



TRAILHEAD

Advanced Rules

Exercise Guide

Version 1.0

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Preface

These training exercises are based on the Fall '20 release of Salesforce Industries Communications, Media, and Energy & Utilities Clouds. For additional information about the topics covered in this module, see the documentation available in Success Community at <https://success.vlocity.com>.

Overview

This module covers fundamental and advanced functionality of the Configuration / Validation Advanced Rules in Industries CPQ.

What You Will Learn

When you complete this training, you will be able to:

- Create product relationships
- Use the Vlocity Rule Builder to create Advanced Rules
- Design Entity Filters
- Build rules to modify attributes in the cart

Prerequisites

The prerequisites for this training include a solid understanding of basic Salesforce concepts and functionality. You should also have a working knowledge of your industry business objectives.

Introducing the Advanced Rules Framework

The Advanced Rules Framework allows you to design sophisticated natural language criteria along with customizable interfaces to ensure the right products are available to eligible customers at the right price in the right configuration. Advanced Rules determine which products and under what circumstances they apply using Entity Filters, and they are built using the Vlocity Rule Builder. You can use Advanced Rules to create rules that depend on context, product attributes, and multiple criteria.

There are several rule types: Compatibility Rules (also known as Configuration / Validation Rules), Pricing, and Availability & Eligibility.

- *Compatibility Rules* use product relationships to ensure products ordered in the Cart are compatible based on conditions in order line items and related objects. They use the `ProductValidationInterface` and its associated implementations to execute definitions within the Product Relationship object.
- *Pricing Rules* are legacy rules to change standard pricing and operate on order line items in the Cart.
- *Availability & Eligibility Rules* are legacy rules that display or hide products in the Cart's product list based on conditions in opportunity, quote or order header data or data in related objects such as Accounts or Assets. In most circumstances, these rules are replaced by context rules.

Exercise 7-1: Getting Started with Product Relationships

Scenario

Eliza Young is our Developer, and her focus today is to build the rules used by the powerful Industries CPQ engine that will be used to accomplish Infiwave's business objectives. In just the same way that society operates more smoothly with well-established rules, Industries CPQ and the Cart need rules, too.

As the benevolent dictator of her Salesforce empire, Eliza begins to devise the rules that will save her people from mistakes during the order capture process. She will begin by creating product relationships to ensure that all products on an order are compatible with one another and configured correctly. Eliza can even attempt an upsell using a recommendation. With these rules, all orders will be perfect orders, and it will be good.

Goal

- Require a product when another product is added.
- Exclude products when a product is present.
- Recommend a product when another product is added.
- Use the Vlocity Rule Builder.

Tasks

1. Create a product relationship to require the Office Hub Modem when the Office Internet Solution is ordered
2. Create a product relationship to exclude the Home Hub Modem when the Office Internet Solution is ordered
3. Create a product relationship to recommend Smart Hub Cloud Backup when the Office Internet Solution is ordered
4. Review the Product Validation interface implementation
5. Create an Advanced Configuration/Validation Rule to trigger the product relationships
6. Test the new rules in the Cart

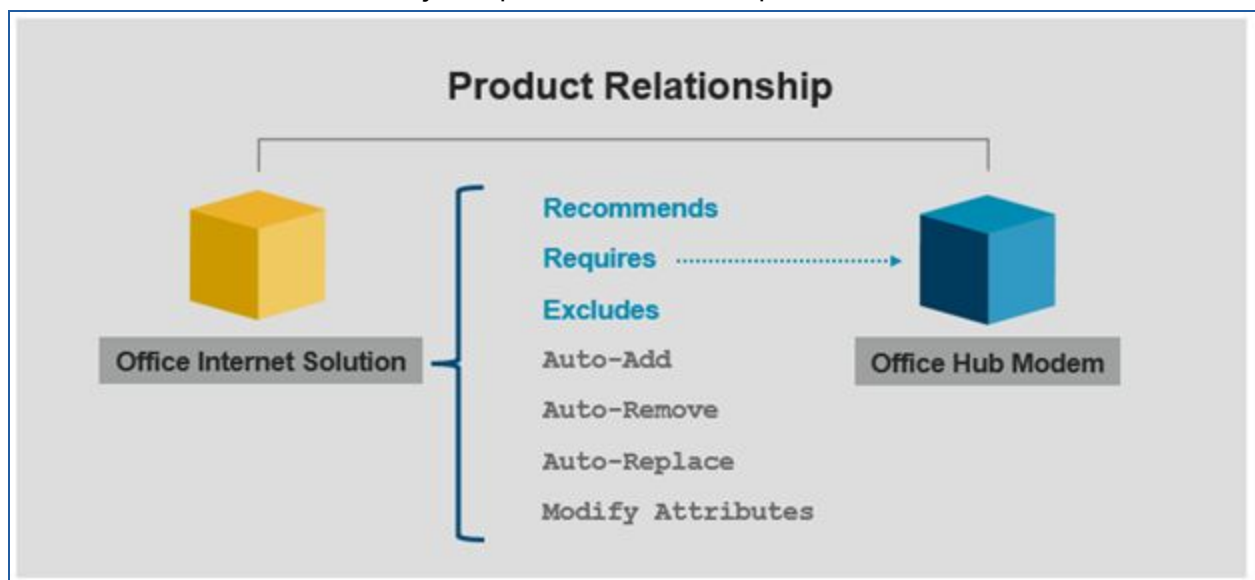
Time: 20 mins

What are Product Relationships?

Product relationships are used to determine if a product combination is valid. Using product relationships, you can define that, when a product is added to the cart, related products are added with it. You can also automatically add, remove or recommend products based on other products in the cart.

Product relationships are triggered using advanced compatibility rules.

Compatibility rules run on order line item objects: Opportunity Line Items, Quote Line Items or Order Line Items. They use product relationships as rule actions.



ALERT:


If you've just received your training playground, add your email address to the system administrator profile to ensure you receive all system notifications. In the upper-right, click on the **Avatar** and select **Settings**. Enter your email address in the **Email** field on the Personal Information page and click **Save**.

Task 1: Create a product relationship to require the Office Hub Modem when the Office Internet Solution is ordered

1. In the Lightning tab navigation bar, click **Product Relationships**. (If you don't see it, click **More** to expand the overflow dropdown menu.)
2. Click **New**.
3. In the **New Product Relationship** dialog, enter the following information.


Field	Value
Product Relationship Name	OIS Requires Office Hub Modem
Product	Office Internet Solution
Relationship Type	Requires
Related Product	Office Hub Modem
Min Quantity	1
Max Quantity	1

4. Click **Save**.


Product Relationship
OIS requires Office Hub Modem

Related

Details


Product Relationship Name		Default Quantity	
OIS requires Office Hub Modem		1.00	
Product		Min Quantity	
Office Internet Solution		1.00	
Relationship Type		Max Quantity	
Requires		1.00	
Related Product		Message	
Office Hub Modem			
Related Product Qualifying Filter		Action Parameters	
Description		Attribute Modification Context	
AddMode		Owner	
asSibling		 Admin Vlocity CME	
Context			
Is Conditional			
<input checked="" type="checkbox"/>			

Task 2: Create a product relationship to exclude the Home Hub Modem when the Office Internet Solution is ordered

1. In the Lightning tab navigation bar, click **Product Relationships**. You will see the “requires” relationship you set up in the previous task. Now you are going to create an “excludes” relationship.
2. Click **New**.
3. In the **New Product Relationship** dialog, enter the following information.


Field	Value
Product Relationship Name	OIS Excludes Home Hub Modem
Product	Office Internet Solution
Relationship Type	Excludes
Related Product	Home Hub Modem
Min Quantity	1
Max Quantity	1

4. Click **Save**.


Product Relationship
OIS excludes Home Hub Modem

Related

Details


Product Relationship Name	OIS excludes Home Hub Modem	Default Quantity	1.00
Product	Office Internet Solution	Min Quantity	1.00
Relationship Type	Excludes	Max Quantity	1.00
Related Product	Home Hub Modem	Message	
Related Product Qualifying Filter		Action Parameters	
Description		Attribute Modification Context	
AddMode	asSibling	Owner	 Admin Vlocity CME
Context			
Is Conditional	<input checked="" type="checkbox"/>		

Task 3: Create a product relationship to recommend Smart Hub Cloud Backup when the Office Internet Solution is ordered

1. In the Lightning tab navigation bar, click **Product Relationships**.
2. Click **New**.
3. In the **New Product Relationship** dialog, enter the following information.

Field	Value
Product Relationship Name	OIS Recommends Smart Hub Cloud Backup
Product	Office Internet Solution
Relationship Type	Recommends
Related Product	Smart Hub Cloud Backup
Min Quantity	1
Max Quantity	1


4. Click **Save**.

 Product Relationship


OIS recommends Smart Hub Cloud Backup

Related

Details

Product Relationship Name	Default Quantity
OIS recommends Smart Hub Cloud Backup	1.00
Product	Min Quantity
Office Internet Solution	1.00
Relationship Type	Max Quantity
Recommends	1.00
Related Product	Message
Smart Hub Cloud Backup	
Related Product Qualifying Filter	Action Parameters
Description	Attribute Modification Context
AddMode	Owner
asSibling	 Admin Vlocity CME
Context	
Is Conditional	
<input checked="" type="checkbox"/>	

5. In the Lightning tab navigation bar, click **Product Relationships**.
6. Review the three new product relationships that you've created.

 Product Relationships

Recently Viewed

[New](#) [Import](#) [Change Owner](#)

3 Items • Updated a few seconds ago

☐

Product Relationship Name

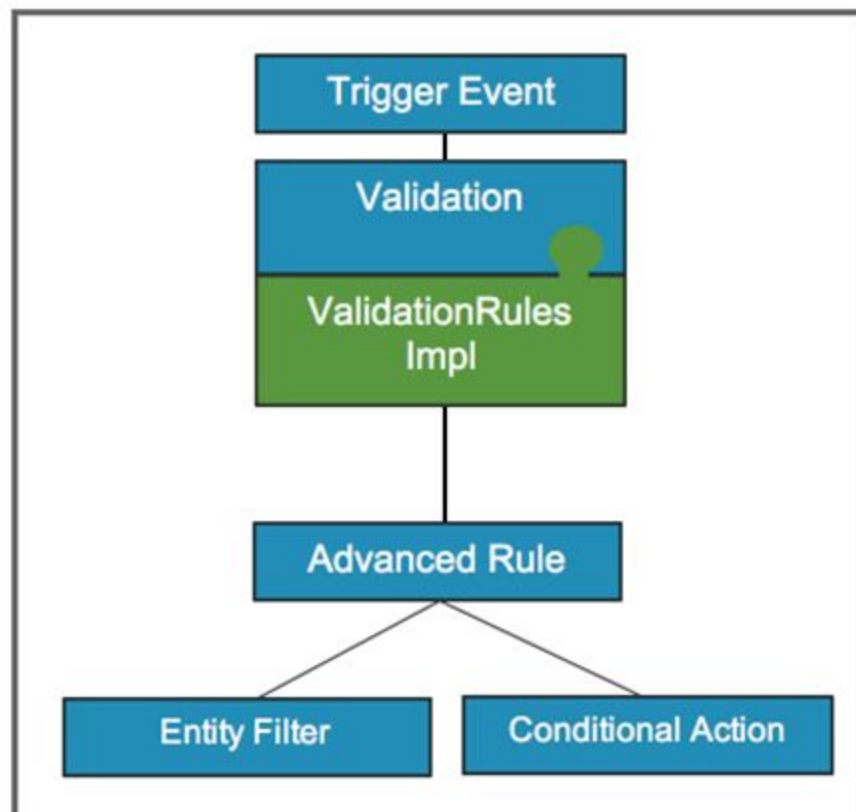
▼

1	<input type="checkbox"/>	OIS Recommends Smart Hub Cloud Backup	▼
2	<input type="checkbox"/>	OIS Excludes Home Hub Modem	▼
3	<input type="checkbox"/>	OIS Requires Office Hub Modem	▼

How do Compatibility Rules Work?

The diagram below provides a top-level view of the compatibility rule process.

Compatibility Rule Process Diagram



The process begins with a trigger event, such as adding a new product to the Cart or removing a child entity from the cart. This trigger event invokes a validation process which is executed through the `ProductValidationInterface` and its associated implementations.

This will act on the definitions held in the Product Relationship object relating to your advanced rule, including the entities involved in the rule, the actions to be taken, and the conditions which apply.

What is an interface implementation?

The core of the Salesforce open architecture is the interface and implementation paradigm. An interface manages the application and its call out to business logic; an implementation is that business logic. Salesforce Industries offers multiple implementations for each interface. You can choose the implementation that best fits your needs, or you can create your own implementation.

For example, the `ProductValidationInterface` communicates with the system to ask, “is the product in the cart configured correctly?” The implementation responds with the appropriate business logic to evaluate the configuration and add, require or exclude other products or offers. When used judiciously, you can define interfaces once and deploy them many times to consistently maintain and apply business logic.

Salesforce provides a variety of interface implementations for Advanced Rules with default implementations. The default implementations allow the Cart to run, but they don’t invoke any rules. You must activate different implementations to apply rules.



NOTE:

Activating an implementation only needs to be done once, or when new implementations have been created. Only one implementation can be active for each interface in an org.

What is the Configuration / Validation interface?

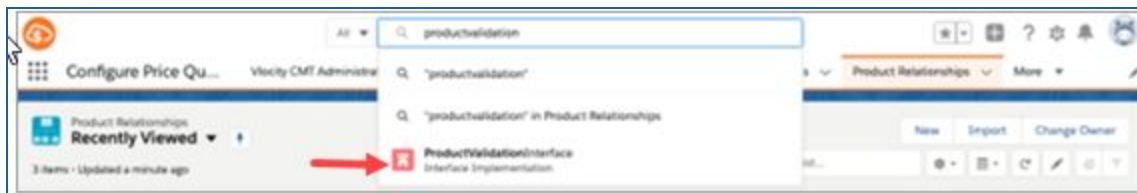
Product relationships and compatibility rules use the `ProductValidationInterface` and associated implementations to execute definitions in the Product Relationship object. The `ProductValidationInterface` is typically triggered when a product is added to, modified in, or deleted from an opportunity, order, or quote.

The following implementations are provided by Salesforce.

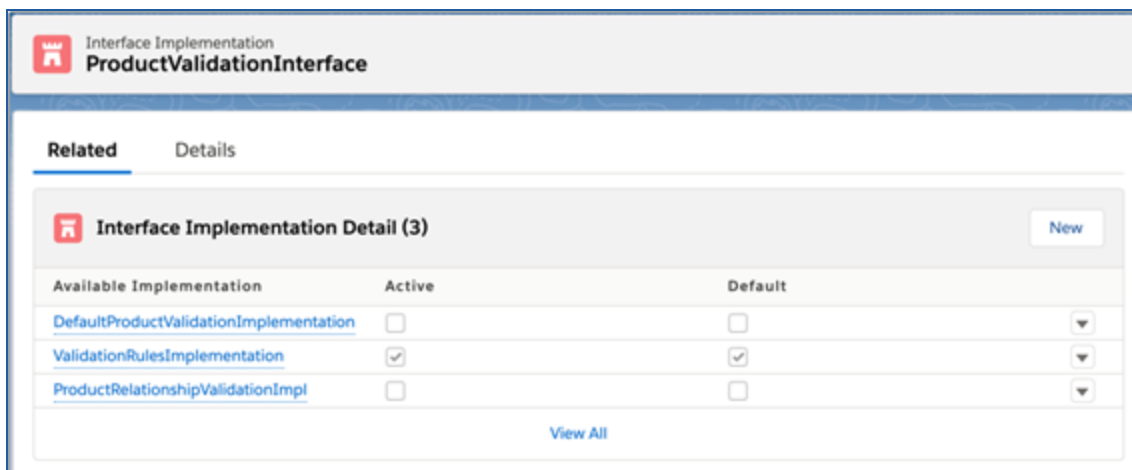
Implementation	Purpose
<code>DefaultProductValidationImplementation</code>	Returns the list without modification.
<code>ProductRelationshipValidationImpl</code>	Legacy implementation that is no longer supported.
<code>ValidationRulesFlowImplementation</code>	Runs the active compatibility rules that are defined in the Validation Rules flow. It is an unmanaged implementation.
<code>ValidationRulesImplementation</code>	Runs all product relationships and active compatibility rules for the opportunity, order, or quote.

Task 4: Review the Product Validation interface implementation

1. In the Lightning toolbar, select **Interface Implementations**. If you cannot see the option in the toolbar you may need to select it from the **More** dropdown list.
2. In the Lightning search dialog, enter `productvalidation`.
3. In the search results list, click **ProductValidationInterface**.



4. In the **Interface Implementation Detail** related list, locate **ValidationRulesImplementation** and notice that it's the Active and the Default implementation.



What are Advanced Rules?

When you need to create configuration or compatibility rules that depend on context, product attributes and multiple criteria, you can use product relationships in an Advanced Rule. Advanced Rules are built using the Vlocity Rule Builder.

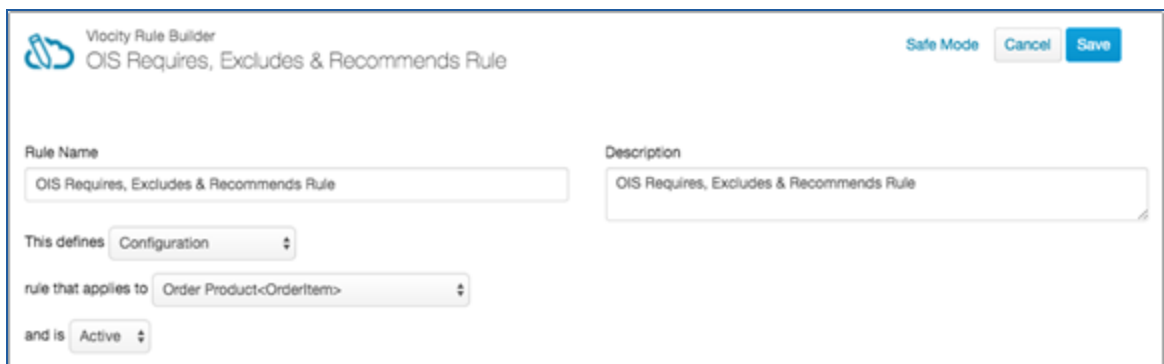
What is the Vlocity Rule Builder?

Vlocity Rule Builder is a drag-and-drop design tool that allows you to define advanced rules by associating entity filters and/or rule actions with the rule. In this exercise, you'll create an advanced rule with no entity filters. You will use the three product relationships (requires, excludes and recommends) that you created earlier as rule actions.

Task 5: Create an Advanced Configuration/Validation Rule to trigger the product relationships

1. In the Lightning tab navigation bar, click **Vlocity Rules**.
2. Click **New**.
3. In the rule header, enter the following information.

Field	Value
Rule Name	OIS Requires, Excludes & Recommends Rule
This defines	Configuration
rule that applies to	Order Product<OrderItem>
and is	Active
Description	OIS Requires, Excludes, & Recommends Rule



The screenshot shows the Vlocity Rule Builder interface. At the top, it says "Vlocity Rule Builder" and "OIS Requires, Excludes & Recommends Rule". There are buttons for "Safe Mode", "Cancel", and "Save". Below this, there are two text input fields: "Rule Name" and "Description", both containing "OIS Requires, Excludes & Recommends Rule". Below these are four dropdown menus: "This defines" (set to "Configuration"), "rule that applies to" (set to "Order Product<OrderItem>"), and "and is" (set to "Active").

4. Add the three product relationships you set up in tasks 1, 2 and 3 of this exercise. Within the Vlocity Rule Builder, these appear as Actions.
 - a. In the **FILTERS AND ACTIONS LIST**, click the **Actions** button to view only actions.
 - b. Locate **OIS Requires Office Hub Modem** and click **Add To Rule Action**. Notice there is a search box just above the actions list to allow you to quickly locate your actions if you have a long list.

Velocity Rule Builder
OIS Requires, Excludes & Recommends Rule

Safe Mode Cancel Save

Rule Name
OIS Requires, Excludes & Recommends Rule

Description
OIS Requires, Excludes & Recommends Rule

This defines Configuration

rule that applies to Order Product<OrderItem>

and is Active

FILTERS AND ACTIONS

Find this group:

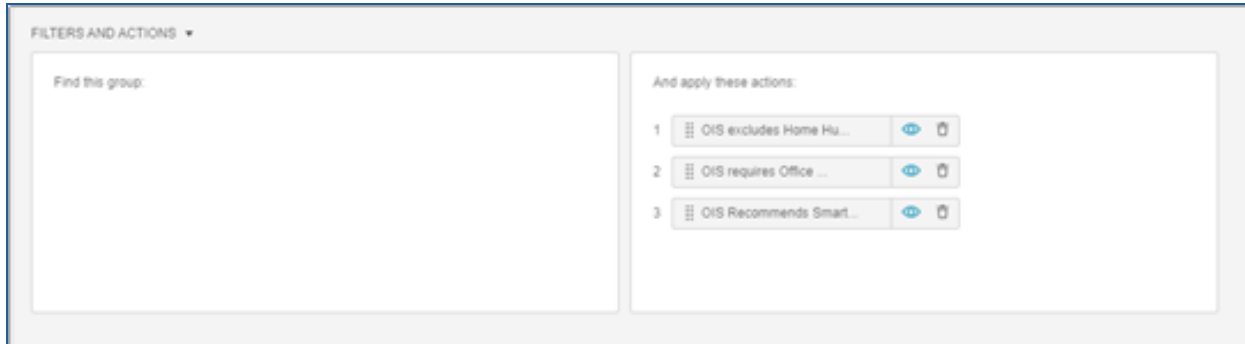
And apply these actions:

FILTERS AND ACTIONS LIST

Actions Filters Search

Action Name	Action Description
OIS Requires Office Hub Modem	Add To Rule Action
OIS Recommends Smart Hub Cloud Backup	Add To Rule Action
OIS Excludes Home Hub Modem	Add To Rule Action

- c. Repeat for OIS Recommends Smart Hub Cloud Backup and OIS Excludes Home Hub Modem. You now have three actions displayed under And apply these actions.



The screenshot shows the 'FILTERS AND ACTIONS' section of the Rule Builder. On the left, there is a search bar labeled 'Find this group:'. On the right, under the heading 'And apply these actions:', there is a list of three actions:

- 1 OIS excludes Home Hu... (with a blue eye icon and a trash icon)
- 2 OIS requires Office ... (with a blue eye icon and a trash icon)
- 3 OIS Recommends Smart... (with a blue eye icon and a trash icon)

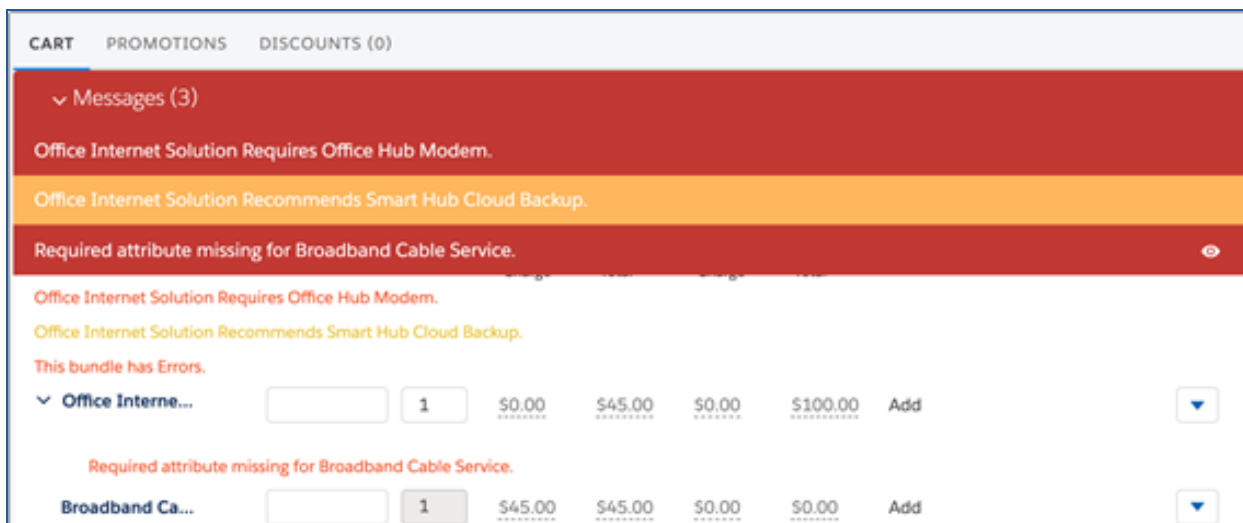
5. Scroll up to the top of the **Rule Builder** page and click **Save**.

