
Exercise 6: Create Product Bundles

A product bundle is a set of products sold together. Products are bundled using a “Has-A” containment relationship as either a child or a realization. A product can have one or more product child items (or PCIs), and you can define cardinalities for each. PCIs can be a single product or a product bundle, which allows you to create product bundles within bundles.

Product cardinality defines the minimum, maximum, and default quantities of the product that are allowed in the product bundle. You can also override the cardinalities of product bundles when they are included within another product bundle.

Need to change the pricing or attributes of a child product specifically for this bundle? - That's fine too. You can adjust or override pricing and attributes in the context of the bundle without affecting the product or its relationships with other bundles.

Scenario



Devi has just learned from the marketing department that they've introduced a whole slew of product bundles, and the first they want to offer includes the new InfiWatch Series 5 product. Devi is excited to release his new smartwatch offer into the wild, so he creates a product bundle for it.

Goal

- Create product bundles
- Explain product cardinality
- Override the cardinality of child product bundles
- Understand how product bundles display in the Cart
- Understand how product cardinalities are used in the Cart

Tasks

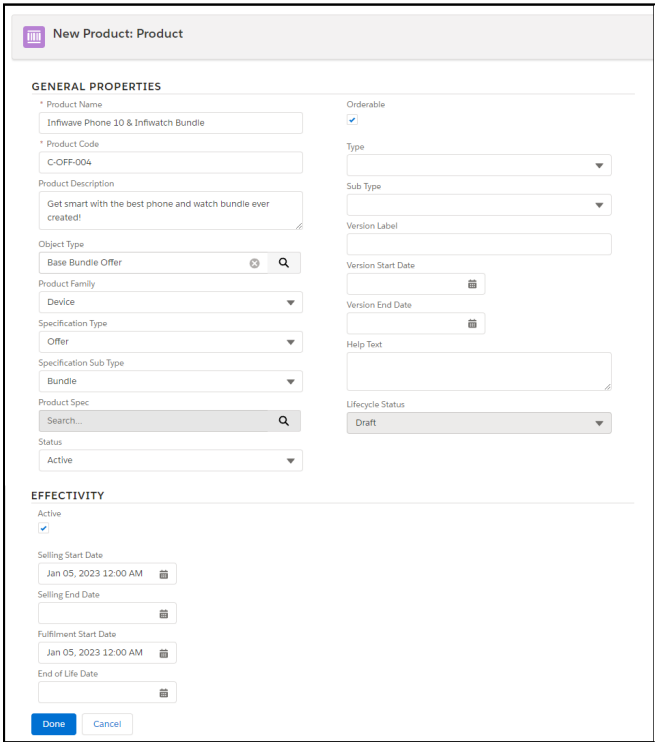
1. Create a parent product
2. Add a price to the bundle
3. Create the structure of the product bundle
4. Override the cardinality of the child product bundle

Time: 30 mins

Task 1: Create a parent product

1. Click the **Products** tab.
2. Click **Create New Product**.
3. Enter the following information in the GENERAL PROPERTIES and EFFECTIVITY sections:

Property	Value
Name	Infiwave Phone 10 & Infiwatch Bundle
Product Code	C-OFF-004
Product Description	Get smart with the best phone and watch bundle ever created!
Object Type	Base Bundle Offer
Product Family	Device
Specification Type	Offer
Specification Sub Type	Bundle
Status	Active
Orderable	✓
Active	✓
Selling Start Date	[today's date]
Fulfillment Start Date	[today's date]



4. Click **Done**. A green “Product created” message will appear.

Task 2: Add a price to the bundle

Devi configures the bundle pricing so that the bundle price is the sum of all the selected and configured product child item prices.



NOTE:

A bundle must have a price for it to be available to customers. Before you add products to the bundle, you must add a price that matches the price list of the child products that you'll add. In this exercise, the bundle price is the sum of all the product child items' prices. Therefore, you need to add a price of \$0 to your new product bundle and set it as a virtual price. This will roll up the prices for the product child items when it's displayed in the Cart.

