

# OMT Bootcamp

## Horizontal Relationships

Time: 20 minutes

ServiceNow Telecom, Media, and Technology (TMT)

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## Lab instance credentials

Field	Value
Username	admin
Password	As provided with your lab instance / <b>Magic link</b>

## Lab objectives

You will achieve the following objectives:

- Understand Horizontal Relationships feature.

## Scenario

In this lab, students will build horizontal relationships between specifications using the 'Compatibility Rules' construct, submit orders and validate the feature behaviour.

## Personas

- James Smithson, Product Catalog Manager
- Mike Davis, Order Fulfilment Manager
- System Admin

## Section 1 Compatibility Rule

### Section 1.1 Create a new Rule.

1. Impersonate **James Smithson**, the *Product Catalog Manager*.
  - Select the **System Administrator** profile photo to open the user menu.
  - Select **Impersonate User**.

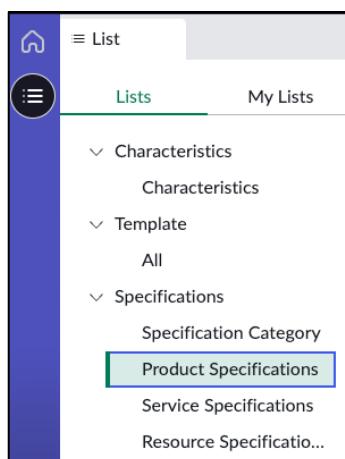


*Caption: Image of the user menu with the Impersonate user highlighted.*

- In the impersonate user dialogue box, search for, and select **James Smithson**.
- Select **Impersonate user**.

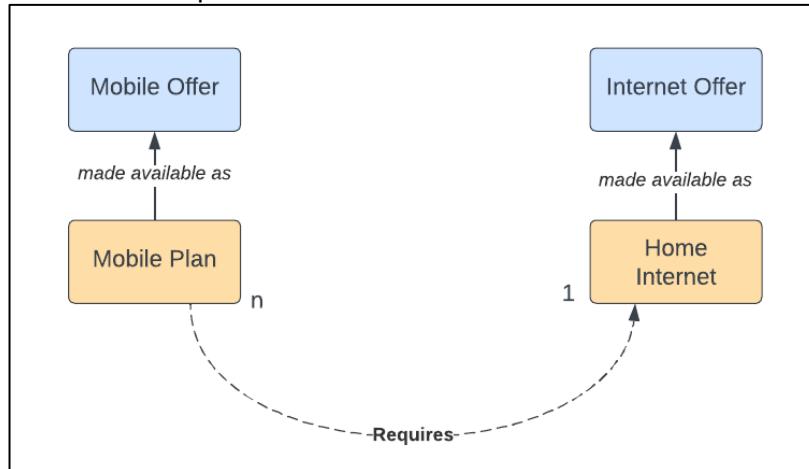
**Note:** Future lab instructions will simply state, "Impersonate <User Name>."

4. Navigate to **Workspaces > CSM/FSM Configurable Workspace**.
5. Click on the List view icon and select '**Product Specifications**' from under the Specifications List group.
6. Note the two Product Specifications – **Mobile Plan** and **Home Internet**.



Let's consider a scenario where a Service Provider wants to implement a business rule, that only customers who have or are ordering Home Internet Product can have one or more Mobile Plans from the Provider.

This can be represented as follows –



In this lab, students will build this relationship using the 'Compatibility Rule' construct and validate the behavior at run time during order processing.

- From under the Lists, click on '**Compatibility Rule**'. This shows the list of all existing configured rules.

The screenshot shows the ServiceNow 'Compatibility Rule' list. The left sidebar has a 'Compatibility Rule' section selected. The main area displays a table with the following data:

Number	Name	Specification	State
CR0000001	Edge Requires Controller	SD-WAN Edge Device v2	Published
CR0000002	DMZ Requires Administration	Firewall & DMZ v2	Published
CR0000003	Security Requires Controller & Edge	SD-WAN Security v2	Published
CR0001001	SIMO Voice Requires 5G SIM	SIMO Voice	Published
CR0001004	Gaming Requires Max Router	Consumer Internet	Published
CR0001005	Browsing Requires Standard Router	Consumer Internet	Archived

8. Click on **New** action button to create a new rule.
  - a. Set the **Name** = '**Mobile Plan Requires Home Internet Product**'
  - b. Set the **Description** = '**When purchasing a Mobile Plan, customers also need a Home Internet subscription**'
  - c. Set the **Specification** = '**Mobile Plan**'

***The Specification 'Mobile Plan' set here refers to the Source Specification which forms the A-end of the relationship (A – depends on/excludes – Z).***

Number	Specification *
CR0001007	Mobile Plan
Name	State
Mobile Plan Requires Home Internet Product	Draft
Description	When purchasing a Mobile Plan, customers also need a Home Internet subscription

9. Click **Save**, to create the basic configuration template for the rule.
  - a. After saving, the sub-tabs 'Source Configuration' and 'Compatibles' are shown.
  - b. Observe the **State** of the rule = **Draft**.

***Source Configuration*** provides the ability to add characteristics and options on the source specification if the relationship is to be made conditional subject to the characteristic's values.

***Compatibles*** provide the ability to define the Z-end of the relationship i.e., the target specifications and any characteristics conditions on the target specification.