Task 6: Test the new rules in the Cart

1. In the Lightning tab navigation bar, click **Orders**.
2. Click **New**.
3. Enter the following information.

Field	Value
Order Name	Advanced Rules Business Order
Account Name	Acme
Order Start Date	[today's date]
Price List	B2B Price List

4. Click **Save**.
5. From the Power Launcher, click **Configure Order**. This invokes the Cart.
6. In the **search** dialog on the product list, enter `office`.
7. Find the **Office Internet Solution** and click **Add to Cart**.
8. Click the notifications message bar. Notice the “recommends” message in orange, and the “requires” messages in red.



The screenshot shows the Salesforce Cart interface. At the top, there are tabs for CART, PROMOTIONS, and DISCOUNTS (0). Below the tabs, there is a section for Messages (3). The messages include:

- Office Internet Solution Requires Office Hub Modem. (Red)
- Office Internet Solution Recommends Smart Hub Cloud Backup. (Orange)
- Required attribute missing for Broadband Cable Service. (Red)

Below the messages, there is a table of products in the cart:

Office Internet...	<input type="text"/>	1	\$0.00	\$45.00	\$0.00	\$100.00	Add	▼
Required attribute missing for Broadband Cable Service.								
Broadband Ca...	<input type="text"/>	1	\$45.00	\$45.00	\$0.00	\$0.00	Add	▼



NOTE:

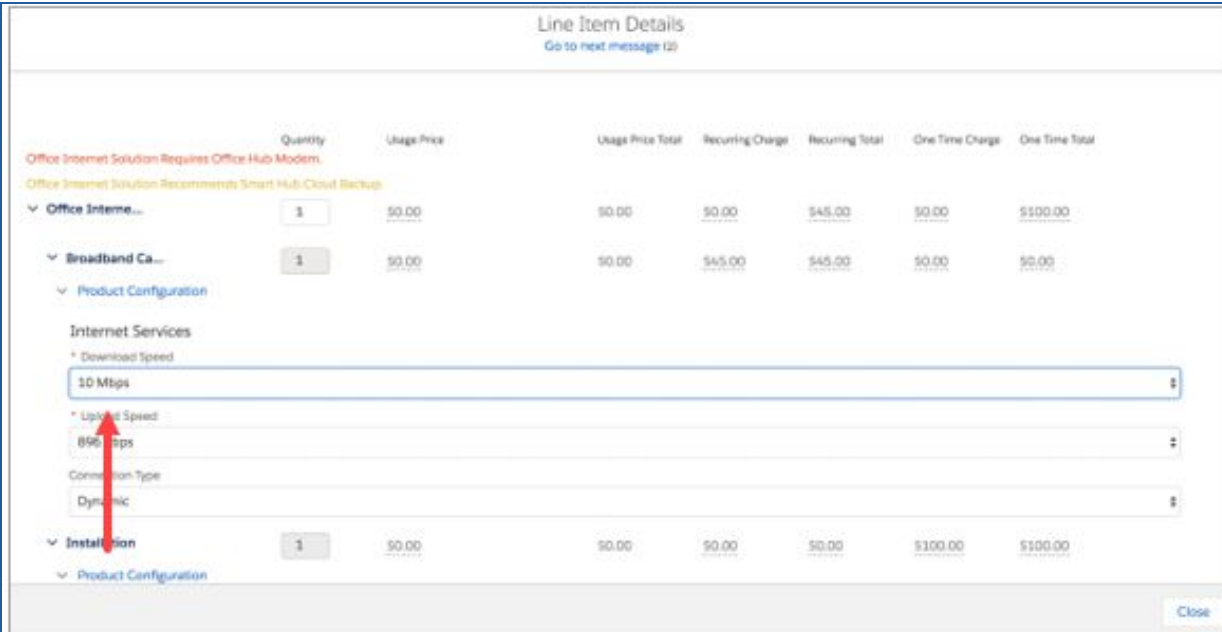
The required attribute missing message for the Broadband Cable Service is related to its required run-time Download speed attribute and not the new product relationships.



NOTE:

Are your required or recommended messages missing from the notifications message bar? Did you remember to refresh your platform cache? In the EPC Module “Managing the Shared Catalog” you learned that anytime you make a change to a rule you need to run maintenance jobs to clear and refresh the platform cache. Why? – because advanced rule actions are stored in the org cache.

- Click the **Take Me There** icon for the Required attribute missing message for the **Broadband Cable Service** and select **10 Mbps** for the **Download Speed** attribute.

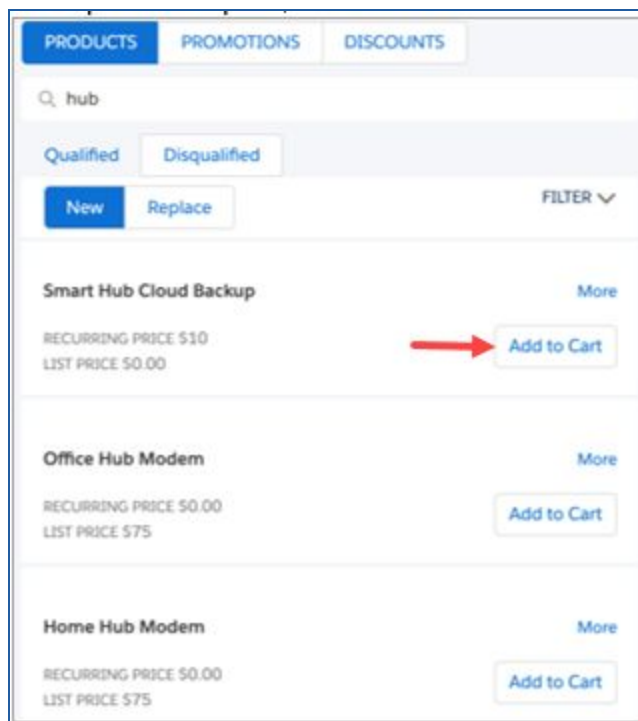


Line Item Details
Go to next message (2)

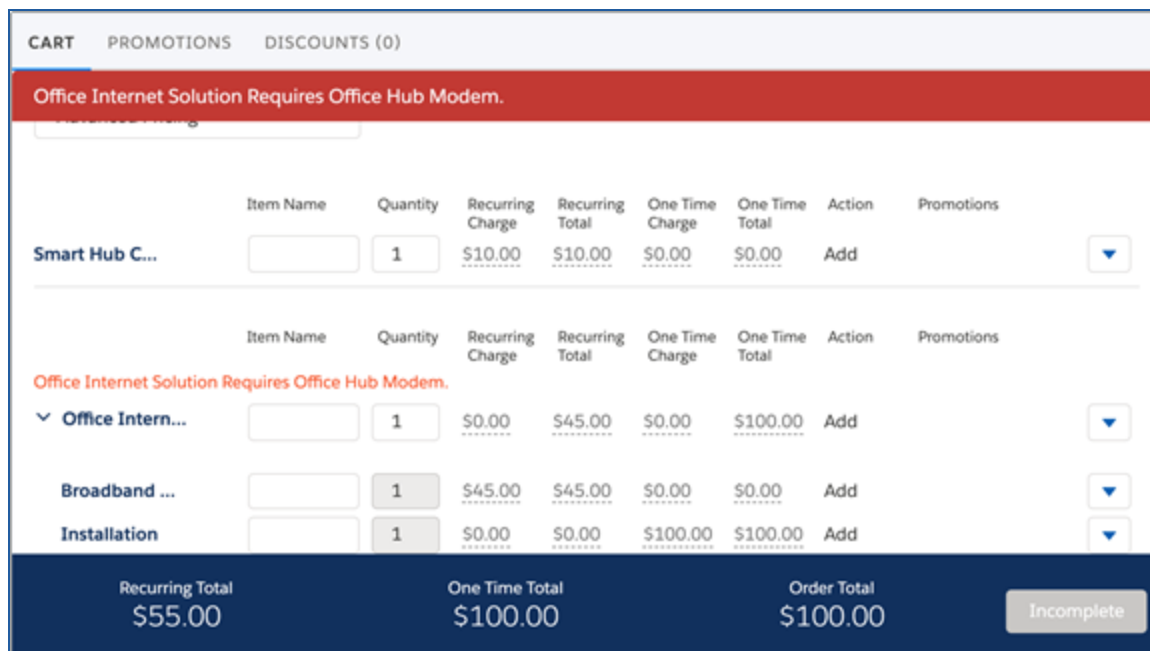
	Quantity	Usage Price	Usage Price Total	Recurring Charge	Recurring Total	One Time Charge	One Time Total
Office Internet Solution Requires Office Hub Modem.							
Office Internet Solution Recommends Smart Hub Cloud Backup							
Office Internet...	1	\$0.00	\$0.00	\$0.00	\$45.00	\$0.00	\$100.00
Broadband Ca...	1	\$0.00	\$0.00	\$45.00	\$45.00	\$0.00	\$0.00
Product Configuration							
Internet Services							
Download Speed							
Upload Speed							
Connection Type							
Installation	1	\$0.00	\$0.00	\$0.00	\$0.00	\$100.00	\$100.00
Product Configuration							

Close

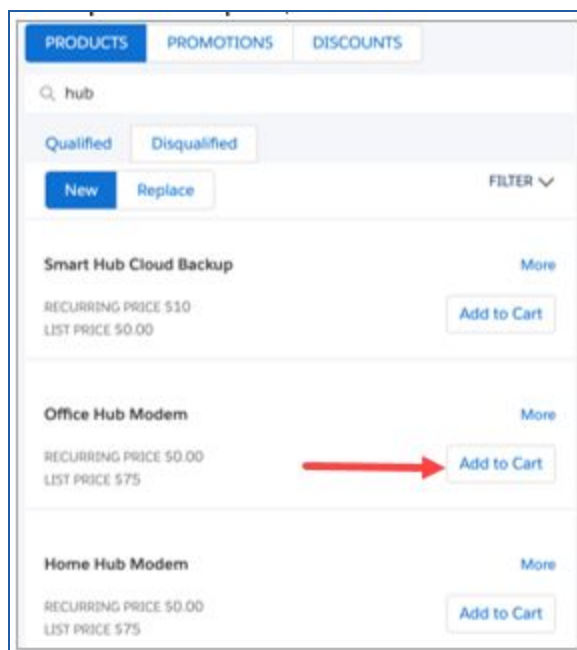
- Click **Close**.
- In the **search dialog** on the **product list** pane, enter **hub**.
- In the product list pane, find **Smart Hub Cloud Backup**, and click **Add to Cart**.



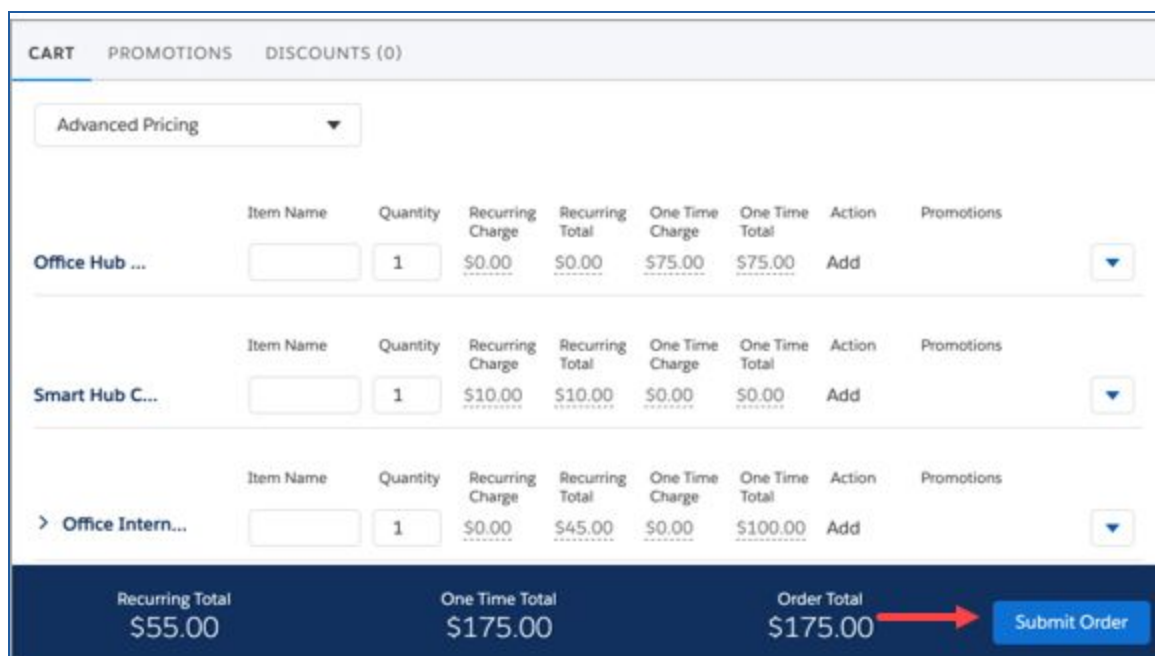
13. Notice that the recommends message disappears.



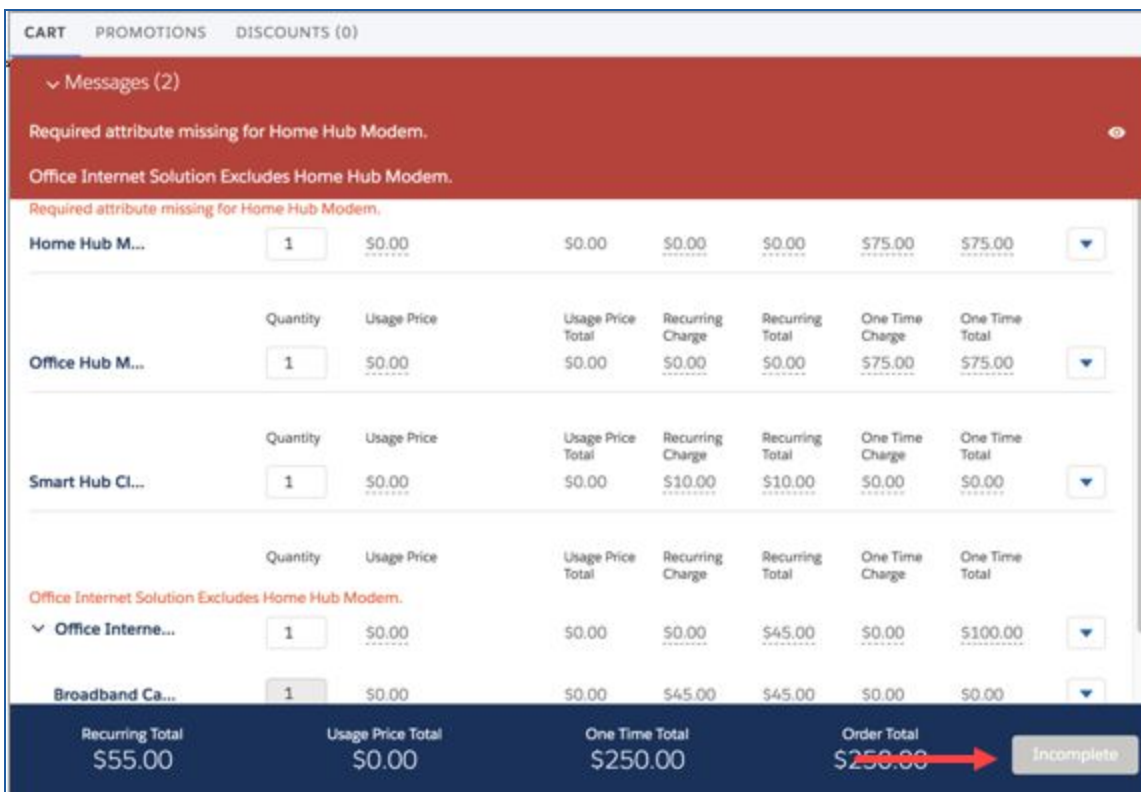
14. In the product list pane, find **Office Hub Modem**, and click **Add to Cart**.



15. Notice the red “requires” message disappears, and the **Submit Order** button is active, indicating a valid order.



16. In the product list pane, find **Home Hub Modem**, and click **Add to Cart**.
17. Notice the red Excludes message that appears (along with another required attribute message).
18. Notice the **Submit Order** button says “**Incomplete**” and is greyed out, preventing orders from being submitted while the order is not valid.



The screenshot shows the Salesforce Cart interface. At the top, there are tabs for CART, PROMOTIONS, and DISCOUNTS (0). Below the tabs, a red banner displays two error messages: "Required attribute missing for Home Hub Modem." and "Office Internet Solution Excludes Home Hub Modem." Below the banner, a table lists items in the cart. The table has columns for Quantity, Usage Price, Usage Price Total, Recurring Charge, Recurring Total, One Time Charge, and One Time Total. The items are: Home Hub M... (1, \$0.00, \$0.00, \$0.00, \$0.00, \$75.00, \$75.00), Office Hub M... (1, \$0.00, \$0.00, \$0.00, \$0.00, \$75.00, \$75.00), Smart Hub Cl... (1, \$0.00, \$0.00, \$10.00, \$10.00, \$0.00, \$0.00), Office Interne... (1, \$0.00, \$0.00, \$0.00, \$45.00, \$0.00, \$100.00), and Broadband Ca... (1, \$0.00, \$0.00, \$45.00, \$45.00, \$0.00, \$0.00). At the bottom, a summary bar shows: Recurring Total \$55.00, Usage Price Total \$0.00, One Time Total \$250.00, and Order Total \$250.00. A red arrow points to the "Incomplete" button.

Item	Quantity	Usage Price	Usage Price Total	Recurring Charge	Recurring Total	One Time Charge	One Time Total
Home Hub M...	1	\$0.00	\$0.00	\$0.00	\$0.00	\$75.00	\$75.00
Office Hub M...	1	\$0.00	\$0.00	\$0.00	\$0.00	\$75.00	\$75.00
Smart Hub Cl...	1	\$0.00	\$0.00	\$10.00	\$10.00	\$0.00	\$0.00
Office Interne...	1	\$0.00	\$0.00	\$0.00	\$45.00	\$0.00	\$100.00
Broadband Ca...	1	\$0.00	\$0.00	\$45.00	\$45.00	\$0.00	\$0.00

Summary:

Recurring Total	Usage Price Total	One Time Total	Order Total
\$55.00	\$0.00	\$250.00	\$250.00

Submit Order: Incomplete

19. Using the line item action dropdown menu, delete the **Home Hub Modem** from the cart.
20. Notice that the messages disappear, and the **Submit Order** button is blue, indicating the order is valid.
21. In the cart header, click **View Record** to exit the Cart.

Review

Confirm your understanding by answering these questions.

1. What is a product relationship?
2. Which interface can evaluate product relationships?
3. Which implementation should be used to require, recommend or exclude one product to another?
4. Which objects does the implementation evaluate?
5. What are advanced rules?
6. What is the Rule Builder?

Exercise 7-2: Creating Advanced Rules for Attributes

Scenario

Product management has introduced a new Business Video Service product, and it requires a high bandwidth broadband connection. Therefore, Eliza will create a validation rule using Product Relationships to conditionally exclude the Business Video Service if the Download Speed attribute for the Broadband Cable Service product is less than 200 Mbps. This rule must evaluate an attribute, so she will build an Advanced Rule in Vlocity Rule Builder.

Goals

- Exclude products from the Cart based on an attribute using an Advanced Rule
- Create entity filters
- Customize product configuration messages to the end user

Tasks

1. Create a product relationship to exclude Business Video Service when the Broadband Cable Service is ordered
2. Create an entity filter for the Download Speed attribute
3. Create an Advanced Configuration/ Validation Rule to combine the product relationship and the entity filter
4. Test the new rule in the Cart
5. Create a custom product configuration message
6. Review the custom product configuration message in the Cart

Time: 30 mins

What are Entity Filters?

In the last exercise, you created product relationships and added them as actions to an advanced rule, which fired every time the products appeared in the cart. However, sometimes you will want to create rules that fire only when certain conditions arise. To do that, you will add entity filters to your advanced rules.

Entity filters create context for rules by filtering order line items and searching for defined conditions. Entity filters consist of one or more conditions that evaluate fields or attributes on an object and, if true, apply a rule action. This rule action can be a product relationship, a matrix, a calculation or a procedure. Rules can contain one filter or many filters, depending on the business logic that the rule implements.

For example, you might create a filter to identify premises where the service activation date is 45 days or less. Filters are reusable and additive. Once created, that filter is available for use in any rule that needs to use it.

Task 1: Create a product relationship to exclude the Business Video Service when the Broadband Cable Service is ordered

1. In the Lightning tab navigation bar, click **Product Relationships**. (If you don't see it, click **More** to expand the overflow dropdown menu.)
2. Click **New**.
3. In the **New Product Relationship** dialog, enter the following information.

Field	Value
Product Relationship Name	BCS Excludes Business Video Service
Product	Broadband Cable Service
Relationship Type	Excludes
Related Product	Business Video Service
Min Quantity	1
Max Quantity	1

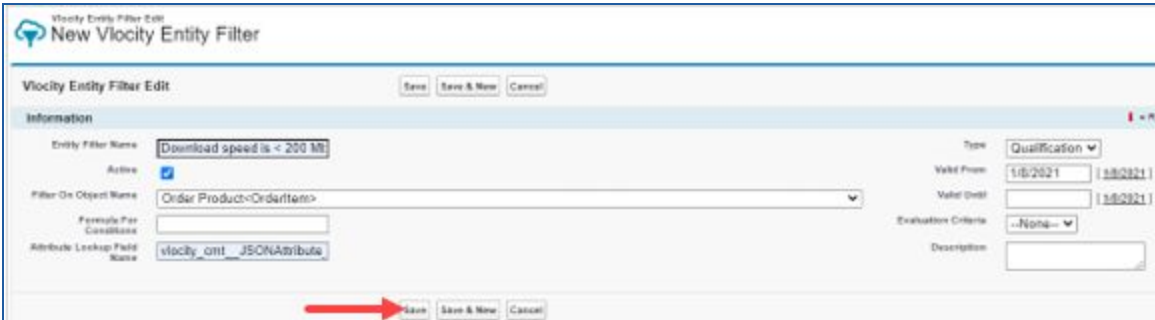
4. Click **Save**.

Task 2: Create an entity filter for the Download Speed attribute

1. In the Lightning tab navigation bar, click **Vlocity Entity Filters**. (If you don't see it, click **More** to expand the overflow dropdown menu.)
2. Click **New** to create a new Entity Filter.
3. In the **New Vlocity Entity Filter** dialog, enter the following information.

Field	Value	Notes
Entity Filter Name	Download Speed is < 200 Mbps	Give the filter a name that explains its purpose
Filter On Object Name	Order Product<OrderItem>	This is the name of the object upon which the filter will be run
Attribute Lookup Field Name	vlocity_cmt__JSONAttribute__c	Defines the field name that contains a JSON String
Type	Qualification	See note below
Valid From	[today's date]	This is optional and states when the filter will become active.

