



CSM FOR SHOPIFY

An App by Suite Engine

Microsoft Dynamics 365 Business Central

Listing Management Setup

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LISTING MANAGEMENT SETUP

CSM for Shopify 4.7 (D365 Business Central Target Version 23.0: Platform 23.0.14587.0 + Application 23.1.13431.13546)

This document presents Listing Management setup information regarding the CSM for Shopify Listing Management functionality for D365 Business Central. Listing Management functionality is additional functionality to the CSM for Shopify Order Management module.

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CSM Setup

CSM for Shopify Listing Management requires that you have already setup the CSM for Shopify Order Management functionality. Please follow the setup instructions for CSM for Shopify Order Management.

CSM Sales Channel

There is a Listing Management Fast tab on the Sales Channel Card. These fields are mostly defaults that CSM uses to build a Channel Listing from Business Central Item Data using the Create Listing Wizard.

Listing Management Fast Tab		
Field	Description	Example Value
Prod Information Purpose	This field is for future use, it will allow you to specify a purpose for product information you populate in CSM	
Auto Build Attributes From	Indicates the method used to auto build attributes for a Sales Channel attribute set.	Item Attributes
Enable New Attribute Design	Enabling this field will instruct CSM to store listing attribute information in separate tables. You should enable this field if you have not yet deployed CSM for Shopify's listing management functionality and are doing so for the first time. If you have been working with CSM for Shopify's listing management functionality in the past, please contact your Suite Engine partner before enabling this field, as there may be data migration activities to consider.	Yes/True
Use Shared Item Attributes	Enabling this field will instruct CSM to create common item attribute records that can be shared between CSM listings. This is to accommodate varying attribute structures across different eCommerce platforms. In the instance of Shopify, attributes are product-specific. Accordingly, this field must be set to False when you are configuring a Shopify sales channel.	No/False
Attribute Set Behavior	Attribute sets are used by some eCommerce platforms as a way to group together product attributes. This concept does not exist within Shopify and this field can be ignored.	
Listing Default Attribute Set	Attribute sets are used by some eCommerce platforms as a way to group together product attributes. This concept does not exist within Shopify and this field can be ignored.	
Price Group Code	Price Group to use in Listing Management for pricing	ECOMB2C
Listing Default short Description	The default source of the Short Description when a Channel Item Listing is created. <ul style="list-style-type: none"> Manual: CSM will not link the Short Description to any value, however the user can create a long description product information record (with HTML tags supported) as a CSM Product Information entry for the listing. Extended Text: CSM will link the Short Description Product Information record to the Extended Text entry for the item being listed. Description 2: CSM will link the Short Description Product Information record to Description 2 of the Item being listed. LS Item HTML: If the LS Central extension from LS Retail is installed, CSM can link the LS Central Item HTML value to the Short Description product information record for the listing. 	Extended Text
Listing Default Long Description	CSM can populate the Long Description sent to Shopify based on a Long Description CSM Product Information record attached to the CSM Listing. This Product Information record can be something you create, or linked to Business Central data: <ul style="list-style-type: none"> Manual: CSM will not link the Long Description to any value, however the user can create a long description product information record (with HTML tags supported) as a CSM Product Information entry for the listing. Extended Text: CSM will link the Long Description Product Information record to the Extended Text entry for the item being listed. Description 2: CSM will link the Long Description Product Information record to Description 2 of the Item being listed. 	Manual

	<ul style="list-style-type: none"> LS Item HTML: If the LS Central extension from LS Retail is installed, CSM can link the LS Central Item HTML value to the Long Description product information record for the listing. 	
Default SKU Method	If you want to automatically create new CSM listings from the Item card , you must select the method by which sales channel SKU values will be assigned to these new CSM listing records. A sales channel SKU identifies the CSM listing as a unique record for the CSM sales channel. Sales channel SKUs can be assigned from an item's number; a combination of an item's number, variant, and unit of measure; item identifier; or barcode values.	
Default Images	<p>CSM can send product images to Shopify. The Product Images sent to Shopify are Image Type product information records on the listing. The following settings are used when CSM listings are created to pre-populate the image product information records based on Business Central Data.</p> <ul style="list-style-type: none"> Manual: CSM will not create any image product information for the listing, however the user can upload images to product information records manually from the CSM Listing Card. Item Picture: CSM will create a single image product information record that is linked to the Business Central Item Picture. It is possible to manually create additional images for the listing that will be sent to Shopify. Media Set: This option will create image product information records for each image found in the Image Media Set stored on the Business Central Item Record. External: CSM should defer to other extensions that may link Listing Product information records to Images they store. Here it is possible to have CSM link to images defined by another extension such as LS Retail Images. 	Item Picture
API Image File Path Base Image External ID Small Image External ID Thumbnail Image External ID	This field is not used by CSM for Shopify, other channels that CSM can communicate with may use this information.	
Default Product Status	Select the product status you want to assign by default to all CSM listings that are created for the sales channel. When a CSM listing is sent to an external Shopify channel, this setting indicates the status that will be assigned to the product in Shopify.	Active

Listing Management Fast Tab (Availability Defaults)

Field	Description	Example Value
Send Availability Information	Enable this field if you want to send item availability information from this platform's associated listing records to Shopify. The setting in this field acts as a default for newly-created listing records.	Switched On (True)
Channel Inv. Location	Assign the ID of the Shopify location to which you want to send calculated inventory values. By default, inventory information can be sent to a single Shopify location.	62595137723
Default Availability Basis	<p>The Business Central Inventory method to use when calculating availability. This is a default that every CSM Listing for this Sales Channel will be created with. You can however override this value for each individual Listing. All the below methods use the location specified on the Sales Channel for the calculation.</p> <ul style="list-style-type: none"> Availability – (Item Availability) On hand, less what is due to ship on a sales order, + what can be received on a Purchase Order where the expected release date is today or less. Available Inventory – On hand minus what is on reserve for other demand Inventory – On hand inventory for the Location specified by this Sales Channel. 	Availability
Default Availability Percent	Allows you to specify a percentage to reduce the above calculated availability basis by before sending the value to Shopify. For Example, if the Availability Basis calculation was 100, and the Availability percent was 80%, then a value of 80 would be sent to Shopify. This value will be used when creating the listing and can be changed for each listing.	100
Default Availability Threshold	A minimum inventory threshold that must exist before CSM will send a calculated value. If the actual inventory basis calculation was 9 and the threshold was set to 10, the CSM would send 0 to Shopify for the availability of this listing. If the calculation was 11, then CSM would send 11 to Shopify (except if the Subtract Threshold From Avail switch is On).	0

Subtract Threshold from Avail	A threshold value of 0 indicates that threshold adjustments should not be considered. A switch that indicates whether the threshold value should be subtracted from the calculated inventory availability before sending to Shopify. For Example, If the Availability Basis yielded 100, and the Availability Percent was 80, and the Threshold value was 10, CSM would send a value of 70 to Shopify for the Listing.	Switched Off (false)
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CSM Tax Groups

CSM needs to map Shopify Product Tax Classes to NAV Tax Groups for each Sales channel you have defined. This is used when setting up new products on Shopify from Business Central Item information.

- **Go to CSM Sales Channel Card.**
- **Click 'Navigate' > 'Setup' > 'Tax Groups'**
- **Map the BC tax codes for Shopify**

Each Business Central Tax Group (that can be assigned to an Item that will be listed on Shopify), should be added, and linked to Shopify.

The system will assign an 'External ID'.

CSM Price Groups

CSM needs to map Shopify Price Groups to NAV/BC Price Groups for each Sales channel you have defined. This is used when sending customer-based pricing to Shopify.

- **Go to CSM Sales Channel Card.**
- **Click 'Navigate' > 'Setup' > 'Price Groups'.**
- **Map the BC 'Price Group' codes for Shopify.**


i.e.: 'Price Group Code' = ECOMB2C; 'External ID' = 1; 'External Description' = General

CSM Inventory Locations

If you wish to send item availability information from Business Central to Shopify, you must map the locations in each platform to each other.

Retrieving Inventory Locations from Shopify

You can instruct CSM to retrieve inventory locations from Shopify. As part of this process, the external ID value for each CSM inventory location is automatically populated, making this a quick and easy way to set up CSM inventory locations. Once these locations have been retrieved, they can be mapped to Business Central locations.

1. Choose the  icon, enter **CSM Sales Channels**, and then choose the related link.
2. Open the CSM sales channel record for which you want to retrieve inventory locations.
3. Choose the **Related** ribbon, then select the **Setup** menu and choose the **Inventory Locations** action.
4. In the **CSM Inventory Locations** window, choose the **Actions** ribbon, then choose the **Retrieve Inventory Locations** action.

CSM retrieves location records from the sales channel's connected Shopify store and creates new CSM inventory location record for each one.

Mapping Locations

After you have retrieved locations from the connected sales channel, you can map them to your Business Central locations. CSM allows you to map multiple Business Central locations to a single Shopify location. This is useful in scenarios where you want to aggregate inventory from multiple Business Central locations when sending item availability to Shopify.

1. From the **CSM Inventory Locations** window, select the Shopify location you want map to Business Central locations, then choose the **Manage** ribbon and select the **Edit** action.
2. Select the first available line on the **CSM Locations** FastTab enter or use the AssistButton in the **Location Code** field, to map a Business Central location to the CSM inventory location.
3. If you want CSM to use inventory from the location as part of availability calculations, place a check mark in the **Incl in Inventory Calculation** field.
4. If the location represents a virtual location to which you want to receive returned or credited items that you do not wish to re-stock, place a check mark in the **Is Returnless** field.

