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**LAB1743-K23**

**Building complex order  
fulfillment workflows with Order  
Management**

ServiceNow TMT

Shashank Inamdar & Shubham Mittal

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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:

- Review & Build Product Catalog
- Create Customer Orders via Agent Workspace
- Decompose & Fulfil Orders
- Manage Fallout & Process Inflight Order changes.
- Validate the Inventory

## Scenario

As digital services become more complex, automation is key to streamlining order fulfillment workflows. In this lab, participants will learn first-hand how Order Management provides the automation and optimization fulfillment teams need to launch services faster. Learn how to get architecture and integrations right the first time, establish a single product catalog for scale, and dabble with flow designer to optimize order capture, decomposition and fulfillment workflows. Everything you need to get started with Order Management from ServiceNow

**Flash Telecom** is a Telecom Service Provider offering Broadband Connectivity and Digital Services to Small-Medium Businesses.

The Service Provider is going through a Digital Transformation program with the objective of reducing time to market for product & services, automation of complex fulfilment and better Agent experience.

Flash Telecom has decided to use ServiceNow's cloud based low-code no-code Telecom Service Management & Order Management solution to build Products and orchestrate the fulfilment of activities.

In this lab, students will **build/configure a deconstructed set up of Product Catalog and Order Management application** to support a use case - '**Add of a Broadband Connection**' for an SMB customer.

## Personas

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

## Section 1 Validate your ServiceNow Instance

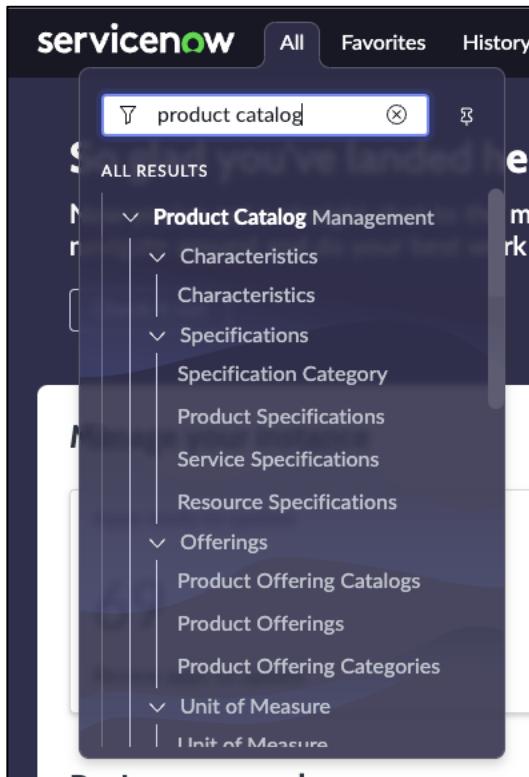
### Section 1.1 Login & Validate

1. Log in to the student lab instance using the **Magic Link** provided via email.

**Note:** The user is logged in as **Admin**.

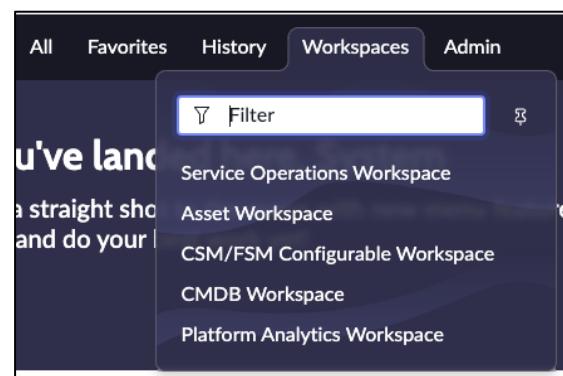
2. Click on **All** and type 'Product Catalog'.

**Validate:** Product Catalog Management module displays.



3. Click on **Workspaces**,

**Validate:** CSM/FSM Configurable Workspace displays in the list.



If the Product Catalog modules and/or Workspace is not available in the assigned instance, **please flag this!**

## Section 2 Product Catalog Modeling

### Section 2.1 Browse the Product Catalog Model

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



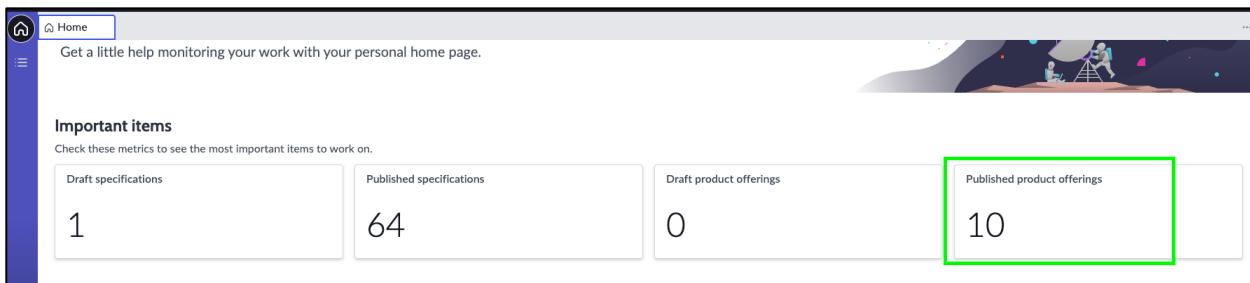
Caption: Image of the user menu with the Impersonate user highlighted.

- 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. On the landing page, Click on the **Published product offerings** widget.

**Note:** The landing page is configurable to display information via widgets



6. From the list, select the PRDOF Number next to the '**Flash SMB Connect Offer**' (Display Name column)

PRDOF01001	Flash Broadband Offer	1	Flash Broadband Package M
PRDOF01002	Flash SMB Connect Offer	1	Flash Broadband Package

7. On the **Details** sub-tab, observe the Product Offering configuration set up –

- State (Is it Draft, Published or Retired?)
- Version
- Effectivity Dates (Start/End)
- Product Specification (what top line Product is the offer selling?)
- Pricing Information (Recurring and Non-Recurring charges)

Flash SMB Connect Offer

Details Catalog Hierarchy Product Offering Charac... (6) Product Visuals Related Contracts Versions (1)

**Product Offering**

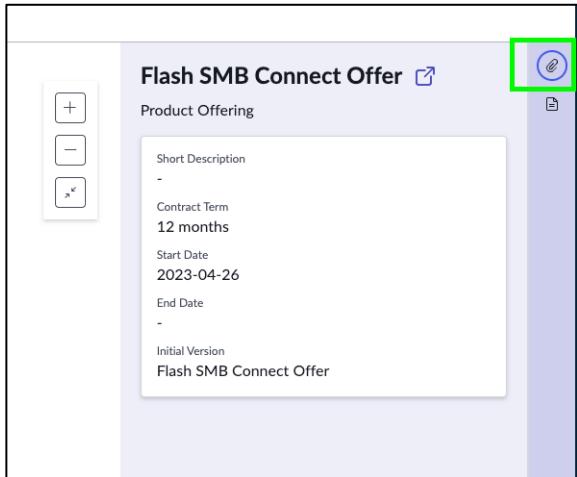
Number	PRDOF01002	State	Published
Name *	Flash_SMB_Connect_Offer	Distribution channel *	Agent Assist Web
Version	1	Start date *	2023-04-26
Display name *	Flash SMB Connect Offer	End date	—
Product specification *	Flash Broadband Package	Owner	—
Contract term *	12 months	Initial version	Flash SMB Connect Offer
Monthly recurring charges	USD (\$20.00)	Previous version	—
Non recurring charges	USD (\$10.00)		

8. Click on the **Catalog Hierarchy** sub-tab.

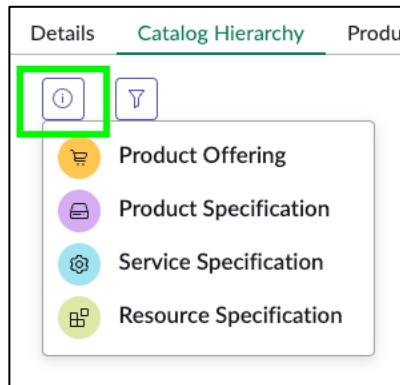
Flash SMB Connect Offer

Details Catalog Hierarchy Product Offering Charac... (6) Product Visuals Related Contracts Versions (1)

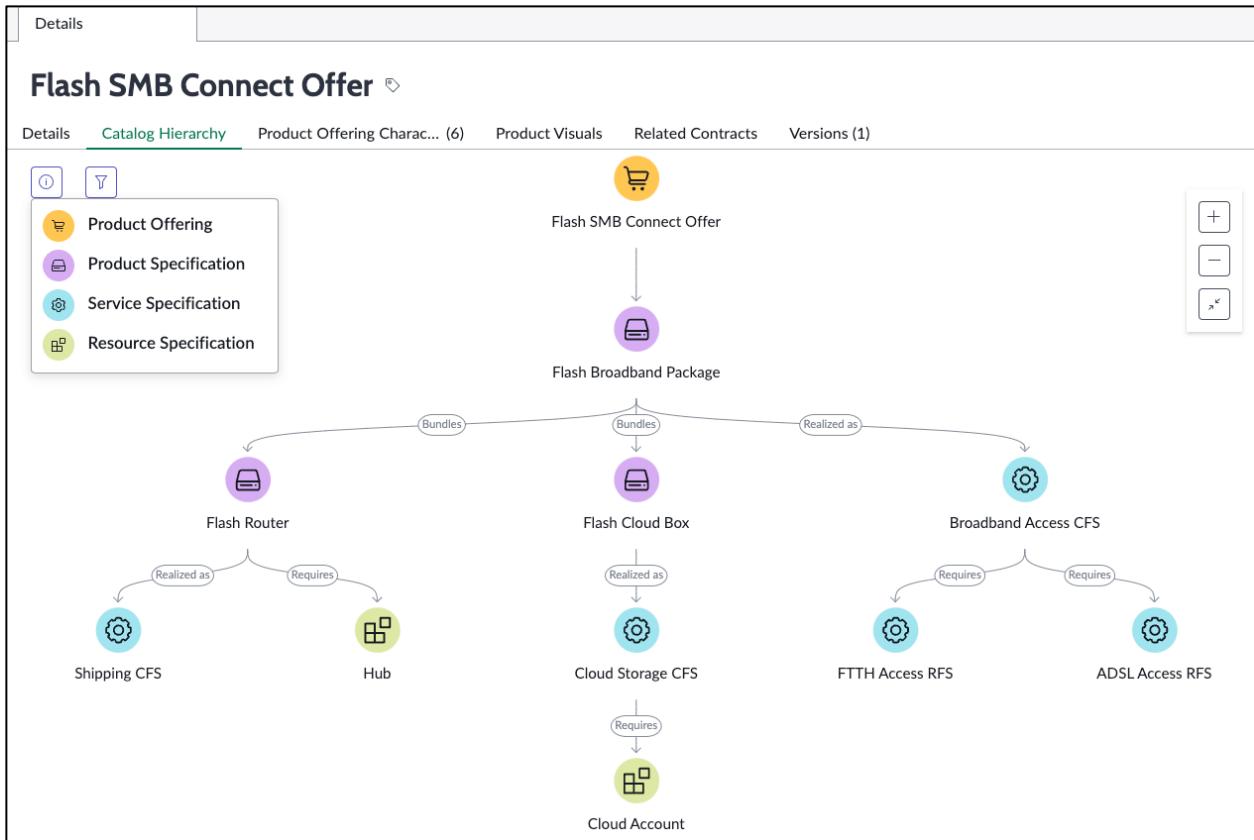
- a. Click on the **Attachment icon** on the right to minimize the Attachments sub-window to get a bigger canvas.



- b. Click on the **Information icon** on the left to display the legend.



- c. Use the **+/-** and **fit to screen** buttons to adjust the view of the Catalog Hierarchy.
- d. Observe the Catalog Structure and the relationships between different entities.



9. On the **Product Offering Characteristics** sub-Tab, observe the following –

**Note:** For ease of visibility, click on the Specification column to sort the characteristics by Specifications

Characteristic	Characteristic option	Specification	Customer input required	Monthly recurring charges	Non recurring charges	Order	Mandatory	Default
Router_Type	SuperHub	Flash Router	true	\$5.00	\$10.00	false	false	
Router_Type	Hub	Flash Router	true	\$0.00	\$0.00	false	false	
Cloud_BoxType	Individual	Flash Cloud Box	true	\$0.00	\$0.00	false	true	
Cloud_BoxType	Group	Flash Cloud Box	false	\$0.00	\$0.00	false	false	
Broadband_Speed	Fast	Flash Broadband Package	true	\$0.00	\$0.00	false	false	
Broadband_Speed	Superfast	Flash Broadband Package	true	\$5.00	\$0.00	false	false	

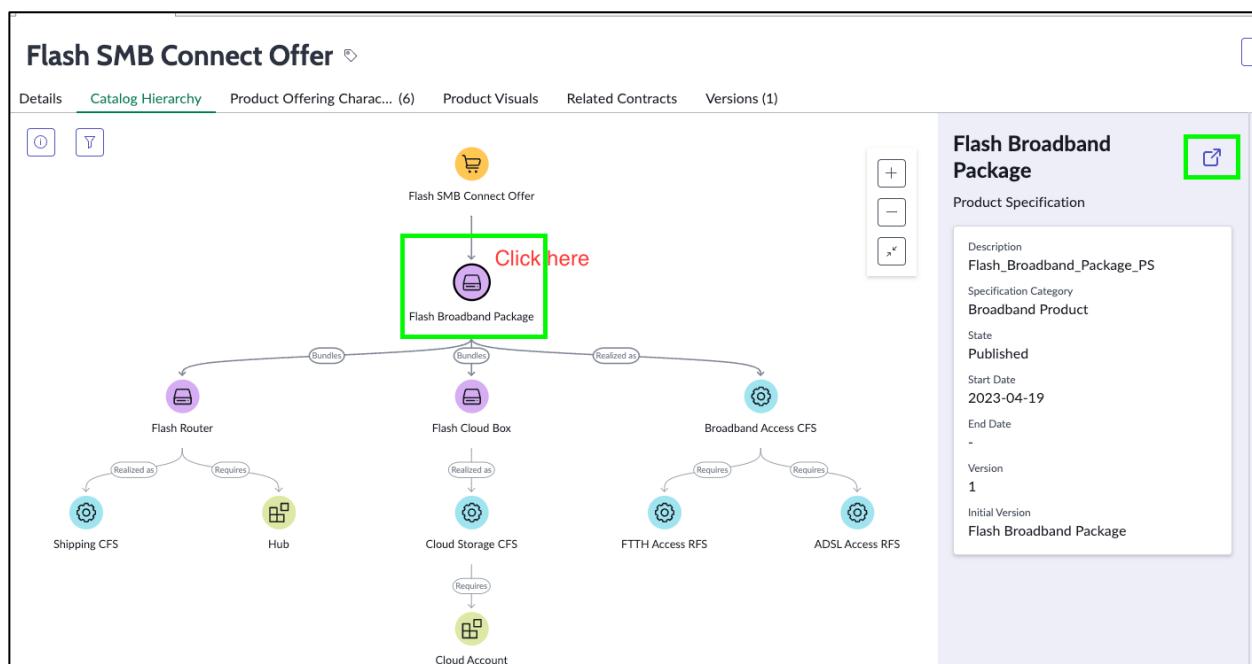
- Different Product Specification Characteristics & their options exposed via the Offering for configuration at the time of Ordering.
- Customer Input Required flag.
- Characteristics based pricing.