4. Click **Save**.



The screenshot shows the 'New Vlocity Entity Filter' dialog box. The 'Entity Filter Name' is 'Download speed is < 200 Mb'. The 'Active' checkbox is checked. The 'Filter On Object Name' is 'Order Product<OrderItem>'. The 'Attribute Lookup Field Name' is 'vlocity_cmt__JSONAttribute'. The 'Type' is 'Qualification'. The 'Valid From' date is '1/6/2021'. The 'Valid Until' date is '1/6/2021'. The 'Evaluation Criteria' is 'None'. The 'Description' field is empty. A red arrow points to the 'Save' button at the bottom.



NOTE:

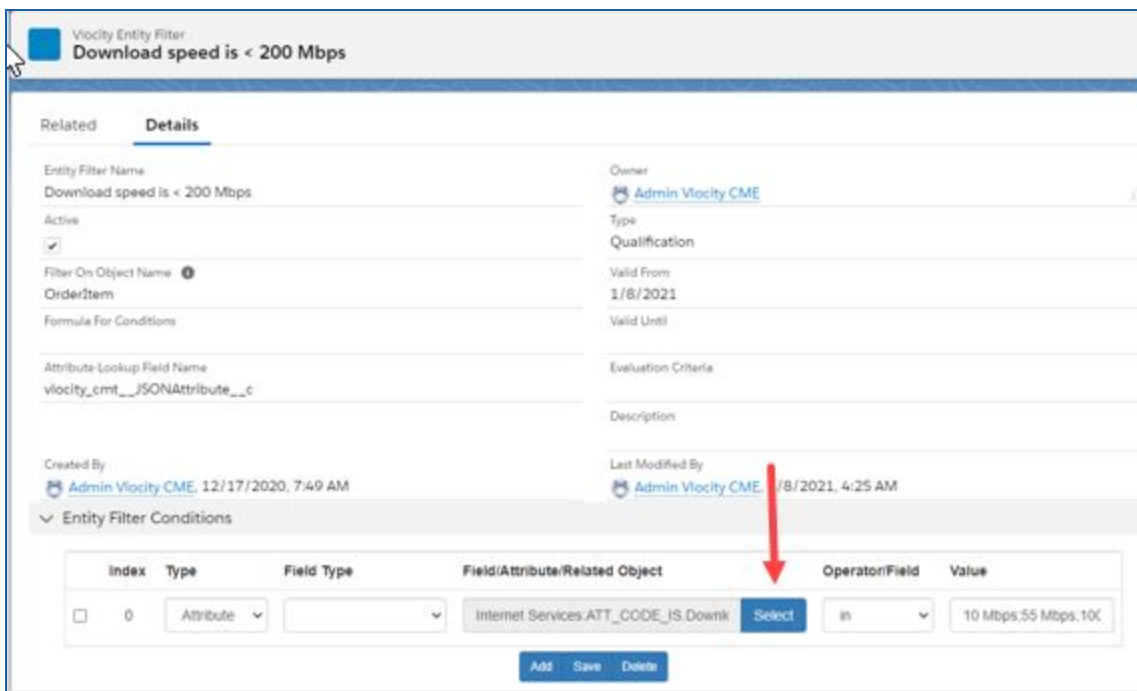
Formula for Conditions identifies how the filter conditions are connected. If nothing is entered here, the conditions are joined with *And*.

Type identifies the entity filter type. There are two types of entity filters. Evaluation filters are used as arguments in Qualification entity filters, essentially chaining them together into a compound filter.

Evaluation: Determines if a set of object records matches specific conditions. Returns true or false. If you use an Evaluation type, you will also need to enter information in the Evaluation Criteria field. Options for this field are All, Any or None.

Qualification: Determines if a set of records qualify to be acted upon. Returns qualified line items.

5. Now you need to add conditions to the filter. Scroll down to the **Entity Filter Conditions** section and click **Add**.
6. Click in the **Type** field and select **Attribute**.
7. To the right of the **Field/Attribute/Related Object** field, click **Select**.



Velocity Entity Filter
Download speed is < 200 Mbps

Related Details

Entity Filter Name
Download speed is < 200 Mbps

Owner
Admin Velocity CME

Active
☒

Type
Qualification

Filter On Object Name
OrderItem

Valid From
1/8/2021

Formula For Conditions

Valid Until

Attribute Lookup Field Name
velocity_cmt__JSONAttribute__c

Evaluation Criteria

Description

Created By
Admin Velocity CME, 12/17/2020, 7:49 AM

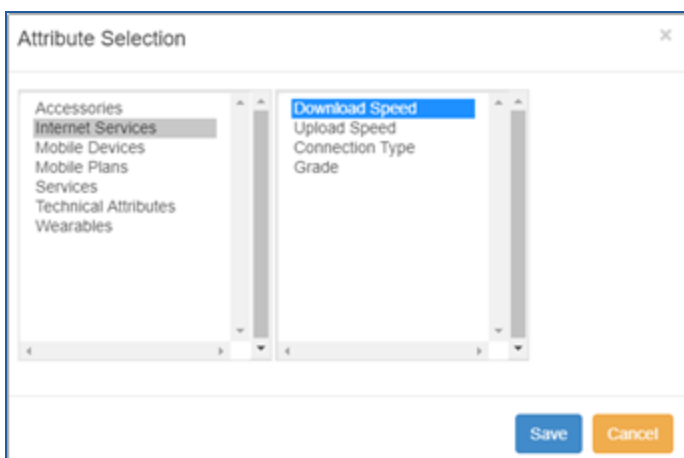
Last Modified By
Admin Velocity CME, 1/8/2021, 4:25 AM

Entity Filter Conditions

Index	Type	Field Type	Field/Attribute/Related Object	Operator/Field	Value
<input type="checkbox"/> 0	Attribute		Internet Services.ATT_CODE_IS.Down	Select	10 Mbps, 55 Mbps, 100 Mbps

Add Save Delete

8. In the **Attribute Selection** window in the first column, select **Internet Services**.
9. In the second column, select **Download Speed**.
10. Click **Save**.



Attribute Selection

Accessories
Internet Services
Mobile Devices
Mobile Plans
Services
Technical Attributes
Wearables

Download Speed
Upload Speed
Connection Type
Grade

Save Cancel

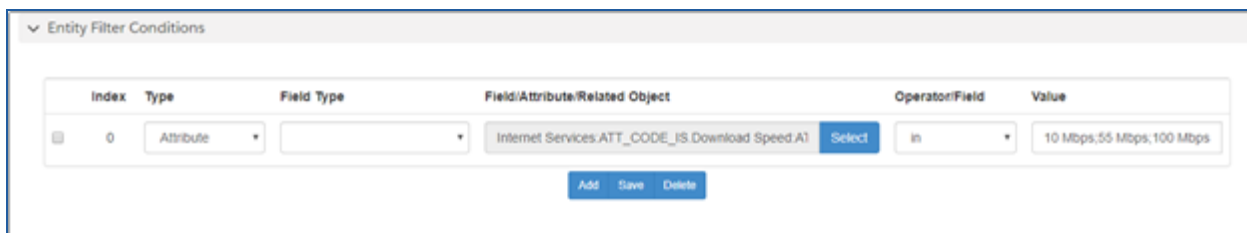
11. Click in the **Operator/Field** field, and select **in**.

- Click in the **Value** field, and enter a list of the download speed attribute values you will include in the filter condition, separated by semi-colons. This will be 10 Mbps;55 Mbps;100 Mbps.



ALERT:

Ensure there is no space between the semi-colon and the next value. The values should match exactly the information above.



The screenshot shows the 'Entity Filter Conditions' interface. It contains a table with the following columns: Index, Type, Field Type, Field/Attribute/Related Object, Operator/Field, and Value. The first row has the following values: Index: 0, Type: Attribute, Field Type: (empty), Field/Attribute/Related Object: Internet Services:ATT_CODE_IS Download Speed A1, Operator/Field: in, and Value: 10 Mbps;55 Mbps;100 Mbps. Below the table are buttons for Add, Save, and Delete.

Index	Type	Field Type	Field/Attribute/Related Object	Operator/Field	Value
0	Attribute		Internet Services:ATT_CODE_IS Download Speed A1	in	10 Mbps;55 Mbps;100 Mbps

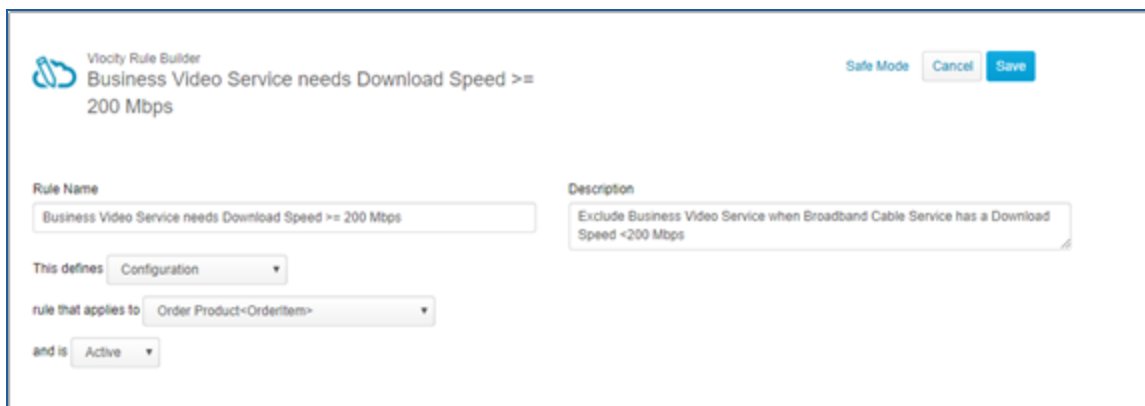
Buttons: Add, Save, Delete

- Click **Save**.

Task 3: Create an Advanced Configuration/Validation Rule to combine the product relationship and the entity filter

1. In the Lightning tab navigation bar, click **Vlocity Rules**.
2. Click **New**.
3. In the rule header, enter the following information.

Field	Value
Rule Name	Business Video Service needs Download Speed >= 200 Mbps
This defines	Configuration
rule that applies to	Order Product<OrderItem>
and is	Active
Description	Exclude Business Video Service when Broadband Cable Service has a Download Speed <200 Mbps



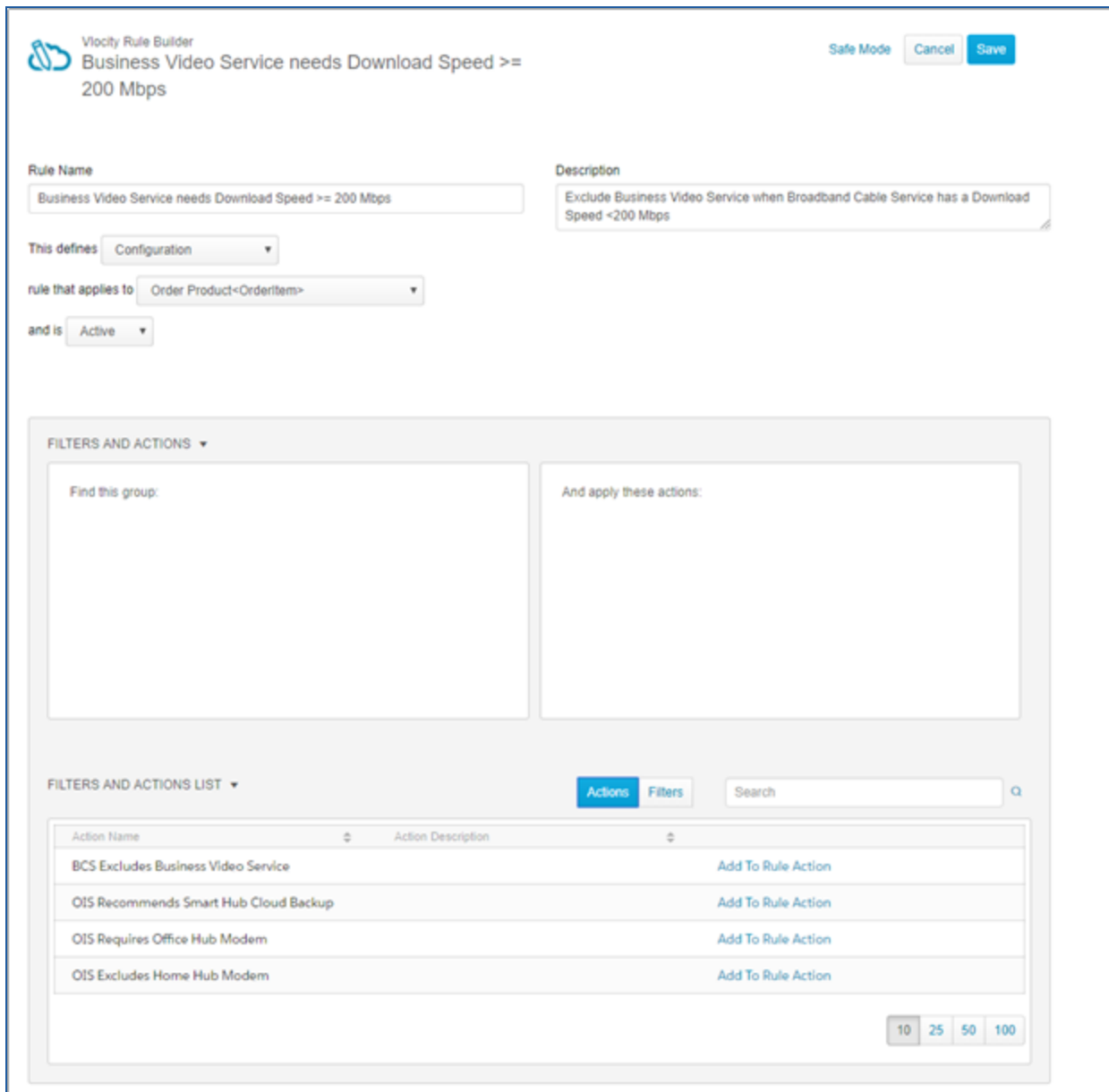
The screenshot shows the Vlocity Rule Builder interface. At the top, it says 'Vlocity Rule Builder' and 'Business Video Service needs Download Speed >= 200 Mbps'. There are buttons for 'Safe Mode', 'Cancel', and 'Save'. Below this, there are two text boxes: 'Rule Name' with the value 'Business Video Service needs Download Speed >= 200 Mbps' and 'Description' with the value 'Exclude Business Video Service when Broadband Cable Service has a Download Speed <200 Mbps'. Below these, there are three dropdown menus: 'This defines' set to 'Configuration', 'rule that applies to' set to 'Order Product<OrderItem>', and 'and is' set to 'Active'.

4. Add the Configuration / Validation rule to the advanced rule as an Action.
 - a. In the **FILTERS AND ACTIONS LIST**, click **Actions**.
 - b. Locate **BCS Excludes Business Video Service** and click **Add To Rule Action**.



NOTE:

Product Relationships appear as Actions in Vlocity Rule Builder.



Vlocity Rule Builder

Business Video Service needs Download Speed >= 200 Mbps

Safe Mode Cancel Save

Rule Name: Business Video Service needs Download Speed >= 200 Mbps

Description: Exclude Business Video Service when Broadband Cable Service has a Download Speed <200 Mbps

This defines: Configuration

rule that applies to: Order Product<OrderItem>

and is: Active

FILTERS AND ACTIONS

Find this group:

And apply these actions:

FILTERS AND ACTIONS LIST

Actions Filters Search

Action Name	Action Description
BCS Excludes Business Video Service	Add To Rule Action
OIS Recommends Smart Hub Cloud Backup	Add To Rule Action
OIS Requires Office Hub Modem	Add To Rule Action
OIS Excludes Home Hub Modem	Add To Rule Action

10 25 50 100

c. In the **FILTERS AND ACTIONS LIST**, click **Filters**.

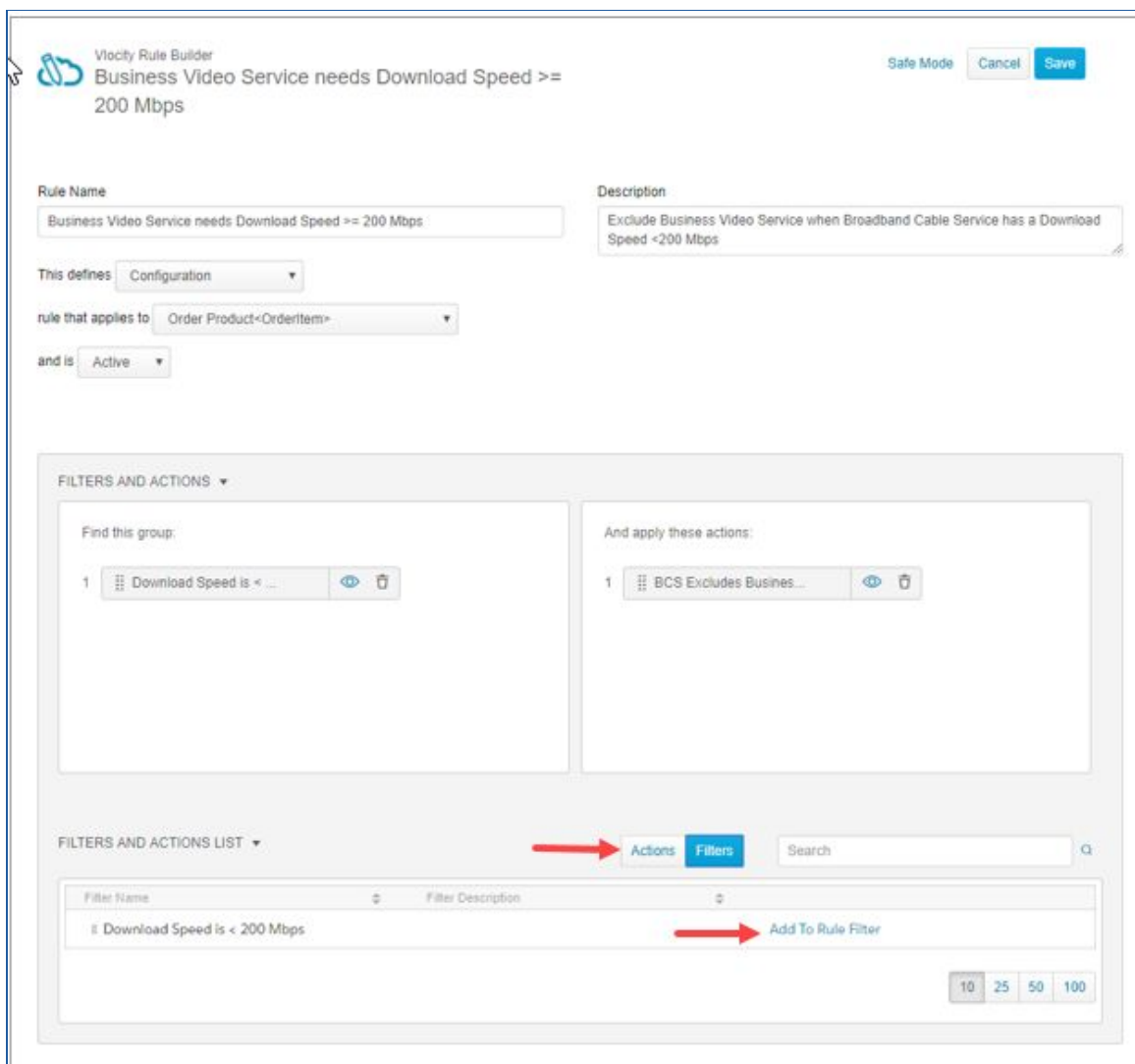
d. In the **Filter Name** column, locate **Download Speed is < 200 Mbps**, and click **Add To Rule Filter**.

5. Scroll up to the top of the **Rule Builder** page and click **Save**.



NOTE:

Entity Filters can be used to “find a group” or as the primary filter (on the left) in Vlocity Rule Builder. In addition, they can modify an action (on the right) and be used to qualify each action individually.

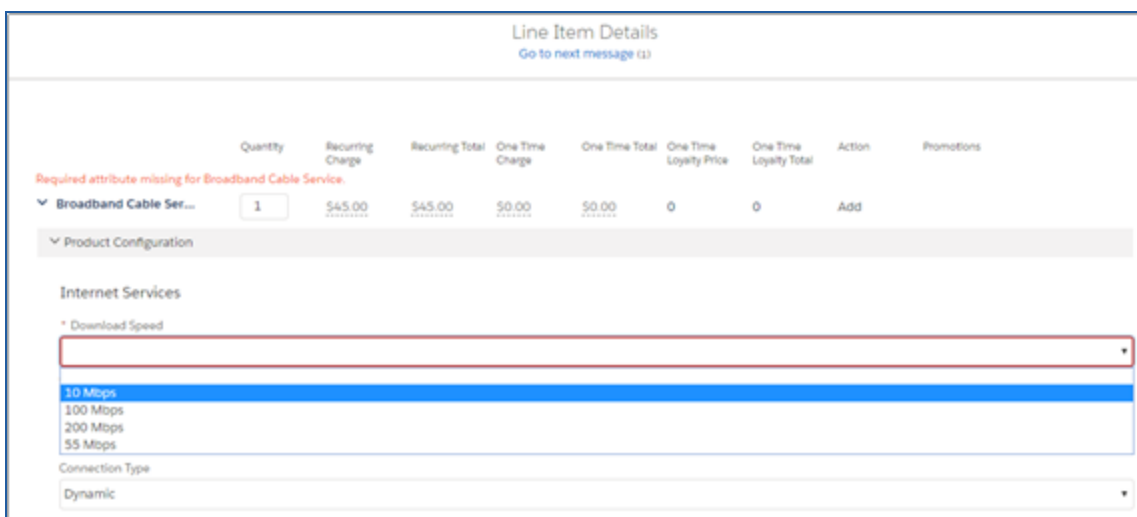


Task 4: Test the new rule in the Cart

1. In the Lightning tab navigation bar, click **Orders**.
2. Click **New**.
3. Enter the following information.

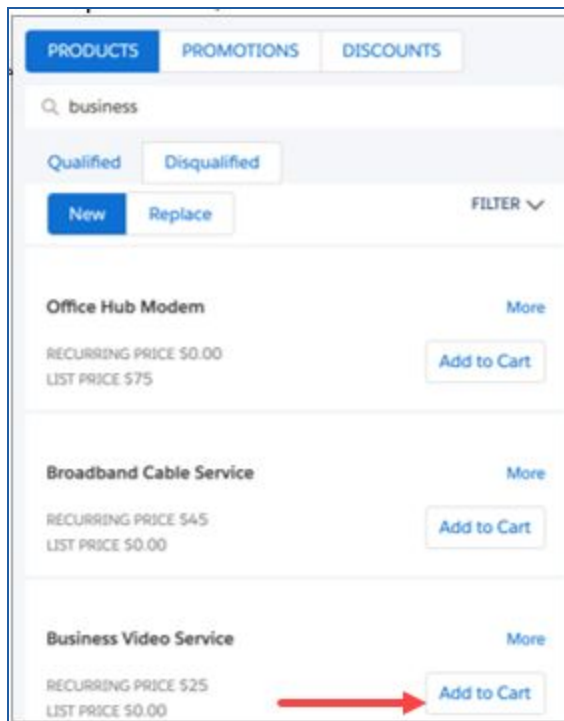
Field	Value
Order Name	Advanced Rules Business Order #2
Account Name	Acme
Order Start Date	[today's date]
Price List	B2B Price List

4. Click **Save**.
5. From the Power Launcher click **Configure Order**. This invokes the Cart.
6. In the search dialog on the product list, enter `business`.
7. Find **Broadband Cable Service** in the product list and click **Add to Cart**.
8. In the red notification message, click the **Take Me There** icon, and set the **Download Speed** to **10 Mbps**.