The other fields on the line exist to support upcoming functionality that will allow greater flexibility in location mapping and can be ignored.

Repeat steps 2-4 if you want to map additional Business Central locations to the Shopify location.

CSM Attributes

Most eCommerce platforms contain some sort of way to define product characteristics, which then have several predefined values. For example, we might set up a product characteristic called “Color” and then define color values such as Red, Blue, and Yellow.

The terminology for these records varies from platform to platform, but within CSM these categorizations are referred to as “CSM attributes,” while the category-specific values exist as “CSM attribute options.” CSM attributes can correspond to the following Business Central record types:

- **Item Attributes:** standard Business Central item attributes.
- **Item Variations:** if you are working with Suite Engine’s [item variations](#) module, it is possible to create item variation options and values that represent variable item characteristics.

CSM attributes correspond to “option” records in Shopify. CSM attribute options correspond to “option values” in Shopify. Within Shopify, each product has its own product variant options; there is no concept of “shared” attributes. For example, if we set up two products in Shopify and assigned them both a product variant option called “Color,” two separate product variant option records would be created by Shopify.

CSM does not support the automated synchronization of CSM attributes and Shopify product variant options except when working with configurable items. For more information on how configurable attributes are handled by CSM, please click [here](#).

It may be that the Business Central record to which a CSM attribute is linked has updates to its values. For example, suppose we have an item attribute called “Color” set up in Business Central, with option values of Red, Blue, and Yellow. At some point, we add Green to this list of option values. In this scenario, it is necessary to update the corresponding CSM item attribute’s values:

1. Open the CSM sales channel record for which you want to update item attribute values.
2. Choose the **Related** ribbon, then select the **Listing** menu and choose the **Channel Item Attributes** action.
3. Select the CSM item attribute you want to update, then choose the **Edit** action in the ribbon.
4. Choose the **Actions** ribbon, then select the **Data Synch** menu and choose the **Synch Option Values** action.

Newly-added values for the related Business Central record will be added to the **Item Attribute Options** FastTab.

Product Listings

Now that basic CSM For Shopify setup is complete, we can concentrate on creating CSM Listings which can then be sent to Shopify for inclusion in its Products page.

Relevant Dynamics 365 Business Central Item Information

Let's start with a BC Item and related relevant data that CSM can send to Shopify.

Let's look at the information in D365 BC that we have already defined for our chair, paying attention to the values that CSM will look for.

- Item No.
- Type
- SKU
- Regular price
- Virtual
- Downloadable
- Weight
- Primary category code
- Catalogue visibility
- Item Category.
- Item Picture.
- Extended Text (on the field '**Description**', type '**Short description**')
- Set Special Prices (standard functionality for sales prices)
- Identifiers (CSM can use this to link a Shopify Product SKU that is different than the Item Number)

Also note that all the information is not required for CSM to transmit product information to Shopify. CSM will send what it finds, and it can always be updated later.

Please remember to have assigned the 'Location' on the CSM Sales Channel Card at this point.

Define 'Extended Text' for the item. Make the value of the Description = **Short Description**.

- **On the item card > 'Navigate' > 'Item' > 'Extended Text'**

Add 'Unit of Measure' too.

- **On the item card > 'Navigate' > 'Item' > 'Unit of Measure'**
- **Add 'Weight' too.**

Go to the 'Special Sales Prices' and add combination with the 'Price Groups' you previously mapped on the CSM Sales Channel card.

- **On the Item card > 'Special Sales Prices & Discounts' > 'Set Special Prices'**

There are multiple ways in which CSM will link the information of a BC listing to a Shopify Store listing:

- If the BC item no. is the same as the Shopify store SKU, you do not need to do further actions; the system will identify the SKU number.
- Assigning on the Item Identifier page, the Shopify store SKU number.
- Assigning a Cross-reference with the Shopify SKU number.

CSM Listings

Now that we have reviewed the necessary item information in Business Central, we are ready to define CSM listings for the Shopify sales channel.

There are three ways in which you can create CSM listing records:

- **Listing Wizard:** a step-by-step process that walks you through the creation of a CSM listing record for a single Business Central record.
- **From BC Items Import:** allows you to create multiple CSM listing records for a group of Business Central records.
- **From the Item Card:** you can create listings for one or more sales channels directly from the Item card.

Creating Listings with the Listing Wizard

1. Open the CSM sales channel record for which you want to create listings.
2. Choose the **Listing** ribbon, then choose the **Wizard** action.
3. On the first page of the wizard, enter or use the lookup in the **Item No.** field to assign the Business Central item that will have a listing.
4. If the item exists in multiple variants or units of measure and you want to create separate listing records for each one, enter these values in the relevant fields.
5. Choose the **Next** button.
6. In the **Sales Channel SKU** field, enter a value that will identify the CSM listing as a unique record for the CSM sales channel. By default, CSM will assign a SKU in this field based on the values that were entered on the first page of the wizard, but you can modify this, if desired.
7. Choose the **Next** button.
8. Choose the **Finish** button.

A new listing record is created for the sales channel based on the values that were entered in the wizard.

Creating Listings with BC Items Import

1. Open the CSM sales channel record for which you want to create listings.
2. Choose the **Related** ribbon, then select the **Listing** menu and choose the **Channel Listings** action.
3. On the **CSM Listings** page, choose the **Actions** ribbon, select the **Create Listing** menu, and then choose the **From BC Items** action.
4. On the **Create CSM Listing from BC Items** page, fill in the following fields:
 - **Listing Unit of Measure:** select the item unit of measure that will be assigned to newly-created CSM listing records. You can instruct CSM to assign an item's base unit of measure or sales unit of measure as the CSM listing's unit of measure.

- **SKU Number:** select the method by which sales channel SKU values will be assigned to new CSM listing records. A sales channel SKU identifies the CSM listing as a unique record for the CSM sales channel. Sales channel SKUs can be assigned from an item's number; a combination of an item's number, variant, and unit of measure; item identifier; or barcode values.
5. If you only wish to create CSM listing records for a selected group of items, set the necessary filters on the **Filter: Item** FastTab.
 6. Choose the **OK** button.

New listing records are created for the sales channel according to the criteria that you specified in the **Create CSM Listing from BC Items** page.

Creating Listings from the Item Card

It is possible to create CSM listings directly from the Item card in Business Central. You must have defined a default SKU method on every sales channel for which you want to create listings in this manner.

To create listings from the Item card:

1. Open the item record for which you want to create listings.
2. On the **Auto Create CSM Listings** FastTab, choose an available line.
3. In the **Sales Channel Code** field, enter or use the lookup to assign the sales channel that will have a listing.

The sales channel's default SKU method is automatically assigned to the line. If the item has an existing value that corresponds to this SKU method, it will be automatically entered in the **Channel Item SKU** field.

4. If the line does not have a value in the **Channel Item SKU** field, you must enter one.
5. If you wish to create a listing for a specific item variant or unit of measure, adjust the values in the corresponding fields.
6. Repeat steps 3-5 on subsequent lines if you want to create listings for the item on other sales channels.
7. When you are ready to create the listing for a given sales channel, change the value in the **Auto Creation Status** field to *Ready*.
8. Choose the **Auto Create CSM Listings** menu option in the FastTab ribbon, then choose the **Create CSM Listings** action.
9. Choose the **Yes** button on the message asking you if you want to proceed.

CSM will attempt to create a new listing record for the selected line(s). If this process is successful, the line(s) will be removed from the **Auto Create CSM Listings** FastTab. If the process fails, a message explaining the failure will be presented in the **Error Text** field. Common reasons for failure include the auto creation status not set to *Ready* or the item already having a listing for the relevant sales channel.

You can also configure CSM to automatically create listings for any auto creation lines as part of a scheduled automation routine. To do so, you must schedule the AUTOCREATELISTINGS automation process to occur as part of your CSM listing automation. When this automation routine is executed, CSM will attempt to create new listings for any auto creation lines with a *Ready* status.

For more information on how to automate CSM activities using job queues, please refer to the *CSM for Shopify* [Order Management documentation](#).

CSM Listing Card

Once CSM listing records have been created, it is necessary to associate them to external platform records and perform other configuration activities:

1. Open the CSM sales channel record for which you want to configure listings.
2. Choose the **Related** ribbon, then select the **Listing** menu and choose the **Channel Listings** action.
3. On the **CSM Listings** page, open the record you want to configure.

Now, let’s review the sections of the listing that CSM assembled from Business Central item data.

The first two FastTabs on the listing are the **General** FastTab and the **Listing** FastTab.