## Section 2.2 Configure Attribute Mapping

With Attribute mapping it is possible to map values from a source specification characteristic to a target specification characteristic.

This is particularly useful when translating a customer facing characteristic value to a technical value that may be needed during fulfilment.

1. Continue as **James Smithson**.
2. For the '**Flash SMB Connect Offer**', click on the **Catalog Hierarchy** sub-tab.
  - a. Click on the Product Specification '**Flash Broadband Package**'
  - b. Click on the '**Open Record**' icon in the left pane to open the Specification in a new tab as shown in the example.



3. Click on the **Attribute Mappings** sub-tab.



- a. Click **New**.

- b. Set the **Source Characteristic** as 'Broadband Speed'
- c. On the **Source Characteristic Option**, click on the search icon.
- d. Select the value 'Superfast' by clicking on the characteristic name next to it.

The screenshot shows the 'Create New Attribute Mapping' screen. In the center, a modal window titled 'Source characteristic option' displays a list of options for the 'Broadband\_Speed' characteristic. The list includes 'Superfast' and 'Fast'. The 'Fast' option is highlighted with a light gray background. At the bottom of the modal, there are navigation buttons for filtering, sorting, and pagination, showing 'Showing 1-2 of 2' and a page size of '20 rows per page'.

- e. Set the **Target Specification** as '**<Broadband Access CFS>**'

**Note:** Ensure NOT to select the 'Broadband Access CFS M'.

- f. On the **Target Characteristic**, click on the search icon.
- g. Select the value '**<Speed\_Profile>**'.
- h. On the **Target Characteristic Option**, click on the search icon.
- i. Select the value '**<Gold\_QoS>**' by clicking on the characteristic name next to it.

4. Click on **Save** and close the Attribute mapping record. This displays the 'Flash Broadband Package' tab with the Attribute mapping sub-tab open.
- j. Click on the Refresh icon to see the newly created mapping.

5. Repeat the process from **Step 2** onwards to create an Attribute mapping for the following –

Source Characteristic	Source Characteristic option	Target Specification	Target Characteristic	Target Characteristic option
Broadband_Speed	Fast	Broadband Access CFS	Speed_Profile	Silver_QoS

Attribute mapping sub-tab shows both the entries as follows:

The screenshot shows the ServiceNow interface with the following details:

- Top navigation bar: Home, Published produc..., Flash SMB Conne... (highlighted).
- Sub-navigation bar: Details, Flash Broadband ... (highlighted).
- Title: Flash Broadband Package
- Tab navigation: Details, Catalog Hierarchy, Specification Characteris... (2), Specification Relationshi... (3), Product Offerings (1), **Attribute Mappings (2)**, Versions (1), Compatibility Rules.
- Section: Attribute Mappings [2]
- Text: Last refreshed just now.
- Table:

Number	Source characteristic	Source characteristic option	Target specification	Target characteristic	Target characteristic option
ATRMP0001002	Broadband_Speed	Superfast	Broadband Access CFS	Speed_Profile	Gold_QoS
ATRMP0001004	Broadband_Speed	Fast	Broadband Access CFS	Speed_Profile	Silver_QoS

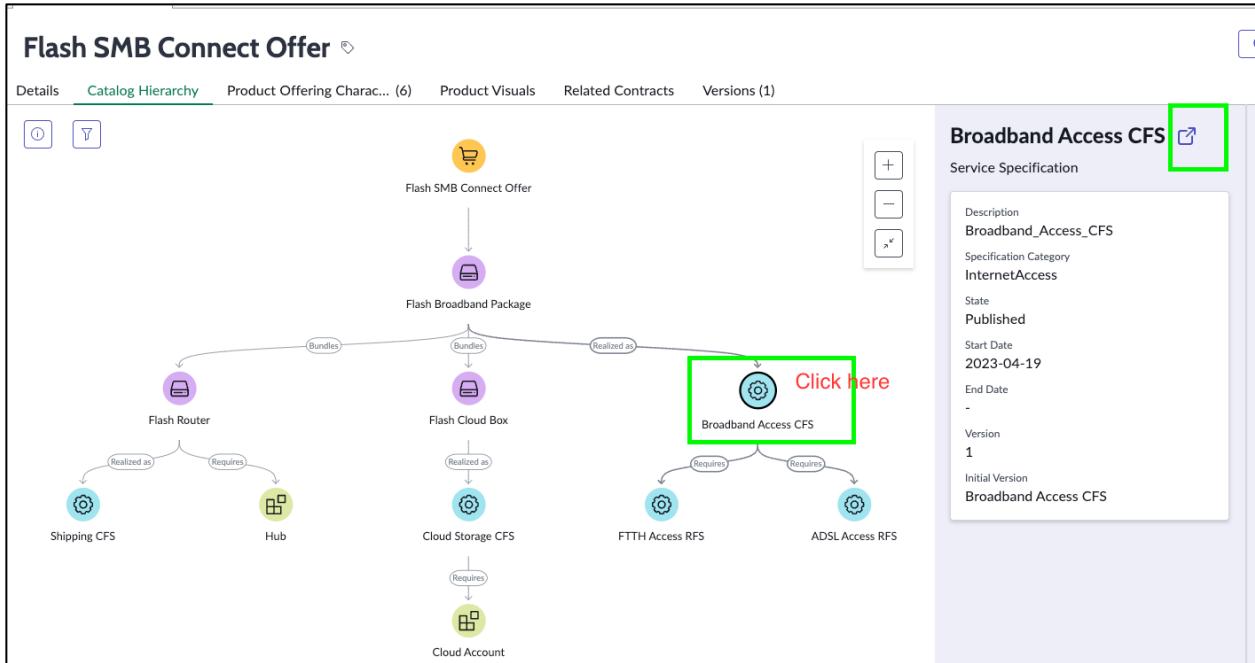
- Buttons: Refresh List, New.

6. Close the **Flash Broadband Package** tab.

### Section 2.3 Configure Decomposition Rule

Decomposition Rules are defined against specification relationships. At run time, Order Management Application refers to the decomposition rules to determine how a specification decomposes to create child specifications.

1. Continue as **James Smithson**.
2. For the '**Flash SMB Connect Offer**', click on the **Catalog Hierarchy** sub-tab.
  - a. Click on the Service Specification '**Broadband Access CFS**'.
  - b. Click on the 'Open Record' icon in the left pane to open the Specification in a new tab as shown in the example.



3. Click on the **Specification Characteristics** tab.

a. Review the two possible values for the characteristic '**Access\_Technology**'.

<b>Broadband Access CFS</b>			
Details	Catalog Hierarchy	Specification Characteristics (5)	Specification Relationships (2)
<b>Specification Characteristics</b> 5			
Last refreshed 2m ago.			
Characteristic	Characteristic option		
BB Connection Id	(empty)		
Speed_Profile	Gold_QoS		
<b>Access_Technology</b>	FTTH		
<b>Access_Technology</b>	ADSL		
Speed_Profile	Silver_QoS		

**Note:** The possible options for the last mile access technology are ADSL (Copper) or FTTH (Fibre).

4. Click on the **Specification Relationship** sub-tab.

- The sub-tab displays existing relationships.

Target type	Target specification	Relationship type	Mandatory	Minimum quantity	Default quantity	Maximum quantity
Service Specification	FTTH Access RFS	Requires	true	0	1	1
Service Specification	ADSL Access RFS	Requires	true	0	1	1

- For the '**FTTH Access RFS**' target specification, click on the **Service Specification** hyperlink under the column Target type.

Target type	Target specification	Relationship type	Mandatory	Minimum quantity	Default quantity	Maximum quantity
Service Specification	FTTH Access RFS	Requires	true	0	1	1
Service Specification	ADSL Access RFS	Requires	true	0	1	1

This opens the Specification Relationship in a new tab.

- Click on the **Decomposition Rules** sub-tab and click on **New**.

Source specification	Characteristic	Characteristic option	Target specification
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- Click on the **Characteristic** field. This shows a list of characteristics of the 'Broadband Access CFS' specification.

- Select the value '**Access Technology**'.

8. Click on the **Characteristic option** field. This shows a list of possible values for the characteristic selected in the earlier step.
  - a. Select the value '**FTTH**'.
9. Click on **Save** and close the tab.
  - a. Clicking on the Refresh icon on the **Broadband Access CFS - Requires - FTTH Access RFS > Decomposition Rules** sub-tab shows the configured rule.

Source specification	Characteristic	Characteristic option	Target specification
Broadband Access CFS	Access_Technology	FTTH	FTTH Access RFS

- b. **Close tab** and return to **Broadband Access CFS > Specification Relationships** tab.
10. For **Broadband Access CFS**, repeat the process from **step 4** onwards to add decomposition rule for the Target service specification '**ADSL Access RFS**'.
  - a. Characteristic = **Access\_Technology**
  - b. Characteristic option = **ADSL**

Source specification	Characteristic	Characteristic option	Target specification
Broadband Access CFS	Access_Technology	ADSL	ADSL Access RFS

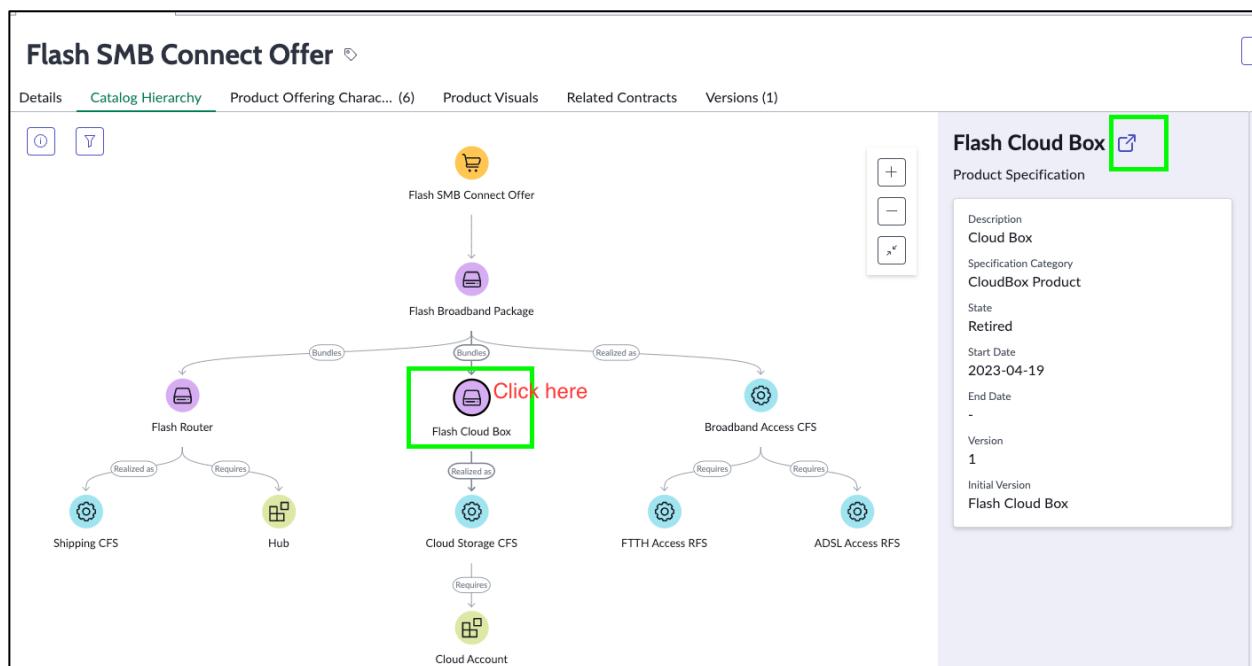
11. Close the '**Broadband Access CFS**' tab.

## Section 2.4 Quantity Mapping Configuration

With the Quantity mapping feature, based on a characteristic value it is possible to configure the number of instances of a child specification entity to be created.

This section provides guidance on creating a quantity map based on the value of the `Cloud_BoxType` (`Individual = 1`, `Group = 2`)

1. Continue as **James Smithson**.
2. For the '**Flash SMB Connect Offer**', click on the **Catalog Hierarchy** sub-tab.
  - a. Click on the Product Specification '**Flash Cloud Box**'.
  - b. Click on the 'Open Record' icon in the left pane to open the Specification in a new tab as shown in the example.
  - c. On the **Details** sub-tab for Flash Cloud Box, observe the State. Is it **Draft**?



3. Click on the **Specification Characteristics** tab.
  - a. Review the two possible values for the characteristic '**Cloud\_BoxType**'.

**Flash Cloud Box**

Details Catalog Hierarchy Specification Characteristics (2) Specification Relationships (1)

### Specification Characteristics [2]

Last refreshed 2m ago.

Characteristic	Characteristic option
Cloud_BoxType	Individual
Cloud_BoxType	Group

4. Click on the **Specification Relationship** sub-tab.

- a. The sub-tab displays existing relationships.

**Flash Cloud Box**

Details Catalog Hierarchy Specification Characteristics (2) Specification Relationships (1) Product Offerings Attribute Mappings (2) Versions (1) Compatibility Rules

### Specification Relationships [1]

Last refreshed 2m ago.

Target type	Target specification	Relationship type	Mandatory	Minimum quantity	Default quantity	Maximum quantity
Service Specification	Cloud Storage CFS	Realized as	true	1	1	2

5. For the '**Cloud Storage CFS**' target specification, click on the **Service Specification** hyperlink under the column Target type.

**Flash Cloud Box**

Details Catalog Hierarchy Specification Characteristics (2) Specification Relationships (1) Product Offerings Attribute Mappings (2) Versions (1) Compatibility Rules

### Specification Relationships [1]

Last refreshed 3m ago.

Target type	Target specification	Relationship type	Mandatory	Minimum quantity	Default quantity	Maximum quantity
Service Specification	Cloud Storage CFS	Realized as	true	1	1	2

This opens the Specification Relationship in a new tab.