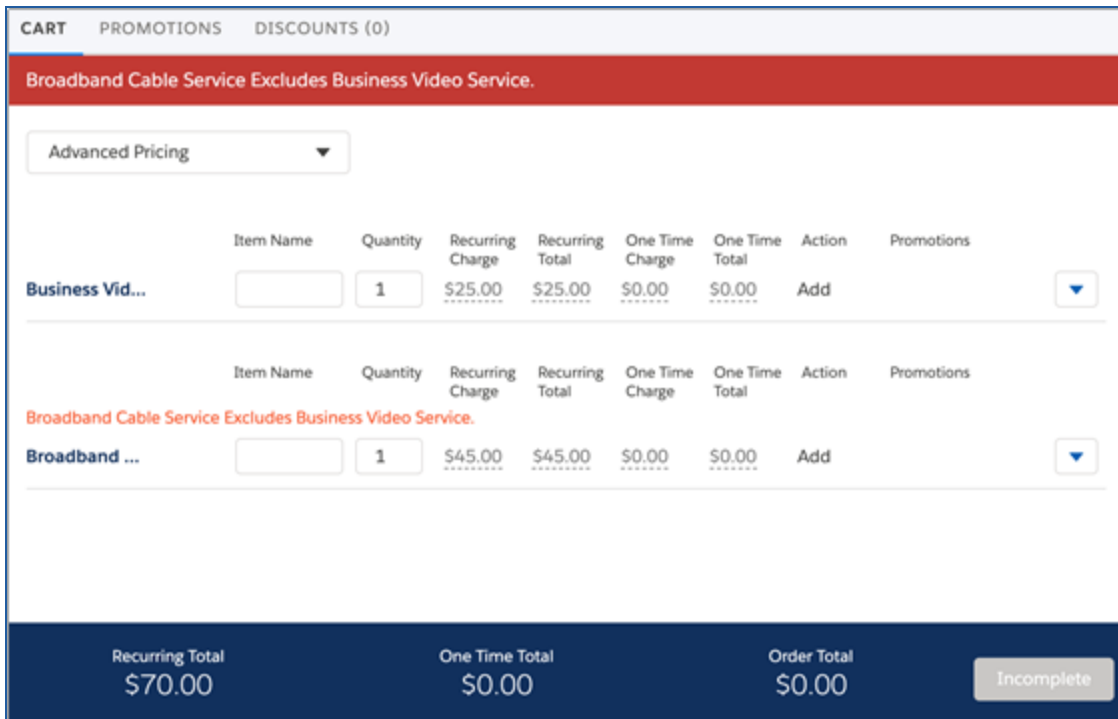


The screenshot shows the 'Line Item Details' section of the Salesforce Cart. A red notification message at the top states 'Required attribute missing for Broadband Cable Service.' Below this, the 'Broadband Cable Ser...' line item is expanded, showing a quantity of 1 and a recurring charge of \$45.00. The 'Product Configuration' section is visible, showing 'Internet Services' with a 'Download Speed' dropdown menu. The dropdown is open, and '10 Mbps' is selected. Other options include '100 Mbps', '200 Mbps', and '55 Mbps'. The 'Connection Type' is set to 'Dynamic'.

9. Click **Close**.
10. In the product list, find **Business Video Service**, and click **Add to Cart**.



11. Notice the new red Excludes notification message. Your blue **Submit Order** button at the bottom of the cart has also changed to a gray **Incomplete** button.

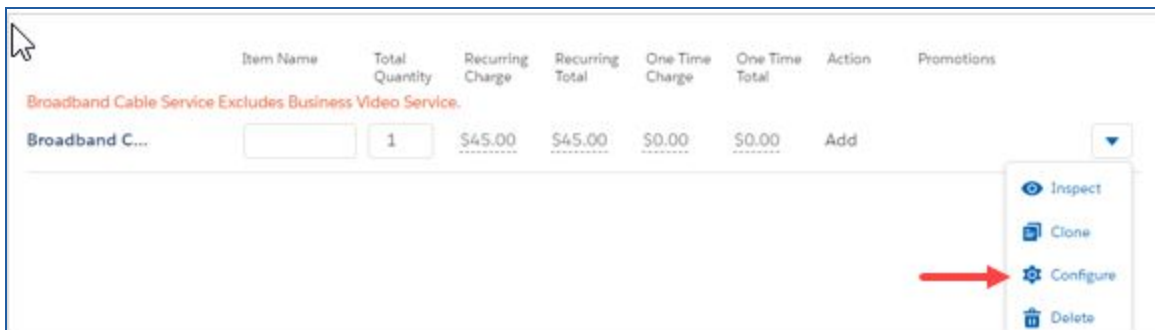


The screenshot shows the 'CART' tab in the Salesforce Commerce Cloud interface. A red banner at the top displays the message 'Broadband Cable Service Excludes Business Video Service.' Below this, there is a dropdown menu for 'Advanced Pricing'. The cart contains two items:

Item Name	Quantity	Recurring Charge	Recurring Total	One Time Charge	One Time Total	Action	Promotions
Business Vid...	1	\$25.00	\$25.00	\$0.00	\$0.00	Add	
Broadband ...	1	\$45.00	\$45.00	\$0.00	\$0.00	Add	

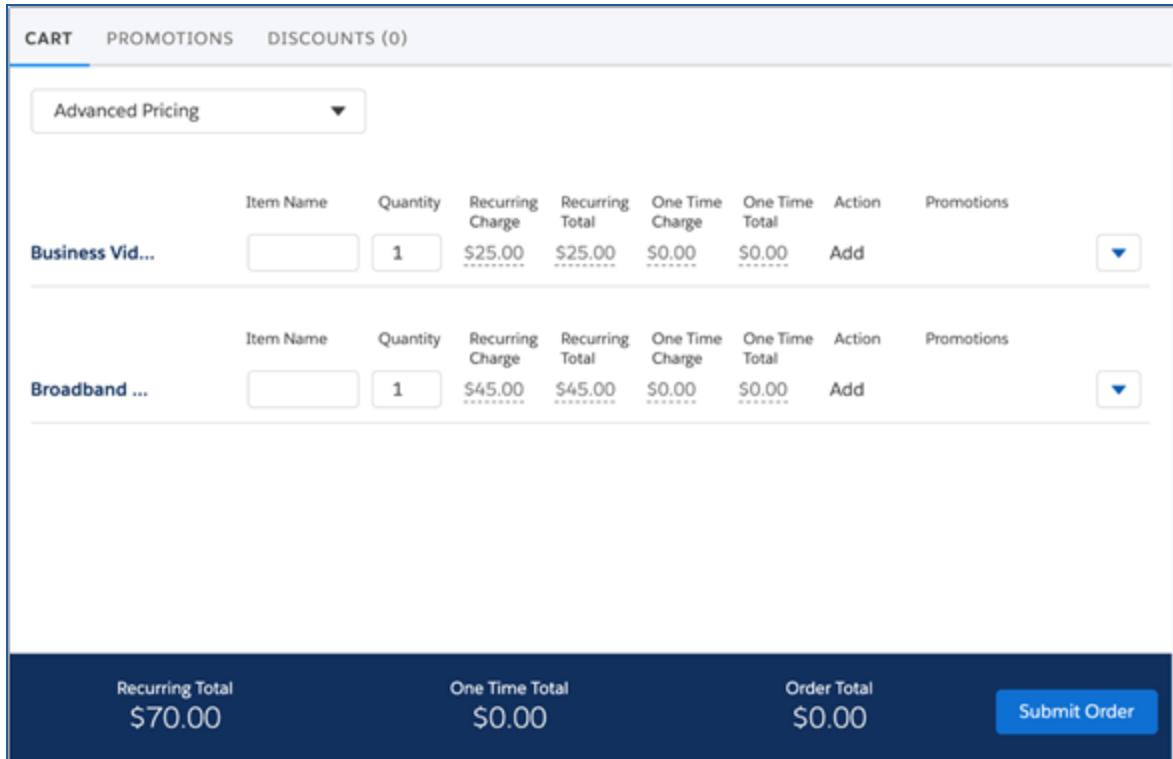
At the bottom of the cart, the totals are displayed: Recurring Total \$70.00, One Time Total \$0.00, and Order Total \$0.00. The 'Submit Order' button has been replaced by a gray 'Incomplete' button.

12. Using the line item action dropdown menu for the **Broadband Cable Service** in the cart, select **Configure**, and change the **Download Speed** attribute to **200 Mbps**.



This screenshot shows the same cart as in the previous image, but with the dropdown menu for the 'Broadband Cable Service' item open. The menu options are 'Inspect', 'Clone', 'Configure', and 'Delete'. A red arrow points to the 'Configure' option, which is highlighted. The 'Broadband Cable Service Excludes Business Video Service.' message is still visible at the top of the cart.

13. Notice the configuration compatibility error has been resolved: the red notifications no longer display and your button at the bottom of the cart has changed from a gray **Incomplete** button to a blue **Submit Order** button.



Item Name	Quantity	Recurring Charge	Recurring Total	One Time Charge	One Time Total	Action	Promotions
Business Vid...	1	\$25.00	\$25.00	\$0.00	\$0.00	Add	
Broadband ...	1	\$45.00	\$45.00	\$0.00	\$0.00	Add	

Recurring Total	One Time Total	Order Total	
\$70.00	\$0.00	\$0.00	Submit Order

14. In the cart header, click **View Record** to exit the Cart.

Eliza deploys her Advanced Rule to conditionally exclude Business Video Service when the Broadband Cable Service is configured with a download speed less than 200 Mbps. She is pleased that it is working like a charm, but she is getting feedback that agents do not understand the reason why it happens. Eliza decides to create a custom message to address the confusion.

What are Product Configuration Messages?

As we just saw, when we ordered the Business Video Service and the Broadband Cable Service's download speed attribute was set to 10 Mbps, we saw the default product configuration message. Default product configuration messages are set up as follows:

PRODUCT A [EXCLUDES/REQUIRES/RECOMMENDS] PRODUCT B

Broadband Cable Service Excludes Business Video Service.									
AdvancedPricing + Loyalty ▼									
	Quantity	Recurring Charge	Recurring Total	One Time Charge	One Time Total	One Time Loyalty Price	One Time Loyalty Total	Action	Promotions
Business Vi...	1	\$25.00	\$25.00	\$0.00	\$0.00	0	0	Add	▼
Broadband Cable Service Excludes Business Video Service.									
	Quantity	Recurring Charge	Recurring Total	One Time Charge	One Time Total	One Time Loyalty Price	One Time Loyalty Total	Action	Promotions
Broadband ...	1	\$45.00	\$45.00	\$0.00	\$0.00	0	0	Add	▼

Especially when working with attributes, sometimes a more precise message to the user is needed in order to provide the information necessary for the user to correct the configuration incompatibility. You can create custom product configuration messages for each product relationship.



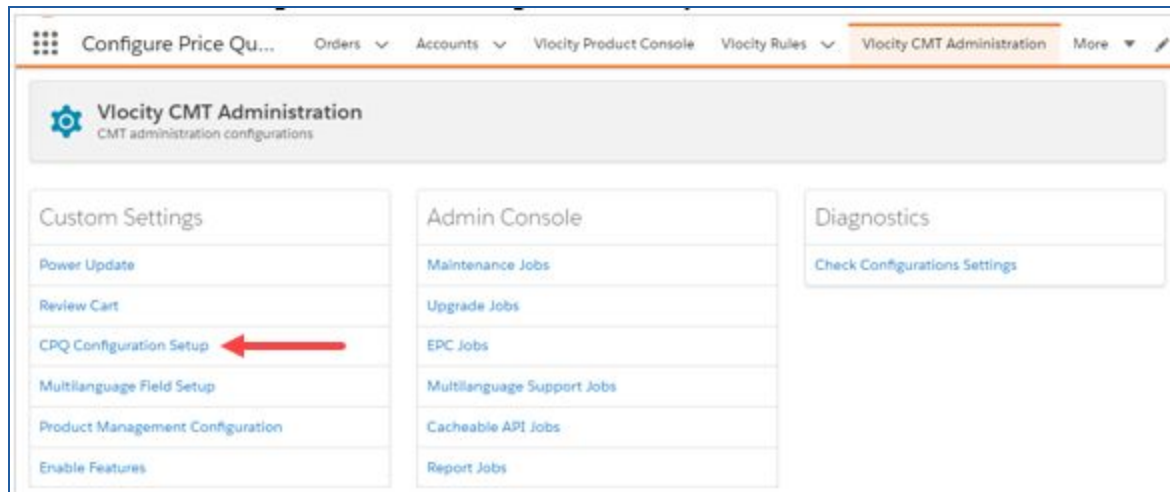
NOTE:

Before you can create product configuration messages, you need a custom field on the Product Relationship object. This has already been created for you in your training org and added to the product relationship layout.

To finish setting up the custom product configuration message, we must add a custom setting that will alert the interface implementation to the new message field, and then we can create the custom message for the product relationship.

Task 5: Create a custom product configuration message

1. In the **Lightning tab navigation bar**, click **More** to expand the overflow dropdown menu, and click **Vlocity CMT Administration**.
2. Under **Custom Settings**, click **CPQ Configuration Setup**.



3. At the bottom of the CPQ Configuration Setup page, click **Add**.
4. Enter the following configuration values.

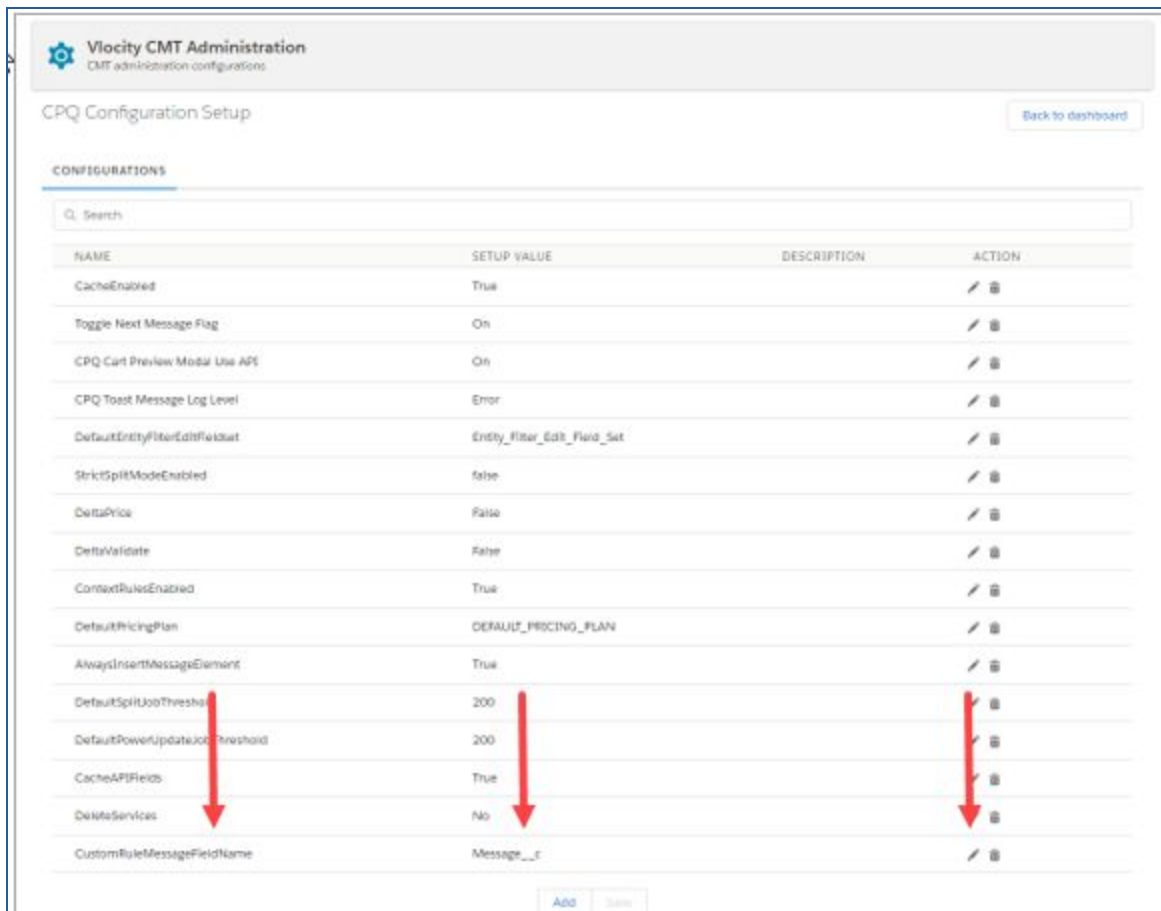
NAME	VALUE
CustomRuleMessageFieldName	Message__c




































NOTE:

Message__c is the API name of the field that was created for you on the Product Relationship object. Make sure to include two underscores after "Message."

5. Click **Save**.





NAME	SETUP VALUE	DESCRIPTION	ACTION
CacheEnabled	True		 
Toggle Next Message Flag	On		 
CPQ Cart Preview Modal Use API	On		 
CPQ Toast Message Log Level	Error		 
DefaultEntityFilterEditFieldset	Entity_Filter_Edit_Field_Set		 
StrictSplitModeEnabled	false		 
DataPrice	False		 
DataValidate	False		 
ConnectRulesEnabled	True		 
DefaultPricingPlan	DEFAULT_PRICING_PLAN		 
AlwaysInsertMessageElement	True		 
DefaultSpillJoinThreshold	200		 
DefaultPowerUpdateJoinThreshold	200		 
CacheAPIFields	True		 
DeleteServices	No		 
CustomRuleMessageFieldName	Message__c		 

6. In the **Lightning tab navigation bar**, click **More** to expand the overflow dropdown menu, and click **Product Relationships**.
7. Under **Recently Viewed**, click **BCS Excludes Business Video Service**.
8. Click the edit icon  next to the **Message** field to open the record for editing.
9. In the **Message** field, enter the following information.

Field	Value
Message	Broadband Cable Service Download Speed must be >= 200 Mbps

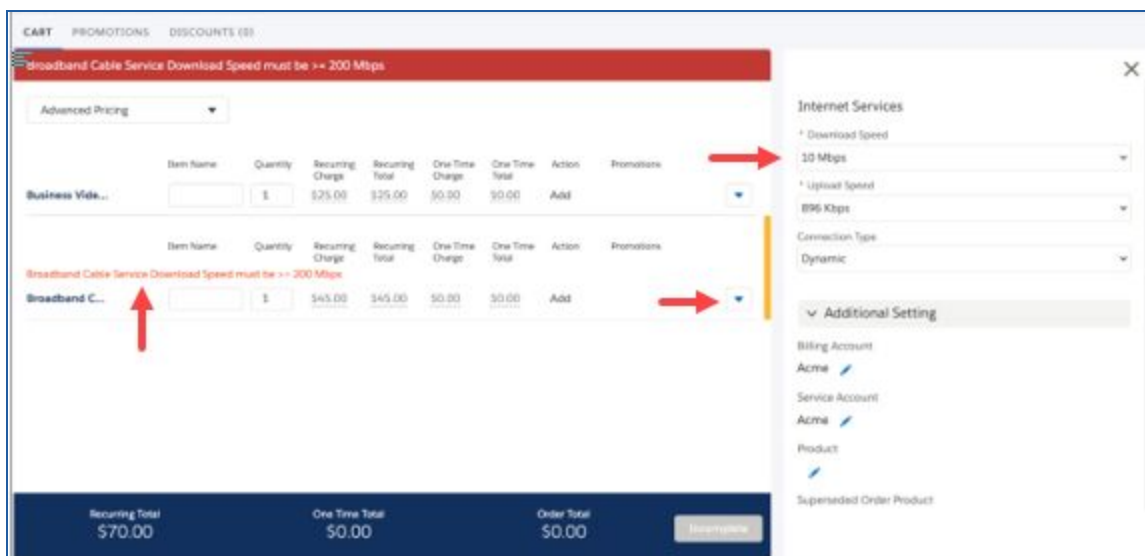
10. Click **Save**.

 Product Relationship
BCS Excludes Business Video Service

Related	Details
Product Relationship Name	Default Quantity
BCS Excludes Business Video Service	1.00
Product	Min Quantity
Broadband Cable Service	1.00
Relationship Type	Max Quantity
Excludes	1.00
Related Product	Message
Business Video Service	Broadband Cable Service Download Speed must be >= 200 Mbps
Related Product Qualifying Filter	Action Parameters
Description	Attribute Modification Context
AddMode	Owner
asSibling	 Admin Vlocity CME
Context	
Is Conditional	
<input checked="" type="checkbox"/>	

Task 6: Review the custom product configuration message in the Cart

1. In the **Lightning** tab navigation bar, click **Orders**.
2. Under **Recently Viewed**, click the order number next to **Advanced Rules Business Order #2**.
3. From the **Power Launcher**, click **Configure Order**. This launches the Cart.
4. Click the line item dropdown action menu for **Broadband Cable Service** and click **Configure**.
5. Under the **Internet Services** attributes, set the **Download Speed** to **10 Mbps**.
6. Notice the new custom product configuration message that displays.



The screenshot displays the Salesforce Cart interface. At the top, a red banner message reads: "Broadband Cable Service Download Speed must be >= 200 Mbps". Below this, the cart contains two line items. The first item is "Business Vide..." with a quantity of 1, a recurring charge of \$25.00, and a recurring total of \$25.00. The second item is "Broadband C..." with a quantity of 1, a recurring charge of \$45.00, and a recurring total of \$45.00. A red arrow points to the dropdown menu for the second item, which is open, showing a "Configure" option. Another red arrow points to the "Configure" option. On the right side, the "Internet Services" configuration panel is visible, showing "Download Speed" set to "10 Mbps" and "Upload Speed" set to "896 Kbps". Below this, the "Additional Setting" section shows "Billing Account" as "Acme", "Service Account" as "Acme", and "Product" as "Superseded Order Product". At the bottom, the cart summary shows a "Recurring Total" of \$70.00, a "One Time Total" of \$0.00, and an "Order Total" of \$0.00. A "Checkout" button is located at the bottom right.

7. In the cart header, click **View Record** to exit the Cart.

Review

Confirm your understanding by answering these questions.

1. What are entity filters? What types of entity filters can be created? What are their purposes?
2. What are the major components of a rule built using Vlocity Rule Builder?

Exercise 7-3: Creating Advanced Rules to Modify Attributes

Scenario

The custom product configuration message is good and can certainly be used to give specific feedback to the user. But Eliza thinks that the real solution is to ensure that incompatible attribute values are not shown to the user in the first place. She can do that using an advanced product relationship that will modify the attributes displayed to the user.

Goal

- Create a rule to modify product attributes at run-time

Tasks

1. Build the JSON code that describes the attribute modification
2. Create a product relationship to modify the Broadband Cable Service product's attributes
3. Create an advanced rule to trigger the new product relationship
4. Review the attribute modification rule in the Cart


Time: 30 mins

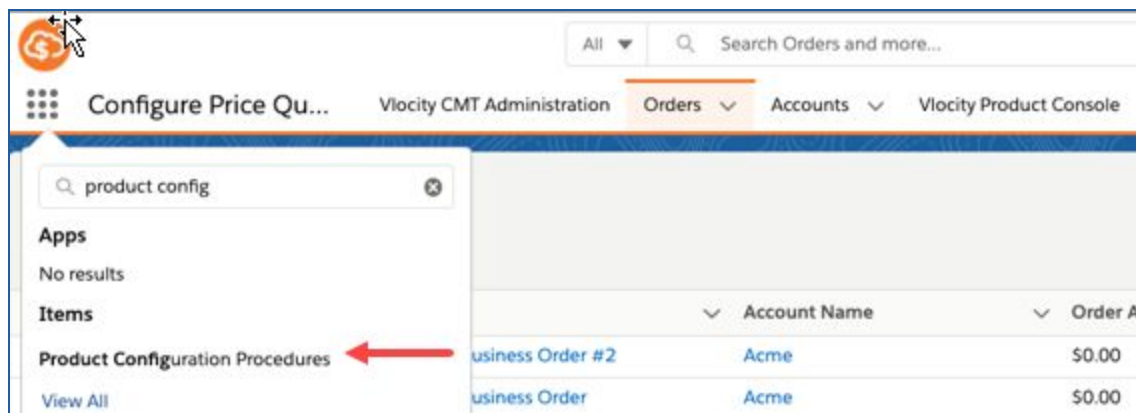
Eliza needs to create a new product relationship that will modify the attributes of the Broadband Cable Service product when the Business Video Service is in the cart. To do that, she must describe specifically how the attributes should be modified. That information is stored in JSON notation in the Action Parameters field. So, as a first step, she needs to write the attribute picklist modifications list in JSON notation. She could do it by hand, but it'll be easier and ensure fewer errors if she uses a point-and-click tool to help her. The Product Configuration Procedures page allows her to generate a list of action parameters that she can paste into her product relationship.