General FastTab

Field	Description	Example Value
Sales Channel Code	The Sales Channel Code this listing is for.	SHOIFYB2C
Channel Item SKU	The SKU which Shopify uses to identify the product.	79999
Type	<p>The Business Central Sales Line Type that this listing links:</p> <ul style="list-style-type: none"> • Item: The listing links to a D365 BC Item. • G/L Account: The Listing links to a D365 BC General Ledger Account. • Resource: The Listing links to a D365 BC Resource. • Charge(Item): The Listing links to a D365 BC Item Charge. <p>Note that the Wizard will only build Listings for Items, however, you could create a listing manually with a different item type. Example use case: You would like your customers to be able to donate to a charity on your site, you could then record these donations to a “Due to Charity” G/L account on the Sales Order.</p>	Item
No.	The No. representing the Type. If the type was Item, this would be the Item No.	1936-S
Variant Code	This is valid for Type Item only. If you are using D365 BC Variants for the item, you can specify which Variant is to be listed in this field.	
Unit of Measure	This is only valid for Type Item. This represents the Unit of Measure for the Item being listed. The wizard will default this to the Item base unit of measure, but you can select which item unit of measure is to be listed.	PCS
Channel Product Type	This controls the Shopify Product Type (Simple, Configurable, Grouped, Virtual, Bundle, Downloadable). Note that this documentation will only cover Simple Items. Configurable items are possible but requires a more advanced setup of attributes.	Simple

Listing FastTab

Field	Description	Example Value
Channel Product Name	This will map to the Shopify Product Title. The wizard will default this to the D365 BC Item Description. It can be changed on the listing card if desired.	BERLIN Guest Chair, yellow
Channel Short Description	This will map to the Shopify Product Description. The wizard will default this based on the default settings you specified on the Sales Channel. In this example, CSM defaulted this value to the D365 BC Items “Short Description” Extended Text. It can be changed on the listing card if desired.	Beautiful fabric upholstered chair in vibrant yellow.
CSM Channel Primary Category	The CSM Channel Category linked to this Listing.	
Channel Attribute Set	The CSM Channel Category linked to this Listing.	
External Preview URL	This field will be automatically populated with a URL when a CSM listing is sent from Business Central to Shopify . When a CSM listing is sent to Shopify and a new product is	

Field	Description	Example Value
	<p>created there, CSM will instruct Shopify to generate a URL, then retrieve this information back into Business Central.</p> <p>When the CSM Listing page is viewed in read-only mode, this field will be formatted as a clickable hyperlink that the user can select to open the URL.</p> <p>The manner in which the URL is populated depends on the product status that was assigned to the listing when it was sent to Shopify:</p> <ul style="list-style-type: none"> • If the product status is <i>Draft</i> or <i>Disabled</i>: a “preview URL” that presents the product as it will appear when it is published on your storefront is retrieved into Business Central. This allows you to see what a product’s listing will look like without making it active. • If the product status is <i>Active</i>: the product is published to your Shopify storefront. The URL for this active product listing is retrieved into Business Central. 	
External Admin URL	This field is used to present the URL of a CSM listing’s related product as it exists in the administration portal/center of a connected eCommerce platform. It is not currently supported for CSM for Shopify.	
Product Status	<p>Select the product status that you want to assign to the CSM listing. This value will initially be assigned from the sales channel’s default product status, but it can be modified on a listing-by-listing basis, if desired.</p> <p>When the CSM listing is sent to an external Shopify channel, this setting will be used to determine the status of the product in Shopify. In this way, you can control the manner in which a product is made available for sale on your Shopify channel when it is sent from Business Central. Options are:</p> <ul style="list-style-type: none"> • <i>Draft</i>: the product will be set to draft mode in Shopify, meaning that is not available on your storefront. • <i>Active</i>: the product will be set to active mode in Shopify, meaning that is available on your storefront. • <i>Disabled</i>: the product will be archived in Shopify, meaning that is not available on your storefront. <p>If you update a CSM listing’s product status in Business Central and re-send the listing’s data to Shopify, the status of the product in Shopify will be updated accordingly. In this way, you can move a product from draft to active, or from active to archived.</p>	Active

The next FastTab is the Listing Product Information FastTab. This is a powerful piece of CSM functionality allowing you to add additional product information (descriptions, images, etc.) to the listing that can be sent to Shopify.

The CSM Listing Wizard brings in one product information record for the listing based on the Sales Channel settings; the BC Item Picture.

If you want to see the product image in more detail

- **Go to the Listing card**
- **On the ‘Listing’ fasttab, click ‘Manage’ > ‘View/Edit’.**

The Product Information Card associated with the Listing is displayed.

T the ‘Product Information Card’ you can see a preview of the image, as well as some other information that CSM uses to send image information to Shopify.

- The Channel Item number linked to 'Product Information Record' in Sales Channel SHOPIFYB2C.
- The Information Type = Image.
- The Image will be uploaded as the Shopify Product Media and used as the Base and Media images.
- The Source of the Image is retrieved from the Item Picture of the Item linked to the listing.
- The Mime Type that will be sent to Shopify.
- The Caption which will be sent to Shopify as the Image Label

Working with CSM Listings for G/L Accounts and Resources

Although CSM listings are typically associated to Business Central items, in some scenarios they are linked to G/L account and resource records. While there are benefits to doing this, typically there is no need to include this information when sending shipment information from Business Central to Shopify, as these records represent financial activities, rather than physical movements. While sending G/L accounts and resources as part of shipments is not necessarily harmful, including these additional records will lengthen the overall process of sending shipment data from Business Central.

If you do not wish to include a listing that has been set up for a G/L account or resource in shipments to Shopify, you can place a check mark in the **Skip Shipment Info Send** field on the **Inventory Information** FastTab. If this value is enabled, the associated record will not be sent to Shopify with other shipping information when it is part of a sales order.

It is also possible to set default values at the sales channel level by enabling the **Exclude G/L Account Line on Shipment** and **Exclude Resource Line on Shipment** fields on the sales channel card. When a CSM listing is created for a G/L account or a resource, the setting for the corresponding record type on the sales channel will automatically determine whether that listing's **Skip Shipment Info Send** field is enabled.

Adding a Long HTML Description to the Listing

You can add a Long Description, including HTML tags to the listing by adding a Product Information Record to the listing.

Go to the CSM Listing > click Add Description to Product.

A line will be added to this list with a default Information Type of Description. Enter **Long Description** in the Tags field of this new record.

CSM uses this Tag value to know that this description should be sent to Shopify as the Products Long Description.

On the Listing Product Information > on Manage > View / Edit and the detail Product Information Card will appear.

We set the Source Type to Blob, which allows for very long descriptive text to be entered. We then go to the Description Fasttab and enter our text in the Description HTML area. We have now completed the Additional Product Information for our Long Description. If you wish to make changes, just edit the Product Information record again from the CSM Listing and make changes to the Description HTML text.

Adding Listing Images

When a CSM listing record is created from a Business Central item with an attached item picture, this picture will automatically be assigned to the listing as an image. It is possible to add more images to a listing record, if desired. CSM supports the upload of all standard image file formats, including .bmp, .jpg, and .png.

There are two ways in which you can add images to CSM listing records:

- **Add Image to Product Information:** you can add images to a specific CSM listing, one at a time. This is useful when you are adding a single image, or perhaps a few images to a single CSM listing.
- **Import Listing Images:** you can import multiple images for multiple CSM listings as part of a single action. This is useful when you are working with a large volume of images.

Adding Images to Product Information

1. Open the CSM listing record for which you want to add an image.
2. Choose the **Add Image to Product Information** action in the ribbon.

A new product information card opens. The settings on this record are automatically configured to support image data.

3. Use the **Image** FactBox to import an image. The FactBox supports drag and drop functionality. Alternatively, you can choose the FactBox's **Image** menu, then choose the **Import** action. You will be prompted to choose the image file location.
4. Close the product information card.
5. Repeat steps 2-4 if you want to import additional images for the CSM listing.

Importing Listing Images

If you are working with a large volume of images, you can import them all at once. If you wish to use this functionality, there are certain naming conventions you must apply to your image files:

- The image file name must share the same value as the intended CSM listing record's channel item SKU value.
- Following the channel item SKU value, each image file must include an extension numbering sequence that increases by 1 for each subsequent image that you want to upload to the intended CSM listing record.
- The image extension (.bmp, .jpg, .png, etc.) must be removed from the image file.

For example, if we wanted to upload three images to a CSM listing record with a channel item SKU value of *SE100*, these image files would need to be named *SE100.01*, *SE100.02*, and *SE100.03*.

Once your image file names have been formatted correctly, they must be added to a .zip file. Once this is completed, you can import the .zip file's contents into Business Central:

1. Open the CSM sales channel record for which you want to import listing images.
2. Choose the **Related** ribbon, then select the **Listing** menu and choose the **Channel Listings** action.
3. On the **CSM Listings** page, choose the **Actions** ribbon, then choose the **Import Listing Images** action.
4. Navigate to the location in which you are storing the .zip file and select it.

CSM will import all of the images in the .zip file and assign them to the proper listing records. A notification screen will inform you of the import results.

Sending the Listing Data to Shopify

To have CSM Create this product on Shopify, you could select 'Send All Listing Data to Channel' from the upper ribbon 'Actions' button or send up individual components of the CSM Listing.

If you send up individual components, you should 'Send Listing Base Info to Channel First'; this is the only component function that will create a product on Shopify. All others will update an existing Shopify product linked by the listing's External ID.

The 'Send All Listing Data' may take a few seconds as it sends information to Shopify, but you should end up with the 'External ID' field being populated with a number. If there are any issues, a message in the 'Last External Update Result' should give a completion status, or any errors that may have been received from Shopify.

You can also perform these actions against multiple listing records at once from the **CSM Listings** page:

1. Select the relevant CSM listing records.
2. Choose the **Actions** ribbon, then choose the desired action in the **Channel Integration** group. The **Send All Listing Data to Channel**, **Send Listing Base Info to Channel**, and **Send Price Update to Channel** actions can all be executed for multiple CSM listing records.