1. Click the **PRICING** tab and click **New Price**.
2. Enter the following pricing information in the ADD PRICE pane.

Property	Value	Notes
Price List	B2C Price List	This price list must match the price lists used by the child products you will add.
Display Name	\$0.00	Since we'll be rolling up the prices of the child products, we'll set the bundle price to \$0.
Virtual Price	✓	A virtual price is used for a parent product in a bundle that doesn't have a price of its own but is the total of all its child products' prices.



3. In the **PRICING DETAILS** and **AVAILABILITY** sections, enter the following information:

Property	Value
Amount	0 . 00
Currency	USD
Recurring Frequency	One-time
Start Date	[today's date]
End Date	[leave blank]

4. Click **Done** to save and add your bundle price. Your bundle price displayed in the Pricing workspace should look like this:

The screenshot shows the 'PRICING' tab in the Product Designer interface. At the top, the product is identified as 'Infiwave Phone 10 & Infiwatch Bundle' with a product code of 'C-OFF-004'. The status is 'Active' and the selling start date is '07/06/2023, 12:00 am'. The object type is 'Base Bundle Offer'. Below this, a navigation bar includes 'DETAILS', 'PRICING' (selected), 'STRUCTURE', 'ATTACHMENTS', 'ATTRIBUTE RULES', 'CONTEXT RULES', and 'FULFILLMENT'. The main area shows a 'PRICES' section with a search bar and a 'Show Active Only' checkbox. A table displays one active price entry:

ACTIVE	DISPLAY NAME	PRICE LIST	AMOUNT	AVAILABILITY	RULES	ACTIONS
<input checked="" type="checkbox"/>	\$0.00	B2C Price List	0 USD	starting on 07/06/23	Drop Rules Here	

At the bottom of the pricing section, it indicates 'Showing all 1 entries'.

Task 3: Create the structure of the product bundle

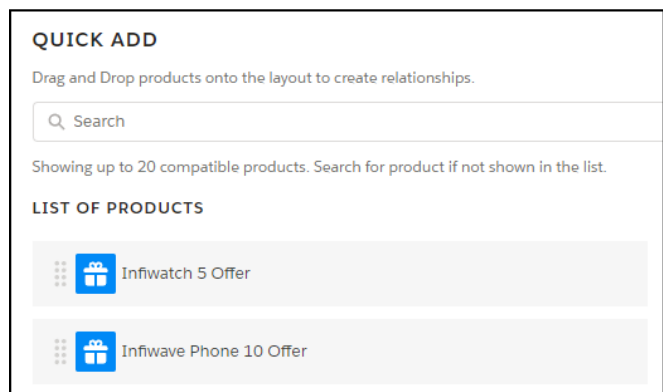
According to Devi's instructions from the marketing team, the new bundle should contain four products. Each product has a maximum and minimum permissible quantity for a valid order (cardinality) as shown in this table. They also have a default quantity, which specifies the initial (default) number of child products that will be shown in the bundle before it's added to the cart. This can be changed in the cart during the configuration process.

Product	Minimum Quantity	Maximum Quantity	Default Quantity	Impact in the Cart
InfiWatch 5	1	2	2	2 by default, may reduce to 1
Infiwave Phone 10	1	2	1	Must have 1, may increase to 2
NumberSync	0	1	0	Optional - by default not included
Individual Simple Choice Plan	1	1	1	Must have 1

There's no time to waste - so Devi gets to work adding the four products to the new bundle structure and configuring their cardinality.

Instructions

1. Add the four products to the bundle.
 - a. Click the **STRUCTURE** tab. Notice the list of available products you can add in the **QUICK ADD** pane.

