditional output

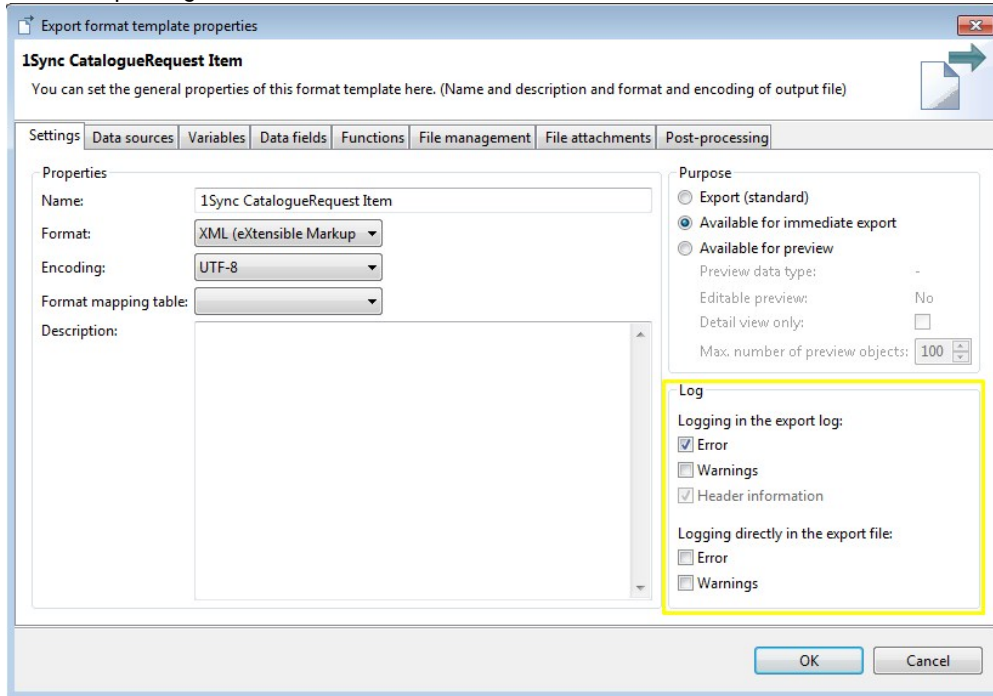
The data to output often depends on if any other specific data is set. Therefore you can define a conditional output by using export functions around the section that is to be output if the condition is fulfilled. This is possible in general by using the `IfNotEmptyThen` export function or you can use specific export functions to generate conditional output by using a Boolean comparison with the `CompareBooleanValue` export function for example. Besides this it is also possible to define a default value for some export functions.

## Extend/modify export templates

## Debug

There are two different possibilities to enable some debug information to be able to detect a problem.

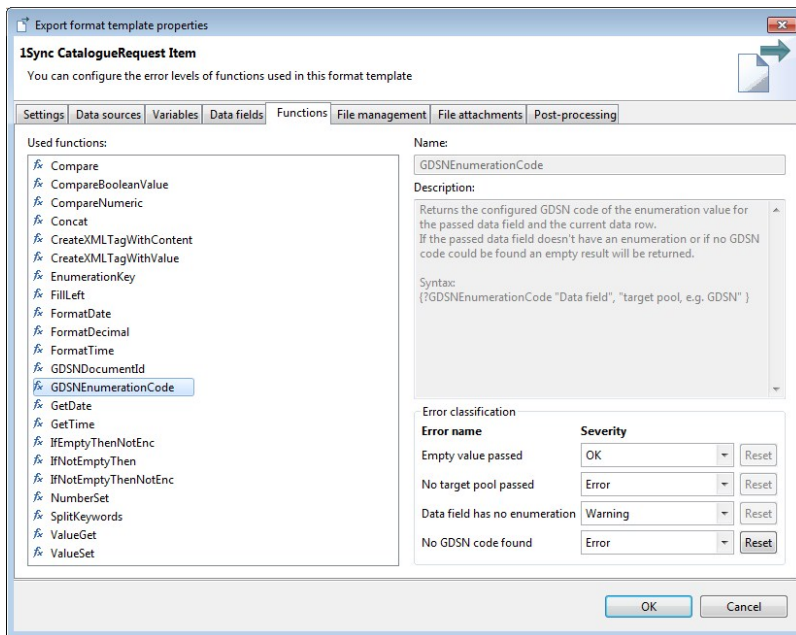
### General export log



The logging in the export log defines the granularity of the logged information in the export template log which can be viewed in the process overview. By default it is only logging header information and errors. For debugging it is possible to enable the warning level as well but it is recommended to not having it active during casual business since this can change the export speed. You can also enable logging directly in the output file. You can enable the error and warning level to assist you in tracing the causes of errors during the development.

### Export function

Another possibility is to change the error levels of functions. You can define the error level for some functions in the export template properties dialog which can help you to figure out a problem. Those are also helpful if you want to define a specific behavior when for example an empty value passed to the function. So this configuration can also be taken as standard modification depending on your data.



## Check output

There are different ways to provide the opportunity to inspect the output XML file when errors occurs. Find two examples described in more detail below.

Add an additional "Copy export file" post-processing step before the "Validate XML file(s)" step. Define a specific target directory for this new export step. Whenever an export will be executed the export file will be copied to the target directory even if the XML validation will cause on error. But the target directory will always only contain the last executed export file.

Another way would be to disable the cancelling of the export within the "Validate XML file(s)" export step by setting the "Cancel export in case of error" to "No". Furthermore you need to change the "copy export file" target directory because you will probably send not valid XML files to the GDSN pool which will lead to errors.

With both of the mentioned examples it is possible to find out what the output is on a specific line in a XSD validation error. This makes it easier to figure out where a problem is in the data and/or template.

Besides this, it's always possible to manually transfer the export files to the pool. To put this into action the "Copy export file" export step can be deleted and after each export execution the export file can be downloaded in case of no error. This file has to be copied manually into the B2B DX receive endpoint directory.

## 8.5.2 Setup automated jobs

Usually business users don't want to care about sending their new created or modified items to the GDSN pool. Due to the fact that the Product 360 export is used to send data to the pool, you can easily define repeating export jobs which send all matching items to the pool every hour for example. The setup described below has to be done once by a skilled consultant or administrator and not touched by any business user.

Please make sure that all templates are configured already as described in the chapter [Export templates](#).

### Which automated jobs are needed

You can create automated jobs to send all GDSN messages in a scheduled way.

Please note, that you could cause exceptions if you send data twice to the GDSN pool by manual and automated exports at the same time.



## How do automated export jobs work

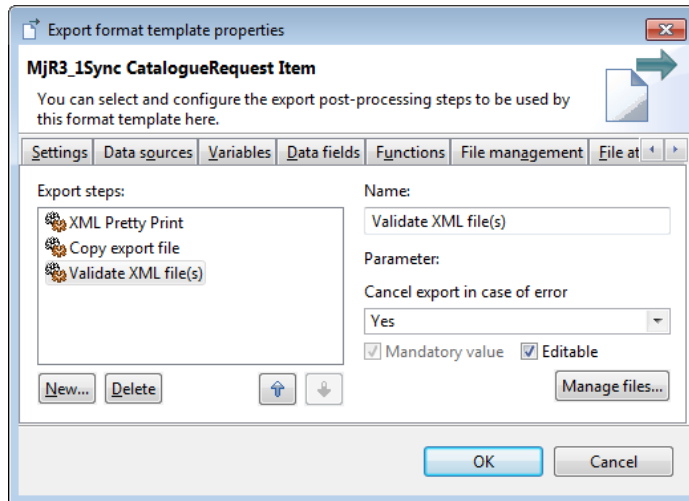
Automated jobs start exports of an export profile at specified times or in recurring intervals. The items to be sent are retrieved by the evaluation of the defined export parameters, for example assortment rules or reference date.

## How to find the repeat interval for a job

There are no recommendations concerning the repeat interval of these exports. But please always have in mind that the answer from the GDSN pool could take a while and if you define the interval too short, it could be possible that a message is sent twice which will maybe result in an error.

## What happens if there's no data to be exported

If an automated export job runs but there're no items to be exported, an invalid xml file will be created. To prevent such an invalid file to be transferred to B2B, the export has to be cancelled by the failing "Validate XML file(s)" export post step.



|    |            |                         |                      |                                                          |
|----|------------|-------------------------|----------------------|----------------------------------------------------------|
| 16 | Mandato... | Export post-processi... | catalogueRequest     | Date: "1Sync CatalogueRequest Item.xml": Fehler in Zeile |
| 17 | Summary    | Post-export step        | Validate XML file(s) | Export canceled due to XML validation error(s)           |

The next run of the job will be started as configured and pick up all items defined by the assigned assortment rules.

## Automated jobs for DSE

### Setting up a repeated job to automatically send all new and changed items to the GDSN pool

In the DSE GDSN scenario the item data together with their hierarchy data are sent in a single message called *CatalogItemNotification* to the GDSN pool. The corresponding export template to be used is *CIN\_CatalogItemNotification*.

There are two parameters you have to specify in order to find the items to be sent. The first is the catalog and item assortment, the second is the reference date used to find all items that have been created or modified since the last execution of the job.

Note: For the initial setup you should use a date in the distant past to ensure that all item are considered. For further information see "[Export templates for DSE](#)".

### Setting up a repeated job to automatically send item publications to the GDSN pool

In order to provide the item data to the customers you need to send publication messages to the GDSN pool. The first step is to mark your items for publication using the publication status as described in "Publication".

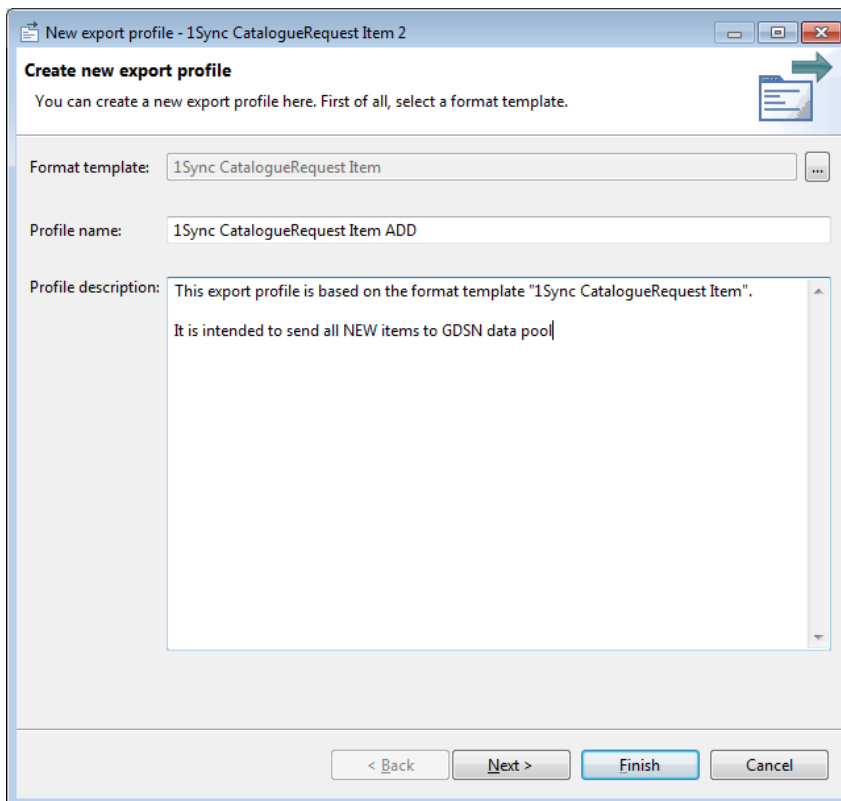
Next you have to build a dynamic assortment containing all items marked for publication, see "[GDSN Accelerator operation](#)", section "Create an assortment containing all items which are marked for publication".

Finally you have to create the export job using the export template *CIP\_CatalogItemPublication* which should be already configured as described in the chapter "Export templates". Before scheduling the job set the assortment mentioned above to the "Assortment" parameter.

## Automated jobs for IM

### Setup repeating export job to automatically send all new items to the GDSN pool

For every repeating export job we define an export profile. The base for this export profile is an assortment containing all items which are not sent to the GDSN pool yet. The chapter "[GDSN Accelerator operation](#)" describes how to create this kind of assortment. After you have created the assortment open the "Explorer (items)" perspective, go the "Context selection" tab, right-click on "Export profiles" and select "New export profile...". The dialog in the screenshot below pops up where you are able to define a name and select a format template.



The chosen export format template should be already configured as described in the chapter "[Export templates](#)" and so there should be only a few configurations left. You can choose the according catalog but it is highly recommended that you only send items from your master catalog. Additionally you can choose an assortment, which should be of course the one you just created in the step before. Last but not least the operation has to be defined, which will be set to ADD in this case because we want to "add" new items to the GDSN pool.

Edit export profile - 1Sync CatalogueRequest Item

### Export parameter configuration

Set the export parameters for executing this export.

Data source "Changed and new items"

Catalog:\* Master catalog

Assortment: GDSN - Items which are NOT in the GDSN p

Variables

operation (ADD or MODIFY):\* ADD

< Back Next > Finish Cancel

After you have successfully created an export profile you can schedule a repeating export job. To do that, right-click on the created export profile and select "Export". The parameters should already be well defined so you only have to configure the interval options on the last wizard page. An example is shown below:

**Export export profile - 1Sync CatalogueRequest Item**

**Select output destination**  
Plan the execution time of the export here and specify additional settings based on this.

Execution: Schedule export (repeating) From 8/18/2015 at 11:08 AM every 1 Hours.

Start date: 8/18/2015

Start time: 11:08 AM

Comment:

☐ Save export file(s) locally

Which files do you want to download?

☐ Data file(s) (1 files)

☐ Multimedia archive

Do you want the data files to be packed in a ZIP archive?

☐ Pack file(s)

Which local directory do you want to download the files to?

Directory:  ...

< Back Next > Finish Cancel

### Setup repeating export job to automatically send all changed items to the GDSN pool

This scenario is nearly the same as before with the small difference that the item is edited instead of created. One main difference is the assortment which should contain of course all items which are already in the GDSN pool. Please see chapter ["GDSN Accelerator operation"](#) and create this assortment. After this, create a new export profile but compared to the new item scenario use your new assortment and set the operation to MODIFY. It is also recommended to name the export profile clearly (e.g. "CR\_CatalogueRequest Item MODIFY").

Last but not least schedule a repeating export job based on the created export profile and define a corresponding interval.

Please note: When you add or delete a reference and have a job which sends updates automatically, a "Link add" or "Link delete" will be sent. Due to the fact that the item has changed, also a "Item modify" message will be sent to the GDSN pool. This is unnecessary and a technical limitation but does not affect your data in the system or in the GDSN pool.

### Setup repeating export job to automatically send all created packaging hierarchies to the GDSN pool

In the 1WorldSync US scenario it is required to send "Link" messages to create or delete packaging hierarchies. As pre requirement all items which should be linked as a hierarchy have to be added to the GDSN pool first. To ensure this, it is recommended that you use an assortment which contains only items which are already in the GDSN pool (see chapter "[GDSN Accelerator operation](#)", if you already created this assortment you can also reuse it).

In a next step you have to create an export profile as in all other scenarios. This time you need a different export template named *CR\_CatalogueRequest Link ADD* which should be already configured as described in the chapter "[Export templates](#)". Furthermore select the catalog and the corresponding assortment and create afterwards a repeating export job (please find more detailed information in the first chapter as there is a more detailed description).

#### **Please note:**

- There is no "Link modify" scenario what means that if you want to change any information related to a reference you first have to send a "Link delete" message followed by a new "Link add" message with the new values.
- The "Link" messages are one of the most important differences between the US and the EU scenario. There are no link messages in the EU scenario because the hierarchies are already defined in the CIN messages.

### Finding the repeat interval for sending all created packaging hierarchies

Due to the fact that the "Link" messages are only sent for items which are already in the pool, it makes sense to schedule the jobs with a time lag to the job which sends new created items to the GDSN pool. As it takes the longest time to add newly created items to the GDSN pool it is recommended that you schedule the "Link add" job after the "Item add" job with an

interval according to your data volume. That means if you are sending thousands of new items to the GDSN pool you probably have to define a longer interval than if you only send ten items.

### Setup repeating export job to automatically send all deleted packaging hierarchies to the GDSN pool

If you remove an item from the packaging hierarchy a "Link delete" message should be sent to update the changes in the GDSN pool. The scenario is basically the same as the "Link add" message but we have a different export format template. First create (or reuse) the assortment as described in the chapter "[GDSN Accelerator operation](#)" / "Create an assortment containing all items which have been sent to the pool". After you have created the assortment use it within a new export profile. In addition select the export template *CR\_CatalogueRequest Link DELETE*. As in all other scenarios create a repeating export job based on this profile and define a corresponding interval.

*Note:* It probably makes sense not to schedule the job the same time you send all created packaging hierarchies to not get confused but there is no real need to do that.

### Setup repeating export job to automatically send item publications to the GDSN pool

In order to provide the item data to the customers you need to send publication messages to the GDSN pool. The first step is to mark your items for publication using the publication status as described in "[Publication](#)".

Next you have to build a dynamic assortment containing all items marked for publication, see "[GDSN Accelerator operation](#)".

Finally you have to create an export profile as in all other scenarios. This time you need a different export template named *CR\_CatalogueRequest Publication* which should be already configured as described in the chapter "[Export templates](#)". Furthermore select the catalog and the corresponding assortment and create afterwards a repeating export job.

## 8.6 GDSN Accelerator operation

### 8.6.1 Maintain valid data

#### Item identifiers: GTINs



#### GTINs for GDSN and food and beverage data

All items which should be sent to the pool **must** have 14 digits GTINs. Otherwise there will be no answers from the pool written back to Product 360.

When the GTIN of an item which should be sent does not contain 14 digits you can add leading zeros until it matches the 14 digits criteria.

#### Maintain data

Product 360 contains several perspectives to maintain *GDSN* and *Food and beverage* data. These are described below.

#### **GDSN (core)**

In the *GDSN (core)* perspective you find the views to maintain the most important aspects of GDSN. These include the target market specific data, the item references to build the packaging hierarchy and the *Packaging hierarchy* view to see a visualization of the packaging hierarchy, *Trade item lifespan information* and the *Publication status* view to see in which state your item is regarding the GDSN message chain. *Sustainability information* view is only available for the DSE pool.

#### **GDSN (supply chain data)**

This perspective enables you to maintain all data that is relevant in the supply chain. Views to maintain data of the following modules are included: Packaging-specific data, Trade item handling, Data carrier information, Delivery purchasing information

#### **GDSN (Canada-specific data)**

This perspective is only available for the IM pool. It contains the same views as the *GDSN (core)* perspective plus two additional views to maintain the data of the Canada extension.

#### ***Food and beverage (core)***

In this perspective you can maintain the most important data of your food or beverage. These include diet related information, allergen related information, nutrient information and ingredients.

#### ***Food and beverage (misc)***

This perspective contains views to maintain data about special aspects of the product. For example preparation and serving related information but also physiochemical and microbiological information. Additionally there are views to maintain data about certifications you might have.

#### ***Ingredients***

You can maintain the ingredients of your product in the *Food and beverage (core)* perspective, however, first you have to make them available for the whole system in this perspective. You can think of this perspective as the pool of ingredients you use and the data of your product only references ingredients in this pool.

#### ***Certifications***

This is the pool of certifications you can use in the system. You can add references to these certifications in two places. First, you can add a certification to your product in the *Item certification* view and second you can add a certification for a specific diet type in the *Diet related information* view.

#### ***Third parties***

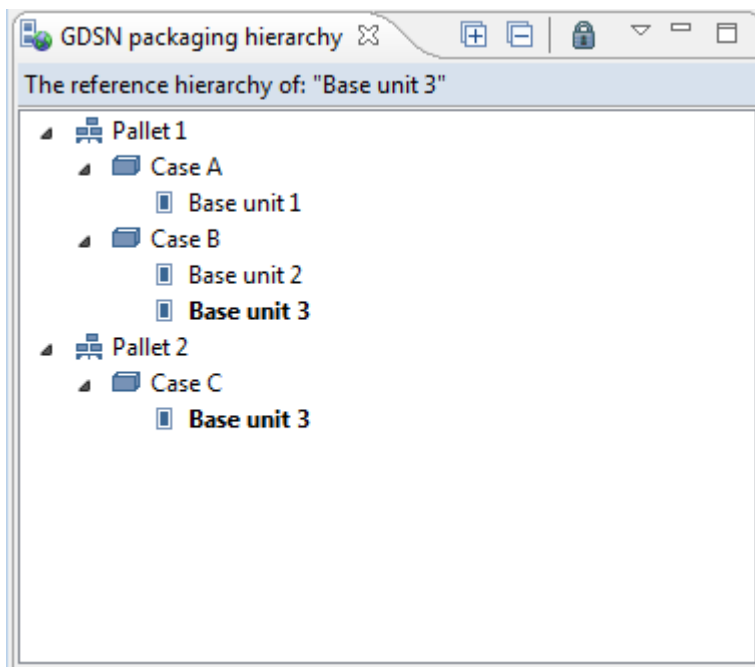
Third parties are all entities you interact with which are neither customers nor suppliers. There are three categories of third parties in the standard, Brand owner, Certification organisation and Manufacturer of goods. For use with certifications, it is necessary to add the category Certification organisation, otherwise they won't be shown when you create a certification.

#### ***Valid values***

If there are valid value lists given by GDSN and/or the respective pool, only those values will be shown in the drop down lists of the field. In case Product 360 requires a value for the specific field but GDSN does not, there is an additional value *<No code>* contained in the proposal list.

#### ***The packaging hierarchy view***

The "GDSN packaging hierarchy" view can be used to visualize the packaging hierarchies of items:



The view shows the complete packaging hierarchy outgoing from one or more items. The hierarchy includes all higher level and all lower level items of each outgoing item. The outgoing items are highlighted in the view. The content of the view depends on the selection. This means that each time one or more items are selected in any other view the packaging hierarchy view loads its content based on the selected items. The view can be locked to retain the current content. The functionality "Obtain content exclusively from" is available in the view to link it with a specific view. The labels of the tree nodes which represent the items of the hierarchy can be configured by using the view menu entry "Configure node labels...". Up to five fields can be defined to be used as part of the node labels. By a double-click on an item in the view the current outgoing item of the displayed hierarchy can be changed. In this way the user can "navigate" through the complete packaging hierarchy and see possible other hierarchies for items which are contained in more than one packaging hierarchy. The packaging hierarchy view allows multi-selection which can be used e.g. to show all items of the current hierarchy in a separate item view (by using the context menu entry "Show selected items"). It can be used e.g. for maintenance of all items of a packaging hierarchy at once, since the packaging hierarchy view itself is read-only.

### Validate data

There are three levels of data validations for *GDSN* and *Food and beverage* data in Product 360:

#### Data model validation

The Product 360 data model and repository configuration ensures for example the correct field length and valid value lists.

#### Data quality checks

There is a whole package checking rules given by GDSN or IM. Most of them check dependencies between two or more field values.

Examples:

- Check 'Canceled date' is empty if 'Discontinued date' is populated
- Check 'Is dispatch unit' items have a 'Gross weight (imperial)' populated
- Check 'Number of items per layer' is greater than zero if 'Number of layers per pallet' is greater than zero

#### XSD validation

The XSD validation is executed during the export of the data. It is a final check, that the output has the correct format.

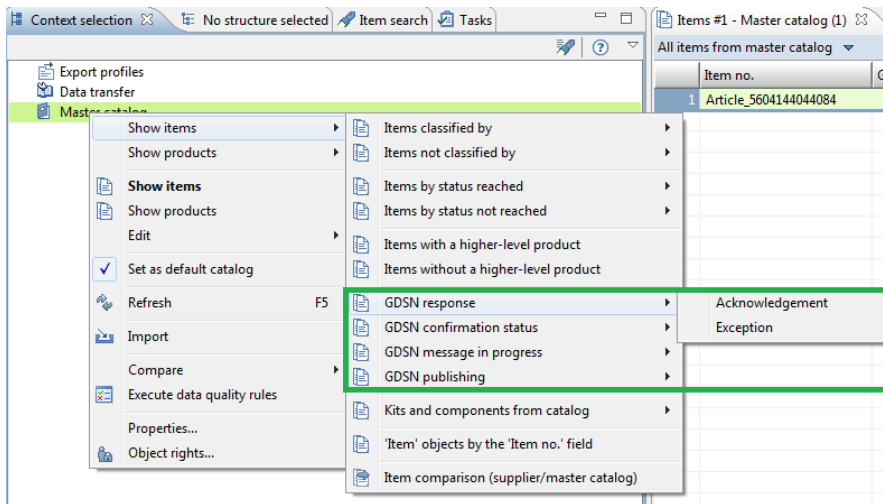
Example: Check if mandatory fields have values.



## 8.6.2 Send data

### Use queries to get an overview of your data

Queries are provided to find items based on their status related to the GDSN pool (using the publication status). That means the user has the possibility to easily find all items which have already been sent to the pool successfully or those where the GDSN pool has sent an exception for. To show the different kinds of possible queries just right click on a catalog and select "Show items" and see all submenu entries starting with "GDSN".



The queries are separated into four categories:

- **GDSN response:** Find all items which got a specified response from the GDSN pool, e.g. all items which received an "Acknowledgement" response for an "Item add" message or all items which received an "Exception" response for a "Link delete" message.
- **GDSN confirmation status:** These queries find all items with a specific severity of item authorization response messages. It is used as a helper to be able to keep an overview over specific responses of the data recipients.
- **GDSN message in progress:** Find all items which are currently processed, that means all items which have been sent to the pool with any message, e.g. "Link add" but not received a response yet. Due to the fact that it can take a while until a response from the GDSN pool is received these queries are useful to determine if the item has already been sent. This query category is only available for the IM pool.
- **GDSN publishing:** Find all items which should be published, republished or unpublished.

### Build dynamic assortments from queries

#### All items which have been added to the pool

##### Step 1: Find all items that have been added to the pool

Choose "GDSN response - Acknowledgement" query from the context menu. In the query configuration dialog set "Message type" to "Item response" and then execute the query.

##### Step 2: Create an assortment from the result set

Select "Add query to dynamic assortment" from table header context bar and create new assortment using "More...".

| Item no.    | GTIN            | Manufacturer | Short description (German) | Created on (PIM)  | Last changed on (PIM) |
|-------------|-----------------|--------------|----------------------------|-------------------|-----------------------|
| 1 I_S_M_005 | 100000000000005 |              |                            | 4/18/2016 11:1... | 5/3/2016 11:07 AM     |
| 2 I_S_M_006 | 100000000000006 |              |                            |                   |                       |
| 3 I_S_M_004 | 100000000000004 |              |                            |                   |                       |
| 4 I_S_M_002 | 100000000000002 |              |                            |                   |                       |
| 5 I_S_M_001 | 100000000000001 |              |                            |                   |                       |
| 6 I_S_M_003 | 100000000000003 |              |                            |                   |                       |
| 7 I_S_M_012 | 100000000000012 |              |                            |                   |                       |
| 8 I_S_M_011 | 100000000000011 |              |                            | 4/18/2016 11:1... | 4/18/2016 11:20 AM    |

### Step 3: Find all items which have been added to the pool and got a modify exception

Choose "GDSN response - Exception" query from the context menu. In the query configuration dialog set "Message type" to "Item response", "Executed operation" to "Modify" and then execute the query.

### Step 4: Add items to the assortment

Select "Add query to dynamic assortment" from table header context bar and choose your new assortment.

If everything was configured correctly you can verify the assortment by clicking on "View->Item assortments". Your assortment should look similar to the picture below:

| Item                                                                                       | Count    |
|--------------------------------------------------------------------------------------------|----------|
| Items which are in GDSN pool                                                               | 82 items |
| Items from 'Master catalog' with GDSN response type 'Acknowledgement', 'Item response'     | 78 items |
| Items from 'Master catalog' with GDSN response type 'Exception', 'Item response', 'Modify' | 4 items  |

### All items which have not been added to the pool

#### Step 1: Create an item assortment containing all items that are to be transferred to the GDSN pool

This could be all items that are mapped to the GPC structure system

#### Step 2: Find all items that have been added to the pool

See above

#### Step 3: Exclude all items that have been added to the pool from the assortment

Select "Exclude query from dynamic assortment" from table header context bar and choose your new assortment.

| Item no.    | GTIN            | Manufacturer | Short description (German) | Created on (PIM)  | Last changed on (PIM) |
|-------------|-----------------|--------------|----------------------------|-------------------|-----------------------|
| 1 I_S_M_005 | 100000000000005 |              |                            | 4/18/2016 11:1... | 5/3/2016 11:07 AM     |
| 2 I_S_M_006 | 100000000000006 |              |                            |                   |                       |
| 3 I_S_M_004 | 100000000000004 |              |                            |                   |                       |
| 4 I_S_M_002 | 100000000000002 |              |                            |                   |                       |
| 5 I_S_M_001 | 100000000000001 |              |                            |                   |                       |
| 6 I_S_M_003 | 100000000000003 |              |                            |                   |                       |
| 7 I_S_M_012 | 100000000000012 |              |                            |                   |                       |
| 8 I_S_M_011 | 100000000000011 |              |                            | 4/18/2016 11:1... | 4/18/2016 11:20 AM    |

### Step 4: Find all items which have been added to the pool and got a modify exception

See above

### Step 5: Exclude items from the assortment

See above

## All items which are marked for publication

To build an assortment with all items which are marked for publication you have to use the "GDSN publishing" query three times and add each result to an assortment

### Step 1: Find all items that are marked to be published

Choose "GDSN publishing - To be published" query from the context menu and execute the query.

Add the result to a new assortment using "Add query to dynamic assortment" from table header context bar.

### Step 2: Find all items that are marked to be unpublished


Choose "GDSN publishing - To be unpublished" query from the context menu and execute the query.

Add the result to your new created assortment using "Add query to dynamic assortment" from table header context bar.

### Step 3: Find all items that are marked to be republished

Execute step 2 with the "GDSN publishing - To be republished" query.

If everything was configured correctly you can verify the assortment by clicking on "View->Item assortments". Your assortment should look similar to the picture below:

|                                                                                                                              |          |
|------------------------------------------------------------------------------------------------------------------------------|----------|
|  Items to published/unpublished/republished | 12 items |
| <input checked="" type="checkbox"/> Items from 'Master catalog' with GDSN message type 'To be published'                     | 12 items |
| <input checked="" type="checkbox"/> Items from 'Master catalog' with GDSN message type 'To be republished'                   | 0 items  |
| <input checked="" type="checkbox"/> Items from 'Master catalog' with GDSN message type 'To be unpublished'                   | 0 items  |

## Send item data

In GDSN you first ADD, LINK and MODIFY your data in the pool before you PUBLISH it to your customers. For all these steps you create a message to the pool using the Product 360 export with the corresponding export templates described in "[Export templates](#)". The export works on an assortment of items. To build an assortment you can, for example, use the search. Further information on assortment creation can be found in the Product 360 user manual.

You can either execute each of the export templates manually or automated by using a scheduled job. How to do that is described in "[Setup automated jobs](#)".

## Publish data

You most likely want to publish your data in an automated way using a job. To make that work, you have to mark the items which have to be published, so that the job can identify them. The items can be marked by importing a specific publication status as described in "[Publication](#)".

### 8.6.3 Receive feedback

With the publication status you are able to see the current status in the synchronization process of each item. This means you are able to indicate if the item is in the GDSN pool, to which customer the item is published or if the item has already been transferred to the GDSN pool but no response has arrived yet. Furthermore it is easily possible to find out problems for a specific item or regarding the hierarchy. Therefore there are different "Message types" which indicate the current state of the item, for example

- Item response
  - Item was received by the GDSN pool which validated the data and answered with this status information
- Publication response
  - The publication for this item was delivered to the GDSN pool which answered with this status information
- CIC response
  - Feedback message from the target market or customer for an item which you published. The CIC responses are different for DSE and IM.

- **DSE**

For this message there will be two publication status entries in Product 360:

- A status containing a context: This publication status includes publication messages with errors which are item specific. The context indicates the item with the highest hierarchy level.
- A status without context: This publication status informs the user about the general status of the CIC and is only present in the item with the highest hierarchy level. No publication status messages are shown.



With B2B GDSN Accelerator 10.1.0.1 the mapping for the "Trade partner" got changed. From now on the recipient of the data will be mapped instead of the customer with the pool GLN. This change is leading to clear information about the current state of the hierarchy for each customer.

- **IM**

The CIC publication status is only written in the item with the highest hierarchy level and contains all publication messages for the items in his hierarchy.

When the pool responds with an exception there could be different reason for that. To see all relevant exceptions for an item you can double click on the message in the publication message view to see all messages which where sent from the pool.

The screenshot shows the 'Message' dialog box with the following error text:

```

ERROR - 321001: The mandatory indication "Data Carrier Type Code" is missing.
ERROR - 321002: The mandatory indication "Dangerous Goods" is missing.
ERROR - 321002: The mandatory indication "Manufacturer GLN" is missing.
ERROR - 321006: The mandatory indication "VAT" is missing.
ERROR - 321011: The mandatory indication "Net Content" is missing.
ERROR - 321013: The mandatory indication "Is Base Price Declaration Relevant" is missing.
ERROR - 321013: The mandatory indication "Biocide" is missing.
ERROR - 321213: The indication "Dangerous Goods" is set to "ZNA: No Dangerous Goods" or empty, but the dangerous goods information "ADR Dangerous Goods Limited Quantities Code" is indicated.
ERROR - 321353: The trade item is marked as a non GTIN-coded pallets, but the pallet information "Case Level Non GTIN Depth UOM" is missing.
ERROR - 321353: The trade item is marked as a non GTIN-coded pallets, but the pallet information "Case Level Non GTIN Gross Weight UOM" is missing.
ERROR - 321353: The trade item is marked as a non GTIN-coded pallets, but the pallet information "Case Level Non GTIN Height UOM" is missing.
ERROR - 321353: The trade item is marked as a non GTIN-coded pallets, but the pallet information "Case Level Non GTIN Width UOM" is missing.
ERROR - 321353: The trade item is marked as a non GTIN-coded pallets, but the pallet information "Case Level Non GTIN Gross Weight" is missing.
ERROR - 321353: The trade item is marked as a non GTIN-coded pallets, but the pallet information "Case Level Non GTIN Height" is missing.
ERROR - 321353: The trade item is marked as a non GTIN-coded pallets, but the pallet information "Case Level Non GTIN Width" is missing.
  
```

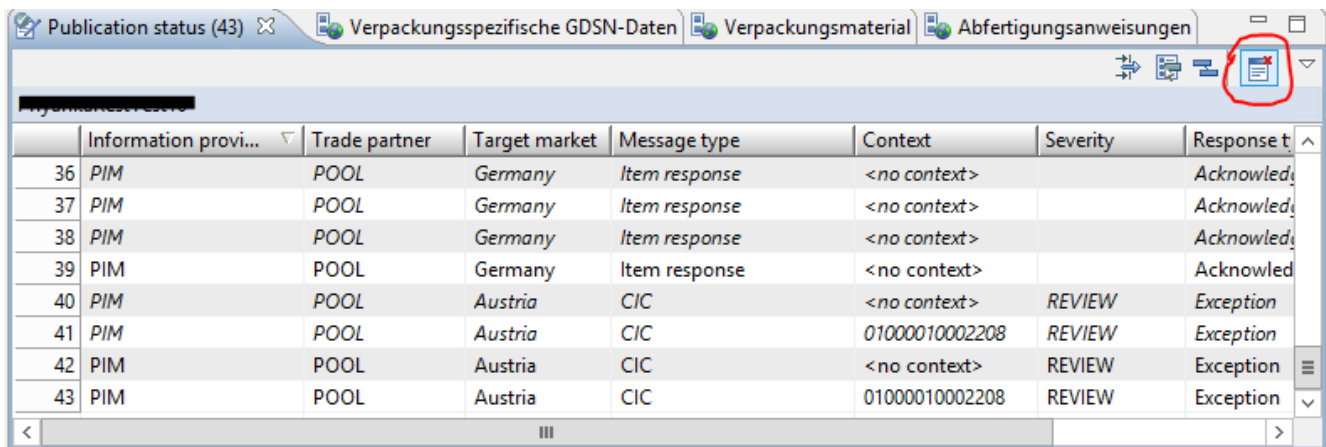
Below the dialog box, the 'Publication status' table is visible:

| Information provi... | Trade partner | Target market | Message type | Context       | Severity       | Response type    |
|----------------------|---------------|---------------|--------------|---------------|----------------|------------------|
| 1                    | PIM           | POOL          | Worldwide    | Item response | <no context>   | Acknowledger     |
| 2                    | PIM           | POOL          | Germany      | Item response | <no context>   | Acknowledger     |
| 3                    | PIM           | POOL          | Austria      | CIC           | <no context>   | REVIEW Exception |
| 4                    | PIM           | POOL          | Austria      | CIC           | 01000010002208 | REVIEW Exception |



### Publication status entries

Only the newest entries are shown in the publication status view for an item. If you want to see all messages including the ones which were overwritten you can click on the button marked in **red** and see the old entries written in *italic*.



|    | Information provi... | Trade partner | Target market | Message type  | Context        | Severity | Response t |
|----|----------------------|---------------|---------------|---------------|----------------|----------|------------|
| 36 | PIM                  | POOL          | Germany       | Item response | <no context>   |          | Acknowled  |
| 37 | PIM                  | POOL          | Germany       | Item response | <no context>   |          | Acknowled  |
| 38 | PIM                  | POOL          | Germany       | Item response | <no context>   |          | Acknowled  |
| 39 | PIM                  | POOL          | Germany       | Item response | <no context>   |          | Acknowled  |
| 40 | PIM                  | POOL          | Austria       | CIC           | <no context>   | REVIEW   | Exception  |
| 41 | PIM                  | POOL          | Austria       | CIC           | 01000010002208 | REVIEW   | Exception  |
| 42 | PIM                  | POOL          | Austria       | CIC           | <no context>   | REVIEW   | Exception  |
| 43 | PIM                  | POOL          | Austria       | CIC           | 01000010002208 | REVIEW   | Exception  |

### 8.6.4 Publication

After item data has been added to the GDSN pool and the hierarchies were created, it is possible to publish it for a specific customer (data recipient), market groups (IM only) or target markets (DSE only) by sending a GDSN publication message. By doing this the data recipient has the ability to view and synchronize the published item including all the child items below that item. An existing publication for a specific customer, market group or target market can be deleted.

*Note: Only the root item of a hierarchy has to be published actively. The rest of the hierarchy will be published with it automatically. The root item of a hierarchy may be target market specific.*

After an item has been published and subscribed to by a data recipient, some additional validations are triggered for the published GTINs and their hierarchies. If an item or a hierarchy fails due to incorrect or insufficient data, a corresponding response GDSN message will be generated by the GDSN pool. The Informatica B2B DX proceeds this file and creates a publication status entry for the affected item.

In order to make the publication process more traceable, you shouldn't publish individual items manually but use the approach described below.

#### Mark items for publication

After the item data and item hierarchies are maintained completely and have been sent to the GDSN pool they are ready for publication. Some items may have to be unpublished since they are deprecated, some may have to be republished to a certain data recipient.

You can add all that information to the affected items using an import, it is not possible at the moment to add those information in the Product 360 UI directly. The detailed description of the data to be imported is described in the pool specific chapters below.

#### Publish items automatically

Once you've added the publication status information to the items, the next run of the scheduled publication export job picks up all that data and creates corresponding GDSN messages. Of course, it's also possible to start a publication export manually.

*Note: GDSN publication messages are only created for items that had been sent to the GDSN pool before. Even if an item is marked for publication, it won't be published if it hasn't been sent to the GDSN pool successfully.*

There's a special algorithm which analyses the publication status entries created by the import of publication markings and by responses sent by the GDSN pool. The following rules apply:

- In general, a publication message will only be created if the item has successfully been sent to the GDSN pool before.
- If there's a publication status of message type "Item response" or "Publication response" created after the publication marking, no publication message will be created
- Publication messages of type "republish" or "unpublish" will only be created if the item has been published successfully before

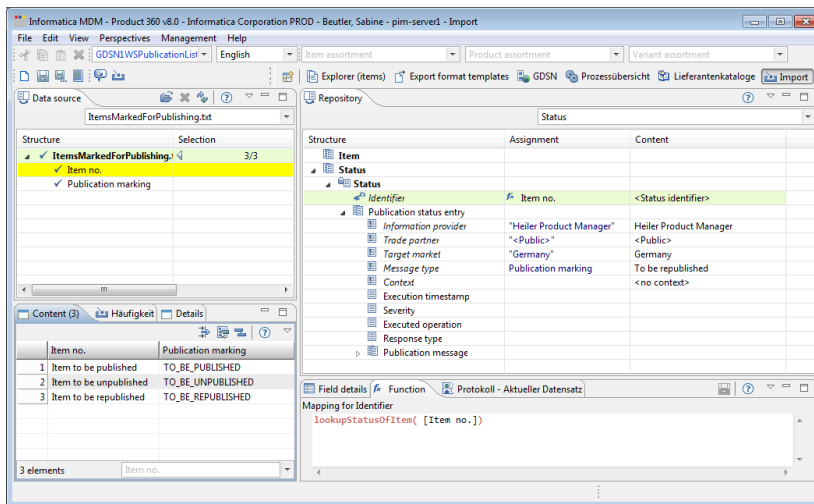
## Publication process for DSE

### Mark items for publication (DSE)

You can publish items for a specific customer (data recipient) or for target markets. If you want to publish items for a target market you have to choose the "<Public>" customer as trade partner, otherwise select the desired customer.

**Note:** All customers maintained in your Product 360 should have a valid GLN, it's needed to identify them as trade partner against the GDSN pool.

All you need for the import of publication markings for items is a file containing the item numbers or GTINs and the type of publication operation you want to create (publish, unpublish, republish).



**Note:** Publication status information objects are independent objects and mapped to items. That's why you need a special import function to find the corresponding status entries for the items.

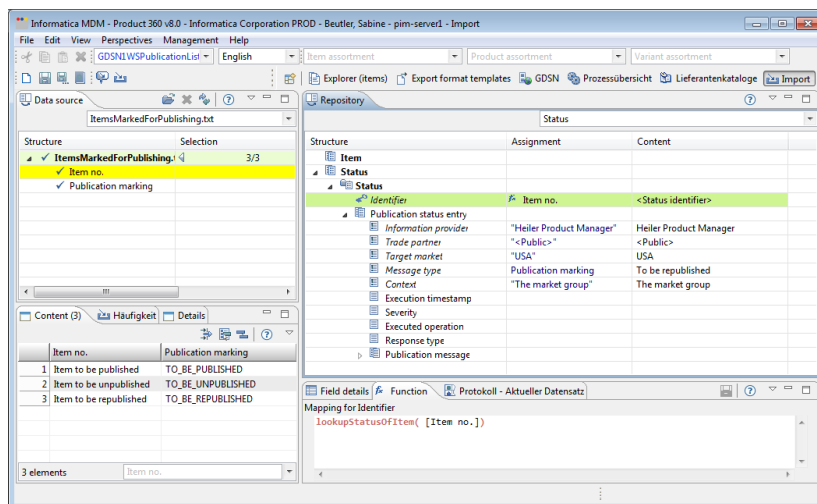
## Publication process for IM

### Mark items for publication (IM)

You can publish items for a specific customer (data recipient) or for a market group. If you want to publish items for a market group you have to map the name of the market group to the *Context* field, otherwise select the desired customer.

**Note:** All customers maintained in your Product 360 should have a valid GLN, it's needed to identify them as trade partner against the GDSN pool.

All you need for the import of publication markings for items is a file containing the item numbers or GTINs and the type of publication operation you want to create (publish, unpublish, republish).



**Note:** Publication status information objects are independent objects and mapped to items. That's why you need a special import function to find the corresponding status entries for the items.

## 8.7 GDSN Accelerator field list

GDSN\_MjR3\_FieldList.xlsx

| Product 360 Identifier              | Display name (English) | Display name (German) | Module (English)            | Module (German)          | GDSN XML name                                                                                                                                                           | Scope |
|-------------------------------------|------------------------|-----------------------|-----------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleMicrobiologics.Organism Code | Organism code          | Organismus-Code       | Microbiological information | Mikrobiologische Angaben | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/foodAndBeveragePropertiesInformationModule/microbiologicalInformation/microbiologicalOrganismCode | FAB   |

| Product 360 Identifier                          | Display name (English)                                                                     | Display name (German)                                                               | Module (English) | Module (German) | GDSN XML name                                                                                                                                                                                     | Scope |
|-------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleMicrobiologicsUOM.Unit                   | Unit                                                                                       | Maßeinheit                                                                          | UOM              | Maßeinheiten    |                                                                                                                                                                                                   | FAB   |
| ArticleMicrobiologicsUOM.OrganismMaximumValue   | Organism maximum value<br>({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable})   | Organismus Maximalwert<br>({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar})  | UOM              | Maßeinheiten    | CatalogueItemNotification/<br>CatalogueItem/tradeItem/<br>tradeItemComponents/<br>foodAndBeveragePropertiesInformationModule/microbiologicalInformation/<br>microbiologicalOrganismMaximumValue   | FAB   |
| ArticleMicrobiologicsUOM.OrganismReferenceValue | Organism reference value<br>({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable}) | Organismus Referenzwert<br>({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | UOM              | Maßeinheiten    | CatalogueItemNotification/<br>CatalogueItem/tradeItem/<br>tradeItemComponents/<br>foodAndBeveragePropertiesInformationModule/microbiologicalInformation/<br>microbiologicalOrganismReferenceValue | FAB   |
| ArticleMicrobiologicsUOM.OrganismWarningValue   | Organism warning value<br>({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable})   | Organismus Warnwert<br>({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar})     | UOM              | Maßeinheiten    | CatalogueItemNotification/<br>CatalogueItem/tradeItem/<br>tradeItemComponents/<br>foodAndBeveragePropertiesInformationModule/microbiologicalInformation/<br>microbiologicalOrganismWarningValue   | FAB   |



| Product 360 Identifier              | Display name (English)                                                                | Display name (German)                                                                  | Module (English)       | Module (German)         | GDSN XML name                                                                                                                                                                                                                                                                                                                                                           | Scope |
|-------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleDietLang.DietTypeDescription | Description ({ArticleDomainLangType.LK.Language#Language selectable})                 | Beschreibung ({ArticleDomainLangType.LK.Language#Sprache wählbar})                     | Language specific data | Sprachspezifische Daten | dietInformationModule/dietInformation/dietTypeDescription                                                                                                                                                                                                                                                                                                               | FAB   |
| ArticleDietList.DietTypeCode        | Diet type                                                                             | Ernährungsart                                                                          | Diets                  | Ernährungsarten         | dietInformationModule/dietInformation/dietTypeInformation/dietTypeCode                                                                                                                                                                                                                                                                                                  | FAB   |
| ArticleDietList.DietSubtypeCode     | Diet subtype ({ArticleSubDomainType.LK.Std_LK_Text250_01#Diet type code selectable})  | Ernährungsunterart ({ArticleSubDomainType.LK.Std_LK_Text250_01#Ernährungsart wählbar}) | Diets                  | Ernährungsarten         | dietInformationModule/dietInformation/dietTypeInformation/dietTypeSubcode                                                                                                                                                                                                                                                                                               | FAB   |
| ArticleDietList.Certification       | Certification ({ArticleSubDomainType.LK.Std_LK_Text250_01#Diet type code selectable}) | Zertifizierung ({ArticleSubDomainType.LK.Std_LK_Text250_01#Ernährungsart wählbar})     | Diets                  | Ernährungsarten         | Reference to certification entity with these fields: dietInformationModule/dietInformation/dietTypeInformation/dietCertification/certificationOrganisationIdentifier, dietInformationModule/dietInformation/dietTypeInformation/dietCertification/certificationAgencydietInformationModule/dietInformation/dietTypeInformation/dietCertification/certificationStandard, | FAB   |

| Product 360 Identifier                      | Display name (English)        | Display name (German)     | Module (English)            | Module (German)                | GDSN XML name                                                                    | Scope |
|---------------------------------------------|-------------------------------|---------------------------|-----------------------------|--------------------------------|----------------------------------------------------------------------------------|-------|
| ArticleAllergen.AllergenSpecificationAgency | Allergen specification agency | Allergenspezifischer      | Allergenrelated information | Allergenbezogene Informationen | allergenInformationModule/allergenRelatedInformation/allergenSpecificationAgency | FAB   |
| ArticleAllergen.AllergenSpecificationName   | Allergen specification name   | Allergenspezifischer Name | Allergenrelated information | Allergenbezogene Informationen | allergenInformationModule/allergenRelatedInformation/allergenSpecificationName   | FAB   |

| Product 360 Identifier                     | Display name (English)                                                                         | Display name (German)                                                                    | Module (English)       | Module (German)         | GDSN XML name                                                                                                                                                                  | Scope |
|--------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleAllergenLang.AllergenStatement      | Allergen statement<br>({ArticleDomainLangType.LK.Language#Language selectable})                | Allergenhinweise<br>({ArticleDomainLangType.LK.Language#Sprache wählbar})                | Language specific data | Sprachspezifische Daten | allergenInformationModule/<br>allergenRelatedInformation/<br>allergenStatement                                                                                                 | FAB   |
| ArticleAllergenList.AllergenTypeCode       | Allergen type                                                                                  | Allergenart                                                                              | Allergens              | Allergene               | CatalogueItemNotification/<br>CatalogueItem/tradeItem/<br>tradeItemComponents/<br>allergenInformationModule/<br>allergenRelatedInformation/allergen/<br>allergenTypeCode       | FAB   |
| ArticleAllergenList.LevelOfContainmentCode | Level of containment<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Allergen type selectable}) | Grad des Vorkommens<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Allergenart wählbar}) | Allergens              | Allergene               | CatalogueItemNotification/<br>CatalogueItem/tradeItem/<br>tradeItemComponents/<br>allergenInformationModule/<br>allergenRelatedInformation/allergen/<br>LevelOfContainmentCode | FAB   |

| Product 360 Identifier                     | Display name (English) | Display name (German) | Module (English)                | Module (German) | GDSN XML name                                                                                                                                        | Scope |
|--------------------------------------------|------------------------|-----------------------|---------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticlePreparationServing.PreparationType  | Preparation type       | Zubereitungsart       | Preparation serving information | Zubereitung     | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/foodAndBeveragePreparationServingModule/preparationServing/preparationTypeCode | FAB   |
| ArticlePreparationServing.ConvenienceLevel | Convenience level      | Conveniencegrad       | Preparation serving information | Zubereitung     | foodAndBeveragePreparationServingModule/preparationServing/convenienceLevelPercent                                                                   | FAB   |

| Product 360 Identifier                                                    | Display name (English)                                                                                   | Display name (German)                                                               | Module (English)                   | Module (German) | GDSN XML name                                                                                       | Scope |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------|-------|
| ArticlePreparationServingUOM.<br>maximumOptimumConsumption<br>Temperature | Maximum optimum consumption temperature<br>(ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable)) | Verzehrtemperatur (Max.)<br>(ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar)) | Preparation information format UOM | Maßeinheiten    | foodAndBeveragePreparationServingModule/preparationServing/<br>maximumOptimumConsumptionTemperature | FAB   |

| Product 360 Identifier                                                       | Display name (English)                                                                                        | Display name (German)                                                                               | Module (English)                    | Module (German) | GDSN XML name | Scope |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|---------------|-------|
| ArticlePreparationServingUOM.<br>maximumOptimumConsumption<br>TemperatureUOM | Maximum optimum consumption temperature UOM<br>({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable}) | Verzehrtemperatur (Max.):<br>Maßeinheit<br>({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Preparation serving information UOM | Maßeinheiten    |               | FAB   |



| Product 360 Identifier                                                       | Display name (English)                                                                                        | Display name (German)                                                                               | Module (English)                    | Module (German)         | GDSN XML name                                                                                | Scope |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------|----------------------------------------------------------------------------------------------|-------|
| ArticlePreparationServingUOM.<br>minimumOptimumConsumption<br>TemperatureUOM | Minimum optimum consumption temperature UOM<br>({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable}) | Verzehrtemperatur (Min.):<br>Maßeinheit<br>({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Preparation serving information UOM | Maßeinheiten            |                                                                                              | FAB   |
| ArticlePreparationServingLang.<br>Precautions                                | Precautions<br>({ArticleDomainLangType.LK.Language#Language#selectable})                                      | Vorsichtsmaßnahmen<br>({ArticleDomainLangType.LK.Language#Sprache wählbar})                         | Language specific data              | Sprachspezifische Daten | foodAndBeveragePreparationServingModule/preparationServing/preparationConsumptionPrecautions | FAB   |



| Product 360 Identifier                                 | Display name (English)                                                             | Display name (German)                                                         | Module (English)       | Module (German)         | GDSN XML name                                                                      | Scope |
|--------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------|-------------------------|------------------------------------------------------------------------------------|-------|
| ArticlePreparationServingLang. PreparationInstructions | Preparation instructions ({ArticleDomainLangType.LK.Language#Language selectable}) | Zubereitungsanweisungen ({ArticleDomainLangType.LK.Language#Sprache wählbar}) | Language specific data | Sprachspezifische Daten | foodAndBeveragePreparationServingModule/preparationServing/preparationInstructions | FAB   |
| ArticlePreparationServingLang. ServingSuggestion       | Serving suggestion ({ArticleDomainLangType.LK.Language#Language selectable})       | Serviertvorschlag ({ArticleDomainLangType.LK.Language#Sprache wählbar})       | Language specific data | Sprachspezifische Daten | foodAndBeveragePreparationServingModule/preparationServing/servingSuggestion       | FAB   |

| Product 360 Identifier                                                | Display name (English)      | Display name (German)        | Module (English)          | Module (German)            | GDSN XML name                                                                                                                                                                            | Scope |
|-----------------------------------------------------------------------|-----------------------------|------------------------------|---------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticlePreparationServingProductYield.ProductYieldType                | Product yield type          | Art der Ergiebigkeit         | Product yield information | Ergiebigkeit des Produktes | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/foodAndBeveragePreparationServingModule/preparationServing/productYieldInformation/productYieldTypeCode            | FAB   |
| ArticlePreparationServingProductYield.ProductYieldVariationPercentage | Product yield variation [%] | Ergiebigkeit: Abweichung [%] | Product yield information | Ergiebigkeit des Produktes | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/foodAndBeveragePreparationServingModule/preparationServing/productYieldInformation/productYieldVariationPercentage | FAB   |

| Product 360 Identifier                                   | Display name (English)                                                          | Display name (German)                                                                  | Module (English)        | Module (German) | GDSN XML name                                                                                   | Scope |
|----------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------|-----------------|-------------------------------------------------------------------------------------------------|-------|
| ArticlePreparationServingProductYieldUOM.ProductYield    | Product yield<br>({ArticleSubDomainUOMType.LK.UOMType#UOM type selectable})     | Ergiebigkeit: Wert<br>({ArticleSubDomainUOMType.LK.UOMType#UOM type selectable})       | Product yield UOM       | Maßeinheiten    | foodAndBeveragePreparationServingModule/preparationServing/productYieldInformation/productYield | FAB   |
| ArticlePreparationServingProductYieldUOM.ProductYieldUOM | Product yield UOM<br>({ArticleSubDomainUOMType.LK.UOMType#UOM type selectable}) | Ergiebigkeit: Maßeinheit<br>({ArticleSubDomainUOMType.LK.UOMType#UOM type selectable}) | Product yield UOM       | Maßeinheiten    |                                                                                                 | FAB   |
| ArticleNutrient.PreparationState                         | Preparation state                                                               | Zubereitungsgrad                                                                       | Nutritional information | Nährwertangaben | nutritionalInformationModule/nutritionHeader/preparationStateCode                               | FAB   |

| Product 360 Identifier                        | Display name (English)                                                                 | Display name (German)                                                             | Module (English)       | Module (German)         | GDSN XML name                                                                                                                                | Scope |
|-----------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleNutrientLang.ServingSizeDescription    | Serving size description ({ArticleDomainLangType.LK.Language#Language selectable})     | Portionsgröße: Beschreibung ({ArticleDomainLangType.LK.Language#Sprache wählbar}) | Language specific data | Sprachspezifische Daten | nutritionalInformationModule/nutritionHeader/servingSizeDescription                                                                          | FAB   |
| ArticleNutrientLang.DailyValueIntakeReference | Daily value intake reference ({ArticleDomainLangType.LK.Language#Language selectable}) | Tagesdosis Referenzwert ({ArticleDomainLangType.LK.Language#Sprache wählbar})     | Language specific data | Sprachspezifische Daten | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/nutritionalInformationModule/nutritionHeader/dailyValueIntakeReference | FAB   |

| Product 360 Identifier                                | Display name (English)                                                                 | Display name (German)                                                            | Module (English)        | Module (German)     | GDSN XML name                                                                                                                            | Scope |
|-------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleNutrientBasisQuantity.NutrientBasisQuantity    | Nutrient basis quantity ({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable}) | Bezugsgröße ({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar})             | Nutrient basis quantity | Basisnährstoffmenge | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/nutritionalInformationModule/nutritionHeader/nutrientBasisQuantity | FAB   |
| ArticleNutrientBasisQuantity.NutrientBasisQuantityUOM | Nutrient basis quantity UOM ({ArticleDomainUOMType.LK.UOMType#UOMType#selectable})     | Bezugsgröße: Maßeinheit ({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Nutrient basis quantity | Basisnährstoffmenge |                                                                                                                                          | FAB   |

| Product 360 Identifier                      | Display name (English)                                                          | Display name (German)                                                              | Module (English)        | Module (German)     | GDSN XML name                                                                                                                  | Scope |
|---------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleNutrientBasisQuantity.ServingSize    | Serving size ({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable})     | Portionsgröße ({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar})             | Nutrient basis quantity | Basisnährstoffmenge | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/nutritionalInformationModule/nutritionHeader/servingSize | FAB   |
| ArticleNutrientBasisQuantity.ServingSizeUOM | Serving size UOM ({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable}) | Portionsgröße: Maßeinheit ({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Nutrient basis quantity | Basisnährstoffmenge |                                                                                                                                | FAB   |
| ArticleNutrientList.NutrientTypeCode        | Nutrient type                                                                   | Nährstoffart                                                                       | Nutrients               | Nährstoffe          | nutritionalInformationModule/nutritionHeader/nutrientDetail/nutrientTypeCode                                                   | FAB   |

| Product 360 Identifier                                | Display name (English)                                                                                                                                                                                                                          | Display name (German)                                                                                                                                                                                                          | Module (English)       | Module (German)          | GDSN XML name                                                                                                                                       | Scope |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleNutrientListQuantity.NutrientBasisQuantityType | Nutrient basis quantity type                                                                                                                                                                                                                    | Art der Bezugsgröße                                                                                                                                                                                                            | Nutrient list quantity | Messwerte der Nährstoffe | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/nutritionalInformationModule/nutritionHeader/nutrientBasisQuantityTypeCode    | FAB   |
| ArticleNutrientListQuantity.QuantityContained         | Quantity contained ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Nutrient type selectable}, {ArticleSubDomainUOMType.LK.Std_LK_Text100_01#Nutrient basis quantity type selectable}, {ArticleSubDomainUOMType.LK.UOMType#UOM type selectable})) | Enthaltene Menge ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Nährstoffart wählbar}, {ArticleSubDomainUOMType.LK.Std_LK_Text100_01#Art der Bezugsgröße wählbar}, {ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar})) | Nutrient list quantity | Messwerte der Nährstoffe | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/nutritionalInformationModule/nutritionHeader/nutrientDetail/quantityContained | FAB   |

| Product 360 Identifier                           | Display name (English)                                                                                                                                                                                                                             | Display name (German)                                                                                                                                                                                                              | Module (English)  | Module (German)          | GDSN XML name | Scope |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------|---------------|-------|
| ArticleNutrientListQuantity.QuantityContainedUOM | Quantity contained UOM ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Nutrient type selectable}, {ArticleSubDomainUOMType.LK.Std_LK_Text100_01#Nutrient basis quantity type selectable}, {ArticleSubDomainUOMType.LK.UOMType#UOM type selectable}) | Enthaltene Menge: Maßeinheit ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Nährstoffart wählbar}, {ArticleSubDomainUOMType.LK.Std_LK_Text100_01#Bezug sgröße wählbar}, {ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Nutrient quantity | Messwerte der Nährstoffe |               | FAB   |



| Product 360 Identifier                              | Display name (English)                                                                                                                                                                                                                                 | Display name (German)                                                                                                                                                                                                                      | Module (English)       | Module (German)          | GDSN XML name                                                                                                      | Scope |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------|-------|
| ArticleNutrientListQuantity.DailyValueIntakePercent | Percentage of daily intake ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Nutrient type selectable}, {ArticleSubDomainUOMType.LK.Std_LK_Text100_01#Nutrient basis quantity type selectable}, {ArticleSubDomainUOMType.LK.UOMType#UOM type selectable}) | Prozent des täglichen Bedarfs ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Nährstoffart wählbar}, {ArticleSubDomainUOMType.LK.Std_LK_Text100_01#Art der Bezugsgröße wählbar}, {ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Nutrient quantity unit | Messwerte der Nährstoffe | nutritionalInformationModule/nutrientHeader/nutrientDetail/avpList/dailyValueIntakePercentMeasurementPrecisionCode | FAB   |

| Product 360 Identifier                               | Display name (English)                                                                                                                                                                                                                             | Display name (German)                                                                                                                                                                                                         | Module (English)       | Module (German)          | GDSN XML name                                                                                                                 | Scope |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleNutrientListQuantity.MeasurementPrecisionCode | Measurement precision ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Nutrient type selectable}, {ArticleSubDomainUOMType.LK.Std_LK_Text100_01#Nutrient basis quantity type selectable}, {ArticleSubDomainUOMType.LK.UOMType#UOM type selectable})) | Messgenauigkeit ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Nährstoffart wählbar}, {ArticleSubDomainUOMType.LK.Std_LK_Text100_01#Art der Bezugsgröße wählbar}, {ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar})) | Nutrient list quantity | Messwerte der Nährstoffe | nutritionalInformationModule/nutritionHeader/nutrientDetail/measurementPrecisionCode                                          | FAB   |
| ArticleIngredient.IngredientOfConcernCode            | Ingredient of concern code                                                                                                                                                                                                                         | Inhaltsstoff von Belang: Code                                                                                                                                                                                                 | Ingredient information | Inhaltangaben            | CatalogueItemNotification/CatalogueItem/tradeltem/tradeltemComponents/foodAndBeverageIngredientModule/ingredientOfConcernCode | FAB   |



| Product 360 Identifier                           | Display name (English)                                                                         | Display name (German)                                                                    | Module (English)     | Module (German) | GDSN XML name                                                                | Scope |
|--------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------|-----------------|------------------------------------------------------------------------------|-------|
| ArticleIngredientAdditive.LevelOfContainmentCode | Level of containment<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Additive name selectable}) | Grad des Vorkommens<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Zusatzstoff wählbar}) | Additives            | Zusatzstoffe    | foodAndBeverageIngredientModule/additiveInformation/LevelofContainmentCode   | FAB   |
| ArticleIngredientComponent.Sequence              | Sequence                                                                                       | Reihenfolge                                                                              | Ingredient component | Inhaltsstoffe   | foodAndBeverageIngredientModule/foodAndBeverageIngredient/ingredientSequence | FAB   |
| ArticleIngredientComponent.Ingredient            | Ingredient<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Sequence selectable})                | Inhaltsstoff<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Reihenfolge wählbar})        | Ingredient component | Inhaltsstoffe   |                                                                              | FAB   |

| Product 360 Identifier                       | Display name (English)                                                           | Display name (German)                                                           | Module (English)     | Module (German) | GDSN XML name                                                                                                                                                         | Scope |
|----------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleIngredientComponent.Purpose           | Purpose<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Sequence selectable})     | Zweck<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Reihenfolge wählbar})      | Ingredient component | Inhaltstoff     | CatalogueItemNotification/<br>CatalogueItem/tradeItem/<br>tradeItemComponents/<br>foodAndBeverageIngredientModule/<br>foodAndBeverageIngredient/<br>ingredientPurpose | FAB   |
| ArticleIngredientComponent.ContentPercentage | Content [%]<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Sequence selectable}) | Inhalt [%]<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Reihenfolge wählbar}) | Ingredient component | Inhaltstoff     | foodAndBeverageIngredientModule/<br>foodAndBeverageIngredient/<br>ingredientContentPercentage                                                                         | FAB   |