Note: the instructions in this section pertain to the export of simple or non-configurable items from Business Central to Shopify. Exporting a configurable item (defined as a top-level or parent item with a number of "children" based on variable attributes) is a multi-step process; see [here](#) for more information.

Loading CSM Listings from Shopify Data

It is possible to import product information from your connected Shopify platform into Business Central, then create CSM listings from this data. You can then link these CSM listings to Business Central items. This is useful if you have already created products on your Shopify platform, and would prefer to use this external platform, rather than Business Central, as the basis for your CSM listings.

Note: the process of importing listing information from Shopify and into Business Central is meant to assist in the initial setup of your CSM listing management module. For the ongoing maintenance of products between platforms, we recommend using Business Central as the primary source and then exporting data to Shopify.

To load listings from Shopify:

1. Open the CSM sales channel that represents your Shopify platform.
2. Choose the **Related** ribbon, then select the **Setup Actions** menu and choose the **Load Products From Channel** action.
3. On the **Get Listings from Channel** page, confirm the correct sales channel has been selected, then choose the **OK** button.

CSM will import product data from Shopify and create a separate CSM listing record for each product. The external ID for each listing will be populated with the unique identification number assigned by Shopify. In addition, any product listing availability default settings that are defined for the sales channel will be assigned to these new CSM listings.

4. Open each CSM listing, and on the **General** FastTab, enter the corresponding Business Central item number in the **No.** field to link the CSM listing to an item.

Note: you can automate this linkage prior to loading items from Shopify by assigning the product's channel item SKU as one of the Business Central item's item identifiers. When CSM creates a new listing with data from Shopify, it will determine if any Business Central items have an item identifier that shares that listing's channel item SKU; if it can find a match, it will assign the item to the new listing.

Product Listing Availability

It is possible to instruct CSM to calculate availability for a CSM listing's Business Central item and then send this information to Shopify. If default product availability calculation settings are defined for a CSM sales channel, they will be assigned to new CSM listings that are created for the channel. It is possible to modify these values on a listing-by-listing basis:

1. Open the CSM listing record for which you want to calculate and send inventory availability.
2. On the **Availability** FastTab, enable the **Send Availability** field. This field will be automatically enabled/disabled based on the sale channel's default setting, but it can be changed on a listing-by-listing basis.
3. Fill in the following fields:
 - **Availability Basis:** select the Business Central value that will be used as the basis for the item's availability calculation.
 - **Compare availability To:** select the manner by which an item's currently calculated availability within Business Central will be compared to the external platform's availability. Options are:
 - *Last Value Sent:* Business Central availability will be compared to the last availability quantity that was sent from Business Central to Shopify.
 - *External Inventory on Hand:* CSM will retrieve the related product's availability from Shopify, then compare Business Central availability to this value.
 - **Available Channel Percent:** enter the percentage of Business Central availability that will be sent to Shopify. This percentage will be applied to the item's quantity when calculating availability for the listing. This is useful if you want to retain a portion of your on-hand quantity as safety stock.
 - **Available Min Qty Threshold:** enter the minimum available product quantity that will be sent to Shopify. CSM will not send an available quantity that is less than the defined minimum threshold to Shopify; in such a scenario, an available quantity of zero will be sent to Shopify.
 - **Subtract Threshold From Availability:** select this field to instruct CSM to subtract the defined minimum quantity threshold value as part of the listing's availability calculation.
4. To manually calculate the product's availability, choose the **Actions** ribbon, then select the **Data** menu and choose the **Calculate Channel Availability** action.

CSM will calculate availability for the item based on the settings on the **Availability** FastTab. CSM will include inventory from any Business Central locations that have been [mapped to the sales channel's assigned channel inventory location](#), which is defined in the **Channel Inv. Location** field on the **CSM Sales Channel** page. You can map more than one Business Central location to this channel location, allowing you to calculate and send an inventory availability quantity that is an aggregate of item availability across multiple locations.

The results of this inventory calculation are entered in the **Available Last Qty Calc** field. To illustrate, suppose we have a CSM listing record with the following settings:

- Available Channel Percent: 90%
- Available Minimum Quantity Threshold: 15
- Subtract Threshold from Availability: Yes

If we instruct CSM to calculate availability for the item and it has an on-hand quantity of 600, the CSM listing's calculated availability would be $(600 \times 90\%) - 15 = 525$.

Following the listing availability calculation, CSM uses the setting in the **Compare availability To** field:

- *Last Value Sent*: CSM compares the listing's calculated availability to the value in the **Available Last Qty Sent** field. This field presents the quantity that was most recently sent to Shopify for the listing.
- *External Inventory on Hand*: CSM compare the listing's calculated availability to the value in the **External Inventory On Hand** field on the **Inventory Information** FastTab. This field presents the most recently retrieved on-hand product quantity from Shopify.

If the listing's calculated availability value differs from the comparison value, you can instruct CSM to send updated availability information to Shopify by choosing the **Actions** ribbon, then selecting the **Channel Integration** menu and choosing the **Send Availability to Channel** action.

In addition to the manual processes of calculating listing availability and sending this availability to Shopify described above, these actions can also be scheduled as part of Shopify's automation routines.

You can also perform these actions against multiple listing records at once from the **CSM Listings** page:

1. Select the relevant CSM listing records.
2. To calculate channel availability, choose the **Actions** ribbon, then choose the **Calculate Channel Availability** action in the **Data** menu.
3. To send calculated channel availabilities to Shopify, choose the **Actions** ribbon, then choose the **Send Availability to Channel** action in the **Channel Integration** menu.

Retrieving External Inventory

You can retrieve a product's inventory as it is entered in Shopify. In this way, you can determine whether any discrepancies exist between an item's Business Central and Shopify quantities. A CSM listing record must have an assigned external ID in order to properly communicate with the Shopify platform to retrieve this information.

1. Open the relevant CSM listing record.
2. Choose the **Actions** ribbon, then choose the **Get External Inventory Supply** action in the **External Inventory** menu.

CSM will retrieve the on-hand product quantity from Shopify and present it in the **External Inventory On Hand** field on the **Inventory Information** FastTab.

You can also perform this action against multiple listing records at once from the **CSM Listings** page:

1. Select the relevant CSM listing records.
2. Choose the **Actions** ribbon, then choose the **Get External Inventory Supply** action in the **External Inventory** menu.

CSM will retrieve on-hand product quantities from Shopify for the selected CSM listings. Any selected CSM listings that do not have an assigned external ID will not be included as part of this retrieval process.

Alternatively, you can instruct CSM to automatically retrieve external inventory information for a CSM listing record by enabling the **Auto Retrieve Channel Inventory** field on the **CSM Listing** page's **Inventory Information** FastTab. When the CSM automation routines are executed, external information for any listings that have this setting enabled will be retrieved from Shopify.

Configurable Items


Depending on your business, you may include configurable items as part of your product portfolio. A configurable item is an item that you offer in different variants based on variable attributes or characteristics.

For example, assume we are a company that sells apparel. We sell a t-shirt item in three colors (red, blue, and yellow) and three sizes (small, medium, and large), resulting in nine possible configurations. While we need to account for these nine variants in some manner, from a listing perspective we want to list just the top-level t-shirt item, then allow buyers to select their preferred color and size from the listing page.


You can use CSM's [item variations module](#) to define an item's variable characteristics (using our example above, these would be color and size), then create additional items or item variants that represent the different configurations of these characteristics. You can also use this variation framework to create CSM listings; if you use the CSM listing wizard to create a new listing for the top-level or "parent" item, CSM will automatically create CSM listings for any "children" items or item variants that have been selected for inclusion in the CSM listing creation process.

Setup

The configurable item features in CSM utilize an updated item attribute structure that stores different attribute data types in separate tables. If you wish to create CSM listings for configurable items, you must enable this structure for the relevant sales channel:

1. Choose the  icon, enter **CSM Sales Channels**, and then choose the related link.
2. Open the sales channel for which you want to create configurable items.
3. On the **Listing Management** FastTab, enable the **Enable New Attribute Design** field.

Configurable item listings also use the item variations module as the basis for listing creation. Accordingly, you must configure an item variation's SKUs:

1. Choose the  icon, enter **Item Variations**, and then choose the related link.
2. Open the item variation for which you want to create configurable items.
3. On the **SKUs** FastTab, choose the **Functions** ribbon, then choose the **Generate SKUs** action. CSM will build a value from the SKU item number and (if applicable) SKU variant code, then assign it in the **SKU** field on each line. If you intend to create CSM listings based on a configurable item's variations, a SKU must be assigned on the relevant variation SKU lines. Alternatively, you may manually enter a value that identifies the item variation SKU as a unique record in the **SKU** field.
4. Select all item variation SKU lines, choose the **Functions** ribbon, and then choose the **Update SKU Status** action to automatically update the SKU status for all selected lines to *Active*. SKUs are initially created with a status of *Pending*, but if you intend to create CSM listings based on a configurable item's variations, you must update the status on the relevant variation SKU lines to either *Active* or *No Replenish*. Alternatively, you may manually select one of these values in the **SKU Status** field.
5. If any item variations are maintained in a unit of measure other than the parent configurable item's assigned unit, this information must be specified in the **SKU Unit of Measure Code** field.

Configurable Item Listings

The process of creating CSM listings for configurable items is no different than the process of creating CSM listings for non-configurable or simple items:

1. Open the CSM sales channel record for which you want to create listings.

2. Choose the **Listing** ribbon, then choose the **Wizard** action.
3. On the first page of the wizard, enter or use the lookup in the **Item No.** field to assign the parent, or top-level Business Central item.

