

Technical Service Qualification with OrderManagement

Time: 35 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 / Magic link

Lab objectives

You will achieve the following objectives:

- Review Product Catalog
- Create Technical Service Qualification (TSQ) via TMF 645
- Perform technical service Qualification (TSQ) on existing inventory.

Scenario

Funco Intl. is a communication service provider. They want a broadband service at **3000 Main Street, Santa Clara, CA**. As a part of the service delivery process, the customer would do a technical feasibility of whether a given service can be delivered. This request would then go to the inventory systems, which would do a further feasibility check based on the capacity, resources, and other parameters and send a response back to the order management system. The response would be varied regarding the qualified response, or if the qualification isn't met, alternate proposals would be provided.

In this lab, students will see the following:

- a. Qualification request for a given service at a particular location.
- b. Qualification request to check for an upgrade/downgrade on the existing inventory.

Personas

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

Section 1 Validate your ServiceNow Instance

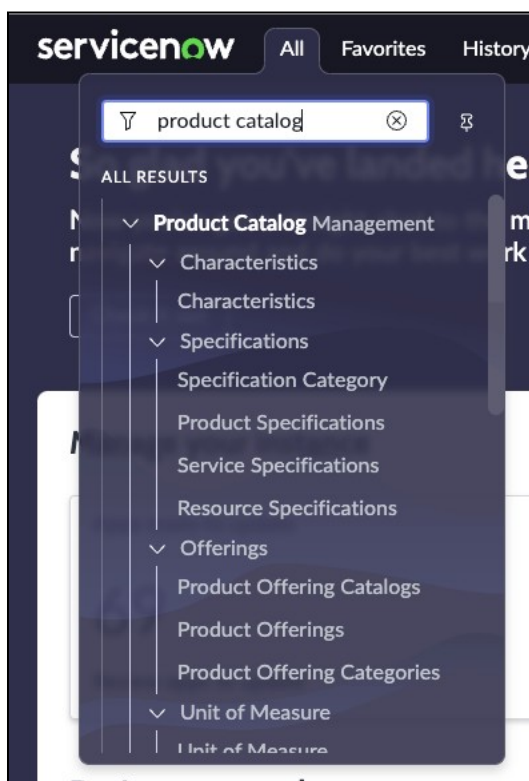
Section 1.1 Login & Validate

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

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

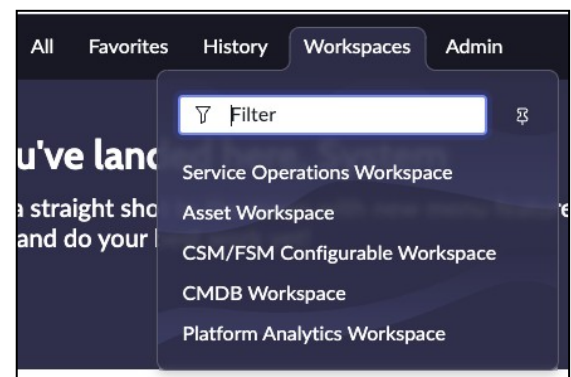
2. Click on **All** and type 'Product Catalog,'

Validate: Product Catalog Management module displays.



3. Click on **Workspaces**,

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

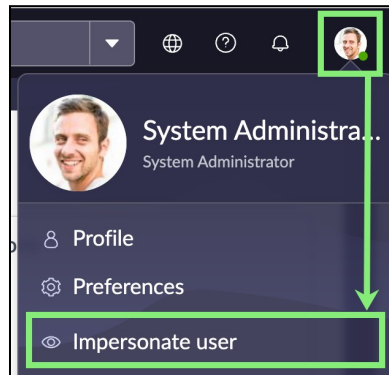


If the Product Catalog modules or Workspace are unavailable in the assigned instance, **please flag this!**

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**.