| Product 360 Identifier                                        | Display name (English)                       | Display name (German)                               | Module (English)             | Module (German) | GDSN XML name                                                                                                         | Scope |
|---------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------|------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------|-------|
| ArticleServingQuantity.MaximumNumberOfSmallestUnitsPerPackage | Maximum number of smallest units per package | Maximale Anzahl der kleinsten Einheiten pro Packung | Serving quantity information | Portionsmenngen | foodAndBeveragePreparationServingModule/servingQuantityInformation/maximumNumberOfSmallestUnitsPerPackage             | FAB   |
| ArticleServingQuantity.NumberOfServingsPerPackage             | Number of servings per package               | Anzahl der Portionen pro Packung                    | Serving quantity information | Portionsmenngen | foodAndBeveragePreparationServingModule/servingQuantityInformation/numberOfServingsPerPackageMeasurementPrecisionCode | FAB   |

| Product 360 Identifier                                                  | Display name (English)                                  | Display name (German)                                | Module (English)             | Module (German) | GDSN XML name                                                                                                         | Scope |
|-------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------|------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------|-------|
| ArticleServingQuantity.MeasurementPrecisionOfNumberOfServingsPerPackage | Measurement precision of number of servings per package | Messgenauigkeit der Anzahl der Portionen pro Packung | Serving quantity information | Portionsmenge   | foodAndBeveragePreparationServingModule/servingQuantityInformation/numberOfServingsPerPackageMeasurementPrecisionCode | FAB   |
| ArticleServingQuantity.NumberOfSmallestUnitsPerPackage                  | Number of smallest units per package                    | Anzahl der kleinsten Einheiten pro Packung           | Serving quantity information | Portionsmenge   | foodAndBeveragePreparationServingModule/servingQuantityInformation/numberOfSmallestUnitsPerPackage                    | FAB   |

| Product 360 Identifier                                      | Display name (English)             | Display name (German)                  | Module (English)        | Module (German)         | GDSN XML name                                                                                                                                                          | Scope       |
|-------------------------------------------------------------|------------------------------------|----------------------------------------|-------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| ArticlePreparation.ManufacturerPreparationTypeCode          | Manufacturer preparation type code | Zubereitungscod<br>e des Herstellers   | Preparation Information | Zubereitun<br>gshinweis | CataloguelItemNotification/<br>CataloguelItem/tradelItem/<br>tradelItemComponents/<br>foodAndBeveragePreparationServingMod<br>ule/manufacturerPreparationTypeCode      | F<br>A<br>B |
| ArticleNutritionalClaim.NutritionalClaimTypeCode            | Nutritional claim type code        | Nährwertanspr<br>uch: Code der Art     | Nutritional claims      | Nährwert<br>anspruch    | CataloguelItemNotification/<br>CataloguelItem/tradelItem/<br>tradelItemComponents/<br>nutritionalInformationModule/<br>nutritionalClaimDetail/<br>nutritionalClaimCode | F<br>A<br>B |
| ArticleNutritionalClaim.NutritionalClaimNutrientElementCode | Nutritional claim element code     | Nährwertanspr<br>uch:<br>Nährstoffcode | Nutritional claims      | Nährwert<br>anspruch    | nutritionalInformationModule/<br>nutritionalClaimDetail/<br>nutritionalClaimNutrientElementCode                                                                        | F<br>A<br>B |



| Product 360 Identifier                                 | Display name (English)             | Display name (German)       | Module (English)           | Module (German)               | GDSN XML name                                                                                            | Scope |
|--------------------------------------------------------|------------------------------------|-----------------------------|----------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------|-------|
| ArticleCertifications.Certification                    | Certification                      | Zertifizierung              | Certification information  | Zertifizierungsinformationen  |                                                                                                          | FAB   |
| ArticlePhysioChemical.PhysiochemicalCharacteristicCode | Physiochemical characteristic code | Physiochemische Eigenschaft | Physiochemical information | Physiochemische Informationen | foodAndBeveragePropertiesInformationModule/physiochemicalCharacteristic/physiochemicalCharacteristicCode | FAB   |

| Product 360 Identifier                                     | Display name (English)                                                                             | Display name (German)                                                                          | Module (English)               | Module (German)                            | GDSN XML name                                                                                             | Scope |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------|
| ArticlePhysioChemicalUOM.PhysiochemicalCharacteristicValue | Physiochemical characteristic value ({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType selectable}) | Wert der physiochemischen Eigenschaft ({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Physiochemical information UOM | Einheit der Physiochemischen Informationen | foodAndBeveragePropertiesInformationModule/physiochemicalCharacteristic/physiochemicalCharacteristicValue | FAB   |

| Product 360 Identifier                                        | Display name (English)                                                                                 | Display name (German)                                                                             | Module (English)               | Module (German)                            | GDSN XML name                                                                                | Scope |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------|-------|
| ArticlePhysioChemicalUOM.PhysiochemicalCharacteristicValueUOM | Physiochemical characteristic value UOM ({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType selectable}) | Einheit der physiochemischen Eigenschaft ({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Physiochemical information UOM | Einheit der Physiochemischen Informationen |                                                                                              | FAB   |
| ArticleHealthCare.CompositionIncludeLatex                     | Does composition include latex                                                                         | Enthält Latex                                                                                     | Health related information     | Gesundheitsbezogene Informationen          | healthRelatedInformationModule/healthRelatedInformation/doesTradeItemCompositionIncludeLatex | FAB   |

| Product 360 Identifier                        | Display name (English)          | Display name (German)                 | Module (English)           | Module (German)                   | GDSN XML name                                                                                                     | Scope |
|-----------------------------------------------|---------------------------------|---------------------------------------|----------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------|-------|
| ArticleHealthCare.HealthClaimCode             | Health claims                   | Code für gesundheitsbezogenen Angaben | Health related information | Gesundheitsbezogene Informationen | healthRelatedInformationModule/<br>healthRelatedInformation/<br>healthClaimCode                                   | FAB   |
| ArticleHealthCare.IsNotIntendedForConsumption | Is not intended for consumption | Nicht zum Verzehr geeignet            | Health related information | Gesundheitsbezogene Informationen | healthRelatedInformationModule/<br>healthRelatedInformation/<br>isTradeItemChemicalNotIntendedForHumanConsumption | FAB   |

| Product 360 Identifier                   | Display name (English)    | Display name (German)          | Module (English)           | Module (German)                   | GDSN XML name                                                                            | Scope |
|------------------------------------------|---------------------------|--------------------------------|----------------------------|-----------------------------------|------------------------------------------------------------------------------------------|-------|
| ArticleHealthCare.NutritionLabelTypeCode | Nutrition label type code | Code der Nährwertkennzeichnung | Health related information | Gesundheitsbezogene Informationen | healthRelatedInformationModule/<br>healthRelatedInformation/<br>nutritionalLabelTypeCode | FAB   |
| ArticleHealthCare.NutritionalProgramCode | Nutritional program code  | Code des Ernährungsprogramms   | Health related information | Gesundheitsbezogene Informationen | healthRelatedInformationModule/<br>healthRelatedInformation/<br>nutritionalProgramCode   | FAB   |

| Product 360 Identifier                         | Display name (English)                                                                  | Display name (German)                                                                                   | Module (English)       | Module (German)         | GDSN XML name                                                                                      | Scope |
|------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------|-------------------------|----------------------------------------------------------------------------------------------------|-------|
| ArticleHealthCareLang.CompulsoryAdditivesLabel | Compulsory additives label<br>({ArticleDomainLangType.LK.Language#Language selectable}) | Verpflichtende Kennzeichnung von Zusatzstoffen<br>({ArticleDomainLangType.LK.Language#Sprache wählbar}) | Language specific data | Sprachspezifische Daten | healthRelatedInformationModule/<br>healthRelatedInformation/<br>compulsoryAdditiveLabelInformation | FAB   |
| ArticleHealthCareLang.HealthClaimDescription   | Description<br>({ArticleDomainLangType.LK.Language#Language selectable})                | Beschreibung<br>({ArticleDomainLangType.LK.Language#Sprache wählbar})                                   | Language specific data | Sprachspezifische Daten | healthRelatedInformationModule/<br>healthRelatedInformation/<br>healthClaimDescription             | FAB   |

| Product 360 Identifier                       | Display name (English)  | Display name (German)   | Module (English)     | Module (German)                            | GDSN XML name                                                                              | Scope |
|----------------------------------------------|-------------------------|-------------------------|----------------------|--------------------------------------------|--------------------------------------------------------------------------------------------|-------|
| ArticleDairyFishMeatPoultry.FatInMilkContent | Fat in milk content [%] | Fett im Milchanteil [%] | Dairyfishmeatpoultry | Molkereiprodukte, Fisch, Fleisch, Geflügel | dairyFishMeatPoultryItemModule/dairyFishMeatPoultryInformation/fatInMilkContent            | FAB   |
| ArticleDairyFishMeatPoultry.IsHomogenised    | Is homogenised          | Homogenisiert           | Dairyfishmeatpoultry | Molkereiprodukte, Fisch, Fleisch, Geflügel | dairyFishMeatPoultryItemModule/dairyFishMeatPoultryInformation/isHomogenised/IsHomogenised | FAB   |

| Product 360 Identifier                             | Display name (English)                                                                   | Display name (German)                                                                      | Module (English)        | Module (German)                                             | GDSN XML name                                                                           | Scope |
|----------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------|
| ArticleDairyFishMeatPoultryUOM.CasingTareWeight    | Casing tare weight<br>({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable})     | Verpackungsgewicht<br>({ArticleDomainUOMType.LK.UOMType#Einheitentypwählbar})              | DairyfishmeatpoultryUOM | Maßeinheiten für Molkereiprodukte, Fisch, Fleisch, Geflügel | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>casingTareWeight | FAB   |
| ArticleDairyFishMeatPoultryUOM.CasingTareWeightUOM | Casing tare weight UOM<br>({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable}) | Einheit des Verpackungsgewichts<br>({ArticleDomainUOMType.LK.UOMType#Einheitentypwählbar}) | DairyfishmeatpoultryUOM | Maßeinheiten für Molkereiprodukte, Fisch, Fleisch, Geflügel |                                                                                         | FAB   |



| Product 360 Identifier                                 | Display name (English)                   | Display name (German)                | Module (English)   | Module (German) | GDSN XML name                                                                                                   | Scope |
|--------------------------------------------------------|------------------------------------------|--------------------------------------|--------------------|-----------------|-----------------------------------------------------------------------------------------------------------------|-------|
| ArticleCheese.CheeseMaturationProcessContainerTypeCode | Cheese maturation container process type | Gefäßtyp für den Käsereifungsprozess | Cheese information | Käseinformation | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>cheeseMaturationProcessContainerTypeCode | FAB   |
| ArticleCheese.FatPercentageInDryMatter                 | Fat in dry matter [%]                    | Fett in Trockenmasse [%]             | Cheese information | Käseinformation | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>fatPercentageInDryMatter                 | FAB   |

| Product 360 Identifier       | Display name (English) | Display name (German) | Module (English)   | Module (German) | GDSN XML name                                                                         | Scope |
|------------------------------|------------------------|-----------------------|--------------------|-----------------|---------------------------------------------------------------------------------------|-------|
| ArticleCheese.IsRindEdible   | Is rind edible         | Rinde verzehrbar      | Cheese information | Käseinformation | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>isRindEdible   | FAB   |
| ArticleCheese.RennetTypeCode | Rennet type code       | Labart                | Cheese information | Käseinformation | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>rennetTypeCode | FAB   |

| Product 360 Identifier                           | Display name (English)                                                          | Display name (German)                                                 | Module (English)       | Module (German)             | GDSN XML name                                                                                             | Scope |
|--------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------|-------|
| ArticleCheese.SurfaceOfCheeseAtEndOfRipeningCode | Surface of cheese at end of ripening                                            | Käseoberfläche am Ende der Reifezeit                                  | Cheese information     | Käseinformation             | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>surfaceOfCheeseAtEndOfRipeningCode | FAB   |
| ArticleCheeseUOM.RipeningTimePeriod              | Ripening time period ({ArticleSubDomainUOMType.LK.UOMType#UOM type selectable}) | Reifezeit ({ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Cheese information UOM | Einheit der Käseinformation | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>ripeningTimePeriod                 | FAB   |

| Product 360 Identifier                              | Display name (English)                                                                   | Display name (German)                                                                       | Module (English)       | Module (German)             | GDSN XML name                                                                                            | Scope |
|-----------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------|-------|
| ArticleCheeseUOM.RipeningTimePeriodUOM              | Ripening time period UOM<br>({ArticleSubDomainUOMType.LK.UOMType#UOM type selectable})   | Maßeinheit der Reifezeit<br>({ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar})     | Chesse information UOM | Einheit der Käseinformation |                                                                                                          | FAB   |
| ArticleCheeseLang.CheeseMaturationPeriodDescription | Cheese maturation period description<br>({ArticleSubDomainLanguage#Language selectable}) | Beschreibung des Zeitraums der Käseerifung<br>({ArticleSubDomainLanguage#Language wählbar}) | Language data          | Sprachspezifische Daten     | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>cheeseMaturationPeriodDescription | FAB   |

| Product 360 Identifier                                          | Display name (English)                  | Display name (German)                                  | Module (English)          | Module (German)                  | GDSN XML name                                                                                                                       | Scope |
|-----------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------|---------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleFishMeatPoultryContent.FishMeatPoultryTypeCode           | Fish meat poultry type code             | Fisch-, Fleisch-, Geflügelart                          | Fish meat poultry content | Fisch-, Fleisch-, Geflügelgehalt | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>fishMeatPoultryContent/<br>fishMeatPoultryTypeCode           | FAB   |
| ArticleFishMeatPoultryContent.FishMeatPoultryTypeCodeListAgency | Fish meat poultry type code list agency | Agentur zur Vergabe des Fisch-, Fleisch-, Geflügeltyps | Fish meat poultry content | Fisch-, Fleisch-, Geflügelgehalt | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>fishMeatPoultryContent/<br>fishMeatPoultryTypeCodeListAgency | FAB   |

| Product 360 Identifier                                                  | Display name (English)                                                                                                                                                              | Display name (German)                                                                                                                                                                        | Module (English)              | Module (German)                                    | GDSN XML name                                                                                                                               | Scope |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticleFishMeatPoultryContent.FishMeatPoultryTypeCodeListIdentification | Fish meat poultry type code list identification                                                                                                                                     | Identifikation des Fisch-, Fleisch-, Geflügeltyps                                                                                                                                            | Fish meat poultry content     | Fisch-, Fleisch-, Geflügelgehalt                   | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>fishMeatPoultryContent/<br>fishMeatPoultryTypeCodeListIdentification | FAB   |
| ArticleFishMeatPoultryContentUOM.MinimumFishMeatPoultryContent          | Minimum fish meat poultry content ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Fish meat poultry type code selectable}, {ArticleSubDomainUOMType.LK.UOMType#UOM type selectable}) | Minimaler Fisch-, Fleisch-, Geflügelanteil ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Fisch-, Fleisch-, Geflügelart wählbar}, {ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Fish meat poultry content UOM | Maßeinheiten des Fisch-, Fleisch-, Geflügelgehalts | dairyFishMeatPoultryItemModule/<br>dairyFishMeatPoultryInformation/<br>fishMeatPoultryContent/<br>minimumFishMeatPoultryContent             | FAB   |

| Product 360 Identifier                                            | Display name (English)                                                                                                                                                                   | Display name (German)                                                                                                                                                                                         | Module (English)             | Module (German)                                  | GDSN XML name | Scope |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------------------|---------------|-------|
| ArticleFishMeatPoultryContentUOM.MinimumFishMeatPoultryContentUOM | Minimum fish meat poultry content UOM ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Fish meat poultry type code selectable}, {ArticleSubDomainUOMType.LK.UOMType#UOM type selectable})) | Maßeinheit des minimalen Fisch-, Fleisch-, Geflügelanteils ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Fisch-, Fleisch-, Geflügelart wählbar}, {ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar})) | Fish meat category code unit | Maßeinheit des Fisch-, Fleisch-, Geflügelgehalts |               | FAB   |
| GDSNCanadaExtension.ReinstatementDate                             | Reinstatement date                                                                                                                                                                       | Reinstatement date                                                                                                                                                                                            | Canada-specific GDSN data    | Canada-specific GDSN data                        | -             | IM    |

| Product 360 Identifier                  | Display name (English)             | Display name (German)              | Module (English)          | Module (German)           | GDSN XML name | Scope |
|-----------------------------------------|------------------------------------|------------------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.NotLegalToAdvertise | Not legal to advertise by province | Not legal to advertise by province | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.NotLegalToDiscount  | Not legal to discount by province  | Not legal to discount by province  | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |



| Product 360 Identifier                      | Display name (English)     | Display name (German)      | Module (English)          | Module (German)           | GDSN XML name | Scope |
|---------------------------------------------|----------------------------|----------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.GSTHSTApplicable        | GST/HST applicable         | GST/HST applicable         | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.PSTApplicableByProvince | PST applicable by province | PST applicable by province | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier                                    | Display name (English)                    | Display name (German)                     | Module (English)          | Module (German)           | GDSN XML name                         | Scope |
|-----------------------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|---------------------------|---------------------------------------|-------|
| GDSNCanadaExtension.EnvironmentalLevyApplicableByProvince | Environmental levy applicable by province | Environmental levy applicable by province | Canada-specific GDSN data | Canada-specific GDSN data | environmentalLevyApplicableByProvince | IM    |
| GDSNCanadaExtension.JuiceContentPercentage                | Juice content [%]                         | Juice content [%]                         | Canada-specific GDSN data | Canada-specific GDSN data | -                                     | IM    |

| Product 360 Identifier                                | Display name (English)                 | Display name (German)                  | Module (English)          | Module (German)           | GDSN XML name | Scope |
|-------------------------------------------------------|----------------------------------------|----------------------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.MarkedLotNumber                   | Is marked lot number                   | Is marked lot number                   | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.SpecialHandlingCodeTransportation | Special handling code - transportation | Special handling code - transportation | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier                     | Display name (English)   | Display name (German)    | Module (English)          | Module (German)           | GDSN XML name | Scope |
|--------------------------------------------|--------------------------|--------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.ChannelOfDistribution  | Channel of distribution  | Channel of distribution  | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.BrokerInvoiceIndicator | Broker invoice indicator | Broker invoice indicator | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier                       | Display name (English)      | Display name (German)       | Module (English)          | Module (German)           | GDSN XML name | Scope |
|----------------------------------------------|-----------------------------|-----------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.PercentageOfWaterContent | Percentage of water content | Percentage of water content | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.PercentageOfMoistureLoss | Percentage of moisture loss | Percentage of moisture loss | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier               | Display name (English) | Display name (German) | Module (English)          | Module (German)           | GDSN XML name | Scope |
|--------------------------------------|------------------------|-----------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.ProductionType   | Production type        | Production type       | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.ExpiryDateFormat | Expiry date format     | Expiry date format    | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier                    | Display name (English)  | Display name (German)   | Module (English)          | Module (German)           | GDSN XML name         | Scope |
|-------------------------------------------|-------------------------|-------------------------|---------------------------|---------------------------|-----------------------|-------|
| GDSNCanadaExtension.ConsumerSupportNumber | Consumer support number | Consumer support number | Canada-specific GDSN data | Canada-specific GDSN data | consumerSupportNumber | IM    |
| GDSNCanadaExtension.IsCustomLabel         | Is custom label         | Is custom label         | Canada-specific GDSN data | Canada-specific GDSN data | -                     | IM    |

| Product 360 Identifier                          | Display name (English)         | Display name (German)          | Module (English)          | Module (German)           | GDSN XML name | Scope |
|-------------------------------------------------|--------------------------------|--------------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.AverageServingsPerCase      | Average servings per case      | Average servings per case      | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.ActiveIngredientGroupNumber | Active ingredient group number | Active ingredient group number | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |



| Product 360 Identifier                                   | Display name (English)                    | Display name (German)                     | Module (English)          | Module (German)           | GDSN XML name | Scope |
|----------------------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.ActiveIngredientNameStrengthAndBasis | Active ingredient name strength and basis | Active ingredient name strength and basis | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.DosageFormType                       | Dosage form type                          | Dosage form type                          | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier                           | Display name (English)                            | Display name (German)                             | Module (English)          | Module (German)           | GDSN XML name | Scope |
|--------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.DrugMerchandisingBtcProvince | Drug merchandising behind the counter by province | Drug merchandising behind the counter by province | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.DrugMerchandisingOtcProvince | Drug merchandising OTC by province                | Drug merchandising OTC by province                | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier                                   | Display name (English)                     | Display name (German)                      | Module (English)          | Module (German)           | GDSN XML name | Scope |
|----------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.DrugMerchandisingRxProvince          | Drug merchandising Rx by province          | Drug merchandising Rx by province          | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.DrugMerchandisingUnscheduledProvince | Drug merchandising unscheduled by province | Drug merchandising unscheduled by province | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier                                        | Display name (English)                          | Display name (German)                           | Module (English)          | Module (German)           | GDSN XML name | Scope |
|---------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.ShapeDescriptionFrench                    | Shape description french                        | Shape description french                        | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.TradeItemRegulationTypeCodeControlledDrug | Trade item regulation type code controlled drug | Trade item regulation type code controlled drug | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier                                   | Display name (English)                    | Display name (German)                     | Module (English)          | Module (German)           | GDSN XML name | Scope |
|----------------------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.TradeItemRegulationTypeCodeNarcotic  | Trade item regulation type code narcotic  | Trade item regulation type code narcotic  | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtension.TradeItemRegulationTypeCodePrecursor | Trade item regulation type code precursor | Trade item regulation type code precursor | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |

| Product 360 Identifier                                           | Display name (English)                                                         | Display name (German)                                                          | Module (English)          | Module (German)           | GDSN XML name | Scope |
|------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------|---------------------------|---------------|-------|
| GDSNCanadaExtension.TradeItemRegulationTypeCodeTargetedSubstance | Trade item regulation type code targeted substance                             | Trade item regulation type code targeted substance                             | Canada-specific GDSN data | Canada-specific GDSN data | -             | IM    |
| GDSNCanadaExtensionLang.OperatorDescription                      | Operator description ({ArticleDomainLangType.LK.Language#Language selectable}) | Operator description ({ArticleDomainLangType.LK.Language#Language selectable}) | Language-specific data    | Language-specific data    | -             | IM    |



| Product 360 Identifier                               | Display name (English)                                                                      | Display name (German)                                                                     | Module (English)       | Module (German)        | GDSN XML name | Scope |
|------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------|------------------------|---------------|-------|
| GDSNCanadaExtensionLang.WeightScaleDescription       | Weight scale description ({ArticleDomainLangType.LK.Language#Language#Language selectable}) | Weight scale description ({ArticleDomainLangType.LK.Language#Language selectable})        | Language-specific data | Language-specific data | -             | IM    |
| GDSNCanadaExtensionLang.TradeItemMarkingsDescription | Trade item markings description ({ArticleDomainLangType.LK.Language#Language selectable})   | Trade item markings description ({ArticleDomainLangType.LK.Language#Language selectable}) | Language-specific data | Language-specific data | -             | IM    |





| Product 360 Identifier                                      | Display name (English)                                                                          | Display name (German)                                                                           | Module (English)       | Module (German)        | GDSN XML name | Scope |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------|------------------------|---------------|-------|
| GDSNCanadaExtensionCustomer.DeliveryLeadTime                | Delivery lead time<br>({ArticleDomainPartyType.LK.Party#Customer selectable})                   | Delivery lead time<br>({ArticleDomainPartyType.LK.Party#Customer selectable})                   | Customer-specific data | Customer-specific data | -             | IM    |
| GDSNCanadaExtensionCustomer.MinimumTradeItemDaysInWarehouse | Minimum trade item days in warehouse<br>({ArticleDomainPartyType.LK.Party#Customer selectable}) | Minimum trade item days in warehouse<br>({ArticleDomainPartyType.LK.Party#Customer selectable}) | Customer-specific data | Customer-specific data | -             | IM    |

| Product 360 Identifier                    | Display name (English) | Display name (German) | Module (English)              | Module (German)                | GDSN XML name | Scope |
|-------------------------------------------|------------------------|-----------------------|-------------------------------|--------------------------------|---------------|-------|
| GDSNCustomerSpecificExtension.Party       | Customer               | Kunde                 | Customer - specific GDSN data | Kundenspezifische GDSN - Daten | -             | GDSN  |
| GDSNCustomerSpecificExtension.PublishItem | Publish item           | Publiziere Artikel    | Customer - specific GDSN data | Kundenspezifische GDSN - Daten | -             | GDSN  |

| Product 360 Identifier                     | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name | Scope |
|--------------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|---------------|-------|
| GDSNTargetMarketExtension.IsActiveInMarket | Is active in market    | Aktiv im Zielmarkt    | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | -             | GDSN  |

| Product 360 Identifier                    | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                                | Scope |
|-------------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.IsOrderableUnit | Is orderable unit      | Bestelleinheit        | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | CatalogueItemNotification/CatalogueItem/tradeItem/isTradeItemAnOrderableUnit | GDSN  |

| Product 360 Identifier                   | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                              | Scope |
|------------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|----------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.IsDispatchUnit | Is dispatch unit       | Liefereinheit         | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | CatalogueItemNotification/CatalogueItem/tradeItem/isTradeItemADispatchUnit | GDSN  |

| Product 360 Identifier                  | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                              | Scope |
|-----------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|----------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.IsInvoiceUnit | Is invoice unit        | Fakturiereinheit      | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | CatalogueItemNotification/CatalogueItem/tradeItem/isTradeItemAnInvoiceUnit | GDSN  |

| Product 360 Identifier                                | Display name (English)         | Display name (German)           | Module (English)                 | Module (German)                   | GDSN XML name                                                               | Scope |
|-------------------------------------------------------|--------------------------------|---------------------------------|----------------------------------|-----------------------------------|-----------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.IsPackagingMarkedReturnable | Is packaging marked returnable | Verpackung Mehrwegkennzeichnung | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | packagingMarkingModule/<br>packagingMarking/<br>isPackagingMarkedReturnable | GDSN  |



| Product 360 Identifier                     | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                                                        | Scope |
|--------------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.DiscontinuedDate | Discontinued date      | Auslaufdatum          | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemSynchronisationDates/discontinuedDateTime | GDSN  |

| Product 360 Identifier                      | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                                        | Scope |
|---------------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|--------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.CountriesOfOrigin | Countries of origin    | Ursprungsländer       | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | placeOfItemActivityModule/<br>placeOfProductActivity/countryOfOrigin/<br>countryCode | GDSN  |

| Product 360 Identifier                          | Display name (English)  | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name | Scope |
|-------------------------------------------------|-------------------------|-----------------------|----------------------------------|-----------------------------------|---------------|-------|
| GDSNTargetMarketExtension.PrimaryDeliveryMethod | Primary delivery method | Primäre Liefermethode | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | -             | GDSN  |

| Product 360 Identifier                 | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                    | Scope |
|----------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.UnitsPerCase | Total units per case   | Einheiten pro Packung | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | -                                                                | GDSN  |
| ArticleMarketing.CouponFamilyCode      | Coupon family code     | Gutscheincode         | Marketing information            | Marketing Information             | marketingInformationModule/marketingInformation/couponFamilyCode | GDSN  |

| Product 360 Identifier              | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name | Scope |
|-------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|---------------|-------|
| GDSNTargetMarketExtension.IsPrivate | Is private             | Ist privat            | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | isPrivate     | GDSN  |

| Product 360 Identifier                     | Display name (English) | Display name (German)  | Module (English)                 | Module (German)                   | GDSN XML name                                             | Scope |
|--------------------------------------------|------------------------|------------------------|----------------------------------|-----------------------------------|-----------------------------------------------------------|-------|
| GDSNTargetMarketExtension.PricingOnProduct | Pricing on product     | Preisangabe am Produkt | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | packagingMarkingModule/<br>packagingMarking/isPriceOnPack | GDSN  |

| Product 360 Identifier                            | Display name (English)      | Display name (German)    | Module (English)                 | Module (German)                   | GDSN XML name                                                                 | Scope |
|---------------------------------------------------|-----------------------------|--------------------------|----------------------------------|-----------------------------------|-------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.NumberOfLayersPerPallet | Number of layers per pallet | Anzahl Lagen pro Palette | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | tradeltemHierarchyModule/<br>tradeltemHierarchy/<br>quantityOfLayersPerPallet | GDSN  |

| Product 360 Identifier                               | Display name (English)           | Display name (German)           | Module (English)                 | Module (German)                   | GDSN XML name                                                                            | Scope |
|------------------------------------------------------|----------------------------------|---------------------------------|----------------------------------|-----------------------------------|------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.NumberOfItemsInPalletLayer | Number of items per pallet layer | Anzahl Artikel pro Palettenlage | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | tradeltemHierarchyModule/<br>tradeltemHierarchy/<br>quantityOfTradeltItemsPerPalletLayer | GDSN  |



| Product 360 Identifier                           | Display name (English)     | Display name (German)      | Module (English)                 | Module (German)                   | GDSN XML name                                                                       | Scope |
|--------------------------------------------------|----------------------------|----------------------------|----------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.NumberOfItemsPerPallet | Number of items per pallet | Anzahl Artikel pro Palette | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | tradeltemHierarchyModule/<br>tradeltemHierarchy/<br>quantityOfTradeltItemsPerPallet | GDSN  |

| Product 360 Identifier                            | Display name (English)    | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                                | Scope |
|---------------------------------------------------|---------------------------|-----------------------|----------------------------------|-----------------------------------|------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.ProductMarkedRecyclable | Product marked recyclable | Ist recycelbar        | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | packagingMarkingModule/<br>packagingMarking/<br>isTradItemMarkedAsRecyclable | GDSN  |

| Product 360 Identifier                 | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                                                                                                | Scope |
|----------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.Manufacturer | Manufacturer           | Hersteller            | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | CatalogueItemNotification/CatalogueItem/tradeItem/manufacturer/gln; CatalogueItemNotification/CatalogueItem/tradeItem/manufacturer/partyName | GDSN  |

| Product 360 Identifier                 | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                                                                                                                                                                                           | Scope |
|----------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.ReplacesGTIN | Replaces GTIN          | Vorgänger-GTIN        | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | CatalogueItemNotificationType/CatalogueItem/TradeItem/dependentProprietaryTradeItem/referencedTradeItemGTIN; CatalogueItemNotificationType/CatalogueItem/TradeItem/dependentProprietaryTradeItem/referencedTradeItemTypeCode = REPLACED | GDSN  |

| Product 360 Identifier                   | Display name (English) | Display name (German) | Module (English)                 | Module (German)                 | GDSN XML name                                                                                                                                                                                                                              | Scope |
|------------------------------------------|------------------------|-----------------------|----------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.ReplacedByGTIN | Replaced by GTIN       | Nachfolger-GTIN       | Target market specific GDSN data | Zielmarktspezifische GDSN-Daten | CatalogueItemNotificationType/CatalogueItem/TradeItem/dependentProprietaryTradeItem/referencedTradeItemGTIN; CatalogueItemNotificationType/CatalogueItem/TradeItem/dependentProprietaryTradeItem/referencedTradeItemTypeCode = REPLACED_BY | GDSN  |
| ArticleMarketing.SpecialItemCode         | Special item code      | Sonderposten Code     | Marketing information            | Marketing Information           | marketingInformationModule/marketingInformation/specialItemCode                                                                                                                                                                            | GDSN  |

| Product 360 Identifier                              | Display name (English)   | Display name (German)        | Module (English)                 | Module (German)                   | GDSN XML name                                                                                     | Scope |
|-----------------------------------------------------|--------------------------|------------------------------|----------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.VariableTradeItemTypeCode | Variable trade item type | Mengenvariabler Artikel: Art | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | variableTradeItemInformationModule/<br>variableTradeItemInformation/<br>variableTradeItemTypeCode | GDSN  |

| Product 360 Identifier                        | Display name (English)       | Display name (German)          | Module (English)                 | Module (German)                   | GDSN XML name                                                                                       | Scope |
|-----------------------------------------------|------------------------------|--------------------------------|----------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.ChildNutritionLabel | Child nutrition label (USDA) | Kindernahrung stauglich (USDA) | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | catalogueItemNotification/catalogueItem/tradeItem/avpList/doesTradeItemCarryUSDACHildNutritionLabel | GDSN  |

| Product 360 Identifier                         | Display name (English) | Display name (German) | Module (English)                 | Module (German)                   | GDSN XML name                                                                                                                   | Scope |
|------------------------------------------------|------------------------|-----------------------|----------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.IsDangerousSubstance | Is dangerous substance | Gefahrstoff           | Target market specific GDSN data | Zielmarktspezifische GDSN - Daten | dangerousSubstanceInformationModule/<br>dangerousSubstanceInformation/<br>dangerousSubstanceProperties/<br>isDangerousSubstance | GDSN  |



| Product 360 Identifier                                 | Display name (English)                                                                | Display name (German)                                                                  | Module (English)                 | Module (German)                 | GDSN XML name                                                                                                                                                       | Scope |
|--------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtension.IsRegulatedForTransportation | Is regulated for transportation                                                       | Regulierung für Transport                                                              | Target market specific GDSN data | Zielmarktspezifische GDSN-Daten | safetyDataSheetModule/<br>safetyDataSheetInformation/<br>isRegulatedForTransportation                                                                               | GDSN  |
| GDSNTargetMarketExtensionLang.FunctionalName           | Functional name<br>({ArticleMarketExtensionLangType.LK.Language#Language selectable}) | Funktionsbezeichnung<br>({ArticleMarketExtensionLangType.LK.Language#Sprache wählbar}) | Language specific data           | Sprachspezifische Daten         | CatalogueItemNotification/<br>CatalogueItem/tradeItem/<br>tradeItemComponents/<br>tradeItemDescriptionModule/<br>tradeItemDescriptionInformation/<br>functionalName | GDSN  |

| Product 360 Identifier                              | Display name (English)                                                                    | Display name (German)                                                                   | Module (English)       | Module (German)         | GDSN XML name                                                                                                                                     | Scope |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtensionLang.ShortDescription      | GDSN short description ({ArticleMarketExtensionLangType.LK.Language#Language selectable}) | GDSN-Kurzbeschreibung ({ArticleMarketExtensionLangType.LK.Language#Sprache wählbar})    | Language specific data | Sprachspezifische Daten | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemComponents/tradeItemDescriptionModule/tradeItemDescriptionInformation/descriptionShort | GDSN  |
| GDSNTargetMarketExtensionLang.AdditionalDescription | Additional description ({ArticleMarketExtensionLangType.LK.Language#Language selectable}) | Zusätzliche Beschreibung ({ArticleMarketExtensionLangType.LK.Language#Sprache wählbar}) | Language specific data | Sprachspezifische Daten | tradeItemDescriptionModule/tradeItemDescriptionInformation/additionalTradeItemDescription                                                         | GDSN  |

| Product 360 Identifier                | Display name (English)                                                                                                                    | Display name (German)                                                                                                              | Module (English)       | Module (German)         | GDSN XML name                                                                         | Scope |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------|---------------------------------------------------------------------------------------|-------|
| ArticleMarketingLang.MarketingMessage | Marketing message ({ArticleDomainLangType.LK.Language#Language selectable}, {ArticleDomainLangType.LK.Std_LK_Int_01#Sequence selectable}) | Werbebotschaft ({ArticleDomainLangType.LK.Language#Sprache wählbar}, {ArticleDomainLangType.LK.Std_LK_Int_01#Reihenfolge wählbar}) | Language specific data | Sprachspezifische Daten | marketingInformationModule/<br>marketingInformation/<br>tradeltemMarketingMessage     | GDSN  |
| GDSNTargetMarketExtensionLang.Variant | Variant ({ArticleMarketExtensionLangType.LK.Language#Language selectable})                                                                | Variation ({ArticleMarketExtensionLangType.LK.Language#Sprache wählbar})                                                           | Language specific data | Sprachspezifische Daten | tradeltemDescriptionModule/<br>tradeltemDescriptionInformation/<br>variantDescription | GDSN  |

| Product 360 Identifier                           | Display name (English)                                                                 | Display name (German)                                                              | Module (English)       | Module (German)         | GDSN XML name                                                                                    | Scope |
|--------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------|-------------------------|--------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtensionLang.ProductDescription | Product description ({ArticleMarketExtensionLangType.LK.Language#Language selectable}) | Artikelbeschreibung ({ArticleMarketExtensionLangType.LK.Language#Sprache wählbar}) | Language specific data | Sprachspezifische Daten | tradeltemDescriptionModule/<br>tradeltemDescriptionInformation/<br>tradeltemDescription          | GDSN  |
| GDSNTargetMarketExtensionLang.SubBrand           | Sub brand ({ArticleMarketExtensionLangType.LK.Language#Language selectable})           | Submarke ({ArticleMarketExtensionLangType.LK.Language#Sprache wählbar})            | Language specific data | Sprachspezifische Daten | tradeltemDescriptionModule/<br>tradeltemDescriptionInformation/<br>brandNameInformation/subBrand | GDSN  |

| Product 360 Identifier                 | Display name (English)                                                      | Display name (German)                                                                   | Module (English) | Module (German) | GDSN XML name                                            | Scope |
|----------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------|-----------------|----------------------------------------------------------|-------|
| GDSNTargetMarketExtensionUOM.Height    | Height ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})     | Höhe ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                  | UOM              | Messwerte       | tradeltemMeasurementsModule/tradeltemMeasurements/height | GDSN  |
| GDSNTargetMarketExtensionUOM.HeightUOM | Height UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable}) | Maßeinheit der Höhe ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})   | UOM              | Messwerte       |                                                          | GDSN  |
| GDSNTargetMarketExtensionUOM.Width     | Width ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})      | Breite ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                | UOM              | Messwerte       | tradeltemMeasurementsModule/tradeltemMeasurements/width  | GDSN  |
| GDSNTargetMarketExtensionUOM.WidthUOM  | Width UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})  | Maßeinheit der Breite ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar}) | UOM              | Messwerte       |                                                          | GDSN  |

| Product 360 Identifier                      | Display name (English)                                                            | Display name (German)                                                                           | Module (English) | Module (German) | GDSN XML name                                                                 | Scope |
|---------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------|-----------------|-------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtensionUOM.Depth          | Depth ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})            | Tiefe ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                         | UOM              | Messwerte       | tradeltemMeasurementsModule/tradeltemMeasurements/depth                       | GDSN  |
| GDSNTargetMarketExtensionUOM.DepthUOM       | Depth UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})        | Maßeinheit der Tiefe ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})          | UOM              | Messwerte       |                                                                               | GDSN  |
| GDSNTargetMarketExtensionUOM.GrossWeight    | Gross weight ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})     | Bruttogewicht ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                 | UOM              | Messwerte       | tradeltemMeasurementsModule/tradeltemMeasurements/tradeltemWeight/grossWeight | GDSN  |
| GDSNTargetMarketExtensionUOM.GrossWeightUOM | Gross weight UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable}) | Maßeinheit des Bruttogewichts ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar}) | UOM              | Messwerte       |                                                                               | GDSN  |

| Product 360 Identifier                                       | Display name (English)                                                                                               | Display name (German)                                                                                             | Module (English) | Module (German) | GDSN XML name                                                                                                                                                                                                             | Scope |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtensionUOM.Netweight                       | Net weight ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})                                          | Nettogewicht ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                                    | UOM              | Messwerte       | tradeltemMeasurementsModule/tradeltemMeasurements/tradeltemWeight/netWeight                                                                                                                                               | GDSN  |
| GDSNTargetMarketExtensionUOM.NetweightUOM                    | Net weight UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})                                      | Maßeinheit des Nettogewichts ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                    | UOM              | Messwerte       |                                                                                                                                                                                                                           | GDSN  |
| GDSNTargetMarketExtensionUOM.DeliveryToDC TemperatureMaximum | Delivery to distribution center temperature maximum ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable}) | Transport zum Verteilzentrum: Temperatur (Max.) ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar}) | UOM              | Messwerte       | tradeltemTemperatureInformationModule/tradeltemTemperatureInformation/maximumTemperature;tradeltemTemperatureInformationModule/tradeltemTemperatureInformation/temperatureQualifierCode = DELIVERY_TO_DISTRIBUTION_CENTRE | GDSN  |

| Product 360 Identifier                                          | Display name (English)                                                                                                   | Display name (German)                                                                                                            | Module (English) | Module (German) | GDSN XML name                                                                                                                                                                                                                  | Scope |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtensionUOM.DeliveryToDC TemperatureMaximumUOM | Delivery to distribution center temperature maximum UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable}) | Maßeinheit für Transport zum Verteilzentrum: Temperatur (Max.) ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar}) | UOM              | Messwerte       |                                                                                                                                                                                                                                | GDSN  |
| GDSNTargetMarketExtensionUOM.DeliveryToDC TemperatureMinimum    | Delivery to distribution center temperature minimum ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})     | Transport zum Verteilzentrum: Temperatur (Min.) ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                | UOM              | Messwerte       | tradeltemTemperatureInformationModule /tradeltemTemperatureInformation/ maximumTemperature; tradeltemTemperatureInformationModule /tradeltemTemperatureInformation/ temperatureQualifierCode = DELIVERY_TO_DISTRIBUTION_CENTRE | GDSN  |
| GDSNTargetMarketExtensionUOM.DeliveryToDC TemperatureMinimumUOM | Delivery to distribution center temperature minimum UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable}) | Maßeinheit für Transport zum Verteilzentrum: Temperatur (Min.) ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar}) | UOM              | Messwerte       |                                                                                                                                                                                                                                | GDSN  |



| Product 360 Identifier                                             | Display name (English)                                                                                        | Display name (German)                                                                                                        | Module (English) | Module (German) | GDSN XML name                                                                                                                                                                                                     | Scope |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtensionUOM.DeliveryToMarketTemperatureMaximum    | Delivery to market temperature maximum<br>(ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable))     | Transport zum Markt:<br>Temperatur (Max.)<br>(ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar))                | UOM              | Messwerte       | tradeltemTemperatureInformationModule /tradeltemTemperatureInformation/ maximumTemperature; tradeltemTemperatureInformationModule /tradeltemTemperatureInformation/ temperatureQualifierCode = DELIVERY_TO_MARKET | GDSN  |
| GDSNTargetMarketExtensionUOM.DeliveryToMarketTemperatureMaximumUOM | Delivery to market temperature maximum UOM<br>(ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable)) | Maßeinheit für Transport zum Markt:<br>Temperatur (Max.)<br>(ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar)) | UOM              | Messwerte       |                                                                                                                                                                                                                   | GDSN  |
| GDSNTargetMarketExtensionUOM.DeliveryToMarketTemperatureMinimum    | Delivery to market temperature minimum<br>(ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable))     | Transport zum Markt:<br>Temperatur (Min.)<br>(ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar))                | UOM              | Messwerte       | tradeltemTemperatureInformationModule /tradeltemTemperatureInformation/ maximumTemperature; tradeltemTemperatureInformationModule /tradeltemTemperatureInformation/ temperatureQualifierCode = DELIVERY_TO_MARKET | GDSN  |

| Product 360 Identifier                                             | Display name (English)                                                                                        | Display name (German)                                                                                                     | Module (English) | Module (German) | GDSN XML name                                                                                                                                                                                                   | Scope |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtensionUOM.DeliveryToMarketTemperatureMinimumUOM | Delivery to market temperature minimum UOM<br>(ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable)) | Maßeinheit für Transport zum Markt: Temperatur (Min.)<br>(ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar)) | UOM              | Messwerte       |                                                                                                                                                                                                                 | GDSN  |
| GDSNTargetMarketExtensionUOM.StorageHandlingTempMax                | Storage handling temperature maximum<br>(ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable))       | Lagerungstemperatur (Max.)<br>(ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar))                            | UOM              | Messwerte       | tradeltemTemperatureInformationModule /tradeltemTemperatureInformation/ maximumTemperature; tradeltemTemperatureInformationModule /tradeltemTemperatureInformation/ temperatureQualifierCode = STORAGE_HANDLING | GDSN  |
| GDSNTargetMarketExtensionUOM.StorageHandlingTempMaxUOM             | Storage handling temperature maximum UOM<br>(ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable))   | Maßeinheit der Lagerungstemperatur (Max.)<br>(ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar))             | UOM              | Messwerte       |                                                                                                                                                                                                                 | GDSN  |

| Product 360 Identifier                                 | Display name (English)                                                                                    | Display name (German)                                                                                       | Module (English) | Module (German) | GDSN XML name                                                                                                                                                                                              | Scope |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| GDSNTargetMarketExtensionUOM.StorageHandlingTempMin    | Storage handling temperature minimum ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})     | Lagerungstemperatur (Min.) ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                | UOM              | Messwerte       | tradeltemTemperatureInformationModule/tradeltemTemperatureInformation/maximumTemperature;tradeltemTemperatureInformationModule/tradeltemTemperatureInformation/temperatureQualifierCode = STORAGE_HANDLING | GDSN  |
| GDSNTargetMarketExtensionUOM.StorageHandlingTempMinUOM | Storage handling temperature minimum UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable}) | Maßeinheit der Lagerungstemperatur (Min.) ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar}) | UOM              | Messwerte       |                                                                                                                                                                                                            | GDSN  |
| GDSNTargetMarketExtensionUOM.Volume                    | Volume ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})                                   | Volumen ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                                   | UOM              | Messwerte       | tradeltemMeasurementsModule/tradeltemMeasurements/inBoxCubeDimension                                                                                                                                       | GDSN  |
| GDSNTargetMarketExtensionUOM.VolumeUOM                 | Volume UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})                               | Maßeinheit des Volumens ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                   | UOM              | Messwerte       |                                                                                                                                                                                                            | GDSN  |

| Product 360 Identifier          | Display name (English) | Display name (German)   | Module (English) | Module (German) | GDSN XML name                                                                             | Scope |
|---------------------------------|------------------------|-------------------------|------------------|-----------------|-------------------------------------------------------------------------------------------|-------|
| GDSNExtension.ProductType       | Product type           | Artikelebene            | GDSN             | GDSN - Daten    | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemUnitDescriptorCode             | GDSN  |
| GDSNExtension.BrandName         | Brand name             | Markenname              | GDSN             | GDSN - Daten    | tradeItemDescriptionModule/tradeItemDescriptionInformation/brandNameInformation/brandName | GDSN  |
| GDSNExtension.BrandOwner        | Brand owner            | Markenbesitzer          | GDSN             | GDSN - Daten    | CatalogueItemNotification/CatalogueItem/tradeItem/brandOwner/gln                          | GDSN  |
| GDSNExtension.IsService         | Is service             | Service-Einheit         | GDSN             | GDSN - Daten    | CatalogueItemNotification/CatalogueItem/tradeItem/isTradeItemAService                     | GDSN  |
| GDSNExtension.IsConsumerUnit    | Is consumer unit       | Konsumenteneinheit      | GDSN             | GDSN - Daten    | CatalogueItemNotification/CatalogueItem/tradeItem/isTradeItemAConsumerUnit                | GDSN  |
| GDSNExtension.IsBaseUnit        | Is base unit           | Basisartikel            | GDSN             | GDSN - Daten    | CatalogueItemNotification/CatalogueItem/tradeItem/isTradeItemABaseUnit                    | GDSN  |
| GDSNExtension.HasVariableWeight | Has variable weight    | Mengenvariabler Artikel | GDSN             | GDSN - Daten    | variableTradeItemInformationModule/variableTradeItemInformation/isTradeItemAVariableUnit  | GDSN  |

| Product 360 Identifier                      | Display name (English)                      | Display name (German)                              | Module (English) | Module (German) | GDSN XML name                                                                                                               | Scope           |
|---------------------------------------------|---------------------------------------------|----------------------------------------------------|------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------|
| GDSNExtension.QuantityOfNextLevelItems      | Quantity of next level items                | Gesamtzahl der Artikel der nächstniedrigeren Ebene | GDSN             | GDSN - Daten    | CatalogueItemNotification/CatalogueItem/tradeItem/nextLowerLevelTradeItemInformation/totalQuantityOfNextLowerLevelTradeItem | IM, data source |
| GDSNExtension.NumberOfLayersContainedInItem | Number of complete layers contained in item | Anzahl Lagen pro Palette                           | GDSN             | GDSN - Daten    | tradeItemHierarchyModule/tradeItemHierarchy/quantityOfCompleteLayersContainedInATradeItem                                   | GDSN            |
| GDSNExtension.NumberOfItemsInALayer         | Number of items in a complete layer         | Anzahl Artikel in einer Lage                       | GDSN             | GDSN - Daten    | tradeItemHierarchyModule/tradeItemHierarchy/quantityOfTradeItemsContainedInACompleteLayer                                   | GDSN            |
| GDSNExtension.EffectiveDate                 | Effective date                              | Datum des Inkrafttretens                           | GDSN             | GDSN - Daten    | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemSynchronisationDates/effectiveDateTime                           | GDSN            |
| GDSNExtension.CanceledDate                  | Canceled date                               | Stornierungsdatum                                  | GDSN             | GDSN - Daten    | CatalogueItemNotification/CatalogueItem/tradeItem/tradeItemSynchronisationDates/cancelledDateTime                           | GDSN            |
| GDSNExtension.GDSNRegistrationDate          | GDSN registration date                      | GDSN-Registrierungsdatum                           | GDSN             | GDSN - Daten    | -                                                                                                                           | data recipient  |

| Product 360 Identifier             | Display name (English)                                                       | Display name (German)                                                    | Module (English)            | Module (German)                | GDSN XML name                                                                               | Scope          |
|------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------|--------------------------------|---------------------------------------------------------------------------------------------|----------------|
| GDSNExtension.GDSNLastModifiedDate | Last modified date                                                           | Letzte Änderung am                                                       | GDSN                        | GDSN - Daten                   | -                                                                                           | data Recipient |
| GDSNExtension.ProductForm          | Product form                                                                 | Produktform                                                              | GDSN                        | GDSN - Daten                   | tradeltemDescriptionModule/<br>tradeltemDescriptionInformation/<br>tradeltemFormDescription | GDSN           |
| GDSNExtensionLang.GTINName         | GTIN name ({ArticleMarketExtensionLangType.LK.Language#Language selectable}) | GTIN-Name ({ArticleMarketExtensionLangType.LK.Language#Sprache wählbar}) | Language specific GDSN data | Sprachspezifische GDSN - Daten | -                                                                                           | GDSN           |

| Product 360 Identifier         | Display name (English)                                                           | Display name (German)                                                                           | Module (English)      | Module (German)          | GDSN XML name                                                | Scope |
|--------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------|--------------------------|--------------------------------------------------------------|-------|
| GDSNExtensionUOM.NetContent    | Net content ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable})     | Nettofüllmenge ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar})                | UOM                   | Messwerte                | tradeltemMeasurementsModule/tradeltemMeasurements/netContent | GDSN  |
| GDSNExtensionUOM.NetContentUOM | Net content UOM ({ArticleMarketExtensionUOMType.LK.UOMType#UOM type selectable}) | Maßeinheit der Nettofüllmenge ({ArticleMarketExtensionUOMType.LK.UOMType#Einheitentyp wählbar}) | UOM                   | Messwerte                |                                                              | GDSN  |
| ArticlePackaging.PackagingType | Packaging type                                                                   | Verpackungsart                                                                                  | Packaging information | Verpackungsinformationen | packaginginformationModule/packaging/packagingTypeCode       | GDSN  |

| Product 360 Identifier                 | Display name (English)  | Display name (German)  | Module (English)      | Module (German)          | GDSN XML name                                              | Scope |
|----------------------------------------|-------------------------|------------------------|-----------------------|--------------------------|------------------------------------------------------------|-------|
| ArticlePackaging.PackagingFeatureCode  | Packaging feature code  | Verpackungseigenschaft | Packaging information | Verpackungsinformationen | packaginginformationModule/packaging/packagingFeatureCode  | GDSN  |
| ArticlePackaging.PackagingFunctionCode | Packaging function code | Verpackungsfunktion    | Packaging information | Verpackungsinformationen | packaginginformationModule/packaging/packagingFunctionCode | GDSN  |



| Product 360 Identifier              | Display name (English) | Display name (German) | Module (English)      | Module (German)          | GDSN XML name                                           | Scope |
|-------------------------------------|------------------------|-----------------------|-----------------------|--------------------------|---------------------------------------------------------|-------|
| ArticlePackaging.PlatformTypeCode   | Platform type code     | Palettenkennzeichen   | Packaging information | Verpackungsinformationen | packaginginformationModule/packaging/platformTypeCode   | GDSN  |
| ArticlePackaging.PackagingShapeCode | Packaging shape code   | Verpackungsform       | Packaging information | Verpackungsinformationen | packaginginformationModule/packaging/packagingShapeCode | GDSN  |

| Product 360 Identifier                                 | Display name (English)                     | Display name (German) | Module (English)      | Module (German)          | GDSN XML name                                                              | Scope |
|--------------------------------------------------------|--------------------------------------------|-----------------------|-----------------------|--------------------------|----------------------------------------------------------------------------|-------|
| ArticlePackaging.DoesPackagingHaveWheels               | Does packaging have wheels                 | Hat Verpackung Räder  | Packaging information | Verpackungsinformationen | packaginginformationModule/packaging/doesPackagingHaveWheels               | GDSN  |
| ArticlePackaging.IsPackagingExemptFromRefuseObligation | Is packaging exempt from refuse obligation | ARA entpflichtet      | Packaging information | Verpackungsinformationen | packaginginformationModule/packaging/isPackagingExemptFromRefuseObligation | GDSN  |

| Product 360 Identifier                          | Display name (English)           | Display name (German)           | Module (English)      | Module (German)          | GDSN XML name                                                       | Scope |
|-------------------------------------------------|----------------------------------|---------------------------------|-----------------------|--------------------------|---------------------------------------------------------------------|-------|
| ArticlePackaging.PackagingRefuseObligationName  | Packaging refuse obligation name | ARA Pflicht                     | Packaging information | Verpackungsinformationen | packaginginformationModule/packaging/packagingRefuseObligationNames | GDSN  |
| ArticlePackaging.PlatformTermsAndConditionsCode | Platform terms and conditions    | Bedingungen der Palettennutzung | Packaging information | Verpackungsinformationen | packaginginformationModule/packaging/platformTermsAndConditionsCode | GDSN  |

| Product 360 Identifier                     | Display name (English)                                                                      | Display name (German)                                                                             | Module (English)          | Module (German)                        | GDSN XML name                                            | Scope |
|--------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------|----------------------------------------|----------------------------------------------------------|-------|
| ArticlePackagingUOM.UsableProductVolume    | Usable product volume<br>({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType selectable})     | Nutzbares Produktvolumen<br>({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar})              | Packaging information UOM | Messwerte der Verpackungsinformationen | packaginginformationModule/packaging/usableProductVolume | GDSN  |
| ArticlePackagingUOM.UsableProductVolumeUOM | Usable product volume UOM<br>({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType selectable}) | Einheit des nutzbaren Produktvolumens<br>({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Packaging information UOM | Messwerte der Verpackungsinformationen |                                                          | GDSN  |



| Product 360 Identifier                                           | Display name (English)                                                                                                                                                                     | Display name (German)                                                                                                                                                      | Module (English)       | Module (German)          | GDSN XML name                                                                                                                | Scope |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------|-------|
| ArticlePackagingMaterial.PackagingMaterialTypeCode               | Packaging material type code                                                                                                                                                               | Verpackungsmaterialtyp                                                                                                                                                     | Packaging material     | Verpackungsmaterial      | packaginginformationModule/packaging/packagingPackagingMaterial/packagingMaterialTypeCode                                    | GDSN  |
| ArticlePackagingMaterialUOM.PackagingMaterialCompositionQuantity | Packaging material composition quantity ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Packaging material type code selectable}, {ArticleSubDomainUOMType.LK.UOMType#UOM type selectable}) | Menge des Verpackungsmaterials ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Verpackungsmaterialstyp wählbar}, {ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Packaging material UOM | Verpackungsmaterialmenge | packaginginformationModule/packaging/packagingPackagingMaterial/compositeMaterialDetail/packagingMaterialCompositionQuantity | GDSN  |

| Product 360 Identifier                                              | Display name (English)                                                                                 | Display name (German)                                                                           | Module (English)                  | Module (German)                             | GDSN XML name                                                                                               | Scope |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------|
| ArticlePackagingMaterialUOM.PackagingMaterialCompositionQuantityUOM | Packaging material composition quantity UOM ({ArticleSubDomainUOMType.LK.UOMType#UOM type selectable}) | Maßeinheit des Verpackungsmaterials ({ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | Packaging material UOM            | Verpackungsmaterialmenge                    |                                                                                                             | GDSN  |
| ArticleGS1TradeItemIdentificationKey.GS1TradeItemIdentificationType | GS1 trade item identification type                                                                     | Handelsgüteridentifizierungstyp (GS1)                                                           | GS1 trade item identification key | Handelsgüteridentifizierungsschlüssel (GS1) | tradeItemDataCarrierAndIdentificationModule/gs1TradeItemIdentificationKey/gs1TradeItemIdentificationKeyCode | GDSN  |

| Product 360 Identifier                                           | Display name (English)         | Display name (German)             | Module (English)                  | Module (German)                             | GDSN XML name                                                                                                | Scope |
|------------------------------------------------------------------|--------------------------------|-----------------------------------|-----------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------|
| ArticleGS1TradeItemIdentificationKey.GS1TradeItemIdentification  | GS1 trade item identification  | Handelsgüteridentifizierung (GS1) | GS1 trade item identification key | Handelsgüteridentifizierungsschlüssel (GS1) | tradeltemDataCarrierAndIdentificationModule/gs1TradeItemIdentificationKey/gs1TradeItemIdentificationKeyValue | GDSN  |
| ArticleGS1TradeItemIdentificationKey.IsBarcodeSymbologyDerivable | Is barcode symbology derivable | Ist Barcode-Symbologie ableitbar  | GS1 trade item identification key | Handelsgüteridentifizierungsschlüssel (GS1) | tradeltemDataCarrierAndIdentificationModule/gs1TradeItemIdentificationKey/isBarcodeDerivable                 | GDSN  |



| Product 360 Identifier                          | Display name (English)  | Display name (German)     | Module (English)                | Module (German)                       | GDSN XML name                                                                               | Scope |
|-------------------------------------------------|-------------------------|---------------------------|---------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------|-------|
| ArticleDeliveryPurchasing.StartAvailabilityDate | Start availability date | Verfügbarkeit: Startdatum | Delivery purchasing information | Lieferungs- und Einkaufsinformationen | deliveryPurchasingInformationModule/deliveryPurchasingInformation/startAvailabilityDateTime | GDSN  |
| ArticleDeliveryPurchasing.EndAvailabilityDate   | End availability date   | Verfügbarkeit: Enddatum   | Delivery purchasing information | Lieferungs- und Einkaufsinformationen | deliveryPurchasingInformationModule/deliveryPurchasingInformation/endAvailabilityDateTime   | GDSN  |

| Product 360 Identifier                                | Display name (English)                                                                                           | Display name (German)                                                                           | Module (English)         | Module (German)                | GDSN XML name                                                                                                     | Scope |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------|-------|
| ArticleDistributionDetail.IsDistributionMethodPrimary | Is distribution method primary ({ArticleSubDomainType.LK.Std_LK_Text250_01#Distribution method code selectable}) | Primäre Vertriebsmethode ({ArticleSubDomainType.LK.Std_LK_Text250_01#Vertriebsmethode wählbar}) | Distribution details     | Vertriebsdetails               | deliveryPurchasingInformationModule/deliveryPurchasingInformation/distributionDetails/isDistributionMethodPrimary | GDSN  |
| ArticleDistributionDetailUOM.OrderingLeadTime         | Ordering lead time ({ArticleSubDomainType.LK.Std_LK_Text250_01#Distribution method code selectable})             | Lieferzeit ({ArticleSubDomainType.LK.Std_LK_Text250_01#Vertriebsmethode wählbar})               | Distribution details UOM | Messwerte der Vertriebsdetails | deliveryPurchasingInformationModule/deliveryPurchasingInformation/distributionDetails/orderingLeadTime            | GDSN  |
| ArticleDistributionDetailUOM.OrderingLeadTimeUOM      | Ordering lead time UOM ({ArticleSubDomainType.LK.Std_LK_Text250_01#Distribution method code selectable})         | Einheit der Lieferzeit ({ArticleSubDomainType.LK.Std_LK_Text250_01#Vertriebsmethode wählbar})   | Distribution details UOM | Messwerte der Vertriebsdetails |                                                                                                                   | GDSN  |

| Product 360 Identifier                   | Display name (English)   | Display name (German)        | Module (English)         | Module (German)          | GDSN XML name                                                                     | Scope |
|------------------------------------------|--------------------------|------------------------------|--------------------------|--------------------------|-----------------------------------------------------------------------------------|-------|
| ArticleDataCarrier.DataCarrierFamilyType | Data carrier family type | Familienart des Datenträgers | Data carrier information | Datenträgerinformationen | tradeltemDataCarrierAndIdentificationModule/dataCarrier/dataCarrierFamilyTypeCode | GDSN  |
| ArticleDataCarrier.DataCarrierType       | Data carrier type        | Art des Datenträgers         | Data carrier information | Datenträgerinformationen | tradeltemDataCarrierAndIdentificationModule/dataCarrier/dataCarrierTypeCode       | GDSN  |

| Product 360 Identifier                       | Display name (English)      | Display name (German)  | Module (English)         | Module (German)          | GDSN XML name                                                                         | Scope |
|----------------------------------------------|-----------------------------|------------------------|--------------------------|--------------------------|---------------------------------------------------------------------------------------|-------|
| ArticleDataCarrier.ApplicationIdentifierType | Application identifier type | Application identifier | Data carrier information | Datenträgerinformationen | tradeltemDataCarrierAndIdentificationModule/dataCarrier/applicationIdentifierTypeCode | GDSN  |
| ArticleDataCarrier.DataCarrierPresence       | Data carrier presence       | Datenträgerpräsenz     | Data carrier information | Datenträgerinformationen | tradeltemDataCarrierAndIdentificationModule/dataCarrier/dataCarrierPresenceCode       | GDSN  |

| Product 360 Identifier                                      | Display name (English)                   | Display name (German)                          | Module (English)    | Module (German)          | GDSN XML name                                                                               | Scope |
|-------------------------------------------------------------|------------------------------------------|------------------------------------------------|---------------------|--------------------------|---------------------------------------------------------------------------------------------|-------|
| ArticleTradeltemLifespan.DoesTradeltemHaveAutoReaderTracker | Does trade item have auto reader tracker | Automatische Verwendungsvorstellung verfügbar  | Trade item lifespan | Handelsgegenstandsnummer | tradeltemLifespanModule/<br>tradeltemLifespan/<br>doesTradeltemHaveAutoReaderTracker        | GDSN  |
| ArticleTradeltemLifespan.MinProductLifespanFromArrival      | Minimum product lifespan from arrival    | Minimale Laufzeit des Artikels ab Wareneingang | Trade item lifespan | Handelsgegenstandsnummer | tradeltemLifespanModule/<br>tradeltemLifespan/<br>minimumTradeltemLifespanFromTimeOfArrival | GDSN  |

| Product 360 Identifier                                    | Display name (English)                   | Display name (German)                        | Module (English)    | Module (German)         | GDSN XML name                                                                                      | Scope |
|-----------------------------------------------------------|------------------------------------------|----------------------------------------------|---------------------|-------------------------|----------------------------------------------------------------------------------------------------|-------|
| ArticleTradeltemLifespan.MinProductLifespanFromProduction | Minimum product lifespan from production | Minimale Laufzeit des Artikels ab Produktion | Trade item lifespan | Handelsgegenstandsdauer | tradeltemLifespanModule/<br>tradeltemLifespan/<br>minimumTradeltemLifespanFromTimeOf<br>Production | GDSN  |
| ArticleTradeltemLifespan.OpenedTradeltemLifespan          | Opened trade item lifespan               | Laufzeit des Artikels ab Öffnung             | Trade item lifespan | Handelsgegenstandsdauer | tradeltemLifespanModule/<br>tradeltemLifespan/<br>openedTradeltemLifespan                          | GDSN  |

| Product 360 Identifier                                           | Display name (English)                                                        | Display name (German)                                                 | Module (English)     | Module (German)            | GDSN XML name                                                                         | Scope |
|------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------|----------------------------|---------------------------------------------------------------------------------------|-------|
| ArticleTradeltemLifespan.SupplierSpecifiedMinimumConsumerStorage | Supplier specified minimum consumer storage                                   | Minimale Laufzeit des Artikels ab Verkauf                             | TradeltemLifespan    | Handelsdauer               | tradeltemLifespanModule/tradeltemLifespan/supplierSpecifiedMinimumConsumerStorageDays | GDSN  |
| ArticleTradeltemHandlingUOM.ClampPressure                        | Clamp pressure ({ArticleDomainUOMType.LK.UOMType#UOMType#UOMType#selectable}) | Klammerdruck ({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar}) | TradeltemHandlingUOM | Handelsabfertigungseinheit | tradeltemHandlingModule/tradeltemHandlingInformation/clampPressure                    | GDSN  |

| Product 360 Identifier                                       | Display name (English)                                                                         | Display name (German)                                                                             | Module (English) | Module (German)                 | GDSN XML name                                                                        | Scope |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------|---------------------------------|--------------------------------------------------------------------------------------|-------|
| ArticleTradeltemHandlingUOM.ClampPressureUOM                 | Clamp pressure UOM<br>({ArticleDomainUOMType.LK.UOMType#UOMtype selectable})                   | Einheit des Klammerdrucks<br>({ArticleDomainUOMType.LK.UOMType#Einheitentyp wählbar})             | Trading UOM      | Handelsgüterabfertigungseinheit |                                                                                      | GDSN  |
| ArticleTradeltemHandlingLang.HandlingInstructionsDescription | Handling instructions description<br>({ArticleDomainLangType.LK.Language#Language selectable}) | Beschreibung der Abfertigungsanweisungen<br>({ArticleDomainLangType.LK.Language#Sprache wählbar}) | Language data    | Sprachspezifische Daten         | tradeltemHandlingModule/tradeitemHandlingInformation/handlingInstructionsDescription | GDSN  |



| Product 360 Identifier                                             | Display name (English)                                                                                                  | Display name (German)                                                                                                | Module (English)      | Module (German)         | GDSN XML name                                                                                | Scope |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------|----------------------------------------------------------------------------------------------|-------|
| ArticleTradeltemHandlingInstructions.HandlingInstructionCode       | Handling instructions code                                                                                              | Abfertigungsanweisungen                                                                                              | Handling instructions | Abfertigungsanweisungen | tradeltemHandlingModule/tradeitemHandlingInformation/handlingInstructionsCodeReference       | GDSN  |
| ArticleTradeltemHandlingInstructions.HandlingInstructionCodeAgency | Handling instructions code agency<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Handling instruction code selectable}) | Agentur für Abfertigungsanweisungen<br>({ArticleSubDomainType.LK.Std_LK_Text250_01#Abfertigungsanweisungen wählbar}) | Handling instructions | Abfertigungsanweisungen | tradeltemHandlingModule/tradeitemHandlingInformation/handlingInstructionsCodeReferenceAgency | GDSN  |

| Product 360 Identifier                                  | Display name (English)                                                                             | Display name (German)                                                                    | Module (English)      | Module (German) | GDSN XML name                                                                                 | Scope |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------|-----------------|-----------------------------------------------------------------------------------------------|-------|
| ArticleTradeltemHandlingStacking.StackingFactorTypeCode | Stacking factor type code                                                                          | Art des Stapelfaktors                                                                    | Stacking instructions | Stapelung       | tradeltemHandlingModule/tradeitemHandlingInformation/tradeitemStacking/stackingFactorTypeCode | GDSN  |
| ArticleTradeltemHandlingStacking.StackingFactor         | Stacking factor ({ArticleSubDomainType.LK.Std_LK_Text250_01#Stacking factor type code selectable}) | Stapelfaktor ({ArticleSubDomainType.LK.Std_LK_Text250_01#Art des Stapelfaktors wählbar}) | Stacking instructions | Stapelung       | tradeltemHandlingModule/tradeitemHandlingInformation/tradeitemStacking/stackingFactor         | GDSN  |

| Product 360 Identifier                                       | Display name (English)                                                                                                                                                       | Display name (German)                                                                                                                                                           | Module (English) | Module (German)         | GDSN XML name                                                                                | Scope |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------|----------------------------------------------------------------------------------------------|-------|
| ArticleTradeltemHandlingStackingUOM.StackingWeightMaximum    | Stacking weight maximum ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Stacking factor type code selectable}, {ArticleSubDomainUOMType.LK.UOMType#UOM type selectable}))     | Maximales Stapelgewicht ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Art des Stapelfaktors wählbar}, {ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar}))              | Stacking UOM     | Einheiten der Stapelung | tradeltemHandlingModule/tradeitemHandlingInformation/tradeitemStacking/stackingWeightMaximum | GDSN  |
| ArticleTradeltemHandlingStackingUOM.StackingWeightMaximumUOM | Stacking weight maximum UOM ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Stacking factor type code selectable}, {ArticleSubDomainUOMType.LK.UOMType#UOM type selectable})) | Einheit des maximalen Stapelgewichts ({../ArticleSubDomainType.LK.Std_LK_Text250_01#Art des Stapelfaktors wählbar}, {ArticleSubDomainUOMType.LK.UOMType#Einheitentyp wählbar})) | Stacking UOM     | Einheiten der Stapelung |                                                                                              | GDSN  |

| Product 360 Identifier                                         | Display name (English)    | Display name (German)        | Module (English)           | Module (German)              | GDSN XML name                                                                                   | Scope |
|----------------------------------------------------------------|---------------------------|------------------------------|----------------------------|------------------------------|-------------------------------------------------------------------------------------------------|-------|
| ArticleSustainability.DoesTradItemContainPesticide             | Is product a pesticide    | Ist das Produkt ein Pestizid | Sustainability information | Nachhaltigkeitsinformationen | sustainabilityModule/<br>sustainabilityInformation/<br>doesTradItemContainPesticide             | DSE   |
| ArticleSustainability.IsTradItemRigidPlasticPackagingContainer | Is product RPPC compliant | Ist das Produkt RPPC konform | Sustainability information | Nachhaltigkeitsinformationen | sustainabilityModule/<br>sustainabilityInformation/<br>isTradItemRigidPlasticPackagingContainer | DSE   |

| Product 360 Identifier                                      | Display name (English)              | Display name (German)               | Module (English)           | Module (German)              | GDSN XML name                                                                        | Scope |
|-------------------------------------------------------------|-------------------------------------|-------------------------------------|----------------------------|------------------------------|--------------------------------------------------------------------------------------|-------|
| ArticleSustainability.IsTradItemROHSCompliant               | Is product RoHS compliant           | Ist das Produkt RoHS konform        | Sustainability information | Nachhaltigkeitsinformationen | sustainabilityModule/sustainabilityInformation/isTradItemROHSCompliant               | DS E  |
| ArticleSustainability.PostConsumerRecycledContentPercentage | Post consumer recycled material [%] | Recyclingmaterial nach Gebrauch [%] | Sustainability information | Nachhaltigkeitsinformationen | sustainabilityModule/sustainabilityInformation/postConsumerRecycledContentPercentage | DS E  |

| Product 360 Identifier                                            | Display name (English)              | Display name (German)                                   | Module (English)           | Module (German)              | GDSN XML name                                                                              | Scope |
|-------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------|----------------------------|------------------------------|--------------------------------------------------------------------------------------------|-------|
| ArticleSustainability.RenewablePlantBasedPlasticComponentsPercent | Plant based plastic components [%]  | Pflanzlich hergestellte Kunststoffe [%]                 | Sustainability information | Nachhaltigkeitsinformationen | sustainabilityModule/sustainabilityInformation/renewablePlantBasedPlasticComponentsPercent | DS E  |
| ArticleSustainability.ROHSComplianceFailureMaterial               | Materials that fail RoHS compliance | Materialien die den Vorgaben der RoHS nicht entsprechen | Sustainability information | Nachhaltigkeitsinformationen | sustainabilityModule/sustainabilityInformation/rOHSComplianceFailureMaterial               | DS E  |

| Product 360 Identifier                                   | Display name (English)       | Display name (German)                  | Module (English)           | Module (German)              | GDSN XML name                                                                     | Scope |
|----------------------------------------------------------|------------------------------|----------------------------------------|----------------------------|------------------------------|-----------------------------------------------------------------------------------|-------|
| ArticleSustainability.TotalRecyclableContentPercentage   | Totaled recycled content [%] | Gesamtmenge des recycelten Inhalts [%] | Sustainability information | Nachhaltigkeitsinformationen | sustainabilityModule/sustainabilityInformation/totalRecyclableContentPercentage   | DSE   |
| ArticleSustainability.TradeltemSustainabilityFeatureCode | Sustainability feature code  | Nachhaltigkeits eigenschaft            | Sustainability information | Nachhaltigkeitsinformationen | sustainabilityModule/sustainabilityInformation/tradeltemSustainabilityFeatureCode | DSE   |