***Note:** if you are creating CSM listings for a configurable item whose variations exist as item variants, do not populate the **Variant Code** field in the listing wizard. If you assign a specific variant code, the listing wizard will create a single CSM listing for that item variant. If you leave the **Variant Code** field blank, the listing wizard will create CSM listings for all variants.*

4. Choose the **Next** button.
5. In the **Sales Channel SKU** field, enter a value that will identify the CSM listing as a unique record for the CSM sales channel. By default, CSM will assign a SKU in this field based on the values that were entered on the first page of the wizard, but you can modify this, if desired.
6. Choose the **Next** button.
7. Choose the **Finish** button.

New CSM listings are created for the top-level parent item and the item/variant “children” that represent different configurable variations. The assigned product type for these CSM listings differs between parents and children:

- Parent listings have an assigned channel product type of *Configurable*.
- Child listings have an assigned channel product type of *Variation*.

As part of this record creation, the parent/child relationship is maintained between these listings. You can view this relationship by opening the CSM listing that represents the parent item and reviewing the **CSM Listing Children List** FastTab. This FastTab presents all of the CSM listing records that exist as children to the parent. This FastTab will be empty on the child listings.

Configurable Item Attributes

In addition to creating the CSM listing records themselves, the listing wizard will automatically create CSM item attributes for the variable attributes that differentiate the children listings. The manner in which listing attributes are presented also differs between parent and children listings. On the **CSM Listing Attribute List** FastTab for the parent listing, a separate line will be presented for each configurable attribute that is used to define item variations. The attribute value on these lines, however, will remain blank. The **CSM Listing Attribute List** FastTab on child listings will include a line for each attribute, as well as the attribute values that are assigned to that particular child.

If we revisit our earlier example where we have a top-level t-shirt item and children that vary by color and size, the **CSM Listing Attribute List** FastTab on the parent listing would present separate lines indicating that color and size are that listing’s configurable attributes. The **CSM Listing Attribute List** FastTab for the child listings would also include lines for color and size, but the value would be assigned as red, blue, small, medium, etc.

The CSM listing attributes that are created for configurable attributes are unique to each listing. There are no “shared” item attributes with Shopify. To use an example, if items 123, 456, and 789 all had a configurable attribute called *COLOR*, CSM would create three separate item attribute records identified as *123-COLOR*, *456-COLOR*, and *789-COLOR*.

Sending Configurable Item Listings to Shopify

The same setup activities and requirements that can be performed for any listing are relevant for configurable items. For example, descriptions and images can be assigned to CSM listings for configurable items. Setup activities and additional information only need to be entered for the configurable, parent item.

It is necessary to perform two separate data export activities to properly send a configurable item, its variable options and their values, and the configurable children records to Shopify. Both actions can be performed from the CSM listing for the configurable, parent item. Choose the **Actions** ribbon, then choose the **Channel Integration** menu and execute the following functions in order:

- **Send Listing Base Info to Channel:** this will send basic information about the configurable item to Shopify. A new product will be created in your Shopify platform based on the listing's information. Shopify will assign a unique identification number to this record; this value will be retrieved by CSM and presented in the **External ID** field on the listing's **Listing Status** FastTab.
- **Send Config Children To Channel:** this will send the listing's children, configurable options, and their values to Shopify. This information is assigned to the Shopify product; the configurable options and their values can be viewed in the **Options** section of the Shopify product record, while the children and can be viewed in the **Variants** section. These children are not created as separate Shopify products, but rather variants of the original, top-level item. Shopify will assign a unique identification inventory and SKU number to each configurable child; these values will be retrieved by CSM and presented in the **External Inventory ID** and **External SKU ID** fields on the child listing's **Inventory Information** FastTab. This process will also remove the check mark from the **External Requires Update** field on both the lines in the **CSM Listing Children List** FastTab on the configurable parent listing and the individual listing cards for the children.

Product Listing Availability

The process of updating Shopify with a product listing's availability is no different for configurable items as other listings. You can calculate channel availability for CSM listings for child items, then send this information to Shopify. The stock quantities for the relevant product variants are updated accordingly.

Updating Configurable Option Values

It may be that you wish to add configurable option values over time. For example, suppose we have a configurable option called "Color" set up in Business Central, with option values of Red, Blue, and Yellow. At some point, we want to add Green to this list of option values. In this scenario, it is necessary to update a number of records:

Create and Explode New Item Variation SKUs

If you are using the item variations framework to manage your configurable items, you must add the new item variation option value, then use this information to create a new item or item variant in Business Central:

1. Open the item variation that you want to update.
2. Add the new item variation option value to the desired option. The manner in which you enter this information depends on whether the item variation option is linked to a Business Central item attribute. For more information, see [here](#).
3. On the **Item Variation Card** page, choose the **Actions** ribbon, then choose the **Create Item Variation SKUs** action. The system will enter new lines for the new configurable option value in the **SKUs** FastTab.
4. Choose the **Actions** ribbon, then choose the **Explode SKUs** action.
5. Choose the **OK** button.

Business Central records are created for the new variation SKUs.

6. On the **SKUs** FastTab, choose the **Functions** ribbon, then choose the **Generate SKUs** action. CSM will build a value from the SKU item number and (if applicable) SKU variant code, then assign it in the **SKU** field. If you intend to create CSM listings based on a configurable item's variations, a SKU must be assigned on the relevant variation SKU lines. Alternatively, you may manually enter a value that identifies the item variation SKU as a unique record in the **SKU** field.
7. With the new item variation SKU selected, choose the **Functions** ribbon, then choose the **Update SKU Status** action to automatically update the SKU's status to *Active*. SKUs are initially created with a status of *Pending*, but if you intend to create CSM listings based on a configurable item's variations, you must update the status on the relevant variation SKU lines to either *Active* or *No Replenish*. Alternatively, you may manually select one of these values in the **SKU Status** field.

Update the CSM Item Attribute Values

Once you have added a new item variation option value, you must update the corresponding CSM item attribute accordingly:

1. Open the CSM sales channel record for which you want to update item attribute values.
2. Choose the **Related** ribbon, then select the **Listing** menu and choose the **Channel Item Attributes** action.
3. Select the CSM item attribute you want to update, then choose the **Edit** action in the ribbon.
4. Choose the **Actions** ribbon, then select the **Data Synch** menu and choose the **Synch Option Values** action.

Newly-added attribute values will be added to the **Item Attribute Options** FastTab.

Create New CSM Listings and Send Information to Shopify

A CSM listing must be created for each new item variant that has been added to the list of the configurable item's children:

1. Open the CSM sales channel record for which you want to update item attribute values.
2. Choose the **Related** ribbon, then select the **Listing** menu and choose the **Channel Listings** action.
3. Open the top-level parent configurable item listing you want to update.
4. Choose the **Actions** ribbon, then select the **Data** menu and choose the **Synchronize Item Variations** action.

New CSM listings will be created for the newly-added attribute value. These listings will be added to the lines on the configurable item's **CSM Listing Children List** FastTab.

Now that you have updated the CSM item attributes and CSM listings, you can send this information to Shopify:

1. From the CSM listing for the configurable, parent item, choose the **Actions** ribbon, then choose the **Channel Integration** menu and execute the **Send Config Children To Channel** action. This will send the new listings, configurable options, and their values to Shopify. This information is assigned to the Shopify product; the configurable options and their values can be viewed in the **Options** section of the Shopify product record, while the children can be viewed in the **Variants** section. These children are not created as separate Shopify products, but rather variants of the original, top-level item. Shopify will assign a unique identification inventory and SKU number to each configurable child; these values will be retrieved by CSM and presented in the **External Inventory ID** and **External SKU ID** fields on the child listing's **Inventory Information** FastTab.

Retrieving Configurable Items from Shopify

Executing the [load products from channel action](#) for a sales channel retrieves all products from the connected eCommerce platform and creates corresponding CSM listings in Business Central. This includes any configurable items that you have set up in Shopify. CSM creates CSM listings are created for the top-level parent configurable item as well as each child variant.

As with any CSM listing that is retrieved from Shopify, it is necessary for you to associate configurable item listings to Business Central items or variants by using the **Type** and **No.** fields on the **General** FastTab to select the relevant record.

Appendix A: Item Variations

Depending on your business, you may include configurable items as part of your product portfolio. A configurable item is an item that you offer in different variants based on variable attributes or characteristics.

For example, assume we are a company that sells apparel. We sell a t-shirt item in three colors (red, blue, and yellow) and three sizes (small, medium, and large), resulting in nine possible configurations. While we need to account for these nine variants in some manner, from a listing perspective we want to list just the top-level t-shirt item, then allow buyers to select their preferred color and size from the product page.

There are different ways in which these configurable products can be set up in Business Central:

- **Items:** a separate item record is set up for each product configuration.
- **Variants:** a single item record is set up for the top-level item, which then has separate variant records.

Regardless of which method your company employees, the process of creating separate records for configurable product variations can be time-consuming: if we make our t-shirt item available in eight different colors and 10 different sizes, there would be 80 different variations to define.

To assist in the process of setting up configurable item structures that can subsequently be exported to your external eCommerce platform, CSM contains an item variations module. This functionality allows you to set up the criteria you want to use for defining an item's many configurations, then generate Business Central items or variants based on these criteria.