**NOTE:**

Product Configuration Procedures are used in Salesforce Industries to configure attribute configuration rules for a single product rather than attribute configuration rules that should occur when there is a dependency between multiple products. In the following example, we will not use a Product Configuration Procedure per se, but we can use the interface to generate the JSON notation.

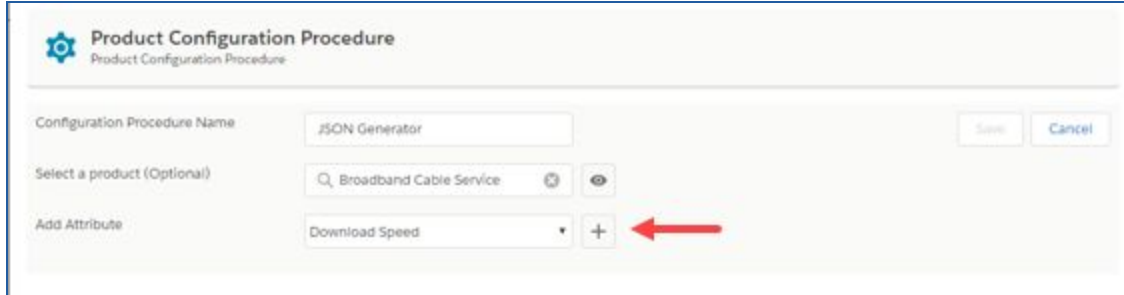
Task 1: Build the JSON code that describes the attribute modification

1. In this task you are going to use the JSON Generator tool to build JSON code which excludes 10 Mbps, 55 Mbps and 100 Mbps options from the **Download Speed** attribute of the **Broadband Cable Service** product.
2. Click the **Lightning App Launcher**  and type in the search dialog `product config`.
3. Under **Items**, click **Product Configuration Procedures**.



4. Click **New**.
5. Generate the action parameters in JSON notation.
6. In the **Product Configuration Procedure** dialog, enter the following information.

Field	Value
Configuration Procedure Name	JSON Generator
Select a product	Broadband Cable Service
Add Attribute	Download Speed



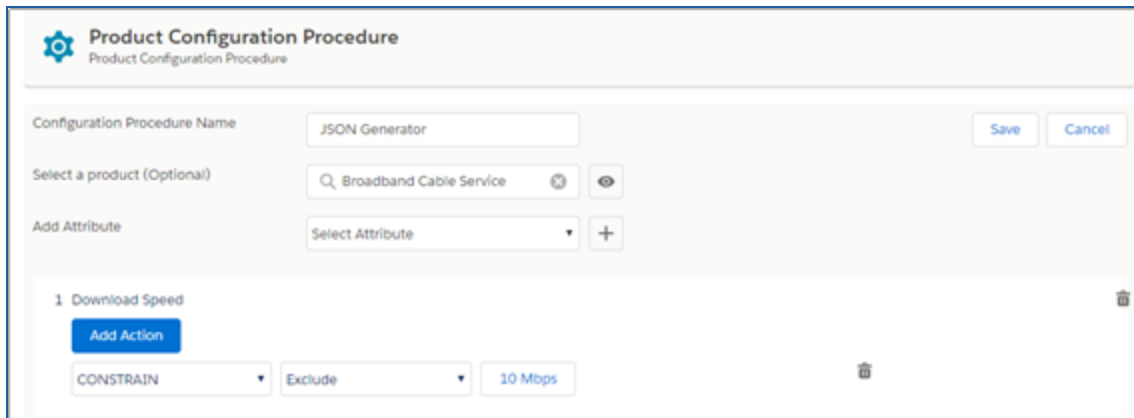
Product Configuration Procedure

Configuration Procedure Name: JSON Generator

Select a product (Optional): Broadband Cable Service

Add Attribute: Download Speed +

7. Click the **+** next to the **Download Speed** attribute.
8. A new button will appear under a **Download Speed** heading.
9. Exclude 10 Mbps from the attribute.
 - a. Click **Add Action**.
 - b. In the first dropdown (**Select Action**), select **CONSTRAIN**.
 - c. In the second dropdown (**Action Type**), select **Exclude**.
 - d. Click **Select Options** and select **10 Mbps**.



Product Configuration Procedure

Configuration Procedure Name: JSON Generator

Select a product (Optional): Broadband Cable Service

Add Attribute: Select Attribute +

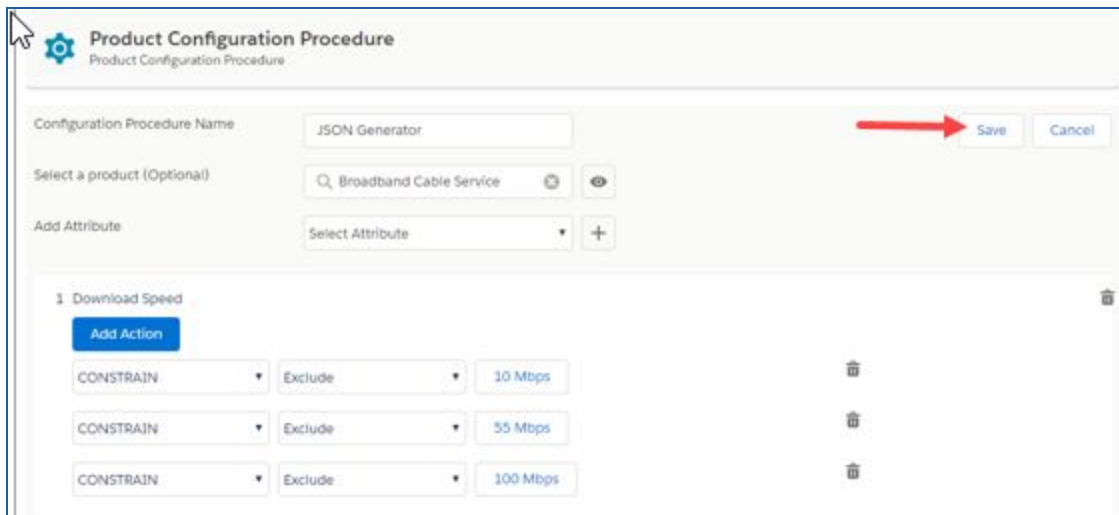
1 Download Speed

Add Action

CONSTRAIN Exclude 10 Mbps

10. Exclude 55 Mbps from the attribute.
 - a. Click **Add Action** again.
 - b. In the first dropdown (**Action**), select **CONSTRAIN**.
 - c. In the second dropdown (**Action Type**), select **Exclude**.
 - d. Click **Select Options** and select **55 Mbps**.

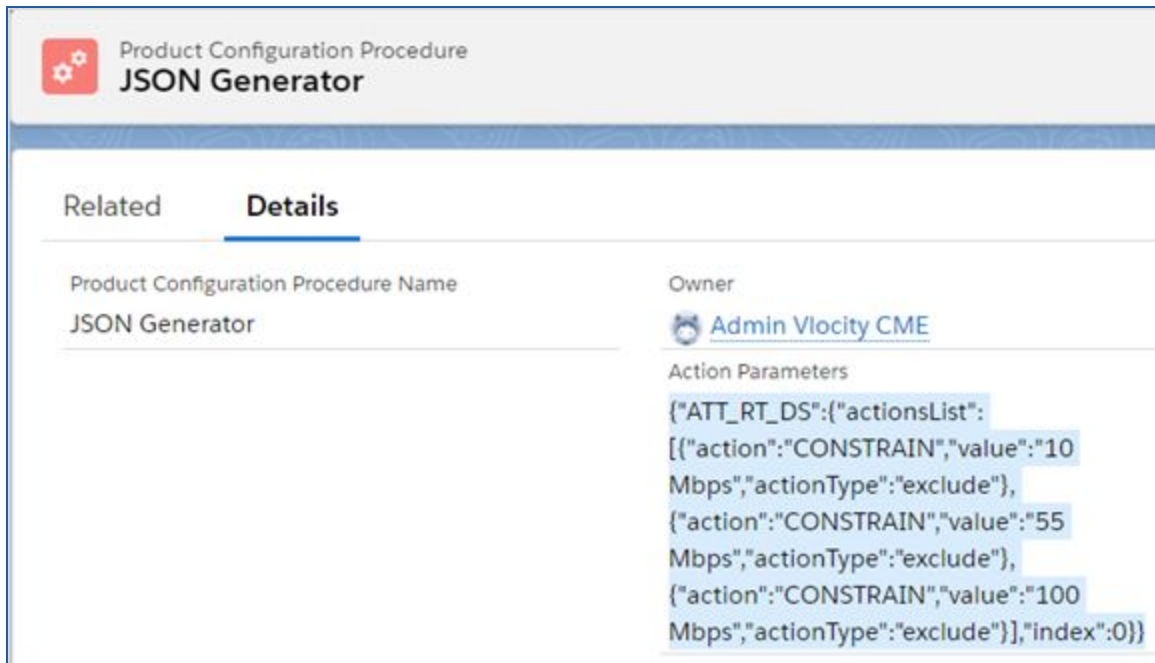
11. Exclude 100 Mbps from the attribute.
 - a. Click **Add Action** for a third time.
 - b. In the first dropdown (**Action**), select **CONSTRAIN**.
 - c. In the second dropdown (**Action Type**), select **Exclude**.
 - d. Click **Select Options** and select **100 Mbps**.



The screenshot shows the 'Product Configuration Procedure' interface. At the top, there's a header with a gear icon and the title 'Product Configuration Procedure'. Below this, there's a section for 'Configuration Procedure Name' with a text input field containing 'JSON Generator'. To the right of this field are 'Save' and 'Cancel' buttons, with a red arrow pointing to the 'Save' button. Below the name field is a 'Select a product (Optional)' section with a search input field containing 'Broadband Cable Service' and a magnifying glass icon. Below that is an 'Add Attribute' section with a dropdown menu showing 'Select Attribute' and a plus icon. The main section is titled '1 Download Speed' and contains an 'Add Action' button. Below this button are three rows of configuration options. Each row has three dropdown menus: the first is set to 'CONSTRAIN', the second is set to 'Exclude', and the third is set to '100 Mbps'. To the right of each row is a trash icon.

12. Click **Save**.

13. In the **Product Configuration Procedure** page, select the **Action Parameters** code, and copy and paste it to a text editor such as Notepad.



The screenshot shows the 'Product Configuration Procedure JSON Generator' interface. It has a header with a red gear icon and the title. Below the header, there are two tabs: 'Related' and 'Details', with 'Details' being the active tab. The 'Details' tab displays a table with two columns: 'Product Configuration Procedure Name' and 'Owner'. The 'Product Configuration Procedure Name' column contains the text 'JSON Generator'. The 'Owner' column contains a user icon and the text 'Admin Vlocity CME'. Below the table, there is a section titled 'Action Parameters' which contains a JSON code block. The JSON code is as follows:

```
{"ATT_RT_DS":{"actionsList": [{"action":"CONSTRAIN","value":"10 Mbps","actionType":"exclude"}, {"action":"CONSTRAIN","value":"55 Mbps","actionType":"exclude"}, {"action":"CONSTRAIN","value":"100 Mbps","actionType":"exclude"}], "index":0}}
```

Task 2: Create a product relationship to modify the Broadband Cable Service product's attributes

1. In the **Lightning tab navigation bar**, click **Product Relationships**. (If you don't see it, click **More** to expand the overflow dropdown menu.)
2. Click **New**.
3. In the **New Product Relationship** dialog, enter the following information.

Field	Value
Product Relationship Name	Business Video Modifies Broadband Cable Attributes
Product	Business Video Service
Relationship Type	Modify Attributes
Related Product	Broadband Cable Service
Min Quantity	1
Max Quantity	1
Action Parameters	[paste in JSON action parameters from text editor]
Attribute Modification Context	Cart

4. Click **Save**.

Product Relationship

Business Video Modifies Broadband Cable Attributes

Related

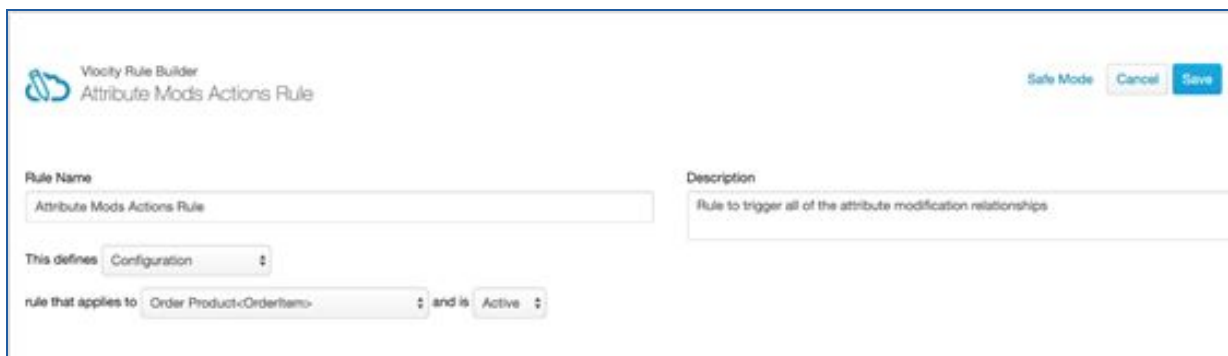
Details

Product Relationship Name	Business Video Modifies Broadband Cable Attributes	Default Quantity	1.00
Product	Business Video Service	Min Quantity	1.00
Relationship Type	Modify Attributes	Max Quantity	1.00
Related Product	Broadband Cable Service	Message	
Related Product Qualifying Filter		Action Parameters	{ "ATT_RT_DS": { "actionsList": [{ "action": "CONSTRAIN", "value": "10 Mbps", "actionType": "exclude" }, { "action": "CONSTRAIN", "value": "55 Mbps", "actionType": "exclude" }, { "action": "CONSTRAIN", "value": "100 Mbps", "actionType": "exclude" }], "index": 0 } }
Description		Attribute Modification Context	
AddMode	asSibling	Cart	
Context		Owner	Admin Vlocity CME
Is Conditional	<input checked="" type="checkbox"/>		

Task 3: Create an advanced rule to trigger the new product relationship

1. In the **Lightning tab navigation bar**, click **Vlocity Rules**.
2. Click **New**.
3. In the rule header, enter the following information.

Field	Value
Rule Name	Attribute Mods Actions Rule
This defines	Configuration
rule that applies to	Order Product<OrderItem>
and is	Active
Description	Rule to trigger all of the attribute modification relationships

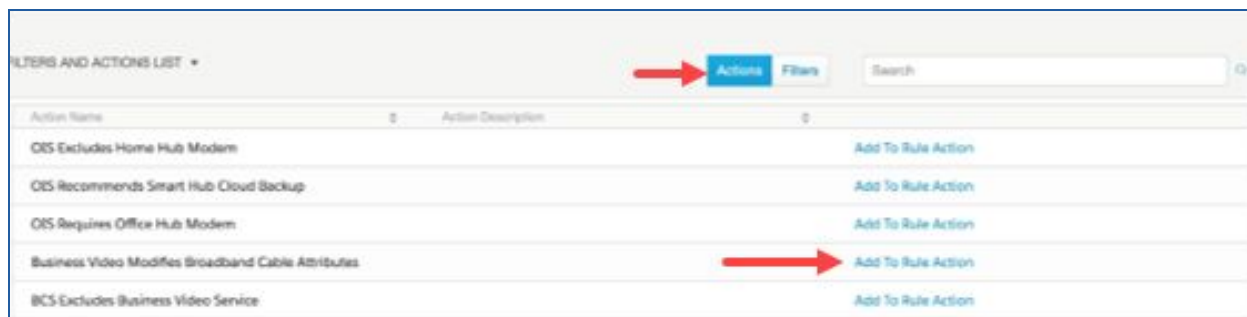


The screenshot shows the Vlocity Rule Builder interface for creating a new rule. The title bar indicates 'Vlocity Rule Builder' and 'Attribute Mods Actions Rule'. There are buttons for 'Safe Mode', 'Cancel', and 'Save'. The main form contains the following fields:

- Rule Name:** Attribute Mods Actions Rule
- Description:** Rule to trigger all of the attribute modification relationships
- This defines:** Configuration (selected from a dropdown)
- rule that applies to:** Order Product<OrderItem> (selected from a dropdown)
- and is:** Active (selected from a dropdown)

4. Under **FILTERS AND ACTIONS LIST**, click **Actions**.

5. In the **FILTERS AND ACTIONS LIST**, find **Business Video Modifies Broadband Cable Attributes** product relationship in the **Actions** list, and click **Add To Rule Action**.

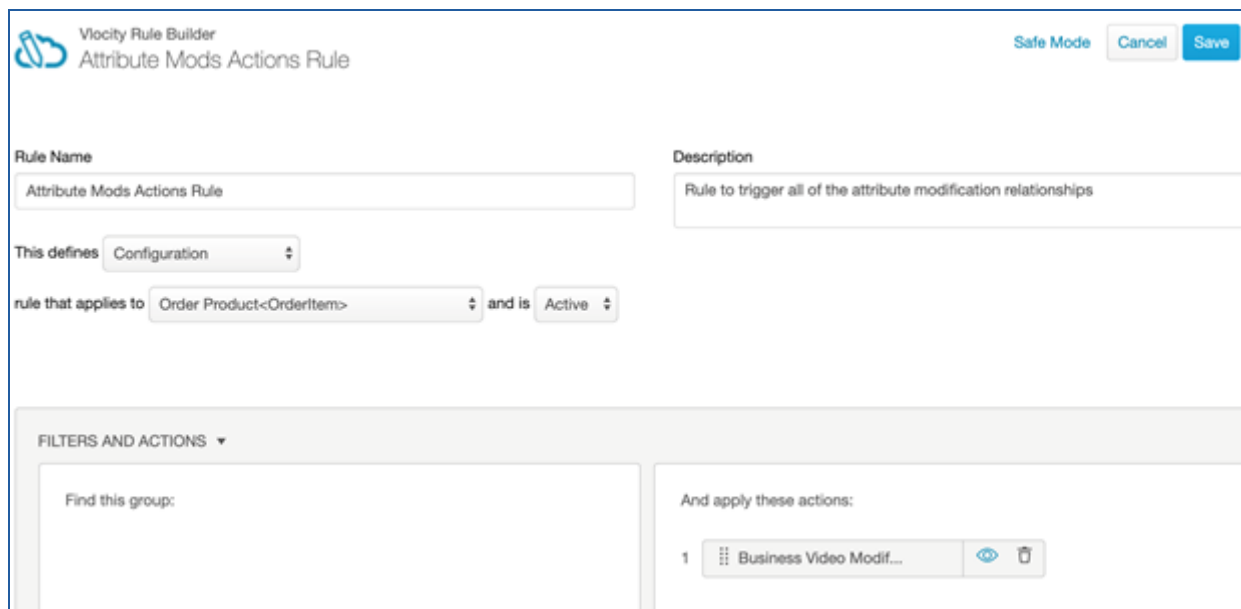


6. Click **Save**.



NOTE:

In this example, we are creating an advanced rule that has no (entity) filter specified. This means that the rule will be applied to all line items in the cart without restriction. This way, we can group all of our attribute modification actions (product relationships) together in a single rule, for easier maintenance and reduced rule proliferation.





ALERT:

Rules are cached in the org cache of the CPQPartition platform cache. When you make changes to rules, you need to clear and refresh the cache in order for changes to be reflected at run time. To clear the cache, go to the **Vlocity CMT Administration** tab in the Lightning Toolbar and run the Clear and Refresh Cache **Maintenance Jobs**.

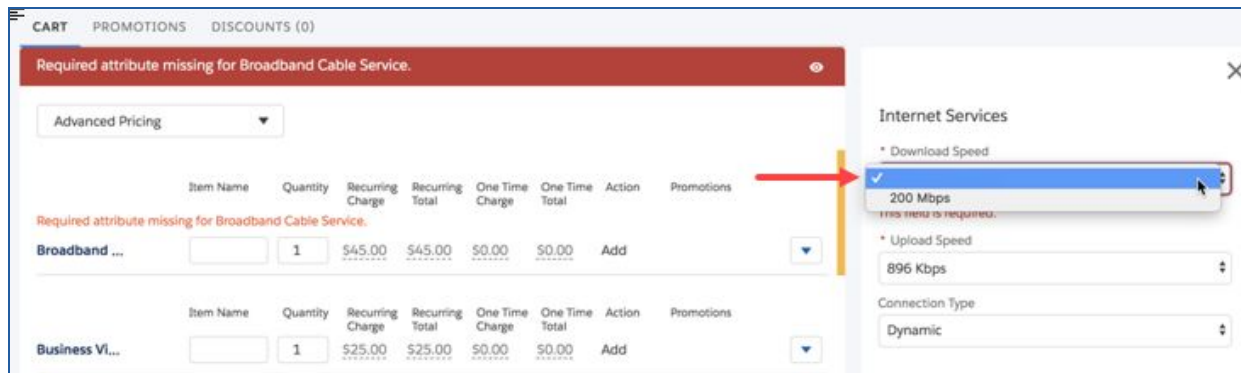
Task 4: Review the attribute modification rule in the Cart

1. In the Lightning tab navigation bar, click **Orders**.
2. Click **New**.
3. Enter the following information.

Field	Value
Order Name	Advanced Rules Business Order #3
Account Name	Acme
Order Start Date	[today's date]
Price List	B2B Price List

4. Click **Save**.
5. From the **Power Launcher**, click **Configure Order**. This invokes the Cart.
6. In the search dialog on the product list, enter `business`.
7. Find **Business Video Service** in the product list and click **Add to Cart**.
8. Find **Broadband Cable Service** in the product list and click **Add to Cart**.
9. Click the **line item dropdown** action menu for **Broadband Cable Service**, and click **Configure**

10. For Download Speed, click the dropdown menu and notice that there is only one picklist value available for the attribute.



The screenshot shows the Salesforce Advanced Pricing interface. A red banner at the top states "Required attribute missing for Broadband Cable Service." Below this, there's a table with columns: Item Name, Quantity, Recurring Charge, Recurring Total, One Time Charge, One Time Total, Action, and Promotions. The first row is for "Broadband ..." with a quantity of 1 and a recurring charge of \$45.00. The second row is for "Business Vi..." with a quantity of 1 and a recurring charge of \$25.00. To the right of the table, a dropdown menu for "Download Speed" is open, showing "200 Mbps" as the only available option. A red arrow points to this dropdown menu. Below the dropdown, there's a section for "Internet Services" with fields for "Upload Speed" (896 Kbps) and "Connection Type" (Dynamic).

Review

Confirm your understanding by answering these questions.

1. What type of rule component is used to modify a product's attributes?
2. What format is used to encode attribute modifications?
3. What field stores attribute modifications?
4. How would you create an attribute modification rule that depends on account information, rather than a related product?

Exercise 7-4: Creating Advanced Rules to Reverse Attribute Modification

Scenario

Eliza is happy to know that she has protected her innocent user population from incompatible attribute choices using her new attribute modification rule. However, she soon learns that there is a fly in the ointment: when users remove the product that triggers the attribute modification, the modified attributes do not return to their original state. Eliza realizes that she must create a rule to restore attributes when the product is removed from the cart. As a matter of cosmic history, it is much easier to destroy than to create, and as Eliza finds out, this is no different.