## 8.8 GDSN Accelerator FAQ

### 8.8.1 General

#### Q: Do I need to take care on anything when I want to shut down Product 360?

A: Yes. If you need to shut down the Product 360 server for any reason (e.g. maintenance), it's advisable to also stop the PowerCenter workflows for GDSN. This is mainly due to the fact that you can still receive messages like CIC from the 1WorldSync datapool which will lead to a Service API call to Product 360 which will be created by the GDSN workflow. Hence all events with the "PIM update failed" status during the Product 360 downtime have to be reprocessed manually in the B2B DX web UI in case the PowerCenter workflows are still running. To avoid this manual step, stop the PowerCenter workflows before you shut down the Product 360 server and start them again after the Product 360 server is running again.

#### Q: Can I also send items to the GDSN pool from a supplier catalog?

A: This is theoretically possible but not recommended. The master catalog should contain the "golden" data which is sent to the GDSN pool.

#### Q: What does the event status "PIM Update Failed" in the B2B Data Exchange mean?

| <input type="checkbox"/> | Drill Up | Drill Down | Event ID | Partner          | Account                | Profile                                 | Start Time             | Event Type | Event Status      | Aggregated Status |
|--------------------------|----------|------------|----------|------------------|------------------------|-----------------------------------------|------------------------|------------|-------------------|-------------------|
| <input type="checkbox"/> |          |            | 40149    | Data Pool (GDSN) | pool_response_acc_name | prof_gdsn_message_from_data_pool (1102) | 16 November 2016 15:55 | CIC        | PIM Update Failed |                   |
| <input type="checkbox"/> |          |            | 40146    | PIM              | PIM_acc_name           | prof_gdsn_message_to_data_pool (1101)   | 16 November 2016 10:54 | CIP        | Complete          | Final             |

A: This means that the writing of the publication status in Product 360 wasn't successful. To evaluate what the problem was please click on the according Event ID and take a look in the "HTTP result report" file. You will find more information about the problem there.

Details of Event 40149

| Event Details | Event Attributes                       | Event Status History                     | Reconciliation | Processing Information |
|---------------|----------------------------------------|------------------------------------------|----------------|------------------------|
| Event ID      | 40149                                  | Event status  PIM Update Failed          |                |                        |
| Event Type    | CIC                                    | Start Time 16 November 2016 15:55:56.545 |                |                        |
| Partner       | Data Pool (GDSN)                       | End Time 16 November 2016 15:56:09.496   |                |                        |
| Subject       | Received: 2016-11-03-17-41-32-0217-as2 | Duration 12 seconds, 951 milliseconds    |                |                        |
| Profile       | prof_gdsn_message_from_data_pool       | Aggregated Status                        |                |                        |

Event Logs

| Log Type ▲   | Date                          | Description                                                      | Doc Size |
|--------------|-------------------------------|------------------------------------------------------------------|----------|
| Input        | 16 November 2016 15:55:56.576 | <a href="#">Input message [2016-11-03-17-41-32-0217-as2.msg]</a> | 31       |
| Intermediate | 16 November 2016 15:55:56.557 | This event is the new root of an event hierarchy.                | 1        |
| Intermediate | 16 November 2016 15:55:57.975 | HTTP request                                                     | 8        |
| Intermediate | 16 November 2016 15:56:08.180 | HTTP result report                                               | 1        |

In following example there is no customer in Product 360 which has the given GLN:

```
{"problems":[{"message":"Trade partner: The field value does not correspond to a value from the bullet Customers. ( 4322862000001[] )","date":"2016-11-03-17-41-32-0217-as2"}]}
```

After adding the GLN to a customer please reprocess this message by selecting the event and choosing the action "Reprocess".

| <input type="checkbox"/>            | Drill Up | Drill Down | Event ID | Partner          | Account                | Profile                                 | Start Time             | Event Type | Event Status      | Aggregated Status | Reconciliation | Actions                                                  |
|-------------------------------------|----------|------------|----------|------------------|------------------------|-----------------------------------------|------------------------|------------|-------------------|-------------------|----------------|----------------------------------------------------------|
| <input checked="" type="checkbox"/> |          |            | 40149    | Data Pool (GDSN) | pool_response_acc_name | prof_gdsn_message_from_data_pool (1102) | 16 November 2016 15:55 | CIC        | PIM Update Failed |                   |                | Reprocess<br>Resend<br>Change event status...<br>Release |





The preference **automatedCustomerCreationEnabled** can be used to create unknown customers automatically during the REST-API call to Product 360.

**Q: What does a response message like "GDSN Numeric Rule ID 1281: The format of "Ingredient Sequence" must be 'dd.dd.dd...'. Where 'd' must be a digit, always ending in a 'dd' and never having a value of '00'." mean?**

A: This means the sent data is not valid regarding the validation which is done by the data pool. Usually the error message describes the deficiency in the data. You could add such a data check by a data quality rule configuration or a repository adjustment to ensure that you always send correct data.

## 8.8.2 Export

**Q: The export fails due to the error "... One of '{document}' is expected."**

|    |   |            |                         |                      |                                                                                                                                                                                          |
|----|---|------------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20 | ✓ | Note       | Export post-processi... | Validate XML file(s) | File 'Types.xsd' loaded                                                                                                                                                                  |
| 21 | ✓ | Note       | Export post-processi... | Validate XML file(s) | File 'AttrTypes.xsd' loaded                                                                                                                                                              |
| 22 | ✗ | Mandato... | Export post-processi... | catalogueRequest     | File "ISync CatalogueRequest Item.xml": Error in line 15, column 22: cvc-complex-type.2.4.b: The content of element 'catalogueRequest' is not complete. One of '{document}' is expected. |
| 23 | ⌵ | Summary    | Post-export step        | Validate XML file(s) | Export canceled due to XML validation error(s)                                                                                                                                           |

A: It can happen that there are no items in the generated XML file because no item passed the data quality checks or no item was passed to the export. If this case there will be no <document> tag generated in the XML which is leading to the above shown validation error. Despite to the fact that this is not very usable or obvious for an user, everything works correctly and there are no bad side effects. This behavior will be improved in a future Product 360 version.

**Q: The export fails due to XSD error "...The value " of attribute..."**

Data type: 
ID: 
Position:

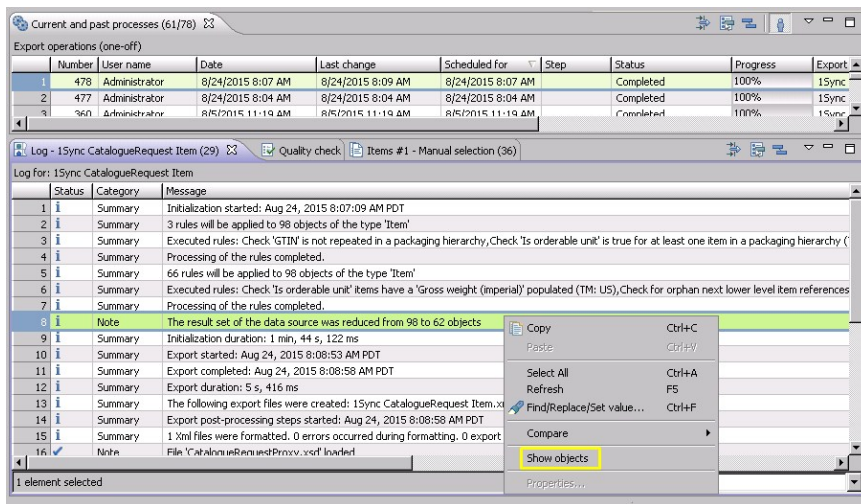
Message: 

File "HF4EBF1\_CatalogueItemRequest-MOD.xml": Error in line 1294, column 54: cvc-attribute.3: The value " of attribute 'dataRecipientGLN' on element 'startAvailabilityDate' is not valid with respect to its type, 'glnType'.

A: If a generated XML file doesn't fit to the according GDSN XSD schema, an XSD validation error will occur. The above shown message indicates that no value was given for the attribute 'dataRecipientGLN' which is not valid regarding the 'glnType'. Therefore you need to open the "Customer" view and maintain the GLN for your customers.

**Q: Not all of my items has been sent to the pool**

A: Usually there is a data quality run before you send your data to the GDSN pool. If an item does not pass all data quality checks it will be filtered out and will not be sent to the GDSN pool. You can easily identify these items by navigating to the corresponding export log and select "Show objects" in the context menu of the corresponding log entry (see screenshot).



**Q: Why does my GTIN differ in the exported file?**

**A:**

When your GTIN is less than 14 digits in Product360 while exporting, the GTIN will be automatically filled with leading 0's to match the GS1 criteria of 14 digit GTINs. **It is strongly recommended to have 14 digit GTINs while working with Product360 GSDN Accelerator.**

Otherwise there will be mapping issues between the CICs received from the pool.

### 8.8.3 B2B Data Exchange

**Q: Can the existing B2B and PowerCenter implementation support more than one GSDN data pool?**

**A:** No. Only one GSDN data pool can be supported with the current B2B and PowerCenter implementation. Additional implementation effort is needed in B2B Data Exchange and PowerCenter.

**Q: Where is the Http connection for the REST API between PowerCenter and PIM configured?**

**A:** The Http connection is configured in Workflow Manager tool. In the Menu bar, go to Connections > Application, choose to edit the Http Transformation called http\_set\_status, which was created during the B2B Data Exchange GSDN Accelerator installation.

**Connection Object Definition**

Application Connection Editor

Name:  OK Cancel Help

Type:

User Name:  Use Parameter In Password

Password:

Connect String:

Code Page:

Attributes:

| Attribute                 | Value                                       |
|---------------------------|---------------------------------------------|
| Base URL                  | http://localhost:1512/rest/V1.0/manage/p... |
| Timeout                   | 60                                          |
| Domain                    |                                             |
| Trust Certificates File   |                                             |
| Certificate File          |                                             |
| Certificate File Password |                                             |

**Q: How can we check if the messages are processed and sent\received to\from the data pool correctly?**

**A:** We can check the status of the B2B Data Exchange processes in various ways.

B2B Data Exchange Operator Console is a Web UI tool that is used to administer, configure and manage B2B Data Exchange. DX event is a representation of a file at a particular stage of processing. The B2B Data Exchange server generates events as it processes the files, and it changes the status of the events as they go through the transformation process.

The image below shows the Event List page. You can monitor and perform certain actions on events. You can perform a basic or advanced search for events and view event details.

\*\*\*\*\*  
informatica B2B Data Exchange

Welcome: System Administrator | Logout

Navigator

- Dashboard
- Partner Management
  - Onboarding
  - Partners
  - Portal Users
  - Profiles
  - Endpoints
  - Workflows
  - Applications
  - SLA Rules
- Events
  - Event List**
  - Event Types
  - Event Status
  - Event Attributes
- Event Monitors
- Audit and Authorization
- Administration

Event List

Time frame:  (no range)

Find:  Search

☐ Include subject field

|                          | ID    | Type | Name         | Message                               | Date               | Time | Status   | Final | Complete |
|--------------------------|-------|------|--------------|---------------------------------------|--------------------|------|----------|-------|----------|
| <input type="checkbox"/> | 22069 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 28 July 2016 15:20 | CIN  | Complete | Final | Complete |
| <input type="checkbox"/> | 22034 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 28 July 2016 10:18 | CIN  | Complete | Final | Complete |
| <input type="checkbox"/> | 22032 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 28 July 2016 10:15 | CIN  | Complete | Final | Complete |
| <input type="checkbox"/> | 22029 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 28 July 2016 10:12 | CIN  | Complete | Final | Complete |
| <input type="checkbox"/> | 22010 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 28 July 2016 09:28 | CIN  | Complete | Final | Complete |
| <input type="checkbox"/> | 19384 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 8 July 2016 13:52  | CIC  | Complete | Final | Complete |
| <input type="checkbox"/> | 19380 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 8 July 2016 10:56  | CICW | Complete | Final | Complete |
| <input type="checkbox"/> | 19377 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 8 July 2016 10:52  | CIS  | Complete | Final | Complete |
| <input type="checkbox"/> | 19373 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 8 July 2016 10:42  | CIS  | Complete | Final | Complete |
| <input type="checkbox"/> | 19367 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 8 July 2016 10:40  | CIN  | Complete | Final | Complete |
| <input type="checkbox"/> | 19363 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 8 July 2016 10:34  | CIC  | Complete | Final | Complete |
| <input type="checkbox"/> | 19359 | PIM  | PIM_acc_name | prof_gdsn_message_to_data_pool (1101) | 8 July 2016 10:31  | CIC  | Complete | Final | Complete |

Another way to check if the files were processed successfully in PowerCenter is to check in Workflow Monitor tool:

1. Are GDSN related workflows running:

|                                  |          |         |  |
|----------------------------------|----------|---------|--|
| B2B_GDSN_10                      |          |         |  |
| wf_m_gdsn_message_from_data_pool | 00:00:34 | Running |  |
| s_m_gdsn_message_from_data_pool  | 00:00:34 | Running |  |
| wf_m_gdsn_message_to_data_pool   | 00:00:49 | Running |  |
| s_m_gdsn_message_to_data_pool    | 00:00:49 | Running |  |

PowerCenter version 10.0, you can use Informatica MFT console to check if files were sent\received successfully to\from the data pool.

2. Check the session log of the workflow and search for "ERROR" messages using the "Severity" column:

| Log Events for Session: s_m_gdsn_message_to_data_pool |                     |             |          |               |                                                                                                                                     |
|-------------------------------------------------------|---------------------|-------------|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Severity                                              | Timestamp           | Node        | Thread   | Message Co... | Message                                                                                                                             |
| INFO                                                  | 07.05.2017 15:23:39 | node01_SUV1 | DIRECTOR | TM_6014       | Initializing session [s_m_gdsn_message_to_data_pool] at [Sun May 07 15:23:39 2017]                                                  |
| INFO                                                  | 07.05.2017 15:23:39 | node01_SUV1 | DIRECTOR | TM_6683       | Repository Name: [REPO_SVC_SUV12RDEMO05]                                                                                            |
| INFO                                                  | 07.05.2017 15:23:39 | node01_SUV1 | DIRECTOR | TM_6684       | Server Name: [INT_SVC_SUV12RDEMO05]                                                                                                 |
| INFO                                                  | 07.05.2017 15:23:39 | node01_SUV1 | DIRECTOR | TM_6686       | Folder: [B2B_GDSN_10]                                                                                                               |
| INFO                                                  | 07.05.2017 15:23:39 | node01_SUV1 | DIRECTOR | TM_6685       | Workflow: [wf_m_gdsn_message_to_data_pool] Run Instance Name: [] Run Id: [403]                                                      |
| INFO                                                  | 07.05.2017 15:23:39 | node01_SUV1 | DIRECTOR | TM_6101       | Mapping name: m_gdsn_message_to_data_pool                                                                                           |
| INFO                                                  | 07.05.2017 15:23:41 | node01_SUV1 | DIRECTOR | TM_6964       | Date format for the Session is [MM/DD/YYYY HH24:MI:SS.US]                                                                           |
| INFO                                                  | 07.05.2017 15:23:41 | node01_SUV1 | DIRECTOR | CMN_65048     | Recovery state file will be Synced to disk.                                                                                         |
| INFO                                                  | 07.05.2017 15:23:41 | node01_SUV1 | DIRECTOR | TM_6348       | The maximum number of files that can be open at a time is 1024.                                                                     |
| INFO                                                  | 07.05.2017 15:23:41 | node01_SUV1 | DIRECTOR | TM_6708       | Using configuration property [EnableDataEncryption.no]                                                                              |
| INFO                                                  | 07.05.2017 15:23:41 | node01_SUV1 | DIRECTOR | TM_6708       | Using configuration property [StoreHAPersistenceInDB.no]                                                                            |
| INFO                                                  | 07.05.2017 15:23:41 | node01_SUV1 | DIRECTOR | TM_6708       | Using configuration property [IncludeErrorResponseInHTTPTransformation.Yes]                                                         |
| INFO                                                  | 07.05.2017 15:23:41 | node01_SUV1 | DIRECTOR | TM_6708       | Using configuration property [UseUTF8ForLocalHTTP.Yes]                                                                              |
| INFO                                                  | 07.05.2017 15:23:41 | node01_SUV1 | DIRECTOR | TM_6703       | Session [s_m_gdsn_message_to_data_pool] is run by 64-bit Integration Service [node01_SUV12RDEMO05], version [10.1.0], build [0609]. |
| INFO                                                  | 07.05.2017 15:23:41 | node01_SUV1 | DIRECTOR | PETL_24088    | Registering the session with the Integration Service                                                                                |

From PowerCenter version 10.0, you can use Informatica MFT console to check if files were sent\received successfully to\from the data pool.

- Verify if a requested file is sent successfully. Therefore check if there are errors in the logs of the configured AS2 server.
- Verify if there are errors in receiving a file. Therefore check the "Completed Jobs" logs.

## 8.9 Analyze requirements

### 8.9.1 Introduction

This chapter describes how to analyze your GDSN requirements. First, you need to compare the needed GDSN attributes with the "[GDSN Accelerator field list](#)" to get a rough overview of how many new attributes need to be added. Please take care that you might need to adjust existing fields as well. This applies to new GDSN versions as well as implementing a new module and moving existing parts or fields respectively in the new module. As result of the analysis you should be able to call out which changes are needed and in case of data model changes, how the according entity and fields must be designed. Based on this analysis, the chapter "[Data model](#)" describes how to add new GDSN modules and GDSN attributes as well as creating or adjusting GDSN valid value lists.

In order to be able to analyze your customer's GDSN requirements, you need to have a good understanding of the Product 360 repository and the architecture it is based on.

### 8.9.2 Questions

The first step is to ask the right questions:

- Which scenario is used?
  - Data source or data recipient?
  - IM or DSE?
- Which modules are already available?
- What kind of change has to be implemented?
  - Is it a missing data field of an existing module?
  - Is it a missing module?

- Is it a missing validation?
- Is it a missing value of a valid value list?
- ...

 You can find all supported GDSN attributes by the GDSN Accelerator in the chapter "[GDSN Accelerator field list](#)".

### 8.9.3 Resources

It is essential to have all necessary documents available. These are the GDSN specification documents you can get from the corresponding GS1 home page.

There are several PDF and Excel files describing fields, data types, validations. And there are XSD files you should use to get detailed information about the structure of the GDSN message files, especially of the files containing item data.

In the following examples we use these files:

- XML Schemas
- IM\_Participant\_Dictionary\_R7.1.0\_v1 (especially tabs IM Participant dictionary and IM Valid Values)
- GDSN module PDF files
- Data\_Source\_1WS\_XML\_Guide\_IM7.0v6.pdf called "Data Source XML Guide" in the rest of the document
- IM\_Validations\_Document\_R7.1.0\_v1.xlsx

### 8.9.4 Data model - analyze the module

So let's work together on a first "module"... We've been told by the customer, that he needs to store microbiological information and wants to make it available using *GDSN IM*. Where do we start?

#### Collect information

The customer is a manufacturer and uses the *data source scenario*, so let's have a look at "1WorldSync Item Management - Data Source 1WS XML Guide".

**When we search for "Microbiological" we first find this line**

| 1WS Catalogue Request Attribute | 1WS XML Structure Type | 1WS Item Structure Type | Module                               | FLX |
|---------------------------------|------------------------|-------------------------|--------------------------------------|-----|
| foodAndBevMicrobiological       | AGM                    | O                       | FoodAndBeveragePropertiesInformation | Y   |

*What does it mean?*

**1WS Catalogue Request Attribute:** This means, that a structure element with the name `foodAndBevMicrobiological` exists. The structure type is "AGM" which stands for "attribute group many" and indicates that it contains a group of attributes and can occur multiple times in the XML of the Catalogue Request file that is sent to the 1WS Pool.

**1WS XML Structure Type:** The structure type "AGM" corresponds to the information "FLX: Y" which means that the attribute is a flex attribute. Flex attributes are a generic way to include attributes in the XML structure.

This is an example of how a flex attribute will look like in the XML of the Catalogue Request file:

| Flex attribute                                                                      |
|-------------------------------------------------------------------------------------|
| <pre>&lt;flex&gt; . . . &lt;attrGroupMany name="shipFromPartyInformation"&gt;</pre> |

```

<row>
  <attr name="glnOfShipFromParty">6701115112308</attr>
  <attr name="nameOfShipFromParty" qual="USD">GLN Name</attrQual>
</row>
<row>
  <attr name="glnOfShipFromParty">6701115112308</attr>
  <attr name="nameOfShipFromParty" qual="USD">GLN Name</attrQual>
</row>
</attrGroupMany>
. . .
</flex>

```

Here's a list of other structure types, just to give you an idea:

- A - attribute
- AM - attribute many
- AQ - attribute qualified
- AGM - attribute group many

For further information on flex attributes and structure types see explanations and examples in "1WorldSync Item Management - Data Source 1WS XML Guide".

**1WS Item Structure Type:** The "O" tells us, that the attribute group is optional.

**Module:** In the "Module" column it says "FoodAndBeveragePropertiesInformation", so there is no separate module for microbiological information. We should have a look at what else is contained in the "FoodAndBeveragePropertiesInformation" module in order to decide how to design our entities. We note that down and go on for now.

**Next we find four lines that seem to be fields**

| 1WS Catalogue Request Attribute                      | 1WS XML Structure Type | 1WS Item Structure Type | 1WS Item Data Type | 1WS Item Data Length (Min) | 1WS Item Data Length (Max) | Qualifier | Module                               | FLX |
|------------------------------------------------------|------------------------|-------------------------|--------------------|----------------------------|----------------------------|-----------|--------------------------------------|-----|
| foodAndBevMicrobiological/<br>organismCode           | A                      | O                       | string             | 1                          | 80                         |           | FoodAndBeveragePropertiesInformation | Y   |
| foodAndBevMicrobiological/<br>organismMaximumValue   | AQ                     | O                       | ufloat             | 15                         | 15                         | uom       | FoodAndBeveragePropertiesInformation | Y   |
| foodAndBevMicrobiological/<br>organismReferenceValue | AQ                     | O                       | ufloat             | 33                         | 2                          | uom       | FoodAndBeveragePropertiesInformation | Y   |

| 1WS Catalogue Request Attribute                  | 1WS XML Structure Type | 1WS Item Structure Type | 1WS Item Data Type | 1WS Item Data Length (Min) | 1WS Item Data Length (Max) | Qualifier | Module                               | FLX |
|--------------------------------------------------|------------------------|-------------------------|--------------------|----------------------------|----------------------------|-----------|--------------------------------------|-----|
| foodAndBevMicrobiological / organismWarningValue | AQ                     | O                       | ufloat             | 33                         | 2                          | uom       | FoodAndBeveragePropertiesInformation | Y   |

What information do we get here?

In the group "foodAndBevMicrobiological" there are four fields

1. The attribute "organismCode" which is a simple string attribute with a max. length of 80 that is optional.
2. The qualified attribute "organismMaximumValue" which is a decimal value with a min. length of 15 and a max. length of 15. The Qualifier "uom" is an indicator that we need another field to store the value for the qualifier. In some cases, like for example the language, the qualifier can be a logical key.
3. and 4. are the qualified fields "organismReferenceValue" and "organismWarningValue", both qualified with a unit, both decimal, both optional, both with a min. length of 33 and a max. length of 2. Well, the length can't be correct. We should check that later in the Participant dictionary. Write that down and go on.



"Uom" stands for "unit of measure". We use the terms "uom" and "unit" interchangeably.

Measurement values always consist of a pair of value and uom.

If we keep searching we find these lines

| 1WS Catalogue Request Attribute                                                                          | 1WS XML Structure Type | 1WS Item Structure Type | 1WS Item Data Type | 1WS Item Data Length (Min) | 1WS Item Data Length (Max) | Qualifier | Module               | FLX |
|----------------------------------------------------------------------------------------------------------|------------------------|-------------------------|--------------------|----------------------------|----------------------------|-----------|----------------------|-----|
| componentInformation/foodAndBeveragePropertiesInformation/foodAndBevMicrobiological/organismCode         | A                      | O                       | string             | 1                          | 80                         |           | ComponentInformation | Y   |
| componentInformation/foodAndBeveragePropertiesInformation/foodAndBevMicrobiological/organismMaximumValue | AQ                     | O                       | ufloat             | 15                         | 15                         | uom       | ComponentInformation | Y   |

| 1WS Catalogue Request Attribute                                                                            | 1WS XML Structure Type | 1WS Item Structure Type | 1WS Item Data Type | 1WS Item Data Length (Min) | 1WS Item Data Length (Max) | Qualifier | Module               | FLX |
|------------------------------------------------------------------------------------------------------------|------------------------|-------------------------|--------------------|----------------------------|----------------------------|-----------|----------------------|-----|
| componentInformation/foodAndBeveragePropertiesInformation/foodAndBevMicrobiological/organismReferenceValue | AQ                     | O                       | ufloat             | 15                         | 15                         | uom       | ComponentInformation | Y   |
| componentInformation/foodAndBeveragePropertiesInformation/foodAndBevMicrobiological/organismWarningValue   | AQ                     | O                       | ufloat             | 15                         | 15                         | uom       | ComponentInformation | Y   |

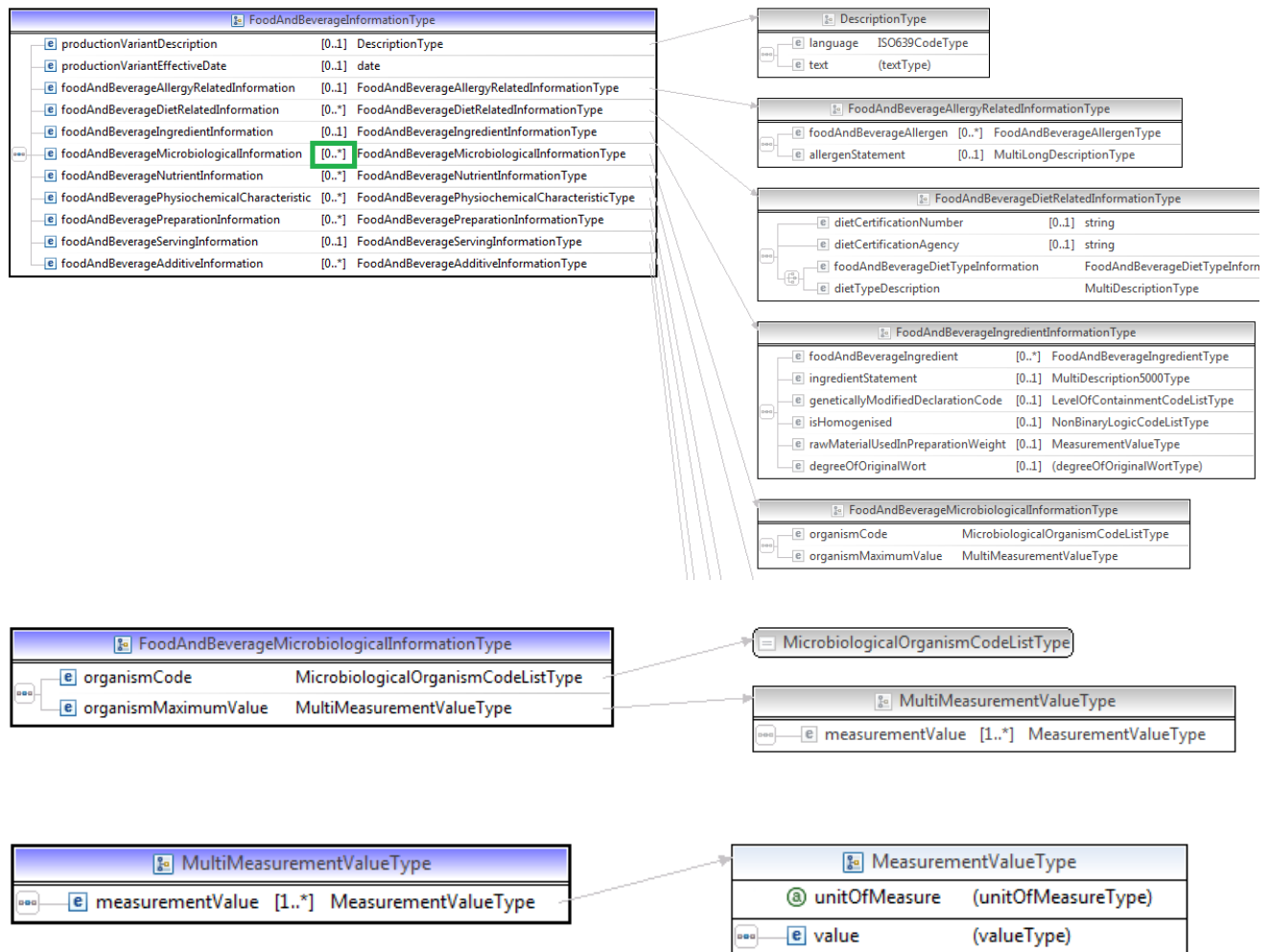
If you compare this set of fields with the ones we found before you will notice that the attribute names are the same but the paths are different. The module is different, too. It's "ComponentInformation".

Components are a MjR3 feature that we don't support at the moment, so ignore these fields. If you want to know more about components have a look at the GDSN homepage (<http://www.gs1.org/gdsn>).

### Get a better idea of the structure

Since the fields we found are flex attributes, we won't see much of them in the IM XSDs. Sometimes it's hard to imagine the complete structure of a module based only on the textual information given in the table. But we can get a little help from the GDSN XSDs to get a better idea how the structure might look like.





If we look at the "FoodAndBeverageInformationType", marked in the green we see the occurrences are "0..\*", so we can have multiple entries for "FoodAndBeverageMicrobiologicalInformation". This means we have to find a logical key for our data model. We have the organismCode. Since the rest are measurement values, it seems to make sense to have one set of values for each organism. So this is a good candidate for a logical key.

In GDSN there is only the "organismMaximumValue". We also found that field in the "1WorldSync Item Management - Data Source 1WS XML Guide" but additionally there were "organismReferenceValue" and "organismWarningValue". In the XSD we can see that there is an additional "unitOfMeasure" belonging to the "organismMaximumValue". This is no surprise, we already saw that the fields are qualified with a unit and knew that we needed to store this information somewhere.

### So let's recap:

We have the "foodAndBeverageMicrobiological" module, which is an attribute group many. This sounds like an entity, doesn't it?

We have identified the fields

- organismCode
- organismMaximumValue
- organismMaximumValueUOM
- organismReferenceValue

- organismReferenceValueUOM
- organismWarningValue
- organismWarningValueUOM

We also know that "organismCode" is a candidate for a logical key.

## Design the entity

You don't know yet, but it will be described in the section "[Data model](#)" that there is the entity type `ArticleDomainType` that is suitable for implementing new modules and that has a sub entity for measurement values. There is an additional key `UOMType`. Possible values are: `METRIC` and `IMPERIAL`. We need to be able to store multiple values, but since units are convertible we don't need to store each and every value we might be using in an output. That's the reason we don't use the unit as the logical key.

So what we have to do is to create an entity like this:

- Entity: `ArticleMicrobiological` (based on `ArticleDomainType`)
  - Logical key: `organismCode`
  - Field: `organismCode`
- Entity: `ArticleMicrobiologicalUOM` (based on `ArticleDomainUOMType`)
  - Logical key: `UOMType`
  - Field: `UOMType`
  - Field: `organismMaximumValue`
  - Field: `organismMaximumValueUOM`
  - Field: `organismReferenceValue`
  - Field: `organismReferenceValueUOM`
  - Field: `organismWarningValue`
  - Field: `organismWarningValueUOM`

Now, we have the basic structure of our sub entity.

## Check the details

Now, we have to check for the details. The details can be found in the Participant dictionary.

|     | C              | D                      | E                                                                                                        | F                                                                                                                                                                           | G                  | H                                                        | I                  | J                                                        | K                                                           | L                             | M          | N              | O                     |
|-----|----------------|------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------|--------------------|----------------------------------------------------------|-------------------------------------------------------------|-------------------------------|------------|----------------|-----------------------|
|     | GUI Location   | GUI Name               | IM XML Name                                                                                              | GDSN XML Name                                                                                                                                                               | Mandatory/Optional | Definition                                               | Data Type          | Length (All Rows), Min. Length (All non-Root Data Types) | Precision (All Rows), Max. Length (All non-Root Data Types) | Global/Target Market Specific | Occurrence | Qualifier Type | Qual Valid Value List |
| 1   | Components Tab | Organism Code          | componentInformation/foodAndBeveragePropertiesInformation/foodAndBevMicrobiological/organismCode         | CatalogItemNotification/CatalogItem/tradeItem/tradeItemComponents/foodAndBeveragePropertiesInformationModule/microbiologicalInformation/microbiologicalOrganismCode         | O                  | Code indicating the type of microbiological organism.    | VV/FN/OrganismCode | 1                                                        | 80                                                          | Target Market                 | 0..1       |                |                       |
| 347 | Components Tab | Organism Maximum Value | componentInformation/foodAndBeveragePropertiesInformation/foodAndBevMicrobiological/organismMaximumValue | CatalogItemNotification/CatalogItem/tradeItem/tradeItemComponents/foodAndBeveragePropertiesInformationModule/microbiologicalInformation/microbiologicalOrganismMaximumValue | O                  | Maximum allowable value of the microbiological organism. | ufloat             | 15                                                       | 15                                                          | Target Market                 | 0..1       | uom            | uom                   |
| 548 |                |                        |                                                                                                          |                                                                                                                                                                             | O                  |                                                          |                    |                                                          |                                                             |                               |            |                |                       |

Search for the attributes we found earlier:

### foodAndBevMicrobiological/organismCode

**GUI Name:** Organism Code

This is your English display label. By convention in Product 360, the first letter of the first word is upper case, all following words start with a lower case character except it is a name or another word which is correctly spelled with an upper case character in English.

**IM XML Name:** foodAndBevMicrobiological/organismCode

This is where you find the path given in the Data Source XML Guide

**GDSN XML Name:**

Where you find it in the XSDs of the GDSN XML structure.

**Mandatory/Optional:**

Most of the fields are optional, some of the fields are "M within O group" which means they are mandatory if you form the group. These fields can be set to mandatory in the repository (upper and lower bound = 1). Check if these fields are suitable as logical keys.

#### Definition:

This is your description in English. Read it, correct it, if it is a whole sentence add a '.' at the end and if there is no valuable descriptive content in there, don't use it.

Datatype: VV/FNBOrganismCode

"VV" means there is a valid value list. "FNBOrganismCode" is the name of the list. The values will be found on the tab "IM Valid Values". Valid value lists most likely contain strings.

Other common data types apart from valid value lists are dateTime, uinteger and ufloat.

→ We need to add an enumeration to the repository as well.

Min. length and max. length:

The field can have values of strings with a length up to 80. Even they say the min. length is 1, since the value is optional I would use a lower bound of 0.

Global/Target market specific: Target Market

Defines if it is possible to maintain different values for different target markets.

→ We need an additional target market key.

Occurrence: 0..1

This can be a problem if we want to use organism code as a logical key. Logical keys are mandatory.

#### **foodAndBevMicrobiological/organismMaximumValue**

Most of the information is similar to the above.

The data type is ufloat and the columns of the min./max. length are called "**Length (All floats)**", Min. Length (All non-float Data Types)" and "**Precision (All floats)**", Max. Length (All non-float)". This explains the values 33/2 which made no sense earlier.

*Example:* Imagine an attribute defined with 15/15. What this means is that 1234567890,12345 is valid and 12345,1234567890 is valid but 12345678,12345678 is not valid because the complete length is greater than 15.

Product 360 can't persist such huge numbers. A BigDecimal16/6 is always used which means the complete number is at most 16 places long - 10 places before the decimal separator and 6 decimal places. However, if the definition is for example 5/2 the max. range should be set to 99999,99 with scale 2. Be aware that this means you can store 88888,888888 in the database anyway because the scale is just a matter of formatting.

#### **foodAndBevMicrobiological/organismReferenceValue** and **foodAndBevMicrobiological/organismWarningValue**

Most of the information is similar to the above.

Have a look at the length and precision. Here in the Participant dictionary it says 15/15 not 33/2 as it did in the Data Source XML Guide. This is an example of conflicting documentation. Note this on your test list and send dummy data to the data pool later. Determine what is correct on the error messages you get back from the data pool.

#### **UOM**

We know we need the unit fields as well. We won't find them as separate lines in the participant dictionary, only as qualifier in the line of the attribute they belong to. At a first glance you might wonder how you will be able to create the field with so little information. However since units will always be stored as `UnitProxies` and corresponding field types are already provided in the `ArticleDomainUOMType`, there is not much left to be configured.

The only question we have to answer is, which units should be available to the user or in other words which enumeration do we need to add to the unit field. If we go back to the Participant dictionary there is no VV entry in the datatype column, which makes sense because this line is about the measurement value that is a numeric value.

| GUI Name               | IM XML Name                                                                                              | Data Type | Length (All floats), Min Length (All non-float Data Types) | Precision (All floats), Max Length (All non-float) | Qualifier Type | Qual Valid Value List |
|------------------------|----------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------|----------------------------------------------------|----------------|-----------------------|
| Organism Warning Value | componentInformation/foodAndBeveragePropertiesInformation/foodAndBevMicrobiological/organismWarningValue | ufloat    | 15                                                         | 15                                                 | uom            | uom                   |

But there are two other columns which will give us the answer we need. There is the qualifier type "uom" and "Qual Valid Value List" "uom". If you go to the tab "IM Valid Values" you will find a list with that name. In the "Attribute Name" column of that tab you will also find the "organismWarningValue" attribute and the other value fields. Check the existing enumerations if there is already one with the matching values or create your own. See section ["Data model"](#) for information how to do that.



It has proven to be useful to create an excel sheet with all the information relevant to you. This may include:

- GDSN attribute name
- PIM display label
- Field identifier
- Data type in GDSN
- Data type in PIM
- Valid values
- Is field mandatory?
- ...

## Logical keys

Let's come back to the hardest decision. What do we use as logical key(s)?

- *Do we need a logical key?*  
Yes, foodAndBevMicrobiological is AGM, so we need to be able to store more than one set of values per target market.
- *Why should we use organismCode as logical key?*  
It makes sense to have one set of measurement values per organism. It doesn't make much sense to have multiple warning values for the same organism from a business point of view.
- *Why shouldn't we use organismCode as logical key?*  
Because organismCode is optional. This means GDSN allows to have measurement values not belonging to one of the organisms in the valid values list.
- *Is there an alternative?*  
Can't think of one.

What is the solution then?

The solution is to use "organismCode" as logical key but tweak the valid values a little. Make an enumeration "with optional code". This enumeration has one or more additional values. Most standard enumerations with optional code have one additional value, for example "NONE". This allows the user to store additional value sets, it works with all the generic mechanisms in Product 360 and in the export there is a mechanism which will ensure that this value is not sent to the GDSN data Pool. How many additional entries (if at all) you need depends on the requirements of the customer.

See how to create an enumeration with optional code in the chapter ["Data model"](#).

See how to handle enumerations with optional codes in the export in section ["Technical details"](#).

## Compacting the structure

At the beginning we saw that the attributes related to microbiological information belong to the module "FoodAndBeveragePropertiesInformation". We ignored that up to now. But you might ask yourself if you have to fit a complete module into one Article sub entity.

The answer is definitely 'no'.

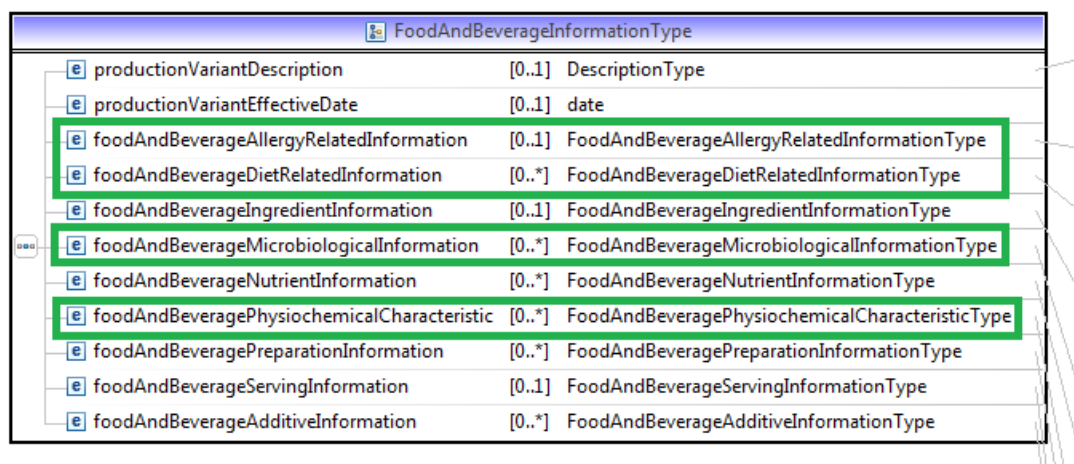
Let's see what else is contained in the module "FoodAndBeveragePropertiesInformation": What we find are physiochemical properties.

| 1WS Catalogue Request Attribute | 1WS XML Structure Type | 1WS Item Structure Type | Module                               | FL X |
|---------------------------------|------------------------|-------------------------|--------------------------------------|------|
| physioChemicalProperties        | AGM                    | O                       | FoodAndBeveragePropertiesInformation | Y    |

| 1WS Catalogue Request Attribute                                | 1WS XML Structure Type | 1WS Item Structure Type | 1WS Item Data Type | 1WS Item Data Length (Min) | 1WS Item Data Length (Max) | Qualifier | Module                               | FL X |
|----------------------------------------------------------------|------------------------|-------------------------|--------------------|----------------------------|----------------------------|-----------|--------------------------------------|------|
| physioChemicalProperties/<br>physioChemicalCharacteristicCode  | A                      | O                       | string             | 1                          | 80                         |           | FoodAndBeveragePropertiesInformation | Y    |
| physioChemicalProperties/<br>physioChemicalCharacteristicValue | AQM                    | O                       | ufloat             | 15                         | 15                         | uom       | FoodAndBeveragePropertiesInformation | Y    |

Does this information have a relation to microbiological information?

No. So we probably can implement the physiochemical properties in its own sub entity. When we look at the GDSN XSDs, we get a confirmation of our assumption. FoodAndBeverage**Microbiological**InformationType and FoodAndBeverage**PhysioChemical**CharacteristicType are two separate types on the same level as FoodAndBeverage**AllergyRelated**Information and FoodAndBeverage**DietRelated**Information.



## Deep structures

Some modules, for example the ingredient information, have a pretty deep structure with up to ~ 10 nested levels of XML tags. The `ArticleDomainType` has a depth of 3 (+1 for the item itself).

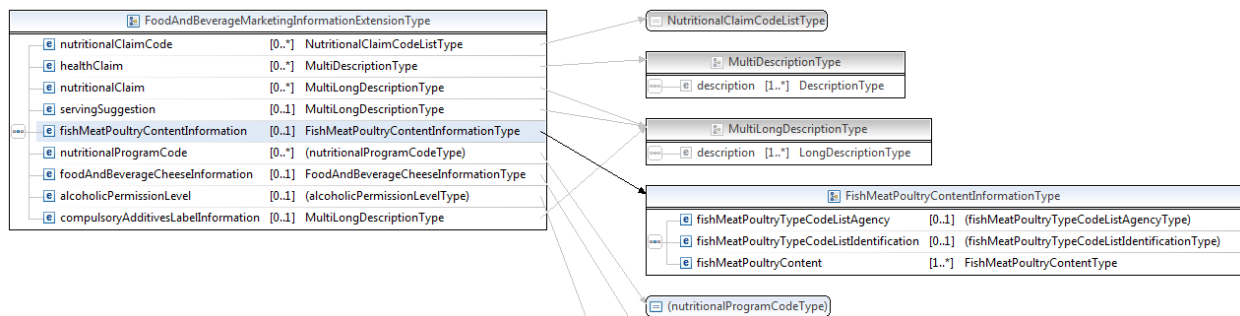
If you encounter a module with a deep structure you have to get creative and shrink it down to 3 levels.

To get you started here are two possible ways to do that:

### 1. Extraction

Certifications are an example of Extraction. You can add a certification for the item itself and you can add a certification for a specific diet. The XML sub structure that stores the certification information is the same in both cases. Furthermore if you think object oriented, a certification is a self-contained complete object. So in Product 360 that part was extracted into its own root entity and only the entity proxy is stored in the corresponding sub entities of the item.

### 2. Compacting



As you can see "fishMeatPoultryContentInformation" is contained in "FoodAndBeverageMarketingInformationExtension". But it has no relation to the rest of the information in the marketing information. This is a case where the container is not really needed for the logical structure of the information and we can skip this layer. The occurrence of "0..1" confirms that no sub entity layer with logical keys is needed at this point.

## Ways to ensure data consistency

In the course of creating the data model, you should start thinking about data consistency or in other words validations.

There are two sources for information about validations. The Participant dictionary contains a lot of basic validations like the max. field length. Complex validations, you have to take into account for the design of your entity, are listed in the "IM Validations Document".

## Data model

There are lower level validations only affecting a single field that can be configured in the repository.

### Valid value lists

*Description:* Some fields only allow a certain set of values.

*Where to find:* Information can be found in the Participant dictionary in column "DataType", for qualifiers in column "Qual Valid Value List". List entries are found in tab "IM Valid Values".

*How to implement:* In Product 360 this kind of validation is ensured by the enumeration you add to a field.

*Example:* "organismCode" has valid value list "FNBOrganismCode" and is implemented as `Enum.OrganismCode.WithOptionalCode` at logical key `ArticleMicrobiologics.LK.OrganismCode` and field `ArticleMicrobiologics.OrganismCode`

### Min. and max. values

*Description:* Numeric values, especially measurement values can be restricted to a certain range.

*Where to find:* Information can be found either in the Participant dictionary, in the columns "Length (All floats), Min. Length (All non-float Data Types)" and "Precision (All floats), Max. Length (All non-float)" or in the Validations document.

*How to implement:* In Product 360 this kind of validation is ensured by the entries in the field properties "Min. Range" and "Max. Range"

*Example:* "OrganismMaximumValue" has a max. length of 15 places

Other examples from the validations document:

- The value in - Qty of Next Level Item(s) (formerly Pack) is greater than 1 and less than 999999.
- If fatPercentageInDryMatter is not empty then value must be greater than or equal to 0 and less than or equal to 100.00.

Closely related to min. and max. values is the max. length of string values.

*Example:* GTIN Name: Value must be between 1 and 40 characters.

In this case use properties min. and max. length.

## Mandatory fields

*Description:* Some fields are mandatory globally or mandatory in an optional or mandatory group.

*Where to find:* Information can either be found in the Participant dictionary, in column "Mandatory/Optional", or in the validations document.

*How to implement:* Set the lower bound to 1 in order to make a field mandatory within an entry of a sub entity.

*Hint:* Logical keys are always mandatory in Product 360.

*Examples:* GTINName is a required field

More information on configuration of the repository can be found in the section "[Data model](#)"

You should think about these kind of validations now!

## Data Quality

Then there are more complex validations that are affecting multiple fields at once, depend on a specific value or target market. Most likely they will be implemented using DQ rule configurations.

Examples:

- If promotionalTypeCode is populated, then isConsumerUnit must be true.
- For each occurrence of the Loopgroup "promotional", attributes freeQtyOfNextLowerLevel and freeQtyOfProduct cannot both be populated.
- If targetMarketCountryCode is equal to '752' then packagingMaterialTypeCode and packagingMaterialCompositionQuantity are used in pairs. I.e. if one is populated the other one must be populated, too.
- If grossWeight and netWeight are provided on the same record, grossWeight must be greater than or equal to netWeight
- There must be at most one iteration of minimumFishMeatPoultryContent per Unit Of Measure

For further information see chapter "[Data validations](#)"

## Export

When you have to output data into export files you should ensure to create well-formatted values, details can be found in the chapter "[Data validations](#)".

## 8.9.5 Summary



### Analyze Module Summary

1. Get your documentation documents
2. Collect the fields of your module
3. Get an idea of the structure intended by GDSN
4. Try to fit the structure in an existing entity type
5. Find your logical keys
6. Implement the entity with the information from the section "Data Model"
7. Think about validations
8. In the process note all assumptions, discrepancies and open questions for later testing.

## 8.10 Data model

### 8.10.1

#### Introduction

This chapter describes how to implement a module as an entity. However, references to the additional documentation about the repository are made and can be found in the chapter "Domain Model (Repository)" of the Product 360 Documentation.

After you analyzed the new module as described in the chapter "[Analyze requirements](#)" of this documentation you have an idea what the entity will look like. This site describes in more detail the technical implementation and configuration possibilities. There are the following sections

- Create entity (Types area, custom area and sub entities)
- Create logical keys
- Create fields
- Create enumerations (valid value lists)
- Test checklist

If you only need to add a specific field, you can skip the first two sections.

### 8.10.2 Resources

In the following chapters we use these files:

- Profile Overview: FMCG\_DIY\_ARGO\_ProfileOverview\_Codelists\_<Version>.xlsx
- Participant Dictionary: IM\_Participant\_Dictionary\_R<Version>.xlsx
- Product 360 Documentation: Informatica MDM - Product 360 - v <Version> - Knowledgebase, Installation and Customization.zip

### 8.10.3 Create a new entity

#### Create a new entity - Types area

In the types area, there are three GDSN related sub entity types of `ArticleType`

- `ArticleDomainType`
- `ArticleMarketExtensionType`
- `ArticleDomainExtensionType`



## ArticleDomainType

If you create a new module, this entity type should be your first choice when searching for an entity type to build your entity on.

It contains lots of field types of various data types. There are two main types:

- `ArticleDomainType<Subentity>.Std_<datatype>_<fieldNumber>`
- `ArticleDomainType<Subentity>.Res_<datatype>_<fieldNumber>`

The existing fields for GDSN modules in the standard are using the `ArticleDomainType<Subentity>.Std_<datatype>_<fieldNumber>` fields for GDSN attributes. Whereas the `ArticleDomainType<Subentity>.Res_<datatype>_<fieldNumber>` can be used for enriching those GDSN modules by customizings.

If you create an entirely new module, you are allowed to use `ArticleDomainType<Subentity>.Std_<datatype>_<fieldNumber>`. If you enhance an existing module, please only use the `ArticleDomainType<Subentity>.Res_<datatype>_<fieldNumber>` fields.

There is a sub entity called `ArticleIngredientLangType`. Don't use it. It is a special purpose sub entity only used by the standard.

If your running out of fields, you either create another entity or file a request via Product360 Support for the necessary changes.

## ArticleMarketExtensionType

In contrast to the `ArticleDomainType` the `ArticleMarketExtensionType` has a different set of logical keys. It has a `PartyProxy` logical key, but misses the two `<entity>.LK.Std_LK_<datatype>_<keyNumber>` logical keys. It depends on your module which entity type to choose.

## ArticleDomainExtensionType

Don't use this entity type. It is deprecated.



Use `ArticleDomainType` for new Modules.

Use `ArticleDomainType<Subentity>.Res_<datatype>_<fieldNumber>` to enhance existing modules.

Use `ArticleDomainType<Subentity>.Std_<datatype>_<fieldNumber>` fields in new modules, preferably.

## Available ArticleDomainType sub entity types

`ArticleDomainType` has several sub entity types commonly used in GDSN for different purposes

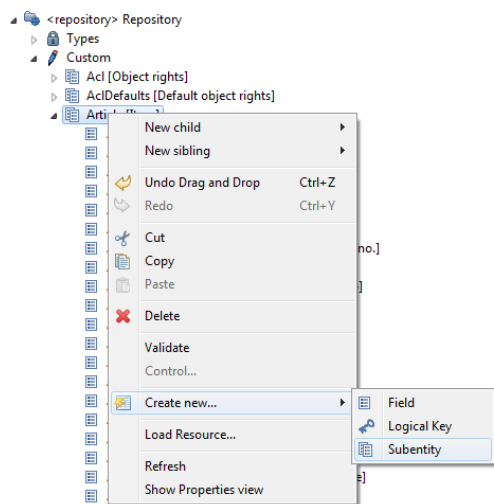
- **ArticleDomainLangType**  
Entities based on this entity type contain language specific data. It is similar to `ArticleLang` and has logical keys `EntityId` and `Language`.
- **ArticleDomainUOMType**  
Entities based on this entity type usually contain measurement values - a numeric value combined with a unit. The key `UOMType` can have the one of the values "metric" and "imperial". It is based on the assumption that different metric units like gram and kilogram can be converted in each other and therefore it would be an error source to store values for both units. But it may not be possible to automatically convert from metric units into imperial units.  
*Example:* `ArticlePackagingUOM.PackagingWeight` and `ArticlePackagingUOM.PackagingWeightUOM`
- **ArticleDomainPartyType**  
Entities based on this entity type usually contain data related to a party like customer specific data.
- **ArticleSubDomainType**  
Entities based on this entity type usually contains data that together forms a list.  
There are subentities supporting language specific data and measurement values for each list entry.

*Example: ArticlePackagingMaterial contains a list of different packaging materials. A bottle of wine may be packaged in a hardwood box, padded with hemp fibers and surrounded by a cardboard box.*

## **Create a new entity - Custom area**

### **Wizard**

Included in the Repository Manager are wizards helping you to create sub entities, fields, logical keys etc.



**Repository Wizard**

**Provide general information for the new entity**

All information has been provided, press 'Next' to go the next page

Identifier: NewModule

Entity Type: ArticleDomainType

Entity Id: 20002

Active: ☒

< Back Next > Finish Cancel

**Repository Wizard**

**Define the i18n features of the new entity**

Press 'Finish' to create the repository object

Name: %entity.NewModule.name

Description: %entity.NewModule.description

Name (English): New Module

Name (German): Neues Module

Description (English):

Description (German):

< Back Next > Finish Cancel

## Create the entity of your module

There is nothing special to a GDSN module entity. It should support standard functionality like:

- Import
- Export
- Merge
- Clone
- Search
- Data Quality
- Service API



Entity IDs must be 20002 or higher.

Name and Description have to be externalized and be available in your needed client languages. Please note that the default language is English.

#### 8.10.4 Create Logical keys

This is the wizard to create new logical keys:

**Repository Wizard**

**Logical Key Wizard**

All information has been provided, press 'Next' to go the next page

Identifier: ExampleEntity.LK.ExampleKey

Logical Key Type: ArticleDomainType.LK.Channel

Value:

Editable: ☒

< Back Next > Finish Cancel

---

**Repository Wizard**

**Logical Key Wizard**

All information has been provided, press 'Next' to go the next page

Supports import: ☒

Enumeration:

Proposal Enum:

< Back Next > Finish Cancel

---

**Repository Wizard**

**Logical Key Wizard**

✖ Name (English) is mandatory

Name: %logical-key.ExampleEntity.LK.ExampleKey.name

Description: %logical-key.ExampleEntity.LK.ExampleKey.description

Name (English):

Name (German):

Description (English):

Description (German):

< Back Next > Finish Cancel

In the new entity, there need to be a logical key for each logical key type of the underlying entity type. If you don't want to use all of them all you can deactivate these logical keys. Don't forget to add a default value in this case.

Each logical key needs a corresponding field and if you want to restrict the values for the logical key to a defined set using an enumeration, don't forget to add the enumeration to the logical key as well as to the field.