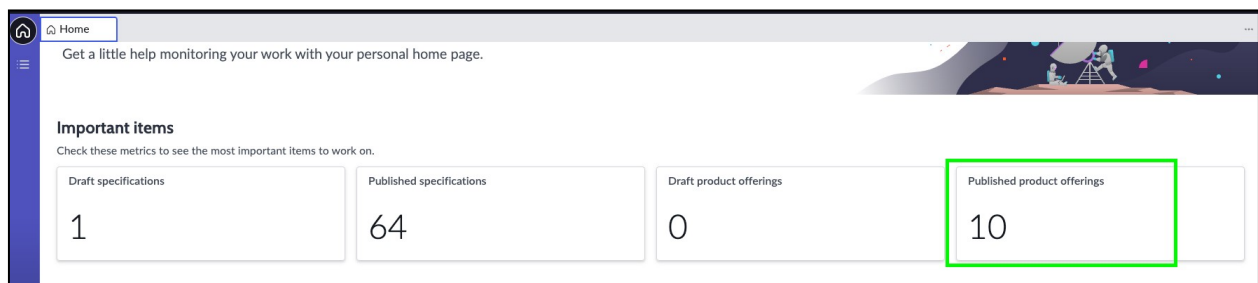
Caption: Image of the user menu with the Impersonate user highlighted.

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

Note: Future lab instructions 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

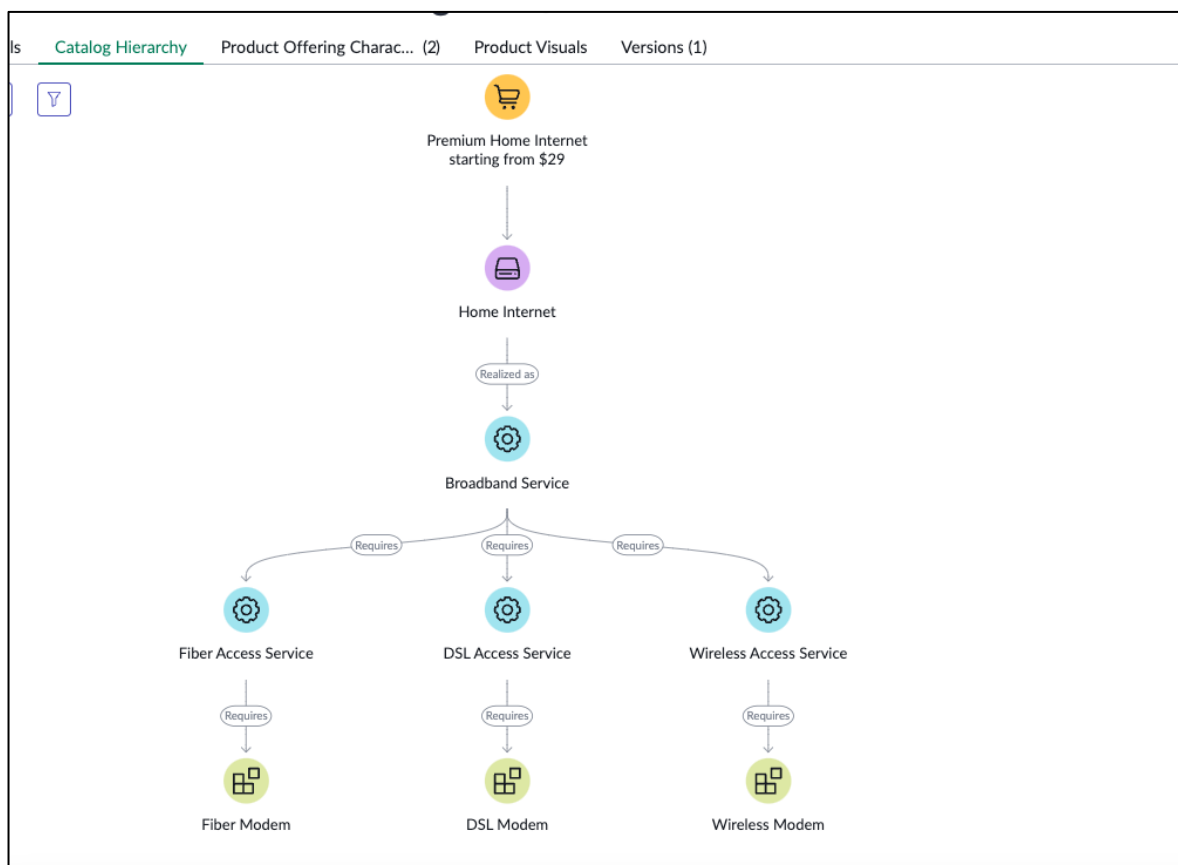


6. From the list, select the PRDOF Number next to the **Premium Home Internet starting from \$29**(**DisplayName** is the column name)