Goal

- Create a rule to restore modified attributes to their original state
- Create evaluation entity filters
- Chain together a qualification entity filter and an evaluation entity filter to create a compound filter
- Create rule actions that are modified by entity filters

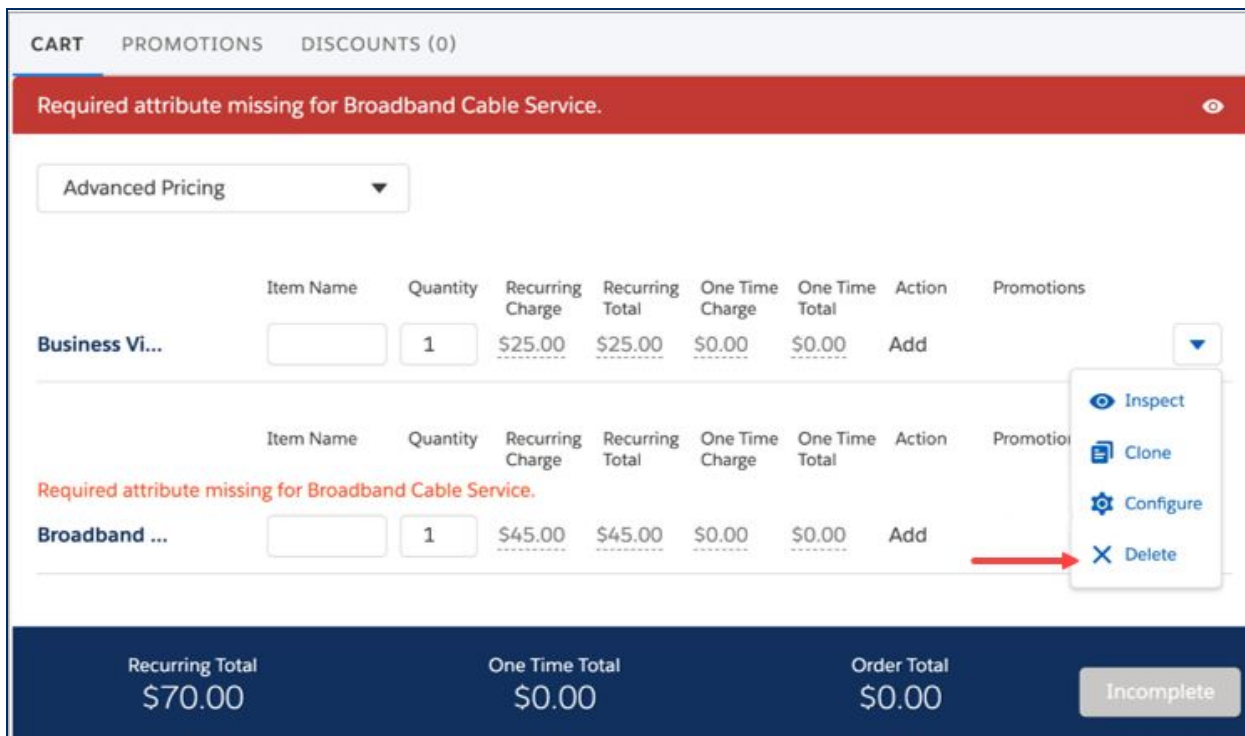
Tasks

1. Edit the cart to remove Business Video Service
2. Create a product relationship to restore the Broadband Cable Service product's modified attributes
3. Create an evaluation entity filter to test for Business Video Service in each line item
4. Create a compound qualification entity filter to check the contents of the Cart
5. Create an advanced rule to trigger the new product relationship
6. Review the reverse attribute modification rule in the Cart

Time: 30 mins

Task 1: Edit the cart to remove Business Video Service

1. You should be reviewing **Advanced Rules Business Order #3** in the Cart.
2. In the cart line items pane using the dropdown line item action menu, delete **Business Video Service** from the Cart.

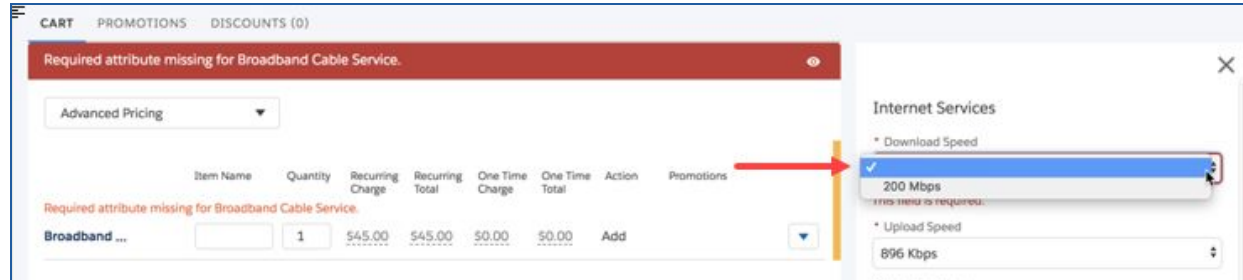


The screenshot shows the Salesforce Cart interface. At the top, there are tabs for 'CART', 'PROMOTIONS', and 'DISCOUNTS (0)'. A red banner at the top of the cart area displays the message 'Required attribute missing for Broadband Cable Service.' Below this, there is a dropdown menu labeled 'Advanced Pricing'. The main section of the cart is a table with columns: Item Name, Quantity, Recurring Charge, Recurring Total, One Time Charge, One Time Total, Action, and Promotions. There are two line items: 'Business Vi...' and 'Broadband ...'. The 'Business Vi...' item has a quantity of 1, a recurring charge of \$25.00, and a recurring total of \$25.00. The 'Broadband ...' item has a quantity of 1, a recurring charge of \$45.00, and a recurring total of \$45.00. A dropdown menu is open for the 'Broadband ...' item, showing options: 'Inspect', 'Clone', 'Configure', and 'Delete'. A red arrow points to the 'Delete' option. At the bottom of the cart, there is a summary section with 'Recurring Total \$70.00', 'One Time Total \$0.00', and 'Order Total \$0.00'. A button labeled 'Incomplete' is also visible.

Item Name	Quantity	Recurring Charge	Recurring Total	One Time Charge	One Time Total	Action	Promotions
Business Vi...	1	\$25.00	\$25.00	\$0.00	\$0.00	Add	
Broadband ...	1	\$45.00	\$45.00	\$0.00	\$0.00	Add	

Recurring Total: \$70.00
One Time Total: \$0.00
Order Total: \$0.00
Incomplete

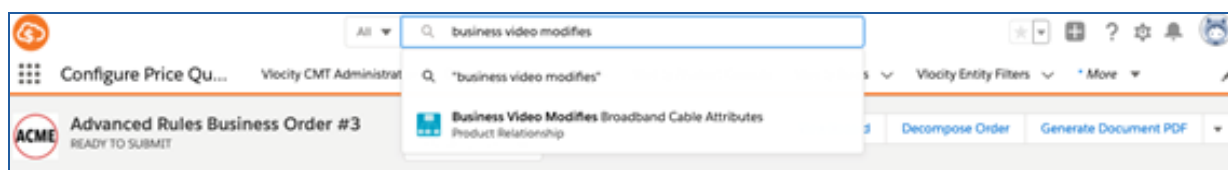
3. Using the **dropdown line item** action menu for **Broadband Cable Service**, click **Configure**.
4. Click **Download Speed** and notice that even though **Business Video Service** has been removed, the attribute picklist values remain modified. This is because the actual underlying JSON structure was modified.



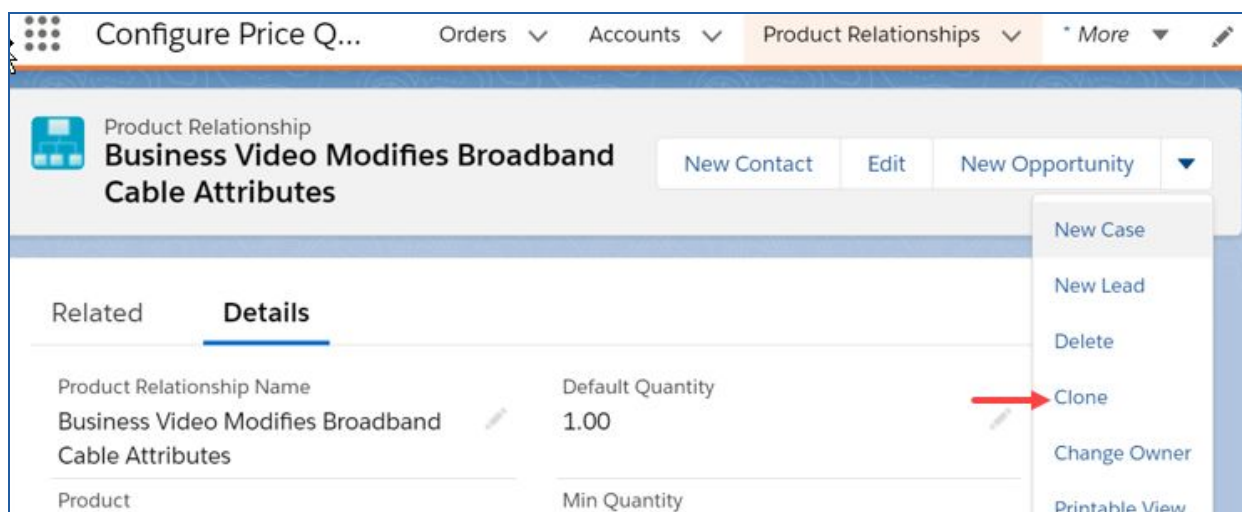
5. Click **X** to close the configuration window.
6. In the **cart line items** pane using the **dropdown line item** action menu, delete **Broadband Cable Service** from the Cart.

Task 2: Create a product relationship to restore the Broadband Cable Service product's modified attributes

1. In the **Lightning search dialog**, enter `business video modifies` and press **Enter**.
2. In the **search results** list, click **Business Video Modifies Broadband Cable Attributes** product relationship.



3. Click the **dropdown action** menu and click **Clone**.





4. In the **New Product Relationship** dialog, change or enter the following information.

Field	Value
Product Relationship Name	Restore Broadband Cable Attributes
Product	Broadband Cable Service
Relationship Type	Modify Attributes

Related Product	[delete Broadband Cable Service]
Action Parameters	[change exclude to include] <pre>{ "ATT_RT_DS": { "actionsList": [{ "action": "CONSTRAIN", "value": "10 Mbps", "actionType": "include" }, { "action": "CONSTRAIN", "value": "55 Mbps", "actionType": "include" }, { "action": "CONSTRAIN", "value": "100 Mbps", "actionType": "include" }], "index": 0 } }</pre>

5. Click **Save**.


Product Relationship
Restore Broadband Cable Attributes

Related	Details
Product Relationship Name	Restore Broadband Cable Attributes
Product	Broadband Cable Service
Relationship Type	Modify Attributes
Related Product	
Related Product Qualifying Filter	Action Parameters <pre>{ "ATT_RT_DS": { "actionsList": [{ "action": "CONSTRAIN", "value": "10 Mbps", "actionType": "include" }, { "action": "CONSTRAIN", "value": "55 Mbps", "actionType": "include" }, { "action": "CONSTRAIN", "value": "100 Mbps", "actionType": "include" }], "index": 0 } }</pre>
Description	Attribute Modification Context
Add Mode	as Sibling
Context	
Is Conditional	<input checked="" type="checkbox"/>
Default Quantity	1.00
Min Quantity	1.00
Max Quantity	1.00
Message	
Owner	 Admin Vlocity CME



NOTE:

In the previous exercise, you created a product relationship that defined when attributes should be modified based on a dependency between two products. However, in this case, you will modify attributes based on other factors, such as the non-existence of another product. You can use this same technique when evaluating an account's SLA agreement or other non-product-related factor. To do this, you select the product to be modified and leave the related product field blank. A blank related product alerts the rules engine to apply the given action parameters to the product on its own.



NOTE:

To create more concise JSON, you could also write the action parameters with values listed in an array like the following.

```
{"ATT_RT_DS":{"actionsList":[{"action":"CONSTRAIN","value":["10 Mbps","55 Mbps","100 Mbps"],"actionType":"include"}],"index":0}}
```

With her new product relationship in hand, Eliza now realizes the tricky part: she needs the product relationship to fire ONLY when Business Video Service does not exist in any line item of the Cart. Checking for the non-existence of something is actually harder than checking for its existence, as it turns out. To do this, she will create a compound entity filter that chains an evaluation entity filter with a qualification entity filter.

What are Evaluation Entity Filters?

Evaluation Entity Filters evaluate if all, any, or none of a set of records satisfy certain conditions. Evaluation entity filters accept a list of items as input and return true or false as the output. For example, an evaluation filter evaluates to true if any of the product children has a maximum quantity of less than 10 and a minimum quantity larger than 2.

In our example, you will use an evaluation entity filter to check for the Business Video Service name, and then you will chain this evaluation entity filter to a qualification entity filter that prepares the list of input items for evaluation and, when true, passes the list of qualified items to the rules engine. As you will see, evaluation entity filters are not used directly in rule building and instead are “internal filters” to qualification entity filters.

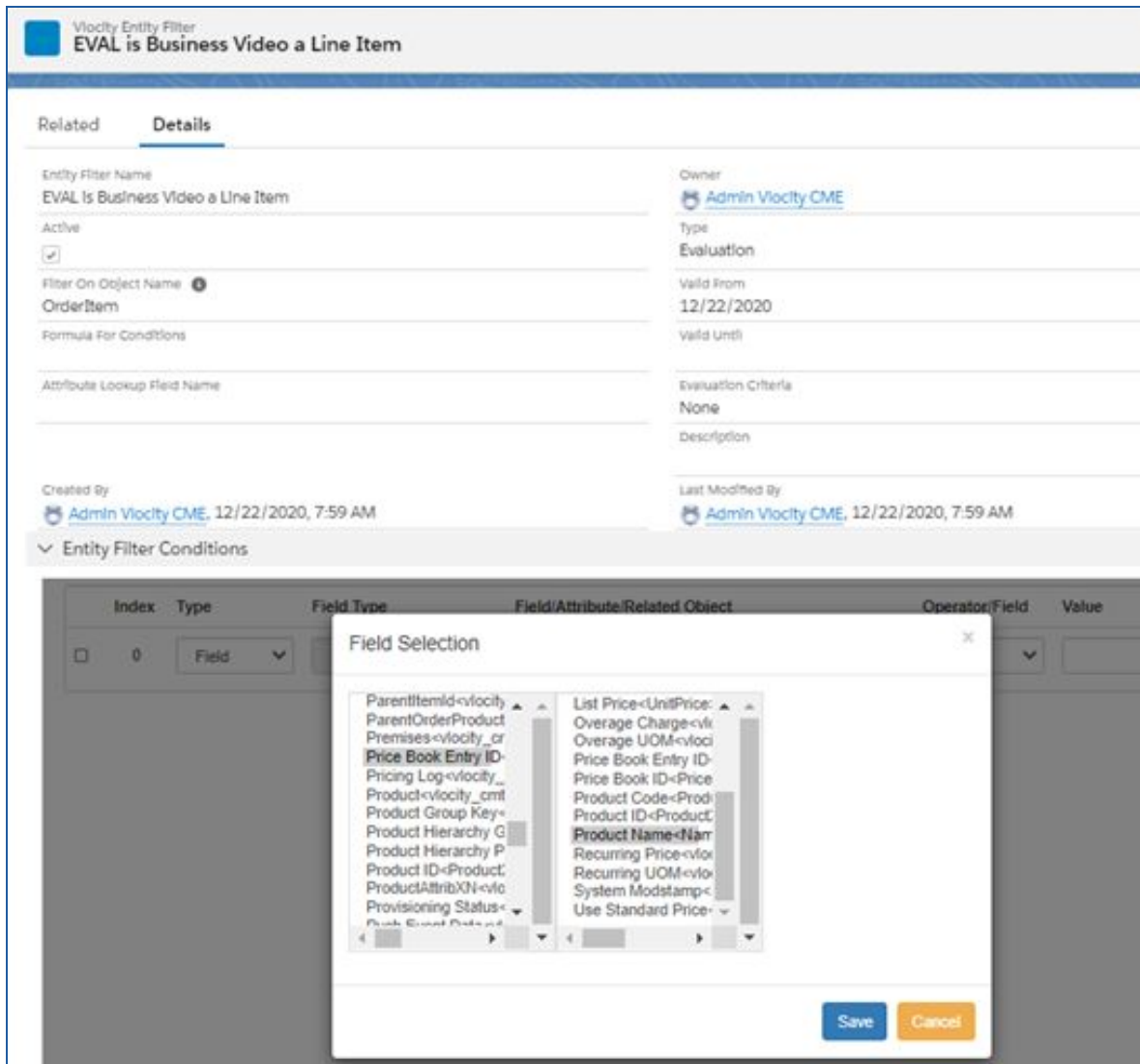
Task 3: Create an evaluation entity filter to test for Business Video Service in each line item

1. In the **Lightning tab navigation bar**, click **Vlocity Entity Filters**. (If you don't see it, click **More** to expand the overflow dropdown menu.)
2. Click **New**.
3. In the **New Vlocity Entity Filter** dialog, enter the following information.

Field	Value	Notes
Entity Filter Name	EVAL Is Business Video a line item	
Filter On Object Name	Order Product<OrderItem>	
Type	Evaluation	
Valid From	[today's date]	
Evaluation Criteria	None	This specifies the criteria in which the filter should return a True result. In this case, it says that if none of the line items are Business Video Service, all the line items have satisfied the condition, and thus can be passed either directly to the rules engine or to other conditions in the calling qualification filter.

4. Click **Save**.

5. Create the **Entity Filter Condition**.
 - a. Under **Entity Filter Conditions**, click **Add**.
 - b. In **Field/Attribute/Related Object**, click **Select**.
 - c. In the first column of the **Field Selection** dialog, click **Price Book Entry ID**.
 - d. In the second column of the **Field Selection** dialog, click **Product Name**.
 - e. Click **Save**.



Velocity Entity Filter
EVAL Is Business Video a Line Item

Related **Details**

Entity Filter Name
EVAL Is Business Video a Line Item

Active
☒

Filter On Object Name ⓘ
OrderItem

Formula For Conditions

Attribute Lookup Field Name

Owner
Admin Velocity CME

Type
Evaluation

Valid From
12/22/2020

Valid Until

Evaluation Criteria
None

Description

Created By
Admin Velocity CME, 12/22/2020, 7:59 AM

Last Modified By
Admin Velocity CME, 12/22/2020, 7:59 AM

Entity Filter Conditions

Index	Type	Field Type	Field/Attribute/Related Object	Operator	Field	Value
0	Field					

Field Selection

<ul style="list-style-type: none"> ParentItemID<vlocity ParentOrderProduct Premises<vlocity_or Price Book Entry ID Pricing Log<vlocity_ Product<vlocity_cmt Product Group Key Product Hierarchy G Product Hierarchy P Product ID<Product ProductAttribXN<vloc Provisioning Status< Product Group Product 	<ul style="list-style-type: none"> List Price<UnitPrice Overage Charge<vloc Overage UOM<vloc Price Book Entry ID Price Book ID<Price Product Code<Prod Product ID<Product Product Name<Name Recurring Price<vloc Recurring UOM<vloc System Modstamp< Use Standard Price<
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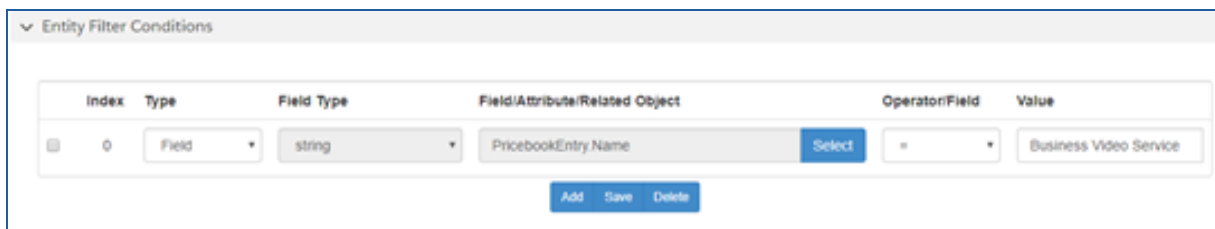
Save Cancel



NOTE:

In the condition, you select PricebookEntry.Product Name as the field to evaluate. This is the correct field since the object that you are evaluating is an order line item, and the primary key to this object from a data model perspective is the pricebook entry object.

- f. Using the **Operator/Field** dropdown menu, select =.
- g. In the **Value** field, enter Business Video Service.



The screenshot shows the 'Entity Filter Conditions' interface. It contains a table with the following columns: Index, Type, Field Type, Field/Attribute/Related Object, Operator/Field, and Value. The first row has an index of 0, Type of Field, Field Type of string, Field/Attribute/Related Object of PricebookEntry Name (with a 'Select' button), Operator/Field of =, and Value of Business Video Service. Below the table are buttons for Add, Save, and Delete.

Index	Type	Field Type	Field/Attribute/Related Object	Operator/Field	Value
0	Field	string	PricebookEntry Name Select	=	Business Video Service

Add Save Delete

- 6. Click **Save**.



NOTE:

In a real-world implementation, it is unlikely that you would create a rule that evaluates a product name, since that might change, and if it did, it would “break” this filter and the rule that uses it. Instead, you would create the filter to evaluate the product code field, which is unlikely to change.

Task 4: Create a compound qualification entity filter to check the contents of the Cart

1. In the **Lightning tab navigation bar**, click **Vlocity Entity Filters**. (If you don't see it, click **More** to expand the overflow dropdown menu.)
2. Click **New**.
3. In the **New Vlocity Entity Filter** dialog, enter the following information.

Field	Value	Notes
Entity Filter Name	Check Cart for Business Video	
Filter On Object Name	Order Product<OrderItem>	
Type	Qualification	Unlike an evaluation entity filter, this entity filter is a qualification entity filter, which will output a list of qualified records.
Valid From	[today's date]	
Description	Ensures there are no Business Video Services in Cart.	

4. Click **Save**.
5. Create the **Entity Filter Condition**.
 - a. Under **Entity Filter Conditions**, click **Add**.
 - b. In **Type**, select **Function**.
 - c. In **Field/Attribute/Related Object**, click **Items in cart**.
 - d. Click in the text entry next to **Value** and enter **EVAL**.
 - e. Select **EVAL Is Business Video a line item** from the type-ahead.
 - f. Click **Save**.

Vocty Entity Filter
Check Cart for Business Video

Related **Details**

Entity Filter Name
Check Cart for Business Video

Active
☒

Filter On Object Name
OrderItem

Formula For Conditions

Attribute Lookup Field Name

Owner
Admin Vocty CME

Type
Qualification

Valid From
1/8/2021

Valid Until

Evaluation Criteria

Description
Ensures there are no Business Video Services in Cart

Created By
Admin Vocty CME, 12/22/2020, 8:08 AM

Last Modified By
Admin Vocty CME, 1/8/2021, 6:06 AM

Entity Filter Conditions

Index	Type	Field Type	Field/Attribute/Related Object	Operator/Field	Value
1	Function		Items in cart	Satisfy the filter	EVAL is Business Video a Line

Add Save Delete



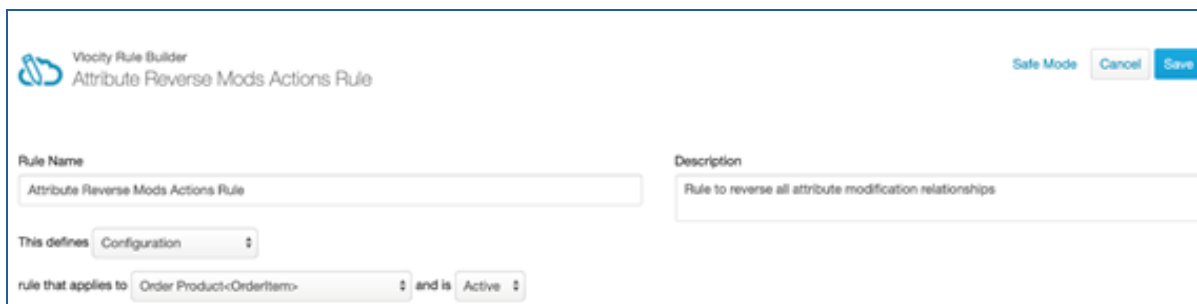
NOTE:

In a condition that uses a function, you can optimize the processing by reducing the number of records with a defined scope as you can see in the dropdown menu: items in the cart, items in a bundle, sibling, parent or root entities. Then, the reduced set of records is passed to the linked evaluation entity filter for processing.