6. On the tab for the Specification Relationship '**Flash Cloud Box - Realized as - Cloud Storage CFS**'

- a. On the Details sub-tab, click in the '**Quantity Characteristic**' field. Select the characteristic '**Cloud\_BoxType**'.

**Flash Cloud Box - Realized as - Cloud Storage CFS**

Details	Decomposition Rules	Quantity Mappings																				
<h3>Specification Relationship</h3> <table border="1"> <tr> <td>Display name</td> <td>Relationship type *</td> </tr> <tr> <td>Flash Cloud Box</td> <td>Realized as</td> </tr> <tr> <td>Source specification</td> <td>Minimum quantity</td> </tr> <tr> <td>Flash Cloud Box</td> <td>1</td> </tr> <tr> <td>Target type</td> <td>Default quantity</td> </tr> <tr> <td>Service Specification</td> <td>1</td> </tr> <tr> <td>Target specification</td> <td>Maximum quantity</td> </tr> <tr> <td>Cloud Storage CFS</td> <td>2</td> </tr> <tr> <td><input checked="" type="checkbox"/> Mandatory</td> <td>Quantity characteristic</td> </tr> <tr> <td></td> <td>Cloud_BoxType</td> </tr> </table>			Display name	Relationship type *	Flash Cloud Box	Realized as	Source specification	Minimum quantity	Flash Cloud Box	1	Target type	Default quantity	Service Specification	1	Target specification	Maximum quantity	Cloud Storage CFS	2	<input checked="" type="checkbox"/> Mandatory	Quantity characteristic		Cloud_BoxType
Display name	Relationship type *																					
Flash Cloud Box	Realized as																					
Source specification	Minimum quantity																					
Flash Cloud Box	1																					
Target type	Default quantity																					
Service Specification	1																					
Target specification	Maximum quantity																					
Cloud Storage CFS	2																					
<input checked="" type="checkbox"/> Mandatory	Quantity characteristic																					
	Cloud_BoxType																					

- b. Click on **Save**. After saving, if any information message appears (shown below), close it by clicking on the cross next to it.



- c. Click on the '**Quantity Mappings**' sub-tab and click on **New**. This opens a new sub-tab.

**Flash Cloud Box - Realized as - Cloud Storage CFS**

Details	Decomposition Rules	Quantity Mappings		
<h3>Quantity Mappings 0</h3> <p>Last refreshed just now.</p> <table border="1"> <thead> <tr> <th>Option</th> <th>Quantity</th> </tr> </thead> </table>			Option	Quantity
Option	Quantity			

7. Create a new Quantity Mapping

- Click in the Option field and set the value as **Individual**.
- Type the Quantity as '**1**'.
- Click on **Save** and close the sub-tab.

- d. On returning to the Quantity Mappings tab, click the **Refresh** icon to see the mapping value as below.

Flash Cloud Box - Realized as - Cloud Storage CFS						
Details	Decomposition Rules	Quantity Mappings (1)				
<b>Quantity Mappings</b> 1						
Last refreshed 1m ago.						
Option	Quantity	Created by	Created	Sys ID		
Individual	1	james.smithson	2023-05-05 13:19:08	864c49bab96:04		

8. Repeat step 7 to create a Quantity mapping for Option '**Group**' mapped to Quantity '**2**'.

Flash Cloud Box - Realized as - Cloud Storage CFS						
Details	Decomposition Rules	Quantity Mappings (2)				
<b>Quantity Mappings</b> 2						
Last refreshed just now.						
Option	Quantity	Created by	Created	Sys ID		
Group	2	james.smithson	2023-05-05 13:21:27	48dc0d7ab96:c1		
Individual	1	james.smithson	2023-05-05 13:19:08	864c49bab96:04		

9. Close the tab **Flash Cloud Box - Realized as - Cloud Storage CFS**

10. Back on the **Flash Cloud Box** tab, click on the **Publish** action button on the top right.

- Click OK for the Information message pop-up to accept publishing of the specification.
- On the Details sub-tab, observe the **State** field of the specification. Did it change to **Published**?

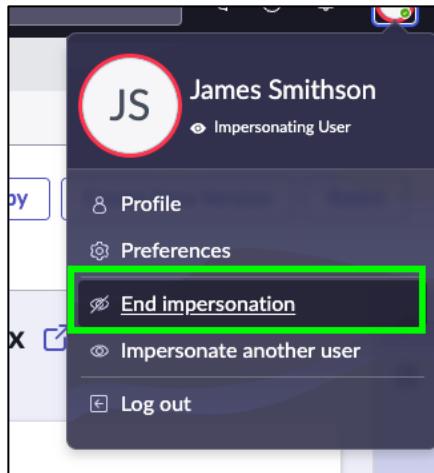
11. Close the tab for **Flash Cloud Box**.

12. Navigate back to the **Catalog Hierarchy** view for **Flash SMB Connect Offer**.

- If the hierarchy view does not load properly, refresh the browser.

### 13. End Impersonation as James Smithson

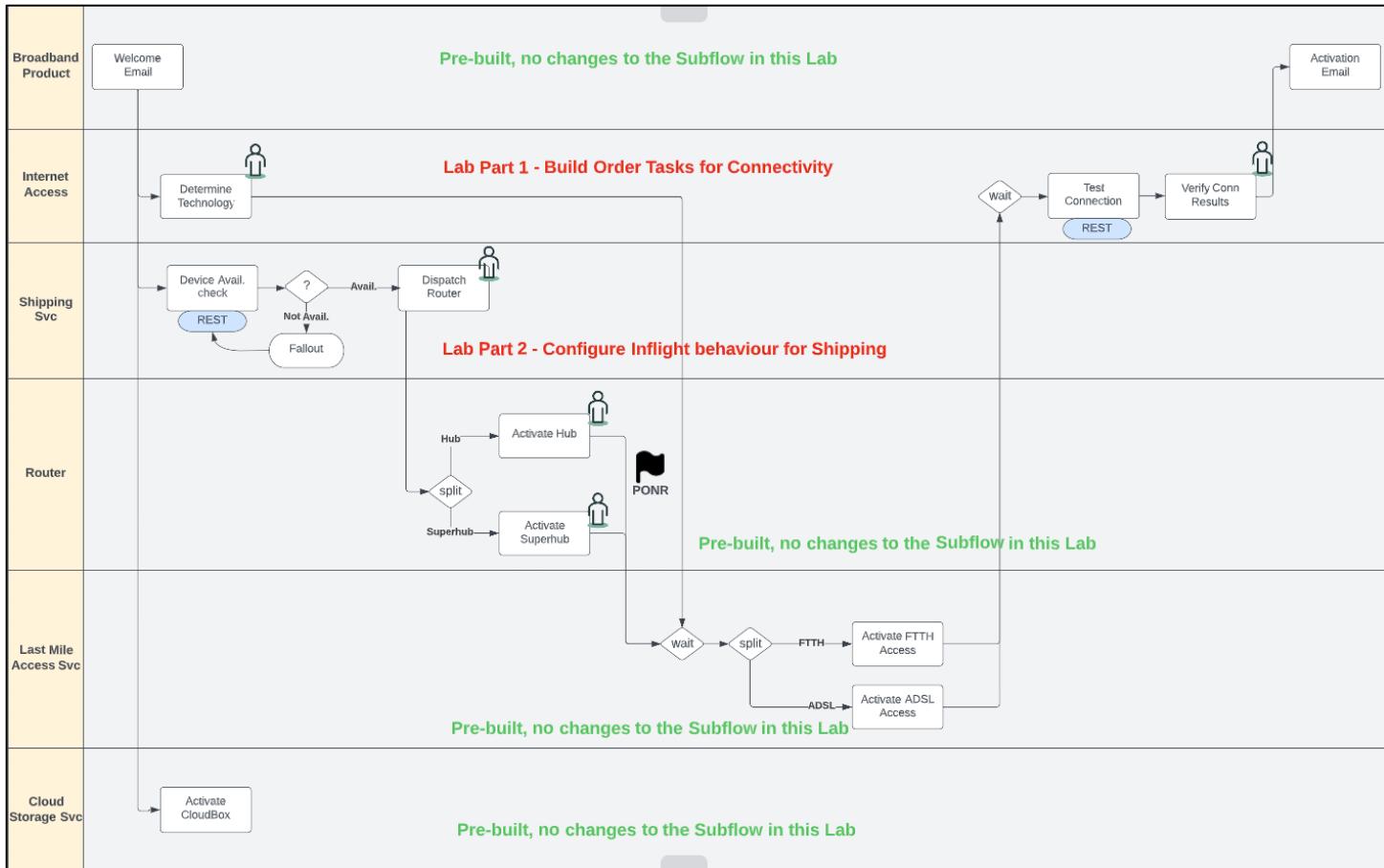
- Click on the user profile at the top right and select **End Impersonation** as shown below.



If students are not able to complete these steps in time or have had issues in configuring it, [they can still continue](#) with this lab.

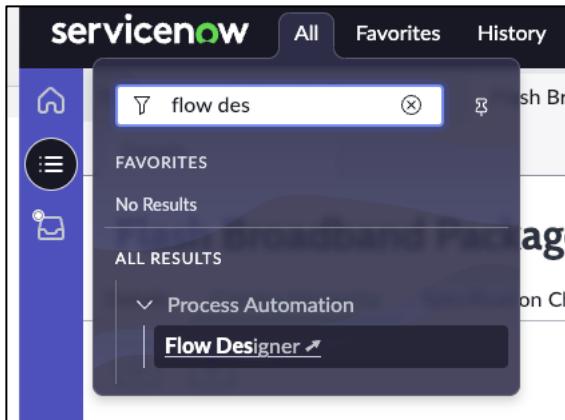
## Section 3 Define Orchestration Flow

The subflows that students will work on in this lab are half-built, with some of the foundational actions and data already configured. In this lab, students will follow the below steps to complete the orchestration logic in the subflows.



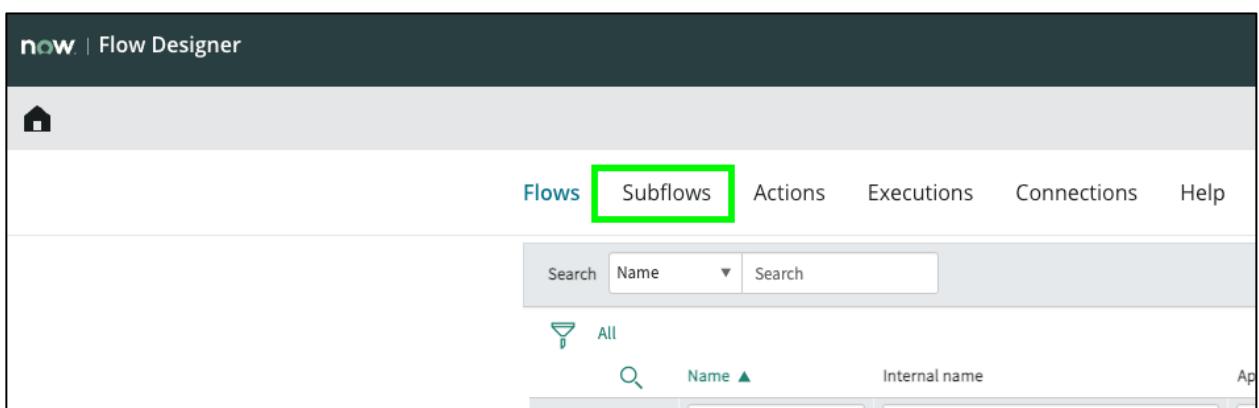
### Section 3.1 Build Order Tasks for Broadband Access Subflow using Flow Designer

1. Continue the following steps as **System Admin**.
2. Navigate to **All > Flow Designer**.



**Note:** The Flow Designer opens in a new browser tab.

3. Click on **Subflows**.



4. Click on the search icon to filter out subflows by typing **\*student** in the Name column followed by pressing the **Enter** key. The filter at the top will read **All > Name contains student**.

- a. Click on the **S\_K23 Broadband Access CFS\_student** subflow

**Note:** This Subflow orchestrates tasks that determine the last mile access technology (FTTH-Fiber or ADSL-Copper), and post activation of the connection initiates a REST API call to test the connectivity.

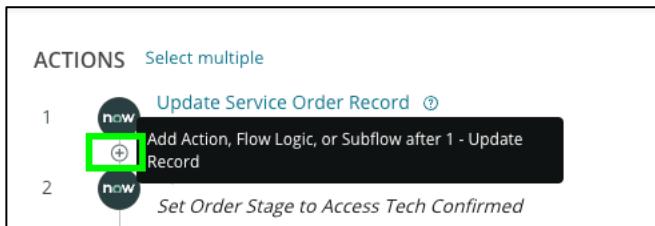


## 5. Observe the Flow Designer Subflow set up.

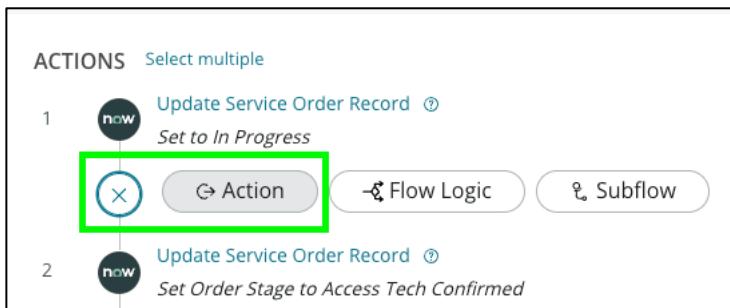
## 6. The requirement for the logic of the subflow is –

- Set the Domain Order for Broadband Access CFS 'In Progress'.
- Enrich the Order via Order Task (manual action) to confirm the Access technology to be used for the Broadband Connectivity. **(To be built in this Lab)**

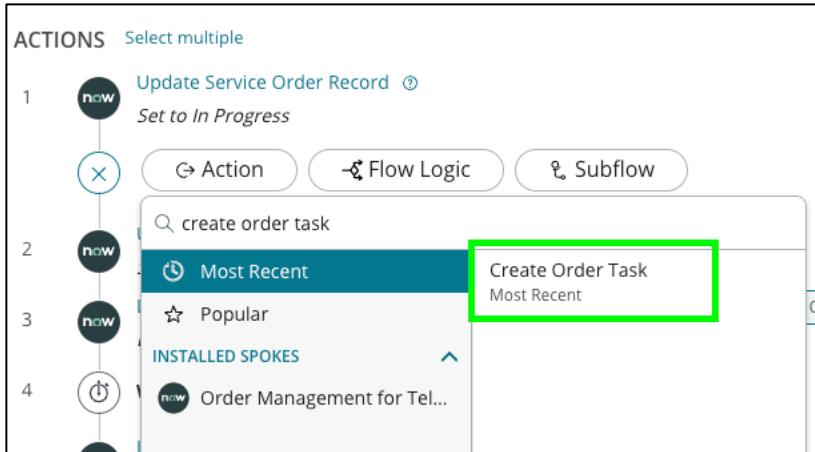
- c. Wait until other pre-requisite steps – Device Activation & Access Connectivity provisioning is completed.
  - d. Get the 'Connection Id' set by the Order Agent and use it to make a REST API call to test Broadband Connectivity.
  - e. Validate the test result via an Order Task (manually). **(To be built in this Lab)**
  - f. Close the Domain Order.
7. Bring the mouse cursor between actions 1 & 2. A '+' sign appears as below.