10. Skip the Source Configuration sub-tab and click on the **Compatibles** sub-tab.
11. On the **Compatibles** sub-tab, click on the **New** action button to create the target specification (z-end) in the relationship.
  - a. **Name** = **Home Internet z-end**
  - b. **Specification** = **Home Internet**
  - c. **Description** = **Home Internet z-end**
  - d. **Relationship** = **Requires**

- e. **Min quantity = 1**
- f. **Max quantity = 1**

The screenshot shows the ServiceNow interface for managing compatibility rules. The top navigation bar includes 'List', 'CR0001007', 'Details', and 'Home Internet z...'. The main content area is titled 'Home Internet z-end'. It has tabs for 'Details' and 'Target Configuration'. The 'Details' tab is active, showing the 'Compatibles' section. Inside 'Compatibles', there is a table with the following data:

Name	Relationship type
Home Internet z-end	Requires

Below this, there are fields for 'Compatibility rule \*' (set to 'CR0001007') and 'Specification \*' (set to 'Home Internet'). To the right of these fields are 'Min quantity' (set to '1') and 'Max quantity' (set to '1'). There is also a 'Description' field containing 'Home Internet z-end'.

12. Click on **Save**.
13. Notice the **Target Configuration** sub-tab – this provides the ability to add characteristic based conditions on the target specification. We will skip it in this part of the lab.
14. Navigate back to the Details tab of the Compatibility Rule and click on **Publish**.
  - a. Publishing makes the configuration visible to Order Management for run-time processing.
  - b. Notice the **State** changes from Draft to **Published**.

## Section 2 Submit an Order

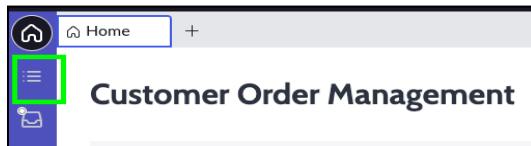
### Section 2.1 Submit an Order from Workspace

1. **Impersonate** another user, **Mike Davis**, the *Fulfilment Manager*.

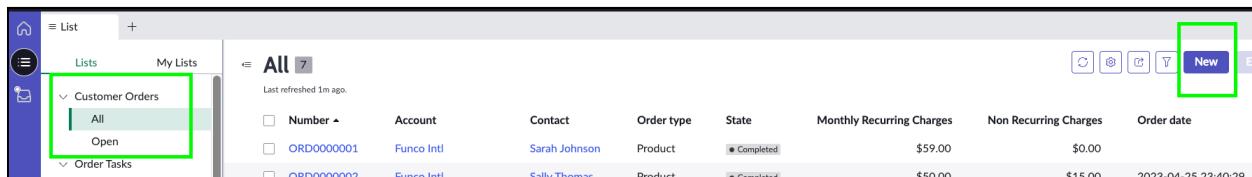
**Note:** As a *Fulfilment Manager*, *Mike* is responsible for reviewing, approving, and processing Orders and their related Order Tasks.

2. Navigate to **Workspaces > CSM/FSM Configurable Workspace**.

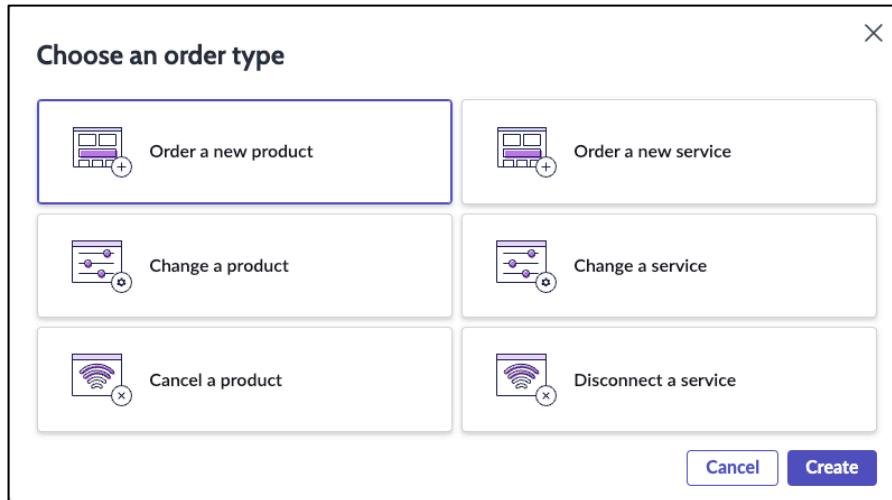
3. Click on the **List menu icon** on the top left.



4. From under **Customer Orders** List, click **All** (if not already open) and click on the **New** actionbutton from the top right.



5. A pop-up window with the option to choose Order Type appears. Select '**Order a newproduct**' and click on the **Create** action button.



6. Clicking **Create** loads a guided ordering flow. Fill in the details as follows –

a. **Enter Account information –**

- i. Account = <**Funco Intl**> &
- ii. Contact = <**Sally Thomas**>.

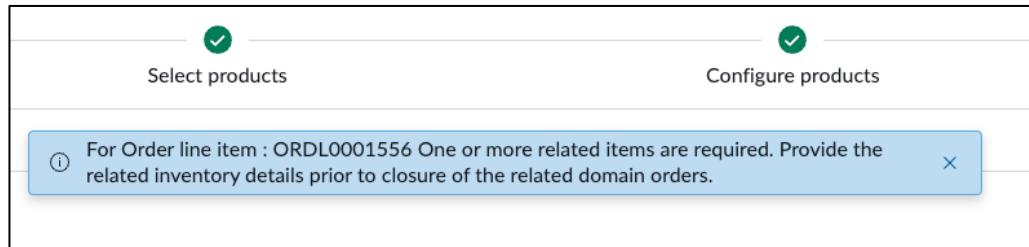
Click on **Continue**.