Task 5: Create an advanced rule to trigger the new product relationship

1. In the Lightning tab navigation bar, click **Vlocity Rules**.
2. Click **New**.
3. In the rule header, enter the following information.

Field	Value
Rule Name	Attribute Reverse Mods Actions Rule
This defines	Configuration
rule that applies to	Order Product<OrderItem>
and is	Active
Description	Rule to reverse all attribute modification relationships

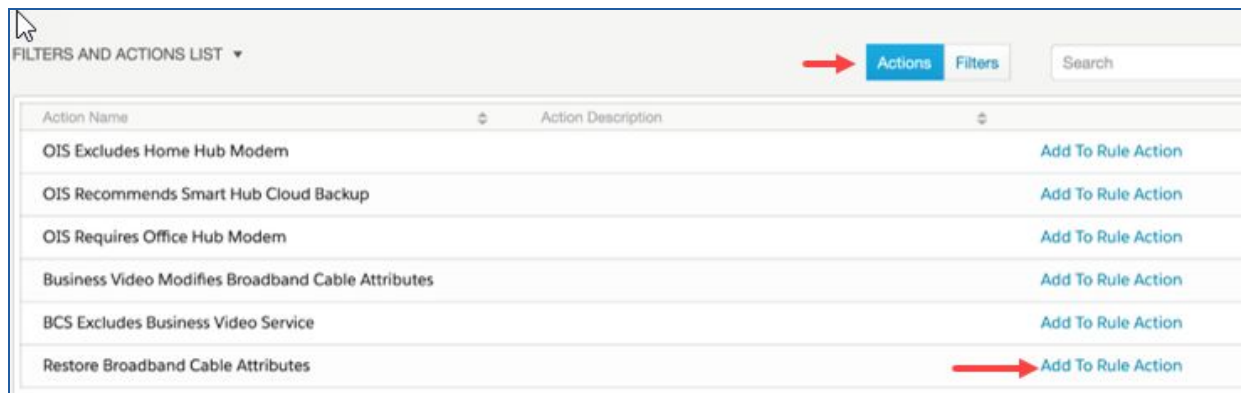


The screenshot shows the Vlocity Rule Builder interface for creating a new rule. The title bar reads "Vlocity Rule Builder" and "Attribute Reverse Mods Actions Rule". In the top right corner, there are buttons for "Safe Mode", "Cancel", and "Save". The main form contains the following fields:

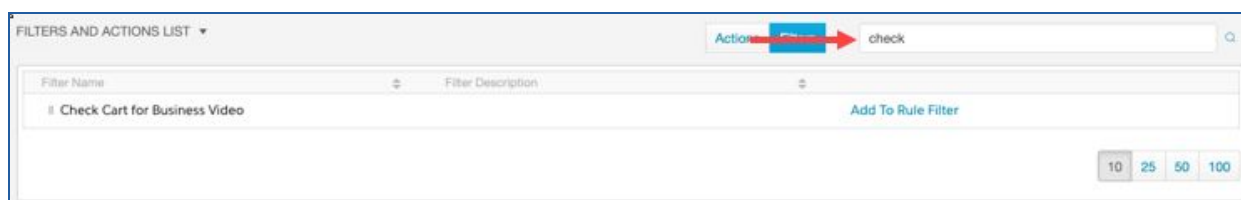
- Rule Name:** A text input field containing "Attribute Reverse Mods Actions Rule".
- Description:** A text input field containing "Rule to reverse all attribute modification relationships".
- This defines:** A dropdown menu with "Configuration" selected.
- rule that applies to:** A dropdown menu with "Order Product<OrderItem>" selected.
- and is:** A dropdown menu with "Active" selected.


4. Under **FILTERS AND ACTIONS LIST**, click **Actions**.

5. In the **FILTERS AND ACTIONS LIST**, find **Restore Broadband Cable Attributes** product relationship in the **Actions** list, and click **Add to Rule Action**.

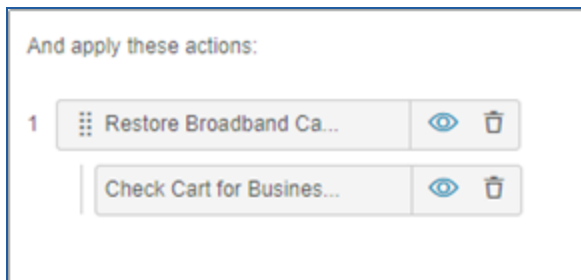


6. Under **FILTERS AND ACTIONS LIST**, click **Filters**.
7. Next to **FILTERS** in the Search dialog, enter `check`. Notice how the search dialog refines the Filter list.



8. Drag the **Check Cart for Business Video** filter on top of the **Restore Broadband Cable Attributes** action.
9. Under **Filter Name**, hover over the **Check Cart for Business Video**. Your cursor will change to .
10. Press your left mouse key to select the item.
11. Drag it on top of the **Restore Broadband Cable Attributes** action.

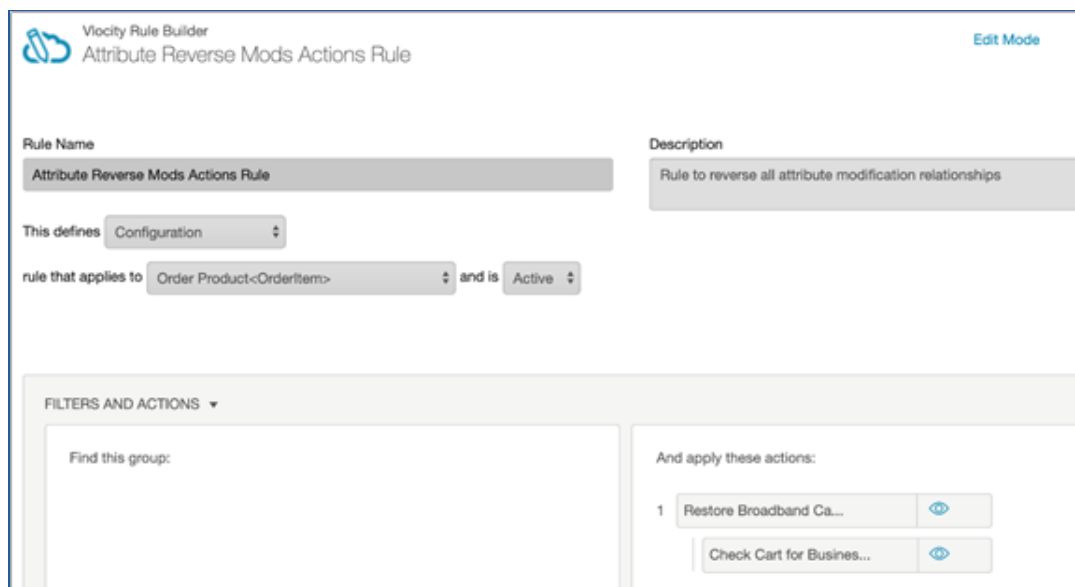
The filter will now display as an action modifier.



NOTE:

By using the filter as a modifier to the action, you increase reusability of this rule. You can add multiple actions to this one rule, and each action will only fire for records qualified by the attached filter.

12. Click **Save**.

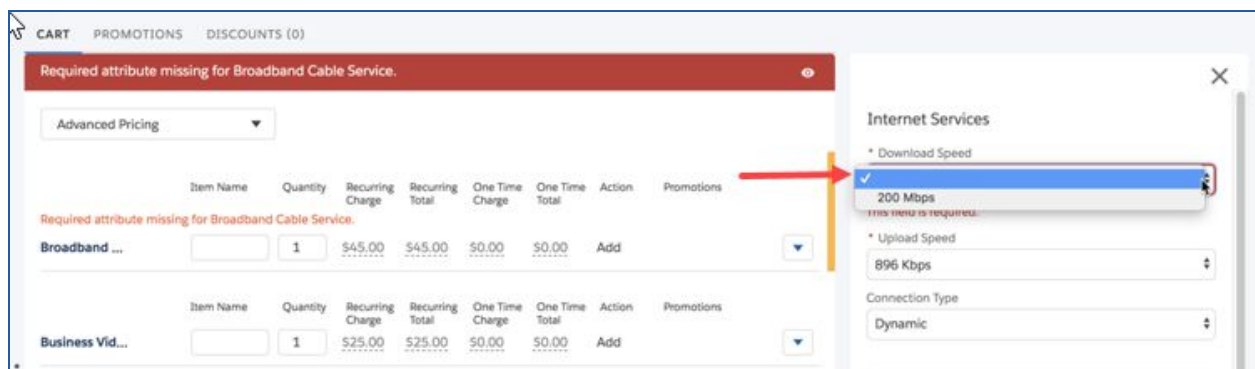


ALERT:

Rules are cached in the org cache of the CPQPartition platform cache. When you make changes to rules, you will need to run maintenance jobs from within the **Velocity CMT Administration tab** to clear and refresh the cache in order for changes to be reflected at run time.

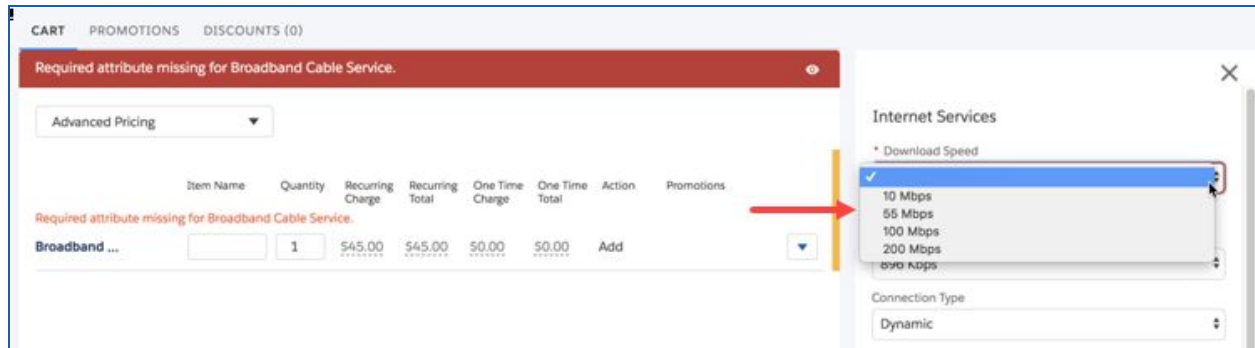
Task 6: Review the reverse attribute modification rule in the Cart

1. In the **Lightning search dialog**, enter `business order #3` and press **Enter**.
2. In the **search results list**, click the **order number**.
3. From the **Power Launcher**, click **Configure Order**. This will launch the Cart.
4. In the **search** dialog on the product list, enter `business`.
5. Find **Business Video Service** in the product list and click **Add to Cart**.
6. Find **Broadband Cable Service** in the product list and click **Add to Cart**.
7. Click the line item action dropdown menu for **Broadband Cable Service** and click **Configure**. Notice that there is only one picklist value available for the attribute.



8. Click **X** to dismiss the configuration window.
9. Using the dropdown line item action menu for **Business Video Service**, click **Delete**, and select **Delete** in the **Delete Item** dialog.

- Click the line item action dropdown menu for **Broadband Cable Service** and click **Configure**. Notice that all the picklist values have been restored.



Review

Confirm your understanding by answering these questions.

- Why would you need to create a rule to reverse a modify attributes rule?
- What is an evaluation entity filter?
- How do you use an evaluation entity filter? Can it be used directly in Vlocity Rule Builder?
- How can you limit the scope of records passed to an evaluation entity filter?
- What does it mean when you apply an entity filter to a rule action as a modifier? How is it advantageous?

Exercise 7-5: Create Advanced Rules for Auto-Add

Scenario

Eliza is on a roll! The contact center has piloted her new rules, and everyone is impressed with how well they're working. Unnecessary support calls look like they are declining, the CSRs are creating "the perfect order" and even the new employees are up to speed. Now, product marketing has an additional request: when high-priority accounts based in California purchase the iPhone X, they want to automatically offer them a free phone case.

Goal

- Create entity filters for account information
- Create Configuration / Validation rules to Auto-Add products to an order

Tasks


1. Create an Auto-Add configuration/ validation rule
2. Create an entity filter for high-priority accounts in California
3. Create an advanced configuration / validation rule to combine the rule and the entity filter
4. Test the new rule in the Cart

Time: 30 mins

Task 1: Create an auto-add configuration/ validation rule


1. In the **Lightning tab navigation bar**, click **Product Relationships**. (If you don't see it, click **More** to expand the overflow dropdown menu.)
2. Click **New**.
3. In the **New Product Relationship** dialog, enter the following information.

Field	Value
Product Relationship Name	Apple iPhone X Auto-Adds a Free Phone Case
Product	Apple iPhone X
Relationship Type	Auto-Add
Related Product	Incipio Canvas Fabric Wrap Case - iPhone X
Min Quantity	1
Max Quantity	1


Product Relationship
Apple iPhone X Auto-Adds a Free Phone Case

Related

Details

Product Relationship Name	Default Quantity
Apple iPhone X Auto-Adds a Free Phone Case	1.00
Product	Min Quantity
Apple iPhone X	1.00
Relationship Type	Max Quantity
Auto-Add	1.00
Related Product	Message
Incipio Canvas Fabric Wrap Case - iPhone X	
Related Product Qualifying Filter	Action Parameters
Description	Attribute Modification Context
AddMode	Owner
asSibling	 Admin Vlocity CME
Context	
Is Conditional	
<input checked="" type="checkbox"/>	

4. Click **Save**.


Task 2: Create an entity filter for high-priority accounts in California

1. In the **Lightning tab navigation bar**, click **Vlocity Entity Filters**. (If you don't see it, click **More** to expand the overflow dropdown menu.)
2. Click **New**.

3. Enter the following information.

Field	Value
Entity Filter Name	Order Account is High Priority and in CA
Filter On Object Name	Order Product<OrderItem>
Type	Qualification
Valid From	[today's date]

4. Click **Save**.


Vlocity Entity Filter
Order Account is High Priority and in CA

Related

Details

Entity Filter Name

Order Account is High Priority and in CA

Active

☒


Filter On Object Name ⓘ

OrderItem

Formula For Conditions

Attribute Lookup Field Name

Owner

 Admin Vlocity CME

Type

Qualification

Valid From

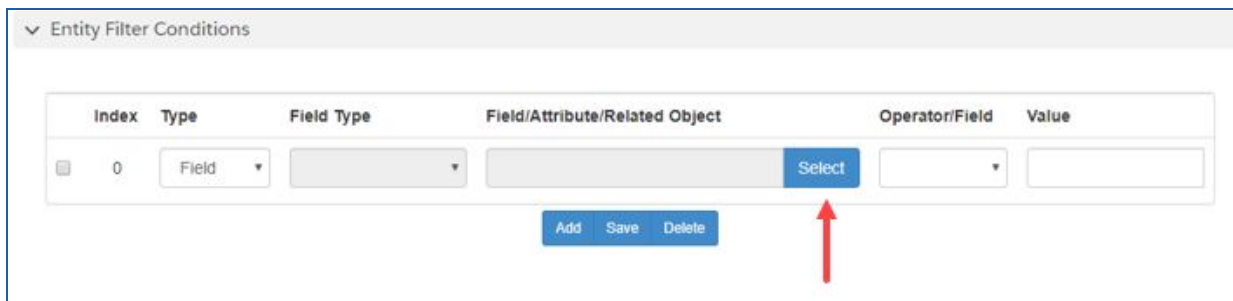
1/8/2021

Valid Until

Evaluation Criteria

Description

5. Now it's time to add the filters. You'll begin by adding the filter for high priority accounts first.
 - a. In the **Entity Filter Conditions** section, click **Add**.
 - b. Ensure the **Type** field is set to **Field**.
 - c. To the right of the **Field/Attribute/Related Object** field, click **Select**.



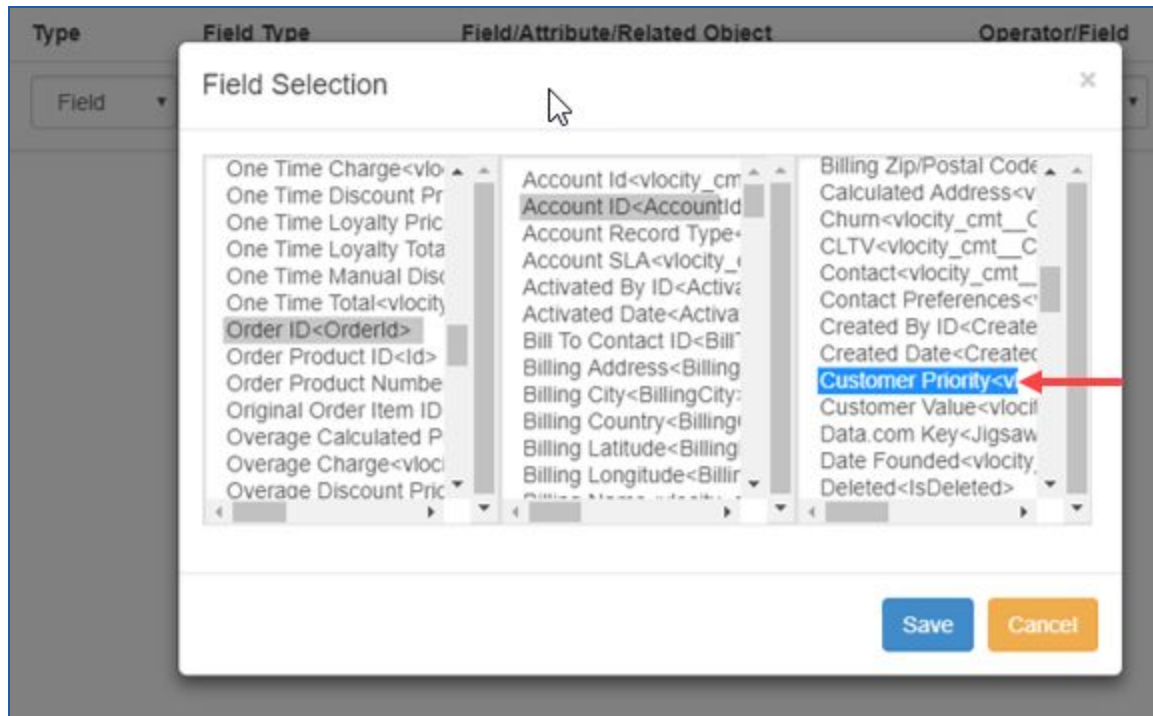
- d. In the **Field Selection** window in the first column, scroll down and select **Order ID<OrderId>**.
 - e. In the second column, scroll down and select **Account ID<AccountId>**.



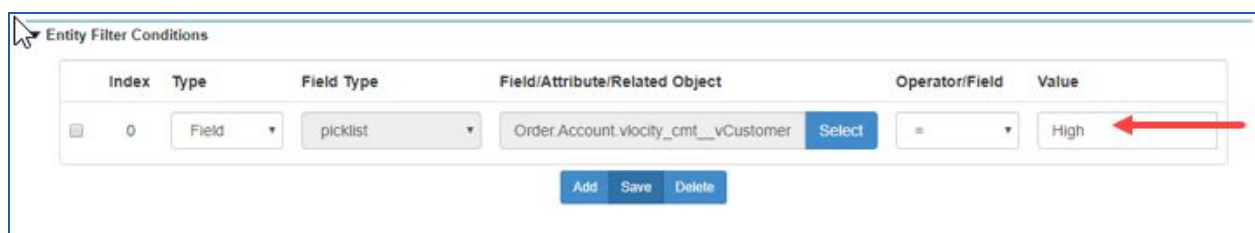
ALERT:

In the second column, ensure that you select **Account ID<AccountId>**. If you select **Account Id<velocity_cmt__AccountId__c>**, then the third column will not display.

- f. In the third column, scroll down and select **Customer Priority** <vlocity_cmt__vCustomerPriority__c>.

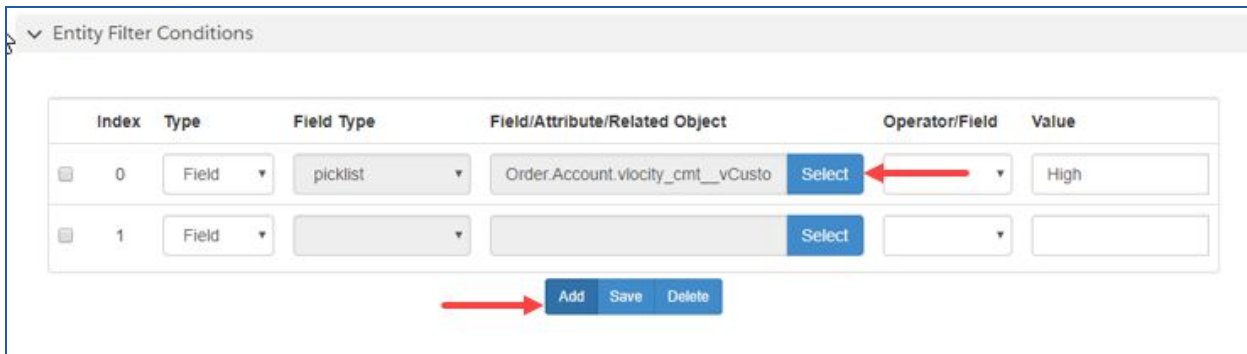


- g. Click **Save**.
h. Click in the Operator/Field field and select =.
i. Click in the **Value** field and enter High.

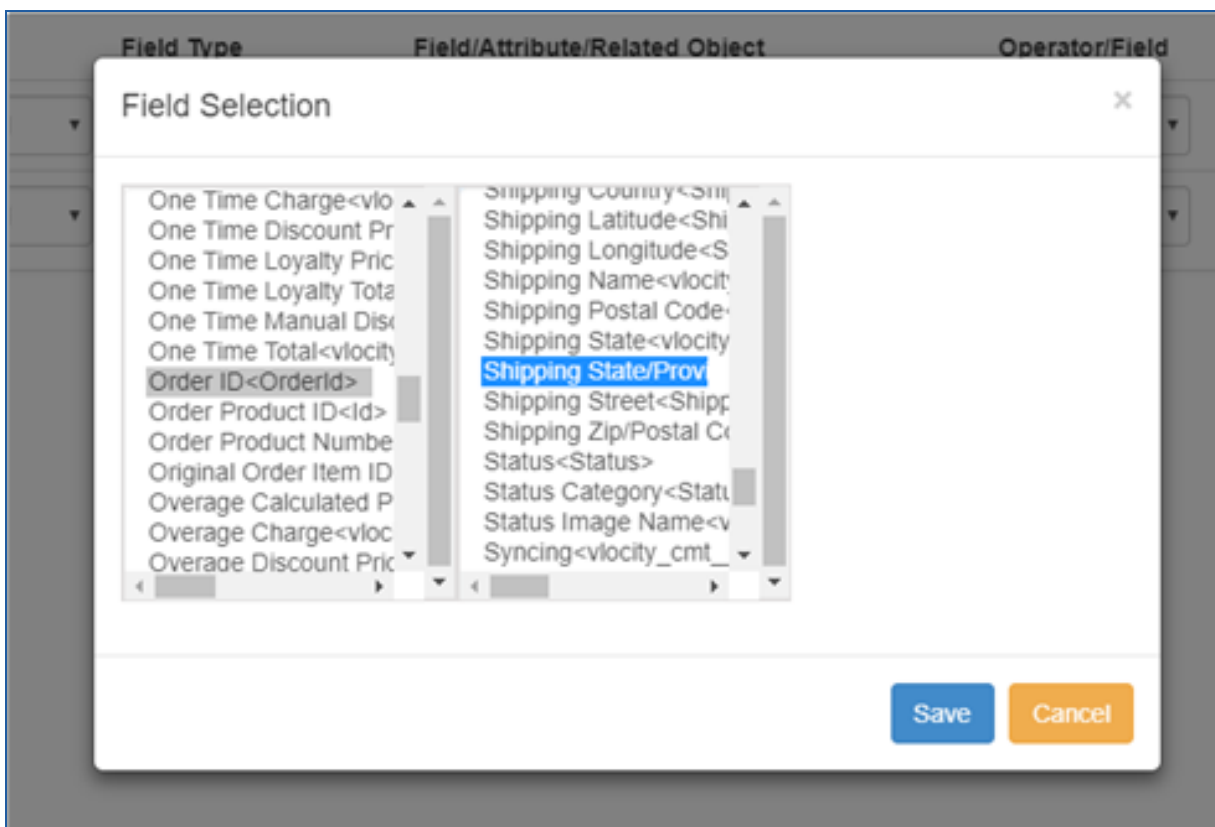


- j. Click **Save**.
6. The condition we just created will filter high-priority accounts. Next, we need to create a second filter for accounts in California.
- a. In the **Entity Filter Conditions** section, click **Add**.