- Create a logical key for each logical key type in the underlying entity type.
- Each logical key needs a corresponding field.

If you want a logical key to be *active*, check this:

- Purpose is set to 1
- Editable is set to true
- It has an identifier
- Supports import is set to true

If you want a logical key to be *inactive*, check this:

- Purpose is set to 0
- Editable is set to false
- It has a value (default value)
- supports import is set to false

### Logical keys - Service API

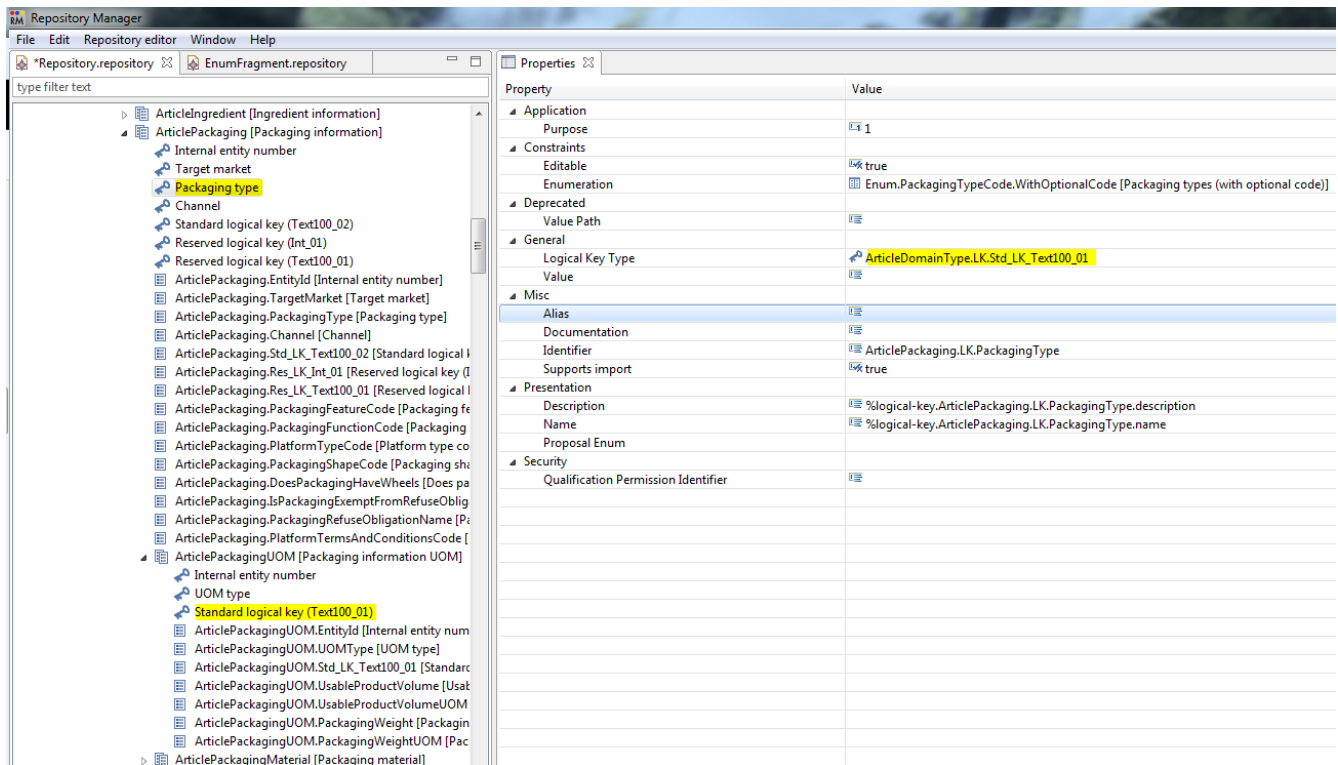
In the Service API, if you want to read or write a certain value, you need to specify the qualification. The qualification consists of values for all the logical keys on the path to the target field. To identify a logical key, the alias is used. You can define the alias in the selected line in the screenshot of the Repository Manager below. The alias gives you the opportunity to make the Service API requests more easily readable.

If there is no alias, the object name of the mapped field of the logical key is used. In the `ArticleDomainType`, the object names are generic because this entity type is the basis for a couple of different entities. Therefore it is recommended to use the alias.



The alias (or object name respectively) needs to be unique in the path to the target field.

*Example:* Let's have a look at the field `ArticlePackagingUOM.PackagingWeight`. Let's further assume a customer is using the Standard logical key (Text100\_01) ( set editable = true) in the entity `ArticlePackagingUOM`. Note that there is a logical key `Packaging` type that is based on the Standard logical key (Text100\_01) in the entity `ArticlePackaging`.



The corresponding fields of both logical keys have the object name "std\_LK\_Text100\_01".

You will notice that you get the values via Service API but not the complete qualification. In the code block below the packaging type is missing.

**GET <http://localhost:1512/rest/V1.0/list/Article/ArticlePackaging/byCatalog?fields=ArticlePackagingUOM.PackagingWeight&catalog=MASTER>**

```
{
  "cacheId": "20170329_111826_0",
  "entityIdentifier": "ArticlePackaging",
  "totalSize": 66,
  "startIndex": 0,
  "pageSize": 100,
  "rowCount": 2,
  "columnCount": 0,
  "columns": [],
  "rows": [
    {
      "object": {
        "id": "224435@1",
        "label": "Item1",
        "entityId": 1000
      },
      "qualification": {
        "targetMarket": "Barbados",
        "uomType": "metric",
        "std_LK_Text100_01": "DEFAULT"
      },
      "values": [
        "9.9"
      ]
    }
  ]
}
```

```

    ]
  },
  {
    "object": {
      "id": "224435@1",
      "label": "Item1",
      "entityId": 1000
    },
    "qualification": {
      "targetMarket": "Barbados",
      "uomType": "metric",
      "std_LK_Text100_01": "DEFAULT"
    },
    "values": [
      "11.11"
    ]
  }
]
}

```

If you try to write values and you specify values for all logical keys as in the example below ....

#### POST http://localhost:1512/rest/V1.0/list/Article/ArticlePackaging

```

{
  "columns": [
    {
      "identifier": "ArticlePackagingUOM.PackagingWeight"
    }
  ],
  "rows": [
    {
      "object": {
        {
          "id": "'Item1'@'MASTER'"
        },
        "qualification": {
          "targetMarket": "Barbados",
          "std_LK_Text100_01": "Ampoule",
          "uomType": "METRIC",
          "std_LK_Text100_01": "DEFAULT"
        },
        "values": [
          "8.8"
        ]
      }
    ]
  }
}

```

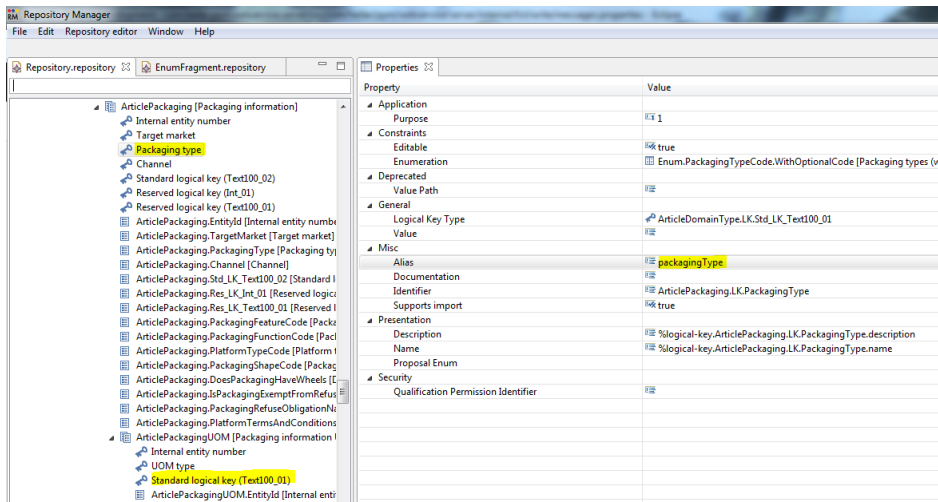
You will get this error message:

#### Result

Found two identical logical key types std\_LK\_Text100\_01 for the same entity hierarchy. Please use the property 'alias' on the logical key in the repository to specify which logical key you want to use.



To fix this issue use a unique alias for all logical keys as recommended.



Don't forget to use the alias in your requests.

#### POST http://localhost:1512/rest/V1.0/list/Article/ArticlePackaging (with alias)

```
{
  "columns": [
    {
      "identifier": "ArticlePackagingUOM.PackagingWeight"
    }
  ],
  "rows": [
    {
      "object": {
        "id": "'Item1'@'MASTER'"
      },
      "qualification": {
        "targetMarket": "Barbados",
        "packagingType": "Ampoule",
        "uomType": "METRIC",
        "std_LK_Text100_01": "DEFAULT"
      },
      "values": [
        "8.8"
      ]
    }
  ]
}
```

### 8.10.5 Create a new field

#### Wizard

The Repository Manager also contains a wizard to create fields. A field has a lot of properties to configure. We won't show you all seven pages of the wizard at this point. Most important properties will be described below. More details can be found in the repository documentation mentioned above.

The first screenshot shows the 'Field Wizard' dialog with the following fields:

- Identifier: ArticleMicrobiologics.ExampleField
- Field Type: ArticleDomainType.Std\_Bit\_01
- Value: (empty)
- Active: ☒
- Editable: ☒

The second screenshot shows the 'Field Wizard' dialog with the following fields:

- Name: %field.ArticleMicrobiologics.ExampleField.name
- Description: %field.ArticleMicrobiologics.ExampleField.description
- Name From Top: %field.ArticleMicrobiologics.ExampleField.nameFromTop
- Documentation: %field.ArticleMicrobiologics.ExampleField.documentation
- Name (English): (empty)
- Name (German): (empty)
- Name from top (English): (empty)
- Name from top (German): (empty)
- Description (English): (empty)
- Description (German): (empty)
- Documentation (English): (empty)
- Documentation (German): (empty)

In the second screenshot you see the language specific properties of a field. The first four fields contain the property identifier for the externalization of the text. From the fifth field on you input the real labels you want to see in the UI.

## Field Properties

### Mandatory properties

First of all you need an **identifier** for your field. If there is no reason not to comply to the rule, this will be the same name as in the GDSN documentation. A Product 360 convention is that all fields of type Boolean start with the prefix "Is", e. g. "IsBaseUnit", "IsService", "IsConsumerUnit". As you can see in the examples, another convention is to use camel case for field identifier consisting of multiple words.

Next you have to choose a **field type**. Make sure the field type is not in use already. If you're using ArticleDomainType, you have to be careful with text field types. ArticleDomainType.Std\_Text100\_01 to ArticleDomainType.Std\_Text100\_10 have upper bound -1 meaning these are list types. Please always try to use a type field which is already configured as list/single value according to your needs.

If you have a list of values, choose a string field type so that the whole list can be put in the single database field. To choose the correct length for a field, multiply the length of a single value including a separator between the values with the number of expected values.

*Example:* If you have a field with an enumeration with four entries and the key of each enum entry is a single character, then it is safe to use a Std\_Text10\_<number> field.

Make sure the chosen field type is activated in the types area (Inactive = false).

If this field does not correspond to a non editable logical key, you should check that `Editable = true` is set.

### Language specific properties

In order to see the field in the UI, it needs at least a **name**. You can define a **name from top** which is for example shown in the main table and normally includes the logical key values. For more information see section "Referencing on logical keys in field names" of the above mentioned documentation.

The **description** will be displayed as a tool tip in the field selection dialog and in the import. In general there is an English description in the GDSN documentation which should be used.

- Make sure the description is really a description of the data that should go in this field. Read the description before you add it to Product 360. Delete meaningless information like "0 to 80 character text field" or "Choose value from the drop down". This information is stored elsewhere in the repository.
- Use a meaningful description or leave it empty.
- If the description is a complete sentence, end it with a '.', if not don't use a '.'.

All labels have to be externalized in your client languages. For more information see section "Multi-language support of the repository" in the above mentioned documentation.

There is also a field **documentation** in the repository. The value of this field does not appear in the UI and does not need to be internationalized. It can be used for any documentation purpose and will be visible in the Repository Manager.

### Support different functionalities

There are some properties defining if a certain field supports a specific functionality which are self explaining like "Cloneable", "Mergeable", "Searchable" and "Supports Data Quality".

### Export

If the Export purpose is set to '0' the field cannot be exported. The export supports different purposes as described in the section "Export Purpose" of the above mentioned documentation. If you are not sure, start with "Export Purpose" = 1.

### Import

If the Import purpose is set to '0' the field cannot be imported. If the field should be importable, set the "Import Purpose" = 1. For historic reasons make sure that the deprecated property "Purpose" always has the same value as the Import Purpose and that supports import is set accordingly.

To determine where this field should be displayed in the "Repository" tree view of the import perspective use the property "Category". That's why it's recommended to keep all fields of one GDSN module in the same category. However, if you have reasons to do it differently, it is possible. The category itself also needs to be created in the repository.

### Service API

If the field should be available in the Service API, you need to set "Supports service API" = true. For technical reasons the field has to support the service API if you want to use Data Quality (Supports Data Quality = true).

### Constraints

**Occurrences:** The properties "Upper Bound" and "Lower Bound" define how many values can be stored here.

- For a mandatory value set both properties to 1.
- For a non-mandatory field with one value set lower bound = 0 and upper bound = 1.
- For a list of values set lower bound = 0 and upper bound = -1.

You can define if it should be an INFO, a WARNING or an ERROR in case the upper or lower bound is not met. Normally this should be set to ERROR, otherwise the system will store these values regardless of the field configuration.

**Valid value lists:** There are two places where you can add an enumeration to the field.

- Enumeration - The value of this field must be one of this enumeration. Otherwise the user will get an error and the value won't be stored. If the database already contains values not contained in the enumeration these will no longer be displayed in the UI.
- Proposal Enum - Use the proposal list if the user is allowed to store values which are not contained in the list.

Since the enumeration keys are stored as the values for this field, the chosen field type has to have a matching data type with the key class of the enumeration.

**Field length:** GDSN often defines the max. field length.

- For string values use the properties "Min Length" and "Max Length". Make sure the values you choose here are not lower resp. higher than the min. and max. length in the types area for the corresponding field type. If the field contains a list of values (upper bound = -1), the min. and max. length refer to a single entry, not the entire list.
- For numeric values the "Min Length" and "Max Length" are not used. If you want to restrict a numeric value you have to use "Range Min" and "Range Max". Make sure the values are not lower resp. higher than the min. and max. range defined for the corresponding field type. The decimal separator used here is '.'.  
You can define how many decimal places should be displayed in the UI by using the property "Scale". The displayed value will be rounded. Note that this is only a matter of presentation. In the database all decimal places given in the UI are stored.  
To ensure that only values in the defined range will be stored, set "Validation Severity Range" to ERROR. The default value is WARNING.
- For dates also use "Range Min" and "Range Max". This is an example of the pattern you have to use: "yyyy-MM-dd HH:mm:ss". For example: 9999-12-31 23:59:59

If you don't restrict the values in the custom area the default values from the corresponding field type will be used.

**Transitions:** If you store a proxy in the field and you want to make fields of the proxy available (for example in the field selection dialog) you can set the matching root entity to the property "Proxy Transition Entity". More information about transition fields can be found in the knowledge base article at chapter "Transition fields - Group name" of the Product 360 Documentation.

## Presentation

**"Visible" and "Visible From Top":**

- Your field belongs to a deactivated logical key: Set "Visible" and "Visible From Top" to false. The field should not appear in the UI.
- Your field belongs to an activated logical key: Set "Visible" to true, so it will be visible in the sub entity views. Set "Visible From Top" to false since we don't want fields which have to be qualified with the value they contain in the main table.
- Your field doesn't belong to a logical key: By default set "Visible" and "Visible From Top" to true. The field should be available in the main table as well as in the sub entity views.

In order to have a display name in the UI, don't forget to fill in the property "Name" if "Visible" is set to true and property "Name From Top" if "Visible From Top" is true.

**View configuration:**

You can configure that a field is present in the default configuration of the corresponding sub entity view. Set "Display By Default" = true. This configuration will be overwritten by the layout stored in the client's workspace. You can also configure in which order the fields should appear in the table using "Default Column Order". The index is 0 based.

You can do the same for the main table using "Display By Default From Top" and "Display Column Order From Top". However this is not recommended for GDSN modules.

## Miscellaneous

**Default value:** In case you create a field belonging to a logical key that is not editable, not only the logical key needs a default value but the field needs the same default value. The default value may also make sense for other fields, especially for mandatory fields.

## Limitations

- In some cases the Item Management data model allows values from 0 - 9,999,999,999 for attributes with datatype "Integer". Due to technical restrictions Product 360 allows only values from 0 to 2,147,483,647 for attributes with datatype "Integer". In real life this should not cause any issues because it's unlikely to have such a large value for any attribute.
- IM defines decimal values in a flexible way by defining the complete length and the max. number of decimal places.

Example: complete length 15 - max. decimal places 15

- 1234567890,12345 is valid
- 12345,1234567890 is valid
- 12345678,12345678 is not valid because the complete length is greater than 15

Product 360 does not support this flexible definition. There is a technical limitation to 10 places before the decimal separator and 6 decimal places. Higher numbers are not supported.

- There is no way to limit the decimal places that are stored in the database. The "Scale" value is only used to format a value in the UI.

### 8.10.6 Deactivate a GDSN entity

If you want to deactivate a GDSN entity read the chapter "Hide a GDSN module" in the "Repository configurations" section of the GDSN Accelerator documentation.

### 8.10.7 Create or adjust a valid value list

Many fields need a valid value list. In most cases this is a simple list of some kind of codes mapped to language-dependent labels. Sometimes you need a list of units of measure. First of all, you should check if the needed valid value list is already available.

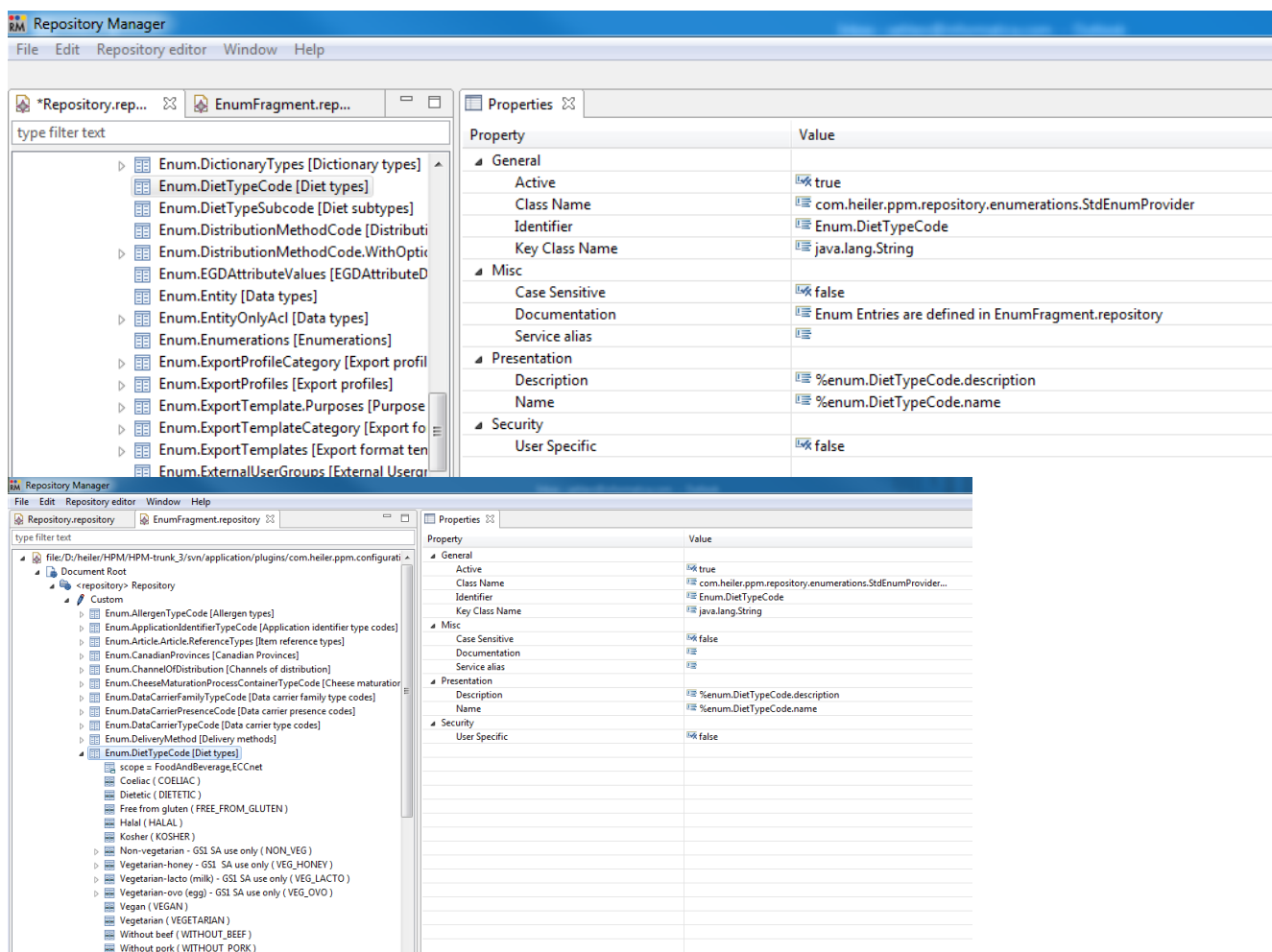


Synonyms for "valid value list" are "look up values", "preset values" and in technical terms "enumeration".

## Generate or adjust a repository enumeration

### Repository.repository vs. EnumFragment.repository

The "Repository.repository" file contains all enumerations used by repository fields. For GDSN or food and beverage enumerations the repository only contains the definition of the enumeration. The actual enumeration entries are contained in a second file called "EnumFragment.repository". This will keep the repository more organized because there are some GDSN valid value lists with high numbers of entries.



## Create enumeration

Use the Repository Wizard of the Repository Manager to create a new enumeration.

**Repository Wizard**

**Enumeration Wizard**

Configure the general options of an enumeration

Identifier: Enum.

Class Name: com.heiler.ppm.repository.enumerations.StdEnumProvider

Key Class Name: java.lang.String

Active: ☒

< Back Next > Finish Cancel

---

**Repository Wizard**

**Enumeration Wizard**

All information has been provided, press 'Next' to go the next page

Case Sensitive: ☐

User Specific: ☐

< Back Next > Finish Cancel

---

**Repository Wizard**

**Enumeration Wizard**

✖ Name (English) is mandatory

Name: %enum.ExampleEnum.name

Description: %enum.ExampleEnum.description

Name (English):

Name (German):

Description (English):

Description (German):

< Back Next > Finish Cancel

Use an identifier that makes it easy to find the corresponding field.

Usually you need to use the key class "string" when creating an enumeration for GDSN.

Enter the properties identifier in the fields "Name" and "Description", shown in the third screen. They should have the pattern %enum.<identifier without substring 'Enum.'>.<name|description> as can be seen in the screenshot above. There is no "Name from top", but name and description should be provided at least in English. In case you are using more client languages, please maintain those names in the according "repository.properties" file for your language.

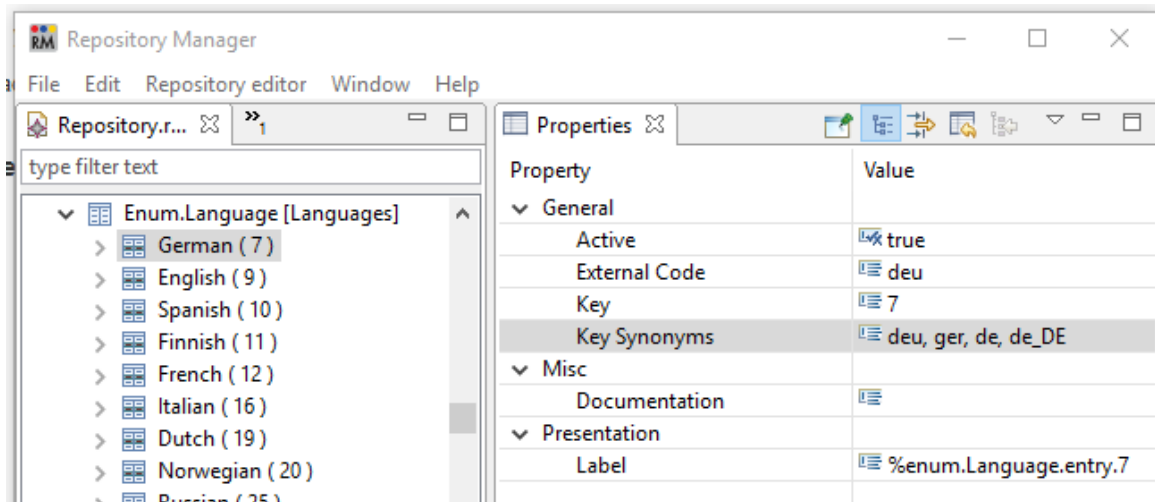
Copy the enumeration into "EnumFragment.repository" in order to add entries in the next step.

For a good trace-ability of your enumeration definition, it is recommended to add a documentation to your enumeration in the "Repository.repository" file: "Enumeration entries are defined in EnumFragment.repository".

### Add enumeration entries

Key synonyms come in handy if there are multiple different values in the data source which should result in the same value in Product 360.

*Example:* Enum.Language contains enum entries with synonyms. For example you can import "deu", "ger", "de" or "de\_DE" and either value will result in the language key 7 in the system.



Make sure the label is externalized and available in English and your required client languages.

### Delete enumeration entries

In a customizing, it is allowed to delete enumeration entries.

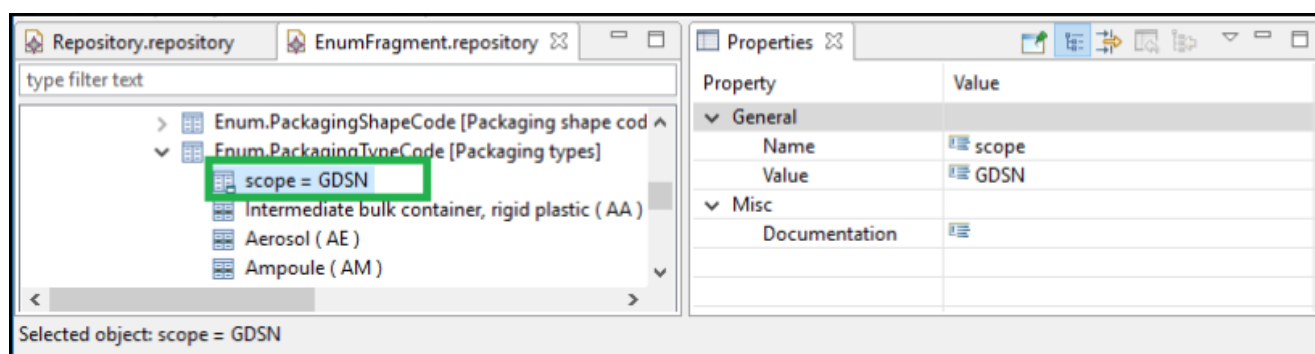
*Example:* If your customer is a manufacturer of vegan food, you may want to delete the enumeration entry "MEAT" in Enum.DietTypeSubcode in order to reduce false data entered by accident.

Be aware that if the keys of the entries you delete are already in the database or could be imported from another system, these values won't be displayed anymore.

### Scopes on enumerations and enumeration entries

You may have seen parameters at enumerations or enumeration entries named "scope".



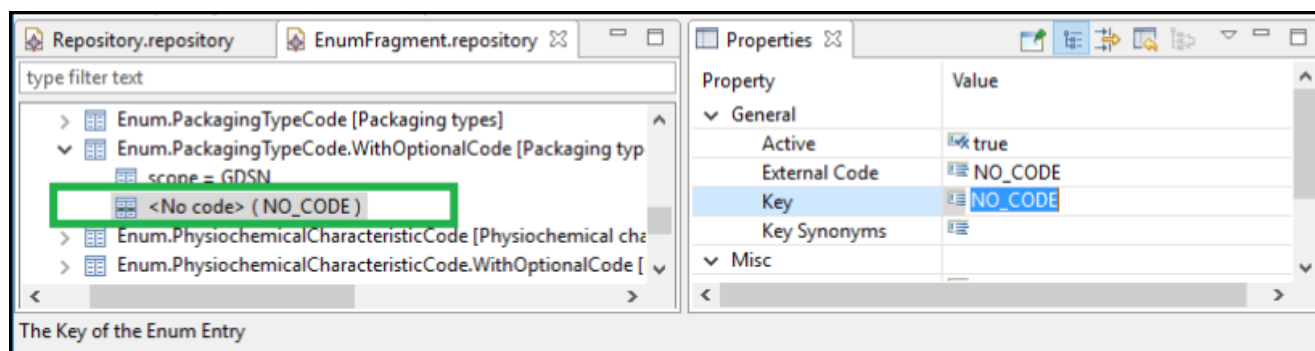
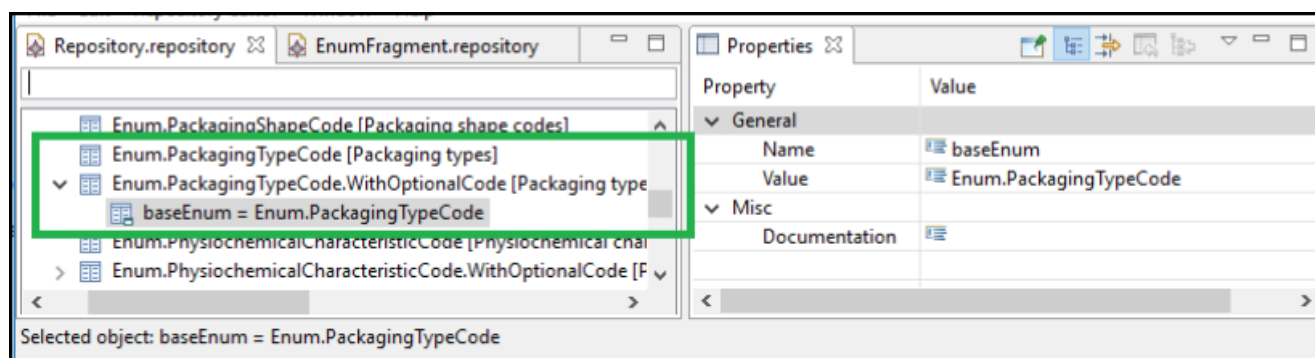


You should not change it or create such parameters at your enumerations or enumeration entries. Those parameters are needed for internal purposes only; they are used to make automatic repository adjustments during startup according to the configuration defined in "application\_modules.properties" file.

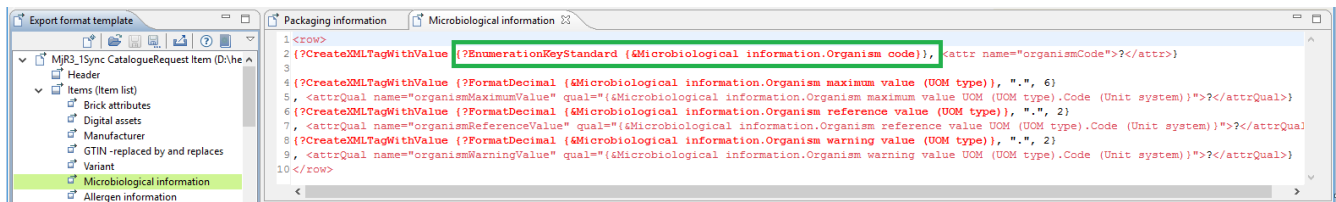
### Create enumerations with optional code

If you have to enable a mandatory field with a valid value list to get "no value" for an entry (such fields are usually logical key fields), you have to use an enumeration with optional code(s). Such enumerations provide all values of the corresponding valid value list and one or more values that will not be transferred to the GDSN pool.

First you create an enumeration as described above, the empty enumeration definition in "Repository.repository" and the entries in "EnumFragment.repository". Then you create a second enumeration with an identifier like "<Identifier of first enumeration>.WithOptionalCode". That second enumeration gets an entry standing for "no code". All other enumeration entries will be used from the "parent" enumeration.



If you have to adjust the corresponding export template to transfer item data to the GDSN pool you should use the EnumerationKeyStandard export function. Details on that function can be found in the "Technical details" chapter of this GDSN documentation.



## Create or adjust a unit of measure list

The GDSN unit system contains many units of measure. Usually, a valid value list for a field only uses some of those units.

Therefore units are separated into unit categories but unfortunately the categories are different depending on the GDSN pool which is used.

Product 360 contains predefined categories for the IM GDSN system units. For DSE the same categories can be used or new categories can be created as described in the chapters below.

To see a list of valid units for a field open the appropriate GDSN document. Use the Participant Dictionary when using the IM GDSN pool or the Profile Overview when using the DSE GDSN pool.

## GDSN unit categories

The GDSN units are separated into categories. One unit can be in different categories and one field can have valid values of multiple categories.

A list of units and their category can be seen in the *Units* perspective of Product 360. Select the GDSN unit system and add the field "Category" with the field selection dialog. Make sure to qualify the "Category" field with the GDSN parameter.

| All units in the unit system "Own GDSN" |                 |                                  |                     |
|-----------------------------------------|-----------------|----------------------------------|---------------------|
|                                         | Code (Own GDSN) | Name (Own GDSN, English)         | Category (Own GDSN) |
| 1                                       | BFT             | board foot                       | Volume units        |
| 2                                       | EA              | each                             | Count units         |
| 3                                       | BP              | hundred board feet               | Volume units        |
| 4                                       | HC              | hundred count                    | Count units         |
| 5                                       | CWA             | hundred pounds (cwt)/hun...      | Mass units          |
| 6                                       | MIU             | million international unit (...) | Count units         |
| 7                                       | LTN             | ton (UK) or long ton (US)        | Mass units          |
| 8                                       | STN             | ton (US) or short ton (UK/US)    | Mass units          |

## Use an existing unit enumeration

In order to use a category at a specific field it is necessary to use an unit enumeration. Product 360 has predefined enumerations named after the categories for the IM data pool. In order to map a unit enumeration to a specific field it is best practice to use the Repository Manager.

| Property                        | Value                                                                            |
|---------------------------------|----------------------------------------------------------------------------------|
| Application                     |                                                                                  |
| Cloneable                       | true                                                                             |
| Export Purpose                  | 1                                                                                |
| Import Purpose                  | 1                                                                                |
| Mergeable                       | true                                                                             |
| Purpose                         | 1                                                                                |
| Searchable                      | true                                                                             |
| Constraints                     |                                                                                  |
| Editable                        | true                                                                             |
| Enumeration                     | Enum.GDSNAreaUnits [GDSN Area units]                                             |
| Lower Bound                     | Enum.GDSNAreaUnits [GDSN Area units]                                             |
| Max Length                      | Enum.GDSNConfirmationMessageCode [GDSN confirmation message code]                |
| Min Length                      | Enum.GDSNCountUnits [GDSN Count units]                                           |
| Picture Clause                  | Enum.GDSNDataRecipientMessageType [GDSN Data Recipient message type]             |
| Proxy Transition Entity         | Enum.GDSNDataSourceMessageType [GDSN Data Source message type]                   |
| Range Max                       | Enum.GDSNDataSourcePublicationMode [GDSN Publication mode]                       |
| Range Min                       | Enum.GDSNDataSourcePublicationRecipient [GDSN Publicate to]                      |
| Upper Bound                     | Enum.GDSNDataSourcePublishMessageType [GDSN Data Source publishing message type] |
| Validation Severity Enum        | Enum.GDSNDensityUnits [GDSN Density units]                                       |
| Validation Severity Lower Bound | Enum.GDSNDimensionUnits [GDSN Dimensions]                                        |
| Validation Severity Range       | Enum.GDSNEnergyUnits [GDSN Energy units]                                         |
| Validation Severity Upper Bound | Enum.GDSNExecutedOperation [GDSN executed operation]                             |
| General                         |                                                                                  |
| Active                          | true                                                                             |
| Field Type                      | Enum.GDSNFrequencyUnits [GDSN Frequency units]                                   |
| Identifier                      | Enum.GDSNInfoStorageUnits [GDSN Info units]                                      |
| Value                           | Enum.GDSNMassUnits [GDSN Mass units]                                             |
| Misc                            |                                                                                  |
| Documentation                   | Enum.GDSNMeasuringUnits [GDSN Measuring units]                                   |
| Supports Data Quality           | Enum.GDSNMessageInProgress [GDSN Message In Progress]                            |
|                                 | Enum.GDSNMiscUnits [GDSN Miscellaneous units]                                    |
|                                 | Enum.GDSNNutritionQuantityUnits [GDSN Nutrition Quantity units]                  |
|                                 | Enum.GDSNOrderUnits [GDSN Order units]                                           |
|                                 | Enum.GDSNPackagingUnits [GDSN Packaging units]                                   |
|                                 | Enum.GDSNPowerUnits [GDSN Power units]                                           |
|                                 | Enum.GDSNPressureUnits [GDSN Pressure units]                                     |
|                                 | Enum.GDSNProductYieldUnits [GDSN Product yield units]                            |

## Creating new unit enumerations

When the predefined unit enumerations do not meet the requirements of the field you want to add, it is possible to create a new enumeration in the repository by using the Repository Manager and include all categories which are needed separated by a ",".

It is important that the `unitSystem` property matches the unit system which should be used for the enumeration. The standard GDSN unit system is **70**.

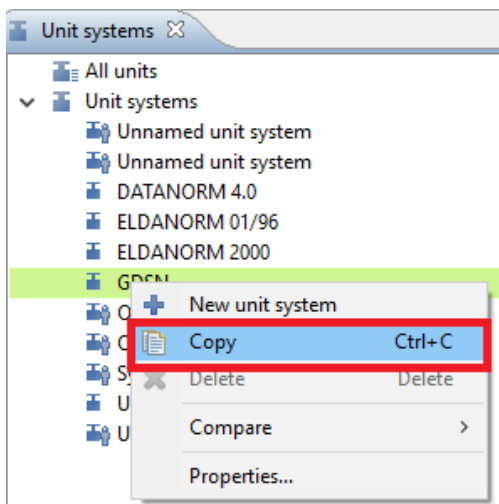
- > Enum.GDSNProductYieldUnits [GDSN Product yield units]
- > Enum.GDSNProportionUnits [GDSN Proportion units]
- > Enum.GDSNPublicationMessageCode [GDSN publication message code]
- > Enum.GDSNQuantityUnits [GDSN Quantity units]
  - UnitSystem = 70
  - UnitCategory = Area,Count,Dimensions,InfoStorage,Mass,Volume
  - Enum.GDSNResponseType [GDSN response type]

After creating the unit enumeration it can be referenced as enumeration at a field as shown above.

## Creating a custom unit system

- Beware when using a custom unit system. All changes made in the standard GDSN unit system are not automatically added to any custom unit system and have to be maintained manually!

When the predefined unit categories are insufficient or not usable for your project, it is possible to create a custom unit system based on the GDSN unit system. To do this simply copy the GDSN unit system in the *Units* perspective.



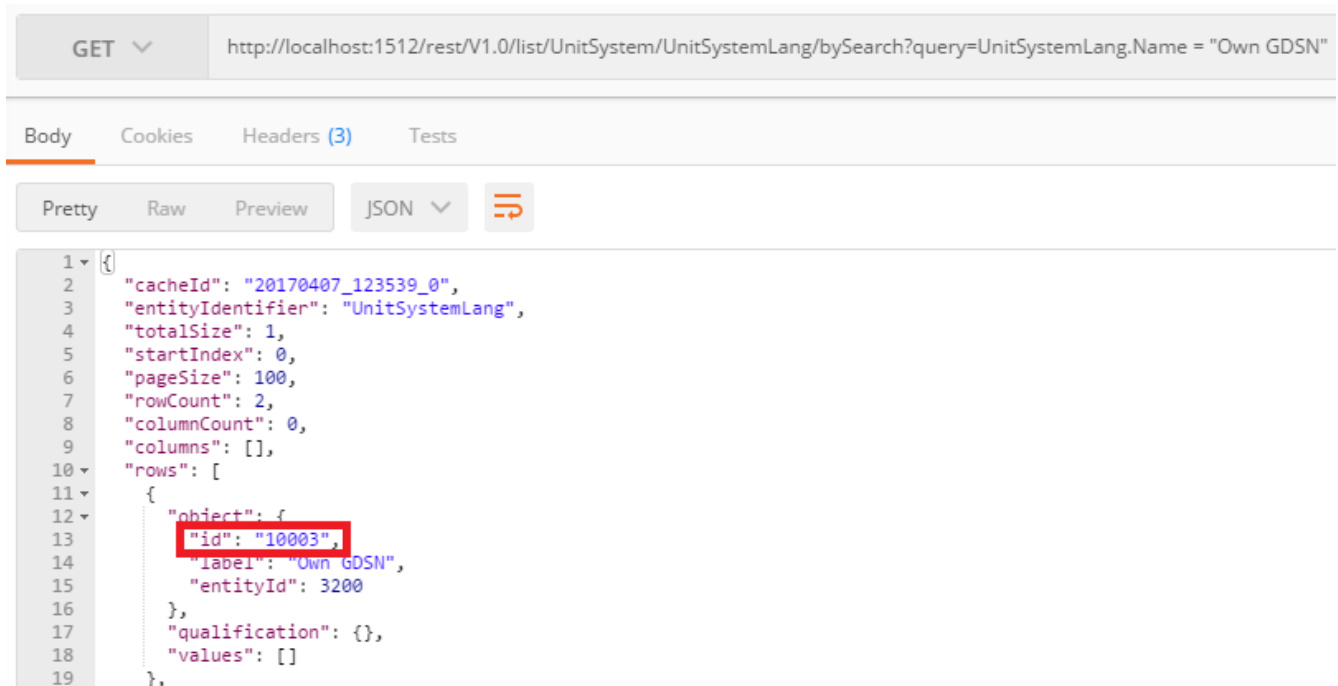
After that it is possible to add or modify units and their categories for your needs in the *Unit maintenance* view.

To use the unit system created this way some additional steps have to be done in order to use it in the whole application:

### Get the custom unit system ID

As stated above GDSN has a default unit system and in order to change that the ID of the new unit system is needed.

To get the unit system ID the Service API can be used as shown in the picture below.

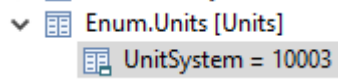


**i** It is important to add a blank space before and after the "=" sign when qualifying UnitSystemLang.Name with a value.

The ID marked in red is the unit system ID of the custom unit system. To have Product 360 use the custom unit system instead of the GDSN unit system open the Repository Manager.

### (Optional) Use the new unit system in all unit fields

To use the new unit system in all UOM fields, including the fields which are not GDSN related, navigate to the enumeration Enum.Units and change the parameter UnitSystem to the ID retrieved from the Service API.



When restarting Product 360 the custom unit system will be used instead of the standard unit system.

### Create category enumerations

As described in the section "Creating new unit enumerations", it is needed to add unit enumerations that use the custom unit system as enumeration parameter.

### Change export UOM fields to use custom unit system

Make sure to use the new unit system in the export for all UOM fields.

### Create a new unit

If a unit is missing in the GDSN unit system and is available in the official GDSN documents please contact the support as they will provide a database script to add the unit.

## 8.10.8 Checklist: Test the module

### Check now

- ☐ Start validation in repository editor (right-click on a node you want to be validated, choose "Validate")
  - ☐ Validate the new (sub) entity
  - ☐ Validate whole custom node
- ☐ Check data type, field length and valid values
 

This can be checked at different places. Try to write values of the correct and incorrect data type and field length or write correct and incorrect valid values using the import, the Service API or the UI. The positive check is not enough. If the import does not report an error when writing a valid value, it can either mean you added the valid value list correctly or it can mean you forgot to attach the enumeration to your field. Always try to get the errors you expect.
- ☐ Check import
  - ☐ Check category
  - ☐ Check name (It's the name of the logical key, not the corresponding field, displayed in the import UI)

- ☐ Check in the view "Field details" if the properties are as expected
- ☐ Check export
  - ☐ Only needed fields can be exported
  - ☐ No deactivated logical keys appear in the list of fields
  - ☐ Only needed entities are available as export sub-data types
  - ☐ The field names should contain all visible qualifications (logical keys)
- ☐ Check Service API
  - ☐ Look at the meta API
    - ☐ Invisible fields are not available
    - ☐ Names and descriptions are available
    - ☐ The valid value lists are correct
  - ☐ Read fields
  - ☐ Write fields
  - ☐ Check that each visible logical key has a unique alias within its path to the root entity

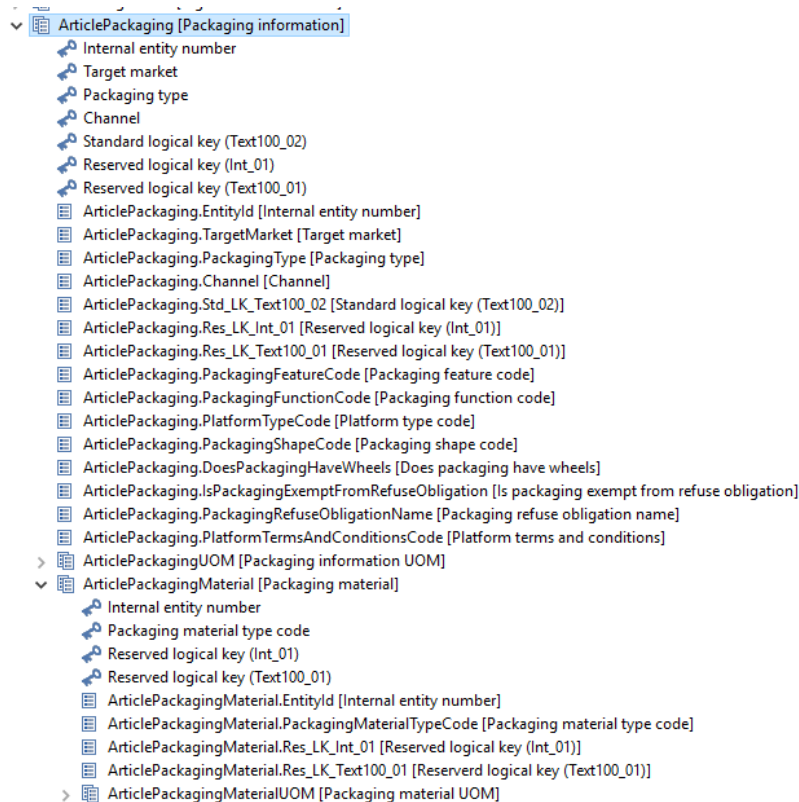
#### Check after you built the UI

- ☐ Are table or detail views available in the desktop client? Is detail tab in web client available?
- ☐ Check that all fields are visible
  - ☐ Check in main table (qualified access)
  - ☐ Check in detail table and detail tab (unqualified access)
- ☐ Check if data can be created, edited and be deleted in desktop client and web client
- ☐ Check datatype, field length and valid values (if not already done outside the UI)
- ☐ Check correct display names and descriptions
  - ☐ Are labels available in English and needed client languages?
  - ☐ Do names from top contain all necessary logical keys? Are the logical keys in the expected order?  
You can check this either in the column headers or in the field selection dialog of the main table. It is recommended that the order of the logical keys is determined by the containing entity. Go from the root entity to the display fields and collect the visible logical keys on this path.
- ☐ Check if the item is still clone-able and merge-able after you maintained data
- ☐ Check if the item search works correctly
- ☐ Make sure the desktop view(s) contain(s) a suitable set of default columns and the layout of the web detail tab is suitable

## 8.11 UI adjustments

### 8.11.1 Creating additional elements in Desktop UI

After we created our new entity `ArticlePackaging` we want to edit data using the UI of Product 360.



We will need a view for the sub entity `ArticlePackaging` and one for the sub entity `ArticlePackagingMaterial`. The customer decided that no additional views for the UOM or the Lang sub entities are needed as they can be seen in their appropriate higher level sub entity.

## General information

To have all UI elements concentrated in a specific place it is best practice to create a separate plugin for the UI elements ending with `.ui`, for example `com.informatica.customizing.additionalviews.ui`. When creating the plugin please make sure that the checkbox "This pug-in will make contributions to the UI" is checked.

**New Plug-in Project**

**Content**  
Enter the data required to generate the plug-in.

**Properties**

ID:   
 Version:   
 Name:   
 Vendor:   
 Execution Environment:

**Options**

☐ Generate an activator, a Java class that controls the plug-in's life cycle  
 Activator:   
☒ **This plug-in will make contributions to the UI**  
☐ Enable API analysis

**Rich Client Application**  
 Would you like to create a rich client application? ☐ Yes ☒ No

When the box is checked a `plugin.xml` file will be created where we can add contributions to specific extension points. After each headline the result can be seen by adding the new UI plugin to the plugin directory of Product 360 client.

## Adding views

A view is used to show every field from the given entity. Every sub entity, besides UOM and Lang entities, needs a separate view.

**Extensions**

**All Extensions**  
 Define extensions for this plug-in in the following section:  
  
☒ org.eclipse.ui.views  
☒ Packaging-specific GDSN data (view)  
☒ Packaging material (view)

**Extension Element Details**  
 Set the properties of 'view' Required fields are denoted by '\*'.  
 id\*:   
 name\*:   
 class\*:   
 category:   
 icon:   
 fastViewWidthRatio:   
 allowMultiple:   
 restorable:

1. Contribute the views to the extension point `org.eclipse.ui.views`
2. Complete the mandatory properties marked with a \*. Details about the properties can be found in the "Creating custom perspectives" section (chapter "Customizing") in the document "Informatica MDM - Product 360 - <VERSION>- Knowledgebase, Installation and Customization".

Because the `ArticlePackaging` entity is a direct sub entity of the root entity `Article` we can use the `com.std.ui.table.EntityDetailView` which is used by direct sub entities.



Sub entities which are not direct sub entities from a root entity are called third level hierarchy entities. They must use a different TableView.

### Third level hierarchy

In our example ArticlePackagingMaterial is a third level hierarchy entity (Article → ArticlePackaging → ArticlePackagingMaterial). When having a third level hierarchy in the repository it is necessary to use another value at the class text field because the content which is shown in the ArticlePackagingMaterial view should depend on the selection made in the ArticlePackaging view.

The TableView which we have to use is: **com.heiler.ppm.article.ui.view.ArticleDomainBasedThirdLevelTableView**

So the configuration for the third level hierarchy view looks like this:

**All Extensions**  
Define extensions for this plug-in in the following section.

type filter text

- org.eclipse.ui.views
  - Packaging-specific GDSN data (view)
  - Packaging material (view)
- org.eclipse.ui.perspectives

**Extension Element Details**  
Set the properties of 'view'. Required fields are denoted by "\*".

id\*: com.custom.ArticlePackaging.PackagingMaterial

name\*: %view.ArticlePackagingMaterial.name

class\*: com.heiler.ppm.std.core.contribution.ContributionClassFactory:com.heiler.ppm.article.ui.view.ArticleDomainBasedThirdLevelTableView:ArticlePackagingMaterial [Browse...](#)

category: com.heiler.ppm.gdsn.ui.category [Browse...](#)

#### Take care when placing the ArticlePackagingMaterial view

It is necessary that both views can be visible at the same time and therefore we recommend to place the ArticlePackaging view on the opposite side. Otherwise the selection paradigm cannot work. This has to be done for every third level hierarchy view and their counterparts.

| Target market | Packaging type | Packaging feature code | Packaging function code | Platform type code | Packaging shape code | Does packaging have wheels | Is pac |
|---------------|----------------|------------------------|-------------------------|--------------------|----------------------|----------------------------|--------|
| Germany       | Bag            |                        |                         |                    |                      |                            |        |
| USA           | Bag            |                        |                         |                    |                      |                            |        |

| Packaging material type code | Packaging material composition quantity (metric) | Packaging material composition quantity UOM (metric) |
|------------------------------|--------------------------------------------------|------------------------------------------------------|
| Ceramic                      | 123.000000                                       | centigram                                            |

### Adding perspectives

To add a perspective we first need to add a new java class to the UI plugin containing the new perspective with a perspective identifier.

#### GDSNCorePerspective

```
public class PackagingPerspective implements IPerspectiveFactory
{
    public static String PERSPECTIVE_ID = "com.custom.perspectiveandview.ArticlePackagingPerspective"; //$NON-NLS-1$

    @Override
    public void createInitialLayout( IPageLayout layout )
    {
        layout.setEditorAreaVisible( false );
    }
}
```

Now we have to add a contribution to the org.eclipse.ui.perspectives extension point.

**All Extensions**

Define extensions for this plug-in in the following section.

type filter text

- org.eclipse.ui.views
  - Packaging-specific GDSN data (view)
  - Packaging material (view)
- org.eclipse.ui.perspectives
  - Article packaging (perspective)

**Extension Element Details**

Set the properties of 'perspective' Required fields are denoted by '\*'.  
 id\*: com.custom.perspectiveandview.ArticlePackagingPerspective  
 name\*: %perspective.name  
 class\*: com.custom.perspectiveandview.PackagingPerspective

1. Add perspective to the extension point.
2. Fill the mandatory properties marked with a \*. More information about perspective properties can be found in the "Creating custom perspectives" section (chapter "Customizing") in the document "Informatica MDM - Product 360 - <VERSION>- Knowledgebase, Installation and Customization".

In our case the value for the `class` attribute is the class we just created. The name has to be fully qualified with the package where the class is located. Here: `com.custom.perspectiveandview.PackagingPerspective`.

The perspective can now be seen in the client but the perspective is empty. In the next chapter we will add views to the perspective.

### Adding views to a perspective

**All Extensions**

Define extensions for this plug-in in the following section.

type filter text

- org.eclipse.ui.views
- org.eclipse.ui.perspectives
- org.eclipse.ui.perspectiveExtensions
  - com.custom.perspectiveandview.ArticlePackagingPerspective (perspectiveExtension)
  - com.custom.ArticlePackaging.ArticlePackagingView (view)
- hlr.gdsn.ui.perspective.GDSNCore (perspectiveExtension)

**Extension Element Details**

Set the properties of 'view' Required fields are denoted by '\*'.  
 id\*: com.custom.ArticlePackaging.ArticlePackagingView  
 relationship\*: bottom  
 relative: org.eclipse.ui.editorss  
 ratio: 0.4

To add a view to an existing perspective you have to add a contribution to the `perspectiveExtensions` extension point.

1. The target `id` of the contribution `perspectiveExtension` has to be the `id` of the perspective where you want to make the modifications. In our example we want to add a view to our "ArticlePackagingPerspective" we created in the section above. So we use the `id` `com.custom.perspectiveandview.ArticlePackagingPerspective`. We can then right click the perspective extension contribution and add a view.
2. In the "Extension Element Details" (2) we can then fill the values for the view. More information about the creation of perspective extensions can be found in the "Creating custom perspectives" section (chapter "Customizing") in the document "Informatica MDM - Product 360 - <VERSION>- Knowledgebase, Installation and Customization".

### Adding standard views to a custom perspective

When creating a new perspective most of the time it is necessary to add standard views like the *Article table (Items #1)* or the *Context selection* view to it. To do this, the same procedure for adding views in the `perspectiveExtension` has to be done.

The view `ids` can be found in the **plugin.xml** of standard `com.heiler.*.ui` plugins.

### All Extensions

Define extensions for this plug-in in the following section.

type filter text

- org.eclipse.ui.views
  - Packaging-specific GDSN data (view)
  - Packaging material (view)
- org.eclipse.ui.perspectives
  - Article packaging (perspective)
- org.eclipse.ui.perspectiveExtensions
  - hlr.gdsn.ui.perspective.GDSNCore (perspectiveExtension)
  - com.custom.perspectiveandview.ArticlePackagingPerspective (perspectiveExtension)
  - com.heiler.ppm.contextselection.ui.views.ContextSelectionTreeView (view)
  - com.heiler.ppm.article.ui.views.ArticleTableView (view)
  - com.custom.ArticlePackaging.ArticlePackagingView (view)

Add...

Remove

Up

Down

### Extension Element Details

Set the properties of 'view' Required fields are denoted by '\*'.

id\*: com.heiler.ppm.article.ui.views.ArticleTableView

relationship\*: right

relative: com.heiler.ppm.contextselection.ui.views.ContextSelectionTreeView

ratio: 0.2

visible:

closeable:

moveable:

standalone:

showTitle:

minimized: false

## Extend a standard GDSN perspective with custom views

It is possible to add a view to a standard GDSN perspective. To do this the same procedure like adding views to perspectives is used. That means only a contribution to the perspectiveExtensions extension point is needed. To add for example a view to the GDSN core perspective, the id "hlr.gdsn.ui.perspective.GDSNCore" has to be declared in the relative value in the "Extension Element Details".

All perspective and view ids from GDSN can be found in **plugin.xml** of the `com.heiler.ppm.gdsn.ui` plugin.

### All Extensions

Define extensions for this plug-in in the following section.

type filter text

- org.eclipse.ui.views
  - Packaging-specific GDSN data (view)
  - Packaging material (view)
- org.eclipse.ui.perspectives
  - Article packaging (perspective)
- org.eclipse.ui.perspectiveExtensions
  - hlr.gdsn.ui.perspective.GDSNCore (perspectiveExtension)
  - com.custom.ArticlePackaging.ArticlePackagingView (view)
  - com.custom.perspectiveandview.ArticlePackagingPerspective (p

Add...

Remove

Up

Down

### Extension Element Details

Set the properties of 'view' Required fields are denoted by '\*'.

id\*: com.custom.ArticlePackaging.ArticlePackagingView

relationship\*: stack

relative: hlr.gdsn.ui.GdsnTargetMarketExtensionTableView

ratio:

visible:

closeable:

moveable:

standalone:

showTitle:

minimized: false

## 8.11.2 Creating additional elements in Web UI

### General information

For editing detail tabs in the web, a detailed documentation can be found in the chapter "Detail Tab Definition Examples" in the document "Informatica MDM - Product 360 - <VERSION>- Knowledgebase, Installation and Customization".

To add new tabs when working with items in the web UI we have to copy the generated `article.detailtab.xml` from the `server/configuration/HPM/webdefinitions/default` directory to the `server/configuration/HPM/webdefinitions` directory. That way it will not get overwritten when restarting the Product 360 Server.

We can now edit the detail tab for our needs.

**i** When referencing Product 360 repository fields, make sure to specify the field identifier from the **custom area** but not the field type identifier from the types area.

## Adding a new field

When only adding a new field to an existing module just add the tag `field` with the identifier of the new field to the already existing field group or table group.

```
[...]
<fieldGroup displaySectionWidget="true" subEntityId="ArticlePackaging">
[...]
  <field identifier="ArticlePackaging.NewFieldCreatedInTheRepository"/>
[...]
```

## Adding a new module

Depending on the module, you can choose between a field group and a table group.

A field form group can be seen as a single field list. We will use the `fieldGroup` for the `ArticlePackaging` and `ArticlePackagingUOM` entity.

Make sure to use the field identifier from the custom area of the repository.

### Article packaging definition

```
<definition debugId="article_packaging_tab" i18NKey="%web.article.detail.tab.packaging"
permissionId="web.article.detail.tab.packaging" position="509" rootEntity="Article">
  <column/>
  <column>
    <enumGrouping caption="%field.targetMarket.name" enumIdentifier="Enum.Territory" selectable="true" value="US"/>
    <enumGrouping caption="%field.packagingType.name" enumIdentifier="Enum.PackagingTypeCode.WithOptionalCode"
selectable="true" value="NO_CODE"/>
    <fieldGroup displaySectionWidget="true" subEntityId="ArticlePackaging">
      <field identifier="ArticlePackaging.PackagingFeatureCode"/>
      <field identifier="ArticlePackaging.PackagingFunctionCode"/>
      <field identifier="ArticlePackaging.PlatformTypeCode"/>
      <field identifier="ArticlePackaging.PackagingShapeCode"/>
      <field identifier="ArticlePackaging.DoesPackagingHaveWheels"/>
      <field identifier="ArticlePackaging.IsPackagingExemptFromRefuseObligation"/>
      <field identifier="ArticlePackaging.PackagingRefuseObligationName"/>
      <field identifier="ArticlePackaging.PlatformTermsAndConditionsCode"/>
      <logicalKey identifier="ArticleDomainType.LK.Std_LK_Text100_01" selectable="true" value="<No code>"/>
      <logicalKey identifier="ArticleDomainType.LK.TargetMarket" selectable="true" value="USA"/>
    </fieldGroup>
    <fieldGroup displaySectionWidget="true" subEntityId="ArticlePackagingUOM">
      <field identifier="ArticlePackagingUOM.UsableProductVolume"/>
      <field identifier="ArticlePackagingUOM.UsableProductVolumeUOM"/>
      <field identifier="ArticlePackagingUOM.PackagingWeight"/>
      <field identifier="ArticlePackagingUOM.PackagingWeightUOM"/>
      <logicalKey identifier="ArticleDomainType.LK.Std_LK_Text100_01" selectable="true" value="<No code>"/>
      <logicalKey identifier="ArticleDomainType.LK.TargetMarket" selectable="true" value="USA"/>
      <logicalKey identifier="ArticleDomainUOMType.LK.UOMType" selectable="true" value="metric"/>
    </fieldGroup>
  </column>
</definition>
```

The result will look like this:

| Trade item lifespan                         | Data carrier information | Item certifications | Sustainability information | Delivery purchasing information | Packaging-specific GDSN data |
|---------------------------------------------|--------------------------|---------------------|----------------------------|---------------------------------|------------------------------|
| Target market                               | USA                      |                     |                            |                                 |                              |
| Packaging type                              | <No code>                |                     |                            |                                 |                              |
| Packaging feature code:                     | No content               |                     |                            |                                 |                              |
| Packaging function code:                    | No content               |                     |                            |                                 |                              |
| Platform type code:                         | No content               |                     |                            |                                 |                              |
| Packaging shape code:                       | No content               |                     |                            |                                 |                              |
| Does packaging have wheels:                 | No content               |                     |                            |                                 |                              |
| Is packaging exempt from refuse obligation: | No content               |                     |                            |                                 |                              |
| Packaging refuse obligation name:           | No content               |                     |                            |                                 |                              |
| Platform terms and conditions:              | No content               |                     |                            |                                 |                              |
| UOM types                                   | metric                   |                     |                            |                                 |                              |
| Usable product volume (metric):             | No content               |                     |                            |                                 |                              |
| Usable product volume UOM (metric):         | No content               |                     |                            |                                 |                              |
| Packaging weight (metric):                  | No content               |                     |                            |                                 |                              |
| Packaging weight UOM (metric):              | No content               |                     |                            |                                 |                              |

For the sub entity ArticlePackagingMaterial we will use the tableGroup to show the fields in a table.