- a. Click on the '+' sign and select **Action**.



- b. In the Search Box for Actions, type **Create Order Task** and select the action.



**Note:** The Order Task Action type can be used as a Manual task during order orchestration allowing for the order to be enriched with information manually.

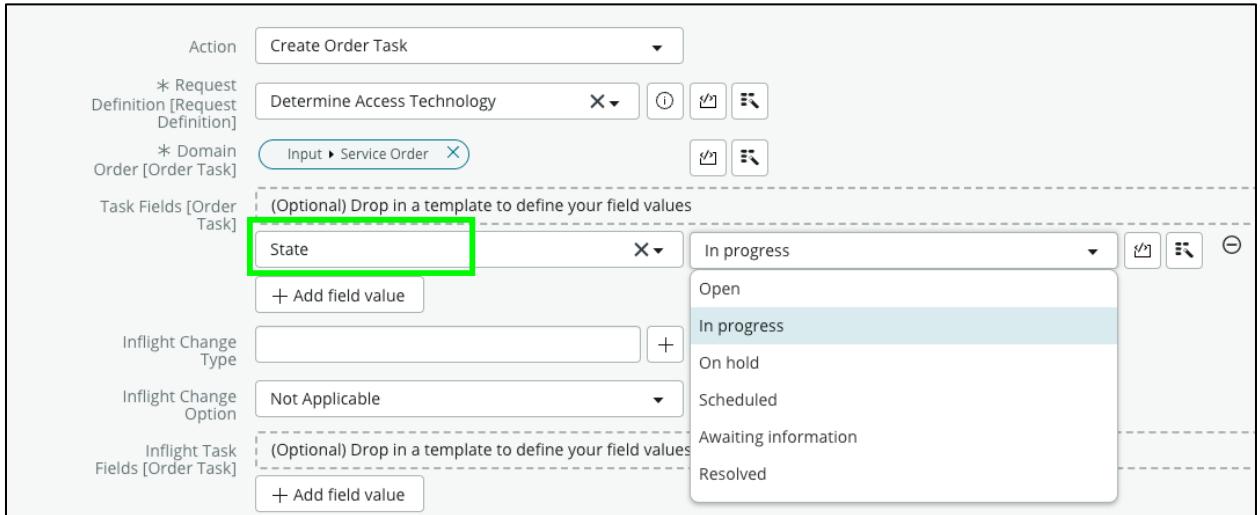
**Note:** In this lab, this Order Task allows for the Access Technology to be set post order submission once it is determined.

8. For the Action '**Create Order Task**', fill out the configuration details as follows –

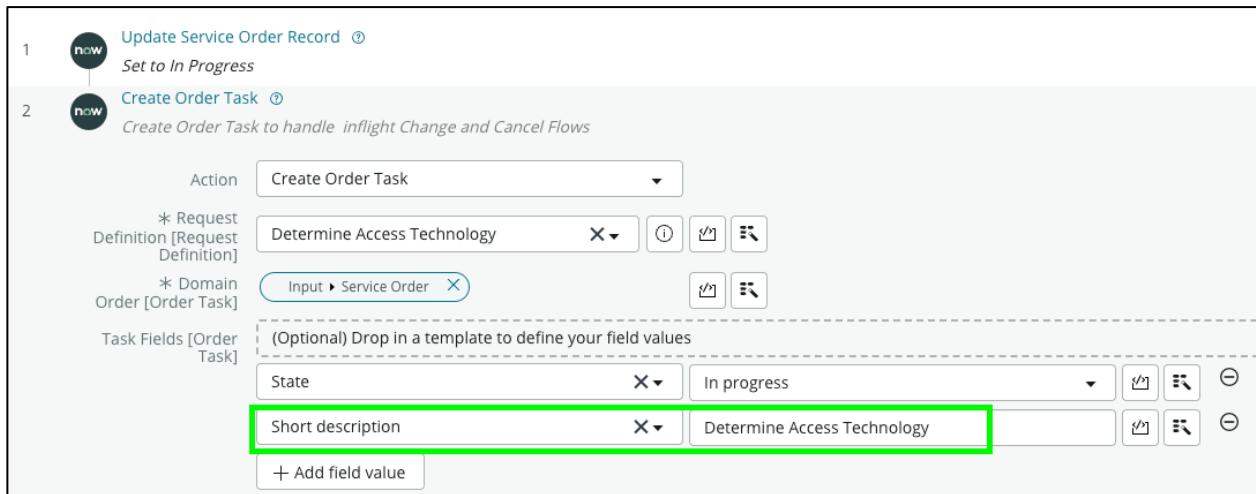
- Request Definition = **Determine Access Technology**
- Domain Order = drag and drop the '**Service Order**' data pill from under the '**Subflow Inputs**' as below.

The screenshot shows the configuration for the 'Create Order Task'. It includes fields for 'Action' (set to 'Create Order Task'), 'Request Definition (Request Definition)' (set to 'Determine Access Technology'), and 'Domain Order [Order Task]' (with an 'Input > Service Order' field). A green arrow points from the 'Subflow Inputs' section on the right to the 'Service Order' data pill in the 'Domain Order' field. The 'Subflow Inputs' section also contains a 'Service Order' data pill.

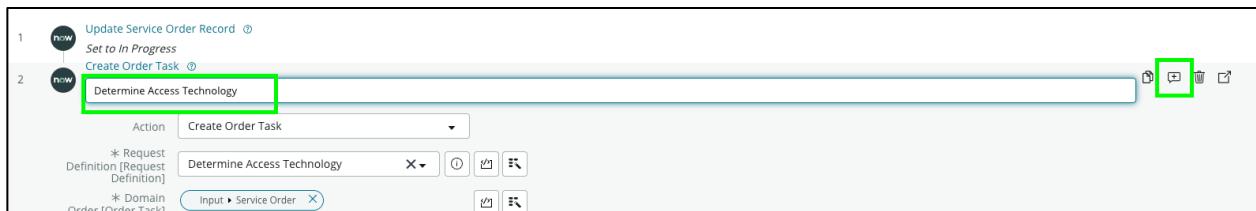
- Under Task Fields, click on the **Add field value** and add the following by searching or typing from the dropdown menu –
  - State** > select '**In Progress**' from the choice drop down.



- ii. **Short Description** > Enter the text '**Determine Access Technology**' in the box.



- iii. Finally click on the 'Add Annotation' icon and add a note that describes this action such as 'Determine Access Technology'.



- iv. Click on **Done** for the Action and **Save** the Subflow.

9. Create another action after the '**Determine Access Technology**' Order Task.

- After clicking on the '+' sign between actions, select **Action**.
- Search and select the action '**Wait For Condition**'.

**Note:** Wait for Condition action pauses the flow until the specified condition is met.

10. Complete the Action fields as follows –

- Record = drag and drop the '**Order Task**' data pill from under the '**2 – Create Order Task**' as below.

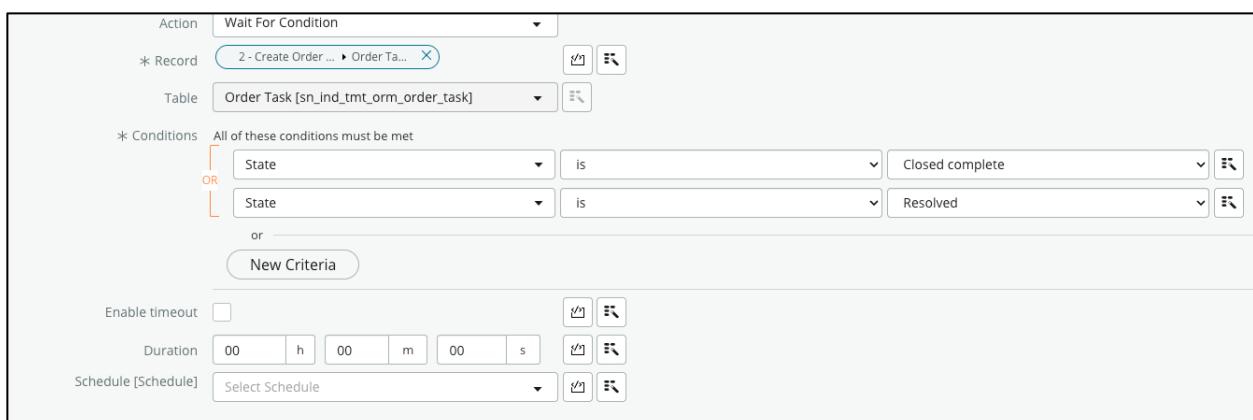


- Conditions =

i. Choose Field '**State**' 'is' '**Closed complete**'

**OR**

'**State**' 'is' '**Resolved**'.



- Click on **Done** and **Save** the Subflow.

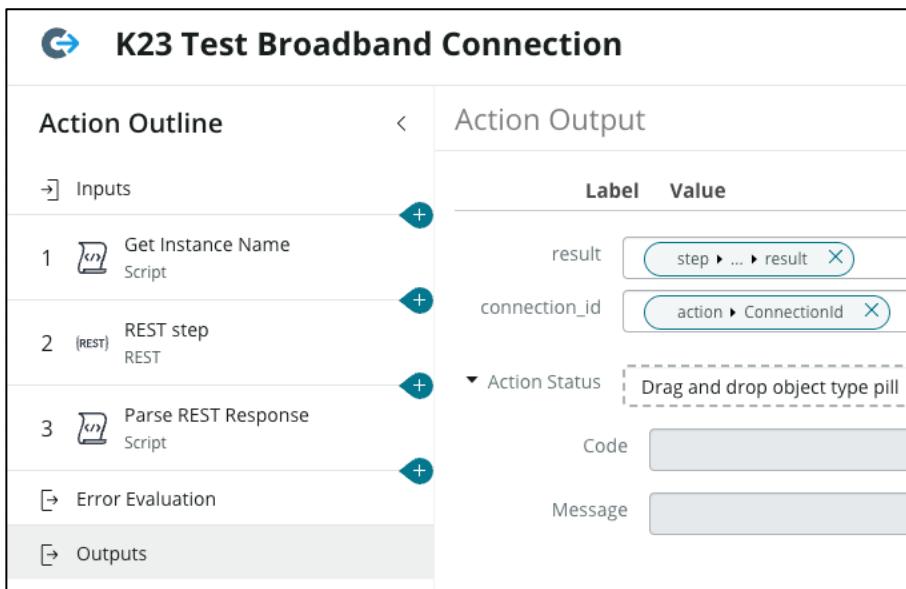
## 11. From the Subflow, click on Action#10 – K23 Test Broadband Connection

**Note:** This is a REST Action making a REST API call to test the connectivity once the Router and Access Network Connection has been activated.

- Click on the Open in Flow Designer icon  to open the REST action in a separate tab.



- Once the REST Action loads, observe the following from the Action Outline –
  - Under **Inputs** is the '**Connection Id**' – this is the value order agents will enter at the time of Order fulfilment.
  - The **REST step** describes the REST endpoint being called. (In the lab, this is a self-hosted REST service)
  - The **Outputs** describes what the REST service returns – the Connectivity Test result and Connection Id.



Action Outline	Action Output								
Inputs									
1 Get Instance Name Script	<table border="1"> <thead> <tr> <th>Label</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>result</td> <td>step ▶ ... ▶ result </td> </tr> <tr> <td>connection_id</td> <td>action ▶ ConnectionId </td> </tr> </tbody> </table>	Label	Value	result	step ▶ ... ▶ result 	connection_id	action ▶ ConnectionId 		
Label	Value								
result	step ▶ ... ▶ result 								
connection_id	action ▶ ConnectionId 								
2 REST step REST	<table border="1"> <thead> <tr> <th colspan="2">Action Status</th> </tr> </thead> <tbody> <tr> <td colspan="2">Drag and drop object type pill</td> </tr> <tr> <td>Code</td> <td></td> </tr> <tr> <td>Message</td> <td></td> </tr> </tbody> </table>	Action Status		Drag and drop object type pill		Code		Message	
Action Status									
Drag and drop object type pill									
Code									
Message									
3 Parse REST Response Script									
Error Evaluation									
Outputs									

- Close the REST Action tab.

**Note:** After the REST Action, order agent validates the connectivity test result before confirming a successful activation.

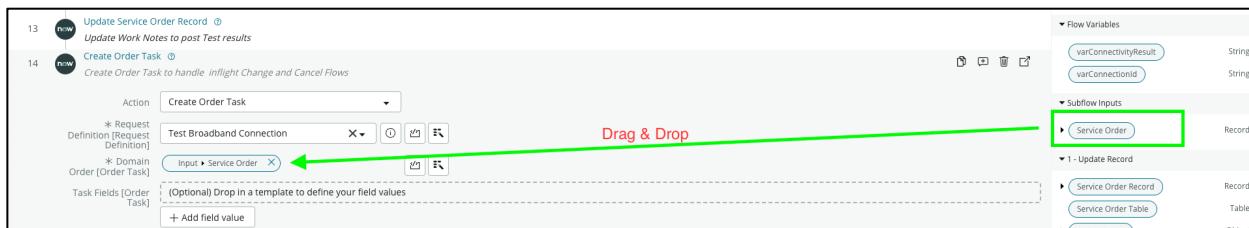
For this, let's create an Order Task as a confirmation step.

12. In the Subflow, after Action#13 **Update Service Order Record**, add a new Action of type '**Create Order Task**'.

- a. This new action will be #14 now.

13. For the Action '**Create Order Task**', fill out the configuration details as follows –

- a. Request Definition = **Test Broadband Connection**
- b. Domain Order = drag and drop the '**Service Order**' data pill from under the 'Subflow Inputs' as below.



- c. Under Task Fields, click on the **Add field value** and add the following by searching or typing from the dropdown menu –
  - i. **State** > select '**In Progress**' from the choice drop down.
  - ii. **Short Description** > Enter the text '**Test Broadband Connection**' in the box.
  - iii. Finally click on the 'Add Annotation' icon and add a note that describes this action such as 'Test Connection Validation'.