- b. A pop-up to select a **location** appears (if it does not, refresh the browser)
- i. Click in the **Locations** box and select one of the locations from the list that appears.
  - ii. Once the Location is added, click on **Add**.
  - iii. Notice the location getting added to the Order in the left pane.

c. **Select Product Offerings –**

- i. Under Offering, select < **All in one mobile plan starting from \$39/month**>
- ii. Quantity = 1, remains unchanged.
- iii. Click on Configure Items

- d. **Configure Items** – under the 'Characteristics' tab, set some values for the '**Mobile Number**' & '**Shipping Address**' characteristics by clicking on the 'i' icon next to the characteristics.
- e. Click on **Review**.
  - 1. A warning/information message appears as below –



*The message indicates that for the selected product 'Mobile Plan,' a related item (requires) needs to be added before the fulfilment domain orders are completed.*

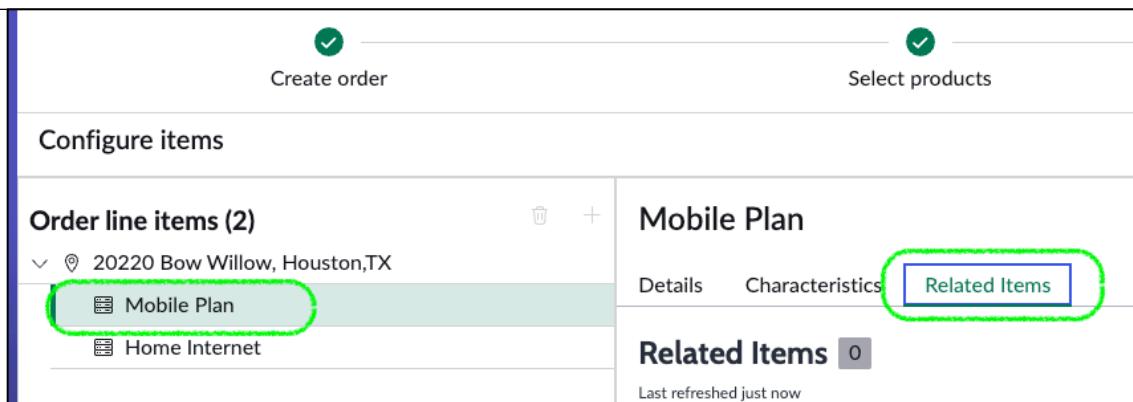
*The related item can either be another Order Line Item or an already added product from the inventory.*

Let us add another Order Line Item for Home Internet per the Compatibility Rules.

- f. Click on **Back** twice until you reach the page for **Select Products**.
- g. Click on Add Product Offering and add the Offer '**Premium Home Internet starting from \$29**'.

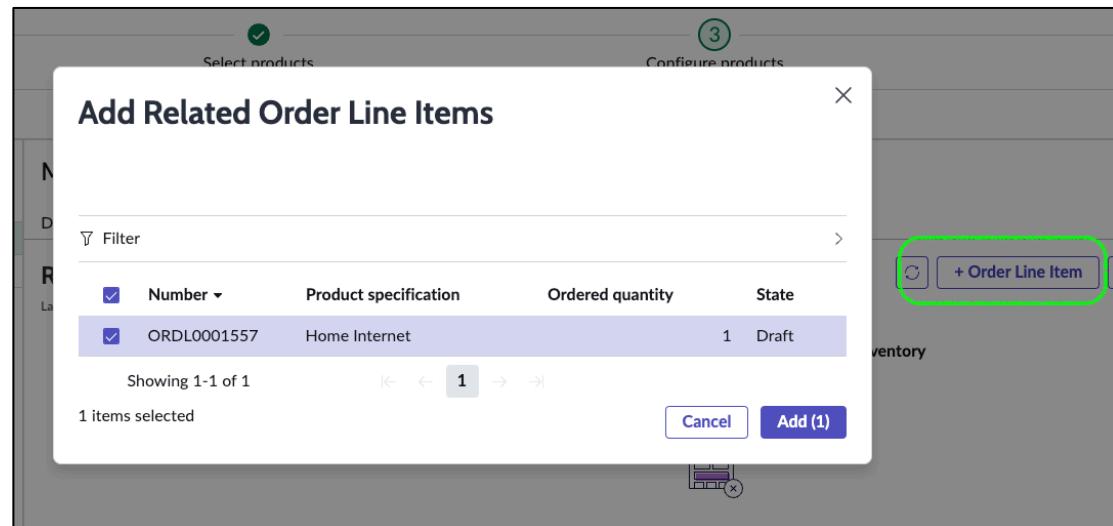
Product offerings	
Offering *	Quantity
All in one mobile plan starting from \$39/month	1
Offering *	Quantity
Premium Home Internet starting from \$29	1

- i. Click on **Configure Items**.
- h. Click on the **Mobile Plan** Order Line Item and then navigate to the **Related Items** sub-tab.