<input type="checkbox"/>	PRDOF00100	Premium Home Internet starting from \$29	1	Home Internet	\$29.00	\$0.00	Not Applicable	Published
<input type="checkbox"/>	PRDOF00201	Premium Connected Navigation -	1	Connected Vehicle	\$320.70	\$885.40	Not Applicable	Published

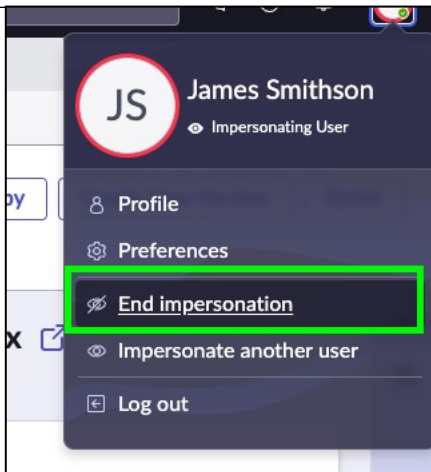
7. Click on the **Catalog Hierarchy** sub-tab after opening the record.

- a. Click on the **Attachment icon** on the right to minimize the Attachments sub-window to get a bigger canvas. Validate if the below type of offering is visible.



- b. End Impersonation as **James Smithson**.

–Click on the user profile at the top right and select **End Impersonation** as shownbelow.



Section 3 Validate Orchestration Flow

The decision tables and subflows are already pre-configured with the TSQ scenarios.

Section 3.1 Subflow to Process Qualification

Process Qualification Request

Subflow Inputs & Outputs

Inputs (1)

Label	Name
Top Order Line Item	top_order_line_item

Outputs

Label

ACTIONS Select multiple

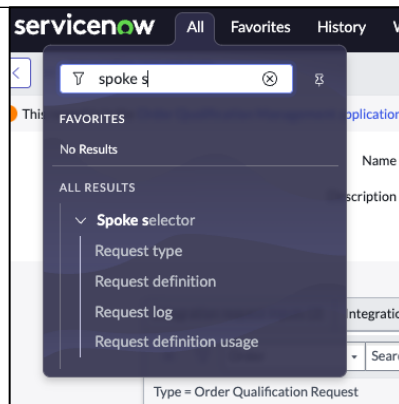
1. Generate a Qualification Request
2. Execute integration request

+ Add an Action, Flow Logic, or Subflow

- a. There are two actions.
 - i. **Generate a Qualification Request** - Generates TMF-641 compatible payload to be sent to the inventory system. The Service Qualification item list in the payload consists of the top-order line-item service orders.
 - ii. **Execute Integration Request**-Invokes Integration Request from Spoke Selector of type = 'Order Qualification Request.' This module accepts two inputs, namely the top order line item for which this subflow is triggered and the payload generated in step i. These inputs are passed to the action 'Demo Order Qualification Request (Mock Response).'

Section 3.2 Spoke Selector

- i. Type **spoke selector** into the Filter Navigator.



- ii. Select **Spoke Selector >Request Type**.
Select **Order Qualification Request**.

Name	Description	Application	Domain
Search	Search	Search	Search
Demo request		Application spoke selector	global
Order Qualification Request	Find suitable Qualification provider and...	Order Qualification Management	global
Service Order Outbound Request		Order Management for Telecom, Media & Tech	global

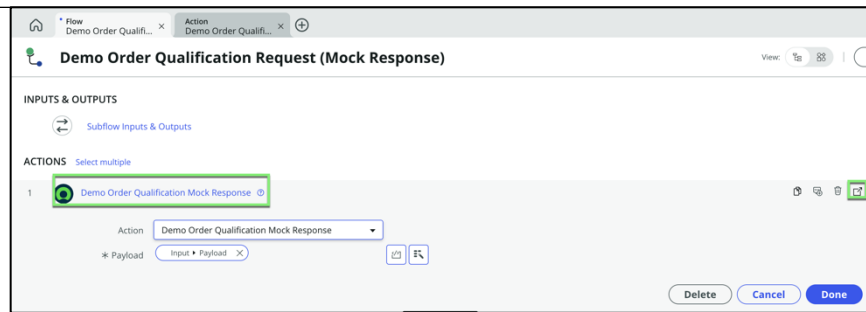
- iii. It takes the Top Order Line Item and Payload as input.