The screenshot shows a subflow editor with two steps: 13 and 14. Step 13 is 'Update Service Order Record' and step 14 is 'Create Order Task'. The 'Create Order Task' step has a 'Test Connection Validation' action. In the 'Task Fields [Order Task]' section, 'State' is set to 'In progress' and 'Short description' is 'Test Broadband Connection'.

iv. Click on **Done** for the Action and **Save** the Subflow.

14. Create another action after the '**Test Broadband Connection**' Order Task.

- After clicking on the '+' sign between actions, select **Action**.
- Search and select the action '**Wait For Condition**'.
- This action will be #15 now.

**Note:** Wait for Condition action pauses the flow until the specified condition is met.

15. Complete the Action fields as follows –

- Record = drag and drop the '**Order Task**' data pill from under the '**14 – Create Order Task**' as below.

The screenshot shows the 'Wait For Condition' action configuration. The 'Action' dropdown is set to 'Wait For Condition'. The 'Record' dropdown has '14 - Create Order Task' selected. A green arrow labeled 'Drag & Drop' points from the 'Order Task' data pill in the list on the right to the 'Record' dropdown. The 'Conditions' section is visible below.

- Conditions =
  - Choose Field '**State**' 'is' '**Closed complete**'
  - OR**
  - '**State**' 'is' '**Resolved**'.



- c. Click on **Done** and **Save** the Subflow.
16. Validate there are 18 Action steps in the Subflow and click on **Publish** action button.

If students are unable to complete this Subflow or have issues during the configuration they can still continue with the Lab and use a reference Master copy of the Subflow in later steps.  
Master Subflow = "[M\\_K23 Broadband Access CFS Subflow](#)"

### Section 3.2 Configure Inflight behaviour for Device Shipping Subflow

Changes or Cancellations to an in progress Order is known as *Inflight Amend & Cancel*.

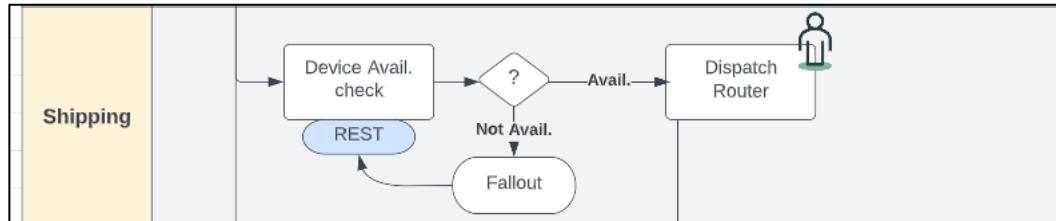
In this lab, students will configure an already built Device Shipping Subflow to add Inflight logic.

1. Continue as **System Admin**.
2. Navigate to the home button for the Flow designer and under Subflows search & open the '**S\_K23 Device Shipping Subflow**' by clicking on it.

<input type="checkbox"/>	<a href="#">S_K23 Broadband Access CFS_student</a>	s_k23_broadband_access_cfs_student	<a href="#">Order Management for Telecom, Media &amp; Tech</a>	Published	true	2023-05-01 22:06:05	admin
<input type="checkbox"/>	<a href="#">S_K23 Device Shipping Subflow</a>	s_k23_device_shipping_subflow	<a href="#">Order Management for Telecom, Media &amp; Tech</a>	Draft	false	2023-04-26 19:47:55	admin

**Note:** Notice the subflow is in a Draft state.  
After opening the Subflow, validate it has 26 Action steps already configured.

3. Observe the logic built for the Subflow –



- Put the Shipping CFS Domain Order in Progress
- Look Up for the type of Router (Hub or Superhub) selected by the customer.
- Make a REST API call to check if the selected Device type is available.
  - If not, create a Fallout and pause the subflow.
- If available, select a Logistics Partner for dispatch via an Order Task (manual action).
  - For an Inflight Change, re-validate the device availability and re-select the Dispatch partner. **(To be built in this Lab)**
- Wait for related flows to complete, close complete the domain order and complete the subflow.

4. Click on **Action#17 'Create Order Task'**

- Validate the Order Task is mapped to the Request Definition = **Dispatch Router**.
- Configure the Inflight related fields for this task as follows –
  - Inflight Change Type = **Characteristics**. (Click on the + sign to add the change type)

**S\_K23 Device Shipping Subflow**

\* Domain Order [Service Order] Input ▶ Service Order X

Task Fields [Order Task] (Optional) Drop in a template to define your field values

State	X ▾	In progress	X ▾
Short description	X ▾	Scripted (Expand to edit)	X ▾
Work notes	X ▾	Scripted (Expand to edit)	X ▾
<a href="#">+ Add field value</a>			

Inflight Change Type

Inflight Change Option Not Applicable [Add Inflight Chang...](#) ▾

Inflight Task Fields [Order Task] (Optional) Drop in a template to def...  
[+ Add field value](#)

Characteristic

Contact

Price

Quantity

Related Items

Cancel Task Fields [Order Task] (Optional) Drop in a template to def...  
[+ Add field value](#)

- ii. Inflight Change Option = **Any Characteristics**.
- iii. Inflight Task fields, click on **Add field value** and select the following fields –
  1. Short Description = '**Re-validate, Recall and Re-Dispatch Device**'.
  2. Work Notes = '**Customer Selected Device is available**'.

+ Add field value

Inflight Change Type Characteristic X 1 Selected

Inflight Change Option Any Characteristics

Inflight Task Fields [Order Task] (Optional) Drop in a template to define your field values

Short description	X ▾	Re-validate, Recall and Re-Dispatch Device	X ▾
Work notes	X ▾	Customer Selected Device is available	X ▾
<a href="#">+ Add field value</a>			

Cancel Task Fields [Order Task] (Optional) Drop in a template to define your field values  
[+ Add field value](#)

- c. Click on **Done**.
- 5. **Publish** the subflow.

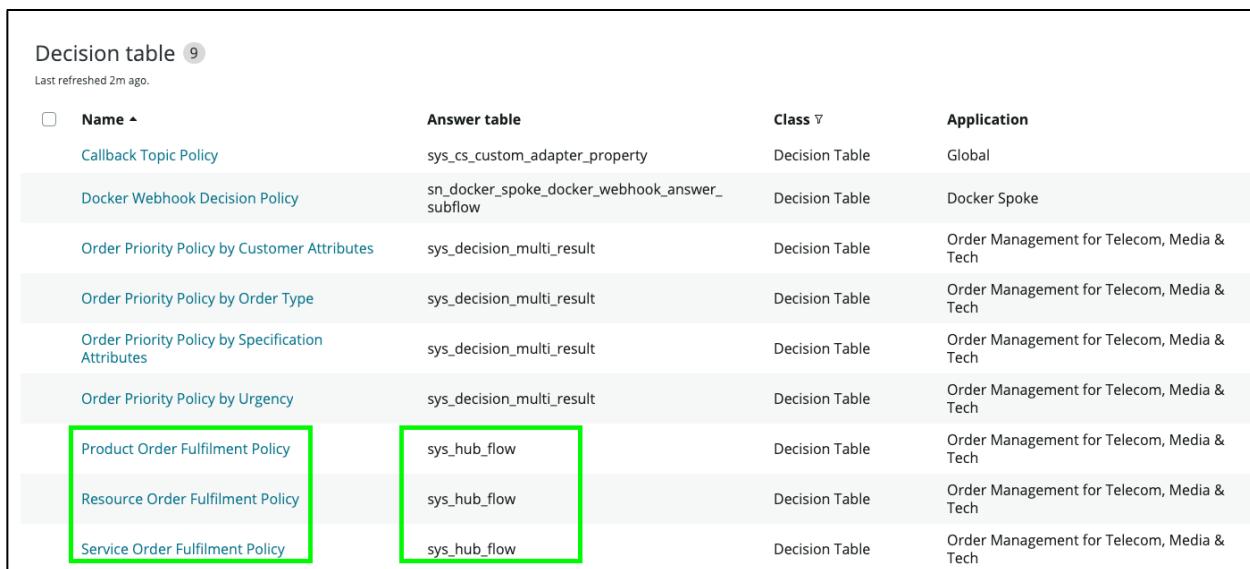
## Section 4 Decision Table Configuration

Decision Table configuration enables implementation of flexible business rules. For OMT it is used to define invocation conditions to launch the Subflows i.e., orchestration workflows.

In this section of the Lab, students will configure a decision table entry to invoke the workflow built in the previous section.

### Section 4.1 Configure Subflow invocation using Decision Builder

1. Continue the following steps as **System Admin**.
2. Go to the other browser tab where ServiceNow homepage is open, Navigate to **All > Decision Builder**.
  - a. This opens **Decision Builder** in a new tab and displays Decision Tables.
  - b. Amongst other records, the decision table has policies for **Product Fulfilment**, **Service Fulfilment & Resource Fulfilment**.
    - i. These policies invoke the Subflows built via Flow Designer and sit in the **sys\_hub\_flow** table.



Name	Answer table	Class	Application
Callback Topic Policy	sys_cs_custom_adapter_property	Decision Table	Global
Docker Webhook Decision Policy	sr_docker_spoke_docker_webhook_answer_subflow	Decision Table	Docker Spoke
Order Priority Policy by Customer Attributes	sys_decision_multi_result	Decision Table	Order Management for Telecom, Media & Tech
Order Priority Policy by Order Type	sys_decision_multi_result	Decision Table	Order Management for Telecom, Media & Tech
Order Priority Policy by Specification Attributes	sys_decision_multi_result	Decision Table	Order Management for Telecom, Media & Tech
Order Priority Policy by Urgency	sys_decision_multi_result	Decision Table	Order Management for Telecom, Media & Tech
Product Order Fulfilment Policy	sys_hub_flow	Decision Table	Order Management for Telecom, Media & Tech
Resource Order Fulfilment Policy	sys_hub_flow	Decision Table	Order Management for Telecom, Media & Tech
Service Order Fulfilment Policy	sys_hub_flow	Decision Table	Order Management for Telecom, Media & Tech

3. Click on **Product Order Fulfilment Policy**.
  - a. Observe the Decision table Inputs, Conditions and Outputs
    - i. Inputs are **Product Order**, **Product Specification** and **Customer Order Line Item**.

- ii. Conditions are = **Action, Specification, Category** (of Specification) based on the Inputs.
- iii. Output is **Flow** (subflow).

**Note:** Every Product/Service/Resource Specification belongs to a (Specification) Category. A Subflow can be triggered based on an individual specification or for all specifications belonging to the same category – enabling reuse.

Decision table					Results
Conditions		Specification	Category	Order action	Flow
1	is one of "Add", "Change"	Product Order   product_order...	SD-WAN Service Package		SDWAN Fulfillment Process
2	Add		Mobile Plan	Add	New 4G Mobile plan fulfillment process
3	Disconnect		SD-WAN Security		SD-WAN Edge Device Security Remove
4	Add		CloudBox Product		M_K23 Generic Complete Product Order Subflow
5	Add		Router Product		M_K23 Generic Complete Product Order Subflow
6	Add	Broadband Product			M_K23 Broadband Package Subflow
7	Change		SD-WAN Edge Device		SDWAN Edge Device Change Fulfillment
8	Change		SD-WAN Security		SD-WAN Security Change
9	Add		SD-WAN Edge Device		SDWAN Edge Device Fulfillment
10	Add		SD-WAN Security		SDWAN Security Fulfillment
11	Add		SD-WAN Controller		SDWAN Controller Fulfillment

- b. In the above example, when the Action against Product Order is **Add** AND the Specification Category is **Broadband Product**, the Flow triggered/invoked is **M\_K23 Broadband Package Subflow**.
  - c. Go back to the Decision Table by clicking the back arrow button.
4. Click on **Service Order Fulfilment Policy**.
- a. Notice there are already decision table entries for different conditions including a few that have been configured for this lab, with the Flow names starting either as M\_K23 or S\_K23.
  - b. This also includes the **S\_K23 Device Shipping Subflow** that was configured for Inflight changes in the previous section of the lab.
- Note:** The only invocation condition missing is for the flow S\_K23 Broadband Access\_CFS\_student. The following steps adds this condition.
- 5. Scroll to the leftmost column with the row numbers for the table and hover around until a '+' sign appears. Click on the '+' sign to add a **new decision row**. Alternatively, scroll to the bottom of the table and click on '**Add new decision row**'.

Conditions	
1	Action Service Order ( service_order > action ) Add
2	Disconnect
3	Change

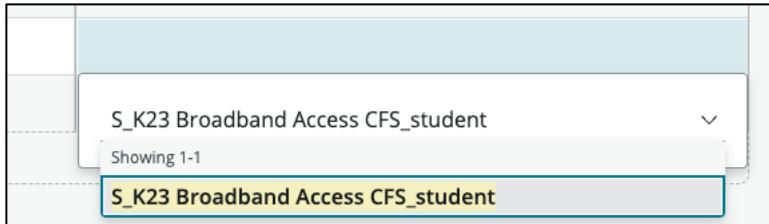
- a. A new row gets added to the table.
- b. For the Action column, set the value as 'is' 'Add' and click OK.

The screenshot shows a modal dialog box titled "Disconnect". Inside the dialog, there is a "Choice Input" section with a dropdown menu. The dropdown menu has an option "Add" selected. There are two buttons at the bottom right of the dialog: "Cancel" and "OK".

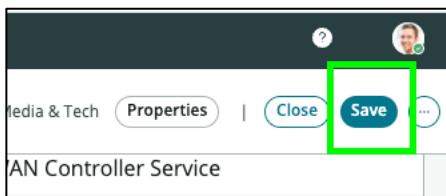
- c. For the Category column, set the value as **InternetAccess** and click outside the box to save the value.

The screenshot shows a modal dialog box titled "Firewall Management". Inside the dialog, there is a "Value" dropdown menu. The dropdown menu has an option "InternetAccess" selected. There are two buttons at the bottom right of the dialog: "Cancel" and "OK".

- d. For the Flow column, set the value as **S\_K23 Broadband Access CFS\_student** and click outside the box to save the value. (Typing S\_K23, the value filters to a limited list)



- e. Finally, click on the **Save** action button at the top right.