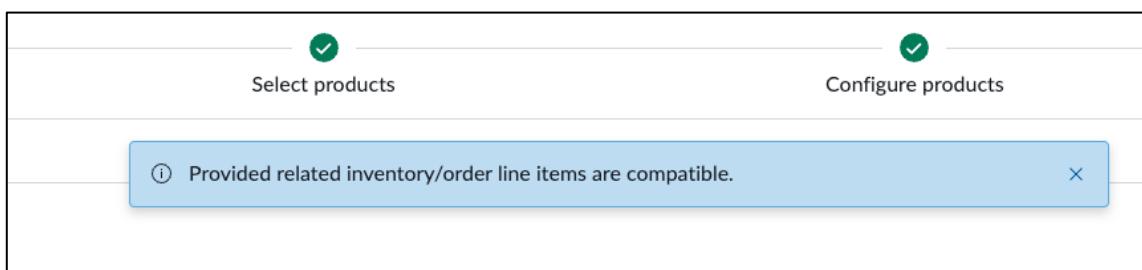
The screenshot shows the 'Mobile Plan' record in the ServiceNow interface. The 'Related Items' tab is selected, and the 'Home Internet' order line item is highlighted with a green circle. The 'Mobile Plan' record has two order line items: 'Mobile Plan' and 'Home Internet'.

- Click on the button **+ Order Line Item**, select the Order Line Item for Home Internet, and click on the **Add(1)** button.



The screenshot shows the 'Add Related Order Line Items' dialog box. The '+ Order Line Item' button is highlighted with a green circle. The dialog box displays a list of order line items, with 'Home Internet' selected.

- Observe a new record added under Related Items and click on **Review**.
- This time, the warning/information message window indicates all line items are compatible.

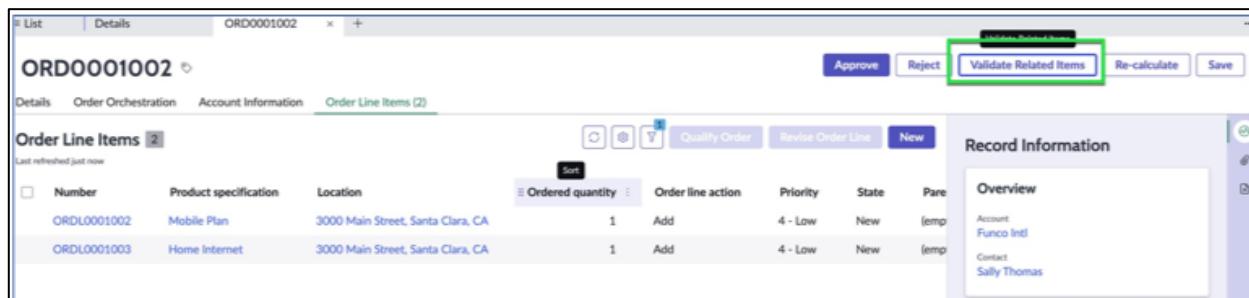


The screenshot shows a message box indicating that related inventory/order line items are compatible.

- Click on **Submit** to submit the Order.

## Section 2.2 Approve Order

1. Continue as **Mike Davis**, the *Fulfilment Manager*.
2. In the **Workspace > All Customer Orders** list, identify the order submitted in the previous section and **click** on its number to open it. (Refresh the browser if the order does not appear.)
3. The **Order Line Items** tab shows the line items submitted as part of this Order.
  - a. Notice there are two Order Line Items for **Home Internet & Mobile Plan**.
4. **Click** on the '**Validate Related Items**' button.
  - a. This validates if the necessary relationships are in place and returns an appropriate message.



5. On the Order Details tab, **click** the **Approve** button to kick-start the order decomposition process.

## Section 2.3 Validate and Close Order

1. **Navigate** to the **Order Line Items** tab and click the OLI for Mobile Plan (ORDLxxx number).
2. **Navigate** to the **Product Orders** sub-tab and click open the Product Order (POxxx number).

**Note:** *Product Order under the Order Line Items corresponds to the fulfilment domain order created by the Order Management App as part of the decomposition process. The Product Order may further decompose to a Service/Resource Order based on the Catalog model and decomposition rules.*

3. Click on the sub-tab '**Domain Order Related Items**' on the Product Order for Mobile Plan page.
4. Validate that the **Related Domain Order** and **Related Inventory** correspond to the **Home Internet** Product.

**Product Order for Mobile Plan** 

Details Order Orchestration Order Tasks (1) Service Orders (1) Resource Orders (1) Product Order Character... (6) **Domain Order Related It... (1)** Compo

**Domain Order Related Items**  1

Last refreshed 2m ago

Number	Domain order specification	Related domain order	Related inventory
DORI000001185	Mobile Plan	PO0001527	Home Internet PI0004579

**Note:** In the lab's next steps, students will close the fulfilment domain orders with the intention to close complete the OLI and the Order.  
This Lab will not focus on the orchestration activities.

5. Navigate to the Order Line Items page and click the Order Tasks sub-tab.
  1. Observe the Product/Service/Resource fulfillment Domain Orders created because of decomposition.
    - i. Ignore any Order Tasks (ORDTASKxxx) records in this lab.
  2. Click open the domain orders in the following sequence, and for each of the Domain Order, click on the **Close** Action button –
    - i. Resource Order for 4G SIM
    - ii. Service Order for Mobile Service
    - iii. Product Order for Mobile Plan

**Note:** As a best practice, domain orders should be closed complete bottom up, hence the sequence of closing them. In a typical implementation, these are auto-closed and completed via the sub-flows.