Integration request type Order Qualification Request					
No record is in the Order Qualification Management application, but Global is the current application. To edit this record click here .					
Name	Order Qualification Request		Application	Order Qualification Management	
Description	Find suitable Qualification provider and make call to the external system.		Domain	global	
Integration request inputs (2) Integration request outputs Integration request definitions (1)					
Request type = Order Qualification Request					
Table	Column name	Label	Reference	Default value	Type
var_m_sn_apps_request_input_43291b62eb...	top_order_line_item	Top Order Line Item	Order Line Item		Reference
var_m_sn_apps_request_input_43291b62eb...	payload	Payload	(empty)		JSON

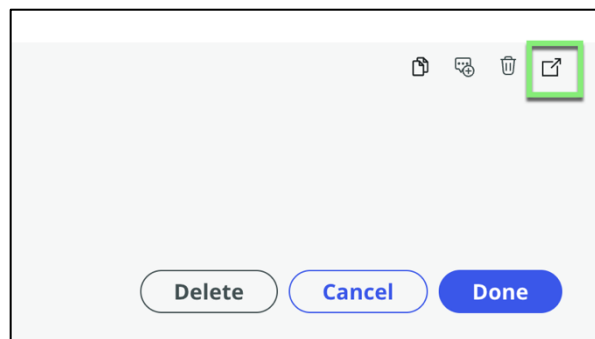
- iv. Notice the **Integration request** definition tab as well. Under the request adapter, check the flow.

Integration request inputs (2) Integration request outputs Integration request definitions (1)									
Type = Order Qualification Request									
Name	Order	Selection condition	Adapter type	Request adapter	Request adapter	Has threshold	Threshold frequency	Threshold limit	Application
Demo Order Qualification implementation	100		Flow	Demo Order Qualification Request (Mock R...	(empty)	false		0	Order Management for Telecom, Media & Tech

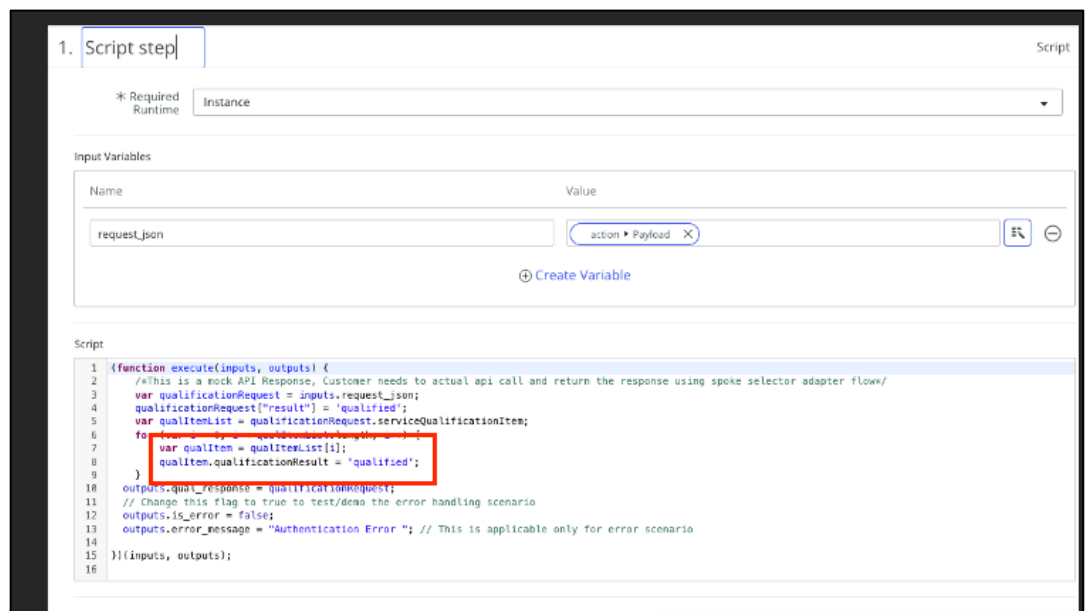
- v. Select the flow in the **Request adaptor** column.
vi. Select the **Demo Order Qualification Mock Response** Action.



- vii. Open the **Action Designer** using the **Open action in Action Designer** icon on the right.



- viii. Select the **Script step**. Notice line #8: where the **qualificationResult = qualified**.