- f. Validate the new decision table entry as below –

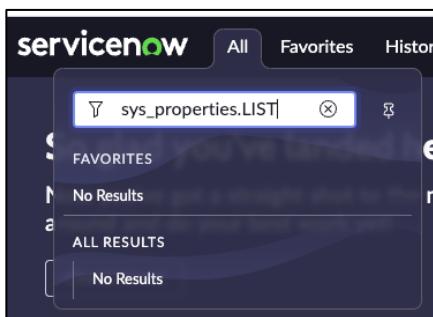
Conditions		Results		
Action	Specification	Category	Flow	
1 Add	Service Specification	InternetAccess	S_K23 Broadband Access CFS_student	
2 Add		Last Mile Access Service	M_K23 Activate ADSL or FTTH Access Subflow	
3 Disconnect		Managed Firewall	Disconnect Managed Firewall Service Fulfilment	

If students were unable to complete this Subflow or experience issues during with fulfilment of the Order, they can update the Decision table entry to use an already pre-built reference flow - "M\_K23 Broadband Access CFS Subflow"

6. Navigate to the ServiceNow instance's homepage.

- a. Click **All > sys\_properties.LIST** and press **Enter**.

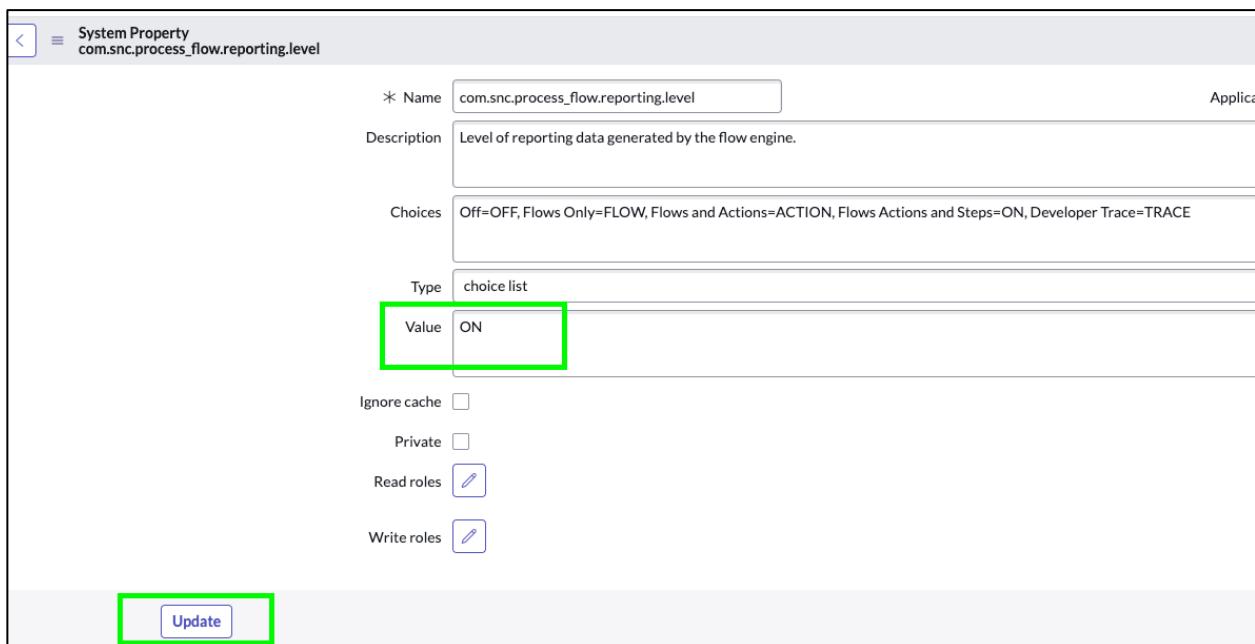
- i. This opens the System Properties in a new browser tab.



- ii. In the name column, search for the property "**\*\*flow.reporting.level**" (notice the \*)

Name	Type
*flow.reporting.level	choice list

- iii. Click on the property name to open it.
- iv. Update the value from OFF to **ON**.
- v. Click on the **Update** action button.



The screenshot shows the 'System Properties' interface in ServiceNow. A specific property, 'com.snc.process\_flow.reporting.level', is selected. The 'Value' field is currently set to 'OFF'. A green box highlights this field, indicating it needs to be changed to 'ON'. At the bottom of the screen, the 'Update' button is also highlighted with a green box, indicating the final step to save the changes.

**Note:** Setting this property ON captures the flow executions logs that can be reviewed should there be any issues during the Lab during Run time order processing.

## Section 5 Submit an Order

So far, the Lab sections focused on Design time activity. This section will use all the configuration to submit an Order requesting activation of a Broadband Package.

**Note:** In this Lab, students will use the Workspace portal to submit an Order. ServiceNow Order Management also supports OpenAPIs (TMF622 & TMF641) to submit orders.

If students were unable to complete Section 2 tasks for Product Catalog Management, use the '**Flash Broadband Offer**' in the subsequent steps instead of the '**Flash SMB Connect Offer**' referred in the below instructions.

Both the offers have the exact same structure & configuration, except that the specifications name ends with a 'M' (for Master copy).

### Section 5.1 Submit an Order from Workspace

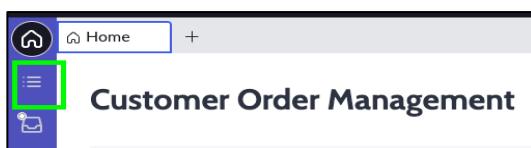
1. **Navigate** back to the previous browser tab where ServiceNow instance homepage is open.

- a. Impersonate **Mike Davis**, the Fulfilment Manager.

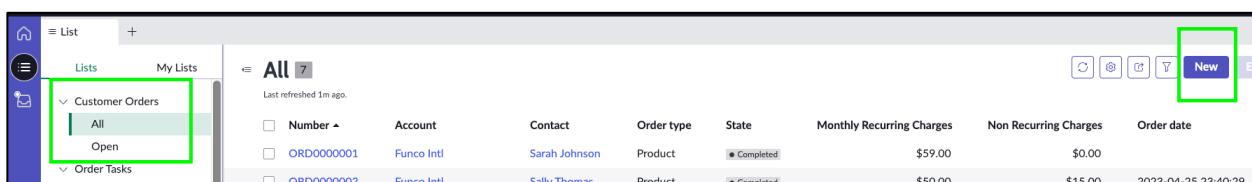
**Note:** As a Fulfilment Manager, Mike is responsible for reviewing, approving, and processing Orders and its related Order Tasks.

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

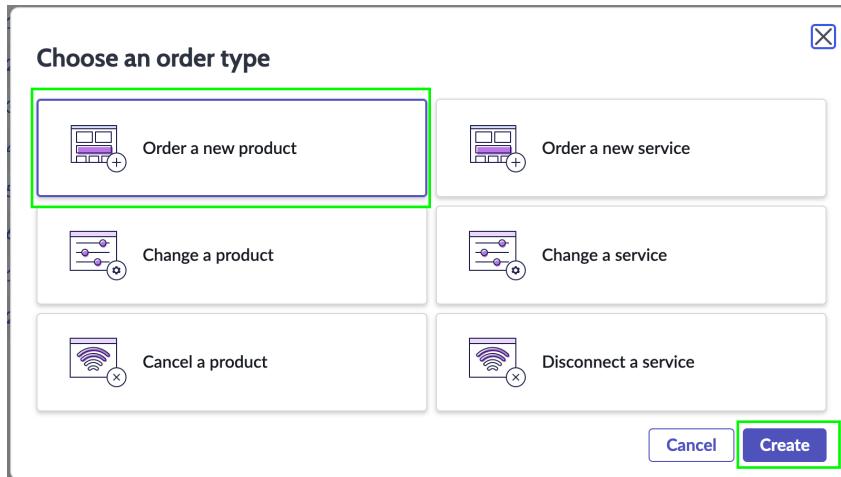
3. Click on the **List menu icon** on the top left.



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



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



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

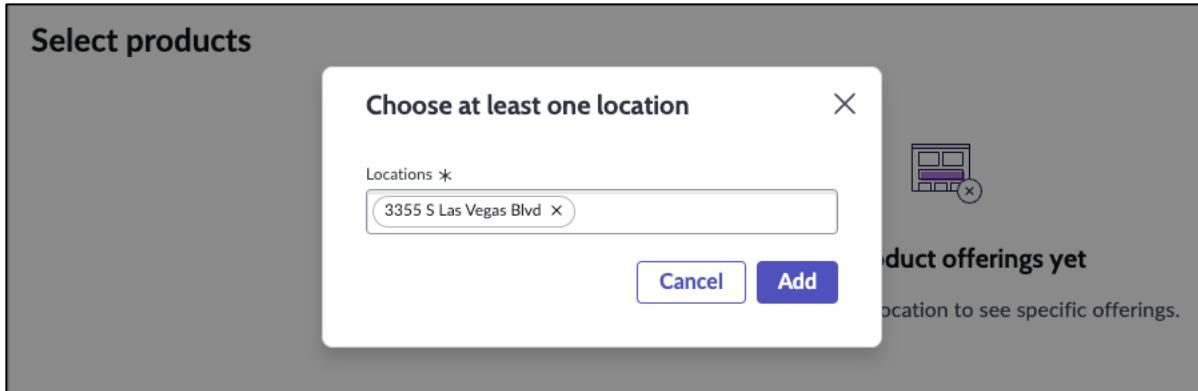
a. **Enter Account information –**

- i. Account = <**Las Vegas Pharmacy**> &
- ii. Contact = <**Kevin Thomas**>.

Click on **Continue**.

The screenshot shows a guided ordering flow with four steps: 1. Create order, 2. Select products, 3. Configure products, and 4. Review order. The current step is 'Create order'. The form has fields for 'Account \*' (Las Vegas Pharmacy) and 'Contact \*' (Kevin Thomas). A 'Continue' button is at the top right.

- 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 Location is added, click on **Add**.
  - iii. Notice the location getting added to the Order in the left pane.



**C. Select Products –**

- i. Under Product Offerings, select the Offering = **<Flash SMB Connect Offer>**
- ii. Quantity = 1, remains unchanged.
- iii. Click on Configure Items

New product order

Account: Las Vegas Pharmacy Contact: Kevin Thomas Email: kevin.thomas@exa...

Create order      ② Select products      ③ Configure products      ④ Review order

Add products

Locations

Locations have been added to the order

Select products

For each location, choose a contact, product, and quantity.

Location Contact

Product offerings

Offering \* Flash SMB Connect Offer      Quantity 1

Back      Configure Items

**d. Configure Items –**

- i. Based on the Offer selected, observe the Order Line Items (Product Specifications) that got added
  1. Validate these by navigating to the **Product Offering > Catalog Hierarchy** by clicking on the info icon next to the Offering name as shown below.
  2. Once validated, switch back to the **Add Order** tab to continue with the ordering journey.

The screenshot shows the 'New product order' screen. At the top, it displays account information: Las Vegas Pharmacy, Contact Kevin Thomas, and Email kevin.thomas@exa... Below this, there are three main steps: 'Create order' (with a green checkmark), 'Select products' (with a green checkmark), and 'Configure products' (with a green circle containing the number 3). The 'Configure items' section is expanded, showing 'Order line items (3)'. One item is selected: 'Flash Broadband Package' (with a red 'Missing Info' icon next to it). This item has two sub-items: 'Flash Router' and 'Flash Cloud Box PS v2' (both also with red 'Missing Info' icons). To the right, a detailed view of the 'Flash Broadband Package' is shown. It includes tabs for 'Details', 'Characteristics', and 'Related Items'. Under 'Order line item', it shows the number ORDL0001004, the product offering 'Flash SMB Connect Offer' (with a green box around the 'Offer' part), and an ordered quantity of 1.

**Note:** Next to the some of the Order Line Items is a 'Missing Info' warning message. This is because some of the characteristics are set as 'customer input required = true' at the product offering level.

This can be validated by navigating to **the Flash SMB Connect Offer > Product Offering Characteristics** tab.

- ii. For the **Flash Broadband Package** Order Line Item, click on the **Characteristics** tab –

The screenshot shows the 'New product order' screen with the 'Characteristics' tab selected for the 'Flash Broadband Package' order line item. In the 'Characteristics' tab, there is one listed: 'Broadband\_Speed' with a value '(empty)' and a 'Characteristic value' field below it. A green box highlights the 'Characteristics' tab in the navigation bar.

1. Hover the mouse on the '**Broadband\_Speed**' characteristic, this makes the **preview** icon visible. Click on the icon to set a value.

**Flash Broadband Package**

Characteristic	Characteristic value
Broadband_Speed	(empty)

2. Click in the Characteristic option box, select a value and click on **Update**.

**Broadband\_Speed**

Characteristic *	Characteristic option
Broadband_Speed	Fast

**Order Characteristic**

**Characteristic** \* **Characteristic option**

**Update**

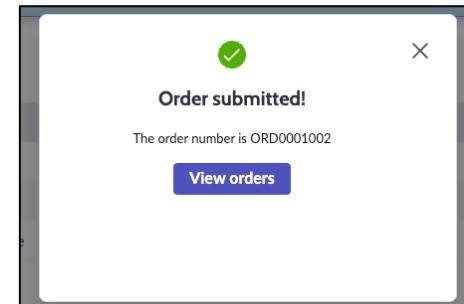
- iii. For the **Flash Router** Order Line Item, follow the same steps and set the characteristics as follows –

1. **Router Type = Hub**

**Flash Router**

Characteristic	Characteristic value
Router_Type	Hub

- iv. For the **Flash Cloud Box** Order Line Item, review the default value set for the characteristic **Cloud\_BoxType** as **Individual**.
- v. Click on **Review** action button in top right, after updating the missing info.
  - 1. The review page shows the Order Line Items and pricing information.
  - 2. Ignore the information message for 'compatibility rule'.
- vi. Click on **Submit** action button to submit the order.
  - 1. A pop-up returns the Order Number.
  - 2. Click on **View Orders** to continue.



## Section 5.2 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.

		Last refreshed Yesterday.				
		Number	Account	Contact	Order type	State
Customer Orders	All	<input type="checkbox"/> ORD0000001	Funco Intl	Sarah Johnson	Product	<span>Completed</span>
	Open	<input type="checkbox"/> ORD0000002	Funco Intl	Sally Thomas	Product	<span>Completed</span>
Order Tasks	All	<input type="checkbox"/> ORD0000003	Funco Intl	Sally Thomas	Service	<span>Completed</span>
	My Order Tasks	<input type="checkbox"/> ORD0000004	Funco Intl	Sally Thomas	Product	<span>Completed</span>
Inbound Queue Requests	All	<input type="checkbox"/> ORD0000005	Funco Intl	Sally Thomas	Product	<span>Completed</span>
	Open	<input type="checkbox"/> ORD0000006	Funco Intl	Sally Thomas	Service	<span>Completed</span>
	Completed	<input type="checkbox"/> ORD0001001	Las Vegas Pharmacy	Kevin Thomas	Product	<span>Completed</span>
Cases	All	<input type="checkbox"/> ORD0001002	Las Vegas Pharmacy	Kevin Thomas	Product	<span>New</span>
Characteristics						

3. On the **Details** tab, observe the following –
  - a. Account for which the Order is raised.
  - b. State of the Order. Is it **New**?
  - c. Version – is it **1**?
  - d. PONR flag (Point of No Return – is it unchecked?)
  - e. Revision Operation – is it **None**?