***Note:** while the item variations module is included in CSM to assist with the creation of configurable CSM listings, it is not strictly tied to CSM listing functionality. You can use this feature to create item variations for any of your Business Central items, regardless of whether they are involved in your eCommerce activities.*

Setup

Item Attribute Setup


Before you can create item variations, you must set up default item attributes that represent non-variable item variation characteristics in Business Central:

- **Brand:** an item attribute that represents an item's brand.
- **Common Item:** an item attribute with an item-specific value that can be used to establish a clear link between a top-level "parent" item and the separate "children" items that represent that item's different product configurations. For example, if an item with a common item attribute value of 1234 has a number of children items representing different product configurations, each of these child items' unique identification number would begin with 1234.

These item attributes represent static characteristics of an item's variations, meaning that an assigned value is shared across an item's product configurations. For example, if an item has a brand of Suite Engine, that Suite Engine brand remains the same for all of that item's variations.

These item attributes are [set up in the same manner as any item attribute in Business Central](#). It is recommended that they be set up as text type attributes.

Once you have set up these item attributes, you must indicate that they will be assigned to new item variations:


1. Choose the  icon, enter **Variations Setup**, and then choose the related link.
2. On the **Variations Setup** page, assign the item attributes you want to use for default brand and common item information for item variations.
3. Enable the **Confirm After Create Item Variation** field, if desired. Enabling this option will instruct the system to present a notification message to users whenever an item variation is created for an item.

The **Variation Option Limit** field presents the maximum number of variation options that can be assigned to an item variation. The item variations module supports a maximum of three variation options per item variation, and by default this field is set to three. To prevent inadvertent changes to this functionality, this field is uneditable. If you wish to adjust your variation option limit, please contact your Suite Engine partner for assistance.

Item Variation Templates

You can streamline the process of item variation creation by defining item variation templates. When you create a new item variation for an item, you can choose to copy it from an existing template. You can then make any item-specific adjustments as needed.

To create a new item variation template:


1. Choose the  icon, enter **Item Variation Templates**, and then choose the related link.
2. On the **Item Variation Templates** page, choose the **New** action in the ribbon.

A new item variation template card opens.

3. Fill in the **Template Code** field to identify the item variation template as a unique record in the system.
4. The remaining values have corresponding fields on the **Item Variation Card** page. Please review the [documentation on item variations](#) to understand the purpose behind these fields and receive guidance on how to set them up.

Note: the one unique field on the item variation template that does not have a corresponding value on the **Item Variation Card** page is **Common Item Attribute Value Max Length**. An item variation's common item attribute is an item attribute with an item-specific value that can be used to establish a clear link between a top-level "parent" item and the separate "children" items that represent that item's different product configurations. For example, if an item with a common item attribute value of 1234 has a number of children items representing different product configurations, each of these child items' unique identification number would begin with 1234. Because an item variation template is not associated to a specific item record, it is not possible to enter an item-specific value for this common item attribute. It is still necessary to specify the maximum number of allowable characters, however, to ensure that the generated identification numbers for child items does not exceed maximum field lengths.

You can also copy an existing item variation template and use it as the basis for a new one:

1. Choose the  icon, enter **Item Variation Templates**, and then choose the related link.
2. Open the item variation template you want to copy.
3. Choose the **Actions** ribbon, then choose the **Copy Template** action.
4. In the **New Template Code** field, enter a unique code for the new item variation template you want to create.
5. Choose the **OK** button.

The system will create a new item variation template based on the one from which you executed the copy function. You can now make any adjustments to this new template as needed.

Creating an Item Variation

The item variations functionality allows you to manage the records that represent configurable variations of an item in Business Central. This is useful in scenarios where multiple versions or variants of an item are available based on variable characteristics.

For example, assume we are a company that sells apparel. We sell a t-shirt item in three colors (red, blue, and yellow) and three sizes (small, medium, and large), resulting in nine possible configurations. From a setup perspective, we want to create a single t-shirt item as a “parent,” and nine “children” representing each color/size combination. The records we set up in Business Central depend on our business processes:

- **Items:** we may wish to define each variable configuration as a separate item record. Although these configurations exist as unique items, it is still beneficial to establish a relationship between these items and the top-level parent items.
- **Variants:** we may wish to define each variable configuration as a variant of the top-level parent item.

The item variations functionality allows you to establish an item’s configurable characteristics, review a proposed list of that item’s variable SKUs, and then generate corresponding items or variants in Business Central.

Assigning Item Attributes

Each item variation supports two non-variable characteristics:

- **Brand:** an item attribute that represents an item’s brand.
- **Common Item:** an item attribute with an item-specific value that can be used to establish a clear link between a top-level “parent” item and the separate “children” items that represent that item’s different product configurations. For example, if an item with a common item attribute value of 1234 has a number of children items representing different product configurations, each of these child items’ unique identification number would begin with 1234.

These item attributes represent static characteristics of an item’s variations, meaning that an assigned value is shared across an item’s product configurations. For example, if an item has a brand of Suite Engine, that Suite Engine brand remains the same for all of that item’s variations.

It is possible to [define global brand and common item attributes](#). These item attributes will be automatically assigned to newly-created item variations, but you can manually change them, if desired.

When you are creating an item variation for an item, it is necessary for you to assign the item attributes that will be used as the item variation’s brand and common item attributes:

1. Open the item for which you want to create an item variation.
2. Choose the **Item** ribbon, then choose the **Attributes** action.
3. On a new line, in the **Attribute** field, enter or use the AssistButton to select the item attribute you want to assign as the item’s brand attribute.
4. In the **Value** field, enter the value you want to assign as the item’s brand attribute value.
5. Repeat steps 3-4 for the item attribute you want to assign as the item’s common item attribute.

Creating Item Variations

An item variation contains the setup and configuration options that instruct the system on how an item's variation SKUs will be built. An item variation is also where you define the item's configurable item variation options and item variation option values:

- **Item variation options:** the variable characteristics or attributes that comprise different product configurations.
- **Item variation option values:** the different values that a given characteristic can take.

For example, if we offered a product in multiple colors and were setting up an item variation to reflect this variable characteristic, we would create an item variation option called *Color*. This variation option would then have option values such as *Red*, *Blue*, and *Yellow*.

Each item in Business Central can have a single corresponding item variation:

1. Open the item for which you want to create an item variation.
2. Choose the **Actions** ribbon, then choose the **Create Variation** action in the **Functions** menu.
3. If you wish to create the item variation from an existing item variation template, enable the **Create From Template** field, then enter or use the AssistButton in the **Item Variation Template Code** field to enter the desired template.
4. Choose the **OK** button.

A new item variation is created for the item; depending on how you have set up the item variations module, the system may notify you then the item variation has been created. You can view this item variation by choosing the **Related** ribbon, then choosing the **Variation Info** action in the **Item** menu.

It is not possible to create more than one item variation for an item. Accordingly, if an item has a related item variation, the **Create Variation** action is removed from the ribbon. If you wish to re-run this action for an item, you must first delete the item variation. This will restore the **Create Variation** action to the ribbon.

Configuring an Item Variation

Once an item variation has been created for an item, you must configure it to instruct the system how to generate variation SKUs. If the item variation was created from a template, by default that template's settings will be assigned, but you can modify them, if desired.

1. Open the item for which you want to create an item variation.
2. Choose the **Related** ribbon, then choose the **Variation Info** action in the **Item** menu.

The item variation card opens. The **Item Number** and **Item Description** fields will default to present information about the related item.

3. In the **Brand Item Attribute Name** and **Common Item Attribute Name** fields, enter or use the AssistButton to assign the item attributes that you want to use as the item variation's brand and common item attributes. The system will automatically assign the brand and common item attributes that have been defined as [global defaults](#), but you can modify them, if desired. The corresponding value fields will present the attribute value that has been assigned to the item.
4. Assign SKU explosion values that will instruct the system how to create new Business Central records for the item variation SKUs:

- **SKU Explode Method:** select the type of Business Central record that will be created from an item's variation SKUs. Item variation SKUs can be used as the basis for either item or variant records.
- **SKU Key Mask:** select the manner in which the identification number that identifies each variation SKU's corresponding Business Central record is generated. Options are:
 - *Segments:* identification numbers will be generated from a series of segment values that reflect each one of an item variation SKU's variable values.
 - *Numerical:* if the item variation's SKUs will be used to generate variants, it is possible to assign identification numbers from a defined number series. It is not possible to use a number series if the item variation's explosion method instructs the application to create items.
- **Variant Nos.:** if you select the *Numerical* option in the **SKU Key Mask** field, enter or use the AssistButton to assign the number series that will be used to assign unique identification numbers to variants that are created for item variation SKUs.

If the item variation was created from an item variation template, that template's code will be presented in the **Item Variation Template Code** field. The **Synchronize with Template** field can be ignored, as the ability to synchronize an item variation with an assigned template is not supported at this time.

Item Variation Options

Item variation options represent the variable characteristics or attributes that comprise different product configurations. These characteristics are defined as option values.

For example, if we offered a product in multiple colors and were setting up an item variation to reflect this variable characteristic, we would create an item variation option line with a code of *Color*. This variation option would then have option values such as *Red*, *Blue*, and *Yellow*.

As part of setting up an item variation, you must configure options and option values. If the item variation was created from a template, by default that template's options and options values will be assigned, but you can modify them, if desired.

Item variations support up to three options. Each item variation option is entered as a separate line in the **Options** FastTab.