Section 5 Submit a Qualify Order

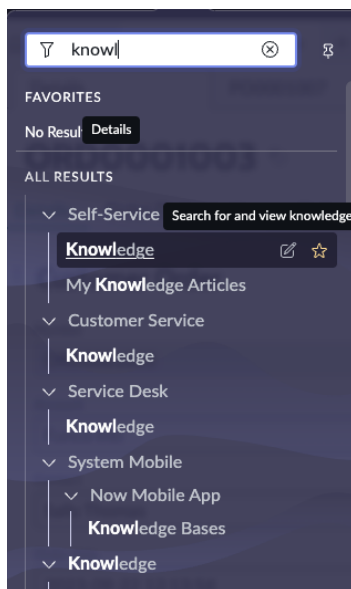
So far, the Lab sections have focused on Configuration time activity. This section will use the configuration validated previously for raising orders.

Note: In this Lab, students will use the TMF645 APIs to qualify an order.

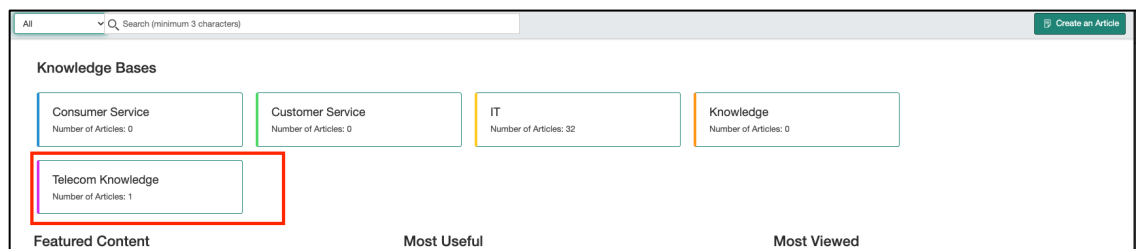
Section 5.1 Pick the Payload from Knowledge

1. Log in as the **System Administrator**.
2. **Navigate** to the previous browser tab where the ServiceNow instance homepage is open.
 - a. Go to Filter Navigator and type **Knowledge**.

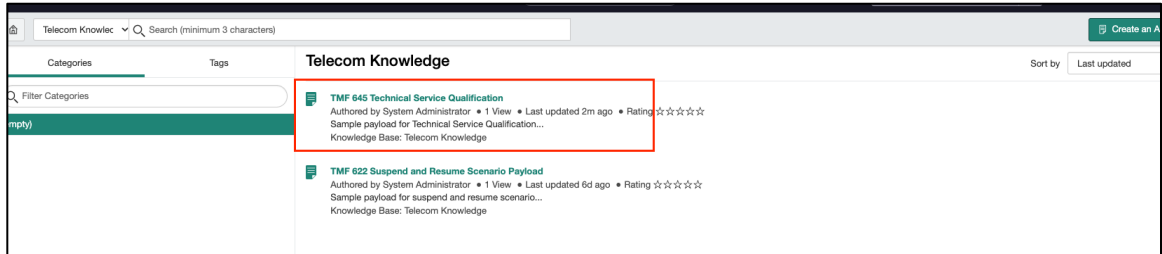
Note: As an Admin, you will have access to the Knowledge bases.



- b. Once the page opens, select **Telecom Knowledge**.

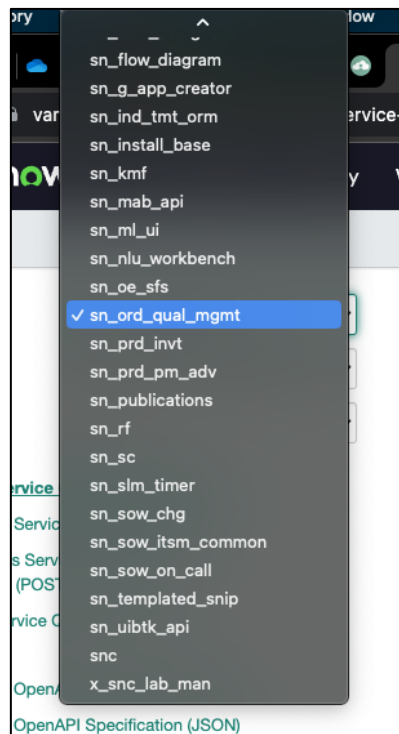


- c. *This Knowledge article will show our lab's TMF 645 Technical Service Qualification. Please download and save it to your local machine.*