#### Article packaging material definition

```

<definition debugId="article_packagingMaterial_tab" i18NKey="%web.article.detail.tab.packagingMaterial"
permissionId="web.article.detail.tab.packagingMaterial" position="510" rootEntity="Article">
  <column/>
  <column>
    <tableGroup>
      <actionPanel>
        <actionButton action="create" i18NKey="%web.article.detail.tab.create.packagingMaterial"/>
        <actionButton action="edit" i18NKey="%web.article.detail.tab.edit.packagingMaterial"/>
        <actionButton action="delete" i18NKey="%web.article.detail.tab.delete.packagingMaterial"/>
        <fieldFormGroup displaySectionWidget="true" subEntityId="ArticlePackagingMaterialUOM">
          <field identifier="ArticlePackaging.TargetMarket"/>
          <field identifier="ArticlePackaging.PackagingType"/>
          <field identifier="ArticlePackagingMaterial.PackagingMaterialTypeCode"/>
          <field identifier="ArticlePackagingMaterialUOM.UOMType"/>
          <field caption="%field.packagingMaterialCompositionQuantity.name"
identifier="ArticlePackagingMaterialUOM.PackagingMaterialCompositionQuantity"/>
          <field caption="%field.packagingMaterialCompositionQuantityUOM.name"
identifier="ArticlePackagingMaterialUOM.PackagingMaterialCompositionQuantityUOM"/>
        </fieldFormGroup>
      </actionPanel>
      <tableDefinition i18NKey="" identifier="detail_packagingMaterial" rootEntity="ArticlePackagingMaterialUOM">
        <field identifier="ArticlePackaging.TargetMarket" sortable="true"/>
        <field identifier="ArticlePackaging.PackagingType" sortable="true"/>
      </tableDefinition>
    </column>
  </tableGroup>
</column>
</definition>

```

```

        <field identifier="ArticlePackagingMaterial.PackagingMaterialTypeCode" sortable="true"/>
        <field caption="%field.packagingMaterialCompositionQuantity.name"
identifier="ArticlePackagingMaterialUOM.PackagingMaterialCompositionQuantity" sortable="true"/>
        <field caption="%field.packagingMaterialCompositionQuantityUOM.name"
identifier="ArticlePackagingMaterialUOM.PackagingMaterialCompositionQuantityUOM" sortable="true"/>
    </tableDefinition>
</tableGroup>
</column>
</definition>

```

The result will look like this:

| Trade item lifespan                                                 | Data carrier information | Item certifications          | Sustainability information                       | Delivery purchasing information                      | Packaging-specific GDSN data | Packaging material | Trade item history |
|---------------------------------------------------------------------|--------------------------|------------------------------|--------------------------------------------------|------------------------------------------------------|------------------------------|--------------------|--------------------|
| <div><div><div><div>+</div><div></div><div></div></div></div></div> |                          |                              |                                                  |                                                      |                              |                    |                    |
| Target market ▲                                                     | Packaging type           | Packaging material type code | Packaging material composition quantity (metric) | Packaging material composition quantity UOM (metric) |                              |                    |                    |
| Germany                                                             | Bag                      | Ceramic                      | 123.000000                                       | centigram                                            |                              |                    |                    |
| USA                                                                 | Bag                      | Ceramic                      | 125.000000                                       | centigram                                            |                              |                    |                    |

Note that the action panel, marked in red, has to be explicitly declared in the XML as `actionButton` to be shown.

### 8.11.3 Interface visibility and display rights

When creating a new view and contributing it to the extension point the display right is automatically generated and can be seen in the "Interface visibility" view in the desktop client.

For more information about the visibility of the new views and perspectives please read the "Frontend visibility" chapter in the "Informatica MDM - Product 360 - <VERSION> Knowledgebase, Installation and Customization" document. There is a description how to manage your views and perspectives with action and visibility rights.

### 8.11.4 Limitation

It is not possible to display sub entities which exceed the 4th level repository hierarchy. When having such a case have a look at the "Deep structures" chapter in the GDSN Implementation Guidelines.

## 8.12 Data validations

Product 360 provides several ways to validate and format your product information.

For GDSN those are needed to get the data correctly into the data model of Product 360, maintain the data correctly in Product 360 and export the data in the expected format of 1WS.

This chapter is referring to the "Informatica MDM - Product 360 - Desktop\_<Version>\_UserManual\_en.pdf" which will be called "Product 360 User Manual" in the following sections.

### 8.12.1 Data model validation

The data model validation is based on the repository data model. During importing and maintaining the data, Product 360 validates the length of character strings, the ranges of numeric values and whether the entered value is compatible to the defined enumeration if existent. In addition it checks in most cases whether it is a mandatory value or not.

See chapter "Data model" for more information.

### 8.12.2 Data quality checks by IDQ (Informatica Data Quality)

It is possible to check your product information automatically and manual by using IDQ. Product 360 is delivered with a set of standard rules which can be adapted to your requirements by configuration. It can be that you cannot find a standard quality rule which fulfills your needs. In this case you need to create your own rule. Based on rules you can create your specific data

quality configuration which is described in the "Product 360 User Manual" in chapter "Data quality checks". For GDSN the data quality checks are mainly used for data source scenario because in data recipient scenario you get only valid data from 1WS.

### Creating a data quality rule

In the case you cannot define your required check by using a standard data quality rule you need to write a custom data quality rule. Please take a look at the documentation for "Data Quality" to be able to do so.

### Creating a data quality configuration

You can define a specific data quality check by using a data quality configuration which is based on a data quality rule. The necessary steps to define such data quality configuration are described in the "Product 360 User Manual" in chapter "Creating quality rules".

In GDSN you often need a rule which is checking if field A is not empty, and if so field B must not be empty as well. A typical example for this is a UOM (unit of measure) value and the according UOM field like "Usable product volume" and "Usable product volume UOM". The following picture shows how the configuration is looking for this:

The screenshot shows the 'Data quality configuration' window. The left pane shows a tree view with the following structure:

- GDSN3
  - GDSN\_Customizing
    - MyGroup (Item)
      - Check items with 'Usable product volume UOM' populated (selected)
  - LMIV

The main configuration area contains the following fields:

- Name:** Check items with 'Usable product volume UOM' populated
- Description:** Check items with 'Usable product volume UOM' populated
- Rule name:** Check\_IfNotEmptyConditionNotEmpty
- Data type:** Packaging information
- Input port table:**

| Input port       | Data type   | Field                     |
|------------------|-------------|---------------------------|
| inObjectID       | string(512) | Object code number        |
| inConditionField | string(512) | Usable product volume     |
| inCheckField     | string(512) | Usable product volume UOM |
| inStatusMessage  | string(50)  |                           |

- Data type:** Item
- Output port table:**

| Output port      | Data type    | Field              |
|------------------|--------------|--------------------|
| outObjectID      | string(512)  | Object code number |
| outStatusMessage | string(4096) | Message            |
| outStatusCode    | string(10)   | Status             |

**Data preprocessor:**

### Automatic data quality check execution configuration

Product 360 provides some triggers like "Export started", on which a data quality check will be automatically executed. The "Product 360 User Manual" describes in chapter "Planning quality checks" how to use the triggers.

### 8.12.3 Validation and formatting during import

In the import you can specify functions for the information to be imported. The "Product 360 User Manual" contains the list of many available import functions (import function reference) and also all functionality in the import. Furthermore you can create your own customized import function or validate your file on your own via your customized pre-import step (see documentation for "Customizing Import" and "Hot folder").

## Some examples

- The value "1001.101" contained in the import file will be formatted with 2 decimal places and will show the thousand separator. The imported value would be "1,001.1".

The screenshot displays the Informatica MDM interface with two main panes: 'Data source' and 'Repository'.

**Data source pane:** Shows a tree structure for 'PackagingInformationTestData\_10\_Items.xlsx (Sheet1)'. The 'Structure' column lists various fields with checkboxes. The 'Selection' column shows which fields are selected. The 'Content' column shows the raw data values.

**Repository pane:** Shows a table of data from the repository. The columns are 'Structure', 'Assignment', and 'Content'. The data is organized into a hierarchy under 'Packaging information'.

**Field details pane:** At the bottom, it shows the mapping for 'Usable product volume' with the function: `format([Usable product volume],2,true)`.

| Structure                          | Selection | Content |
|------------------------------------|-----------|---------|
| ✓ PackagingInformationTestData_1   |           |         |
| ✓ Item no.                         |           |         |
| ✓ Target market                    |           |         |
| ✓ Packaging type                   |           |         |
| ✓ Packaging feature code           |           |         |
| ✓ Packaging function code          |           |         |
| ✓ Platform type code               |           |         |
| ✓ Packaging shape code             |           |         |
| ✓ Packaging refuse obligation name |           |         |
| ✓ Platform terms and conditions    |           |         |
| ✓ is packaging exempt from refuse  |           |         |
| ✓ Does packaging have wheels       |           |         |
| ✓ UOM type (usable product volume) |           |         |
| ✓ Usable product volume            |           |         |

| Structure                                  | Assignment                           | Content                                |
|--------------------------------------------|--------------------------------------|----------------------------------------|
| ✓ Packaging information                    |                                      |                                        |
| ✓ Packaging information                    |                                      |                                        |
| Target market                              | Target market                        | USA                                    |
| Packaging type                             | Packaging type                       | Intermediate bulk container, rigid ... |
| Packaging feature code                     | Packaging feature code               | Lid                                    |
| Packaging function code                    | Packaging function code              | Dispenser                              |
| Platform type code                         | Platform type code                   | ISO 0 pallet                           |
| Packaging shape code                       | Packaging shape code                 | Bar                                    |
| Does packaging have wheels                 | Does packaging have wheels           | Not applicable                         |
| is packaging exempt from refuse obligation | is packaging exempt from refuse o... | Unspecified                            |
| Packaging refuse obligation name           | Packaging refuse obligation name     | obligation name 1                      |
| Platform terms and conditions              | Platform terms and conditions        | No exchange / no return                |
| Packaging information UOM                  |                                      |                                        |
| UOM type                                   | UOM type (usable product volume)     | imperial                               |
| Usable product volume                      | Usable product volume                | 1,001.100000                           |

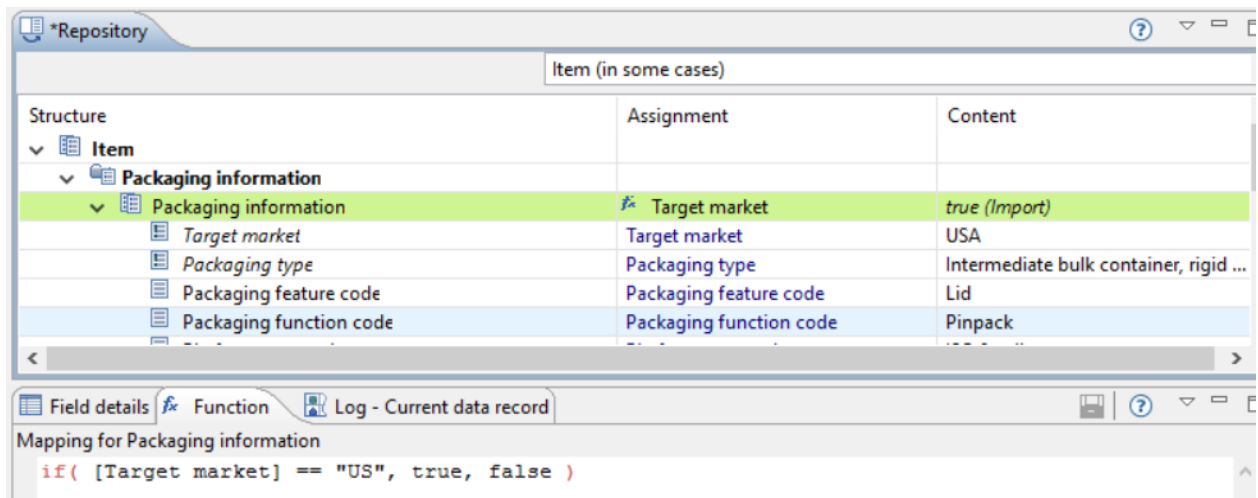
- Define the used pattern for decimal values and date format pattern for the whole import file or for each field of your data source via context menu.

The screenshot shows the 'Data source' pane with a context menu open over the 'Usable product volume' field. The menu options are: 'Rename data source', 'Collapse from here', 'Collapse all nodes', 'Expand from here', 'Expand all nodes', and 'Format settings' (which is highlighted).

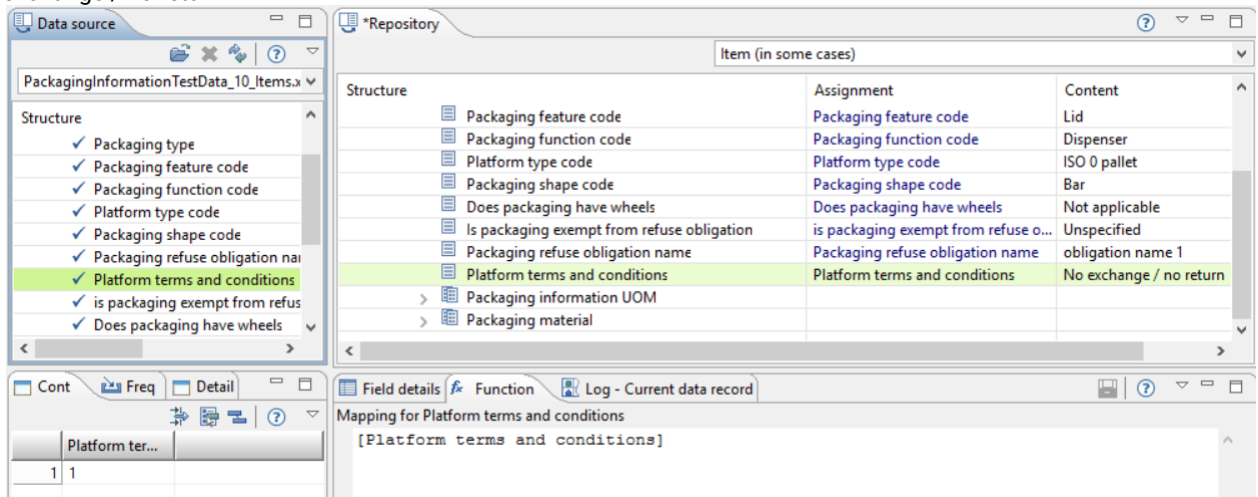
| Structure                          | Selection | Content  |
|------------------------------------|-----------|----------|
| ✓ UOM type (usable product volume) |           | IMPERIAL |
| ✓ Usable product volume            |           | 1122.313 |
| ✓ Usable product volume            |           | 4G       |
| ✓ Usable product volume            |           | FOAM     |
| ✓ Usable product volume            |           | METRIC   |
| ✓ Usable product volume            |           | 10.0001  |

- Define if an entity should be imported by using functions. Here the packaging information will be only imported if the "Target market" is "US".





- It is recommended for fields with enumeration to import their values by using the defined key in the repository. In the example the "Platform terms and conditions" value in the Data Source is "1" but the shown value in Product 360 is "No exchange / no return".



#### 8.12.4 Validation and formatting during export

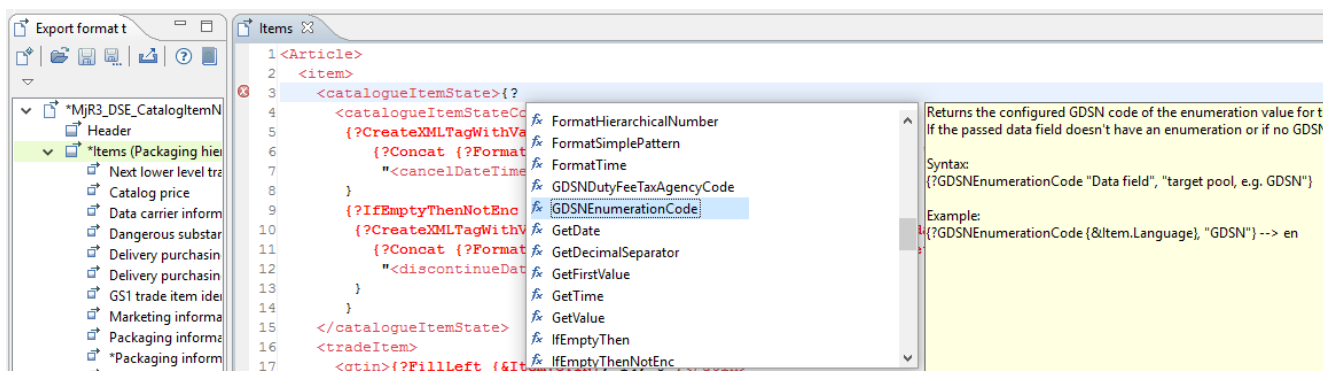
The export can check the data for specific criteria and also format the data in the expected format. Those configurations have to be done within the export format template.

##### Validation rules for data fields

You can define validation rules for each data field. Those have the focus on the according field value and cannot take references to other field values. In the chapter "Validation rules for data fields" of "Product 360 User Manual" it is described how to use this kind of validation.

##### Validate and format by export functions

The export comes with many functions where the Product 360 User Manual describes many of them in chapter "Export function reference". The "Product 360 User Manual" describes many of them in chapter "Export function reference". The currently available list of functions, including the GDSN specific functions, can be displayed in Export template perspective of Product 360 directly. You can access those via typing "{" and pressing "Ctrl+Space".



By using the correct function you can ensure that the information is exported in the expected format. Please format all your numbers and enumeration values as shown below. In addition always format your date and boolean values as well. You can use the delivered export templates as a reference in case you are unsure how to export it correctly.

```
<packagingMaterial>
  (?CreateXMLTagWithValue (?EnumerationKey {&Packaging material.Packaging material type code}))
  , "packagingMaterialTypeCode"></packagingMaterialTypeCode>"
  (?CreateXMLTagWithValue (?FormatDecimal {&Packaging material.Packaging material composition quantity (UOM type)}), "-", 6),
  "packagingMaterialCompositionQuantity measurementUnitCode="{&Packaging material.Packaging material composition quantity UOM (UOM type).Code (Unit system)}\"
  ?
</packagingMaterialCompositionQuantity>"
</packagingMaterial>
```

You can find more details in chapter ["Technical details"](#) of GDSN Accelerator documentation.

## Validate the exported file

The GDSN communication is based on XML files. Therefore each message has defined XSD schemata which the export can use to validate the exported file. This validation will fail in case of exporting data in a not expected way. If an XSD validation error occurs, the export will be canceled and you can check if you might missed to format one of your values. Please ensure that you are not exporting an XML tag without value because this is leading to an XSD failure as well.

### Limitations:

- If the export fails due to an XSD validation error, the file will not be saved. This could be a problem when the XSD validation error message is not clear. This is especially the case for flex attributes which have generic XML tags and so the error messages are not unambiguous. A possible workaround is to setup a post export step (at the very beginning) which copies the file to a local directory. Then you can check the line number from the error message and see what's really wrong.
- If no items are exported because the assortment is empty or all of the items are "sorted out" due to a failing DQ rule per item, the XML file will not contain any item. This leads to an XSD validation error and the file will not be sent to the GDSN pool. Although the behavior is correct but it is not obvious to the user what happened.
- If the export fails due to an XSD validation error the process overview shows "Cancelled by user". This is currently a technical restriction which has no bad influence on any data but can be confusing.

You can find more details in chapter ["Technical details"](#) of GDSN Accelerator documentation.

## 8.13 Communication

The provided approach for the communication choreography to the according 1WS data pool of the GDSN Accelerator is file based. Although in case of using another certified data pool for GDSN this could be differently. That's why the following chapters are covering adjustments concerning the choreography supported by the GDSN Accelerator as well as hints in case of using a different certified data pool. Furthermore we assume that you already have a GLN (Global Location Number) as well as all needed connection data to the data pool.

### 8.13.1 Communication to the 1WS data pools

In case you want to send more or less GDSN related information to the data pool in the data source scenario or if you want to receive more or less GDSN related information from the data pool in the data recipient scenario you need to adjust the used mechanism for the communication accordingly.

In this chapter it will be explained, how those adjustments should be done and what needs to be considered.

## Resources

There are several documents on which these sections are referring to. Please make sure that you are familiar with those documentations.

- "Informatica MDM - Product 360 - Desktop\_ <Version>\_UserManual\_en.pdf" which will be called "Product 360 User Manual" in the following sections.

## Adjust or generate an import mapping (Data Recipient)

In data recipient scenario product information will be sent by using a CIN file from the data pool to Product 360 via different components of the GDSN Accelerator. If using the IM connection, the received CIN file will be forwarded to the hotfolder of Product 360. But if you use the DSE connection, hierarchical product information will be flattened before the file is transferred to the hotfolder of Product 360. Because of this you need to take the accordingly adjusted XML to create an import mapping.

For being able to import the CIN file correctly, you should have a working 1WS pool connection where you can receive an example CIN file. In case of not having a working connection you can simulate the process through B2B by using your own generated XML file. The "Product 360 User Manual" describes in chapter "Data import" the needed *Import* perspective of Product 360 and the available functionalities to define the import mapping. With this knowledge you will be able to define the needed import mapping.

Please consider the according chapters "[Data validation](#)" and "[Testing](#)" of this documentation.

## Example

For a better understanding we will assume that we will have to add the mapping of a new GDSN Module. For this example we will take the "MicrobiologicInformationModule" of the IM data pool.

1. Pick up a CIN file in the hotfolder of Product 360 which contains product information for the "MicrobiologicInformationModule".

The product information could look like this:

```
<attrGroupMany name="psychotropicSubstance">
<attrGroupMany name="foodAndBevMicrobiological">
  <row>
    <attr name="organismCode">BACILLUS_CEREUS</attr>
    <attrQual name="organismMaximumValue" qual="80">973235.8</attrQual>
    <attrQual name="organismReferenceValue" qual="80">939344.1</attrQual>
    <attrQual name="organismWarningValue" qual="80">585250.1</attrQual>
  </row>
  <row>
    <attr name="organismCode">CAMPYLOBACTOR</attr>
    <attrQual name="organismMaximumValue" qual="2Q">80498.8456</attrQual>
    <attrQual name="organismReferenceValue" qual="2Q">68340.1982</attrQual>
    <attrQual name="organismWarningValue" qual="2Q">66703.1465</attrQual>
  </row>
</attrGroupMany>
<attrGroupMany name="physioChemicalProperties">
```

2. Create a new import project with the XML file of step 1 in the *Import* perspective of Product 360.

3. Navigate in the *Data Source* view to the "foodAndBevMicrobiological" flex attributes. The XML path has been looked up in the chapter "[Analyse requirements](#)".

| Structure           | Selection | Content                   |
|---------------------|-----------|---------------------------|
| flex                |           |                           |
| > attr (1)          | 1/193     | true                      |
| > attrGroup (1)     | 1/2       |                           |
| > attrGroupMany (2) | 33/85     |                           |
| ✓ name (9)          |           | foodAndBevMicrobiological |
| > row (2)           | 2/2       |                           |
| > attr (4)          |           | CAMPYLOBACTER             |
| > name (10)         |           | organismCode              |
| > attrGroupMany (3) |           |                           |
| > attrMany (6)      |           |                           |
| > attrQual (6)      | 1/3       | 80498.8456                |
| > name (42)         |           | organismMaximumValue      |
| > qual (12)         |           | 2Q                        |
| > attrQualMany (7)  |           |                           |
| > attrGroup (5)     |           |                           |
| > attrQual (10)     | 1/24      | 7189795167338534963346.1  |
| > attrQualMany (13) | 1/45      |                           |
| > attrMany (13)     | 1/47      |                           |
| cancelDate          |           |                           |

4. Map the fields accordingly to the Product 360 data model.

| Structure           | Selection | Content                   |
|---------------------|-----------|---------------------------|
| flex                |           |                           |
| > attr (1)          | 1/193     | true                      |
| > name (2)          |           | isTradItemNonPhysical     |
| > attrGroup (1)     | 1/2       |                           |
| > attrGroupMany (2) | 33/85     | foodAndBevMicrobiological |
| > name (9)          |           |                           |
| > row (2)           | 1/2       |                           |
| > attr (4)          |           | BACILLUS_CEREUS           |
| > name (10)         |           | organismCode              |
| > attrGroupMany (3) |           |                           |
| > attrMany (6)      |           |                           |
| > attrQual (6)      | 3/3       | 585250.1                  |
| > name (42)         |           | organismWarningValue      |
| > qual (12)         |           | 80                        |
| > attrQualMany (7)  |           |                           |
| > attrGroup (5)     |           |                           |
| > attrQual (10)     | 1/24      | 7189795167338534963346.1  |
| > attrQualMany (13) | 1/45      |                           |
| > attrMany (13)     | 1/47      |                           |

| Structure                      | Assignment              | Content                         |
|--------------------------------|-------------------------|---------------------------------|
| Microbiological information    |                         |                                 |
| > Target market                | name (9)                | true (Import)                   |
| > Organism code                | targetMarket (2)        | USA                             |
| > UOM                          | attr (4)                | Bacillus cereus                 |
| > UOM type                     | "imperial"              | imperial                        |
| > Organism maximum value       | name (42), attrQual (6) | 973,235.800000                  |
| > Organism maximum value UOM   | name (42), qual (12)    | pounds per square inch absolute |
| > Organism reference value     | name (42), attrQual (6) | 939,344.10                      |
| > Organism reference value UOM | name (42), qual (12)    | pounds per square inch absolute |
| > Organism warning value       | name (42), attrQual (6) | 585,250.10                      |
| > Organism warning value UOM   | name (42), qual (12)    | pounds per square inch absolute |

5. Execute the import and check if the product information is available in Product 360 as expected.
6. Execute the complete workflow for receiving a CIN of the GDSN Accelerator.

### Adjust the export template (Data Source)

In this chapter we will explain, how to adjust the export format template to send product information to the 1WS pool with the GDSN Accelerator. Therefore we need a XML example to be able to see in which XML structure that product information has to be sent. Therefore you can use the XSD files or download an example file from 1WS. Please note that the XML path for the DSE connection will have an additional "Article" tag, because we are exporting a flattened hierarchy, which will be hierarchically transformed before sending to the data pool.

**i** You can generate a XML file by using the provided (or downloaded) XSD files to be able to create an import mapping by various third party tools. But usually you can only take the generated structure and need to modify the attributes regarding valid values of GDSN.

You can find general information about how to work with the Product 360 Export in the "Product 360 User Manual" chapter "Export". Furthermore also consider the according chapters regarding export in "[Data validation](#)" and "[Testing](#)" of this documentation.

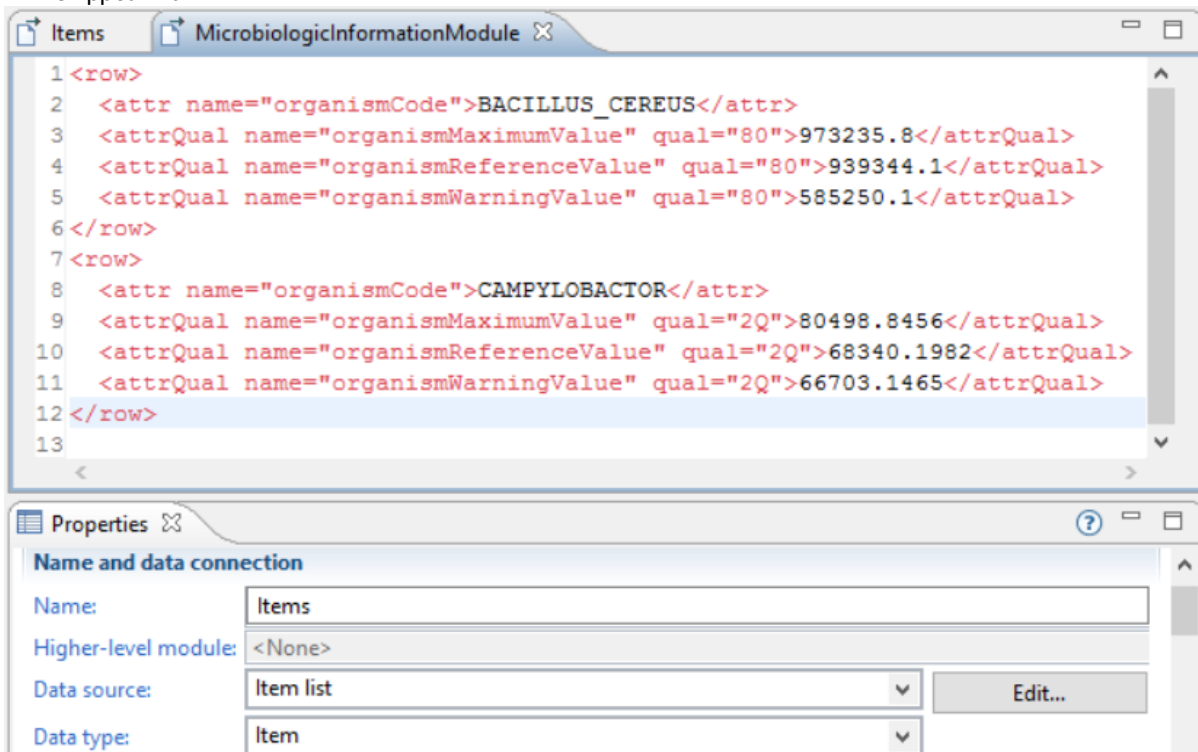
## Example

As example we assume that we've added the GDSN module "MicrobiologicInformationModule" to the Product 360 data model and want to send those product information to the 1WS pool by using the IM connection.

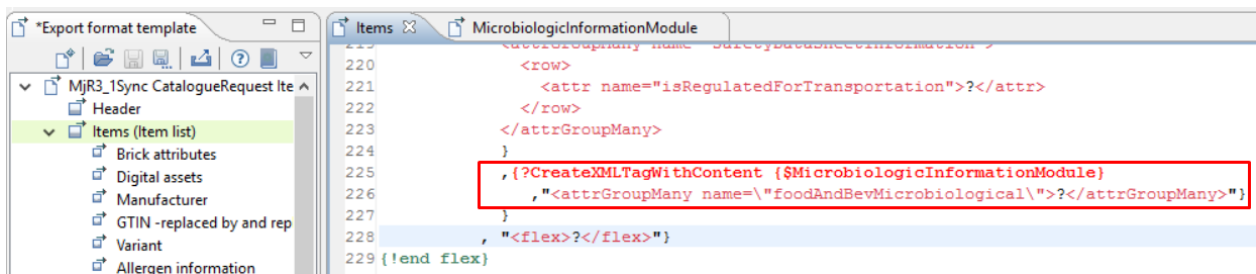
1. Get a XML snippet of the "MicrobiologicInformationModule" in the "CatalogueRequest" message and ensure that it contains valid data. Usually you find GDSN modules mapped to "flex" attributes when using IM.

```
<attrGroupMany name="psychotropicSubstance">
<attrGroupMany name="foodAndBevMicrobiological">
  <row>
    <attr name="organismCode">BACILLUS_CEREUS</attr>
    <attrQual name="organismMaximumValue" qual="80">973235.8</attrQual>
    <attrQual name="organismReferenceValue" qual="80">939344.1</attrQual>
    <attrQual name="organismWarningValue" qual="80">585250.1</attrQual>
  </row>
  <row>
    <attr name="organismCode">CAMPYLOBACTOR</attr>
    <attrQual name="organismMaximumValue" qual="2Q">80498.8456</attrQual>
    <attrQual name="organismReferenceValue" qual="2Q">68340.1982</attrQual>
    <attrQual name="organismWarningValue" qual="2Q">66703.1465</attrQual>
  </row>
</attrGroupMany>
<attrGroupMany name="physioChemicalProperties">
```

2. Create a sub-module for the GDSN "MicrobiologicInformationModule" in the export format template and copy the XML snippet in it.



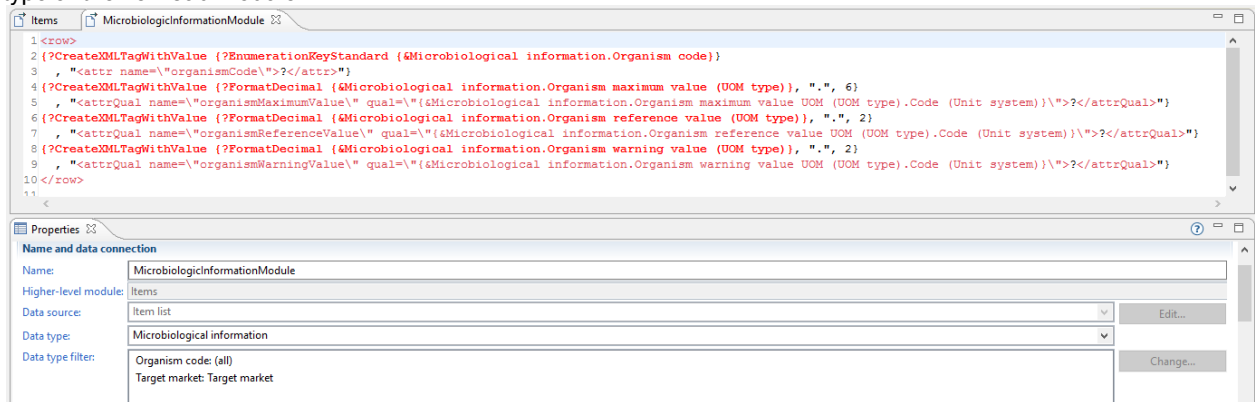
3. Call the sub-module in the "Items" module of the export format template. Please note that there is no ordering of "flex"-Attributes, so we can add it in the end.



- Execute an export against the data pool with a single item and check if the product information for the GDSN module really was in the generated file and if the response from the data pool was without errors.

| Publication status (3) Packaging-specific GDSN data Handling instructions |            |               |           |                        |              |                 |                    |
|---------------------------------------------------------------------------|------------|---------------|-----------|------------------------|--------------|-----------------|--------------------|
| DS_666540418579335                                                        |            |               |           |                        |              |                 |                    |
|                                                                           | Informa... | Trade partner | Target... | Message type           | Context      | Response type   | Executed operation |
| 1                                                                         | Inform...  | MjR3 Pool     | USA       | Item response          | <no context> | Acknowledgement | Modify             |
| 2                                                                         | Inform...  | MjR3 Pool     | USA       | Item transferred       | <no context> |                 | Modify             |
| 3                                                                         | Inform...  | MjR3 Pool     | USA       | Item registry response | <no context> | Acknowledgement | Add                |

- Exchange the static values with the field values and test with a single item against the data pool. Now adjust the data type of the new sub-module.



- Test the template against the data pool with several items as explained in chapter "Testing".

**i** Please keep in mind that the maximum depth of the hierarchy taken by the hierarchy data sources in the export is limited by 10 levels. In case of using more levels, the standard assumes that you have an endless loop.

## Adjustments to B2B Data Exchange GDSN Accelerator

GDSN integration requirements can vary from customer to customer. These requirements should be considered carefully in order to understand if and to what extent B2B Data Exchange GDSN Accelerator can support.

On the one hand, a new requirement or a change to the GDSN data model might require a simple adjustment to one or more of the B2B Data Exchange GDSN Accelerator components. Moreover, sometimes no adjustments will be needed at all. On the other hand, there are cases in which a significant effort is required in order to adjust the B2B Data Exchange GDSN Accelerator to meet the new requirement or change.

This section describes some of the common use case and their implication on the B2B Data Exchange GDSN Accelerator:

### Q: How do XSD changes in modules or fields affect B2B Data Exchange GDSN Accelerator?

A: Let's divide the question into different use cases:

- If a new module is added to the GDSN data model → an updated XSD with the new module should be deployed to the appropriate B2B DT Services.
- If a field in the XSD got changed → an updated XSD with the new module should be deployed to the appropriate B2B DT Services.
- If a new field of an existing module is added in Product 360 without XSD change → no change required in B2B.
- If an existing field is removed in Product 360 without XSD change → no change required in B2B.

**i** In general, in case of a requirement leading to a change in any of the XSDs that are used in B2B Data Exchange GDSN Accelerator the updated XSDs should be deployed to the appropriate B2B DT services.

### Q: In case there is a requirement to specify or parameterize the file name of incoming files from the data pool, how can it be achieved?

A: It depends what kind of change or parameterization is required. In general, the file name can be specified as part of the DX endpoint properties. In case the change is to add a fixed value or a parameter that is already used in the current implementation, then this can be achieved by adding it in the file pattern within the DX endpoint option.

For example, the image below shows how the "eventId" is added to the file name of incoming files from the data pool.

**Edit Endpoint message\_from\_dx\_to\_PIM**

**General** **File Send Options**

☒ Use endpoint root directory C:\

Outgoing files path message\_from\_dx\_to\_PIM/output

\* File pattern (\$filename)\_(\$eventId).xml

In case the parameter is not used in the current implementation, then this change will require an analysis and development effort to understand where the required parameter can be captured from and then implement it in the PowerCenter mapping and/or DT service.

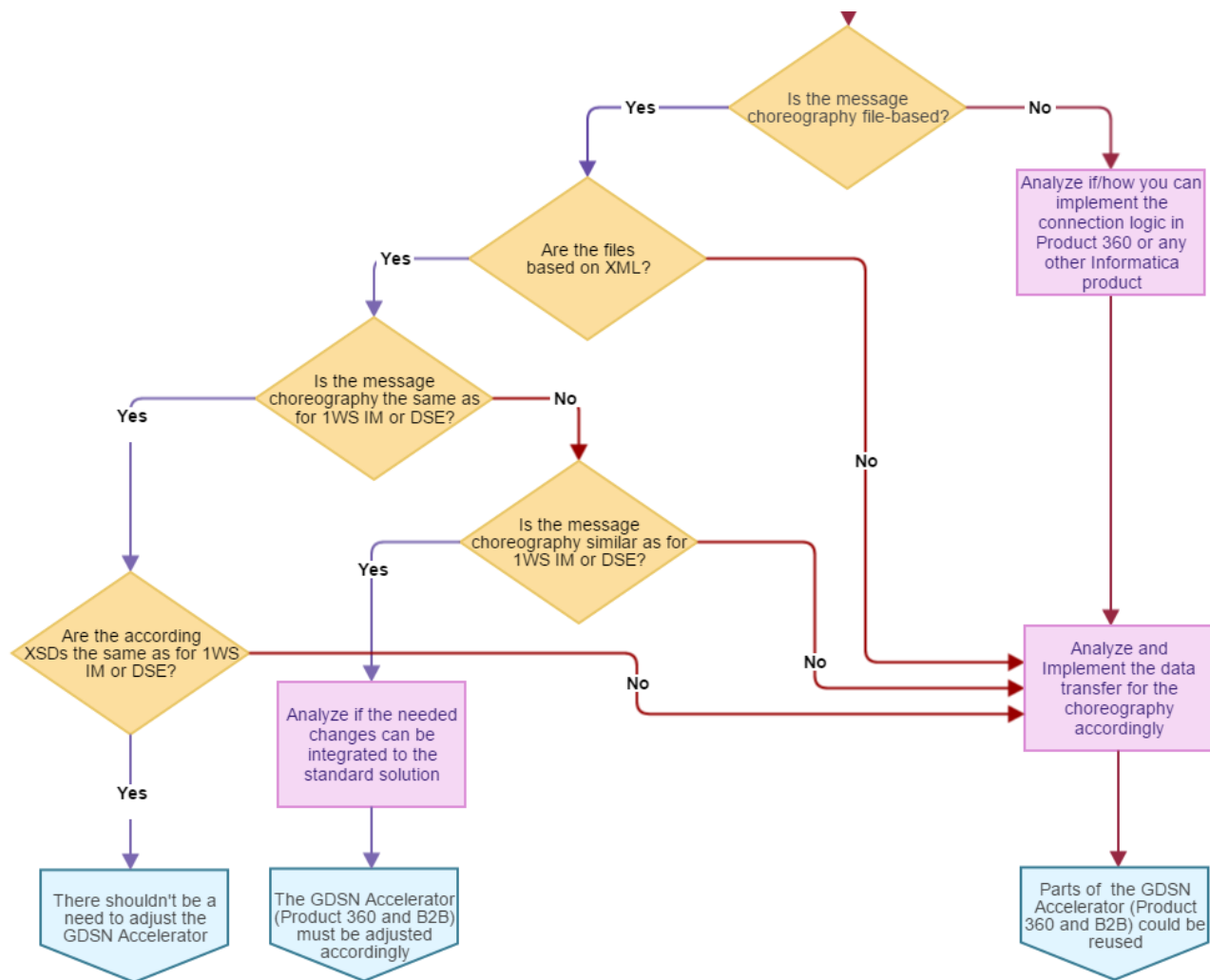
### 8.13.2 Communication to other data pools

The GDSN Accelerator relates to the 1WS data pool. 1WS is one of round about 30 GDSN certified data pool providers. In case of not using the 1WS data pool, you might be able to reuse parts or the whole GDSN Accelerator in order to connect to your data pool. This chapter is more a mind map about questions you have to ask yourself in order to implement the communication to a different pool. You should be familiar with your data pool and how the message choreography is working to be able to evaluate the similarities and differences to the 1WS approach and the provided GDSN Accelerator.

The following diagram gives you a high-level overview of what to review regarding the provided GDSN Accelerator and how many changes you can expect.







### File-based communication choreography

If you need to use a file-based communication choreography then you have high chances that you can manage your needed behavior by adjusting the GDSN Accelerator on Product 360 and B2B side. Please note that the implementation can still turn out in a high effort.

The standard assumes different conditions for the communication which is differing for DSE and IM solution. You need to ensure that your data pool will support the same conditions.

#### IM (Data Source)

- The standard assumes, that all your items are in the master catalog. Although service API call for the publication status would work for all messages except the "ItemAuthorizationResponse".

#### DSE (Data Source)

- The standard assumes, that all your items are in the master catalog. If this is not the case, the service API call for the publication status will fail.
- The standard assumes, that the GTIN is unique in the master catalog. If this is not the case, the first found item with this GTIN will be taken.
- The standard assumes, that the item hierarchy will be exported flattened by Product 360.



## DSE (Data Recipient)

- The standard assumes, that the GDSN information is not arriving hierarchical in Product 360. They must be flattened in order to be able to import them.

## B2B Data Exchange (Communication protocols)

Informatica MFT product is responsible for the connection with the data pool. The most common communication protocol is AS2, yet MFT can support many types of protocols. You need to understand with the relevant data pool which file transfer protocol should be used to send the file to it and then configure it accordingly in MFT. The communication protocol has no impact on B2B Data Exchange and PowerCenter implementation, only on the MFT.

## General checks

- Are the used files for the communication based on XML? If not then you have to create the according import mapping or export format template on your own.
- Is the communication based on the same or similar XSD files as for 1WS IM or DSE? If similar, then you can adjust the according import mapping or export format template of the GDSN Accelerator.
- Are the valid value lists and the unit system the same or similar as those for 1WS IM or DSE? If similar, then you can extend the enumerations in the repository.
- Are the needed data fields qualified as they should be?
- Do you need further data quality checks?
- Does the added export and import functions for the GDSN Accelerator fit your needs as well?

## Different communication choreography

First, you need to analyze how the communication choreography can be implemented. You might need to implement a new view in Product 360 to handle your specific data connection or you can consider using another Informatica product to do the communication accordingly. Next, you need to take care of the data transfer which needs to be done in the defined communication choreography. It is very likely that the communication choreography completely differs from the used choreography of the GDSN Accelerator.

- Check if the standard enumerations in the repository match the requirements of your GDSN certified data pool.
- Check if the standard repository fields match the requirements of your GDSN certified data pool.
- Check which target markets you need.
- Check if the standard data quality checks of the GDSN Accelerator still fit your needs.
- Check which Product 360 components can support your requirements.
- Check if an Informatica product can help you with your requirements.

## Data Source

- How can a user see the current status of an item or hierarchy in your GDSN certified data pool?
- Can you modify or correct the data which is already in your GDSN certified data pool?
- How can you create an automatic message process?

## Data Recipient

- How can you import the data of your GDSN certified data pool?
- How can you provide feedback on the received data?

## Example Electronic Commerce Council of Canada Network Services (ECCnet) - Recipient

In this example an analysis of the ECCnet data pool for the data recipient scenario will be shown which describes changes you need to consider.

## Connection logic and data transfer

In contrast to the GDSN Accelerator that is using a file transfer via B2B, the communication of ECCnet is based on SOAP calls. In this case the mechanisms of the export to send data to the pool and the import to receive data from the pool cannot be used and the following two questions have to be answered:

- Source scenario: How to collect the data and send it to the pool?

- Recipient scenario: How to receive data from the pool and process the data?

In the recipient scenario the differences in the message choreography helped as described in the next section.

The "import" of the data in case of ECCnet has been done by item processors reading the data from the SOAP call and writing them to the `detailModels` using put commands.

Another point that came up while implementing the ECCnet Accelerator were data transformations. For example think about units: the data pool sends a string based code but in the data model (`detailModel`) a `UnitProxy` is stored. The GDSN Accelerator makes use of the capabilities of the import and export components, which provide some built-in transformations which can be extended by using import and export functions. You need to find a place for these transformations in your specific data processing.

Since we want to implement the ECCnet data recipient scenario, we assume to get valid data and don't need to care about (DQ based) validations. However, in case you need validations (in the source scenario for example) you might be able to reuse existing DQ rule configurations. Anyway, in general validations have to be analyzed and needed validations have to be created.

## Message choreography

The ECCnet choreography differs from the assumed choreography of the GDSN Accelerator. ECCnet uses a pull mechanism, while the GDSN Accelerator assumes a push mechanism.

In ECCnet first of all you have the possibility to search for products you want to get in your system. So a search UI is needed as well as an implementation of the according calls to the pool. From the search result you can "subscribe" items. As a result you will get the data, and the data pool keeps in mind that you have this data. However, this does not mean that you will get updates after the item changed in the data pool automatically. Remember, ECCnet uses a pull mechanism. When you want to update the data in your system you have to actively trigger a call to the data pool. For this action a UI is needed and maybe some tasks or workflows might come in handy.

In GDSN the requirement is to keep track of the messages that were sent and received. Additionally you want to know if something went wrong while the message has been processed by B2B. In ECCnet there is much less information. Here an item can be marked as created, updated and might be marked as deleted in the context of ECCnet. That's the reason why ECCnet does not reuse the `PublicationStatus` but instead creates additional `ArticleLog` entries.

## Reusable parts

Regarding the communication nothing from the GDSN Accelerator can be reused.

ECCnet provides a mapping from ECCnet attributes to GDSN attributes. Therefore the major part of the data model and the maintenance UI can be reused. However, this doesn't mean that an analysis of the data model is unnecessary. There are many small differences like field lengths, sometimes data types and so on to consider and to adjust the data model accordingly. For example ECCnet only supports the Canadian target market, so all target market logical keys get the default value "Canada" and are deactivated. Also different codes for the units make a new unit system for ECCnet necessary.

## 8.14 Testing


There are several ways to ensure your changes are correct. In this chapter we will describe how your test data has to look like to test the correct behavior in Product 360. Those can be used to test different modules of Product 360, like import, maintain functionality, data quality checks and exporting the data.

### 8.14.1 Test data

The test data should cover various data constellations. Therefore you always have to create the data with following specifications:

- Always test with several datasets of each entity of your created/adjusted data model
- Always test limits of your created/adjusted data model
- Always test with data which are valid and with data which are invalid (also known as good and bad test data). Check if the invalid test data lead to the expected severity (error/warning/info).
- Always create some "complete" items, that means items containing all data you want to send to the GDSN pool.

You usually can reuse the test data for testing all modules of Product 360 except invalid test data.

 If you enhance your test data with a remarks field you can note your expected result in it.

### Test data model


In the chapter "[Data model](#)" we introduced how to add or adjust GDSN modules and their fields in Product 360 which includes a "Data model check list". This check list ensures a correct defined data model. It's also checking if the changes in the Product 360 data model are visible by the generic functionality of Product 360. For the mentioned check list you should create test data for exhaustive testing.

For example you can create an Excel file as import file, like shown below for the fields Packaging type, Packaging feature code, Usable product volume and Usable product volume UOM of the sub entity ArticlePackaging, which is representing the GDSN Module PackagingInformationModule:

| Item no.           | Target market (LK) (Enumeration) | Packaging type (LK) (Enumeration) | Packaging refuse obligation name (String) | UOM type (LK) (Enumeration) | Usable product volume (Decimal value) | Usable product volume UOM (Enumeration) | Remarks                                                              |
|--------------------|----------------------------------|-----------------------------------|-------------------------------------------|-----------------------------|---------------------------------------|-----------------------------------------|----------------------------------------------------------------------|
| TestPack InfoMod_1 | US                               | AA                                | obligation name                           | IMPERIAL                    | 1001.101                              | 4G                                      | Should pass                                                          |
| TestPack InfoMod_1 | US                               | AA                                | obligation name                           | IMPERIAL                    | 123456.12345                          |                                         | Should pass, but data quality check will fail because of missing UOM |
| TestPack InfoMod_1 | US                               | CNG                               | obligation name                           | IMPERIAL                    | 9999999999.999999                     | LTR                                     | Should pass                                                          |
| TestPack InfoMod_1 | US                               | CNG                               |                                           | METRIC                      | 1253.6264                             | LTR                                     | Should pass                                                          |
| TestPack InfoMod_1 | ES                               | PUG                               | <String of 200 characters>                |                             |                                       |                                         | Should pass                                                          |
| TestPack InfoMod_2 | US                               | AA                                |                                           | IMPERIAL                    | 0                                     |                                         | Should pass, but data quality check will fail because of missing UOM |
| TestPack InfoMod_3 | BB                               | ABC                               | obligation name                           |                             |                                       |                                         | Should fail due to not existent Packaging type                       |

| Item no.           | Target market (LK) (Enumeration) | Packaging type (LK) (Enumeration) | Packaging refuse obligation name (String) | UOM type (LK) (Enumeration) | Usable product volume (Decimal value) | Usable product volume UOM (Enumeration) | Remarks                                                         |
|--------------------|----------------------------------|-----------------------------------|-------------------------------------------|-----------------------------|---------------------------------------|-----------------------------------------|-----------------------------------------------------------------|
| TestPack InfoMod_3 | BB                               | STR                               | obligation name                           | METRIC                      | 1000000000.000000                     | LTR                                     | Should fail due to a range failure at Usable product volume     |
| TestPack InfoMod_3 | BB                               | STR                               | <String of 201 characters>                |                             |                                       |                                         | Should fail due to a range failure at Packaging obligation name |
| TestPack InfoMod_3 | BB                               | STR                               | obligation name                           | TEST                        | 234.3                                 | 4G                                      | Should fail due to not existent UOM type                        |

(Note: this table does not contain all scenarios to test)


 If you write the max value "9,999,999,999.999999" for decimal values, Product 360 is actually transforming it to "9,999,999,999.999998".

### Test import

Create an import mapping for your excel file and execute the import. Ensure that all expected errors are printed in the import log. Please check the created data after for correctness.

### Test export

Create an export to check if you can export the data as expected. This also ensures that all fields are visible with the needed qualification.

 This test is usually not made with the GDSN XML schemata.

### Test Service API

If you are planning to use the Service API for your fields, ensure that you have tested it.

## 8.14.2 Test data quality

This chapter is only needed in case you created data quality rules or data quality configurations.

### Testing created data quality rules

There are many ways to test your created data quality rules. For example you can test the created data quality rules within the Informatica Developer. The necessary steps are explained by using the "IfNotEmptyConditionNotEmpty" rule:

1. Create an Excel file which contains all input ports and an expected behavior as description.

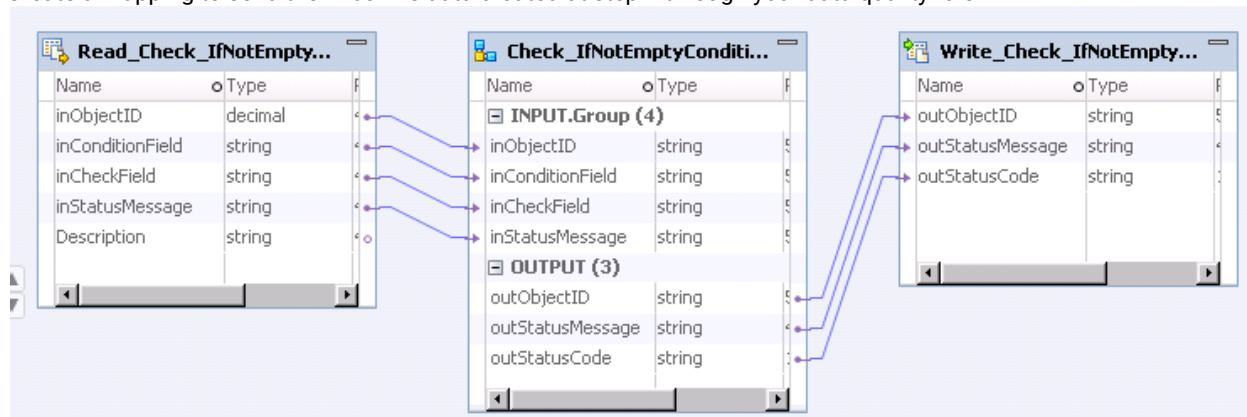
| inObjectID | inConditionField | inCheckField | inStatusMessage | Description                                                       |
|------------|------------------|--------------|-----------------|-------------------------------------------------------------------|
| 10001      |                  |              | GDSN1           | both inputs empty, ok                                             |
| 10002      |                  | somevalue    | GDSN1           | first input empty, ok                                             |
| 10003      | somevalue        |              | GDSN1           | first input not empty, but second one, error                      |
| 10004      | somevalue        | another      | GDSN1           | both inputs not empty, ok                                         |
| 10005      | somevalue        |              |                 | first input not empty, but second one, with default error message |
| 10101      | somevalue        |              | GDSN1           | aggregated, not ok                                                |
| 10101      | somevalue        | another      | GDSN1           |                                                                   |

(Note: not all possible test scenarios are covered here)

2. Create an Excel file which contains the expected output after the data quality rule was running.

| outObjectID | outStatusMessage                                                 | outStatusCode |
|-------------|------------------------------------------------------------------|---------------|
| 10001       | No Error                                                         | 1             |
| 10002       | No Error                                                         | 1             |
| 10003       | No Error                                                         | 1             |
| 10004       | GTIN is required but not provided                                | 0             |
| 10005       | inCheckField must be empty because inConditionField is not empty | 0             |
| 10101       | GTIN is required but not provided                                | 0             |

3. Create a mapping to send the Excel file data created at step 1 through your data quality rule.



4. Compare the expected result from step 2 with the actual result of step 3.

## Testing created data quality configuration

Depending on your data quality check, you can reuse the data you already created for the data model test. But you might need to extend those with further data constellations.

A recommended way to test if your data quality configuration is working as expected is:

1. Think about all possible data constellations and create your data accordingly.
2. Execute the data quality check for your configuration on the data of step 1.
3. Evaluate if your expectation and the actual result is equal.

In case the data quality configuration result is differently as your assumption, please check following:

1. Are the correct fields mapped to your data quality configuration?
2. If existent, is the correct qualification of the fields used?
3. If existent, is the port "InObjectID" mapped?
4. Did you use the correct data type?
5. In case you are using a sub entity of item as data type, then there must be one data entry for this sub entity to execute the rule.

If you want to ensure that a value is in a specific field of a sub entity use the item as data type instead of the sub entity and qualify the field accordingly. You could also implement a data quality rule which is checking the field via service API.

6. Is the used data quality rule the correct rule for your validation? Please check the description of the rule again.

### 8.14.3 Test against certified GDSN pool (Data Source)

If you have done all the testing and you ensured that all data is correct in Product 360 you need to enhance your export format template for GDSN accordingly. In chapter "Data validation" is already described how to manage the correct formatting of each field in the export.

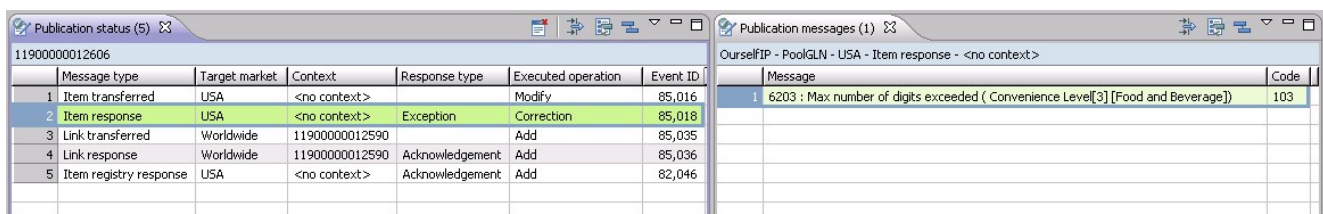
You can reuse your test data created for the data model testing but in addition, you have to ensure that all mandatory fields of GDSN are maintained. Otherwise the XSD validation will fail during export.

When sending data to the certified pool, ensure that you have the data to export validated. The exported data should get accepted by your data pool. In case of using 1WS data pool, you can verify the correctness of the data in the XML file by opening the "Publication status" view in Product 360. You will see an entry with "Item response" as message type and the according response type. If the response type is "Acknowledgement", then your changes seem to work. Please check the exported file to ensure that data for changes are exported.



|   | Message type           | Information provider | Created on         | Trade partner | Target market | Context        | Severity | Response type   | Executed operation | Event ID |
|---|------------------------|----------------------|--------------------|---------------|---------------|----------------|----------|-----------------|--------------------|----------|
| 1 | Item registry response | OurselfIP            | 8/21/2015 4:54 AM  | PoolGLN       | USA           | <no context>   |          | Acknowledgement | Add                | 81,072   |
| 2 | Link response          | OurselfIP            | 8/11/2015 12:50... | PoolGLN       | Worldwide     | 11900000012514 |          | Acknowledgement | Add                | 82,006   |
| 3 | Link transferred       | OurselfIP            | 8/11/2015 12:49... | PoolGLN       | Worldwide     | 11900000012514 |          |                 | Add                | 82,005   |
| 4 | Item response          | OurselfIP            | 8/10/2015 6:36 AM  | PoolGLN       | USA           | <no context>   |          | Acknowledgement | Modify             | 81,075   |
| 5 | Item transferred       | OurselfIP            | 8/10/2015 6:35 AM  | PoolGLN       | USA           | <no context>   |          |                 | Modify             | 81,074   |

In case of an exception as response type something is wrong at your data. Please evaluate what the exact error message is saying. Sometimes it is already helpful to just investigate the exported XML file for "strange" things.



|   | Message type           | Target market | Context        | Response type   | Executed operation | Event ID |
|---|------------------------|---------------|----------------|-----------------|--------------------|----------|
| 1 | Item transferred       | USA           | <no context>   |                 | Modify             | 85,016   |
| 2 | Item response          | USA           | <no context>   | Exception       | Correction         | 85,018   |
| 3 | Link transferred       | Worldwide     | 11900000012590 |                 | Add                | 85,035   |
| 4 | Link response          | Worldwide     | 11900000012590 | Acknowledgement | Add                | 85,036   |
| 5 | Item registry response | USA           | <no context>   | Acknowledgement | Add                | 82,046   |

|   | Message                                                                          | Code |
|---|----------------------------------------------------------------------------------|------|
| 1 | 6203 : Max number of digits exceeded ( Convenience Level[3] [Food and Beverage]) | 103  |

Please always publish your data to the 1WS data pool. This is needed since some validations are only running during the publish process.

## 8.15 FAQ

### 8.15.1 FAQ

**Q: How do we add missing units of measurement to the GDSN unit system?**

**A:** Open a ticket at the Informatica support. Informatica will provide a database script which adds the needed units.

**Q: Why does the deletion of a subentity of "Article" doesn't work via Service API when using a reserve logical key as qualification filter?**

**A:** When deleting a subentity, the used `qualificationFilter` arguments must not only be unique in the entity path, it must also be unique of all subentities of the target entity. For example, if you want to delete all your `ArticleIngredient` objects which have a specific qualification, the statement could look like this:

```
http://localhost:1513/rest/V1.0/list/Article/ArticleIngredient/byCatalog?
catalog=Catalog_Test_RestAPI&qualificationFilter=res_LK_Text100_01("DEFAULT")
```

The problem is that several logical keys are using "res\_LK\_Text100\_01" as Object Name, to be exact the logical keys of entity `ArticleIngredient` and `ArticleIngredientComponent`. To prevent this, define an `Alias` for your logical key. In case this is not solving your problem, please contact the Informatica support.

## 8.16 Migration Guide for IM



This migration guide describes the migration from an old GDSN datamodel 2.8 to the GDSN Major release 3 datamodel. That means if you upgrade your Product 360 version to 8.0.5 (from any older version than 7.1.08) and already had the *GDSN* and *Food and Beverage* model, you have to follow the described migration steps. Please be aware that GDSN did not have defined migration paths for all attributes, that's why it is always a good idea to contact the R&D Team before a migration is done.

The mentioned DQ rule configurations are not part of the Accelerator package. Please contact Global Customer Support if you need them.

### 8.16.1 General changes

#### Unit System

The unit system "1WS" will be deleted. Further on the unit system "GDSN" should be used for all unit fields.

#### Unit

The standard unit fields will be migrated according to the MjR 3 migration guide.

The previously used unit "Fluid ounce" with code "FZ" has to be transferred manually to a valid unit. The value is only allowed for the field 'Product yield UOM' which has a data quality configuration to find items with this value in use. Please ensure that no unit field is still using this unit.

In case this pre-migration step is not executed, then the unit will automatically be merged to "fluid ounce (UK)" with the code "OZU".

All unit fields got a unit filter which means, only values which are allowed for the specific field will be displayed. In case you did use an invalid unit, you won't see the maintained unit after migration.

## Repository

### 'Replaced by GTIN' and 'Replaces GTIN'

Those fields must be exactly 14 digits long, otherwise an error will occur.

### Pricing on product

The pricing on product field became a three-state boolean ('true', 'false', null).

## 8.16.2 GDSN Core Attributes

### Product Type

Assigned to the field Product type (GDSNExtension.ProductType) is the valid values list GDSN trade item unit descriptor values. In this list, three entries were entirely removed. These are Prepack (PP), Multipack (MP) and Prepack assortment (PA). Please check if you used one of these values and if so please adjust your data.

### GTIN variation registry

This field is deprecated and has been removed.

If you want to check if you have items which have a GTIN variation registry populated with "true", you can create a DQ rule configuration with the following configuration:

|                                                                                      |              |                               |  |
|--------------------------------------------------------------------------------------|--------------|-------------------------------|--|
| Name*:                                                                               |              |                               |  |
| Checks if the field GTIN variation registry (USA) does not contain the value 'true'  |              |                               |  |
| Description:                                                                         |              |                               |  |
| Checks if the field GTIN variation registry (USA) does not contain the value 'true'. |              |                               |  |
| Rule name*:                                                                          |              |                               |  |
| Check_ConditionalNotEqual                                                            |              |                               |  |
| Data type: <input type="text" value="Item"/>                                         |              |                               |  |
| Input port                                                                           | Data type    | Field                         |  |
| inObjectID                                                                           | string(512)  | Object code number            |  |
| inConditionField1                                                                    | string(512)  | "1"                           |  |
| inConditionValue1                                                                    | string(512)  | "1"                           |  |
| inConditionField2                                                                    | string(512)  | "1"                           |  |
| inConditionValue2                                                                    | string(512)  | "1"                           |  |
| inCheckField                                                                         | string(512)  | GTIN variation registry (USA) |  |
| inCheckValue                                                                         | string(512)  | "true"                        |  |
| inStatusMessage                                                                      | string(50)   |                               |  |
| Data type: <input type="text" value="Item"/>                                         |              |                               |  |
| Output port                                                                          | Data type    | Field                         |  |
| outObjectID                                                                          | string(512)  | Object code number            |  |
| outStatusMessage                                                                     | string(4096) | Message                       |  |
| outStatusCode                                                                        | string(10)   | Status                        |  |

This DQ rule configuration will fail for every item which has a GTIN variation registry set to "true".

### EANUCC type respectively TradeItemIdentificationKey

All values from the valid values list were entirely removed by GDSN. There is no migration path given by GDSN.



Here is our migration path:

### Preparation:

Run DQ configurations:

- "Check 'Target market' of EANUCC is not equal 'Worldwide'" which will find out data with target market = "Worldwide"
- All DQ configuration in the "'EAN UCC type' to 'TradeItemIdentificationKey'" category. Those will find data that cannot be converted because of duplicate codes, example: both types UD and UE would create same entry with new type GTIN\_12

Adjust EANUCC type data for items that didn't pass the DQ checks successfully:

- Delete all entries with target market = "Worldwide" or change the target market to a valid value, e.g. "US"
- Adjust the data, so that the entries can be converted, e.g. remove entries with types that would create duplicate entries

### Migration

We'll convert the following types. All existing entries that would create duplicate entries during conversion will be skipped. All entries will be skipped that got the target market "Worldwide".

| New code | old code | old label                        |
|----------|----------|----------------------------------|
| GTIN_8   | EO       | European Article Number 8 (EAN)  |
| GTIN_12  | UD       | UPC/EAN Consumer Package Code    |
|          | UE       | UPC/EAN Module Code              |
|          | UG       | Drug UPC Consumer Package Code   |
|          | UI       | UPC Consumer Package Code        |
|          | UP       | UCC-12                           |
| GTIN_13  | EN       | European Article Number (EAN)    |
| GTIN_14  | U2       | UPC Shipping Container Code      |
|          | UA       | UPC/EAN Case Code                |
|          | UH       | Drug UPC Shipping Container Code |
|          | UK       | UPC/EAN Shipping Container Code  |
|          | UN       | UPC Case Code Number             |

### Packaging type code

The packaging specific information was global and became target market specific now. The list of packaging types was completely changed, it was reduced from about 140 to 40 codes. In addition, some of the types are represented now by a packaging type in combination with a value of another field.