≡ List ORD0001160 x +

Details ORDL0001556 x ORDL0001557 x

**ORDL0001556** 

Details Order Orchestration Order Characteristics (15) Order Line Item Contacts Order Line Related Items (1) Product Orders (1) **Order Tasks (4)**

**Order Tasks** 4

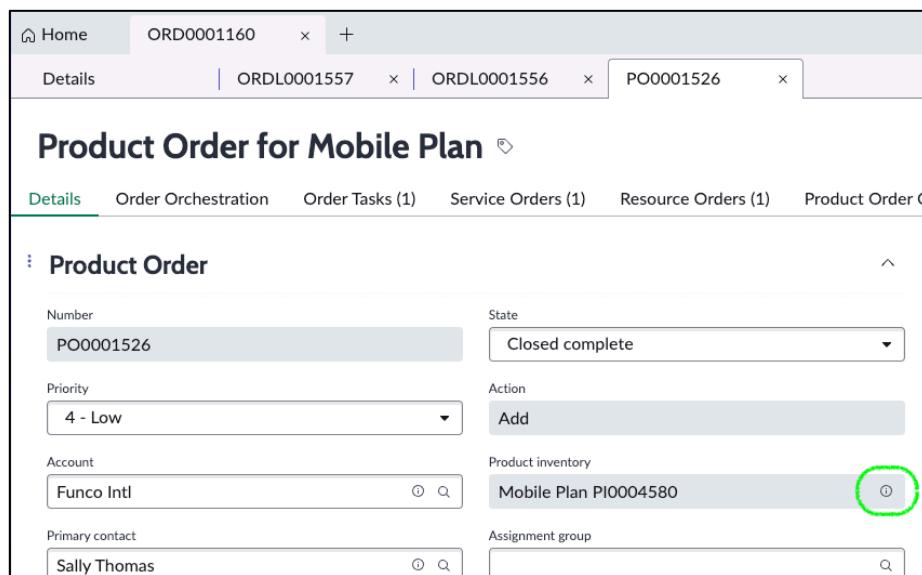
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Number	Short description	Priority	State	Assignment group
ORDTASK0001002	Document verification	4 - Low	In progress	(empty)
PO0001526	Product Order for Mobile Plan	4 - Low	Closed complete	(empty)
RO0002200	Resource Order for 4G SIM	4 - Low	Closed complete	(empty)
SO0002345	Service Order for Mobile Service	4 - Low	Closed complete	(empty)

6. Navigate to the **Details** sub-tab for the Order Line Item and observe the state is now **Closed Complete**.
  
6. Navigate to the **Order Details > Order Line Items** sub-tab and click open the **Home Internet** OLI.
  
7. Similar to the Mobile Plan OLI, navigate to the Order Tasks sub-tab and close the domain orders for Home Internet in the following sequence –
  - a. Resource Order for DSL Modem
  - b. Service Order for DSL Access Service
  - c. Service Order for Broadband Service
  - d. Product Order for Home Internet
  
8. **Navigate** to the **Details** sub-tab for the Order Line Item and observe the state is now **Completed**.
  
9. **Navigate** to the **Details** sub-tab for the Order and observe the state is now **Completed**.

## Section 2.4 Validate Horizontal Relationships in Product Inventory

1. **Navigate** to the Order Line Item for Mobile Plan.
  - a. **Click** on the sub-tab for **Product Orders** and open the **Product Order for Mobile Plan**.
  - b. On the **Details** sub-tab, click on the corresponding Product Inventory record by clicking on the 'i' icon next to it, as shown below.

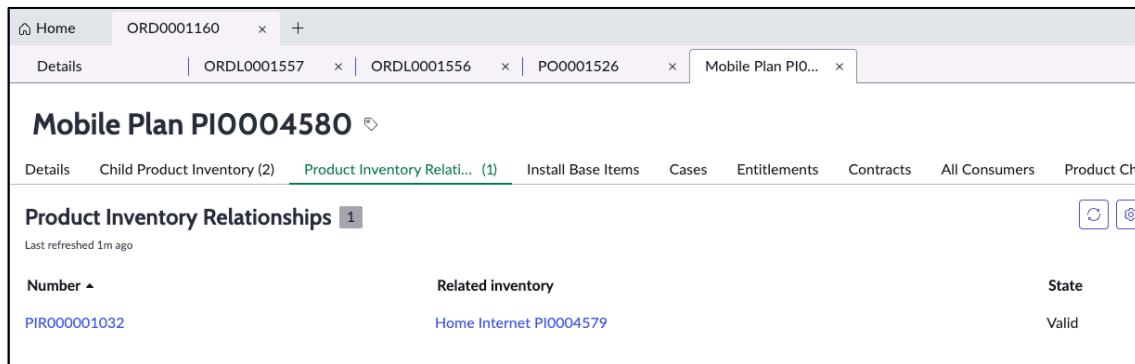


The screenshot shows the 'Product Order for Mobile Plan' page. At the top, there are tabs: Details, Order Orchestration, Order Tasks (1), Service Orders (1), Resource Orders (1), and Product Order C. The 'Details' tab is selected. Below the tabs, there is a sub-section titled 'Product Order' with the following fields:
 

- Number: PO0001526
- State: Closed complete
- Priority: 4 - Low
- Action: Add
- Account: Funco Intl
- Product inventory: Mobile Plan PI0004580 (this field is circled in green)
- Primary contact: Sally Thomas
- Assignment group: (empty field)

2. This opens the **Mobile Plan Product Inventory** Record Details page.
  - a. Navigate to the **Product Inventory Relationship** sub-tab.

- b. Observe that the horizontal relationship to Home Internet is also cascaded to the Product Inventory.