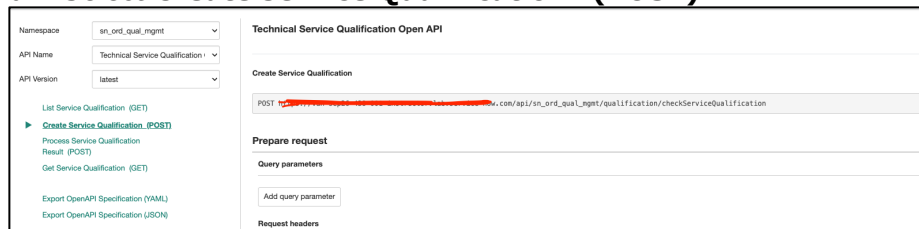


Section 5.2 Trigger Qualification Order creation from REST API explorer

1. Navigate to **All > REST API Explorer**.
 - a. Select namespace as **sn_ord_qual_mgmt**.



- b. Select **Create service Qualification" (POST)**.



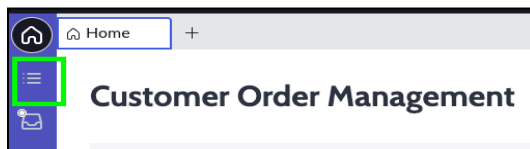
- c. Use the JSON payload saved in your local machine with the name **TSQ_TM645_standard** from the above knowledge article, paste it into the payload's Raw section, and click **Send**.

Note: Please verify the 201 Created response.

Response	
Status code	201 Created
Execution time (ms)	1155

Section 5.3 View Order details in CSM/FSM Configurable Workspace

1. Impersonate **Mike Davis**, the *Fulfilment Manager*.
2. Navigate to the **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 see the newly created Order.

All Orders 7							
Last refreshed just now							
<input type="checkbox"/>	Number ^	Short description	State	Account	Contact	Consumer	Total price
<input type="checkbox"/>	ORD0000001		Completed	Funco Intl	Sarah Johnson	(empty)	\$59.00
<input type="checkbox"/>	ORD0000002		Completed	Funco Intl	Sally Thomas	(empty)	\$65.00
<input type="checkbox"/>	ORD0000003		Completed	Funco Intl	Sally Thomas	(empty)	\$0.00
<input type="checkbox"/>	ORD0000004		Completed	Funco Intl	Sally Thomas	(empty)	\$45.00
<input type="checkbox"/>	ORD0000005		Completed	Funco Intl	Sally Thomas	(empty)	\$19.8684
<input type="checkbox"/>	ORD0000006		Completed	Funco Intl	Sally Thomas	(empty)	\$0.00
<input type="checkbox"/>	ORD0001001	check service qualification illustration	New	Funco Intl	Sally Thomas	(empty)	\$0.00

- On opening the Order, please verify the order **Fulfillment type** value should be **Qualify**.

Customer Order

Number

ORD0001001

Account

Funco Intl

Contact

Sally Thomas

Order date

2023-09-29 12:41:16

PONR

Order type *

Service

State

New

Result

None

Fulfillment type *

Qualify

Priority

4 - Low

Version

1

Section 5.4 Approve Order

- On the Order details page, click on the **Approve** button.

List

ORD0001004

ORD0001004

Approve

Reject

Validate Related Items

Re-calculate

Save

Details

Order Orchestration

Account Information

Order Line Items (3)

Customer Order

Number

ORD0001004

Order type *

Product

Account

Funco Intl

State

New

Compose

Type your Comments here

Post Comments

Record Information

Overview

Account

Funco Intl

Note: The order status will change to **Acknowledged** after approval and immediately to **In Progress**. The order line-item state also changes to **In Progress**.

*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 5.5 Qualify Order

1. Open the top Order Line Item and select the **Order Tasks** related list. You will observe that the service order for child specification is also created as per the specification relationship of the **Broadband Service**.