Fill in the fields as follows:

Field	Description
Option Code	Enter a code that identifies the item variation option as a unique record in the system.
Option Sequence	This field will be automatically populated by the system when the line is validated. If you send options to a connected eCommerce platform, the option sequence will determine the order in which these values are displayed in the online storefront.
Link Type	<p>Select the Business Central record to which you want to associate to the item variation option, if desired. Options are:</p> <ul style="list-style-type: none"> • <i>None:</i> the option is not associated to any Business Central records. • <i>Item Attribute:</i> the option is associated to an item attribute record. <p>Although the two options listed above are available in the out-of-the-box product, this feature is fully extendable and contains the necessary functionality to integrate to other entities. If you were using another extension to manage product attributes or characteristics, for example, it could be added as an item variations link type.</p>
Link Key 1	If you select an option other than <i>None</i> in the Link Type field, enter or use the AssistButton to select the record you want to associate to the item variation option.

Field	Description
Description	Enter a description to more fully identify the item variation option.
Key Segment Max. Length	<p>Enter the maximum number of characters that can be assigned as part of the key segment which represents this item variation option. Key segments are used to create unique identification numbers for variation SKUs; the identification number is comprised of a series of “segments,” with each segment representing a separate option value. When you are defining these key segment values for each option value, it is not possible to enter a greater number of characters than the established maximum length.</p> <p>To ensure that generated identification numbers do not exceed standard Business Central character requirements, there are limitations to the values that can be assigned as an item variation option’s maximum key segment length. These limitations depend on the item variation’s assigned SKU explosion method:</p> <ul style="list-style-type: none"> • Items: the sum of the characters for the value in the Common Item Attribute Value field and the values in the Key Segment Max. Length and Key Segment Delimiter fields across all item variation option lines cannot exceed 20. • Variants: the sum of the characters for the values in the Key Segment Max. Length and Key Segment Delimiter fields across all item variation option lines cannot exceed 10.
Key Segment Min. Length	Enter the minimum number of characters that can be assigned as part of the key segment which represents this item variation option. Key segments are used to create unique identification numbers for variation SKUs; the identification number is comprised of a series of “segments,” with each segment representing a separate option value. When you are defining these key segment values for each option value, it is not possible to enter a lesser number of characters than the established minimum length.
Key Segment Position	Enter the position in which the key segment that represents this item variation option should be placed in relation to other key segments. Key segments are used to create unique identification numbers for variation SKUs; the identification number is comprised of a series of “segments,” with each segment representing a separate option value.
Key Segment Delimiter	<p>Enter a character that is used to separate the key segment which represents this item variation option from other key segments. Key segments are used to create unique identification numbers for variation SKUs; the identification number is comprised of a series of “segments,” with each segment representing a separate option value.</p> <p>The key segment delimiter precedes the key segment value. As a result, it is not necessary to assign a delimiter to the item variation option with the first key segment position if the assigned SKU explosion method is by variant.</p> <p>Note: because the unique identification numbers for variation SKUs are used to generate Business Central records, it is not recommended that you assign characters that are used in standard Business Central filter expressions.</p>
Preferred UI Orientation	<p>Select the manner in which the item variation option values are displayed in matrix-style views.</p> <p>Note: the column display is the only supported orientation at this time.</p>
Column Caption	Enter a caption that will be used to identify the item variation option when it is displayed in a column orientation. This includes the columns on the SKUs FastTab; the captions for the option value fields on this FastTab will be replaced by these column captions.
Row Caption	The ability to display item variation options in a row orientation is not supported at this time; this field may be left blank.
Common Caption	Enter a caption that will be used to identify the item variation option in scenarios where a display orientation is not specified. Because a single orientation type is supported at this time, this field may be left blank.
Option Type	<p>Select an option type to further classify the item variation option. An item variation option can be identified as a color, a size, or “other.”</p> <p>The assignment of an option type is purely informational, and has no functional impact.</p>

Once you have set up an item variation option, you must define its option values. You can view the option values that have been defined for a selected item variation option in the **Option Values** FactBox.

The manner in which you perform this setup depends on the selected link type:

- *None*: you must manually define option values on the **Item Variation Option Card** page by choosing the **Line** ribbon on the **Options** FastTab, then choosing the **Option Card** action.
- *Item Attribute*: you can automatically retrieve the Business Central item attribute's values by choosing the **Line** ribbon on the **Options** FastTab, then choosing the **Synchronize with Link** action.

The **Item Variation Option Card** page is where you either define a variation option's values or, if you have copied this information from Business Central item attributes, edit existing ones. You can open this card by choosing the **Line** ribbon on the **Options** FastTab, then choosing the **Option Card** action.

The values on the **General** and **Matrix Settings** FastTabs present the corresponding fields on the item variation option line. You can make any changes to these values, if desired.

You can define as many option values as you wish. Each value is entered as a separate line in the **Option Values** FastTab.

Fill in the fields as follows:

Field	Description
Value Code	Enter a code that identifies the option value as a unique record. If the option values were synchronized from a Business Central item attribute, the item attribute's values will be automatically copied as the value codes, but they can be modified, if desired.
Value Description	Enter a description to more fully identify the option value. If you send option values to a connected eCommerce platform, the description will be used to identify these values in the online storefront. If the option values were synchronized from a Business Central item attribute, the item attribute's values will be automatically copied as the value descriptions, but they can be modified, if desired.
Active	Enter a check mark in this field to indicate that the option value is active and should be included when the system is instructed to create variation SKUs based on variable option values.
Option Value Sequence	Enter the position in which the option value should be placed in relation to other option values. If you send option values to a connected eCommerce platform, the option value sequence will determine the order in which these values are displayed in the online storefront.
Key Segment Value	Enter the value that will be used to represent the option value when it is included as part of a key segment. Key segments are used to create unique identification numbers for variation SKUs; the identification number is comprised of a series of "segments," with each segment representing a separate option value. The number of characters in the key segment value must fall within the ranges defined by the item variation option's key segment maximum and minimum lengths. If the option values were synchronized from a Business Central item attribute, the item attribute's values will be automatically copied as the key segment values. If the item attribute value has more characters than the variation option's maximum key segment length, it will be truncated accordingly. For example, if an item attribute value of <i>Orange</i> was copied to an item variation with a maximum key segment value of four, the corresponding option value would have a key segment value of <i>ORAN</i> .
Common Value	Enter any alternative verbiage or terminology that is used to identify the option value, if desired.
Industry Value	Enter any alternative industry-specific verbiage or terminology that is used to identify the option value, if desired. If the option represents a color, you can enter the related hexadecimal value for that color.
Brand Value	Enter any alternative brand-specific verbiage or terminology that is used to identify the option value, if desired.
Swatch FactBox	If the option value represents a color, pattern, logo, or other image, you can upload an image file via the Swatch FactBox .

Creating Item Variation SKUs

Once you have defined the configuration settings, options, and option values for an item variation, you can instruct the system to suggest variation SKUs based on these variable characteristics by choosing the **Actions** ribbon, then choosing the **Create Item Variation SKUs** action. The system will enter a separate line for each combination of configurable option values in the **SKUs** FastTab.

For example, assume we are a company that sells apparel. We sell a t-shirt item in multiple colors and sizes. On the t-shirt's item variation card, we define two options. For each option, we define three option values:

Option	Option Value 1	Option Value 2	Option Value 3
Color	Red	Blue	Yellow
Size	Small	Medium	Large

When we instruct the system to create new variation SKUs, a separate SKU line will be entered for each color/size configuration (Red-Small, Blue-Small, Yellow-Small, Red-Medium, etc.).

If you wish to add a value to an option, you can do so and then re-run the item variations SKU creation action. Additional lines will be created based on your changes.

The item variations SKU creation action will create new SKU lines, but it will not update existing ones. If you wish to modify existing variation SKU lines due to changes to option values, you must first delete the lines, make the necessary changes, and then re-run the item variations SKU creation action.

Exploding Item Variation SKUs

An item variation's SKUs do not represent separate Business Central items or item variants. They are, however, used as the basis for new Business Central records. Once you have reviewed an item variation's SKUs and confirmed they are correct, you can create new records from them:

1. Choose the **Actions** ribbon, then choose the **Explode SKUs** action.
2. If you only wish to create records for a selected group of SKUs, set the necessary filters on the **Filter: Item Variation SKU** FastTab. Please note that the filters for option values do not use the related option's column caption, but rather generic **Option Value 1**, **Option Value 2**, and **Option Value 3** captions.
3. Choose the **OK** button.

New Business Central records are created according to the criteria that you specified in the **Explode Item Variation** page. The **SKU Item No.** and (if relevant) **SKU Variant Code** fields are automatically updated with information about these new records.

4. Enter other variation SKU values on the line, if desired:
 - **SKU:** enter a value that identifies the variation SKU as a unique record. You can either enter a value manually, or choose the **Functions** ribbon and then choose the **Generate SKUs** action to build a value from the SKU item number and (if applicable) SKU variant code, then assign it in the **SKU** field. This field can be used if there are other identification values for a given SKU beyond what is automatically generated via the item variations feature. For example, if a variation SKU has an external UPC value, it could be entered in this field. If you intend to create CSM listings based on a configurable item's variations, you must assign a SKU on the relevant variation SKU lines.