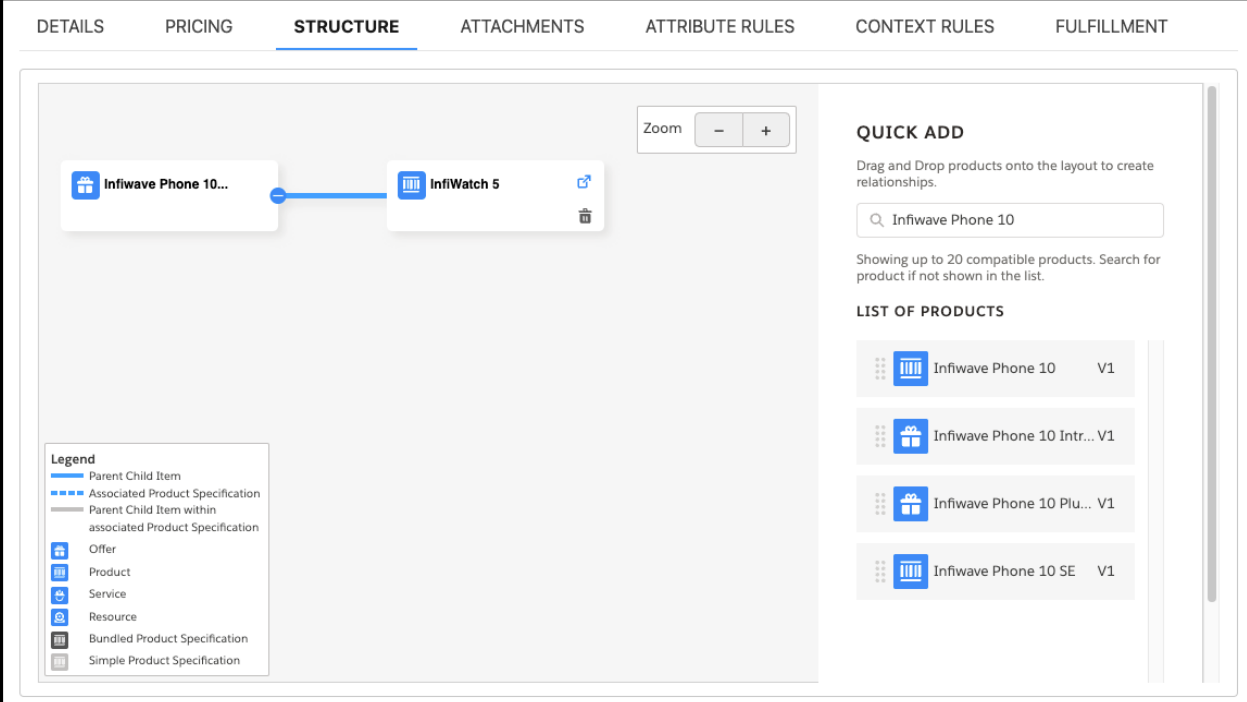




NOTE:

For products to appear in this list, they must contain a price that belongs to the same price list as the bundle product you're configuring.

- b. In the QUICK ADD pane, search for the **Infiwatch 5** product. Click and drag it onto the **Infiwave Phone 10 & InfiWatch Bundle**.