The screenshot shows a ServiceNow interface for a 'Mobile Plan PIO...'. The top navigation bar includes 'Home', 'ORD0001160', and a '+' button. Below the bar are several tabs: 'Details', 'Child Product Inventory (2)', 'Product Inventory Relati... (1)', 'Install Base Items', 'Cases', 'Entitlements', 'Contracts', 'All Consumers', and 'Product Ch...'. The 'Product Inventory Relati... (1)' tab is selected. The main content area is titled 'Product Inventory Relationships' with a count of 1. It shows a single relationship: 'PIR000001032' (Number) is related to 'Home Internet PI0004579' (Related inventory). The 'State' of this relationship is 'Valid'. There are two small icons on the right: a refresh symbol and a gear symbol.

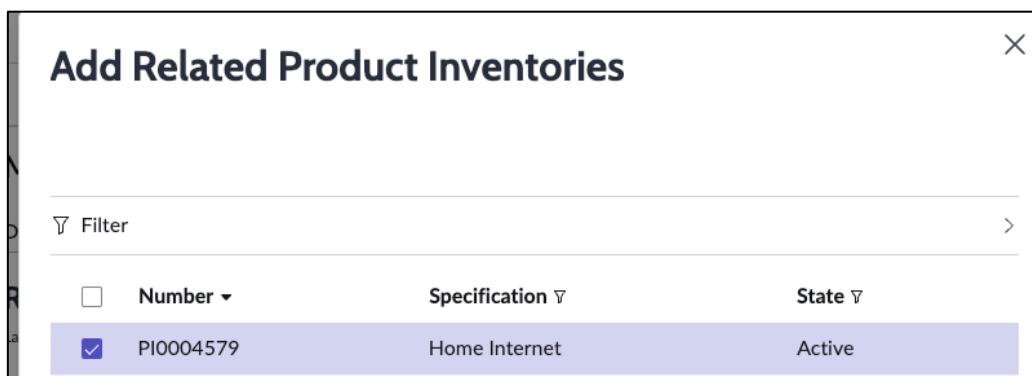
3. Note the **Product Inventory Record Number** (PIxxxx) for the Mobile Plan and Home Internet products.

## Section 3 Submit an Order for Existing Product Inventory

In this section of the lab, students will place an Order to add another Mobile Plan product but will select the Home Internet product from the Product Inventory that was added in the previous Section.

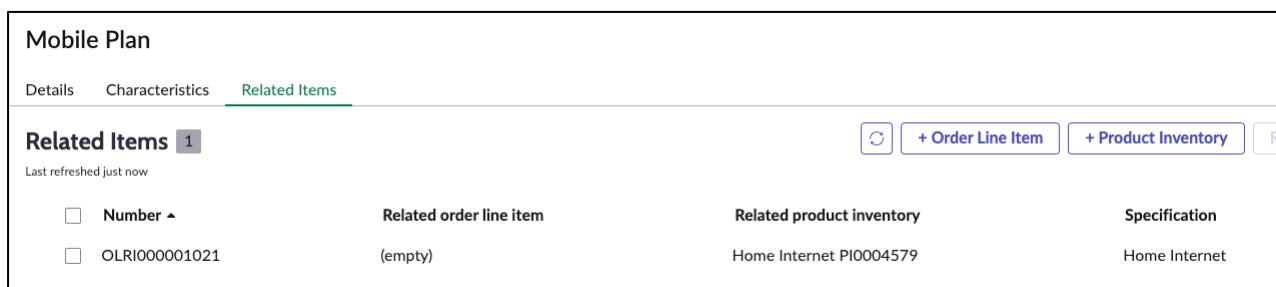
### Section 3.1 Submit an Order and Select Existing Product Inventory

1. Continue as **Mike Davis**, the *Fulfilment Manager*.
2. Like the steps in Section 2, create a new Product Order for the same Account 'Funco Intl' and add a **Mobile Plan Offer**.
  - a. Set the characteristics for the Mobile Plan Order Line Item.
3. Navigate to the Related Items tab and click the **+ Product Inventory** button.
4. Select the **Home Internet** Inventory record added previously.



Number	Specification	State
PI0004579	Home Internet	Active

5. Select the **Home Internet** Inventory record added previously.
  - a. The Related Order Line Item column is empty, but the Related Product Inventory is populated.



Number	Related order line item	Related product inventory	Specification
OLR1000001021	(empty)	Home Internet PI0004579	Home Internet

6. Click on **Review** to continue.

- 
- a. Notice the information message about related items being compatible.
  7. Click on the **Submit** button to submit the Order.
  8. **Approve** the Order.
  9. Like the previous section, navigate to the **Order Line Item > Order Tasks** and complete the Domain Orders in the suggested sequence.
  10. Validate the **Product Inventory relationship**, as done in the previous section.
  11. Note the Mobile Plan Product's Product Inventory Record Number (PIxxxx).