**Note:** While the PONR flag is false (unchecked), an Inflight Change or Cancellation can be submitted to an In Progress order. Depending upon the Inflight operation, the Revision Operation is updated from None to Update or None to Cancel.

The screenshot shows the ServiceNow Order Details page for order number ORD0001002. The page has tabs for Details, Account Information, Order Line Items (3), and Order Orchestration. The Details tab is selected. The page displays a Customer Order with the following fields:

- Number:** ORD0001002
- Order type \***: Product
- Account:** Las Vegas Pharmacy (highlighted with a green box)
- State:** New (highlighted with a green box)
- Contact:** Kevin Thomas
- Fulfilment type \***: Deliver
- Order date:** 2023-05-02 19:52:28
- Priority:** 4 - Low
- PONR:** (checkbox is unchecked)
- Version:** 1 (highlighted with a green box)
- Revision operation:** None

4. On the **Account Information** tab, observe the following –
  - a. Customer Summary
  - b. Previously submitted Orders.
  - c. Cases, if any.
  - d. Existing Product Inventory.
5. The **Order Line Items** tab shows the line items submitted as part of this Order.
6. The **Order Orchestration tab** shows visualization of how the Order & Order Line Items is decomposed into Product/Service/Resource Orders and Order Tasks.
  - a. The view presents the **Order Number**, the **location** for which the order is placed and top-level **Order Line Item**.

- b. Click on the number  below the Order Line-Item box for Flash Broadband Package. The number indicates there are 2 child components of this Order Line Item.
- Clicking on this number gives an option to expand the group. The group is expanded clicking on  icon.
  - Expanded view looks like below.



**Note:** In this lab, we will revisit the Order Orchestration tab to view the decomposed view in the end.

- Navigate back to the **Details** tab of the Order and click on the **Approve** action button on the top right.

Notice the Order state changes from **New** to **Acknowledged** to **In Progress**.

**Note:** Orders can be auto approved as well.

Approving the Order triggers the Order Management Application to refer to the Product Catalog model to determine the decomposition logic of the Order Line Items.

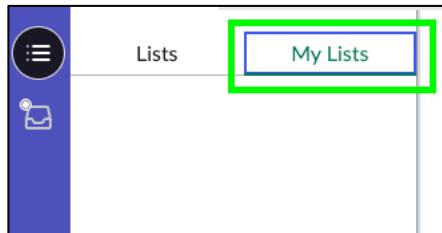
### Section 5.3 Prepare to Process Order Tasks

As the Order decomposes, behind the scenes the Decision Table conditions are met which triggers one or more Subflows.

In this Lab set up, some of the Subflows contain Order Tasks that require manual action.

The following section describes actioning these Order Tasks.

1. Continue as **Mike Davis**, the Fulfilment Manager.
2. In the Configurable Workspace, navigate to the **List** view and click on **My Lists**.



3. At the bottom, click on **Add new List**.
4. A pop-up window appears to create a New List.
  - a. Choose 'Start from existing'.
  - b. Under **List**, from the dropdown, select the existing list – **Orders Tasks > All**

A screenshot of the 'New List' creation dialog box. The title bar says 'New List' and has a close button. Below it is a note: 'You can create another version of an existing list or an entirely new one.' There are two tabs: 'Start from existing' (which is underlined in green) and 'Create your own'. A dropdown menu for 'List \*' is open, showing 'Customer Orders' expanded. Under 'Customer Orders', 'All' is listed, followed by 'Order Tasks', 'All', and 'My Order Tasks'. A green rectangular box highlights the 'Order Tasks' option. Other options like 'Inbound Queue Requests' and 'All' are also visible in the dropdown list.

- c. Rename the List as <**K23 Lab Order Tasks**>.
- d. Add any additional columns under Select columns, as needed, or leave it unchanged. (Example: **Order Line Item**)
- e. Scroll down to the Filter Editor and add a new filter condition by using the '**and**' operator.
  - i. Set the condition as **Created on Today**

The screenshot shows the Filter Editor interface. At the top, there are tabs for 'Start from existing' and 'Create your own', with 'Start from existing' selected. Below the tabs are several filter criteria: Number, Short description, Priority, State, Assigned to, and Task type. Underneath these are buttons for 'Add Filters', 'Use existing filter', 'Save filter', and a status message '0 results matching criteria'. To the right are 'Undo' and 'Redo' buttons. The main area is titled 'Editor' and contains the instruction 'Build a filter by adding conditions that contain a field, operator, and value(s.)'. The filter expression is as follows:

```

Task type is Order Task
or
Task type is Mobile Order Task
or
and
  and
    Created on Today
  or
    and
      and
        ...
  or
    and
      and
        ...

```

The 'and' operator and the 'Created on Today' condition are highlighted with green boxes.

- f. Scroll down and add a Sort By 'Number ascending' as follows.

The screenshot shows the 'Sort by' dialog box. It has a dropdown menu labeled 'Sort by' with the sub-instruction 'Order results by the following fields'. Inside the dropdown, there is a single item: 'Number ascending'. At the bottom of the dialog are 'Cancel' and 'Create' buttons.

- g. Click on **Create** and validate the new list is visible under My Lists.

The screenshot shows the 'My Lists' page. On the left is a sidebar with icons for Home, Lists, and My Lists. The 'My Lists' icon is selected. The main area displays a list of lists. One list, 'K23 Lab Order Tasks', is highlighted with a green background.

## Section 5.4 Process Order Tasks – 1

1. Continue as **Mike Davis**.
2. From the newly created List under **My List**, notice the first two Order Tasks are already completed.

The customer has been sent a Welcome email confirming the Order.

The Cloud Box storage has been provisioned.

**Lab Verification:** Do you see the Order Task '**Determine Access Technology**' in an in-progress state in the list? This is the task students created in section 3.1. If the Order tasks do not appear, try refreshing the list.

K23 Lab Order Tasks <span style="background-color: #e0f2e0; border: 1px solid #ccc; padding: 2px 5px;">3</span>						
Last refreshed 1m ago.						
<input type="checkbox"/> Number ▾	Short description	Priority	State	Assigned to	Task type ▾	Order line item
<input type="checkbox"/> OMTASK000001001	Send Welcome Email	4 - Low	Closed complete	(empty)	Order Task	ORDL0001001
<input type="checkbox"/> OMTASK000001002	Provision Flash CloudBox	4 - Low	Closed complete	(empty)	Order Task	ORDL0001003
<input type="checkbox"/> OMTASK000001003	Determine Access Technology	4 - Low	In progress	(empty)	Order Task	ORDL0001001

3. Click on the Order Task '**Determine Access Technology**'.
  - a. Consider a technician visiting the customer premise/community to determine the best possible access technology to activate the Broadband Service.
  - b. Update the Order Task as following:
    - i. Set **Access Technology** = <FTTH> (or <ADSL>) from the choice list presented.
    - ii. Set **BB Connection Id** = **FTTH0099** (example)
  - c. Once all the relevant fields are set, update the State = **Closed complete**
  - d. Click the **Save** action button on top right and **close** the Order Task Tab.

Determine Access Technology

**Order Task**

Number: OMTASK00001003

Account: Las Vegas Pharmacy

Primary contact: Kevin Thomas

Parent: SO00001003

Short description: Determine Access Technology

Work notes (Private):

- 
- + Access\_Technology
  - FTTH
  - BB Connection Id: FTTH0099

State: Closed complete

Activity

Mike Davis Field changes • 2023-05-05 15:23:10  
State: Closed complete was In-progress

System Field changes • 2023-05-05 15:15:39  
Short description: Determine Access Technology  
State: In progress  
Opened by: Empty  
Impact: 3 - Low

Record Information

Overview

State: Closed complete  
Priority: 4 - Low

4. Navigate to the **My List > <Your List>** view for Order Tasks and click on the refresh icon.



The '**Determine Access Technology**' Order task appears in the list as **Closed complete**.

5. **Refresh** the Task list to view new Order Tasks in the queue.

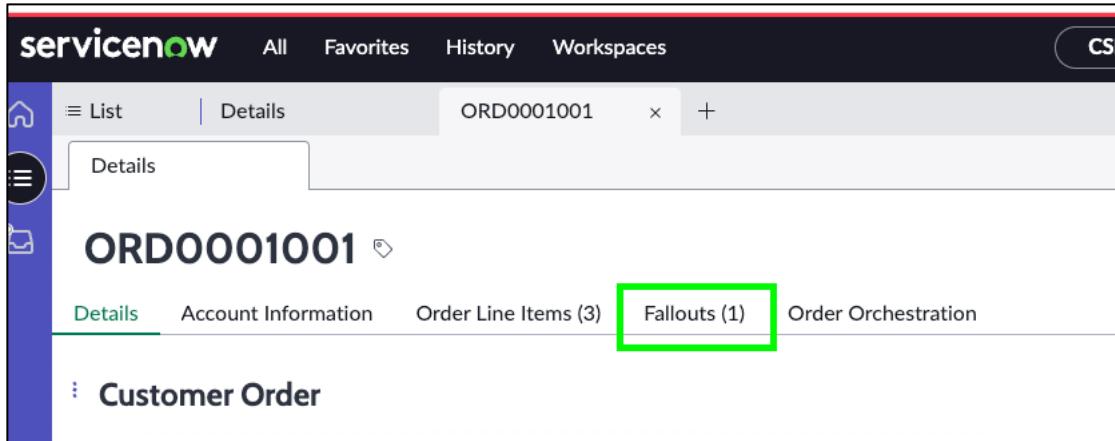
Does refreshing the task list a few times show up any new Order Tasks?  
If not, perhaps there is a **Fallout** created.

## Section 5.5 Fallouts

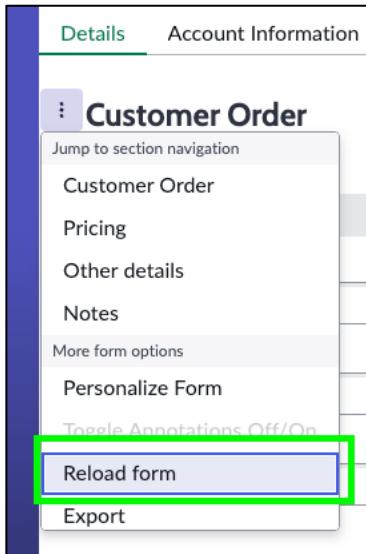
Order fallout refers to the failures that occur due to errors and exceptions that may take place during order fulfillment.

Fallout tasks can be triggered and automatically routed to the appropriate team to investigate, diagnose, and resolve the underlying issue that is preventing order fulfillment.

1. Continue as **Mike Davis**.
2. Navigate back to the tab where the Order is open or navigate via **Lists > Customer Orders > All > <click on the Order created>**.
3. Validate if a new sub-tab for **Fallouts** is visible as follows.



If not, click on **Reload form** to refresh the order or alternatively refresh the browser tab.



4. Click on the **Fallout** tab and **open** the Fallout record from the list.
  - a. Observe the **Fallout Type – Device Availability Error**.
  - b. Observe the notes from under Activity – **the customer selected Router is not available**.

**Note:** The device unavailability error is returned by a REST API call configured in the Subflows, resulting into a Fallout.

**Customer selected Router not available**

**Fallout**

Number: FO0001001 State: In progress

Fallout type: Device Availability Error

Related order task: SO0001001 Assignment group: Fallout Agents

Order line item: ORDL0001002 Assigned to:

Short description: Customer selected Router not available

Work notes (Private):

**Compose**

Type your Work notes (Private) here

**Activity**

System Work notes • 2023-05-03 17:10:54  
The selected Router is not available. Please reach out to the Inventory Team to resolve the issue.

System Field changes • 2023-05-03 17:10:54  
State: In progress was Open  
Short description: Customer selected Router not available was Empty

**Note:** As a result of the Fallout, Mike Davis reaches out to the Inventory team and the inventory procurement issues are fixed in time.

In a real-world scenario, a Fallout can result in automated actions to mitigate the error.

Once the Fallout is closed, Order Management Application will make the Device Availability REST API call again.

Let's ensure the API call returns a positive response in this Lab set up, since the inventory issues are fixed.

5. Do not close the Fallout.
6. **End Impersonation** and carry the next steps as a **System Admin**.
  - a. Navigate to the System Properties browser tab if still open, else navigate to the ServiceNow instance's homepage.
  - b. Click **All > sys\_properties.LIST** and press **Enter**.
    - i. This opens the System Properties in a new browser tab.
    - ii. In the name column, search for the property **"\*device\_avail"** (notice the \*)

System Properties		
Name		
*device_avail	Search	Search
sn_ind_tmt_orm.device_availability_check	false	true   false

iii. Click on the property name to open it.

1. If the record is read-only, click on the link prompted to edit it.

System Property  
sn\_ind\_tmt\_orm.device\_availability\_check

This record is in the Order Management for Telecom, Media & Tech application, but Global is the current application. To edit this record click [here](#).

iv. Update the value from false to **true**.

v. Click on the **Update** action button.

System Property  
sn\_ind\_tmt\_orm.device\_availability\_check

You are editing a record in the Order Management for Telecom, Media & Tech application ([cancel](#))

* Suffix	device_availability_check
Name	sn_ind_tmt_orm.device_availability_check
Description	This is used in the scripted rest API created for K23 to showcase the device availability check
Choices	
Type	true   false
Value	true
Ignore cache	<input checked="" type="checkbox"/>
Private	<input type="checkbox"/>
Read roles	<input type="checkbox"/>
Write roles	<input type="checkbox"/>

**Update**

**Note:** Setting this property to **true** returns a positive response to the device availability check REST API call.

7. Return to the ServiceNow instance's home page.
  - a. Impersonate as **Mike Davis** and Navigate back to the **CSM Configurable Workspace**.
8. Navigate to the **Order > Details > Fallout record**.
  - a. Add Work notes = **Inventory issues resolved, closing the Fallout** (optional step)
  - b. Update the Fallout record State to **Closed complete** and **Save**.
  - c. **Close** the Fallout record tab.