- **SKU Unit of Measure:** enter or use the AssistButton to assign a unit of measure to the variation SKU. If you intend to create CSM listings based on a configurable item's variations, CSM will assign this value as the unit of measure to the related child listing. If this value is left blank, CSM will assign the parent item's assigned unit of measure to the related child listing.
- **SKU Status:** select a status to indicate the SKU's place in your product workflow. SKUs are initially created with a status of *Pending*, but if you intend to create CSM listings based on a configurable item's variations, you must update the status on the relevant variation SKU lines to either *Active* or *No Replenish*. You can either manually select a value on each line, or select multiple lines, then choose the **Functions** ribbon and choose the **Update SKU Status** action to automatically update the status for all selected lines to *Active*.

The SKU explosion action will create a number of new Business Central records based on the item variation's SKUs. The type of record that is created is determined by the value in the item variation's **SKU Explode Method** field:

- *Items*: an item is created for each SKU. These items exist as separate item records from the item variation's parent item.
- *Variants*: an item variant is created for each SKU. These variants are assigned to the item variation's parent item.

The manner in which these records' identification numbers are assigned is determined by the value in the item variation's **SKU Key Mask** field:

- *Segments*: the item or variant's identification number is comprised of a series of "segments," with each segment representing a separate option value. When an option value is being created, a key segment value must be defined. When a new item or item variant involving the option value is created, the relevant key segment is entered as part of that record's identification number. The manner in which segments are used to create identification numbers depends on the item variation's SKU explosion method:

- *Items*: for each variation SKU, the item's identification number is determined by the item variation's common item attribute value, followed by the key segments for each value. These key segments are segregated by key segment delimiters.

For example, assume we have an item variation with a common item attribute value of *SE200*. This item variation has a SKU with two values: a color value of *RED* and a size value of *S*. Both of these values have a preceding delimiter character of -. If we instruct the system to generate an item for the SKU, it will be assigned an identification number of *SE200-RED-S*.

- *Variants*: for each variation SKU, an item variant's identification number is determined by the key segments for each value. These key segments are segregated by key segment delimiters. Because the key segment delimiter precedes the key segment value, it is not necessary to assign a delimiter to the item variation option with the first key segment position.

For example, assume we have an item variation with a SKU that has two values: a color value of *RED* and a size value of *S*. The size value also has a preceding delimiter character of -. If we instruct the system to generate an item variant for the SKU, it will be assigned an identification number of *RED-S*.

- *Numerical*: when exploding variation SKUs into item variants, it is possible to assign variant codes from the number series that has been defined in the item variation's **Variation Nos.** field. The system will assign the next available number from the defined series to each new item variant. If you are exploding variation SKUs into items, it is not possible to use a number series.

A variation record's unique identification number will be presented in the **SKU Item No.** or **SKU Variant Code** field (depending on the relevant record type) on the item variation's SKU line.

Regardless of whether a variation's SKU is exploded into an item or variant, the record's description is determined by the parent item's description, followed by the descriptions for the variation's values. For example, assume we have an item variation for an item with a description of *T-Shirt*. This item variation has a SKU with two values: a color value with a description of *Red* and a size value with a description of *Small*. If we instruct the system to generate an item or variant for the SKU, it will be assigned a description of *T-Shirt, Red, Small*.

In addition, items that are created from variation SKUs inherit all field values (excluding calculated values) from the parent item, including unit of measure, price and cost information, and posting group setup. Any item attribute values that have been defined for the parent item are also copied to the children items. There are no inheritance considerations for item variants, which are not comprised of much more than a code and a description.

Following the explosion of a variation SKU into an item or item variant, the system will update fields on the variation SKU's line with information about the related Business Central record:

- **SKU Item No:** if the variation SKU is used as the basis for a Business Central item, that item's number is presented in this field. If the variation SKU is used as the basis for a Business Central item variant, the item number for the variant's parent item is presented in this field.
- **SKU Variant Code:** if the variation SKU is used as the basis for a Business Central item variant, that variant's code is presented in this field. This field remains blank if the variation SKU is used as the basis for a Business Central item.

The **Item Variation Details** FactBox presents the number of item variation SKUs that have been created for the item variation, as well as the number of item or variant records that have been created from these SKUs. These values are presented as cues, meaning that you can choose one of them to open a separate list of the records that comprise the total. In this way, you can compare the number of Business Central records that have been created against the number of SKUs that exist for the item variation.

Using the Item Variation Worksheet

The standard process flow of the item variations functionality is as follows:

1. You begin with a top-level parent item;
2. The item variations framework is used to define variation SKUs based on configurable attribute values;
3. New items or item variants are built from these variation SKUs.

It may be, however, that both the parent and children records already exist in Business Central. In such a scenario, it is necessary to establish an item variations framework that links these existing records together in a parent/child relationship.

The item variations module includes a worksheet that can be used to link existing records together as part of an item variation. This worksheet can also be used as an alternative way to create variation SKUs for new configurable variations.

To use the item variation worksheet:

1. Choose the  icon, enter **Item Variation Worksheet**, and then choose the related link.

2. In the **Batch Name** field, enter or use the AssistButton to choose the worksheet batch in which you want to work.

The item variation worksheet uses standard Business Central journal batch functionality. You can create multiple batches if you want to segregate your worksheet activities.

3. In the **Worksheet Visible Fields** field, select the column view you want to see. Options are:
 - *Normal*: this is a view of the standard information that is typically entered across three configurable options.
 - *Required* option views: by default, the item variations functionality supports up to three configurable options for a given item. The required option view selections allow you to present only those columns that are required for the number of attributes with which you are working. For example, if you are entering worksheet lines for a series of items that only use a single configurable attribute, you could choose the *Required – 1 Option* selection. This would result in all columns for options 2 and 3 being removed from the worksheet.
 - *All*: all setup fields are presented on the worksheet. This selection presents columns for three configurable options and includes fields for optional information such as common, brand, and industry values.
4. On the first available line, enter the Business Central item for which you are defining the item variation SKU in the **Item No.** field.
5. By default, the item variation worksheet will create/establish variation SKUs as variants of the parent item. If you want these variation SKUs to exist for other Business Central items, enter a value of *Items* in the **SKU Explode Method** field.
6. In the **Option 1 Code** field, enter the unique code for the configurable option you are assigning to the item variation SKU.
7. In the **Option 1 Value** field, enter the option value that you are assigning to the item variation SKU.
8. In the **Option 1 Key Segment Value 1** field, enter the value that will be used to represent the option value when it is included as part of a key segment, if desired. If this field is left blank, Business Central will attempt to use the entry in the **Option 1 Value** field as the key segment value.
9. Fill in other, optional, fields, as desired.
10. If necessary, repeat steps 6-9 for configuration options 2 and 3, if necessary.
11. In the **SKU** field, enter a value that will identify the variation SKU as a unique record.
12. Depending on how you want the item variation worksheet to generate records, populate the **SKU Item No.** and **SKU Variant Code** fields:
 - If you are creating a variation SKU for an existing Business Central item or item variant, enter these values.
 - If you are creating a variation SKU for configurable variants that do not yet exist as records in Business Central, leave these fields blank.
13. Repeat this process for additional variation SKUs.

Every variable configuration of an item must be entered as a separate worksheet line. For example, if we offered a product in multiple colors and were setting up an item variation to reflect this variable characteristic, we would create separate worksheet lines for red, blue, and yellow.

14. Select the worksheet lines for which you want to create variation SKUs, then choose the **Process Selected Lines** action.

The item variation worksheet will attempt to create new variation SKUs for the item that is assigned as the worksheet line's parent item; the **Line Status** field on each line will indicate whether this was successful. In addition, the **Status**

Message field will contain information about the processing activity. This is especially useful if the line failed to process, as information about the nature of the failure can assist in correcting the underlying issue. Lines will typically fail to process due to validation issues. For example, if you entered a SKU item number for an item that doesn't exist in Business Central, the validation would fail and a message would be presented to the user indicating that the item variation worksheet was unable to find the specified item.

If an item variation record did not exist for a parent item at the line of line processing, a new one will automatically be created based on the settings and values that were entered on the worksheet line. The manner in which key segment information is determined for these newly-created item variations is dependent on worksheet line values:

- If key segment values are assigned on item variation worksheet lines, they will also be assigned as key segment values for the newly-created item variation's option values. However, if key segment values are not specified on item variation worksheet lines, the option value will be assigned as the key segment value for the newly-created item variation's option values.

For example, if we created an item variation worksheet line with an option code of *COLOR*, an option value of *Yellow*, and a blank key segment value, the system would assign a key segment value of *Yellow* to the newly-created item variation's option value. If in that same scenario we assigned *YLW* as the key segment value on the worksheet line, the system would use this as the key segment value for the newly-created item variation's option value.

- The maximum length for an item variation option's key segments is determined by the longest value that is used to create item variations for that option from the item variation worksheet.

For example, if we created three item variation worksheet lines with an option code of *COLOR* and option values of *Red*, *Blue*, and *Yellow*, the maximum key segment length for the newly-created item variation option *COLOR* would be 6, based on the number of characters in *Yellow*.

If an item variation worksheet line is used to create a variation SKU for a record (either item or variant) that does not yet exist in Business Central, please be aware that it is still necessary to [explode these variation SKUs](#) from the related item variation card. This process will not be automatically performed as part of the item variation worksheet processing actions.

Processed lines are not automatically removed from the item variation worksheet. You can choose the **Delete Processed Lines** action to remove any successfully processed line from the worksheet.

Note: the steps described above assume the manual entry of values in worksheet lines. In scenarios where you are working with a large volume of records, it is also possible to populate worksheet lines via a [RapidStart configuration package](#) or other import process.