There's a migration path for most packaging types given by GDSN, see "1WorldSyncDeltaDoc\_IM7.0\_forMjR3\_v10.xlsx".

- Most packaging type codes can be uniquely migrated to a new code.
- Some codes are not mapped to a new code, you have to find a suitable replacement attribute/value combination.

- Some codes will be migrated to the new code and a value in another field, e.g. "Packaging feature code"

## Prepare migration

You need to find out if there's data that cannot be migrated. Therefore you should run the following DQ check:

- "Check 'Packaging type' is not equal 'Splash blend'"

## Migration

We'll consider all packaging type codes that are listed in "1WorldSyncDeltaDoc\_IM7.0\_forMjR3\_v10.xlsx". All other packaging type codes won't be migrated.

- We'll migrate the codes as defined in the delta document. Most packaging type codes can be uniquely migrated, but we don't create duplicate entries if two codes are mapped to the same new code.
- Codes that are not mapped to a new code but got a "No Migration Done" comment, will be migrated to "No code", so that you can adjust those entries after the automatic migration has been done.
- Some codes will be migrated to the new code and a value in another field, e.g. "Packaging feature code", as defined in the delta document.
- We'll set the target market to "USA" for all packaging type entries
- Furthermore, we'll migrate some additional packaging type codes as listed below:

| Old packaging type                                            | Migrated packaging type   |
|---------------------------------------------------------------|---------------------------|
| GB (Bottle, gas)                                              | BO (Bottle)               |
| 1A (Drum, steel)                                              | BA (Barrel)               |
| 4H (Box, plastic)                                             | BX (Box)                  |
| BIB (Bottle in box)                                           | PUG (Packed, unspecified) |
| CI (Canister)                                                 | PUG (Packed, unspecified) |
| CN (Container not otherwise specified as transport equipment) | PUG (Packed, unspecified) |
| CTN (Carton)                                                  | PUG (Packed, unspecified) |
| NA (Not available)                                            | PUG (Packed, unspecified) |

Limitations:

- The old packaging code "Splash blend" (AAB) will be migrated to "Package, unspecified", but we won't set TradeItemDescription or AdditionalTradeItemDescription to 'Splash Blend'.
- We don't create duplicate entries if two codes are mapped to the same new code. In such cases, only one entry gets migrated.
- The GDSN migration path defines an update of the product type to "Transport load" for some codes. We'll migrate the packaging code, but we won't update the product type value.

## Post-migration

After automatic data migration you probably need to adjust data of items you found by DQ checks.

You should check all items that got a "Package, unspecified" or "No code" packaging type code.

### StartAvailabilityDate and EndAvailabilityDate

The fields GDSNTargetMarketExtension.StartAvailabilityDate, GDSNTargetMarketExtension.EndAvailabilityDate, GDSNCustomerSpecificExtension.StartAvailabilityDate and GDSNCustomerSpecificExtension.EndAvailabilityDate have been moved to ArticleDeliveryPurchasing.StartAvailabilityDate and ArticleDeliveryPurchasing.EndAvailabilityDate.

The migration works as follows: The values from GDSNTargetMarketExtension.StartAvailabilityDate and GDSNTargetMarketExtension.EndAvailabilityDate will be moved to ArticleDeliveryPurchasing.StartAvailabilityDate and ArticleDeliveryPurchasing.EndAvailabilityDate. If the delivery purchasing information entry for the target market is available it will be created. If startAvailability and endAvailability date already exist for delivery purchasing information, we keep these values and the dates from target market specific data will be discarded. All dates from the customer specific data will be discarded.

### 8.16.3 Food and Beverage

Food and Beverage has always had a logical key "TargetMarket". However, this logical key was disabled in the standard and the default value was WORLD. In GDSN 3.0 the "TargetMarket" has been activated and 'WORLD' is not part of the valid values list. Therefore we decided to change all data sets with "TargetMarket" = 'WORLD' to "TargetMarket" = 'US' during migration. Data sets with other target markets are not affected and keep their old value.

Soft deleted data won't be migrated.

### Product Yield

So far the value of "Product yield" has been formatted with a scale of two. With the new release the scale got changed to six. Before, in case you did write a value with a higher precision, the value was formatted to a scale of two. After the migration you are able to see and export those additional scale.

### Example

Old data:

| Input value of 'Product yield' | Display value of 'Product yield' |
|--------------------------------|----------------------------------|
| 1.22                           | 1.22                             |
| 1.123                          | 1.12                             |
| 1.3294                         | 1.33                             |

Migrated data:

| Display value of 'Product yield' |
|----------------------------------|
| 1.220000                         |
| 1.123000                         |
| 1.329400                         |

### Product Yield UOM

The unit "Fluid ounce" with the code "FZ" will be removed. If you want to keep the data, you need to change the UOM to a valid value regarding GDSN 3.0. Otherwise you won't see the UOM after the migration anymore.

### Diet information

Regarding **language-specific data**, there is a huge change. In the old model one description could be maintained per combination of diet certification agency and diet certification number. In the new model, there is only one description per target market. This means n descriptions have to be reduced to one. We cannot decide for our customers which descriptions

to keep and which ones to discard. Therefore we won't migrate any Diet descriptions.

To handle this situation you could for example export all descriptions of the old system, decide which ones to keep and add them in the migrated system.

In GDSN 3.0 the **diet type** "ORGANIC" has been removed completely. There is a DQ rule configuration ("Check 'Diet type' is not equal 'Organic'") to find all diets with this diet type, so you can run it **before the migration** and adjust your data accordingly.

We don't migrate **diet subtype** because there's no migration path given by GDSN, and the old and the new valid values list have no values in common. No entries will be lost, only the "Diet subtype" field value will be empty. If you want to maintain new values on the basis of the old data you can do an export of the diet information data before the migration and decide which value of the new valid value list to maintain.

Since the data model changed a lot, there are some data sets which cause problems during the migration. They have different diet certification agencies and diet certification numbers but the same diet type.

The value of the field `ArticleDietRelatedInformation.DietCertificatonAgency` will be mapped to the field `ThirdParty.Name`. So for each single **certification agency** specified in diet related information a new "third party" will be created with the given name. The third parties are referenced by the `Certification` which is referenced again by the `ArticleDietList`. So the full path to the diet **certification agency** is now:

```
ArticleDietList.Certification->Certification.Organisation->ThirdParty.Name
```

The value of the field `ArticleDietRelatedInformation.DietCertificatonNumber` will be mapped to the field `Certificate.Value`. So the full path to the diet **certification number** is now:

```
ArticleDietList.Certification->Certificate.Value
```

## Nutrient information and Serving instance

In our GDSN 2.8 Food and Beverage data model, there used to be a logical key "PartyID". This logical key will no longer be available in the MjR3 model. If you activated this key, be careful with the migration. You have to take care of possible doubled entries yourself and remove them before the migration. All your data sets need to have a unique value combination for the keys available in MjR3. See the repository to have a look at the new datamodel.

In the MjR3 datamodel, a new logical key "Nutrient basis quantity type" is introduced. It's values are BY\_MEASURE or BY\_SERVING. They replace the serving instance of the PIM GDSN 2.8 model. Serving instance "per 100g" will be migrated to BY\_MEASURE, "per serving" will be migrated to BY\_SERVING. Data sets with serving instance "per package" won't be migrated. There is the DQ rule configuration "Check 'Serving instance' is not equal 'per package' " to find all nutrient information with serving instance "per package", so you can adjust your data **before the migration** if you want to keep it.

Serving instances not used by nutrients will not be migrated.

The new entities "Nutrient basis quantity" and "Nutrient list quantity" have the logical key UOMType. Nutrients and ServingInstance in the old model didn't have an equivalent logical key or field. We decided to insert the value "Imperial" during the migration for all data sets. You might want to have a look at this after the migration.

The former household serving size could be maintained for serving instance per 100g, per serving and per package individually. Since this field has been renamed to serving size description in GDSN 3, we only migrate the value of the household serving size belonging to per serving. Household serving sizes for serving instances "100 g" and "per package" won't be migrated. You can use an export before the migration to get these data and to decide which values you really want to keep and maybe change it after the migration.

## Preparation information

The datamodel changed regarding the convenience level. There used to be one convenience level per product yield type. This is no longer the case. This means some data sets have to be merged. Our migration will take the lowest convenience level. You might want to have a look at your data **before** the migration. You can use an export to see where you have different convenience levels for the same target market and preparation type and decide later which value to use and adjust the data after the migration manually. Alternatively you can remove the values you don't want before the migration.

Similar change happened to preparation instructions. In our GDSN 2.8 compliant datamodel, you could maintain one preparation instruction per product yield type. This is no longer the case. Depending on your database, either the first preparation instruction regarding alphabetical sorting (MS SQL) will be kept, or the first preparation instruction created

(Oracle) will be kept. You might want to have a look at your data **before** the migration and either delete the values you don't want to keep or do an export with the data to decide later which values to keep and if necessary change them after the migration manually.

The UOM type of product yield UOM will be set to 'IMPERIAL'.

**Example:**

Old data:

| Item no. | Preparation type | Product yield type | Convenience level | Preparation instruction (German) | Creation Date of preparation instruction (German) | Preparation instruction (English) | Creation Date of preparation instruction (German) |
|----------|------------------|--------------------|-------------------|----------------------------------|---------------------------------------------------|-----------------------------------|---------------------------------------------------|
| Item 1   | Baking           | After cooking      | 3.00              | Zuerst ....                      | 01.01.2000                                        | First ...                         | 10.10.2000                                        |
| Item 1   | Baking           | Drained weight     | 13.00             | Nehmen ...                       | 10.10.2000                                        | Take ....                         | 01.01.2000                                        |

Migrated data MS SQL:

| Item no. | Preparation type | Product yield type | Convenience level | Preparation instruction (German) | Preparation instruction (English) |
|----------|------------------|--------------------|-------------------|----------------------------------|-----------------------------------|
| Item 1   | Baking           | n/a                | 3.00              | Nehmen ...                       | First ...                         |

Migrated data Oracle:

| Item no. | Preparation type | Product yield type | Convenience level | Preparation instruction (German) | Preparation instruction (English) |
|----------|------------------|--------------------|-------------------|----------------------------------|-----------------------------------|
| Item 1   | Baking           | n/a                | 3.00              | Zuerst ...                       | Take ...                          |

**Certification information**

The value of the old field `ArticleCertificationInformation.CertificatonAgency` will be mapped to the field `ThirdParty.Name`. So for each single **certification agency** specified in the certification information a new "third party" will be created (if not exists yet) with the given name. The third parties are referenced by the new root-entity `Certification` which is referenced again by the new module `ArticleCertifications`. So the full path to the **certification agency** is now:

`ArticleCertifications.Certification -> Certification.Organisation -> ThirdParty.Name`

The value of the old field `ArticleCertificationInformation.CertificatonStandard` will be mapped to the field `Certification.Standard` of the new root-entity `Certification` which is referenced by the new module `ArticleCertifications`. So the full path to the **certification standard** is now:

`ArticleCertifications.Certification -> Certification.Standard`

The value of the old language-specific field `ArticleCertificationInformationLang.CertificatonValue` will be mapped to the field `Certificate.Value` of the new root-entity `Certification` which is referenced by the new module `ArticleCertifications`. Since the field `Certificate.Value` is not language-specific - only the values for the language **US** will be migrated. So the full path to the **certification value** is now:

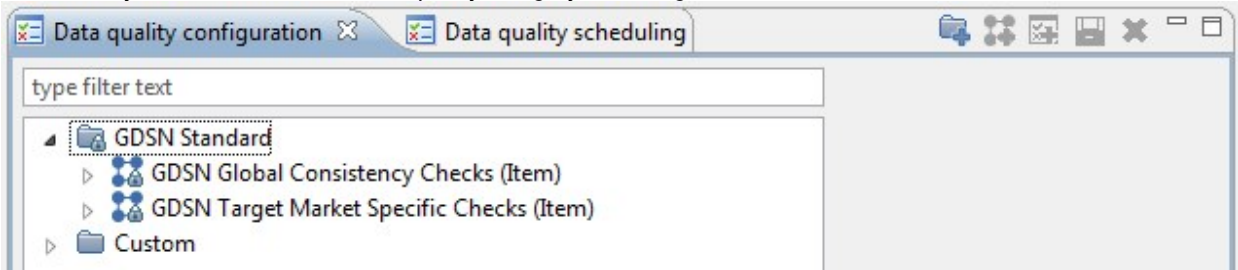
`ArticleCertifications.Certification -> Certificate.Value`

#### 8.16.4 Merge of migration Data Quality configurations

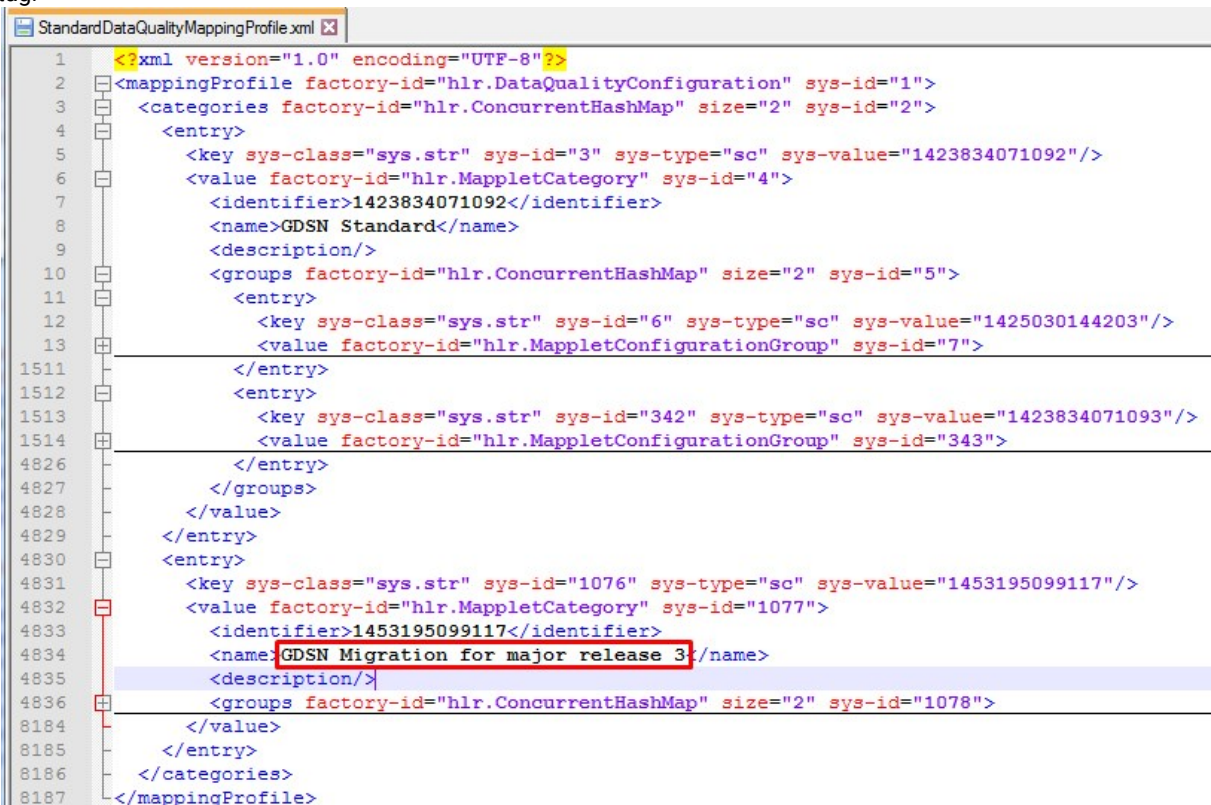
As mentioned above, if you need the mentioned Data quality rule configuration which can help you to migrate your data, please contact Global Customer Support.

Instead of using the whole delivered standard GDSN Data Quality package for the Migration of PIM 7.1.05.xx, it is possible to merge the needed migration data quality configuration manually as described below.

1. Ensure that your 'GDSN Standard' data quality category is looking like shown beneath.



2. Open the `StandardDataQualityMappingProfile.xml` of the delivered GDSN package (`RuleConfigurationPackageGDSN/dataquality/config`)
3. Search for 'GDSN Migration for major release 3' to find the appropriate entry and copy the whole entry- XML tag.



4. Navigate to your Data Quality folder, which is defined in the server.properties file as `dataquality.root.local`
5. Open the `StandardDataQualityMappingProfile.xml` in the config folder.
6. Paste the entry-tag from above after the existing entry tag in this file. This would be line number 4830 in the image below.

```

1  <?xml version="1.0" encoding="UTF-8"?>
2  <mappingProfile factory-id="hlr.DataQualityConfiguration" sys-id="1">
3    <categories factory-id="hlr.ConcurrentHashMap" size="1" sys-id="2">
4      <entry>
5        <key sys-class="sys.str" sys-id="3" sys-type="sc" sys-value="1423834071092"/>
6        <value factory-id="hlr.MappletCategory" sys-id="4">
7          <identifier>1423834071092</identifier>
8          <name>GDSN Standard</name>
9          <description/>
10         <groups factory-id="hlr.ConcurrentHashMap" size="2" sys-id="5">
4828        </value>
4829      </entry>
4830    </categories>
4831  </mappingProfile>
4832

```

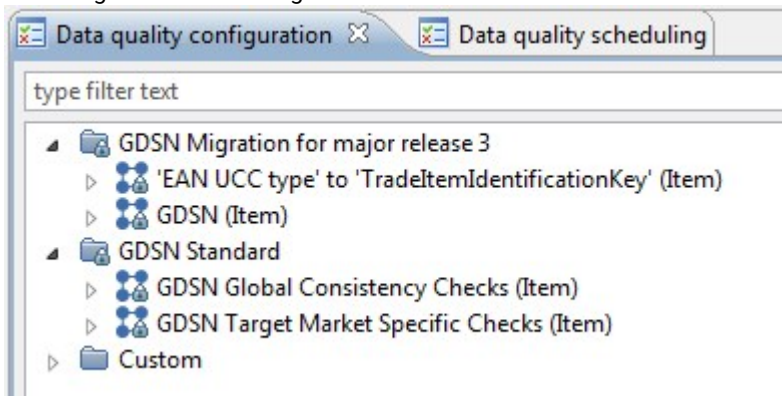
The resulting StandardDataQualityMappingProfile.xml should look like below

```

1  <?xml version="1.0" encoding="UTF-8"?>
2  <mappingProfile factory-id="hlr.DataQualityConfiguration" sys-id="1">
3    <categories factory-id="hlr.ConcurrentHashMap" size="1" sys-id="2">
4      <entry>
5        <key sys-class="sys.str" sys-id="3" sys-type="sc" sys-value="1423834071092"/>
6        <value factory-id="hlr.MappletCategory" sys-id="4">
7          <identifier>1423834071092</identifier>
8          <name>GDSN Standard</name>
9          <description/>
10         <groups factory-id="hlr.ConcurrentHashMap" size="2" sys-id="5">
828        </value>
829      </entry>
830      <entry>
831        <key sys-class="sys.str" sys-id="1076" sys-type="sc" sys-value="1453195099117"/>
832        <value factory-id="hlr.MappletCategory" sys-id="1077">
833          <identifier>1453195099117</identifier>
834          <name>GDSN Migration for major release 3</name>
835          <description/>
836          <groups factory-id="hlr.ConcurrentHashMap" size="2" sys-id="1078">
184        </value>
185      </entry>
186    </categories>
187  </mappingProfile>

```

- After those changes you need to restart your PIM server. After restart the Data quality configuration view will contain the configuration for the migration check.



### 8.16.5 Missing Data Quality rules

The following rules are missing and can be migrated at a later time:

### Consumer unit

If 'Is consumer unit' (IsConsumerUnit) is equal to true and 'Data carrier type' (dataCarrierTypeCode) is equal to (EAN\_13, UPC\_A or UPC\_E) then the first digit of the GTIN must equal 0.

If 'Is consumer unit' (IsConsumerUnit) is equal to true and the 'Target market' is US, the type of bar code 'Data carrier type' (dataCarrierTypeCode) is mandatory.

### Data carrier type

If 'Is consumer unit' (IsConsumerUnit) is equal to 'true' and 'Data carrier type' (dataCarrierTypeCode) is equal to 'EAN\_8' then the first six digits of the TradeItem/GTIN must equal '000000'.

This error does not only occur with this data carrier type, the same behavior can occur with other data carrier types.

### Packaging weight

The total of values in 'Packaging material composition quantity' may not exceed the value in 'Packaging weight' for the same item.

### Product type

If the target market does not equal AU (Australia) or NZ (New Zealand) it is mandatory to specify the pallet type (Platform type code) when product type is equal to PALLET.

## 8.17 GDSN Migration Guide for version 3.1.3

This migration guide is pointing out the changes which have been done for Product 360 v.8.0.05.05, 8.0.6.03 and higher in order to support the GDSN version 3.1.3. Furthermore the guideline is based on previous 8.0.5.xx and 8.0.6.xx Product 360 versions.

### 8.17.1 Overview

The migration guideline is going through all changes which have been made for the GDSN version 3.1.3 in the following chapters. In detail it's presenting following topics:

- Data cleansing which has to be done before executing the Product 360 update
- Subentity changes grouped by GDSN modules
- General data model changes which have been done in the repository
- Data quality rule and configuration changes in the GDSN Accelerator package
- Additional changes which have been done independently of GDSN version 3.1.3

### 8.17.2 Prerequisite for the Migration

In order to not destroy your data in your Product 360 system, some data quality checks must be executed before the migration can be started. This is necessary to be done because some values will be deleted during the update.

## FoodAndBeveragePropertiesInformationModule

### MicrobiologicalInformation

#### IM

Please make sure that all data quality rule configurations in the category "Microbiological information" are executed and passed in order to have migration-ready data. If one of the values does not have a corresponding UOM, another UOM could be assigned or the value gets lost during the migration.

#### DSE

Please ensure that all microbiological values have a corresponding UOM defined. If one of the values does not have a corresponding UOM, another UOM could be assigned or the value gets lost during the migration.



To check your data please create following data quality rule configurations and execute them. All microbiological information data entries need to pass those configurations in order to be ready for migration.

1. Create a data quality rule configuration "Check items with 'Organism maximum value' have a corresponding UOM populated" with following settings:

- Based on data quality rule: Check\_IfNotEmptyConditionNotEmpty
- Using data type: Microbiological information
- Mapping for input port "inConditionalField": Organism maximum value
- Mapping for input port "inCheckField": Organism maximum value UOM

The screenshot shows the 'Data quality configuration' window. On the left, a tree view shows the project structure with 'Microbiological information (Item)' selected. The main configuration area on the right is as follows:

**Name:** Check that items with 'Organism maximum value' have a corresponding UOM populated ☐ Hidden

**Description:**  
Checks that [inCheckField] is not empty, if and only if the condition [inConditionalField] is not empty. Returns: [outStatusMessage],[outStatusCode] -> ( no Error, OK ); If [inConditionalField] is empty or both, [inConditionalField] and [inCheckField], are not empty. In case of a failure there are two possible status message texts: [inStatusMessage] contains an GDSN error code which refers to an reference table entry, in this case [outStatusMessage] should contain the specific message.

**Rule name\*:** Check\_IfNotEmptyConditionNotEmpty

**Data type:** Microbiological information

| Input port         | Data type   | Field                      |
|--------------------|-------------|----------------------------|
| inObjectID         | string(512) | Object code number         |
| inConditionalField | string(512) | Organism maximum value     |
| inCheckField       | string(512) | Organism maximum value UOM |
| inStatusMessage    | string(50)  |                            |

**Data type:** Item

| Output port      | Data type    | Field              |
|------------------|--------------|--------------------|
| outObjectID      | string(512)  | Object code number |
| outStatusMessage | string(4096) | Message            |
| outStatusCode    | string(10)   | Status             |

**Data preprocessor:**

2. Create a data quality rule configuration "Check items with 'Organism reference value' have a corresponding UOM populated" with following settings:

- Based on data quality rule: Check\_IfNotEmptyConditionNotEmpty
- Using data type: Microbiological information
- Mapping for input port "inConditionalField": Organism reference value

- Mapping for input port "inCheckField": Organism reference value UOM

The screenshot shows the 'Data quality configuration' window. On the left, a tree view shows the hierarchy: GDSN3 > Microbiological Migration > Microbiological information (Item) > Check that items with 'Organism reference value' have a corresponding UOM populated. The right pane shows the configuration for this rule.

**Name:** Check that items with 'Organism reference value' have a corresponding UOM populated ☐ Hidden

**Description:** Checks that [inCheckField] is not empty, if and only if the condition [inConditionField] is not empty. Returns: [outStatusMessage],[outStatusCode] -> ( no Error, OK ): If [inConditionField] is empty or both, [inConditionField] and [inCheckField], are not empty. In case of a failure there are two possible status message texts: [inStatusMessage] contains an GDSN error code which refers to an reference table entry, in this case [outStatusMessage] should contain the specific message.

**Rule name:** Check\_IfNotEmptyConditionNotEmpty

**Data type:** Microbiological information

| Input port       | Data type   | Field                        |
|------------------|-------------|------------------------------|
| inObjectID       | string(512) | Object code number           |
| inConditionField | string(512) | Organism reference value     |
| inCheckField     | string(512) | Organism reference value UOM |
| inStatusMessage  | string(50)  |                              |

**Data type:** Item

| Output port      | Data type    | Field              |
|------------------|--------------|--------------------|
| outObjectID      | string(512)  | Object code number |
| outStatusMessage | string(4096) | Message            |
| outStatusCode    | string(10)   | Status             |

**Data preprocessor:**

3. Create a data quality rule configuration "Check items with 'Organism warning value' have a corresponding UOM populated" with following settings:
  - Based on data quality rule: Check\_IfNotEmptyConditionNotEmpty
  - Using data type: Microbiological information
  - Mapping for input port "inConditionalField": Organism warning value

- Mapping for input port "inCheckField": Organism warning value UOM

The screenshot shows the 'Data quality configuration' window. On the left, a tree view shows the hierarchy: GDSN3 > MicrobiologicalMigration > Microbiological information (Item) > Check that items with 'Organism warning value'. The right pane shows the rule configuration for 'Check that items with 'Organism warning value' have a corresponding UOM populated'.

**Name:** Check that items with 'Organism warning value' have a corresponding UOM populated ☐ Hidden

**Description:** Checks that [inCheckField] is not empty, if and only if the condition [inConditionField] is not empty. Returns: [outStatusMessage],[outStatusCode] -> ( no Error, OK ): If [inConditionField] is empty or both, [inConditionField] and [inCheckField], are not empty. In case of a failure there are two possible status message texts: [inStatusMessage] contains an GDSN error code which refers to an reference table entry, in this case [outStatusMessage] should contain the specific message.

**Rule name:** Check\_IfNotEmptyConditionNotEmpty

**Data type:** Microbiological information

| Input port       | Data type   | Field                      |
|------------------|-------------|----------------------------|
| inObjectID       | string(512) | Object code number         |
| inConditionField | string(512) | Organism warning value     |
| inCheckField     | string(512) | Organism warning value UOM |
| inStatusMessage  | string(50)  |                            |

**Data type:** Item

| Output port      | Data type    | Field              |
|------------------|--------------|--------------------|
| outObjectID      | string(512)  | Object code number |
| outStatusMessage | string(4096) | Message            |
| outStatusCode    | string(10)   | Status             |

**Data preprocessor:**

## 8.17.3 Migration

### Changes in GDSN modules

#### MarketingInformationModule

A new sub-entity "ArticleMarketing" has been introduced for the "MarketingInformationModule". The new sub-entity comes with a third-level sub-entity "ArticleMarketingLang" which is used for language-dependent data. Already existing fields of the "MarketingInformationModule" were moved from sub-entity "GDSNTargetMarketExtension".

Moved fields:

- Coupon family code
  - old identifier: GDSNTargetMarketExtension.CouponFamilyCode
  - new identifier: ArticleMarketing.CouponFamilyCode
- Special item code
  - old identifier: GDSNTargetMarketExtension.SpecialItemCode
  - new identifier: ArticleMarketing.SpecialItemCode
- Marketing message
  - old identifier: GDSNTargetMarketExtensionLang.MarketingMessage
  - new identifier: ArticleMarketingLang.MarketingMessage

Added fields:

- Sequence (identifier: ArticleMarketingLang.Sequence)

For this change following adjustments have been made:

- Introduced a new view called "Marketing information" for Product 360 Desktop client

| Target market | Coupon family code | Special item code                   |
|---------------|--------------------|-------------------------------------|
| 1 Germany     | 003                | Collateral item; Gift with purchase |

| Language  | Sequence | Marketing message                        |
|-----------|----------|------------------------------------------|
| 1 German  | 2        | Another test marketing message in german |
| 2 German  | 1        | Test Marketing message in german         |
| 3 English | 1        | Test Marketing message in english        |

- Introduced a new view called "Marketing information" for Product 360 Web client

Target market: Germany

Coupon family code: 003

Special item code: Collateral item, Gift with purchase

| Target market | Language | Sequence | Marketing message                        |
|---------------|----------|----------|------------------------------------------|
| Germany       | German   | 2        | Another test marketing message in german |
| Germany       | English  | 1        | Test Marketing message in english        |
| Germany       | German   | 1        | Test Marketing message in german         |

- A logical key "Sequence" was added to the entity "ArticleMarketingLang" to be able to maintain more than one marketing message per language (see also [Product 360 data model changes -> ArticleDomainLangType](#))
- A new import function "sequence" has been introduced which generates a sequence number to a logical key or a field.
- Existing data quality rule configurations got adjusted accordingly.
- Export format templates to export the data of this module have been adjusted accordingly.

**i** All values of the moved fields will be automatically migrated to the new sub-entity. There are no manual steps or any migration paths to consider.

**i** The new repository sub-entity "ArticleMarketing" is disabled by default (as all GDSN entities) and will be enabled during the server start.

## Marketing message

The field "Marketing message" (in GDSN "tradeltemMarketingMessage") was moved from third-level sub-entity "GDSNTargetMarketExtensionLang" to the newly introduced third-level sub-entity "ArticleMarketingLang". In addition a new field "Sequence" has been added to be able to maintain multiple marketing messages for one language.

*Note:* The "sequence" represents a not negative number.

### SpecialItemCode

This field has been moved from "GDSNTargetMarketExtension" to the new sub-entity "ArticleMarketing".

### CouponFamilyCode

This field has been moved from sub-entity "GDSNTargetMarketExtension" to the new sub-entity "ArticleMarketing".

In addition, this field became a multi value field. This means the user can maintain more than one value. The export format templates to export the data of this field has been adjusted accordingly.

Data quality (IM): The data quality rule configurations "Check 'Coupon family code' has max length of 3 characters (TM: US)" and "Check 'Coupon family code' has min length of 3 characters (TM: US)" have been adjusted accordingly. Find detailed information in chapter [Updated data quality rule configurations \(IM\) -> Target market specific checks / Marketing information](#).

### Target market specific GDSN attributes

#### GDSN short description (GDSNTargetMarketExtensionLang.ShortDescription)

The maximum length of this field has been reduced to 35 characters.

Technical information: The maximum length of that field has been adjusted in the repository.

### Changes in Food and Beverage modules

#### DairyFishMeatPoultryItemModule

#### Cheese maturation period description (ArticleCheeseLang.CheeseMaturationPeriodDescription)

From now on multiple language-dependent data of "Cheese maturation period description" can be exported. The field did already support multiple languages in Product 360, so no changes have been applied to this field. Export format templates to export the data of this module have been adjusted accordingly.

#### NutritionalInformationModule

#### Daily value intake reference (ArticleNutrientLang.DailyValueIntakeReference)

The maximum length of this field was changed from 70 to 500 characters.

Technical information: The field type was changed to ArticleDomainLangType.Std\_Text1000\_01. All values will be migrated automatically to the new database column, there are no migration paths to consider.

#### Serving size (ArticleNutrientBasisQuantity.ServingSize)



To retain the usability in this area it has been decided **not** to enable multiple serving sizes and their respective units by default. When desired this can be achieved by enabling the reserved logical keys in the data model (unit and text), deactivating today's serving size field, enhancing the enumeration which qualifies the quantity contained field and adjusting the export.

### FoodAndBeveragePropertiesInformationModule

#### Microbiological information

From now on all three values can be maintained per unit. That means for example that you can define an "organism maximum value" for a weight as well as for a volume. See the screenshot below for a better understanding.

Microbiological information (1) ✕

1

|   | Target market | Organism code | Organism maximum value (metric, milligram) | Organism maximum value (metric, millilitre) |
|---|---------------|---------------|--------------------------------------------|---------------------------------------------|
| 1 | USA           | Fungi         | 5.000000                                   | 10.000000                                   |

1 element selected

Microbiological detail information (2) ✕

1

|   | UOM type | Unit       | Organism maximum value | Organism reference value | Organism warning value |
|---|----------|------------|------------------------|--------------------------|------------------------|
| 1 | metric   | milligram  | 5.000000               | 2.00                     | 4.00                   |
| 2 | metric   | millilitre | 10.000000              | 4.00                     | 8.00                   |

Affected fields:

- OrganismWarningValue
  - identifier: ArticleMicrobiologicsUOM.OrganismMaximumValue
- OrganismReferenceValue
  - identifier: ArticleMicrobiologicsUOM.OrganismReferenceValue
- OrganismMaximumValue
  - identifier: ArticleMicrobiologicsUOM.OrganismMaximumValue

For this change following adjustments have been made:

- Introduced a new view for Product 360 Desktop client called "Microbiological detail information" (see screenshot above)
- Adjusted the view "Microbiological information" of Product 360 Web client

|                           |                          |                             |           |                      |                    |                                 |               |        |
|---------------------------|--------------------------|-----------------------------|-----------|----------------------|--------------------|---------------------------------|---------------|--------|
| Fish meat poultry content | Diet related information | Microbiological information | Nutrients | Nutrient information | Nutritional claims | Preparation serving information | Product yield | Search |
|---------------------------|--------------------------|-----------------------------|-----------|----------------------|--------------------|---------------------------------|---------------|--------|

| Target market | Organism code | UOM type | Unit     | Organism maximum value | Organism reference value | Organism warning value |  |
|---------------|---------------|----------|----------|------------------------|--------------------------|------------------------|--|
| Germany       | Milk acid     | metric   | decigram | 5.000000               | 10.12                    | 6.00                   |  |
| Germany       | Fungi         |          |          |                        |                          |                        |  |
|               |               |          |          |                        |                          |                        |  |

- Introduced a logical key as UOM value (identifier "ArticleMicrobiologicsUOM.LK.Unit")
- Removed the UOM fields with identifier "ArticleMicrobiologicsUOM.OrganismMaximumValueUOM", "ArticleMicrobiologicsUOM.OrganismReferenceValueUOM", "ArticleMicrobiologicsUOM.OrganismWarningValueUOM"

Please note that it's possible that you have more entries after the migration than before due to the fact that the unit became a logical key. The three old unit fields and their data have been removed.

Find detailed technical information in chapter [Product 360 data model changes -> ArticleDomainUOMType](#).

⚠ Please verify that all maintained value fields have an according UOM value maintained before the migration.

ℹ All values of the moved fields will be automatically migrated to the new sub-entity. There are no manual steps or any migration paths to consider.

ℹ **Community Profiles**

Certain community profiles (e.g FMCG) have a limitation of possible UOM values which are defined in the "Enum.GDSNMicrobiologicalUnits" enumeration. If you want to limit to the predefined values, you have to select this enumeration for the corresponding UOM field (ArticleMicrobiologicsUOM.Unit) in the repository.

### Physiochemical information

The field "Physiochemical characteristic value UOM" ( identifier: ArticlePhysioChemicalUOM.PhysiochemicalCharacteristicValueUOM) is no longer mandatory.

IM:

The mandatory check was done by the data quality rule configuration "Check items with 'Physiochemical characteristic value' have a corresponding UOM populated" which has been removed.

Export format template has been adjusted accordingly.

DSE:

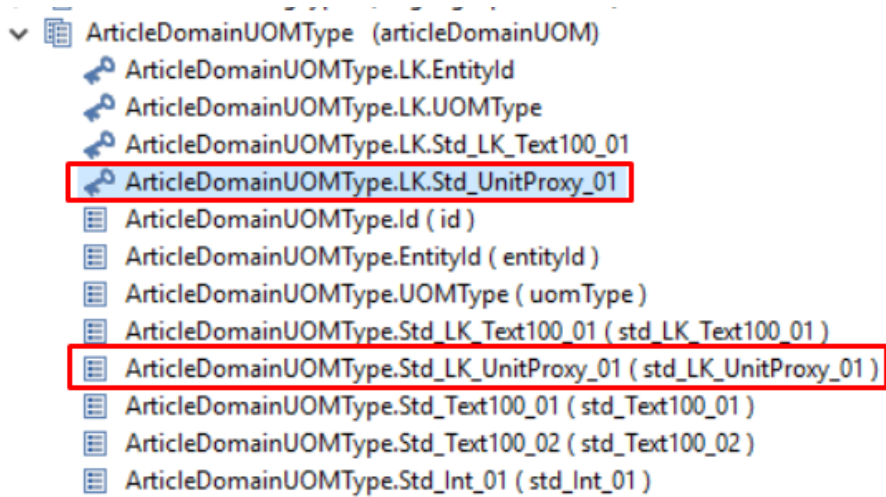
Export format template has been adjusted accordingly.

### 8.17.4 Product 360 data model changes

Some data model changes became necessary in the types area of the repository in order to support the GDSN version 3.1.3.

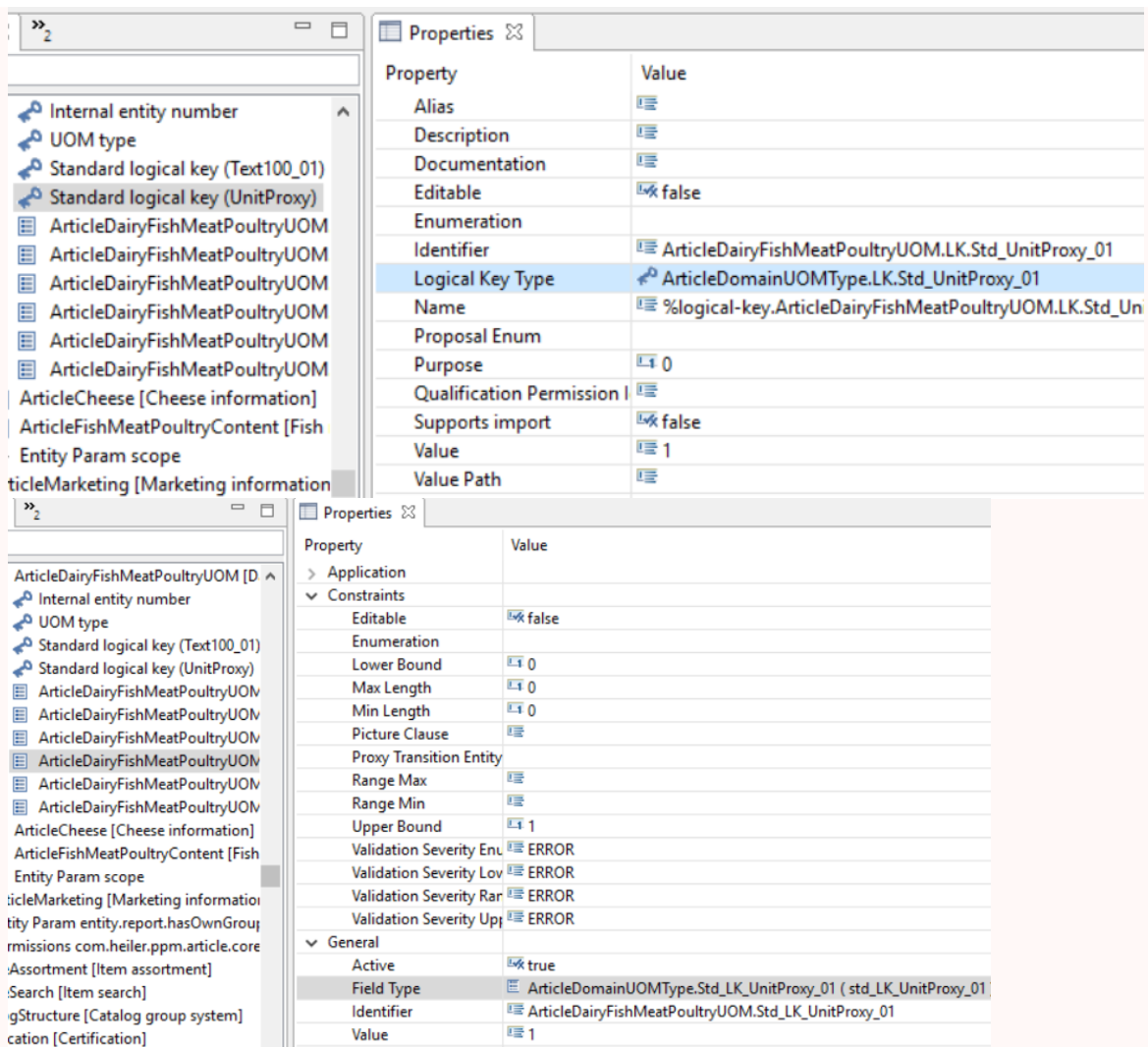
#### ArticleDomainUOMType

A new logical key type "ArticleDomainUOMType.LK.Std\_UnitProxy\_01" has been introduced. The standard custom entities have been adjusted accordingly.



All existing custom entities which are based on this entity type must be manually extended by corresponding logical key and field.

In case you need to deactivate this additional key use the default value 1 and do not maintain an enumeration:



## ArticleDomainLangType

A new logical key type "ArticleDomainLangType.LK.Std\_LK\_Int\_01" has been introduced. The standard custom entities have been adjusted accordingly.

- ▼ **ArticleDomainLangType** (languageSpecificData)
  - ArticleDomainLangType.LK.EntityId
  - ArticleDomainLangType.LK.Language
  - ArticleDomainLangType.LK.Std\_LK\_Int\_01**
  - ArticleDomainLangType.Id ( id )
  - ArticleDomainLangType.EntityId ( entityId )
  - ArticleDomainLangType.Language ( language )
  - ArticleDomainLangType.Std\_LK\_Int\_01 ( std\_LK\_Int\_01 )**
  - ArticleDomainLangType.Std\_Text100\_01 ( std\_Text100\_01 )
  - ArticleDomainLangType.Std\_Text100\_02 ( std\_Text100\_02 )





All existing custom entities which are based on this entity type must be manually extended by corresponding logical key and field.

### 8.17.5 Data quality rule and configuration changes

Some changes have been made for the data quality component. This contains new, removed and updated data quality rule configurations as well as new and updated GDSN data quality rules.

#### New data quality rule configurations

##### Global consistency checks

##### "Check 'Effective date' is not empty"

The new data quality rule configuration "Check 'Effective date' is not empty" was added for IM and DSE. This rule configuration ensures that the field "Effective date" is set.

|                                                                         |              |                |  |                                 |
|-------------------------------------------------------------------------|--------------|----------------|--|---------------------------------|
| Name*: <input type="text" value="Check 'Effective date' is not empty"/> |              |                |  | <input type="checkbox"/> Hidden |
| Description: <div>Checks if 'Effective date' is not empty.</div>        |              |                |  |                                 |
| Rule name*: <input type="text" value="Check_isEmpty"/>                  |              |                |  |                                 |
| Data type: <input type="text" value="Item"/>                            |              |                |  |                                 |
| Input port                                                              | Data type    | Field          |  |                                 |
| Field_Value                                                             | string(4096) | Effective date |  |                                 |
| Data type: <input type="text" value="Item"/>                            |              |                |  |                                 |
| Output port                                                             | Data type    | Field          |  |                                 |
| Status_Message                                                          | string(1024) | Message        |  |                                 |
| Status_Code                                                             | string(10)   | Status         |  |                                 |
| Data preprocessor: <input type="text"/>                                 |              |                |  |                                 |

#### Ingredient information (New)

##### "Check 'Ingredient Name (en)' is not empty"

The new data quality rule configuration "Check 'Ingredient Name (en)' is not empty" was added to the new group "Ingredient information" for IM and DSE. This rule configuration ensures that an English "ingredient name" is set when a "sequence" was defined. In case you want to ensure this for another language, please copy the configuration in your custom data quality configuration category and adjust it for your language.

Limitation: The sequence is optional in the GDSN data model but it is mandatory in Product 360.

Name\*:  ☐ Hidden

Description: 

Checks if 'Ingredient name (en)' is not empty.

Rule name\*:

Data type:

| Input port       | Data type   | Field                                   |
|------------------|-------------|-----------------------------------------|
| inObjectID       | string(512) | Object code number                      |
| inConditionField | string(512) | Sequence                                |
| inCheckField     | string(512) | Ingredient (Sequence selectable, Tar... |
| inStatusMessage  | string(50)  | "GDSN1177"                              |

Data type:

| Output port      | Data type    | Field              |
|------------------|--------------|--------------------|
| outObjectID      | string(512)  | Object code number |
| outStatusMessage | string(4096) | Message            |
| outStatusCode    | string(10)   | Status             |

## Removed data quality rule configurations (IM)

### Target market specific checks

#### "If 'Pricing on product is not empty, then 'Is consumer unit' must equal true (TM: US)"

The data quality rule configuration "If 'Pricing on product is not empty, then 'Is consumer unit' must equal true (TM: US)" for IM has been removed because it's no longer valid due to the GDSN changes.

### Microbiological information

All data quality rule configurations in the group "Microbiological information" has been removed because they are no longer needed after the data model change. It contained following data quality rule configurations:

- "Check items with 'Organism maximum value' have a corresponding UOM populated"
- "Check items with 'Organism reference value' have a corresponding UOM populated"
- "Check items with 'Organism warning value' have a corresponding UOM populated"

### Physiochemical information

The data quality rule configuration in the group "Physiochemical information" has been removed because it is no longer needed with the changes of the GDSN version. It contained following data quality rule configuration:

- "Check items with 'Physiochemical characteristic value' have a corresponding UOM populated"

## Updated data quality rule configurations (IM)

### Target market specific checks / Marketing information

#### "Check 'Coupon family code' has max length of 3 characters (TM: US) and Check 'Coupon family code' has min length of 3 characters (TM: US)"

To support the multi value change for the "Coupon family code" field the according data quality rules and data quality rule configurations had to be adjusted.

The data quality rule configurations were based on the data quality rules "Check\_MaxLength" and "Check\_MinLength". Those have been adjusted to use the new data quality rules "Check\_MaxLengthVariableMessage" and "Check\_MinLengthVariableMessage". The rule has an additional input port "inMultiValueDelimiter" where the delimiter of the field is defined. See below the change from the previous configuration (left) to the updated configuration (right).

The image shows two side-by-side screenshots of data quality rule configuration interfaces. Both have a 'Name\*' field with the text 'Check 'Coupon family code' has max length of 3 character' and a 'Hidden' checkbox. The 'Description' field for both is 'Checks if the value of the coupon family code is at most 3 characters long for the target market 'US''. The 'Rule name\*' field on the left is 'Check\_MaxLength' and on the right is 'Check\_MaxLengthVariableMessage'. Both have a 'Data type' dropdown set to 'Item'. Below each is a table with input ports, data types, and fields.

| Input port | Data type    | Field                    |
|------------|--------------|--------------------------|
| inLength   | string(10)   | "3"                      |
| inData     | string(4096) | Coupon family code (USA) |

Below the table on the left is another 'Data type' dropdown set to 'Item' and an 'Output port' table with headers 'Output port', 'Data type', and 'Field'.

| Input port            | Data type    | Field                    |
|-----------------------|--------------|--------------------------|
| inObjectID            | string(512)  | Object code number       |
| inLength              | string(12)   | "3"                      |
| inCheckField          | string(4096) | Coupon family code (USA) |
| inMultiValueDelimiter | string(10)   | ","                      |
| inStatusMessage       | string(50)   |                          |

Furthermore the data quality rule configurations got moved from the group "Target market specific checks" to the newly introduced group "Marketing information".

### Updated data quality rules

#### GDSN Data quality rule "Check\_MaxLengthVariableMessage"

This rule got an additional input parameter "inMultiValueDelimiter" to be able to support multi value checks. In case the parameter is empty, a single value is expected in the "inCheckField" input port.



Existing data quality rule configurations must not be adjusted since the single value check is working as before.

## New data quality rules

### GDSN Data quality rule "Check\_MinLengthVariableMessage"

This rule will check if the length of the input string is more than or equal to the defined minimum length. The input string is given in the port "inCheckField" and the length in the port "inLength". In case input string is a multi value field, a delimiter has to be specified to detect single values which are going to be checked. The according port to define the delimiter is called "inMultiValueDelimiter". Furthermore it's possible to override the rules error message with a GDSN specific error message. The default error message is "inCheckField length exceeds the maximum length defined (<inLength>)."

### 8.17.6 Additional changes

Some improvements have been made in addition to the needed changes for GDSN version 3.1.3. This chapter will show up those changes.

### New GDSN unit enumeration

There is a new enumeration containing all GDSN units. This enumeration has been assigned to all fields in context of GDSN or food and beverage that used the "all units" enumeration.

#### Technical information:

- enumeration identifier: "Enum.GDSNUnits"
- identifiers of affected fields:
  - ArticleFishMeatPoultryContentUOM.MinimumFishMeatPoultryContentUOM
  - ArticlePhysioChemicalUOM.PhysiochemicalCharacteristicValueUOM
  - GDSNCanadaExtensionUOM.SuggestedServingSizeUOM
  - ArticleNutrientBasisQuantity.ServingSizeUOM
  - ArticleMicrobiologicsUOM.Unit and corresponding logical key ArticleMicrobiologicsUOM.LK.Unit

### New view for Product 360 Desktop client

A new view "Confirmation message" has been introduced. It is used to show the maintained messages for a CIC in the data recipient scenario.

Properties of the view:

- read only
- visible for data recipient scenario only
- dependent on the "Confirmation status" selection

|   | Sender  | Recipient               | Target mar... | Me... | Public... | Linked GTIN | Severity |
|---|---------|-------------------------|---------------|-------|-----------|-------------|----------|
| 1 | Our GLN | DataProvider - ThaStore | USA           | CIC   | USA       | <no GTIN>   | REJEC... |

1 element selected

|   | Message                                                                                        |
|---|------------------------------------------------------------------------------------------------|
| 1 | You did not maintain the fields as we discussed on the phone. The field "dummy" should be s... |

1 element selected

## New data quality rule configurations

### Dairy fish meat poultry information

The data quality rule configuration "Check items with 'Fish meat poultry type code' have a 'Minimum fish meat poultry content' populated" has been added to the group "Dairy Fish Meat Poultry information". It is used to ensure that the field "Minimum fish meat poultry content" is maintained if the "Fish meat poultry type code", "Fish meat poultry type code list agency" or "Fish meat poultry type code list identification" is maintained. Since those fields are all logical keys, the data quality rule configuration is only checking one of them.

See below the new data quality configuration.

Name\*:  ☐ Hidden

Description:

Rule name\*:

Data type:

| Input port       | Data type   | Field                             |
|------------------|-------------|-----------------------------------|
| inObjectID       | string(512) | Object code number                |
| inConditionField | string(512) | Fish meat poultry type code       |
| inCheckField     | string(512) | Minimum fish meat poultry content |
| inStatusMessage  | string(50)  |                                   |

Data type:

| Output port      | Data type    | Field              |
|------------------|--------------|--------------------|
| outObjectID      | string(512)  | Object code number |
| outStatusMessage | string(4096) | Message            |
| outStatusCode    | string(10)   | Status             |

## Adjusted data quality rule configurations

### Nutritional information

The existing data quality rule configuration "Check 'Daily value intake reference' or 'Quantity contained' is not empty if 'Nutrient type' is set" configuration has been adjusted according to the GDSN validation.

- Previous configuration name: Check 'Daily value intake reference' or 'Quantity contained' is not empty if 'Nutrient type' is set
- New configuration name: Check 'Percentage of daily intake' or 'Quantity contained' is not empty if 'Nutrient type' is set
- Previous input port mapping for inCheckField1: Daily value intake reference
- New input port mapping for inCheckField1: Percentage of daily intake

Please find below the changes from the previous versions on the left side and the new configuration on the right side.

Name\*:
☐ Hidden

Description:

Checks if at least one of the two fields 'Daily value intake reference' or 'Quantity contained' are not empty if 'Nutrient type' is set.

Rule name\*:

Data type:

| Input port       | Data type   | Field                        |
|------------------|-------------|------------------------------|
| inObjectID       | string(512) | Object code number           |
| inConditionField | string(512) | Nutrient type                |
| inCheckField1    | string(512) | Daily value intake reference |
| inCheckField2    | string(512) | Quantity contained           |
| inCheckField3    | string(512) |                              |
| inCheckField4    | string(512) |                              |
| inStatusMessage  | string(50)  | "GDSN1043"                   |

Data type:

| Output port      | Data type    | Field              |
|------------------|--------------|--------------------|
| outObjectID      | string(512)  | Object code number |
| outStatusMessage | string(4096) | Message            |
| outStatusCode    | string(10)   | Status             |

Name\*:
☐ Hidden

Description:

Checks if at least one of the two fields 'Percentage of daily intake' or 'Quantity contained' are not empty if 'Nutrient type' is set.

Rule name\*:

Data type:

| Input port       | Data type   | Field                      |
|------------------|-------------|----------------------------|
| inObjectID       | string(512) | Object code number         |
| inConditionField | string(512) | Nutrient type              |
| inCheckField1    | string(512) | Percentage of daily intake |
| inCheckField2    | string(512) | Quantity contained         |
| inCheckField3    | string(512) |                            |
| inCheckField4    | string(512) |                            |
| inStatusMessage  | string(50)  | "GDSN1043"                 |

Data type:

| Output port      | Data type    | Field              |
|------------------|--------------|--------------------|
| outObjectID      | string(512)  | Object code number |
| outStatusMessage | string(4096) | Message            |
| outStatusCode    | string(10)   | Status             |

### 8.17.7 Valid value list changes

| <b>AllergenTypeCode</b><br>Used in field ArticleAllergenList.AllergenTypeCode (Allergen type, Allergenart), context: food & beverage |                                   |                                |         |                                   |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------|---------|-----------------------------------|
| Code                                                                                                                                 | Name (en)                         | Name (de)                      | Action  | Remarks                           |
| TN                                                                                                                                   | Contains traces of tree nuts (TN) | Enthält Spuren von Nüssen (TN) | removed | manual check and migration needed |
| <b>GrapeVarietyCode</b><br>Used in field Ingredient.GrapeVarietyCode (Grape variety code, Rebsortencode), context: food & beverage   |                                   |                                |         |                                   |
| Code                                                                                                                                 | Name (en)                         | Name (de)                      | Action  | Remarks                           |
| ARNEIS                                                                                                                               | Arneis                            | Arneis                         | added   | DSE only                          |

| BLACK QUEEN                                                                                                                                      | Black Queen                                     | Black Queen                                             | add ed | DSE only |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------|--------|----------|
| DELAWARE                                                                                                                                         | Delaware                                        | Delaware                                                | add ed | DSE only |
| KOSHU                                                                                                                                            | Koshu                                           | Koshu                                                   | add ed | DSE only |
| MUSCAT BAILEY A                                                                                                                                  | Muscat Bailey A                                 | Muscat Bailey A                                         | add ed | DSE only |
| NIAGARA                                                                                                                                          | Niagara                                         | Niagara                                                 | add ed | DSE only |
| REGENT                                                                                                                                           | Regent                                          | Regent                                                  | add ed | DSE only |
| RYUGAN                                                                                                                                           | Ryugan                                          | Ryugan                                                  | add ed | DSE only |
| SMÊDEREVKA                                                                                                                                       | Smederevka                                      | Smederevka                                              | add ed | DSE only |
| TERRET                                                                                                                                           | Terret                                          | Terret                                                  | add ed | DSE only |
| VRANEC                                                                                                                                           | Vranec                                          | Vranec                                                  | add ed | DSE only |
| <b>NutrientTypeCode</b><br><b>Used in field ArticleNutrientList.NutrientTypeCode (Nutrient type, Nährstoffart), context: food &amp; beverage</b> |                                                 |                                                         |        |          |
| Code                                                                                                                                             | Name (en)                                       | Name (de)                                               | Action | Remarks  |
| X_FATRSA                                                                                                                                         | Combined saturated fat and trans fat (X_FATRSA) | Gesättigte und ungesättigte Fette kombiniert (X_FATRSA) | add ed |          |
| X_CASNWH                                                                                                                                         | Casein to whey protein ratio (X_CASNWH)         | Molkeneiweiß-Casein-Verhältnis (X_CASNWH)               | add ed | DSE only |
| X_FUNS                                                                                                                                           | Total unsaturated fat (X_FUNS)                  | Ungesättigte Fettsäuren insgesamt (X_FUNS)              | add ed | DSE only |
| X_PROSOL                                                                                                                                         | Soluble protein (X_PROSOL)                      | Lösliches Eiweiß (X_PROSOL)                             | add ed | DSE only |
| X_SALATRIM                                                                                                                                       | Salatrim (X_SALATRIM)                           | Salatrim (X_SALATRIM)                                   | add ed | DSE only |
| X_SUCRA                                                                                                                                          | Sucralose (X_SUCRA)                             | Sucralose (X_SUCRA)                                     | add ed | DSE only |

**NutritionalClaimNutrientElementCode**

Used in field ArticleNutritionalClaim.NutritionalClaimNutrientElementCode (Nutritional claim element code, Nährwertanspruch: Nährstoffcode), context: food & beverage

| Code                     | Name (en)                | Name (de)                              | Action | Remarks |
|--------------------------|--------------------------|----------------------------------------|--------|---------|
| CAFFEINE                 | Caffeine                 | Koffein                                | added  |         |
| DECAFFEINATED            | Decaffeinated            | Entkoffeiniert                         | added  |         |
| ARTIFICIAL_COLOUR        | Artificial colour        | Künstliche Farbstoffe                  | added  | IM only |
| ASPARTAME                | Aspartame                | Aspartam                               | added  | IM only |
| AZO_DYE                  | Azo dye                  | Azofarbstoff                           | added  | IM only |
| BEEF_GELATINE            | Beef gelatine            | Rindergelatine                         | added  | IM only |
| FLAVOUR_ENHANCERS        | Flavour enhancers        | Geschmacksverstärker                   | added  | IM only |
| GELATINE                 | Gelatine                 | Gelatine                               | added  | IM only |
| HIGH_FRUCTOSE_CORN_SYRUP | High fructose corn syrup | Maissirup mit hohem Fruchtzuckergehalt | added  | IM only |
| MSG                      | Monosodium glutamate     | Mononatriumglutamat                    | added  | IM only |
| NANOPARTICLE             | Nanoparticle             | Nanopartikel                           | added  | IM only |
| NATURAL_FLAVOUR          | Natural flavour          | Natürliches Aroma                      | added  | IM only |
| NITRATE                  | Nitrate                  | Nitrat                                 | added  | IM only |
| PHENYLALANINE            | Phenylalanine            | Phenylalanin                           | added  | IM only |
| PHOSPHATE                | Phosphate                | Phosphat                               | added  | IM only |
| PORK_GELATINE            | Pork gelatine            | Schweinegelatine                       | added  | IM only |



| SMOKE_FLAVOUR                                                                                                                                                                                        | Smoke flavour                                | Raucharoma                                   | add ed   | IM only           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|----------|-------------------|
| SODIUM_NITRITE                                                                                                                                                                                       | Sodium nitrite                               | Natriumnitrit                                | add ed   | IM only           |
| SORBITOL                                                                                                                                                                                             | Sorbitol                                     | Sorbitol                                     | add ed   | IM only           |
| WATER                                                                                                                                                                                                | Water                                        | Wasser                                       | add ed   | IM only           |
| <b>NutritionalClaimTypeCode</b><br><b>Used in field ArticleNutritionalClaim.NutritionalClaimTypeCode (Nutritional claim type code, Nährwertanspruch: Code der Art), context: food &amp; beverage</b> |                                              |                                              |          |                   |
| Code                                                                                                                                                                                                 | Name (en)                                    | Name (de)                                    | Action   | Remarks           |
| PURE                                                                                                                                                                                                 | Pure                                         | Pur                                          | add ed   |                   |
| REAL                                                                                                                                                                                                 | Real                                         | Echt                                         | add ed   |                   |
| <b>OrganicClaimAgency</b><br><b>Used in field IngredientOrganic.ClaimAgencyCode (Organic claim agency code, Ökologische Kontrollstelle), context: food &amp; beverage</b>                            |                                              |                                              |          |                   |
| Code                                                                                                                                                                                                 | Name (en)                                    | Name (de)                                    | Action   | Remarks           |
| 7                                                                                                                                                                                                    | Quality Assurance International (Deprecated) | Quality Assurance International (Deprecated) | change d | set to deprecated |
| 8                                                                                                                                                                                                    | Südtirol Bioland (Deprecated)                | Südtirol Bioland (Deprecated)                | change d | set to deprecated |
| 9                                                                                                                                                                                                    | Ecoland (Deprecated)                         | Ecoland (Deprecated)                         | change d | set to deprecated |
| 12                                                                                                                                                                                                   | Naturland (Deprecated)                       | Naturland (Deprecated)                       | change d | set to deprecated |
| 13                                                                                                                                                                                                   | BVÖL (Deprecated)                            | BVÖL (Deprecated)                            | change d | set to deprecated |

| 14                                                                                                                                                                         | ECOVIN (Deprecated)                       | ECOVIN (Deprecated)                        | changed | set to deprecated                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------|---------|------------------------------------------|
| 15                                                                                                                                                                         | IFOAM (Deprecated)                        | IFOAM (Deprecated)                         | changed | set to deprecated                        |
| 19                                                                                                                                                                         | QCS (Deprecated)                          | QCS (Deprecated)                           | changed | set to deprecated                        |
| <b>PreparationType</b><br>Used in field ArticlePreparationServing.PreparationType (Preparation type, Zubereitungsart), context: food & beverage                            |                                           |                                            |         |                                          |
| Code                                                                                                                                                                       | Name (en)                                 | Name (de)                                  | Action  | Remarks                                  |
| AIR_FRY                                                                                                                                                                    | Air frying                                | Heißluftfritieren                          | added   | IM only                                  |
| <b>OrganismCode</b><br>Used in field ArticleMicrobiologics.OrganismCode (Organism code, Organismus-Code), context: food & beverage                                         |                                           |                                            |         |                                          |
| Code                                                                                                                                                                       | Name (en)                                 | Name (de)                                  | Action  | Remarks                                  |
| MILK_ACID                                                                                                                                                                  | Milk acid                                 | Milchsäurebakterien                        | changed | changed code from MILK-ACID to MILK_ACID |
| BACILLUS_SUBTILIS                                                                                                                                                          | Bacillus subtilis (hay or grass bacillus) | Bacillus subtilis (Heu- oder Grasbazillus) | added   |                                          |
| HISTAMINE                                                                                                                                                                  | Histamine                                 | Histamine                                  | added   |                                          |
| NOROVIRUS                                                                                                                                                                  | Norovirus                                 | Norovirus                                  | added   |                                          |
| <b>NutritionalProgramCode</b><br>Used in field ArticleHealthCare.NutritionalProgramCode (Nutritional program code, Code des Ernährungsprogramms), context: food & beverage |                                           |                                            |         |                                          |
| Code                                                                                                                                                                       | Name (en)                                 | Name (de)                                  | Action  | Remarks                                  |
| 2                                                                                                                                                                          | USDA MyPlate                              | USDA MyPlate                               | added   |                                          |
| 3                                                                                                                                                                          | Dietary Guidelines for Americans          | Ernährungsrichtlinien für Amerikaner       | added   |                                          |

| 4                                                                                                                                                                                                                             | Fruits & Veggies - More Matters                  | Obst & Gemüse - Es zählt mehr                       | added   |                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|---------|--------------------------------------------------------------------|
| 5                                                                                                                                                                                                                             | 3-Every-Day of Dairy                             | 3 Milchprodukte jeden Tag                           | added   |                                                                    |
| 6                                                                                                                                                                                                                             | American Diabetes Association Food Exchange List | Essensliste der Amerikanischen Diabetes-Vereinigung | added   |                                                                    |
| 7                                                                                                                                                                                                                             | Weight Watchers                                  | Weight Watchers                                     | added   |                                                                    |
| <b>SurfaceOfCheeseAtEndOfRipeningCode</b><br><b>Used in field ArticleCheese.SurfaceOfCheeseAtEndOfRipeningCode (Surface of cheese at end of ripening, Käseoberfläche am Ende der Reifezeit), context: food &amp; beverage</b> |                                                  |                                                     |         |                                                                    |
| Code                                                                                                                                                                                                                          | Name (en)                                        | Name (de)                                           | Action  | Remarks                                                            |
| SOFT_RIPENED_MOULD_RIND                                                                                                                                                                                                       | Soft-ripened mould rind                          | Weich-gereifte Schimmelrinde                        | added   |                                                                    |
| <b>PhysiochemicalCharacteristicCode</b><br><b>Used in field ArticlePhysioChemical.PhysiochemicalCharacteristicCode (Physiochemical characteristic code, Physiochemische Eigenschaft), context: food &amp; beverage</b>        |                                                  |                                                     |         |                                                                    |
| Code                                                                                                                                                                                                                          | Name (en)                                        | Name (de)                                           | Action  | Remarks                                                            |
| AFLATOXIN_B1_LESS_THAN                                                                                                                                                                                                        | Aflatoxin B1                                     | Aflatoxin B1                                        | changed | changed code from AFLATOXIN_B1_LESS_THAN to AFLATOXIN_B1_LESS_THAN |
| BASE_QUANTITY_PER_PACKAGE                                                                                                                                                                                                     | Base quantity per package                        | Basismenge pro Packung                              | added   |                                                                    |
| PURE_BASE_RATIO                                                                                                                                                                                                               | Pure base ratio                                  | Reinanteil                                          | added   |                                                                    |
| <b>ApplicationIdentifierType</b><br><b>Used in field ArticleDataCarrier.ApplicationIdentifierType (Application identifier type, Application identifier), context: GDSN</b>                                                    |                                                  |                                                     |         |                                                                    |
| Code                                                                                                                                                                                                                          | Name (en)                                        | Name (de)                                           | Action  | Remarks                                                            |
| 21                                                                                                                                                                                                                            | Serial number                                    | Seriennummer                                        | added   | IM only                                                            |

| <b>PackagingTypeCode</b><br>Used in field ArticlePackaging.PackagingType (Packaging type, Verpackungsart), context: GDSN                                                            |                              |                                       |        |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------------------------|--------|---------|
| Code                                                                                                                                                                                | Name (en)                    | Name (de)                             | Action | Remarks |
| CQ                                                                                                                                                                                  | Cartridge                    | Kartusche                             | added  |         |
| RO                                                                                                                                                                                  | Roll                         | Rolle                                 | added  |         |
| <b>PackagingMaterialTypeCode</b><br>Used in field ArticlePackagingMaterial.PackagingMaterialTypeCode (Packaging material type code, Verpackungsmaterialtyp), context: GDSN          |                              |                                       |        |         |
| Code                                                                                                                                                                                | Name (en)                    | Name (de)                             | Action | Remarks |
| METAL_COMPOSITE                                                                                                                                                                     | Metal composite              | Metallverbund                         | added  | IM only |
| <b>SustainabilityFeatureCode</b><br>Used in field ArticleSustainability.TradeltemSustainabilityFeatureCode (Sustainability feature code, Nachhaltigkeitseigenschaft), context: GDSN |                              |                                       |        |         |
| Code                                                                                                                                                                                | Name (en)                    | Name (de)                             | Action | Remarks |
| MADE_FROM_RECYCLED_MATERIAL                                                                                                                                                         | Recycled material            | Recyclingmaterial                     | added  |         |
| REUSABLE                                                                                                                                                                            | Reusable                     | Wiederverwendbar                      | added  |         |
| <b>AdditionalPartyIDList</b><br>Used in field ThirdPartyAdditionalIdentification.Type (Third party is used in Certification.Organisation), context: general                         |                              |                                       |        |         |
| Code                                                                                                                                                                                | Name (en)                    | Name (de)                             | Action | Remarks |
| EU_VAT_IDENTIFICATION_NUMBER                                                                                                                                                        | EU VAT Identification Number | EU Umsatzsteuer-Identifikationsnummer | added  |         |

| ReferencedFileTypeCode                                                                                                     |                       |                            |         |                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Used in field CertificateReferencedFile.FileTypeCode(Referenced file type, Typ der referenzierten Datei), context: general |                       |                            |         |                                                                                                                                                                  |
| Code                                                                                                                       | Name (en)             | Name (de)                  | Action  | Remarks                                                                                                                                                          |
| 360_DEGREE_IMAGE                                                                                                           | 360 Degree Image      | 360 Grad Bild              | added   |                                                                                                                                                                  |
| ASSEMBLY_INSTRUCTIONS                                                                                                      | Assembly Instructions | Aufbau-/Montageanleitung   | added   |                                                                                                                                                                  |
| PACKAGING_ARTWORK                                                                                                          | Packaging Artwork     | Verpackungs-Bebilderung    | added   |                                                                                                                                                                  |
| QR_CODE                                                                                                                    | Link to QR Code       | Verknüpfung zum QR URL/URI | added   |                                                                                                                                                                  |
| Units                                                                                                                      |                       |                            |         |                                                                                                                                                                  |
| Used in several UOM fields, context: GDSN units in general                                                                 |                       |                            |         |                                                                                                                                                                  |
| Code                                                                                                                       | Name (en)             | Name (de)                  | Action  | Remarks                                                                                                                                                          |
| RO                                                                                                                         | roll                  | Rolle                      | changed | changed code from RL to RO                                                                                                                                       |
| XRO                                                                                                                        | Roll (GDSN)           | Rolle (GDSN)               | added   | category: Measuring units                                                                                                                                        |
| MTS                                                                                                                        | Metre per second      | Meter pro Sekunde          | added   | category: Measuring units                                                                                                                                        |
| AM                                                                                                                         | Ampoule (deprecated)  | Ampulle (veraltet)         | changed | removed category from this unit, so it won't show up in any unit enumeration which is based on this category;<br><br>changed name to mark the unit as deprecated |
| MPN                                                                                                                        | most probable number  | Wahrscheinlichste Anzahl   | changed | added category: Microbiological units, available in "Enum.GDSNMicrobiologicalUnits" enumeration                                                                  |

|     |                      |                           |         |                                                                                                 |
|-----|----------------------|---------------------------|---------|-------------------------------------------------------------------------------------------------|
| CFU | colony forming units | Koloniebildende Einheiten | changed | added category: Microbiological units, available in "Enum.GDSNMicrobiologicalUnits" enumeration |
|-----|----------------------|---------------------------|---------|-------------------------------------------------------------------------------------------------|

### 8.17.8 DSE Export template changes

This chapter lists all changes that have been made to the export templates used for DSE scenarios.