The screenshot shows the 'Customer selected Router not available' record in the CSM Configurable Workspace. The 'Fallout' tab is selected. Key fields shown include:

- Number: FO0001001
- Fallout type: Device Availability Error
- Related order task: SO0001001
- Order line item: ORDL0001005
- Short description: Customer selected Router not available
- State: Closed complete (highlighted with a green box)
- Priority: 4 - Low
- Assignment group: Fallout Agents
- Assigned to: (empty)
- Work notes (Private): Inventory Issues resolved, closing the Fallout (highlighted with a green box)

9. Navigate to **List > My Lists** and refresh the Order Tasks list.
  - a. Do you see a new task in the queue?

## K23 Lab Order Tasks [4]

Last refreshed 10m ago.

Number	Short description	Priority	State
OMTASK000001001	Send Welcome Email	4 - Low	Closed complete
OMTASK000001002	Provision Flash CloudBox	4 - Low	Closed complete
OMTASK000001003	Determine Access Technology	4 - Low	Closed complete
OMTASK000001004	Validate Device Availability & Select Logistics Provider	4 - Low	In progress

10. Open the Order task,

- Check the **Work notes** under **Activity** for the Inventory API response (positive response after updating the System property).
- Select the **Logistics Provider** from the choice list.

Validate Device Availability & Select Logistics Provider

Activity

System  
Work notes • 2023-05-03 18:44:56  
Customer Selected Device is available: Hub

System  
Field changes • 2023-05-03 18:44:56  
Short description Validate Device Availability & Select Logistics Provider  
Parent SO0001001  
Opened by Empty  
Impact 3 - Low  
Show more

\* Logistics\_Provider

FedEx  
UPS

11. Update the **State** to **Closed complete**, click **Save** and **close** the tab.

12. Navigate to **My List** and refresh.

- A new Order task “**Activate Hub**” appears in the queue.
- Do not action this task yet!**

## Section 5.6 Order Inflight Changes

An **inflight order change** refers to a change that is issued for an order line item that is currently undergoing fulfillment and pending completion.

Consider a scenario, where the customer calls the Service Provider to change the Router Type before it is activated.

In this section, students will make a change to the Inflight Order to change the Router Type from Hub to Superhub.

1. Continue as **Mike Davis**.
2. Navigate back to the tab where the Order is open or navigate via **Lists > Customer Orders > All > <click on the Order created>**.
3. **Click** on the **Order Line Items** sub-tab.
  - a. Select the '**Flash Router**' Order Line Item and click on **Revise Order Line** action button.

Number	Product specification	Location	Ordered quantity	Order line action	Priority	State	Parent line item
ORDL0001001	Flash Broadband Package	3355 S Las Vegas Blvd	1	Add	4 - Low	In progress	(empty)
ORDL0001002	Flash Router	3355 S Las Vegas Blvd	1	Add	4 - Low	In progress	ORDL0001001
ORDL0001003	Flash Cloud Box	3355 S Las Vegas Blvd	1	Add	4 - Low	In progress	ORDL0001001

- b. On the pop-up window, **click** on **Revise Order Line** to confirm.
- c. Notice all the Order Line Items move into **Revision in Progress** State.
- d. Click open the Order Line Item (**ORDLxxx number**) corresponding to the '**Flash Router**' specification.
  - i. Navigate to the **Order Characteristics** sub-tab.
  - ii. Select the characteristic **Router\_Type** by clicking on the **ORC\*\* number**.

ORDL0001002

**Order Characteristics** 5

Number	Specification	Characteristic	Previous characteristic value	Characteristic value	Characteristic option
ORC000001002	Flash Router	Router_Type		Hub	Hub
ORC000001004	Shipping CFS	Logistics_Provider		FedEx	FedEx
ORC000001005	Hub	Device_MAC			(empty)
ORC000001006	Hub	Device_Make			(empty)
ORC000001007	Hub	Device_Model			(empty)

- iii. Update value from Hub to **Superhub**, click on **Save** and **close** the tab.

Router\_Type

**Order Characteristic**

Characteristic	Characteristic option
Router_Type	SuperHub

- iv. Navigate to the **Flash Router Order Line Item > Order Characteristics**, refresh the characteristic list and validate the **Router\_Type** value is updated from Hub to **Superhub**.

ORDL0001002

**Order Characteristics** 5

Number	Specification	Characteristic	Previous characteristic value	Characteristic value	Characteristic option
ORC000001002	Flash Router	Router_Type		SuperHub	SuperHub
ORC000001004	Shipping CFS	Logistics_Provider		FedEx	FedEx
ORC000001005	Hub	Device_MAC			(empty)

- v. Navigate to the **Order Line Item > Details** tab & observe the **Version (2)** and **Revision Operation (Update)** fields.

- vi. **Close** the Order Line Item tab.

4. Navigate to the **Details** tab of the Order.

  - a. Observe the **Version (2)**, **Revision operation (Update)** and **PONR flag (false)**.
  - b. Click on **Save** action button in the top right to save the change.
  - c. The **Approve** button becomes available. Click on Approve to submit the Inflight Order.

5. Navigate the **List > My List** and refresh the record list.

  - a. Continue to refresh until there is no Order Task in '**Scheduled**' state.

6. The '**Activate Hub**' Order task for the previously selected Router type is **cancelled**.

**Note:** An Inflight order to change the Router Type re-initiates the Inventory Availability REST API call from the Subflow.

In the lab set up since the System Property was last set to **device\_availability = true**, the REST API returns a positive response and does not create a fallout.

7. The '**Re-validate, Recall and Re-dispatch Device**' Order task is added to the queue because of the Inflight change.
  - a. Open the Order Task,
    - i. Observe the Work Notes under **Activity** to check the Inventory API response.
    - ii. Continue to keep the same Logistics Provider or change it. (optional)

- b. Update the **State** to **Close complete**, click on **Save** action button and **close** the task.

The screenshot shows the 'Re-validate, Recall and Re-Dispatch Device' Order Task details. The 'Order Task' tab is selected. The 'State' field is highlighted with a green box and contains 'Closed complete'. The 'Save' button in the top right corner is also highlighted with a green box. The 'Activity' section shows a note from 'System' about an in-flight change. The 'Record Information' section shows the task is now 'In progress'.

## Section 5.7 Process Order Tasks – 2

1. Continue as **Mike Davis**.
2. Navigate to the **List > My List** and **refresh** the record list.
  - a. An Order Task '**Activate Superhub**' for the changed router type appears.

**Note:** This task is a representative task of provisioning of a Router. In a lab set up this is a manual action.

  - b. Open the Order task, update its state to **close complete**, **Save** and **close** the Order task tab.
  - c. Navigate to the **Order Details** tab and verify if the **PONR** flag is now checked. (true)
3. Navigate to the **List > My List** and **refresh** the record list.
  - a. Observe the '**Activate FTTH Access**' Order Task auto completed, representing the provisioning of the Access network.
  - b. An Order Task '**Test Broadband Connection**' appears in the queue.
    - i. Open the Order Task, update its state to **close complete**, **Save** and close the Order task.
4. Navigate to the **List > My List** and **refresh** the record list.
  - a. Observe the '**Send Activation Email**' Order Task auto completed, representing an email to the customer confirming Broadband Service activation.

## Lab verification

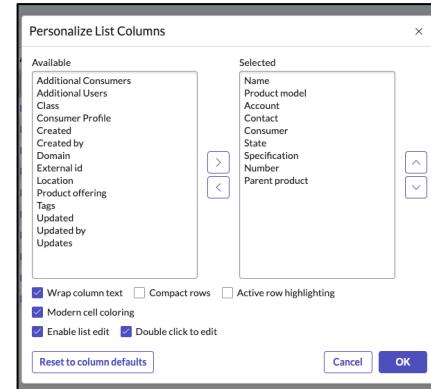
1. **End Impersonation** and continue as **System Admin**,
  - a. Navigate to the Workspace – **Customer Orders > All > <Your Order>**.
    - i. Verify the Order State = **Completed**
  - b. Navigate to the **Order Line Items tab**.
    - i. Verify all 3 Order Line Items are in **Completed** state.
2. Navigate to **All**, type **sn\_prd\_invt\_product\_inventory.LIST** and hit **Enter**.

This opens the Product Inventory table records in a new browser tab.

The **Product Inventory** table stores all the instances of Products, Services & Resources created as the result of order processing.

- a. Filter the records on the **Account** column by the Account used in the Lab '**Las Vegas Pharmacy**'.

- b. From the gear icon  on the top right, add columns for **State, Specification, Number, Parent Product** by moving these from 'Available' to 'Selected' and **click OK**.



- c. Verify all the instances of Products, Services, Resources (based on the Catalog Model) are added in the Inventory.

All > Account Name contains Las Vegas Pharmacy	
	Name
<input type="checkbox"/>	Search
<input type="checkbox"/>	Flash_Broadband_Package_PS PI0001001
<input type="checkbox"/>	Flash_Router_PS PI0001002
<input type="checkbox"/>	Shipping_CFS PI0001003
<input type="checkbox"/>	Hub PI0001004
<input type="checkbox"/>	Flash_Cloud_Box_PS PI0001005
<input type="checkbox"/>	Cloud_Storage_CFS PI0001006
<input type="checkbox"/>	Cloud_Account PI0001007
<input type="checkbox"/>	Broadband_Access_CFS PI0001008
<input type="checkbox"/>	FTTH_Access_RFS PI0001009
<input type="checkbox"/>	SuperHub PI0001010

- d. Verify that the **Hub**, that was changed during Inflight, is in an **Inactive** state while all other inventory records are in an **Active** state.

All > Account Name contains Las Vegas Pharmacy	Name	Product model	Account	Contact	Consumer	State	Specification	Number ▾	Parent product
	Search	Search	*Las Vegas Pharmacy	Search	Search	Search	Search	Search	Search
Flash_Broadband_Package_PS PI0001001	Flash_Broadband_Package_PS PRD00001003	Las Vegas Pharmacy	Kevin Thomas	(empty)	Active	Flash Broadband Package	PI0001001	(empty)	
Flash_Router_PS PI0001002	Flash_Router_PS PRD00001001	Las Vegas Pharmacy	Kevin Thomas	(empty)	Active	Flash Router	PI0001002	Flash_Broadband_Package_PS PI0001001	
Shipping_CFS PI0001003	(empty)	Las Vegas Pharmacy	Kevin Thomas	(empty)	Active	Shipping CFS	PI0001003	Flash_Router_PS PI0001002	
Hub PI0001004	(empty)	Las Vegas Pharmacy	Kevin Thomas	(empty)	Inactive	Hub	PI0001004	Flash_Router_PS PI0001002	
Flash_Cloud_Box_PS PI0001005	Flash_Cloud_Box_PS PRD00001002	Las Vegas Pharmacy	Kevin Thomas	(empty)	Active	Flash Cloud Box	PI0001005	Flash_Broadband_Package_PS PI0001001	
Cloud_Storage_CFS PI0001006	(empty)	Las Vegas Pharmacy	Kevin Thomas	(empty)	Active	Cloud Storage CFS	PI0001006	Flash_Cloud_Box_PS PI0001005	
Cloud_Account PI0001007	(empty)	Las Vegas Pharmacy	Kevin Thomas	(empty)	Active	Cloud Account	PI0001007	Cloud_Storage_CFS PI0001006	
Broadband_Access_CFS PI0001008	(empty)	Las Vegas Pharmacy	Kevin Thomas	(empty)	Active	Broadband Access CFS	PI0001008	Flash_Broadband_Package_PS PI0001001	
FTTH_Access_RFS PI0001009	(empty)	Las Vegas Pharmacy	Kevin Thomas	(empty)	Active	FTTH Access RFS	PI0001009	Broadband_Access_CFS PI0001008	
SuperHub PI0001010	(empty)	Las Vegas Pharmacy	Kevin Thomas	(empty)	Active	SuperHub	PI0001010	Flash_Router_PS PI0001002	

- e. Click on the **Broadband Access CFS** PI record, and check the **Product Characteristics** tab –

Child Product Inventory (1)	Product Inventory Relationships	Install Base Items	Cases	Entitlements	Contracts	All Consumers	Product Characteristics (3)
<input type="checkbox"/> Characteristic <input type="text" value="Search"/>							
Sold product = Broadband_Access_CFS PI0001008							
<input type="checkbox"/> <input type="text" value="Characteristic"/>							Characteristic value
Access_Technology							FTTH
BB_Connection_Id							FTTH0099
Speed_Profile							Silver_QoS

- i. Validate the characteristics **Access Technology** and **Connection Id** values. Do they match with what was set during the Order?
- ii. Validate the characteristic **Speed\_Profile**. Is the value correct based on the **Attribute mapping** configuration? (Superfast = Gold\_QoS, Fast = Silver\_QoS)

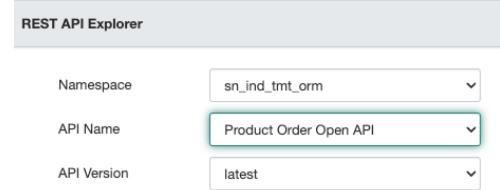
- f. How many **Cloud Account** Resources are in the Inventory?
- i. Does it match with Cloud Box Type **quantity mapping** configuration? (Individual = 1, Group = 2)

## Self-Guided Lab

If you made it this far and there is still time remaining, you can try a few more things.

- When logged in as Mike Davis, from the workspace, navigate to the **Order > Order Orchestration tab**.
  - Expand the decomposition view by navigating/clicking on entities to see how the order got decomposed.
- When logged in as System Admin, from the home page navigate to **All > My Knowledge Articles**

- a. Open the article with the short description '**Order Management Help Guide.....**'.
- b. In the article, click on the attachment file '**TMF622\_instructor.json**' to download it. (**not the student copy**)
  - i. This is a Product Order API payload for ordering the Broadband Offer.
- c. Once downloaded, navigate to **All > REST API Explorer**
  - i. Once the explorer is open, click on **Explore**.
- d. Set the following –
  - i. Namespace = **sn\_ind\_tmt\_orm** (from the list)
  - ii. API Name = **Product Order Open API**
  - iii. API version = **latest**
- e. Select **Create Order (POST)** from the list of APIs available.
- f. On the right canvas, under **Prepare request** –
  - i. Notice the query parameter '**mode**'.
    1. Leave it **blank**.
    2. If set to "async", the order will be processed asynchronously.
  - ii. Leave the **Request headers** unchanged.
  - iii. Under Request Body, switch from the Builder to **Raw** tab.
  - iv. In the white space under the Raw tab, paste the json payload downloaded from the KB article.
  - v. Click on **Send**.
    1. If a browser pop-up window asks to confirm, click OK to continue.
    2. Once order is successfully submitted, a Response with HTTP 201 is returned.
- g. Impersonate as **Mike Davis**,
  - i. Navigate to the **Workspace > Customer Orders > All**
  - ii. Do you notice a new Order submitted via the API?
  - iii. Open the order, Approve it and progress with it.



Congratulations! You have completed this lab.