**If you have reached so far and have some time left, continue with Section 4**

## Section 4 Change Order for Horizontal Relationships

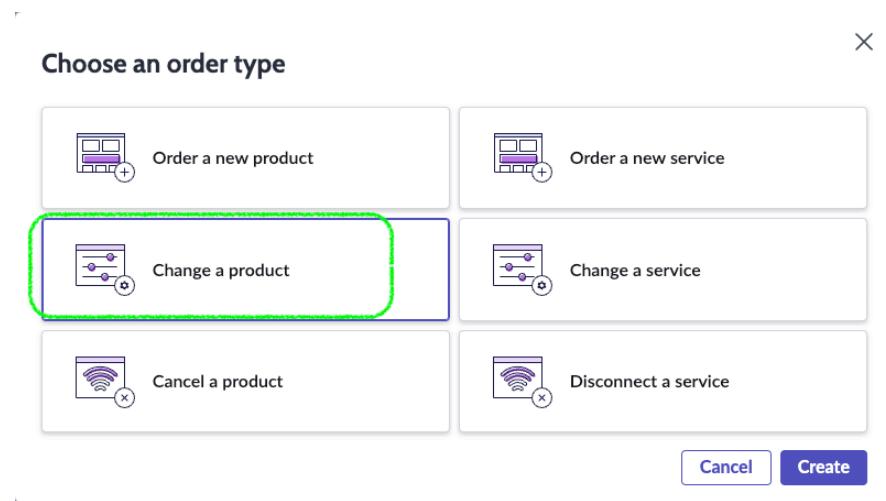
In this lab section, students will place an Order to change an existing horizontal relationship such that Mobile Plan requires Home Internet A changes to Mobile Plan require Home Internet B.

### Section 4.1 Submit an Order for Additional Home Internet

1. Continue as Mike Davis, *the Fulfilment Manager*.
2. Submit an order to add another instance of the '**Home Internet**' product for the same Account by referring to the steps in Section 2.
  - a. Select the Offer, configure the Characteristics, Review, and Submit the Order.
  - b. Approve the Order.
  - c. Close complete the Domain Order under Order Line Item > Order Tasks in the sequence described in Section 2.
  - d. Validate that the Order Line Item and Order are in the Completed state.
  - e. From the domain Order for Home Internet, **make a note of the Product Inventory Record number (PIxxxxx)**

### Section 4.2 Submit Change Order to modify the horizontal relationship.

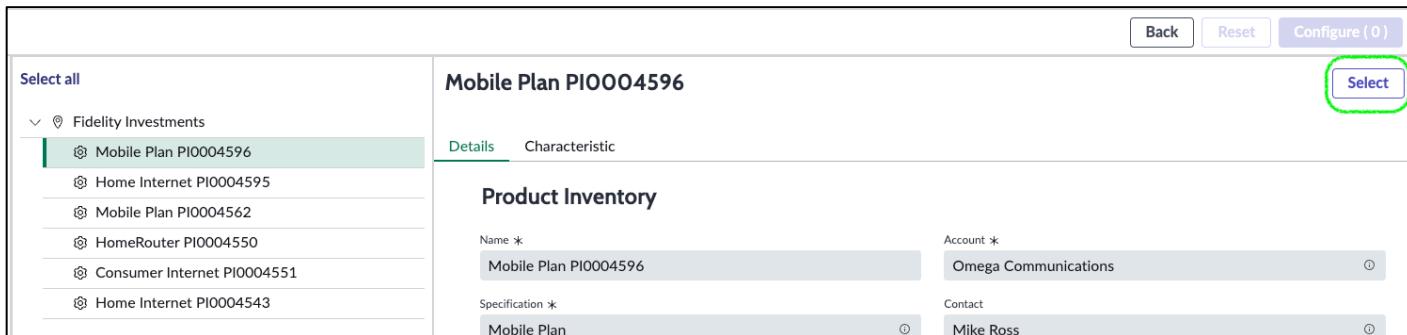
1. From the Workspace, **Create** a new Order of type '**Change a Product**'.



2. Select the **Account, Contact, and Location** same as in previous sections.

3. Select the **Mobile Plan** Product Inventory record added in Section 2 and click on **Select**.

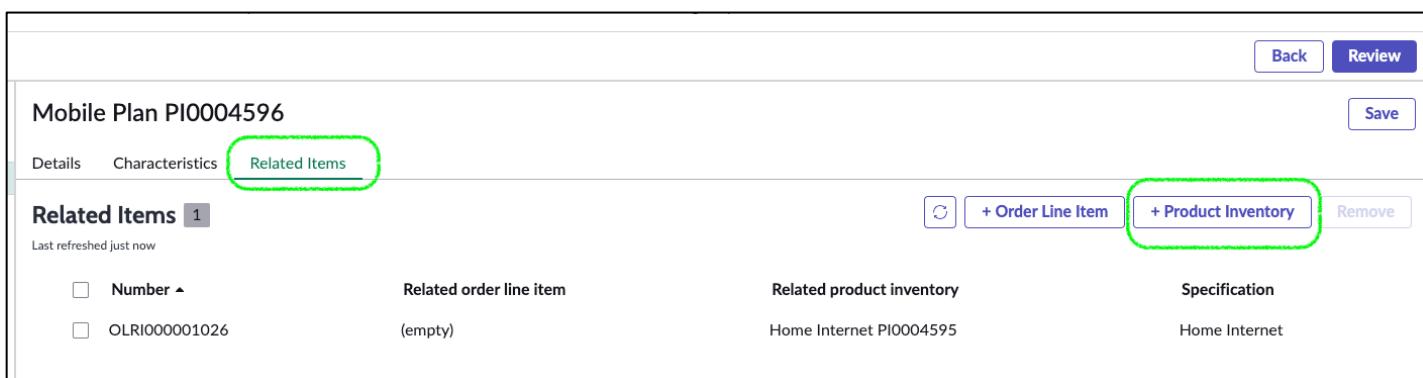
- a. Clicking on Select makes the Configure button available. **Click on Configure**.



The screenshot shows the 'Mobile Plan PI0004596' record. On the left is a sidebar with a 'Select all' button and a list of items under 'Fidelity Investments'. The item 'Mobile Plan PI0004596' is selected and highlighted with a green box. On the right, the main panel shows the product details: Name is 'Mobile Plan PI0004596', Account is 'Omega Communications', Specification is 'Mobile Plan', and Contact is 'Mike Ross'. At the top right are 'Back', 'Reset', and 'Configure (0)' buttons. The 'Select' button in the top right corner of the main panel is also highlighted with a green circle.