#### General changes

##### Renaming of export templates

The export templates got more convenient names. The names of the export files have been adjusted as well, they are the same as those of the export templates.

##### Data source

- MjR3\_DSE\_CatalogItemConfirmation → CIC\_CatalogItemConfirmation
- MjR3\_DSE\_CatalogItemSubscription → CIS\_CatalogItemSubscription
- MjR3\_DSE\_RequestForCatalogItem → RFCIN\_RequestForCatalogItem

##### Data recipient

- MjR3\_DSE\_CatalogItemNotification → CIN\_CatalogItemNotification
- MjR3\_DSE\_CatalogItemPublication → CIP\_CatalogItemPublication
- MjR3\_DSE\_CatalogItemPublicationWithdrawal → CIPHW\_CatalogItemPublicationHierarchyWithdrawal

#### General export template changes

The following changes have been made to all export templates:

- Adjustments according to new XSD files
- Post export step "Validate XML file(s)": cancel export in case of error during XML validation
- The post export step "XML Pretty print" has been removed. It should only be used during the implementation and testing phase but not in production environment.

#### New XSD file set

A new XSD file set has been provided for GDSN version 3.1.3. All old XSD files used for export post steps have to be deleted, then all new XSD files must be uploaded.

#### Data recipient export templates

All data recipient export templates (Catalog item confirmation, Catalog item subscription, Request for catalog item) have to be replaced with the new export templates.

#### Data source export templates

The item publication export templates (Catalog item publication, Catalog item publication hierarchy withdrawal) must be replaced by the corresponding new export templates.

If you use the provided default "Catalog item notification" export template you should replace it by the new one as well. In case this is not possible because of customizations, you'll find a detailed description of changes below.

## Catalog item notification export template

The "Catalog item notification" export template is the most complex export template of the GDSN accelerator package. The following section describes the changes that have been made to that export template in detail and thus enables you to apply those changes to any customized "Catalog item notification" export template.

### File header

The "documentCommandType" variable has been renamed from "Operation (ADD, CHANGE\_BY\_REFRESH, CORRECT or DELETE)" to "Operation (ADD, CHANGE\_BY\_REFRESH or CORRECT)". The option "DELETE" was removed from the variable name because it's not valid anymore.

### TradeItemDescriptionModule

Affected field: "GDSN short description"

The existing export validation for truncating the value to a maximum length of 35 for the export fields "Item.GDSN short description (Target market, Language)" and "Item.GDSN short description (Target market, Language second)" has been adjusted in the export format template. From now on a warning instead of an error will be logged in case the truncate of the value is executed.

### MarketingInformationModule

Affected fields: "Marketing message", "SpecialItemCode", "CouponFamilyCode"

The field "Marketing message" has been moved from "Marketing information" to new export sub-module "Marketing messages". In addition, multiple values for "CouponFamilyCode" can be exported from now on.

#### Previous DSE export template snippet, call of "Marketing information" sub-module ("Items" main module)

```
{?CreateXMLTagWithContent {$Marketing information}
, "<marketing_information:marketingInformationModule xsi:schemaLocation='urn:gs1:gdsn:marketing_information:xsd:3 http://www.gdsregistry.org/3.1/schemas/gsl/gdsn/MarketingInformationModule.xsd' xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xmlns:marketing_information='urn:gs1:gdsn:marketing_information:xsd:3'>
  <marketingInformation>
  ?
  </marketingInformation>
</marketing_information:marketingInformationModule>"
}
```

#### Previous DSE export template content for sub-module "Marketing information"

```
{?CreateXMLTagWithValue {?FormatDecimal {&Item.Coupon family code (Target market)}}, "", 0}
, "<couponFamilyCode>?</couponFamilyCode>"}

{?SplitKeywords {?EnumerationKey {&Item.Special item code (Target market)}}
, <specialItemCode>, </specialItemCode>}

{!No second Language allowed}
{?CreateXMLTagWithValue {&Item.Marketing message (Target market, Language)}
, <tradeItemMarketingMessage languageCode="{?GDSNEnumerationCode {&Item.Language (Target market, Language)}}, "GDSN"}">?</tradeItemMarketingMessage>}
```

#### New DSE export template snippet, call of "Marketing information" and "Marketing messages" sub-modules ("Items" main module)

```
{?CreateXMLTagWithContent {?Concat {$Marketing information}, {$Marketing messages}}}
```

```

, "<marketing_information:marketingInformationModule xsi:schemaLocation='urn:gsl:gdsn:marketing_information:xsd:3 http://www.gdsregistry.org/3.1/schemas/gsl/gdsn/MarketingInformationModule.xsd' xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xmlns:marketing_information='urn:gsl:gdsn:marketing_information:xsd:3'>
  <marketingInformation>
    ?
  </marketingInformation>
</marketing_information:marketingInformationModule>"
}

```

#### New DSE export template content for sub-module "Marketing information"

```

{?SplitKeywords {?FormatDecimal {&Item.Coupon family code (Target market)}}, "", 0}
, <couponFamilyCode>, </couponFamilyCode>}

{?SplitKeywords {?EnumerationKey {&Item.Special item code (Target market)}}
, <specialItemCode>, </specialItemCode>}

```

#### New DSE export template content for sub-module "Marketing messages"

```

{?CreateXMLTagWithValue {&Marketing messages.Marketing message},
"<tradeItemMarketingMessage sequenceNumber='{?FormatDecimal {&Marketing messages.Sequence}, "", 0}'\n"
languageCode='{?GDSNEnumerationCode {&Marketing messages.Language}, "GDSN"}\n">?</tradeItemMarketingMessage>"

```

## DairyFishMeatPoultryItemModule

Affected field: "Cheese maturation period description"

As multi values are supported now, a corresponding export field has been added to output the second language value as well.

#### Previous DSE export template snippet for "Dairy fish meat poultry" sub-module ("Items" main module)

```

, {?Concat "<cheeseInformation>"
  {!No second Language allowed}
, {?CreateXMLTagWithValue {&Dairy fish meat poultry.Cheese maturation period description (Language)}
, "<cheeseMaturationPeriodDescription languageCode='{?GDSNEnumerationCode {&Dairy fish meat poultry.Language (Language)}}, "GDSN"}\n">?</cheeseMaturationPeriodDescription>"

```

#### New DSE export template snippet for "Dairy fish meat poultry" sub-module ("Items" main module)

```

, {?Concat "<cheeseInformation>"
, {?CreateXMLTagWithValue {&Dairy fish meat poultry.Cheese maturation period description (Language)}
, "<cheeseMaturationPeriodDescription languageCode='{?GDSNEnumerationCode {&Dairy fish meat poultry.Language (Language)}}, "GDSN"}\n">?</cheeseMaturationPeriodDescription>"
, {?IfNotEmptyThen {?ValueGet "LanguageDiffs"}, {?CreateXMLTagWithValue {&Dairy fish meat poultry.Cheese maturation period description (Language second)}
, "<cheeseMaturationPeriodDescription languageCode='{?GDSNEnumerationCode {&Dairy fish meat poultry.Language (Language second)}}, "GDSN"}\n">?</cheeseMaturationPeriodDescription>"}}

```

## FoodAndBeveragePropertiesInformationModule

### Microbiological information

Affected fields: "Organism maximum value", "Organism reference value", "Organism warning value", "Unit"



**Limitation:** If you maintain entries of the same unit (this is possible for different UOM types) for microbiological details information, then there will be no check in the export which is preventing that such data will be exported. The transfer of duplicate entries would cause an error in the GDSN pool.

**Previous DSE export template snippet, call of "Microbiological information" sub-module ("Items" main module)**

```
{?CreateXMLTagWithContent {?Concat {$Microbiological information}, {$Physiochemical information}}
, "<food_and_beverage_properties_information:foodAndBeveragePropertiesInformationModule
xsi:schemaLocation='urn:gs1:gdsn:food_and_beverage_properties_information:xsd:3 http://www.gdsregistry.org/3.1/schemas/gsl/gdsn/FoodAndBeveragePropertiesInformationModule.xsd' xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance'
xmlns:food_and_beverage_properties_information='urn:gs1:gdsn:food_and_beverage_properties_information:xsd:3'>
?
</food_and_beverage_properties_information:foodAndBeveragePropertiesInformationModule>"
}
```

**Previous DSE export template content for sub-module "Microbiological information"**

```
<microbiologicalInformation>
  <microbiologicalOrganismCode>{?EnumerationKeyStandard {&Microbiological information.Organism code}}</
microbiologicalOrganismCode>
  {!No second UOM allowed}
  {?CreateXMLTagWithValue {?FormatDecimal {&Microbiological information.Organism maximum value (UOM type)}, ".", 6}
  , "<microbiologicalOrganismMaximumValue measurementUnitCode='{&Microbiological information.Organism maximum value UOM
(UOM type).Code (Unit system)}'\ ">?</microbiologicalOrganismMaximumValue>"}
  {!No second UOM allowed}
  {?CreateXMLTagWithValue {?FormatDecimal {&Microbiological information.Organism reference value (UOM type)}, ".", 6}
  , "<microbiologicalOrganismReferenceValue measurementUnitCode='{&Microbiological information.Organism reference value
UOM (UOM type).Code (Unit system)}'\ ">?</microbiologicalOrganismReferenceValue>"}
  {!No second UOM allowed}
  {?CreateXMLTagWithValue {?FormatDecimal {&Microbiological information.Organism warning value (UOM type)}, ".", 6}
  , "<microbiologicalOrganismWarningValue measurementUnitCode='{&Microbiological information.Organism warning value UOM
(UOM type).Code (Unit system)}'\ ">?</microbiologicalOrganismWarningValue>"}
</microbiologicalInformation>
```

**New DSE export template snippet, call of "Microbiological information" and "Microbiological information: Collect details" sub-modules ("Items" main module)**

```
{$Microbiological information: Collect details}
{?CreateXMLTagWithContent {?Concat {$Microbiological information}, {$Physiochemical information}}
, "<food_and_beverage_properties_information:foodAndBeveragePropertiesInformationModule
xsi:schemaLocation='urn:gs1:gdsn:food_and_beverage_properties_information:xsd:3 http://www.gdsregistry.org/3.1/schemas/gsl/gdsn/FoodAndBeveragePropertiesInformationModule.xsd' xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance'
xmlns:food_and_beverage_properties_information='urn:gs1:gdsn:food_and_beverage_properties_information:xsd:3'>
?
</food_and_beverage_properties_information:foodAndBeveragePropertiesInformationModule>"
}
```

**New DSE export template content for sub-module "Microbiological information"**

```
{?ValueSet "tmpOrganismCode", {?EnumerationKeyStandard {&Microbiological information.Organism code}}}
<microbiologicalInformation>
  <microbiologicalOrganismCode>{?ValueGet "tmpOrganismCode"}</microbiologicalOrganismCode>
  {?IfEmptyThenNotEnc "", {?ValueGet {?ValueGet "tmpOrganismCode"}_maxValue}}
  {?IfEmptyThenNotEnc "", {?ValueGet {?ValueGet "tmpOrganismCode"}_refValue}}
```

```

    {?IfEmptyThenNotEnc "", {?ValueGet {?ValueGet "tmpOrganismCode"}_warnValue}}
  </microbiologicalInformation>

  {!Reset variables}
  {?ValueSet "tmpOrganismCode", ""}
  {?ValueSet {?ValueGet "tmpOrganismCode"}_maxValue, ""}
  {?ValueSet {?ValueGet "tmpOrganismCode"}_refValue, ""}
  {?ValueSet {?ValueGet "tmpOrganismCode"}_warnValue, ""}

```

#### New DSE export template content for sub-module "Microbiological information: Collect details"

```

{?ValueSet "tmpOrganismCode", {?EnumerationKeyStandard {&Microbiological detail information.Organism code}}}
{!Organism maximum value}
{?ValueSet
  {!name of variable to set}{?ValueGet "tmpOrganismCode"}_maxValue,
  {!existing value}{?ValueGet {?ValueGet "tmpOrganismCode"}_maxValue}
  {!add new value}{?CreateXMLTagWithValue {?FormatDecimal {&Microbiological detail information.Organism maximum value},.,6},
  "<microbiologicalOrganismMaximumValue measurementUnitCode=\"{&Microbiological detail information.Unit.Code (Unit
system)}\">?</microbiologicalOrganismMaximumValue>"}
}
{!Organism reference value}
{?ValueSet
  {!name of variable to set}{?ValueGet "tmpOrganismCode"}_refValue,
  {!existing value}{?ValueGet {?ValueGet "tmpOrganismCode"}_refValue}
  {!add new value}{?CreateXMLTagWithValue {?FormatDecimal {&Microbiological detail information.Organism reference value},.,
6},
  "<microbiologicalOrganismReferenceValue measurementUnitCode=\"{&Microbiological detail information.Unit.Code (Unit
system)}\">?</microbiologicalOrganismReferenceValue>"}
}
{!Organism warning value}
{?ValueSet
  {!name of variable to set}{?ValueGet "tmpOrganismCode"}_warnValue,
  {!existing value}{?ValueGet {?ValueGet "tmpOrganismCode"}_warnValue}
  {!add new value}{?CreateXMLTagWithValue {?FormatDecimal {&Microbiological detail information.Organism warning value},.,6},
  "<microbiologicalOrganismWarningValue measurementUnitCode=\"{&Microbiological detail information.Unit.Code (Unit
system)}\">?</microbiologicalOrganismWarningValue>"}
}

```

## Physiochemical information

Affected fields: "Physiochemical characteristic value UOM"

The field is no longer mandatory; if the UOM is not maintained the attribute measurementUnitCode="<unit>" won't be added to the XML tag.

#### Previous DSE export template content for "Physiochemical information" sub-module

```

<physiochemicalCharacteristic>
  <physiochemicalCharacteristicCode>{?EnumerationKey {&Physiochemical information.Physiochemical characteristic code}}</
physiochemicalCharacteristicCode>
  {?CreateXMLTagWithValue {?FormatDecimal {&Physiochemical information.Physiochemical characteristic value (UOM type)}, ".",
6}
  , "<physiochemicalCharacteristicValue measurementUnitCode=\"{&Physiochemical information.Physiochemical characteristic
value UOM (UOM type).Code (Unit system)}\">?</physiochemicalCharacteristicValue>"}
  {?IfNotEmptyThenNotEnc {?ValueGet "UOMTypeDiffs"}

```

```
, {?Compare {&Physiochemical information.Physiochemical characteristic value UOM (UOM type second).Code (Unit system)},
{&Physiochemical information.Physiochemical characteristic value UOM (UOM type).Code (Unit system)}},
  {?CreateXMLTagWithValue {?FormatDecimal {&Physiochemical information.Physiochemical characteristic value (UOM type
second)}}, ".", 6}
  , "<physiochemicalCharacteristicValue measurementUnitCode=\"{&Physiochemical information.Physiochemical
characteristic value UOM (UOM type second).Code (Unit system)}\">?</physiochemicalCharacteristicValue>"}
}
}
</physiochemicalCharacteristic>
```

#### New DSE export template content for "Physiochemical information" sub-module

```
{?ValueSet "outputCode", {?EnumerationKeyStandard {&Physiochemical information.Physiochemical characteristic code}}}
{?ValueSet "outputValueFirst", {?FormatDecimal {&Physiochemical information.Physiochemical characteristic value (UOM type)},
" .", 6}}
{?ValueSet "outputValueSecond", {?FormatDecimal {&Physiochemical information.Physiochemical characteristic value (UOM type
second)}}, " .", 6}}
{?ValueSet "uomFirst", {&Physiochemical information.Physiochemical characteristic value UOM (UOM type).Code (Unit system)}}
{?ValueSet "uomSecond", {&Physiochemical information.Physiochemical characteristic value UOM (UOM type second).Code (Unit
system)}}

{?IfNotEmptyThenNotEnc {?ValueGet "outputCode"}{?ValueGet "outputValueFirst"}{?ValueGet "outputValueSecond"},
"<physiochemicalCharacteristic>"}
{?CreateXMLTagWithValue {?ValueGet "outputCode"}, "<physiochemicalCharacteristicCode>?</physiochemicalCharacteristicCode>"}

{! value and unit for uom type}
{?ValueSet "uomQual", {?CreateXMLTagWithValue {?ValueGet "uomFirst"}, "measurementUnitCode=\"?\""}}
{?CreateXMLTagWithValue {?ValueGet "outputValueFirst"}, {?Concat "<physiochemicalCharacteristicValue ", {?ValueGet
"uomQual"}, ">?</physiochemicalCharacteristicValue>"}
}
{! value and unit for uom type second, only if not equal to uom type and uom differs}
{?IfNotEmptyThenNotEnc {?ValueGet "UOMTypeDiffs"}, {?Compare {?ValueGet "uomFirst"}, {?ValueGet "uomSecond"}, "",
{?ValueSet "uomQual", {?CreateXMLTagWithValue {?ValueGet "uomSecond"}, "measurementUnitCode=\"?\""}}
{?CreateXMLTagWithValue {?ValueGet "outputValueSecond"}, {?Concat "<physiochemicalCharacteristicValue ", {?ValueGet
"uomQual"}, ">?</physiochemicalCharacteristicValue>"}
}
}}
</physiochemicalCharacteristic>"}
}
```

## 8.17.9 IM Export template changes

This chapter lists all changes that have been made to the export templates used for IM scenarios.

### General changes

#### Renaming of export templates

The export templates got more convenient names. The names of the export files have been adjusted as well, they are the same as those of the export templates.

#### Data source

- 1Sync CatalogItemConfirmation → CIC\_CatalogItemConfirmation
- 1Sync CatalogItemSubscription → CIS\_CatalogItemSubscription

## Data recipient

- MjR3\_1Sync CatalogueRequest Item → CR\_CatalogueRequest Item
- 1Sync CatalogueRequest Link ADD → CR\_CatalogueRequest Link ADD
- 1Sync CatalogueRequest Link DELETE → CR\_CatalogueRequest Link DELETE
- 1Sync CatalogueRequest Publication → CR\_CatalogueRequest Publication
- 1Sync CatalogueRequest Publication\_PublicationWithdrawal → CR\_CatalogueRequest Publication HW
- 1Sync CatalogueRequest Publication\_WithoutStatus → CR\_CatalogueRequest Publication\_ByVariables

## General export template changes

The following changes have been made to all export templates:

- Adjustments according to new XSD files
- Changed the envelope parameters for namespace reference and schema location in the module "Header" of each provided export format template
- Post export step "Validate XML file(s)": cancel export in case of error during XML validation
- The post export step "XML Pretty print" has been removed. It should only be used during the implementation and testing phase but not in production environment.

## New XSD file set

A new XSD file set has been provided for GDSN version 3.1.3. All old XSD files used for export post steps have to be deleted, then all new XSD files must be uploaded.

## Data recipient export templates

All data recipient export templates (Catalog item confirmation, Catalog item subscription) have to be replaced with the new export templates.

## Data source export templates

The item publication export templates (Catalog request publication, Catalog request publication hierarchy withdrawal) and the item link export templates (Link ADD, Link DELETE) must be replaced by the corresponding new export templates.

If you use the provided default "Catalog request item" export template you should replace it by the new one as well. In case this is not possible because of customizations, you'll find a detailed description of changes below.

## Catalog request item template

The "Catalog request item" export template is the most complex export template of the GDSN accelerator package. The following section describes the changes that have been made to that export template in detail and thus enables you to apply those changes to any customized "Catalog request item" export template.

## General

Some export fields got renamed, e.g.: from {&Dairy fish meat poultry.Language(1)} to {&Dairy fish meat poultry.Language (Language)} to improve readability. Some export sub-modules have been moved up or down within the export template to bring them into a more logical order.

**Note:** Neither the names of export data fields nor the order of export sub-modules have any impact on the output file.

## TargetMarketAttributes

Affected field: "GDSN short description"

A data field validation for the export fields "Item.GDSN short description (Target market, Language)" and "Item.GDSN short description (Target market, Language second)" has been added to the export template. All values will be truncated to a maximum length of 35 characters, and a warning will be logged to the export protocol.

## Flex attributes: couponFamilyCode, specialItemCode

Affected fields: "Special item code", "Coupon family code"

The output of those fields has been moved to new sub-module "Marketing Information". In addition, multiple values will be exported for "Coupon family code" now.

**Previous IM export template, call of "Coupon family code" ("Items" main export module)**

```
{?CreateXMLTagWithValue {&Item.Coupon family code (Target market)}}, "<couponFamilyCode>?</couponFamilyCode>"}
```

**Previous IM export template, call of "Special item code" ("Items" main export module)**

```
{?CreateXMLTagWithValue {&Item.Coupon family code (Target market)}}, "<couponFamilyCode>?</couponFamilyCode>"}
```

**New IM export template, call of "Marketing Information" sub-module ("Items" main export module, line 147)**

```
{Collect marketing messages}
{!start flex}
{?CreateXMLTagWithContent
  {Concat
    {$Marketing Information},
    {?CreateXMLTagWithContent {$Marketing messages},"<attrGroupMany name="marketingMessage">?</attrGroupMany>"},
    {?CreateXMLTagWithContent
      {?SplitKeywords {GDSNEnumerationCode {&Item.Countries of origin (Target market)}}, "1WS"}
      ,"<row><attr name="countryCode">","</attr></row>"},
      ,"<attrGroupMany name="countryOfOrigin">?</attrGroupMany>"}
```

**New IM export template, content of "Marketing Information" sub-module**

```
{?CreateXMLTagWithContent
  {?SplitKeywords {&Item.Coupon family code (Target market)}}, "<value>","</value>","<attrMany name="couponFamilyCode">?</attrMany>"},

  {?CreateXMLTagWithContent
    {?SplitKeywords {EnumerationKey {&Item.Special item code (Target market)}}, "<value>","</value>" },
    "<attrMany name="specialItemCode">?</attrMany>" }
```

## Flex attributes: marketingMessage

Affected field: "Marketing message"

Field "Marketing message" has been moved from "Items" main export module to new export sub-modules "Marketing messages" and "Collect marketing messages".

**Previous IM export template, call of "Marketing message" ("Items" main export module)**

```
{?CreateXMLTagWithValue {&Item.Marketing message (Target market, Language)},
"<tradeItemMarketingMessage lang="\{GDSNEnumerationCode {&Item.Language (Target market, Language)}}, "GDSN"\}>?</tradeItemMarketingMessage>"
{?IfNotEmptyThenNotEnc {ValueGet "LanguageDiffers"},
  {?CreateXMLTagWithValue {&Item.Marketing message (Target market, Language second)},
    "<tradeItemMarketingMessage lang="\{GDSNEnumerationCode {&Item.Language (Target market, Language second)}}, "GDSN"\}>?</tradeItemMarketingMessage>"
  }
}
```

**New IM export template, call of "Marketing messages" and "Collect marketing messages" sub-modules ("Items" main export module, lines 143 and 148)**

```
{Collect marketing messages}
{!start flex}
{?CreateXMLTagWithContent
  {Concat
    {$Marketing Information},
    {?CreateXMLTagWithContent {$Marketing messages},"<attrGroupMany name="marketingMessage">?</attrGroupMany>"}
  }
  {?CreateXMLTagWithContent
    {SplitKeywords {GDSNEEnumerationCode {&Item.Countries of origin (Target market)}, "1WS"}
    ,"<row><attr name="countryCode">","</attr></row>"}
    ,"<attrGroupMany name="countryOfOrigin">?</attrGroupMany>"}
  }
```

**New IM export template, content of "Marketing messages" sub-module**

```
{IfNotEmptyThenNotEnc {?ValueGet "MarketingMessage_" {&Marketing messages.Sequence}},
<row>
  <attrQualMany name="tradeItemMarketingMessage">
    {IfEmptyThenNotEnc "",{?ValueGet "MarketingMessage_" {&Marketing messages.Sequence}}}
  </attrQualMany>
  {?CreateXMLTagWithValue {?FormatDecimal {&Marketing messages.Sequence}, "", 0}, "<attr name="sequenceNumber">?</attr>"}
  {!Reset variable}{?ValueSet "MarketingMessage_" {&Marketing messages.Sequence}, ""}
</row>
}
```

**Flex attributes: foodAndBevMicrobiological**

Affected fields: "Organism maximum value", "Organism reference value", "Organism warning value", "Unit"

**Limitation:** If you maintain entries of the same unit (this is possible for different UOM types) for microbiological details information, then there will be no check in the export which is preventing that such data will be exported. The transfer of duplicate entries would cause an error in the GDSN pool.

**Previous IM export template, content of "Microbiological information" sub-module**

```
<row>
{?CreateXMLTagWithValue {?EnumerationKeyStandard {&Microbiological information.Organism code}}, <attr name="organismCode">?
</attr>}

{?CreateXMLTagWithValue {?FormatDecimal {&Microbiological information.Organism maximum value (UOM type)}, ".", 6}
, <attrQual name="organismMaximumValue" qual="{&Microbiological information.Organism maximum value UOM (UOM type).Code (Unit system)}">?</attrQual>}
{?CreateXMLTagWithValue {?FormatDecimal {&Microbiological information.Organism reference value (UOM type)}, ".", 2}
, <attrQual name="organismReferenceValue" qual="{&Microbiological information.Organism reference value UOM (UOM type).Code (Unit system)}">?</attrQual>}
{?CreateXMLTagWithValue {?FormatDecimal {&Microbiological information.Organism warning value (UOM type)}, ".", 2}
, <attrQual name="organismWarningValue" qual="{&Microbiological information.Organism warning value UOM (UOM type).Code (Unit system)}">?</attrQual>}
</row>
```

**New IM export template, call of "Collect Microbiological information" sub-module ("Items" main export module)**

```
{Collect Microbiological information}
```

#### New IM export template, content of "Microbiological information" sub-module

```
{?ValueSet "tmpOrganismCode", {?EnumerationKeyStandard {&Microbiological information.Organism code}}}  
<row>  
{?CreateXMLTagWithValue {?ValueGet "tmpOrganismCode"}, <attr name="organismCode">?</attr>}  
  
{?CreateXMLTagWithContent {?ValueGet {?ValueGet "tmpOrganismCode"}_maxValue}, "<attrQualMany name=\"organismMaximumValue\">?</attrQualMany>"}  
{?CreateXMLTagWithContent {?ValueGet {?ValueGet "tmpOrganismCode"}_refValue}, "<attrQualMany  
name=\"organismReferenceValue\">?</attrQualMany>"}  
{?CreateXMLTagWithContent {?ValueGet {?ValueGet "tmpOrganismCode"}_warnValue}, "<attrQualMany  
name=\"organismWarningValue\">?</attrQualMany>"}  
  
</row>  
  
{!Reset variables}  
{?ValueSet "tmpOrganismCode", ""}  
{?ValueSet {?ValueGet "tmpOrganismCode"}_maxValue, ""}  
{?ValueSet {?ValueGet "tmpOrganismCode"}_refValue, ""}  
{?ValueSet {?ValueGet "tmpOrganismCode"}_warnValue, ""}
```

#### New IM export template, content of "Collect Microbiological information" sub-module

```
{?ValueSet "tmpOrganismCode", {?EnumerationKeyStandard {&Microbiological detail information.Organism code}}}  
{!Organism maximum value}  
{?ValueSet  
  {!name of variable to set}{?ValueGet "tmpOrganismCode"}_maxValue,  
  {!existing value}{?ValueGet {?ValueGet "tmpOrganismCode"}_maxValue}  
  {!add new value}{?CreateXMLTagWithValue {?FormatDecimal {&Microbiological detail information.Organism maximum value},.,6},  
  "<value qual=\"{&Microbiological detail information.Unit.Code (Unit system)}\">?</value>"}  
}  
{!Organism reference value}  
{?ValueSet  
  {!name of variable to set}{?ValueGet "tmpOrganismCode"}_refValue,  
  {!existing value}{?ValueGet {?ValueGet "tmpOrganismCode"}_refValue}  
  {!add new value}{?CreateXMLTagWithValue {?FormatDecimal {&Microbiological detail information.Organism reference value},.,  
2}, "<value qual=\"{&Microbiological detail information.Unit.Code (Unit system)}\">?</value>"}  
}  
{!Organism warning value}  
{?ValueSet  
  {!name of variable to set}{?ValueGet "tmpOrganismCode"}_warnValue,  
  {!existing value}{?ValueGet {?ValueGet "tmpOrganismCode"}_warnValue}  
  {!add new value}{?CreateXMLTagWithValue {?FormatDecimal {&Microbiological detail information.Organism warning value},.,2},  
  "<value qual=\"{&Microbiological detail information.Unit.Code (Unit system)}\">?</value>"}  
}
```

### Flex attributes: physioChemicalProperties

Affected fields: "Physiochemical characteristic value UOM"

The field is no longer mandatory; if the UOM is not maintained the attribute qual="<unit>" won't be added to the XML tag. In addition, output of a second entry for second UOM type has been added to the corresponding export template module.

#### Previous IM export template, content of "Physiochemical information" sub-module

```
{?CreateXMLTagWithValue {?EnumerationKeyStandard {&Physiochemical information.Physiochemical characteristic code}},
```

```

"<attrGroupMany name="physioChemicalProperties">
<row>
  <attr name="physioChemicalCharacteristicCode">?</attr>
  {?CreateXMLTagWithValue {?FormatDecimal {&Physiochemical information.Physiochemical characteristic value (UOM type)}}, .,
6},
  "<attrQualMany name="physioChemicalCharacteristicValue">
    <value qual="{&Physiochemical information.Physiochemical characteristic value UOM (UOM type).Code (Unit system)}">?</
value>
  </attrQualMany>"
</row>
</attrGroupMany>"
}

```

#### New IM export template, content of "Physiochemical information" sub-module

```

{?ValueSet "outputCode", {?EnumerationKeyStandard {&Physiochemical information.Physiochemical characteristic code}}}
{?ValueSet "outputValueFirst", {?FormatDecimal {&Physiochemical information.Physiochemical characteristic value (UOM type)},
".", 6}}
{?ValueSet "outputValueSecond", {?FormatDecimal {&Physiochemical information.Physiochemical characteristic value (UOM type
second)}}, ".", 6}}
{?ValueSet "uomFirst", {&Physiochemical information.Physiochemical characteristic value UOM (UOM type).Code (Unit system)}}
{?ValueSet "uomSecond", {&Physiochemical information.Physiochemical characteristic value UOM (UOM type second).Code (Unit
system)}}

{?IfNotEmptyThenNotEnc {?ValueGet "outputCode"}{?ValueGet "outputValueFirst"}{?ValueGet "outputValueSecond"},
"<row>
{?CreateXMLTagWithValue {?ValueGet "outputCode"}, "<attr name=\"physioChemicalCharacteristicCode\">?</attr>"}

{?IfNotEmptyThenNotEnc {?ValueGet "outputValueFirst"}{?ValueGet "outputValueSecond"}, "<attrQualOptMany
name=\"physioChemicalCharacteristicValue\">"}
{! value and unit for uom type}
{?ValueSet "uomQual", {?CreateXMLTagWithValue {?ValueGet "uomFirst"}, "qual=\"?\""}}
{?CreateXMLTagWithValue {?ValueGet "outputValueFirst"}, {?Concat "<value ", {?ValueGet "uomQual"}, ">?</value>"}
}
{! value and unit for uom type second, only if not equal to uom type and uom differs}
{?IfNotEmptyThenNotEnc {?ValueGet "UOMTypeDiffers"}, {?Compare {?ValueGet "uomFirst"}, {?ValueGet "uomSecond"}, ""},
{?ValueSet "uomQual", {?CreateXMLTagWithValue {?ValueGet "uomSecond"}, "qual=\"?\""}}
{?CreateXMLTagWithValue {?ValueGet "outputValueSecond"}, {?Concat "<value ", {?ValueGet "uomQual"}, ">?</value>"}
}
}}
{?IfNotEmptyThenNotEnc {?ValueGet "outputValueFirst"}{?ValueGet "outputValueSecond"}, "</attrQualOptMany>"}
</row>"
}

```

## 9 User Interface Templates

### 9.1 Content

This chapter describes how you can import the different standard User Interface Templates (UI Templates). The examples are located in this accelerator package in the sub folder "PIM\_8.0.05\_FlexUI".

### 9.2 Import

- Start the application "PIM Desktop client".
- Select the menu entry "Manage UI templates" in the menu "Management".
- Click on the button "Load UI templates from files...".



- Select a xml file and click ok.

After a successful import you can make also some changes for your system, for example which classification system will be used in the classification UI. For further information please read the configuration manual.

## 9.3 Approval UI

The Approval UI allows to quickly check the details of a list of objects in order to approve them in context of a specific work step. The object detail view on the right can be tailored to showcase the specific information needed for the approval of a given work step.

| Filename               | Location                  | Entity  |
|------------------------|---------------------------|---------|
| Item approve UI.xml    | ....\Examples\Flexible UI | item    |
| Product approve UI.xml | ....\Examples\Flexible UI | product |
| Variant approve UI.xml | ....\Examples\Flexible UI | variant |

## 9.4 Text Mastering UI

| Filename                   | Location                  | Entity  |
|----------------------------|---------------------------|---------|
| Item translation UI.xml    | ....\Examples\Flexible UI | item    |
| Product translation UI.xml | ....\Examples\Flexible UI | product |

| Filename                           | Location                  | Entity         |
|------------------------------------|---------------------------|----------------|
| Variant translation UI.xml         | ....\Examples\Flexible UI | variant        |
| Product with Items translation.xml | ....\Examples\Flexible UI | product + item |

The text mastering UI allows for objects assigned to a task to select them and easily get an overview of all marketing text relevant information assigned. Furthermore it is possible to compare and edit text values for different languages or target markets directly within the details section.

**informatica**

Task: Translate marketing texts for German target market (59 Item(s) - Accepted)

Name: Translate marketing texts for German target market  
Assigned user: Andreeva, Tatyana  
Escalation on: No content

Description: All items from the supplier catalog "Master catalog"  
User group: No content  
Time expires on: No content

Created by: Andreeva, Tatyana  
Delegate: No content  
Anticipated completion on: No content

Created on: 8/4/2015 5:07 PM  
Responsible: Andreeva, Tatyana  
Template: Item translation UI

**Items (59)**

| Image | Item no.                 | Status | Short description                    |
|-------|--------------------------|--------|--------------------------------------|
|       | Article_2918766499071452 | 01 New | Comfort remote control (HDTV Series) |
|       | Article_2918766499071457 | 01 New | Remoty Remote Control                |
|       | Article_2918766499071461 | 01 New | DIGIT                                |

**Detail (Item)**

Short description:  
DIGIT ISIO S1, black

Long description:  
HDTV digital satellite receiver with twin tuner, digital video recorder and Internet functionality via USB to record TV and radio programs on an external hard drive

Item no.:  
Article\_2918766499071461

GTIN:  
00083250028168

Manufacturer:  
TechniSat

Net customer price(\$):  
369.99

Non-binding price recommendation(\$):  
499.95

Gross list price(\$):  
699.99

**Translate**

Languages: English  
Languages: German

Short description: DIGIT ISIO S1, black  
Short description: DIGIT

Long description: HDTV digital satellite receiver with twin tuner, digital video recorder and Internet functionality via USB to record TV and radio programs on an external hard drive  
Long description: No content

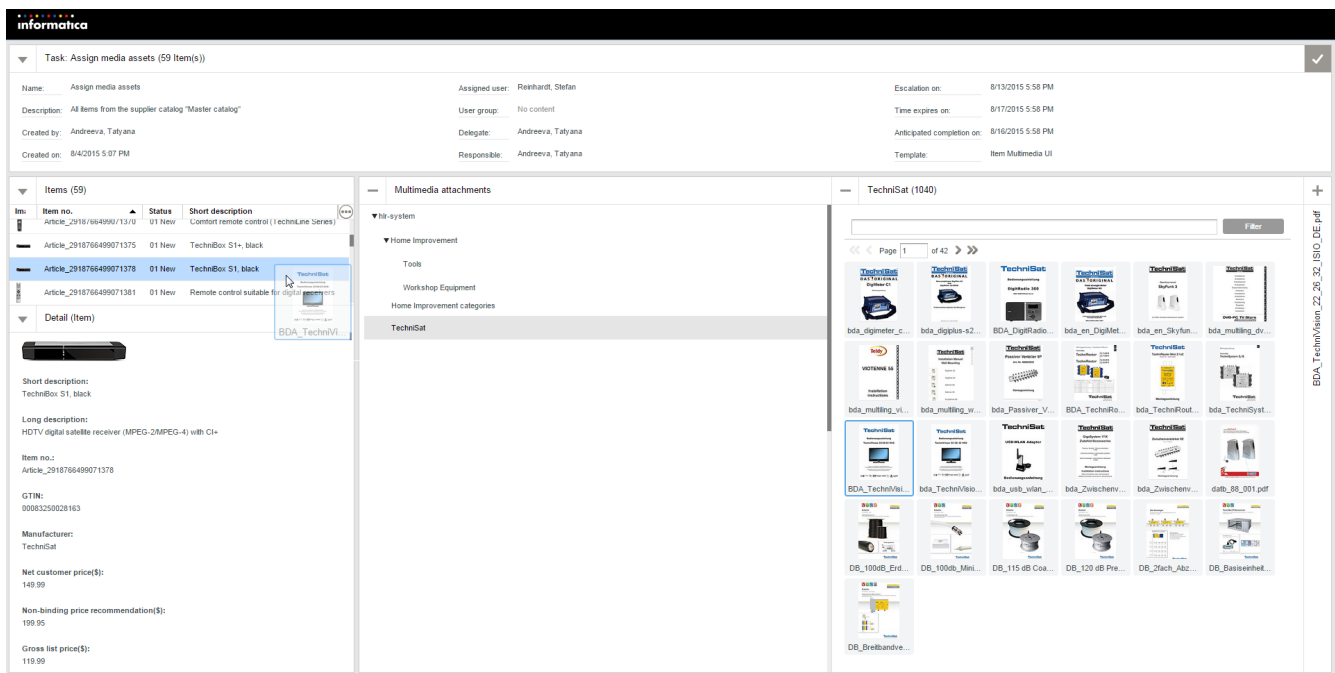
Keywords: receiver, dvr-s, satellite, home entertainment  
Keywords: No content

Other remarks: Texts for US target market  
Other remarks: No content

## 9.5 Media assignment UI

The media assignment UI makes assigning media assets to objects of a task more easy than ever before. The template combines a list of objects with the document categories tree and allows the user to drag and drop media assets directly on each of the objects from the list.

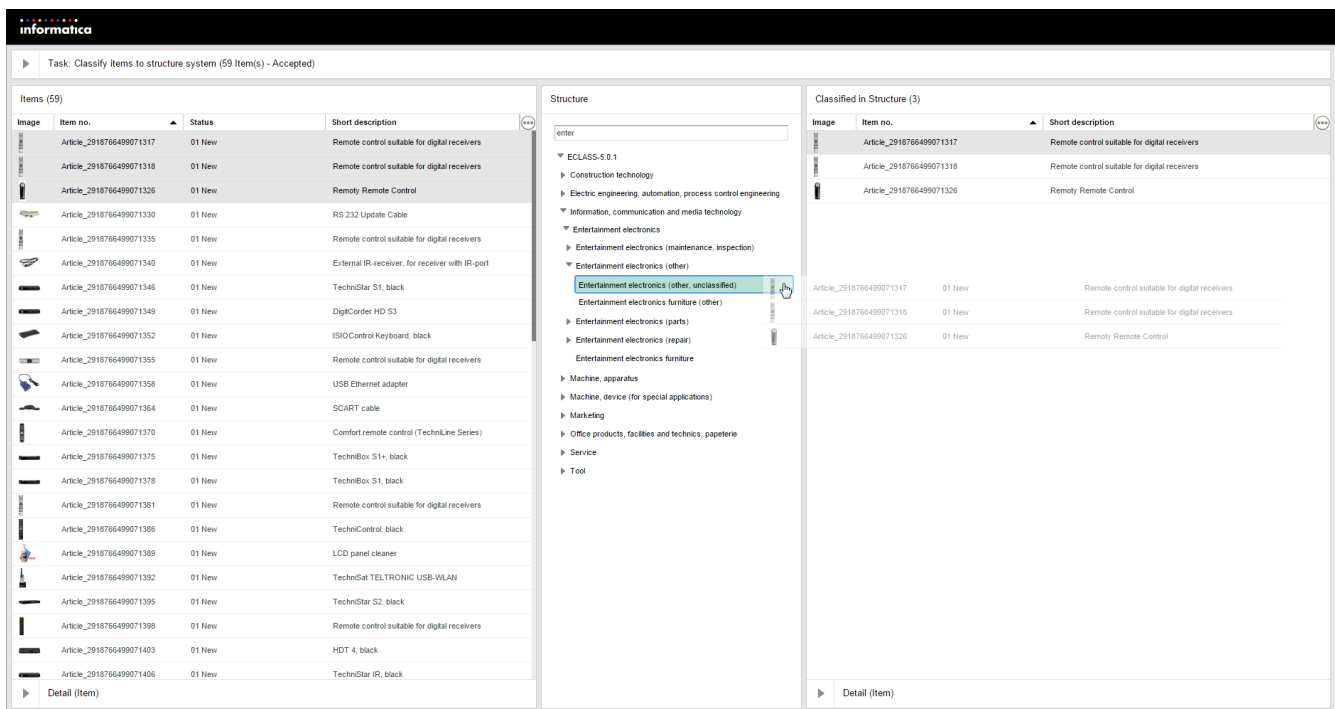
| Filename                             | Location                  | Entity  |
|--------------------------------------|---------------------------|---------|
| Item multimedia assignment UI.xml    | ....\Examples\Flexible UI | item    |
| Product multimedia assignment UI.xml | ....\Examples\Flexible UI | product |
| Variant multimedia assignment UI.xml | ....\Examples\Flexible UI | variant |



## 9.6 Classification UI

The classification UI allows a very effective way of classifying product data. The user may select one or more objects assigned to the task to simply drag and drop them onto the structure group they should be assigned to.

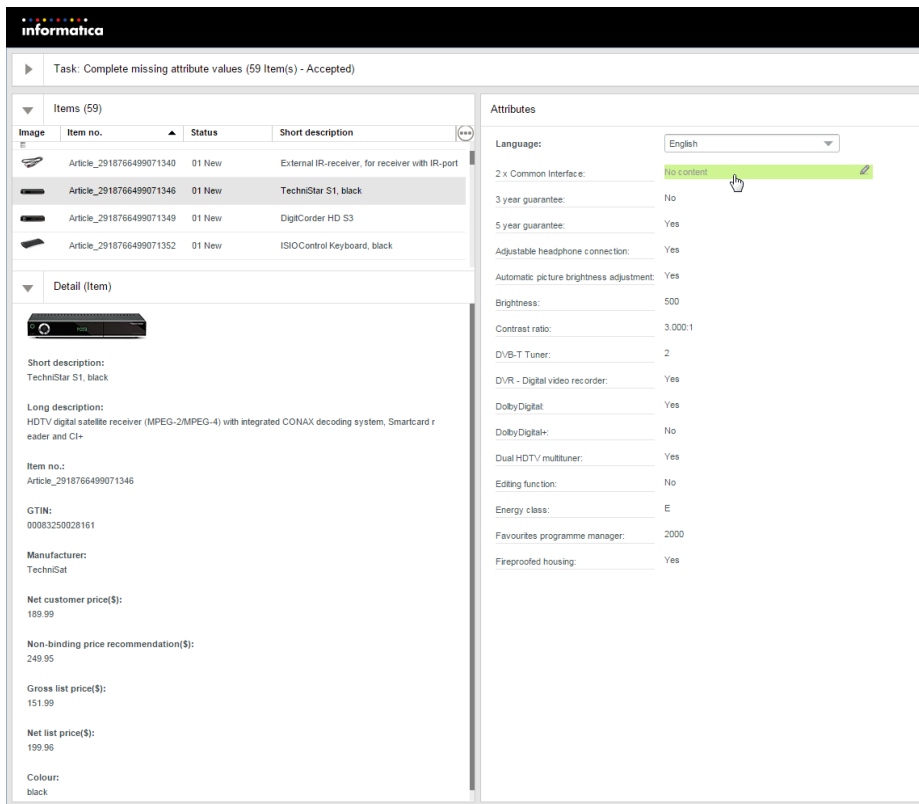
| Filename                      | Location                  | Entity  |
|-------------------------------|---------------------------|---------|
| Item classification UI.xml    | ....\Examples\Flexible UI | item    |
| Product classification UI.xml | ....\Examples\Flexible UI | product |
| Variant classification UI.xml | ....\Examples\Flexible UI | variant |



## 9.7 Attribute mastering UI

| Filename                  | Location                  | Entity  |
|---------------------------|---------------------------|---------|
| Item attributes UI.xml    | ....\Examples\Flexible UI | item    |
| Product attributes UI.xml | ....\Examples\Flexible UI | product |
| Variant attributes UI.xml | ....\Examples\Flexible UI | variant |

The attribute mastering UI focuses on attribute values of objects attached to a task. By selecting an object the detail view gives an overview of all its attributes and their values so that a user can easily approve or update them.



## 10 Product 360 mobile

### 10.1 How to deploy the Application

This is a demo application for Informatica Product 360.

It's main purpose is to demonstrate some features of the REST-API.

The application and also the sources are available in the Informatica Marketplace. [https://marketplace.informatica.com/solutions/product\\_information\\_management\\_mobile\\_app](https://marketplace.informatica.com/solutions/product_information_management_mobile_app)

### 10.2 Features

- View structure systems, structure groups, products, variants, items and more
- Navigate through structure groups down to products and items
- View and edit several item attributes
- Create a new item
- Take a photo with your mobile device and attach it to an item
- List all server side jobs
- Search for an item via its ID or a keyword
- Scan a barcode containing the item number or GTIN

## 10.3 Requirements

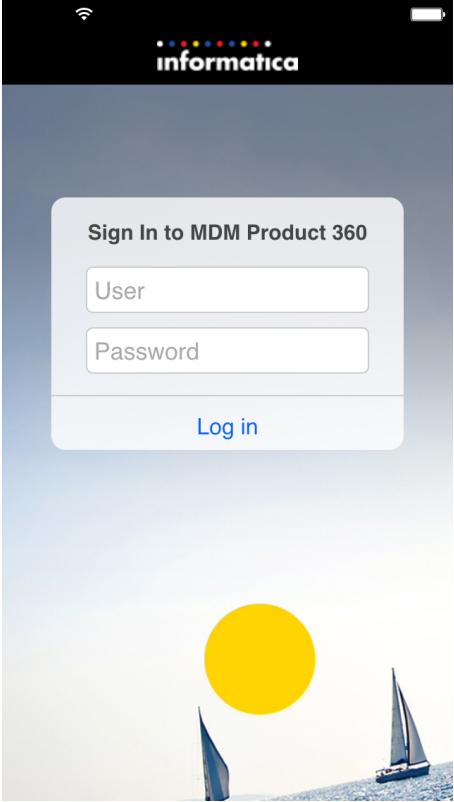
- Informatica MDM - Product 360 Server: 8.0.01
- Apache Tomcat: >= 7.0
- Oracle Java JRE: >= 7.0

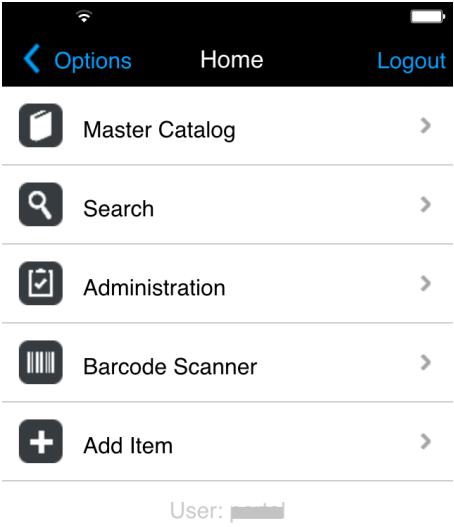
This application has been developed for the „WebKit” HTML rendering engine. Therefore the supported web browsers are **Google Chrome** and **Apple Safari**. Mozilla Firefox, Opera and Microsoft Internet Explorer are not supported as they use a different rendering engine. Informatica p360 mobile can be used on any device that runs the supported web browsers.