- b. To the right of the **Field/Attribute/Related Object** field, click **Select**.



- c. In the **Field Selection** window in the first column, scroll down and select **Order ID<OrderId>**.
- d. In the second column, scroll down and select **Shipping State/Province**.
- e. Click **Save**.



- f. Click in the **Operator/Field** field and select =.
- g. Click in the **Value** field and enter CA.

▼ Entity Filter Conditions

Index	Type	Field Type	Field/Attribute/Related Object	Operator/Field	Value
<input type="checkbox"/> 0	Field ▼	picklist ▼	Order.Account.vlocity_cmt__vCusto Select	= ▼	High
<input type="checkbox"/> 1	Field ▼	string ▼	Order.ShippingState Select	= ▼	CA

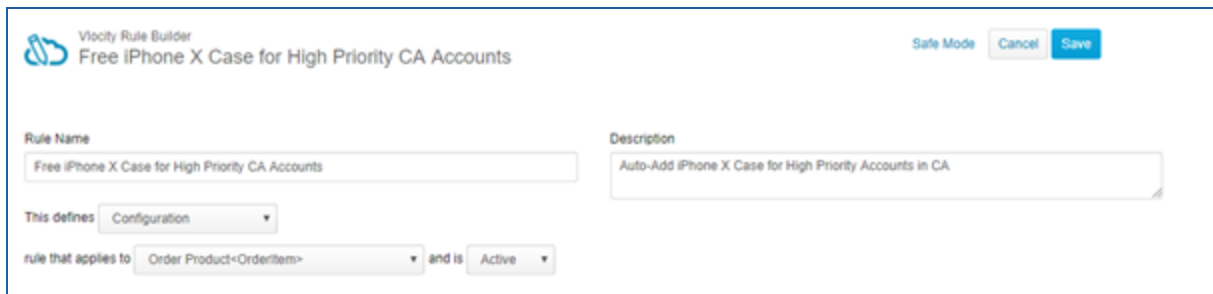
[Add](#) [Save](#) [Delete](#)

7. Click **Save**.

Task 3: Create an advanced configuration / validation rule to combine the rule and the entity filter

1. In the **Lightning tab navigation bar**, click **Vlocity Rules**.
2. Click **New**.
3. In the rule header, enter the following information.

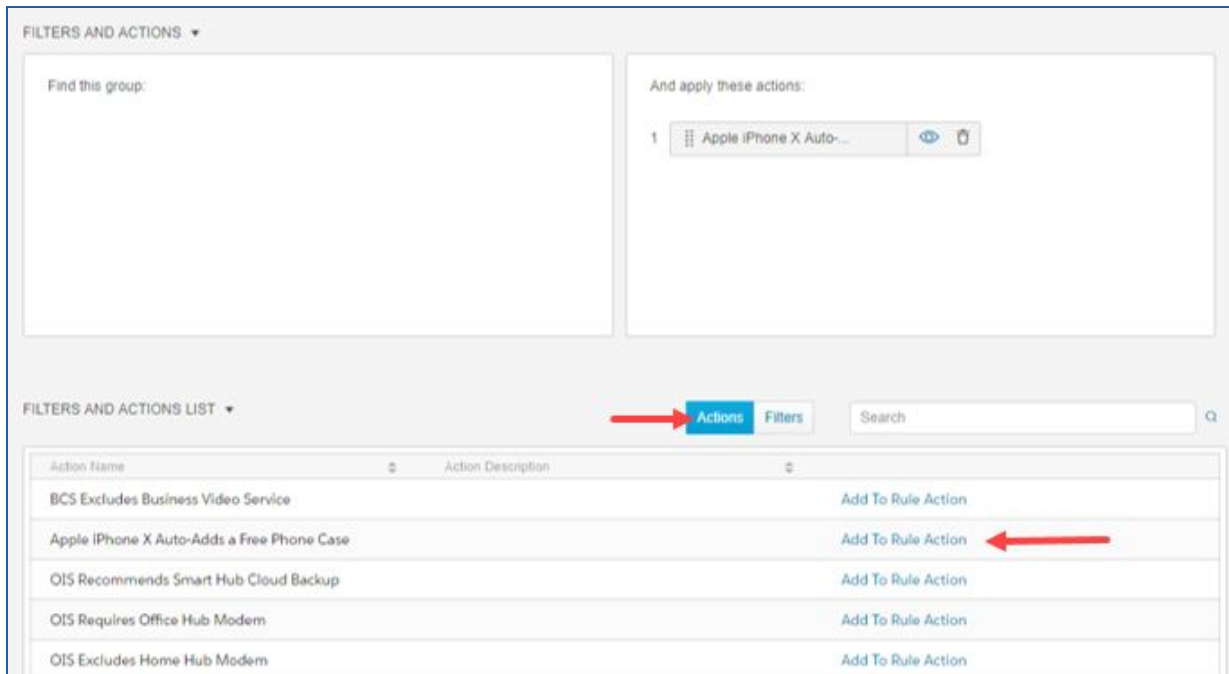
Field	Value
Rule Name	Free iPhone X Case for High Priority CA Accounts
This defines	Configuration
rule that applies to	Order Product<OrderItem>
and is	Active
Description	Auto-Add iPhone X Case for High Priority Accounts in CA



The screenshot shows the Vlocity Rule Builder interface. At the top, it says "Vlocity Rule Builder" and "Free iPhone X Case for High Priority CA Accounts". There are buttons for "Safe Mode", "Cancel", and "Save". Below this, there are two input fields: "Rule Name" with the value "Free iPhone X Case for High Priority CA Accounts" and "Description" with the value "Auto-Add iPhone X Case for High Priority Accounts in CA". Below these, there are two dropdown menus: "This defines" set to "Configuration" and "rule that applies to" set to "Order Product<OrderItem>". Below these, there is a label "and is" followed by a dropdown menu set to "Active".

4. Add the Configuration / Validation rule to the Advanced rule as an Action.
 - a. In the **FILTERS AND ACTIONS LIST**, click **Actions**.

- b. Locate **Apple iPhone X Auto-Adds a Free Phone Case** Configuration / Validation rule and click **Add To Rule Action**.



FILTERS AND ACTIONS ▾

Find this group:

And apply these actions:

1 Apple iPhone X Auto-...

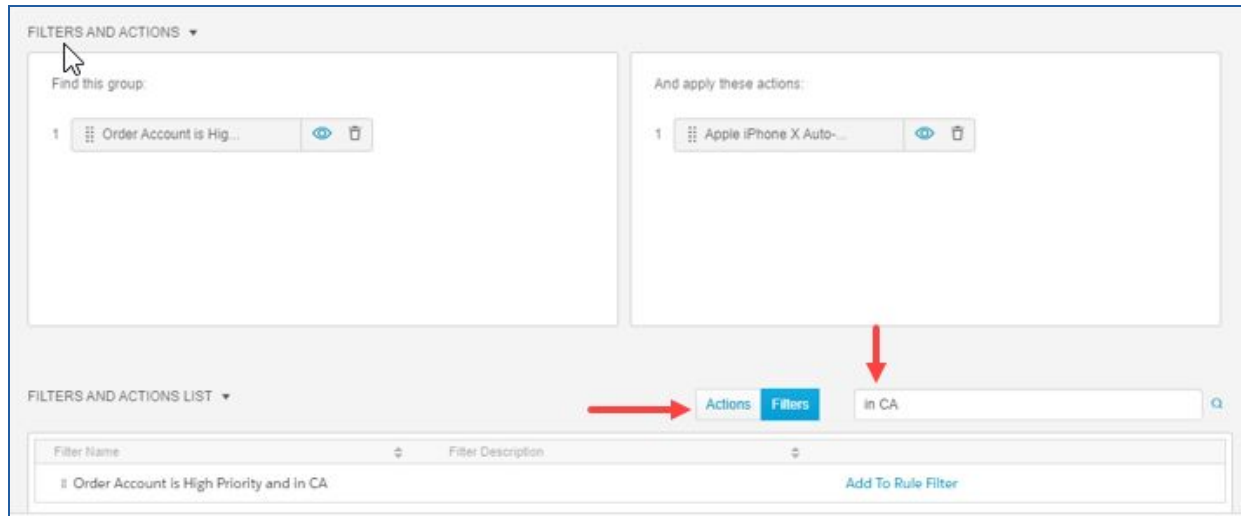
FILTERS AND ACTIONS LIST ▾

Actions Filters Search Q

Action Name	Action Description
BCS Excludes Business Video Service	Add To Rule Action
Apple iPhone X Auto-Adds a Free Phone Case	Add To Rule Action
OIS Recommends Smart Hub Cloud Backup	Add To Rule Action
OIS Requires Office Hub Modem	Add To Rule Action
OIS Excludes Home Hub Modem	Add To Rule Action

- c. In the **FILTERS AND ACTIONS LIST**, click **Filters**.
- d. In the **Filter Name** column, locate **Order Account is High Priority** and in **CA**, and click **Add To Rule Filter**.

- e. Scroll up to the top of the **Rule Builder** page and click **Save**.

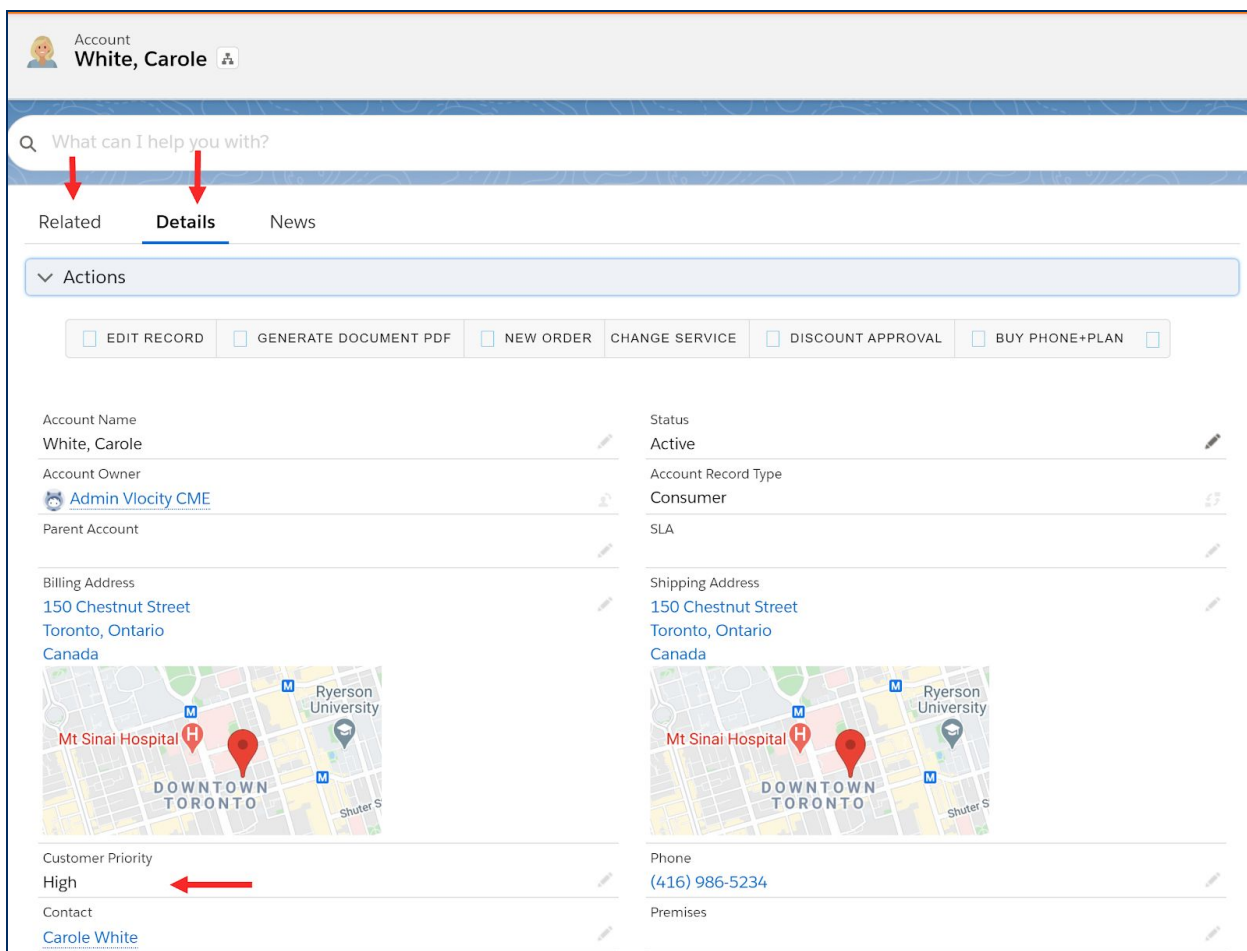


ALERT:

Don't forget to go to **Vlocity CMT Administration** and from within the **Maintenance Jobs**, run the clear and refresh cache jobs so your changes are implemented at runtime.

Task 4: Test the new rule in the Cart

1. In the **Lightning search dialog**, enter `white` and press **Enter**.
2. In the search results list under **Accounts**, click **White, Carole**.
3. Click **Details**.
4. Notice the **Customer Priority** field is set to **High**.



Account
White, Carole

What can I help you with?

Related **Details** News

Actions

EDIT RECORD GENERATE DOCUMENT PDF NEW ORDER CHANGE SERVICE DISCOUNT APPROVAL BUY PHONE+PLAN

Account Name
White, Carole

Account Owner
Admin Vlocity CME

Parent Account

Billing Address
150 Chestnut Street
Toronto, Ontario
Canada

Shipping Address
150 Chestnut Street
Toronto, Ontario
Canada

Customer Priority
High

Contact
Carole White

Status
Active

Account Record Type
Consumer

SLA

Phone
(416) 986-5234

Premises



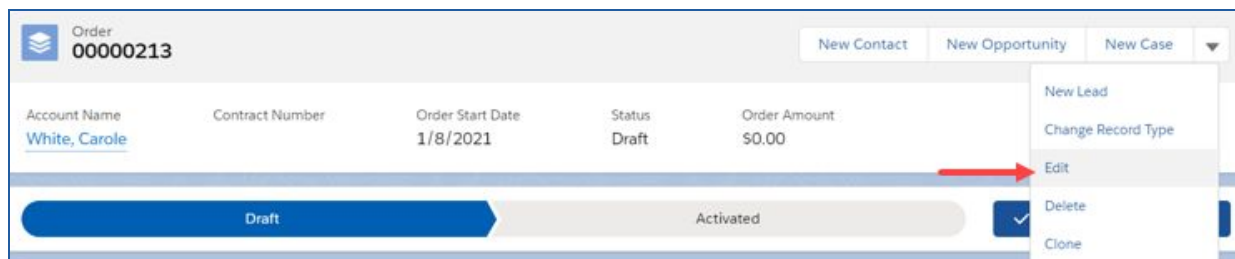
NOTE:

This satisfies the first entity filter condition that you created in Task 2, Step 5.

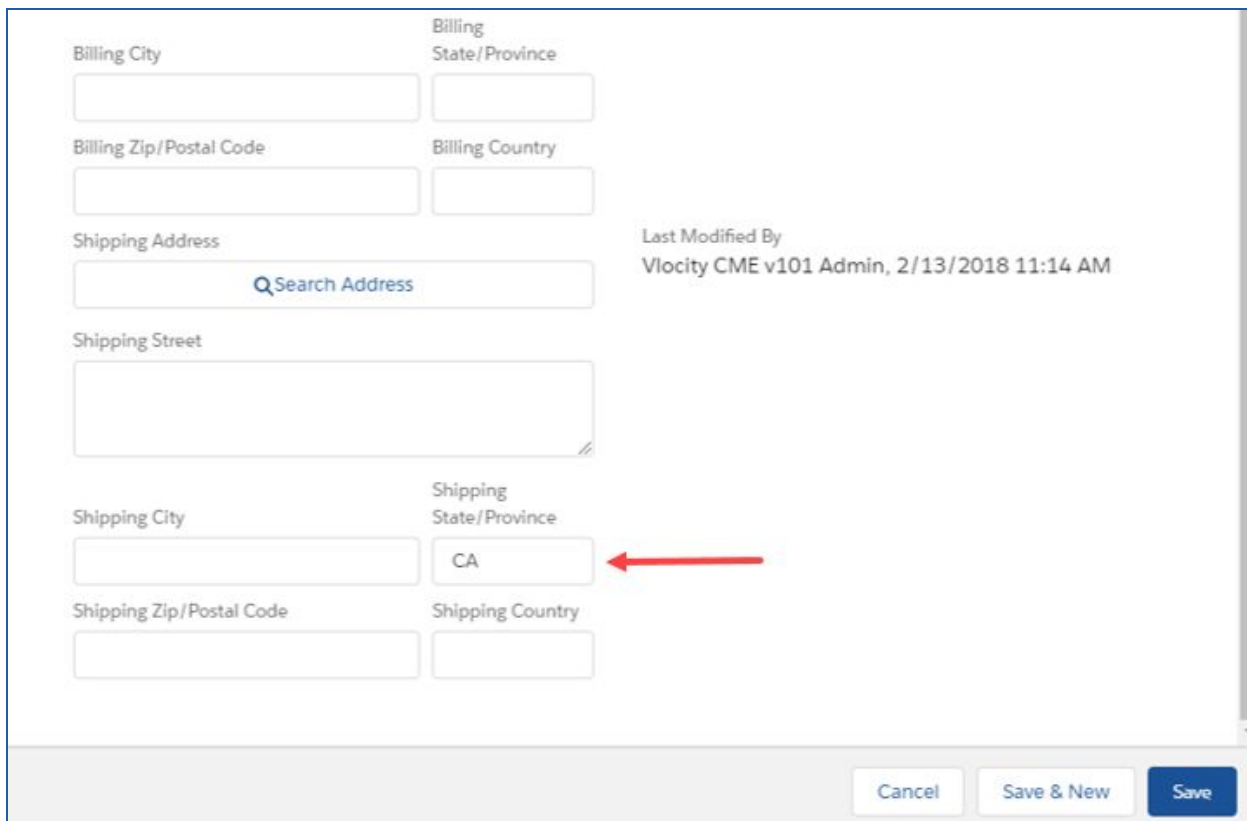
5. In the **Lightning tab navigation bar**, click **Orders**.
6. Click **New**.
7. In the **New Order** dialog, enter the following information.

Field	Value
Order Name	Advanced Rules Auto-Add Order
Account Name	White, Carole
Order Start Date	[today's date]
Price List	B2C Price List

8. Click **Save**.
9. In the **order header** using the dropdown action menu, click **Edit**.



10. In the **Edit** dialog, set the **Shipping State/Province** to CA.



The screenshot shows an 'Edit' dialog for a record. It contains several input fields for billing and shipping information. The 'Shipping State/Province' field is highlighted with a red arrow and contains the value 'CA'. The 'Last Modified By' field shows 'Vlocity CME v101 Admin, 2/13/2018 11:14 AM'. At the bottom right are buttons for 'Cancel', 'Save & New', and 'Save'.

Billing City	Billing State/Province
<input type="text"/>	<input type="text"/>
Billing Zip/Postal Code	Billing Country
<input type="text"/>	<input type="text"/>
Shipping Address	
<input type="text" value="Search Address"/>	
Shipping Street	
<input type="text"/>	
Shipping City	Shipping State/Province
<input type="text"/>	<input type="text" value="CA"/>
Shipping Zip/Postal Code	Shipping Country
<input type="text"/>	<input type="text"/>

Cancel Save & New Save

11. Click **Save**.



NOTE:

This satisfies the second entity filter condition that you created in Task 2, Step 6.

12. From the **Power Launcher**, click **Configure Order**. This invokes the Cart.

13. In the search dialog on the product list, enter `apple`.

14. Find **Apple iPhone X**, and click **Add to Cart**.

15. Notice the phone case is automatically added to the order.

CART **PROMOTIONS** **DISCOUNTS (0)**

Required attribute missing for Apple iPhone X.

Advanced Pricing ▼

Item Name	Quantity	Recurring Charge	Recurring Total	One Time Charge	One Time Total	Action	Promotions
Incipio Canv...	<input type="text" value="1"/>	\$0.00	\$0.00	\$0.00	\$0.00	Add	▼

Required attribute missing for Apple iPhone X.

Item Name	Quantity	Recurring Charge	Recurring Total	One Time Charge	One Time Total	Action	Promotions
Apple iPhon...	<input type="text" value="1"/>	\$0.00	\$0.00	\$999.99	\$999.99	Add	▼

Review

Confirm your understanding by answering these questions.

1. What types of data can be evaluated in an entity filter condition?
2. How many entity filters can be added to an Advanced Rule?

Exercise 7-6: Using Advanced Rules to Create an “Or” Configuration Rule Challenge

Scenario

Marketing is at it again! This time, the requirement is for the Home Networking Service product. For this product, they say it should only be sold with the Broadband Cable Service product OR the DSL Service product. So, product A REQUIRES (product B or product C). Your task is to create a new rule that provides this functionality.

Goal

- Review the requirements below and challenge yourself to use the skills you have learned to create an “Or” configuration rule.
- Challenge exercises solidify what you learned in the exercises, build your skills, and allow you to make mistakes -- which is how you will master this application.

Tasks

1. Create a quick sketch to plan how you will build this rule using entity filters, product relationships and advanced rules
2. Create the product relationships
3. Create the entity filters
4. Create the advanced rule using Vlocity Rule Builder
5. Test the new rule in the Cart

Time: 30 mins

Task 1: Create a quick sketch to plan how you will build this rule using entity filters, product relationships and advanced rules

As they say, it's quicker to measure twice, and cut once. Take a moment to create a build plan for your new rule. Use any format (even the back of a napkin).

Task 2: Create the product relationships

Use product relationships to build the REQUIRES relationships among the products. Think about a custom message that you'd like your users to see.

Task 3: Create the entity filters

Use entity filters to specify the conditions under which you want the product relationships to apply.

Task 4: Create the advanced rule using Vlocity Rule Builder

Use Vlocity Rule Builder to combine the entity filters with the product relationships (the rule actions). Hint: the entity filters will need to modify the rule actions as shown in VAR-4.

Task 5: Test the new rule in the Cart

Once you've got it working, bask in the glory of your new advanced rule!



Yay! All done!