4. Navigate to the **Related Items** tab and Click the **+ Product Inventory** button.

- a. Add the **Home Internet** Product Inventory record instance added in Section 4.1



The screenshot shows the 'Related Items' tab for the 'Mobile Plan PI0004596' record. The tab is highlighted with a green circle. Below it, there is a table with one item: 'Number' (OLRI000001026) and 'Specification' (Home Internet). At the bottom right are 'Back', 'Review', and 'Save' buttons. The '+ Product Inventory' button is also highlighted with a green circle.

- b. Click on **Review** and then the **Submit** button to submit the Change Order.

5. Click Open the Order from the List

- a. Navigate to the **Order Line Items** list tab and notice the **Order line action = Change**.

- b. Click **Approve** to initiate the decomposition process.

6. Navigate to the **Order Line Item > Order Tasks** sub tab.
7. Close complete the Domain Orders in the following sequence –
  - a. **Resource Order for 4G SIM**
  - b. **Service Order for Mobile Service.**
8. **Navigate to the Product Order for Mobile Plan**
  - a. On the **Details** sub-tab, click on the **Product Inventory reference record** by clicking on the 'i' icon next to it.

- b. Notice the **state** of the Product Inventory record; is it '**Change pending**'?

Mobile Plan PI0004596

**Product Inventory**

Name *	Mobile Plan PI0004596	Account *	Omega Communications
Specification *	Mobile Plan	Contact	Mike Ross
State	Change pending	Product offering	All in one mobile plan starting from \$39/m
Location	Fidelity Investments	Product model *	Mobile Plan PRD00000084
Parent product	-		

c. **Navigate** back to the Product Order record for Mobile Plan.

- Navigate** to the **Domain Order Related Items** sub-tab.
- Observe that there are two records.
  - Add a column for 'Existing Related Inventory' if not present by clicking the gear icon.

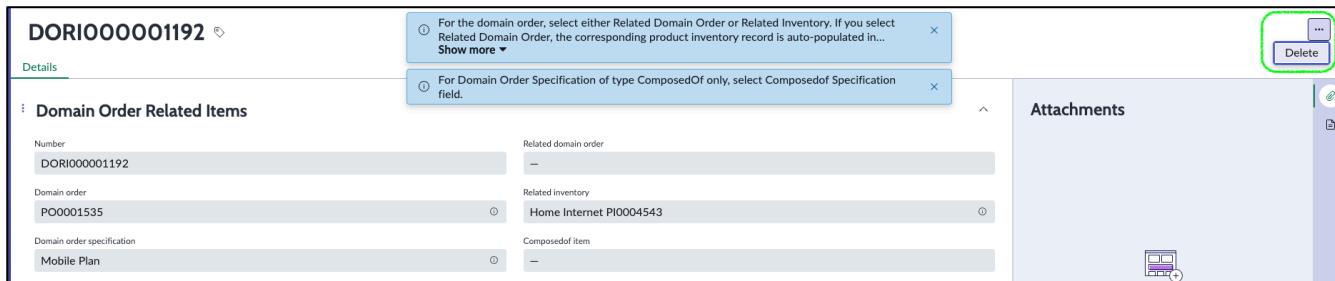
Product Order for Mobile Plan

**Domain Order Related Items** (2)

Number	Domain order specification	Related domain order	Related inventory	Existing related inventory
DORI000001192	Mobile Plan	(empty)	Home Internet PI0004543	true
DORI000001193	Mobile Plan	(empty)	Home Internet PI0004595	false

**Note:** The 'Existing related Inventory' column (true/false) indicates which Home Internet Inventory record is an existing v/s newly added as part of the Change/Disconnect order. The default value of this is always false.

- d. **Click** open the Domain Order Related Item record (DORIxxxx) with the **'Existing related inventory'** flag as **true**.
- e. From the three dots on the right corner, click the **Delete** button and click on **OK** in the confirmation pop-up.



**Note:** There were two records under the Domain Order Related Items – an existing relationship of Mobile Plan with Home Internet AND the newly added relationship in the Change Order. To progress with the Change, the existing relationship needs to be deleted.

- f. **Navigate** back to the Domain Order Related Items; there should be only one record entry now with the **'Existing related inventory'** flag = **false**.
- 9. **Navigate** to the Details sub-tab for **Product Order for Mobile Plan** and click the Close button to complete the domain order.
  - a. The Order Line Item and Order move to Completed state.
- 10. **Navigate** to the Product Inventory record for the Mobile Plan tab.
  - a. **Click** on the Product Inventory Relationship sub-tab.
  - b. **Add** a new column, **'Status Reason'**, to the view by clicking on the gear icon if the column is not already present.
  - c. **Notice** there are two Related Inventory records for Home Internet – one

with State '**Valid**' and the other '**Invalid**'.

- d. Also, notice the Status reason updated by OMT for the Invalid State.

Number	Related inventory	State	Status reason
PIR000001035	Home Internet PI0004595	Valid	Dependent product inventory has been updated. (Order id: ORD0001168)
PIR000001036	Home Internet PI0004543	InValid	Dependent product inventory has been updated. (Order id: ORD0001168)

**The Change Order is now completed, and the modified inventory relationships are reflected in the Product Inventory.**

**Congratulations! You have completed this lab.**