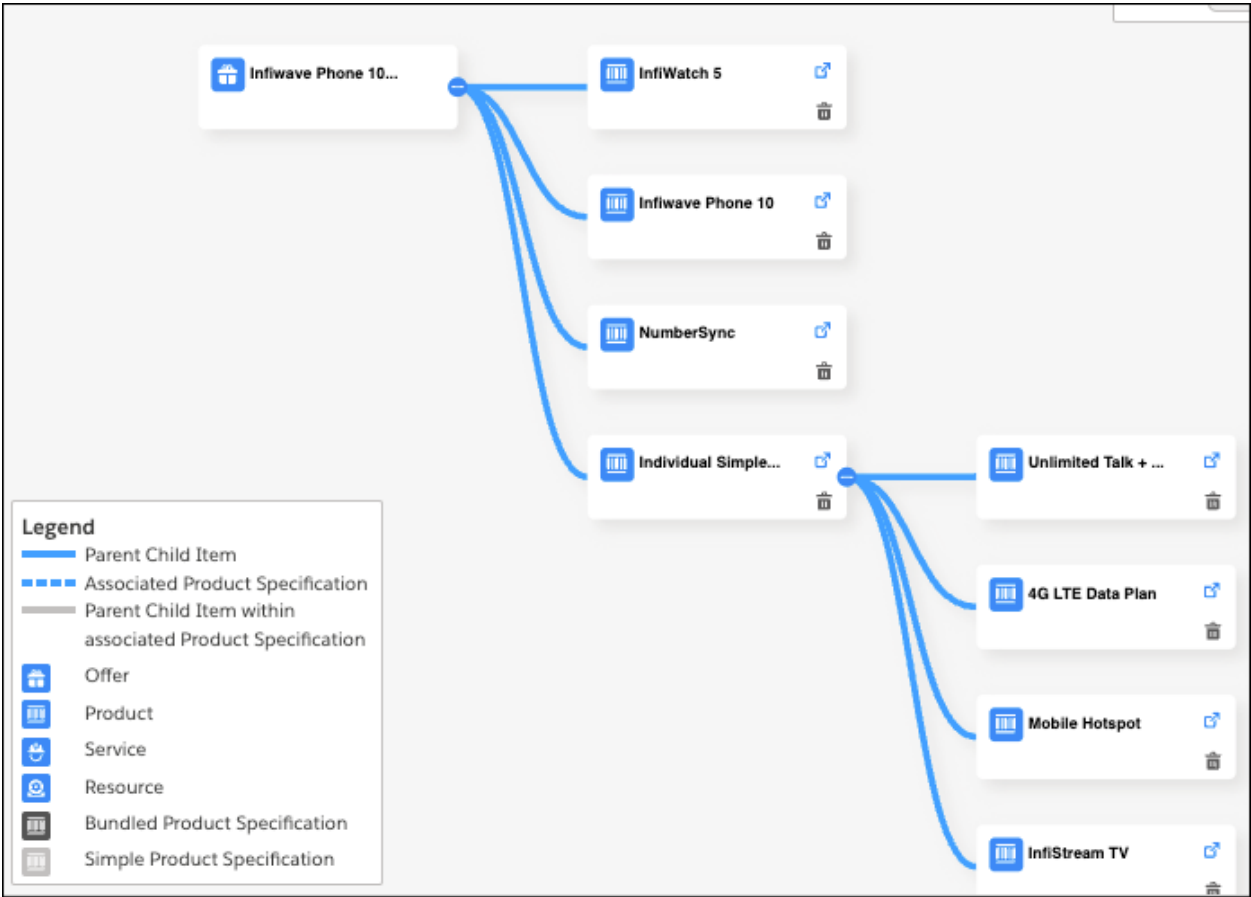


The screenshot shows the Product Designer interface with the **STRUCTURE** tab selected. The main workspace displays a bundle structure with 'Infiwave Phone 10...' as a parent item and 'InfiWatch 5' as a child item, connected by a blue line. A 'Zoom' control is visible. On the right, the 'QUICK ADD' pane shows a search bar with 'Infiwave Phone 10' and a list of products including 'Infiwave Phone 10 V1', 'Infiwave Phone 10 Intr... V1', 'Infiwave Phone 10 Plu... V1', and 'Infiwave Phone 10 SE V1'. A legend in the bottom left explains the symbols used in the structure diagram.

Legend

- Parent Child Item
- - - Associated Product Specification
- Parent Child Item within associated Product Specification
- + Offer
- Product
- Service
- Resource
- Bundled Product Specification
- Simple Product Specification

- c. Search for and add the **Infiwave Phone 10, NumberSync, and Individual Simple Choice Plan** to the **Infiwave Phone 10 & InfiWatch Bundle**.
- d. Notice the Individual Simple Choice Plan in the bundle has an expand icon. Click the > to see the child products included in the Individual Simple Choice Plan.



e. Take a look at the Legend. Note that the four requested products are now connected to the bundle through parent-child relationships.

2. Now the child products are part of the bundle, you can adjust the allowable minimum, maximum, and default quantities that can be sold for each item.
 - a. Click on the white space of the **Infiwatch 5** child product in the product structure.
 - b. In the **CARDINALITY** section of the **EDIT RELATIONSHIP** pane, enter the following information:

Property	Value	Notes
Min Quantity	1	The minimum quantity required for a valid order.
Max Quantity	2	The maximum quantity required for a valid order.
Default Quantity	2	The default number of child products that will be included in the bundle when it's added to the Cart.