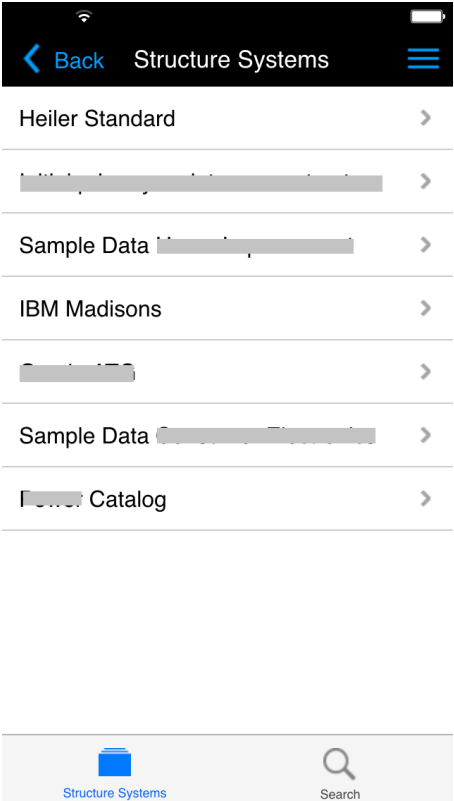
## 10.4 Showcase Video

Please refer to the official Informatica Marketplace to see a demo of the mobile application: [https://marketplace.informatica.com/solutions/product\\_information\\_management\\_mobile\\_app](https://marketplace.informatica.com/solutions/product_information_management_mobile_app)

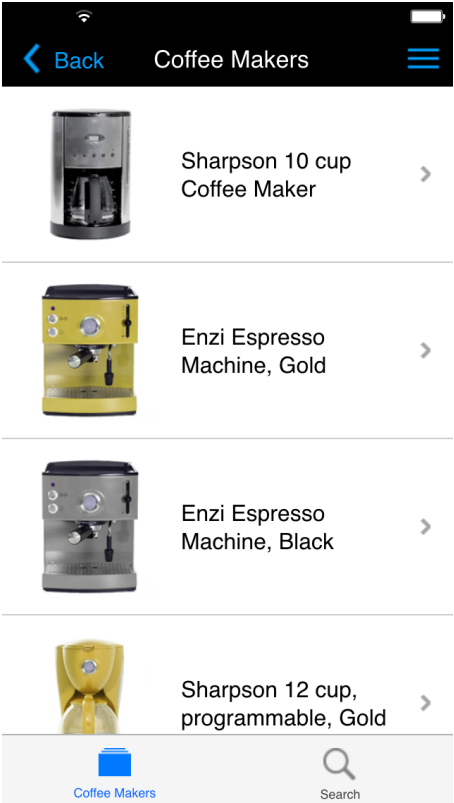
## 10.5 Showcase Images

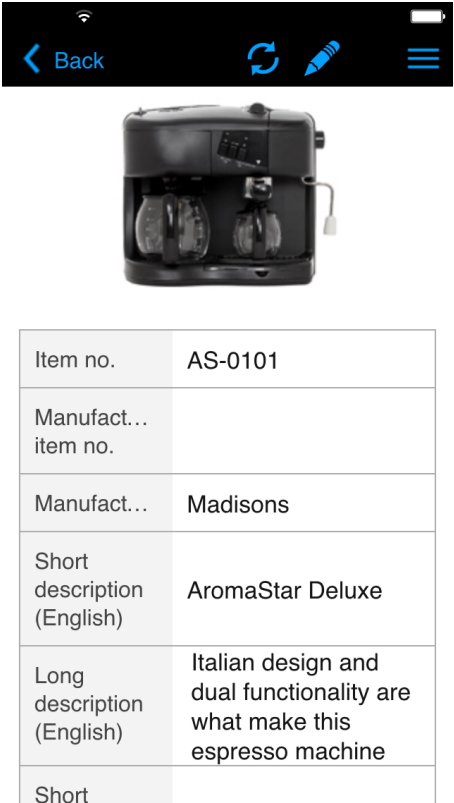
| Sample image                                                                       | Description                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>When you visit Informatica p360 mobile on your device for the first time, you have to provide your credentials. They are the same as for the Informatica MDM - Product 360 Desktop or Web.</p> <p>After a successful login, your credentials will be encrypted and saved on the device, so you don't have to provide them on the next visit.</p> |

| Sample image                                                                      | Description                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>After a successful login, you will be redirected to the main menu. Here you can see the main functionality of Informatica p360 mobile.</p> <p>We will now go through each menu element step by step.</p> |

| Sample image                                                                       | Description                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>In the „Master” catalog, you can browse through the structure systems and structure groups, down to items.</p> <p>If the item is not assigned to a structure group, it will not be found here. You can search for it by its item number or name.</p> |

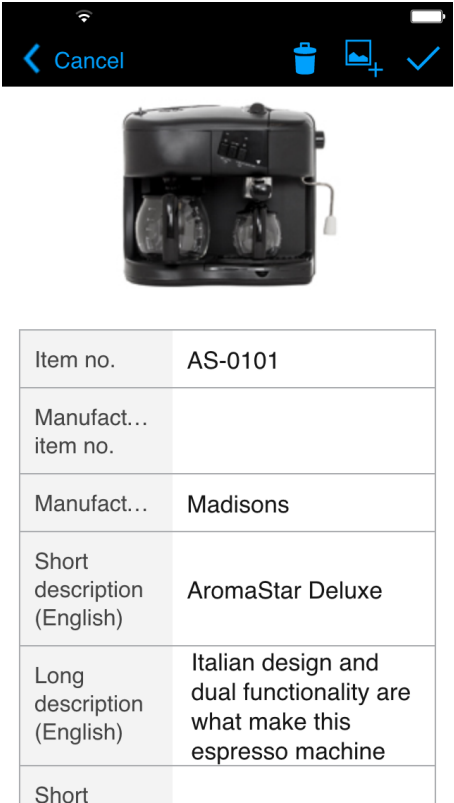


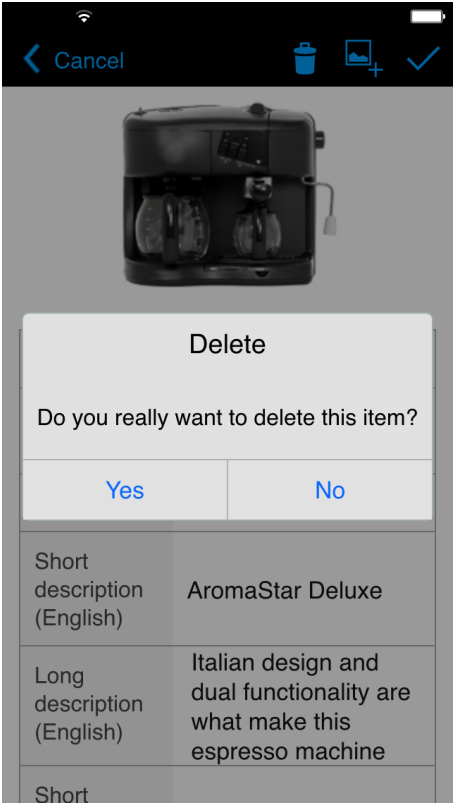
| Sample image                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Description                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|  <p>The screenshot shows a mobile application interface for a category called 'Coffee Makers'. At the top, there is a dark header bar with a back arrow and the text 'Back' on the left, 'Coffee Makers' in the center, and a hamburger menu icon on the right. Below the header, there is a list of four coffee makers, each with a small image, a text description, and a right-pointing chevron icon. The items are: 1. Sharpson 10 cup Coffee Maker (black image). 2. Enzi Espresso Machine, Gold (gold image). 3. Enzi Espresso Machine, Black (black image). 4. Sharpson 12 cup, programmable, Gold (gold image). At the bottom of the screen, there is a light gray footer bar with a blue folder icon and the text 'Coffee Makers' on the left, and a magnifying glass icon and the text 'Search' on the right.</p> | <p>Example of a structure group.</p> |

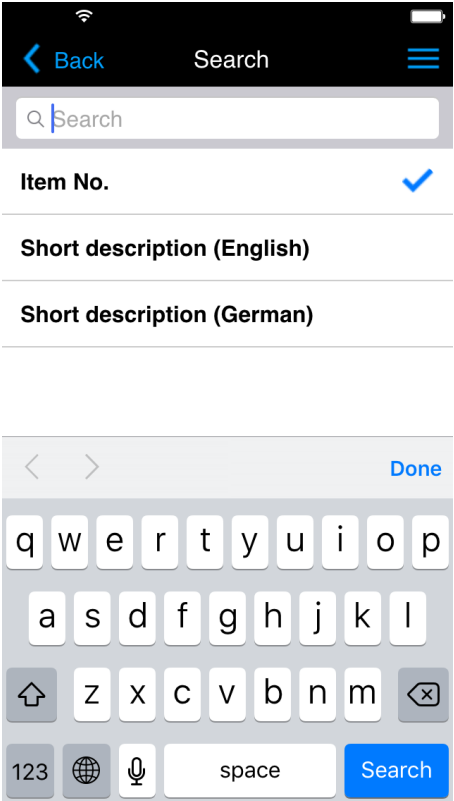
| Sample image                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Description                                                               |         |                      |  |             |          |                             |                  |                            |                                                                           |       |  |                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------|----------------------|--|-------------|----------|-----------------------------|------------------|----------------------------|---------------------------------------------------------------------------|-------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><p>The screenshot shows a mobile application interface for an item view. At the top, there is a navigation bar with a 'Back' button, a 'Refresh' button, an 'Edit' button (pen icon), and a menu icon. Below the navigation bar is a photo of a black AromaStar Deluxe espresso machine. Under the photo is a table with the following data:</p><table><tr><td>Item no.</td><td>AS-0101</td></tr><tr><td>Manufact... item no.</td><td></td></tr><tr><td>Manufact...</td><td>Madisons</td></tr><tr><td>Short description (English)</td><td>AromaStar Deluxe</td></tr><tr><td>Long description (English)</td><td>Italian design and dual functionality are what make this espresso machine</td></tr><tr><td>Short</td><td></td></tr></table></div> | Item no.                                                                  | AS-0101 | Manufact... item no. |  | Manufact... | Madisons | Short description (English) | AromaStar Deluxe | Long description (English) | Italian design and dual functionality are what make this espresso machine | Short |  | <p>Here you can see the item view. It contains an item photo (if available), and some basic item information.</p> <p>If you want to modify the item information, you can edit them by touching the pen-shaped „Edit“ button in the top right hand corner.</p> <p>The „Refresh“ - button will perform a new query to the Informatica MDM - Product 360 server.</p> |
| Item no.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | AS-0101                                                                   |         |                      |  |             |          |                             |                  |                            |                                                                           |       |  |                                                                                                                                                                                                                                                                                                                                                                   |
| Manufact... item no.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                           |         |                      |  |             |          |                             |                  |                            |                                                                           |       |  |                                                                                                                                                                                                                                                                                                                                                                   |
| Manufact...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Madisons                                                                  |         |                      |  |             |          |                             |                  |                            |                                                                           |       |  |                                                                                                                                                                                                                                                                                                                                                                   |
| Short description (English)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | AromaStar Deluxe                                                          |         |                      |  |             |          |                             |                  |                            |                                                                           |       |  |                                                                                                                                                                                                                                                                                                                                                                   |
| Long description (English)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Italian design and dual functionality are what make this espresso machine |         |                      |  |             |          |                             |                  |                            |                                                                           |       |  |                                                                                                                                                                                                                                                                                                                                                                   |
| Short                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                           |         |                      |  |             |          |                             |                  |                            |                                                                           |       |  |                                                                                                                                                                                                                                                                                                                                                                   |

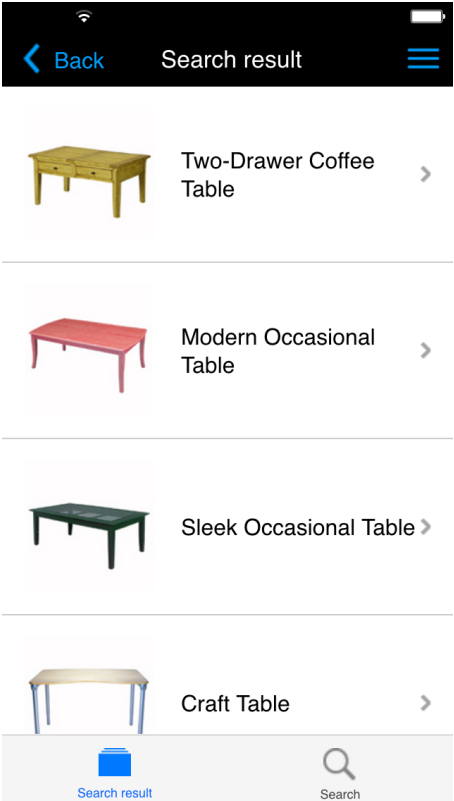
| Sample image                                   | Description                                                                                                                                                                                              |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                |                                                                                                                                                                                                          |
| Item no.                                       | AS-0101                                                                                                                                                                                                  |
| Manufacturer item no.                          |                                                                                                                                                                                                          |
| Manufacturer                                   | Madisons                                                                                                                                                                                                 |
| Short description (English)                    | AromaStar Deluxe                                                                                                                                                                                         |
| Long description (English)                     | Italian design and dual functionality are what make this espresso machine such an asset to your kitchen or office. This all-in-one machine has the unique capability of brewing coffee and espresso.     |
| Short description (German)                     | AromaStar Deluxe                                                                                                                                                                                         |
| Long description (German)                      | Das italienische Design und die Doppelfunktionalität werden diese Espressomaschine zum Highlight Ihrer Küche oder Ihres Büros machen. Das Motto lautet: Eine für Alles - Kaffee oder Espresso nach Wahl. |
| Non-binding price recommendation (from 1.0000) | 60.14 €                                                                                                                                                                                                  |

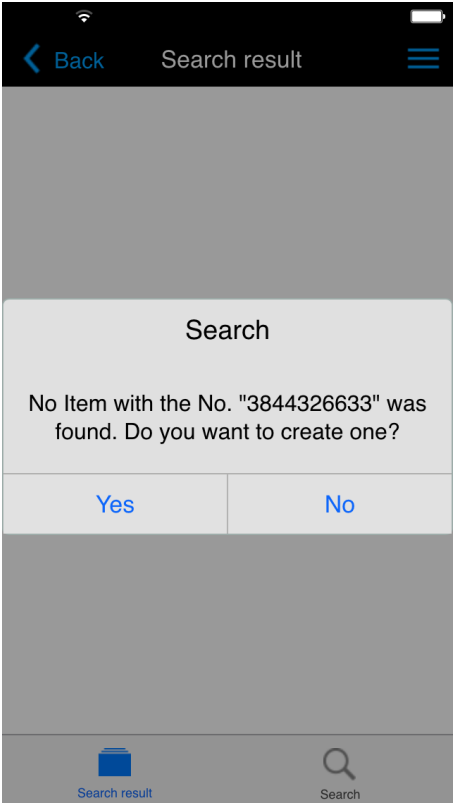
This is how the item view would look like on a tablet.

| Sample image                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Description                                                                        |         |                         |  |             |          |                                   |                  |                                  |                                                                                    |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------|-------------------------|--|-------------|----------|-----------------------------------|------------------|----------------------------------|------------------------------------------------------------------------------------|-------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><p>The screenshot shows the mobile app's edit mode. At the top, there's a navigation bar with a back arrow, a 'Cancel' button, a trash icon, a photo icon with a plus sign, and a checkmark icon. Below the navigation bar is a photo of a black AromaStar Deluxe espresso machine. Underneath the photo is a table with the following data:</p><table><tr><td>Item no.</td><td>AS-0101</td></tr><tr><td>Manufact...<br/>item no.</td><td></td></tr><tr><td>Manufact...</td><td>Madisons</td></tr><tr><td>Short<br/>description<br/>(English)</td><td>AromaStar Deluxe</td></tr><tr><td>Long<br/>description<br/>(English)</td><td>Italian design and<br/>dual functionality are<br/>what make this<br/>espresso machine</td></tr><tr><td>Short</td><td></td></tr></table></div> | Item no.                                                                           | AS-0101 | Manufact...<br>item no. |  | Manufact... | Madisons | Short<br>description<br>(English) | AromaStar Deluxe | Long<br>description<br>(English) | Italian design and<br>dual functionality are<br>what make this<br>espresso machine | Short |  | <p>This is the edit mode. You can edit and update all the item information now whenever you want and wherever you are using your mobile device.</p> <p>A really useful function is the image upload option. Using this, you can directly take a photo with your mobile device and attach it to the item. To do so, touch the photo icon in the top right hand corner.</p> <p>If necessary, you can also delete the item from the Informatica MDM - Product 360 server using the Trash-button.</p> |
| Item no.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | AS-0101                                                                            |         |                         |  |             |          |                                   |                  |                                  |                                                                                    |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Manufact...<br>item no.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |         |                         |  |             |          |                                   |                  |                                  |                                                                                    |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Manufact...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Madisons                                                                           |         |                         |  |             |          |                                   |                  |                                  |                                                                                    |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Short<br>description<br>(English)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | AromaStar Deluxe                                                                   |         |                         |  |             |          |                                   |                  |                                  |                                                                                    |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Long<br>description<br>(English)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Italian design and<br>dual functionality are<br>what make this<br>espresso machine |         |                         |  |             |          |                                   |                  |                                  |                                                                                    |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Short                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                    |         |                         |  |             |          |                                   |                  |                                  |                                                                                    |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

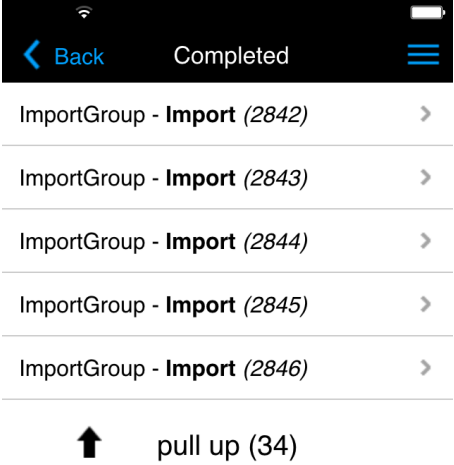
| Sample image                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Description                                                               |                  |                            |                                                                           |       |  |                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------|----------------------------|---------------------------------------------------------------------------|-------|--|-----------------------------------------------------------------|
|  <p>The screenshot shows an iPad interface. At the top, there's a navigation bar with a back arrow, 'Cancel', a trash can icon, an add image icon, and a checkmark. Below this is a photo of a black AromaStar Deluxe espresso machine. A modal dialog titled 'Delete' is centered on the screen, asking 'Do you really want to delete this item?' with 'Yes' and 'No' buttons. Below the dialog, a table displays product information:</p> <table><tr><td>Short description (English)</td><td>AromaStar Deluxe</td></tr><tr><td>Long description (English)</td><td>Italian design and dual functionality are what make this espresso machine</td></tr><tr><td>Short</td><td></td></tr></table> | Short description (English)                                               | AromaStar Deluxe | Long description (English) | Italian design and dual functionality are what make this espresso machine | Short |  | Deleting an item from the Informatica MDM - Product 360 server. |
| Short description (English)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | AromaStar Deluxe                                                          |                  |                            |                                                                           |       |  |                                                                 |
| Long description (English)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Italian design and dual functionality are what make this espresso machine |                  |                            |                                                                           |       |  |                                                                 |
| Short                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                           |                  |                            |                                                                           |       |  |                                                                 |

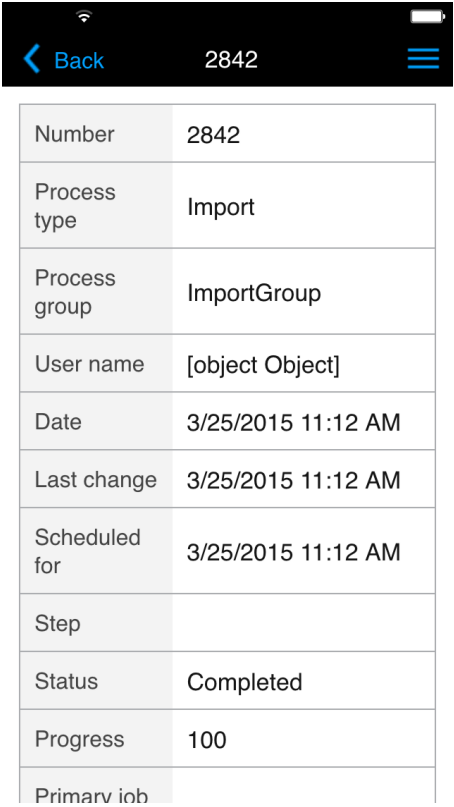
| Sample image                                                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>The „Search“ view is accessible either via the main menu link, or by a tab in the structure group navigation tree. Just „slide“ with your finger to the left, like you’re used to, from your mobile device.</p> <p>This option enables a global item search, by Item number or by one of the short description fields, either in English or German.</p> <p>It is possible to search for a part of the full number or word.</p> |

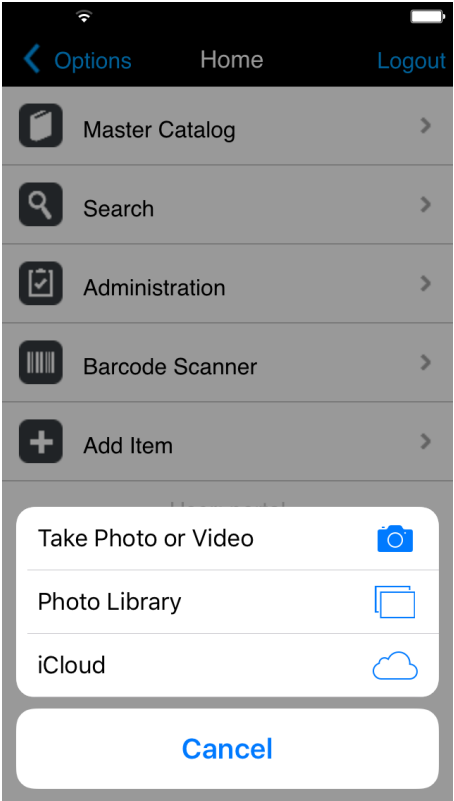
| Sample image                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Description                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>The screenshot shows a mobile application interface with a dark header bar. On the left is a blue 'Back' button with a left-pointing arrow. In the center is the text 'Search result'. On the right is a white hamburger menu icon. Below the header, there are four list items, each consisting of a small image of a table and a text label with a right-pointing chevron. The items are: 'Two-Drawer Coffee Table' (yellow table), 'Modern Occasional Table' (red table), 'Sleek Occasional Table' (dark green table), and 'Craft Table' (light wood table). At the bottom of the screen is a light gray bar with a blue folder icon and the text 'Search result' on the left, and a magnifying glass icon and the text 'Search' on the right.</p> | <p>For example, if you would search for the keyword „Table“ in the English short description field, the application will return all items containing the given String.</p> |

| Sample image                                                                       | Description                                                                                                             |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|  | <p>If you would search for an item number which does not exist yet, you can easily create an item with this number.</p> |

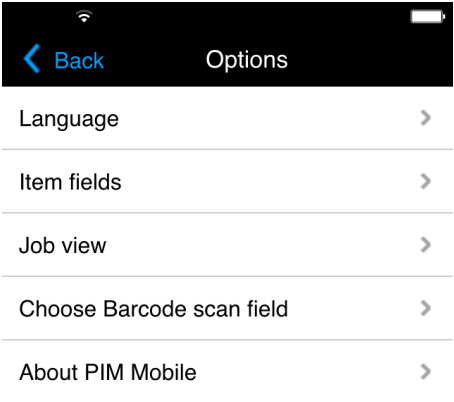


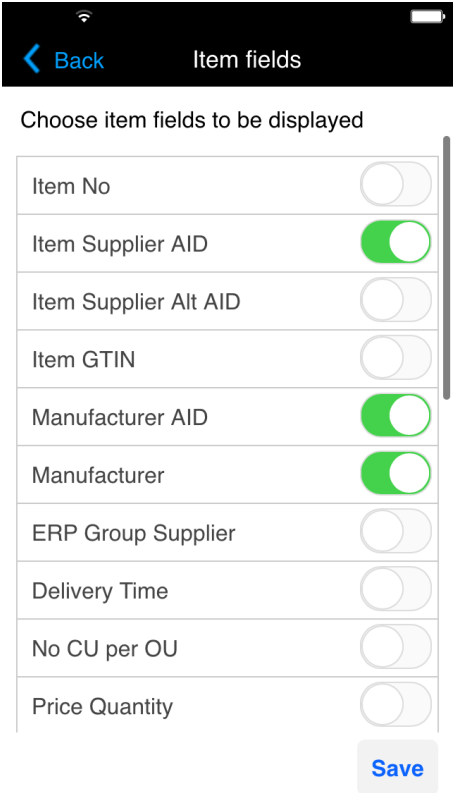
| Sample image                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Description                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  A screenshot of a mobile application interface. At the top, there is a dark header bar with a white Wi-Fi icon on the left, a blue back arrow and the word 'Back' in blue, the word 'Completed' in white, and a white battery icon on the right. Below the header is a list of five items, each consisting of the text 'ImportGroup - Import' followed by a number in parentheses: (2842), (2843), (2844), (2845), and (2846). Each item has a right-pointing chevron icon to its right. Below the list is a pull-to-refresh indicator consisting of a black upward-pointing arrow and the text 'pull up (34)'. | <p>Moving on to the next item of the main menu, „Administration“. This menu will be interesting for Informatica MDM - Product 360 Server Administrators.</p> <p>Currently it is possible to display Scheduled, Running, Completed and Cancelled server side jobs.</p> |

| Sample image                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Description        |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|--------------|--------|---------------|-------------|-----------|-----------------|------|--------------------|-------------|--------------------|---------------|--------------------|------|--|--------|-----------|----------|-----|-------------|--|---------------------------------------------------------|
|  <table><tr><td>Number</td><td>2842</td></tr><tr><td>Process type</td><td>Import</td></tr><tr><td>Process group</td><td>ImportGroup</td></tr><tr><td>User name</td><td>[object Object]</td></tr><tr><td>Date</td><td>3/25/2015 11:12 AM</td></tr><tr><td>Last change</td><td>3/25/2015 11:12 AM</td></tr><tr><td>Scheduled for</td><td>3/25/2015 11:12 AM</td></tr><tr><td>Step</td><td></td></tr><tr><td>Status</td><td>Completed</td></tr><tr><td>Progress</td><td>100</td></tr><tr><td>Primary job</td><td></td></tr></table> | Number             | 2842 | Process type | Import | Process group | ImportGroup | User name | [object Object] | Date | 3/25/2015 11:12 AM | Last change | 3/25/2015 11:12 AM | Scheduled for | 3/25/2015 11:12 AM | Step |  | Status | Completed | Progress | 100 | Primary job |  | By selecting a job, you will get more details about it. |
| Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2842               |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| Process type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Import             |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| Process group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ImportGroup        |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| User name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | [object Object]    |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3/25/2015 11:12 AM |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| Last change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3/25/2015 11:12 AM |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| Scheduled for                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3/25/2015 11:12 AM |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| Step                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Completed          |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| Progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100                |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |
| Primary job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |      |              |        |               |             |           |                 |      |                    |             |                    |               |                    |      |  |        |           |          |     |             |  |                                                         |

| Sample image                                                                       | Description                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>The Informatica p360 mobile application has a built in barcode scanner. Choosing the „Barcode scanner“ option from the main menu, you will be asked from where to get the photo.</p> <p>You can either take a photo using your mobile device's camera, or you can choose one of your photo library.</p> |



| Sample image                                                                      | Description                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>This is the Options menu.</p> <p>Here you can</p> <ul style="list-style-type: none"> <li>• switch the application language to German or English</li> <li>• select the item fields to be displayed</li> <li>• select whether to show or hide system jobs</li> <li>• choose the field the barcode scanner will use for its search</li> </ul> |

| Sample image                                                                       | Description                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>As an example, this is the option to select item fields that will be displayed in the item detail view, and also in the item creation view.</p> <p>Using this, you can enable the fields you need and disable those which you don't.</p> |

## 10.6 How to deploy the Application

### **To deploy Informatica p360 mobile:**

- Install Tomcat if you don't have one yet
- Verify that JAVA\_HOME and JRE\_HOME are set in the System variables
- To be able to support "/" (slashes) in the MediaAsset identifier, we need to enable encoded slashes

#### **If you have a standalone tomcat server:**

- Go to C:\<your-tomcat-installation-path>\bin
- Edit catalina.bat

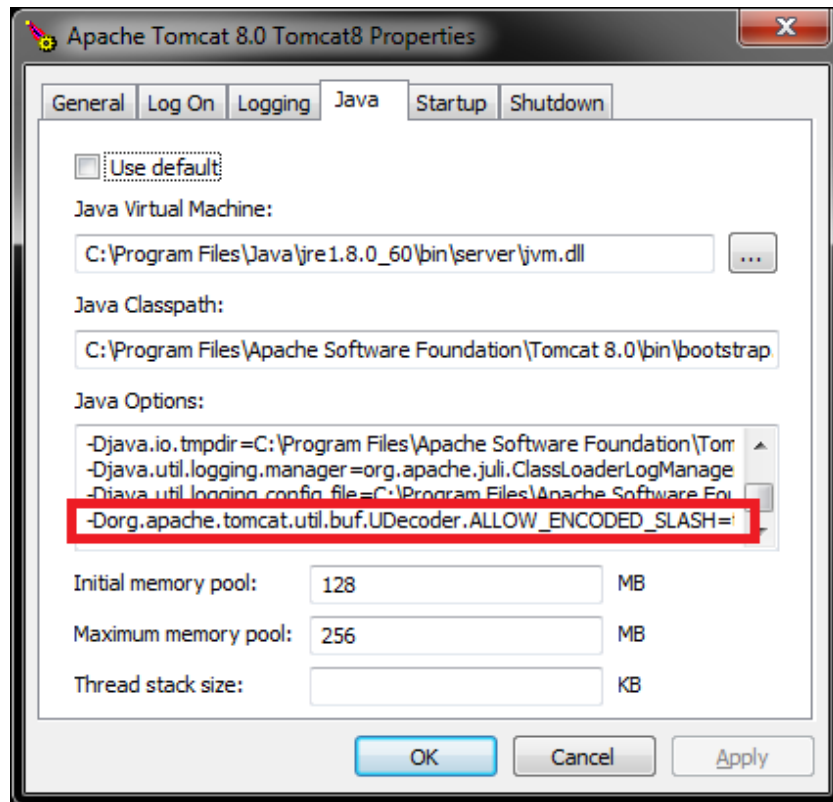
| Search for                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>set LOGGING_MANAGER=-Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager :noJuliManager set JAVA_OPTS=%JAVA_OPTS% %LOGGING_MANAGER%</pre>                           |
| Insert after                                                                                                                                                                          |
| <pre>rem Add encoded slash functionality set ALLOW_ENCODED_SLASH=-Dorg.apache.tomcat.util.buf.UDecoder.ALLOW_ENCODED_SLASH=true set JAVA_OPTS=%JAVA_OPTS% %ALLOW_ENCODED_SLASH%</pre> |

**If you have tomcat installed as a service:**

- Open the Tomcat GUI (e.g. from the task bar icon, or run C:\<your-tomcat-installation-path>\bin\tomcat8.exe)
- Go to "Java"-Tab
- Add the following line at the end of "Java Options"

**Java Option**

```
-Dorg.apache.tomcat.util.buf.UDecoder.ALLOW_ENCODED_SLASH=true
```

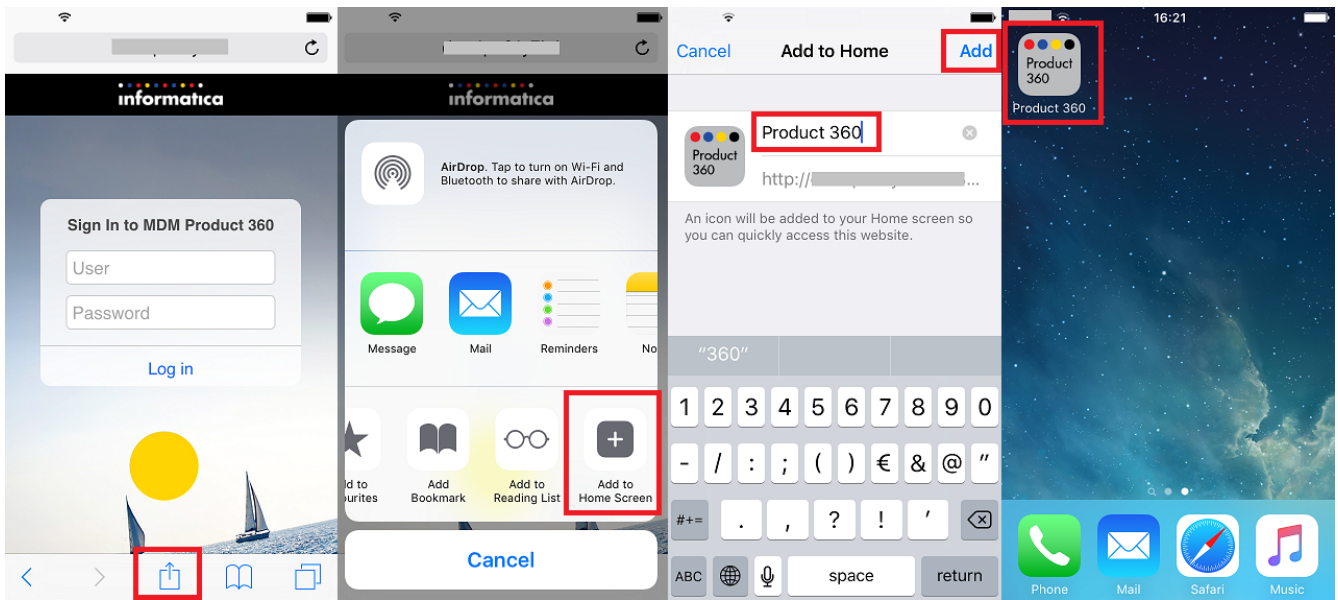


- Don't forget to restart Apache!
- Place the p360.war in the tomcat webapps folder
- In your browser, access the App by browsing to `http://<your-server-dns-or-ip>:<port>/p360` – e.g. `http://127.0.0.1:8080/p360`

**Optional: Set a shortcut on the device home screen**

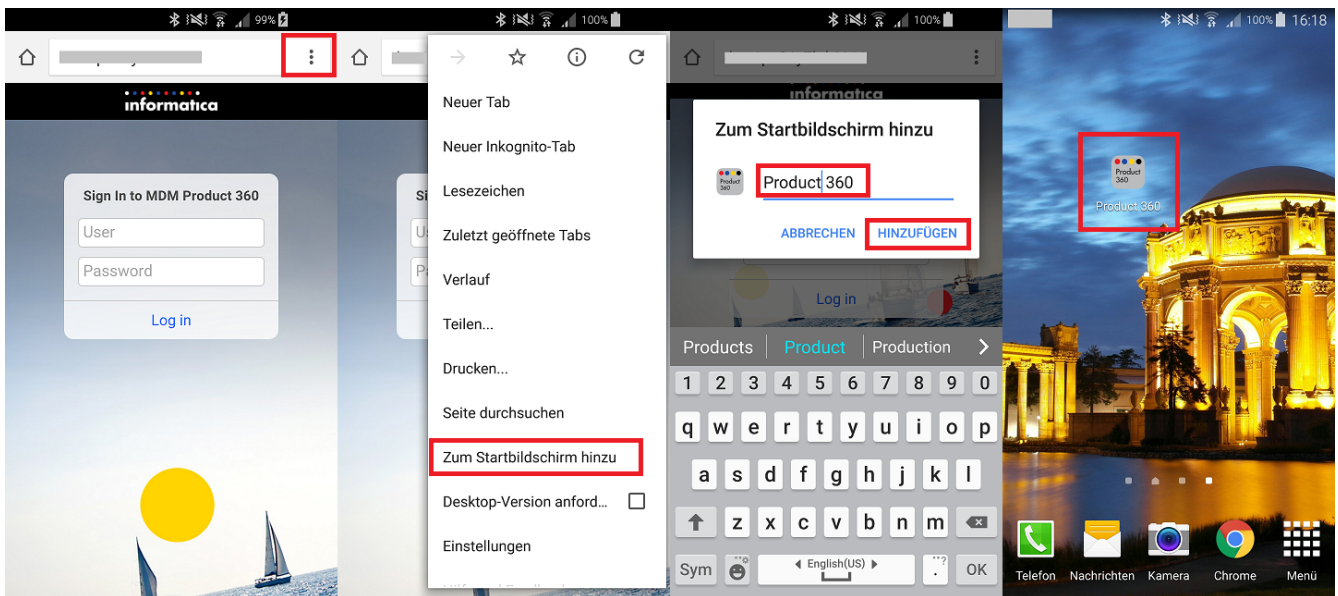
**10.6.1 iOS**

- Open Safari
- Browse to Informatica p360 mobile
- Touch the menu icon ( middle icon in footer bar )
- Choose "Add to Home Screen" (German: "Zum Home-Bildschirm")
- Give it a name and choose "Add" (German: "Hinzufügen")



## 10.6.2 Android

- Open Chrome.
- Browse to Informatica p360 mobile.
- click menu button and choose "Add to home screen" (German: "Zum Startbildschirm hinzufügen".)





# 11 Azure Key Vault Encryption Accelerator

## Operating System

This Accelerator can only be used with the Microsoft Windows operating system

The Azure Key Vault Encryption Accelerator is used to enhance the security by using Azure Key Vault to encrypt and decrypt the passwords of your Product 360 config files. Azure Key Vault handles the keys which are used for encrypting and decrypting in the Microsoft Cloud where they are safe from attackers who got access to the local system.

This accelerator can currently be used for the following Product 360 components:

- Product 360 Server
- Product 360 Audit trail
- Product 360 Supplier Portal
- Product 360 Web search
- Product 360 Database setup

To use the Azure Key Vault Encryption Accelerator start the [configuration of Key Vault](#).

## 11.1 Prerequisites

To use Azure Key Vault it is necessary to have an active subscription on the Azure platform.

## 11.2 Azure Encryption Accelerator configuration

### 11.2.1 Required programs

- Powershell on the local system to create the certificate and read information from the certificate

### 11.2.2 Certificate creation

To use the Azure Encryption Accelerator a certificate to authenticate the machine against Azure Key Vault is needed.

To create a certificate with Powershell see the following snippet.

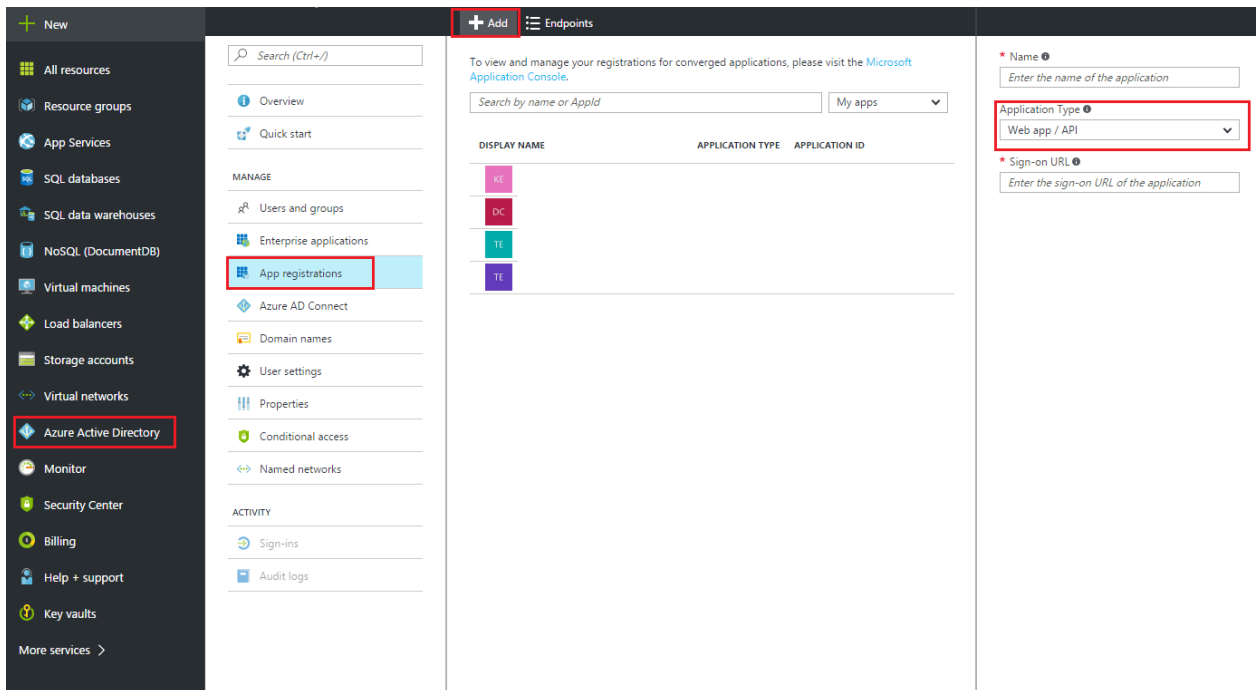
#### Power Shell example

```
makecert -r -pe -n "CN=<CertificateName>" -ss My -len 2048 certificateFileName.cer -sv privateKeyFileName.pvk
```

### 11.2.3 Azure Key Vault configuration

Before using Azure Key Vault encryption the following configuration for Key Vault is needed:

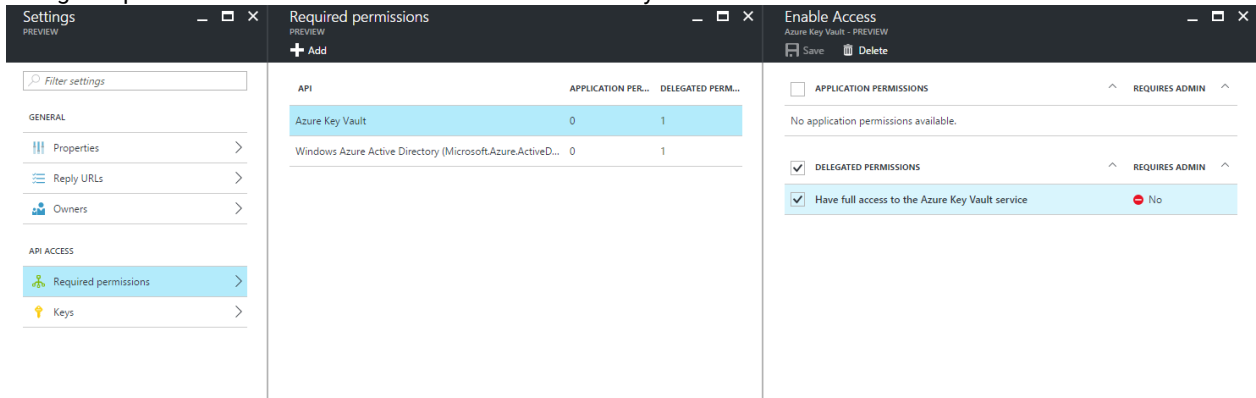
1. Create a new Azure Key Vault or use an existing one.
2. Register a new Azure application in the Azure Active Directory with the following settings:
  - a. Type: Web
  - b. URL of your choice (can be any URL, it is not used anywhere)



3. In your created application go to settings and set the required permission to have full access to Key Vault, depending on the Azure version you are using.

When using the Classic Portal, go to the created application and set the permissions to other applications: "Azure Key Vault" -> "Delegated Permissions" -> "Have full access to Key Vault"

When using the Resource Manager, go to the created application, then "Required permissions" -> "Azure Key Vault" -> "Delegated permissions" -> "Have full access to the Azure Key Vault service"



### Delegate permissions

If it is not possible to select or save delegated permissions for Azure Key Vault have a look at the [troubleshooting page](#).

- Download the manifest of the created application and create a backup on the local system.

The screenshot shows the Azure portal interface for a registered application. The top navigation bar includes 'Settings', 'Manifest' (highlighted), and 'Delete'. The 'Manifest' tab is active, displaying the application manifest JSON code. The left sidebar shows the 'Essentials' section with fields like 'Display Name', 'Application ID', 'Application Type', and 'Home Page'. The main area shows the application manifest JSON code, which includes details like 'appId', 'appRoles', 'availableToOtherTenants', 'displayName', 'errorUrl', 'groupMembershipClaims', 'homepage', 'identifierUris', 'keyCredentials', 'knownClientApplications', 'logoutUrl', 'oauth2AllowImplicitFlow', 'oauth2AllowUrlPathMatching', 'oauth2Permissions', 'adminConsentDescription', 'adminConsentDisplayName', 'id', 'isEnabled', 'type', 'userConsentDescription', 'userConsentDisplayName', 'value', 'oauth2RequiredPostResponse', 'objectId', 'passwordCredentials', 'publicClient', 'supportsConvergence', and 'replyUrls'.

- Open powershell and import the certificate created earlier. Use the following snippet to import the certificate and extract the following 3 values from powershell: \$base64Value, \$base64Thumbprint, \$keyid

**certificate extraction**

```
$cer = New-Object System.Security.Cryptography.X509Certificates.X509Certificate2
$cer.Import("YourCertificateName.cer")
$bin = $cer.GetRawCertData()
$base64Value = [System.Convert]::ToBase64String($bin)
$bin = $cer.GetCertHash()
$base64Thumbprint = [System.Convert]::ToBase64String($bin)
$keyid = [System.Guid]::NewGuid().ToString()
```

For more information about the values please look at the official documentation at step 2: <https://azure.microsoft.com/en-us/documentation/samples/active-directory-dotnet-daemon-certificate-credential/>

- Edit the manifest of your application to use the certification as credentials of the application. Adjust the keyCredentials section of the manifest of the application with your certificate information from above.

**manifest**

```
[...]
"keyCredentials": [
  {
    "customKeyIdentifier": "$base64Thumbprint",
    "keyId": "$keyid",
    "type": "AsymmetricX509Cert",
    "usage": "Verify",
    "value": "$base64Value"
  }
],
[...]
```



### value property

The "value" property in the key credentials has to be one string without carriage return or line feed.

## 7. Save the manifest of the application



### value property

The "value" property is not visible after saving (stated as null) for security reasons.

## 8. Create a new key in Azure Key Vault with a preferred name and key type.

The screenshot shows the Azure Key Vault 'Add Key' interface. On the left, the 'Keys' option under 'SETTINGS' is highlighted with a red box. The main area displays a table with one key named 'testhsm' in 'Enabled' status. On the right, the 'Add Key' form is shown. The 'Name' field and 'Key Type' dropdown (set to 'Software key') are highlighted with red boxes. The 'Create' button at the bottom is also highlighted with a red box.

| NAME    | TYPE | STATUS    | EXPIRATION DATE |
|---------|------|-----------|-----------------|
| testhsm |      | ✓ Enabled |                 |

Options: Generate

\* Name: [ ]

Key Type: Software key

Set activation date: ☐

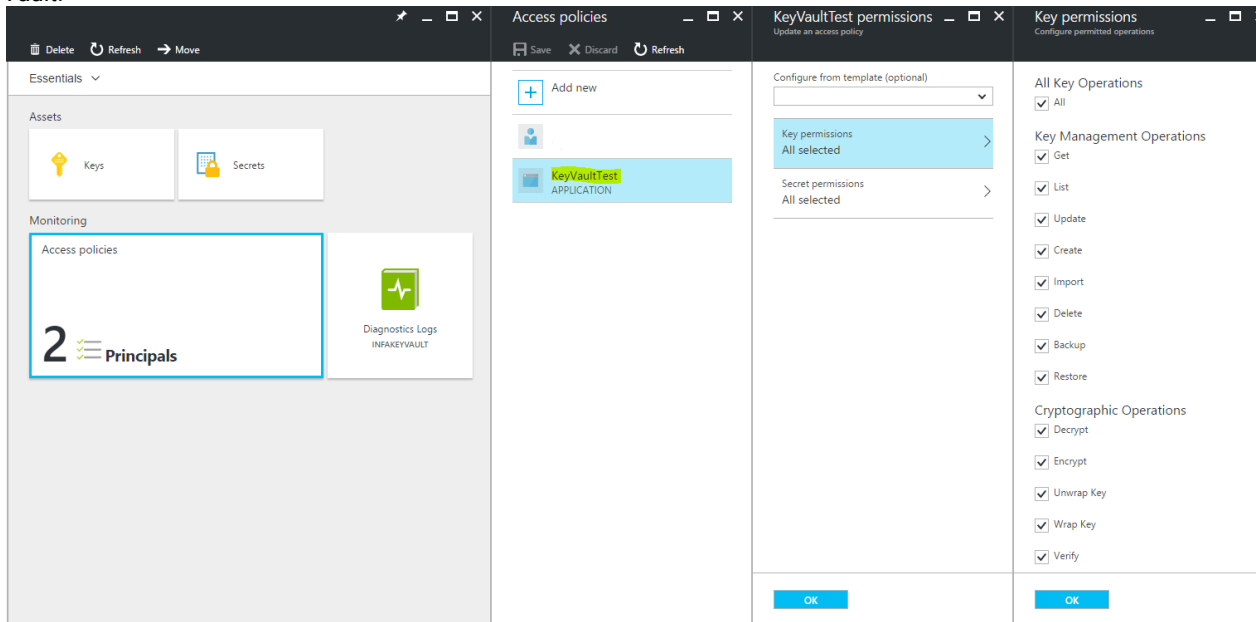
Set expiration date: ☐

Enabled: ☒ Yes ☐ No

☐ Pin to dashboard

Create

- In Azure Key Vault add the newly created application (done in Step 2) as principal with full access rights to the Key Vault.



- Save the access policies of the principals

The Azure Key Vault is now configured to be used with the Azure Encryption Service.

#### 11.2.4 Product 360 configuration

To configure the Product 360 components you have to add the corresponding Key Vault settings to the `keyvault.properties` file.

##### Azure Key Vault properties (`keyvault.properties`)

| Property                               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>keyvault.encryptionMethod</code> | <p>Encryption method which the Azure Key Vault should use.</p> <p>Currently supported methods of Key Vault are: RSA1_5, RSA-OAEP</p> <div> <p><b>Note</b></p> <p>The <code>keyvault.encryptionMethod</code> has to be compatible with the <code>keyvault.keyType</code>. More information about the encryption method and keytype can be found at <a href="https://docs.microsoft.com/en-us/rest/api/keyvault/about-keys-secrets-and-certificates#BKMK_KeyTypes">https://docs.microsoft.com/en-us/rest/api/keyvault/about-keys-secrets-and-certificates#BKMK_KeyTypes</a></p> </div> |
| <code>keyvault.keyVaultURL</code>      | <p>URL to the Azure Key Vault which should be used. The URL can be found at the configured Key Vault as "DNS Name" (Example: <code>https://INFAKEYVAULT.vault.azure.net</code>)</p>                                                                                                                                                                                                                                                                                                                                                                                                  |

| Property                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| keyvault.<br>certifica<br>tionName | <p>Name of the certificate that is seen in the Microsoft Management Console (mmc.exe) as "Issued To".</p> <div> <p><b>Note</b></p> <p>Has to be the certificate which was used as a key in the Azure Application, see "Azure Key Vault Configuration" section above.</p> </div>                                                                                                                                                                                                                                       |
| keyvault.<br>clientID              | <p>ClientID (when using manage.windowsazure.com) or ApplicationID (when using portal.azure.com) of the application created in the "Azure Key Vault Configuration" section above.</p> <p>Is used to identify if the application has access to Key Vault and its functions.</p>                                                                                                                                                                                                                                         |
| keyvault.<br>keyName               | <p>Name of the key which should be used by Key Vault for encryption/decryption. If no key with the given name exists in Key Vault, a new one will be created.</p> <div> <p><b>Note</b></p> <p>This is the key which will be used to encrypt and decrypt. To change the key after you have already encrypted something please look at the <a href="#">setup section</a></p> </div>                                                                                                                                     |
| keyvault.<br>keyType               | <p>Type of key which is used to encrypt/decrypt.</p> <p>Currently supported values are: RSA</p> <div> <p><b>Note</b></p> <p>The keyvault.encryptionMethod has to be compatible with the keyvault.keyType. More information about the encryption method and keytype can be found at <a href="https://docs.microsoft.com/en-us/rest/api/keyvault/about-keys-secrets-and-certificates#BKMK_KeyTypes">https://docs.microsoft.com/en-us/rest/api/keyvault/about-keys-secrets-and-certificates#BKMK_KeyTypes</a></p> </div> |

After the configuration of Product 360 you can start with [installing the Azure Encryption Accelerator](#).

## 11.3 Azure Encryption Accelerator installation

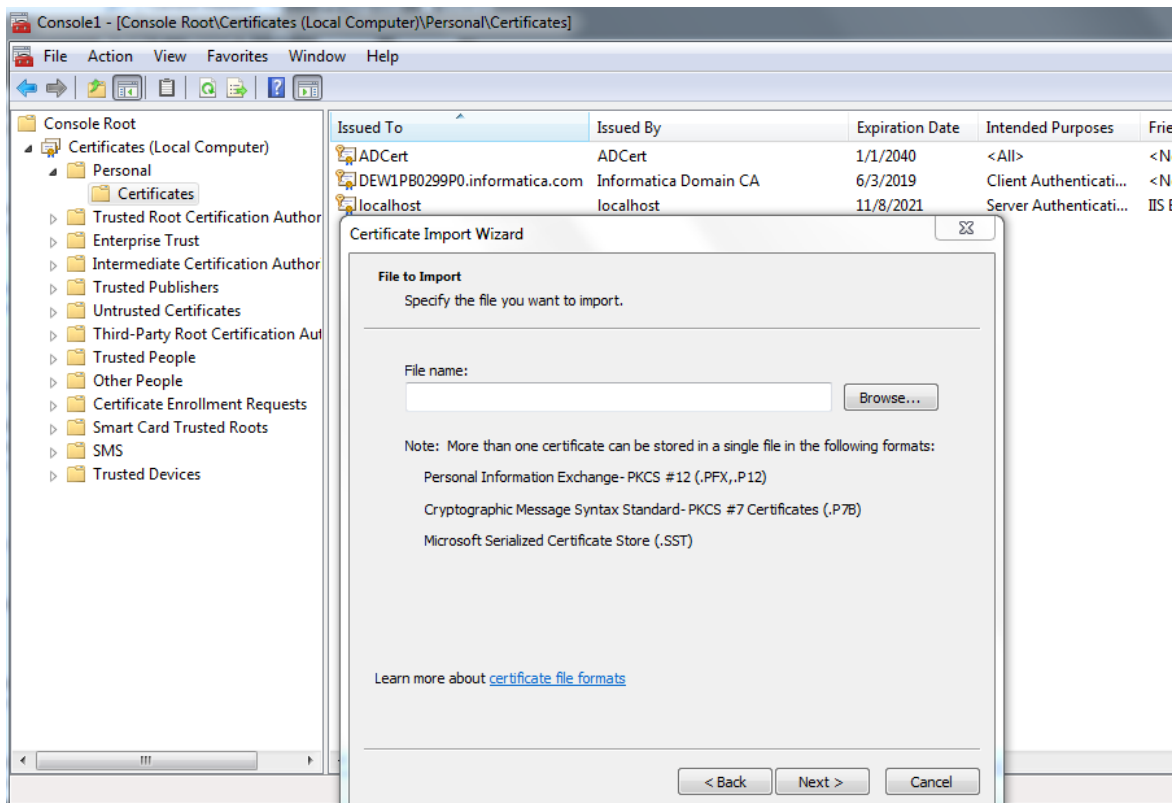
### **Configuration**

**Note:** Before installing the Azure Encryption Accelerator please make sure that you have configured your Key Vault on the Azure Website like described in the "Azure Encryption Accelerator configuration" section

### 11.3.1 Certificate installation

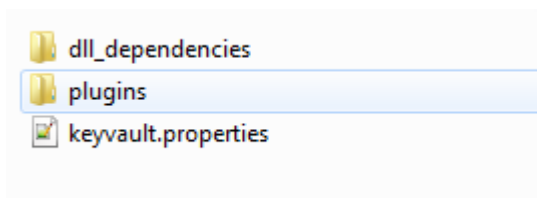
Open the program "Microsoft Management Console" on the machine and add the certificates as a "Snap-in" for the "computer account".

Import the certificate with private key (.pfx file) you created in the "Azure Encryption Accelerator configuration" section into the "Personal" certificate store.



### 11.3.2 Accelerator installation

Extract all files from the Azure Encryption Accelerator to a directory. It should contain these files



#### General information

All Product 360 components can be installed **separately**.

Is is recommended to copy the keyvault.properties file to a location where it can be referenced by all Product 360 components like <PATH\_TO\_P360SERVER>/configuration/HPM/

The tag <PATH\_TO\_KEYVAULT.PROPERTIES> is the **absolute** path to the location of the keyvault.properties file.

For example: ppm.encryptionService.configPath=C:/Product360/server/configuration/HPM

#### Product 360 server

1. Copy the azure encryption service plugin to <PATH\_TO\_P360SERVER>/plugins
2. In the server configuration directory <PATH\_TO\_P360SERVER>/configuration include the following lines before the end of file marker in the config.ini file

**config.ini**

```
ppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService
ppm.encryptionService.configPath=<PATH_TO_KEYVAULT>.PROPERTIES>
```

3. Include all dlls from the dll\_dependencies folder to the java bin directory of Product 360 server, <PATH\_TO\_P360SERVER>\jre\bin

**Product 360 Database setup**

1. Copy the azure encryption service plugin to <PATH\_TO\_DBCLIENT>/plugins
2. In the database client configuration directory, <PATH\_TO\_DBCLIENT>/configuration, include the following lines in the config.ini file

**config.ini**

```
ppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService
ppm.encryptionService.configPath=<PATH_TO_KEYVAULT>.PROPERTIES>
```

Also include the reference to the encryption service in the config.ini at the osgi.bundles property

**config.ini**

```
osgi.bundles= [...],reference\:file\:com.heiler.ppm.encryption.azure_1.0.0.jar@4
```

3. Include all dlls from the dll\_dependencies folder to the Product 360 database client directory where the Database.exe is located
4. Include all dlls from the dll\_dependencies folder to the java bin directory of Product 360 database setup, <PATH\_TO\_DBCLIENT>\jre\bin

**Product 360 Audit Trail**

1. Copy the azure encryption service plugin to <PATH\_TO\_AUDIT\_TRAIL>/plugins
2. In the audit trail configuration directory <PATH\_TO\_AUDIT\_TRAIL>/configuration include the following lines in the config.ini file

**config.ini**

```
ppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService
ppm.encryptionService.configPath=<PATH_TO_KEYVAULT>.PROPERTIES>
```

Also include the reference to the encryption service in the config.ini at the osgi.bundles property

**config.ini**

```
osgi.bundles= [...],reference\:file\:com.heiler.ppm.encryption.azure_1.0.0.jar@4
```

3. Include all dlls from the dll\_dependencies folder to the Product 360 audit trail directory where the atserver.exe is located
4. Include all dlls from the dll\_dependencies folder to the java bin directory of Product 360 audit trail, <PATH\_TO\_AUDIT\_TRAIL>\jre\bin

When starting the application as a service also add the following lines to the configuration of the wrapper located at <PATH\_TO\_AUDIT\_TRAIL>/bin/conf



#### wrapper.conf

```
wrapper.java.additional.13=-Dppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService
wrapper.java.additional.14=-Dppm.encryptionService.configPath=<PATH_TO_KEYVAULT>.PROPERTIES>
```

### Product 360 Control Center

1. Copy the azure encryption service plugin to <PATH\_TO\_CONTROL\_CENTER>/plugins
2. In the control center configuration directory <PATH\_TO\_CONTROL\_CENTER>/configuration include the following lines in the config.ini file

#### config.ini

```
ppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService
ppm.encryptionService.configPath=<PATH_TO_KEYVAULT>.PROPERTIES>
```

3. Add all dlls from the dll\_dependencies folder to the java bin directory of Product 360 Control Center located at <PATH\_TO\_CONTROL\_CENTER>\jre\bin

When starting the application as a service also add the following lines to the configuration of the wrapper located at <PATH\_TO\_CONTROL\_CENTER>/service

#### wrapper.conf

```
wrapper.java.additional.13=-Dppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService
wrapper.java.additional.14=-Dppm.encryptionService.configPath=<PATH_TO_KEYVAULT>.PROPERTIES>
```

### Product 360 Web Search

1. Copy the azure encryption service plugin to <PATH\_TO\_WEB\_SEARCH\_ROOT>/internal/buildFiles/lib and <PATH\_TO\_WEB\_SEARCH\_ROOT>/apache-tomcat-X.X.XX/webapps/hps-web/WEB-INF/lib
2. In the web search configuration file <PATH\_TO\_WEB\_SEARCH\_ROOT>/configuration.properties fill the following lines:

#### configuration.properties

```
ppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService
ppm.encryptionService.configPath=<PATH_TO_KEYVAULT>.PROPERTIES>
```

3. Go to the java directory which is configured at the jdk.home property in configuration.properties. Copy all dlls from the dll\_dependencies to the following paths: <PATH\_TO\_JAVA\_JDK>/jre/bin and <PATH\_TO\_JAVA\_JDK>/bin

Before starting the application add all dlls from the dll\_dependencies folder to the Apache Tomcat bin directory where tomcat.exe is located at <PATH\_TO\_WEB\_SEARCH\_ROOT>/apache-tomcat-X.X.XX/bin.

The scripts to start the Web Search Server Service (*service\_HPS\_install.cmd*) or the Web Search Server (*start\_HPS\_tomcat.cmd*) have to be started as Administrator, best practice is here from a console (*cmd*) which runs as Administrator.

## 11.3.3 Product 360 Supplier Portal

### Supplier Portal database

1. Copy the azure encryption service plugin to <PATH\_TO\_SUPPLIER\_PORTAL\_ROOT>/database/lib
2. In the Supplier Portal configuration directory <PATH\_TO\_SUPPLIER\_PORTAL\_ROOT>/configuration include the following lines in the configuration.properties file:

#### configuration.properties

```
ppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService
ppm.encryptionService.configPath=<PATH_TO_KEYVAULT.PROPERTIES>
```

3. Go to the java directory which is configured as JAVA\_HOME property. Copy all dlls from the dll\_dependencies to the following paths: <PATH\_TO\_JAVA\_JDK>/jre/bin and <PATH\_TO\_JAVA\_JDK>/bin

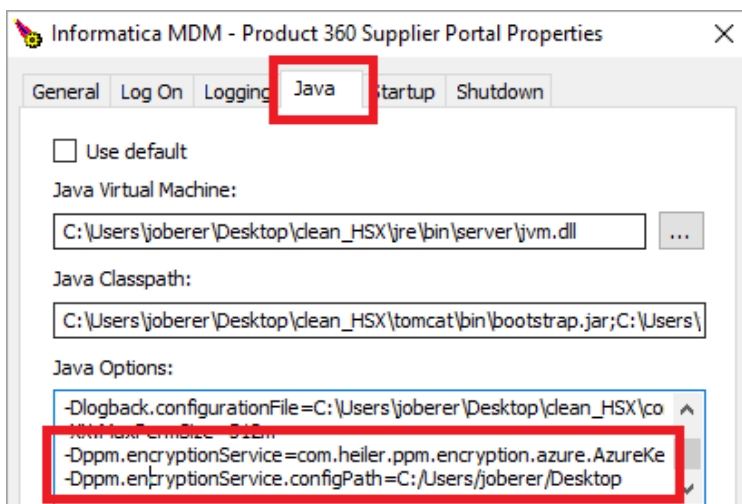
The scripts to install the Supplier Portal database (*setup.cmd*) has to be started as administrator, best practice is here from a console (*cmd*) which runs as administrator.

### Supplier Portal service

1. Open the command line as administrator and install the Supplier Portal service (*install.cmd*). Make sure that the same JAVA\_HOME property like in the Supplier portal database installation is used.
2. Execute the configure.bat in the same command line window.
3. In the configuration pop-up select "Java" and add the following lines in the "Java Options" area:

#### Java Options

```
-Dppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService
-Dppm.encryptionService.configPath=<PATH_TO_KEYVAULT.PROPERTIES>
```



It is now possible to start the service with the encrypted passwords.

### Product 360 Media Manager Web (since 8.0.6.01)

1. Copy the azure encryption service plugin 'com.heiler.ppm.encryption.azure\_1.0.0.jar' to OpasGWebServer/Tomcat/lib and OpasGWebServer/Tomcat/webapps/opas/WEB-INF/lib
2. Copy all dlls from the dll\_dependencies to the following paths: OpasGWebServer/java/jre/bin and OpasGWebServer/Tomcat/bin

3. Copy `keyvault.properties` file to `OpasGWebServer/` and adjust values to your needing
4. Edit file `startup.bat` and add 2 new `JAVA_OPTS` values

#### startup.bat

```
:: old line
set JAVA_OPTS=-server -Xms%APP_XMS% -Xmx%APP_XMX% -Dcom.sun.management.jmxremote -Dfile.encoding=UTF-8 -
Dsun.jnu.encoding=UTF-8


:: new line with absolute path to parent folder of keyvault.properties
set JAVA_OPTS=-server -Xms%APP_XMS% -Xmx%APP_XMX% -Dcom.sun.management.jmxremote -Dfile.encoding=UTF-8 -
Dsun.jnu.encoding=UTF-8 -Dppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService -
Dppm.encryptionService.configPath=C:/OpasGWebServer
```

5. Edit file `installService.bat` and add 2 new `JAVA_OPTS` values

#### installService.bat

```
:: old line
%TOMCAT_HOME%\bin\tomcat8 //US//Tomcat8 --DisplayName "Informatica Media Manager Apache Tomcat"

:: new line with absolute path to parent folder of keyvault.properties
%TOMCAT_HOME%\bin\tomcat8 //US//Tomcat8 --DisplayName "Informatica Media Manager Apache Tomcat" ++JvmOptions "-
Dppm.encryptionService=com.heiler.ppm.encryption.azure.AzureKeyVaultEncryptionService;-
Dppm.encryptionService.configPath=C:/OpasGWebServer
```

 If you have already installed the Tomcat Windows service you need to reinstall (removeService.bat and installService.bat) the service to apply the new `JAVA_OPTS`.

The removeService.bat and installService.bat have to be executed as Administrator.

## Media Manager Rest Service for Supplier Portal

You can use the accelerator in the previous configured Tomcat beside the Media Manager Web application. In addition please

1. Copy the azure encryption service plugin '`com.heiler.ppm.encryption.azure_1.0.0.jar`' to `OpasGWebServer/Tomcat/webapps/rest/WEB-INF/lib`

## 11.4 Azure Encryption Accelerator setup

### 11.4.1 Using the Azure Encryption Accelerator to encrypt/decrypt configuration files

To use the Azure Encryption service add the tag `[_to_encrypt_]` before and after the password which you want to encrypt. The concept is the same as using the default implementation of the password encryption.

#### encryption example

```
sql.password = [_to_encrypt_]MyPassword[_to_encrypt_]
```

## 11.4.2

### Changing the key for the encryption/decryption process

When you have encrypted the password with the key stated in the `keyvault.properties` do not change the key or else Azure will not be able to decrypt it again.

When you want to use a new key follow these steps:

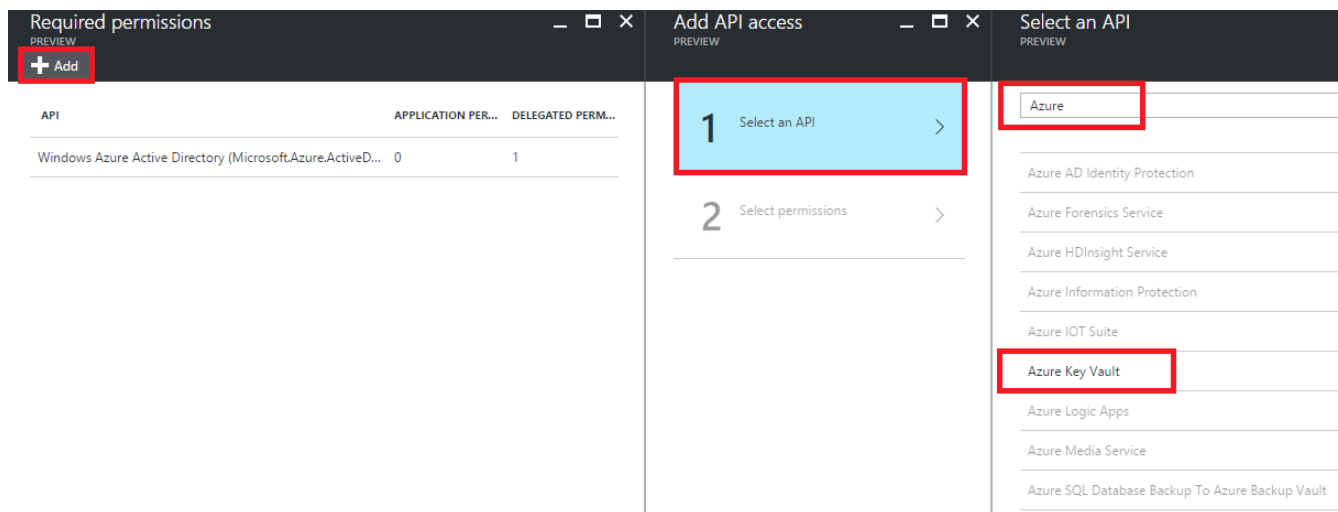
1. Write the password in plain text with the encryption marker again.
2. Now change the `keyName` property of the `keyvault.properties` to the desired key.
3. Restart the Product 360 components.
4. The password will now be encrypted again with the new key.

## 11.5 Azure Encryption trouble shooting

### 11.5.1 Installation Troubleshooting

#### I cannot see "Azure Key Vault" in the list of APIs when adding a new required permission

This is a bug of the Azure system. "Azure Key Vault" can be selected when starting to type "Azure" in the search bar.



#### It is not possible to save the delegated permission of Azure Key Vault from the Azure Application

To fix this problem follow these steps:

1. Create a new Azure Application and use "Native" as type.
2. Delegate the permissions to Key Vault like in the web app.

3. Open the manifest of the Native app and copy the section like below to the appropriate manifest section of your web app.(values can differ)

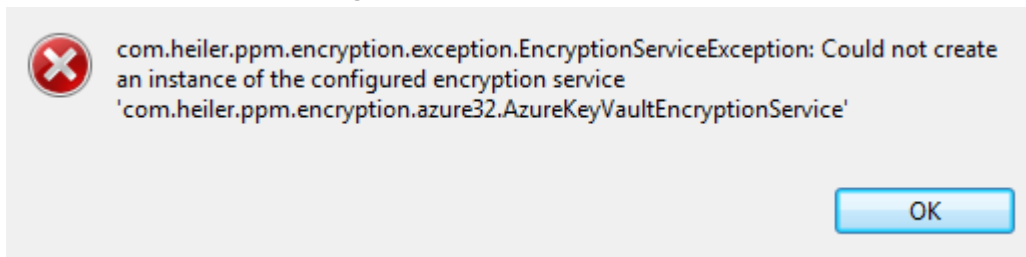
```
24  "requiredResourceAccess": [  
25    {  
26      "resourceAppId": "cfa8b339-82a2-471a-a3c9-0fc0be7a4093",  
27      "resourceAccess": [  
28        {  
29          "id": "f53da476-18e3-4152-8e01-aec403e6edc0",  
30          "type": "Scope"  
31        }  
32      ]  
33    },  
34    {  
35      "resourceAppId": "00000002-0000-0000-c000-000000000000",  
36      "resourceAccess": [  
37        {  
38          "id": "311a71cc-e848-46a1-bdf8-97ff7156d8e6",  
39          "type": "Scope"  
40        }  
41      ]  
42    }  
43  ]
```

4. Save the manifest of the web app.
5. Check the permissions in the web app. It should now have the delegated rights.

If this step did not work create the needed web app though the classic portal and delegate the permission there.

## 11.5.2 Installation Troubleshooting

There is an error while loading the class like in the screenshot



This error occurs when the encryption service cannot be loaded. Please check the `config.ini` and `wrapper.conf` files if the encryption service plugin name is written correctly and check if the related plugin exists in the plugins directory of the Product 360 component.

If the error persists please check if the plugin is being loaded via console and check the `config.ini` if the encryption plugin is existent in the `osgi.bundles` property.

### Invalid memory access while trying to start the service or application

Unfortunately this error is thrown by JNA when something happens to the connection to the Azure Key Vault and can have many causes.

Solutions:

- try starting the service or application with administrator rights.
- check that all dll files got copied to the corresponding Product 360 components and are at the right place.
  - If the error still persists please also copy all dll files to the machines jdk/jre directory which is labeled as JAVA\_HOME system property.
- check the `keyvault.properties` file if the properties are set and have valid values.
- check if the Azure Key Vault is configured correctly and there is an application configured as principal with full access rights to the Azure Key Vault.
- check if the Azure Application is configured correctly and has the required permission to use the Azure Key Vault API.
- check if the certificate is created like described in the documentation and is installed correctly onto the machine under the "computer account" of the certification store.
- When using Product 360 Websearch make sure that the dll files are existent where the `tomcat.exe` file is located.

### **The Product 360 component does not start with the error "Invalid OAEP-Padding"**

This error occurs when you have encrypted the password with a key and later changed the key in the `keyvault.properties` file.

Key Vault now tries to decrypt the password with the new key and fails, because it is not the key which was used to encrypt the password.

To fix the problem just redo the encryption process:

1. Enter the password surrounded by the encryption markers `[_to_encrypt_]MyPassword[_to_encrypt_] again.`
2. Restart the Product 360 component.