- c. Your InfiWatch cardinality should look like this. Click **Done** in the EDIT RELATIONSHIP pane to save your changes.

Product Name
Infiwatch 5

Relationship Type
Child

Product Spec
Infiwatch 5 PS

CARDINALITY

* Min Quantity * Max Quantity * Default Quantity

1 2 2

- d. Using the steps above, assign the cardinalities defined below to each child product.

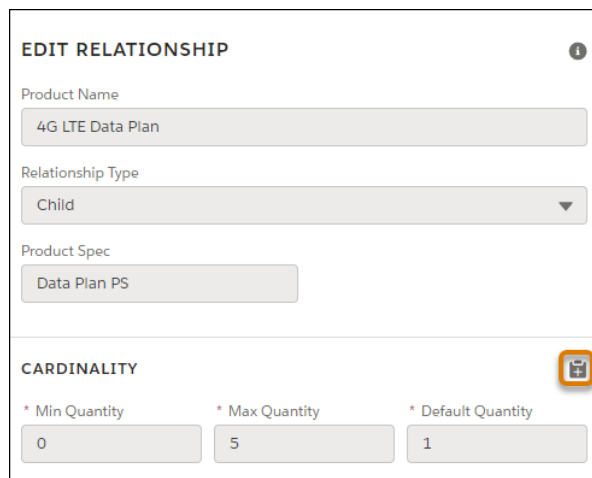
Product	Min	Max	Default
Infiwave Phone 10	1	2	1
NumberSync	0	1	0
Individual Simple Choice Plan	1	1	1

Task 4: Override the cardinality of products in the Individual Simple Choice Plan and reduce the available InfiWatch colors

The marketing department has some complicated ideas about this new bundle. They want to reduce the maximum number of 4G LTE Data Plans offered within the context of the bundle from 5 to 2, and remove InfiStream TV from the offer altogether. They also want to reduce the colors of InfiWatch available so the customer is only able to select from black, blue, or red. Devi reassures them that any changes made will only affect the bundle, and won't effect other offers, then he gets to work amending the bundle.

Instructions

1. Reduce the maximum number of 4G LTE Data Plans offered within the context of the bundle from 5 to 2.
 - a. In the **STRUCTURE** workspace of the Infiwave Phone 10 & InfiWatch Bundle, expand the **Individual Simple Choice Plan** product bundle by clicking the **>**. The bundle's nested child products will appear.
 - b. Click the white space inside of the **4G LTE Data Plan**. Don't click the product name link because it will open the product in a new tab.
 - c. In the **EDIT RELATIONSHIP** pane, locate the **CARDINALITY** section. Note that currently the 4G LTE plan is optional, and the customer may order a maximum of 5 as part of this bundle. Click the **Create Override** icon, as shown here.



EDIT RELATIONSHIP

Product Name
4G LTE Data Plan

Relationship Type
Child

Product Spec
Data Plan PS

CARDINALITY

* Min Quantity * Max Quantity * Default Quantity

0 5 1

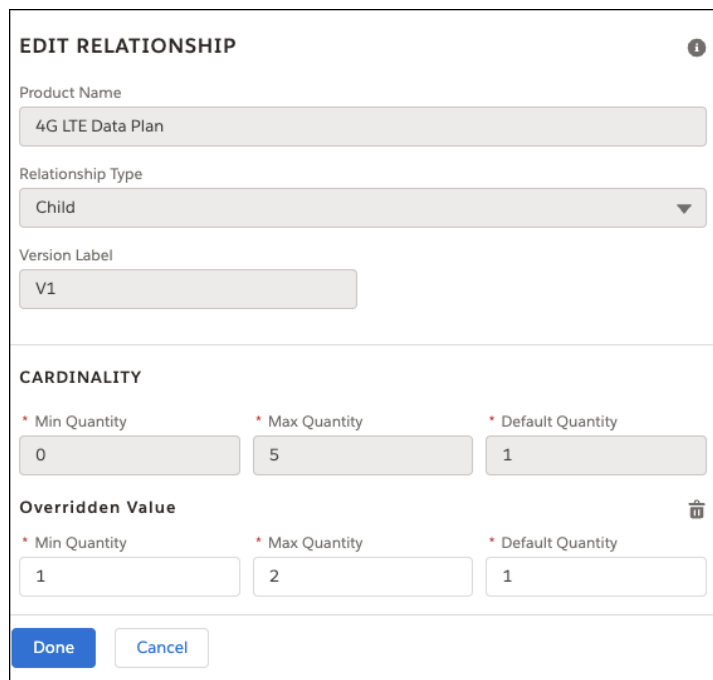
- d. Immediately below the cardinality option for the product there is now a second set of values, headed **Overridden Value**. This is where you will override the cardinality for the 4G LTE Data Plan as part of this bundle.



NOTE:

Cardinality overrides must be equal to or greater than the minimum limit set by the original cardinality. For example, if the minimum original quantity is 2, you cannot create a minimum override quantity of 1. The override must be greater than or equal to 2.

- e. In the **Overridden Value** section, change the cardinality values to a minimum quantity of 1, a maximum quantity of 2, and a default quantity of 1, as shown here. Once you've made the changes, click **Done** to save them.

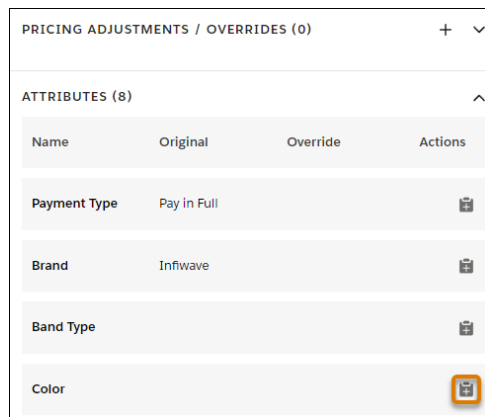







The screenshot shows the 'EDIT RELATIONSHIP' form for the '4G LTE Data Plan' product. The form is divided into several sections:

- Product Name:** 4G LTE Data Plan
- Relationship Type:** Child
- Version Label:** V1
- CARDINALITY:** A section with three input fields: Min Quantity (0), Max Quantity (5), and Default Quantity (1).
- Overridden Value:** A section with three input fields: Min Quantity (1), Max Quantity (2), and Default Quantity (1). A trash icon is visible to the right of this section.
- Buttons:** 'Done' and 'Cancel' buttons are located at the bottom of the form.

This override will change the minimum quantity to 1 and the maximum quantity to 2 *only when it's bundled in the Infiwave Phone 10 & Infiwatch Bundle*.

2. Reduce the colors of Infiwatch 5 available in the bundle to black, blue, and red. This time, instead of overriding the cardinality, you're overriding the attributes.
 - a. In the **Infiwave Phone 10 & InfiWatch Bundle Structure** workspace, click in the white space of the box for **InfiWatch 5** to view the association details.
 - b. In the **EDIT RELATIONSHIP** pane, expand the **ATTRIBUTES** section. The attributes you set when you created the product are displayed.
 - c. Click the **Create Override** icon for the **Color** attribute. Click **Show all** if you don't see the attribute. The available actions for the Color attribute change to **edit** (pencil) and **delete** (trash can).
 - d. Click the **Color** edit icon to edit the color attribute for the InfiWatch 5.



Name	Original	Override	Actions
Payment Type	Pay in Full		
Brand	Infiwave		
Band Type			
Color			 

- e. In the EDIT ATTRIBUTE panel for the Color attribute, go to the DATA INFORMATION section and from the Excluded Value(s) dropdown, select **Brown, Green, Purple, and Yellow** to exclude these colors from the available colors for the InfiWatch 5.
- f. Click **Done** to save your changes. These options will be excluded from the picklist of available colors for the Infiwatch 5 when it is added to the cart as part of the Infiwave Phone 10 and Infiwatch Bundle.

Congratulations! You've just created a new product bundle! You'll test the product in the cart, but first you need to run a few maintenance jobs so that the changes we made to the product hierarchy are reflected in the cart.



Yay! All done!