ORDL0001001

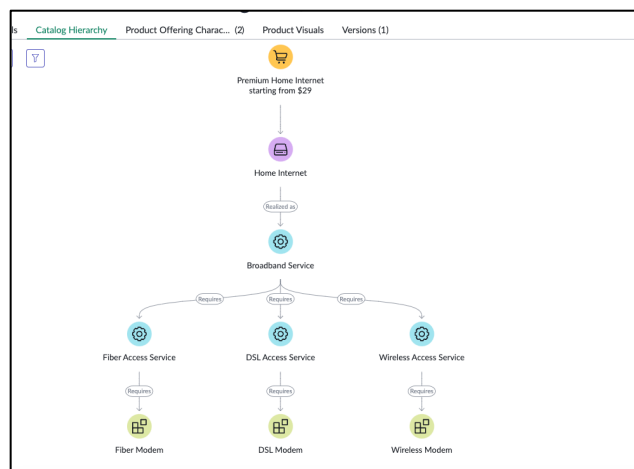
Details Order Orchestration Order Characteristics (5) Order Line Item Contacts Service Orders (1) **Order Tasks (4)** External product inventories

Order Tasks 4 Refresh Filter New

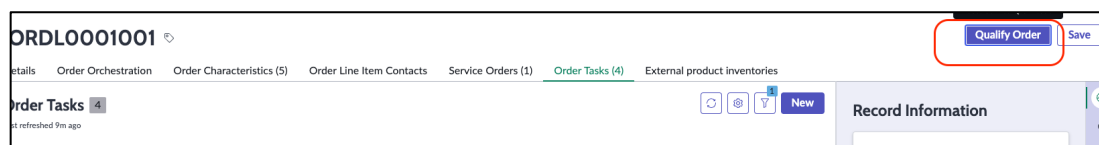
Last refreshed 1m ago

Number	Short description	Priority	State	Assignment group	Assigned to
SO0001001	Service Order for Broadband Service	4 - Low	Draft	(empty)	(empty)
SO0001002	Service Order for Fiber Access Service	4 - Low	Draft	(empty)	(empty)
SO0001003	Service Order for DSL Access Service	4 - Low	Draft	(empty)	(empty)
SO0001004	Service Order for Wireless Access Service	4 - Low	Draft	(empty)	(empty)

Look for a quick check on the specifications data model to understand how the service orders are created.



2. Select the **Qualify Order** button.



Section 5.6 Check the Results

On selecting the **Qualify Order** button, the result turns to **Qualified**, and the state changes to **Completed**.

ORD0001001

Details | Order Orchestration | Account Information | Order Line Items (1)

Customer Order

Number: ORD0001001

Account: Funco Intl

Contact: Sally Thomas

Order date: 2023-09-29 12:41:16

Order type: Service

State: Completed

Result: Qualified

Fulfillment type: Qualify

Priority: 4 - Low

PONR

Compose

Type your Comments here

Everyone can see this comment

Post Comments

Activity

System

Field changes • 2023-09-29 13:28:41

State Completed was *in-progress*

System

Field changes • 2023-09-29 12:57:18

Note: Please refer to [section 3.2](#), point number "viii." again to understand that we have mocked the qualification response as **Qualified**.

1. End impersonation of Mike Davis.

Section 6 Submit a Qualify Order on existing inventory.

So far, we have proceeded with the Order, resulting in the qualification of the Order. In this section, we will focus on how the qualification would work if we upgraded the existing inventory's characteristics created from the fulfillment order raised.

Note: In this Lab, students will use the TMF645 APIs for qualification.

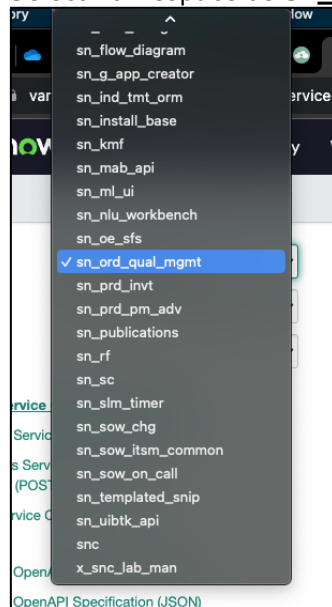
Section 6.1 Get the payload from the Knowledge Base.

1. Please refer to the steps in section 5.1, where we downloaded the payload from the Knowledge article.
2. Please use the **TMF645_qualify_existing_inventory.json** file to check for the qualifying Order on the existing inventory to see if the new characteristics are serviceable.

Note: You can navigate to the Knowledge articles and select the **TMF 645 Technical Service Qualification** article to retrieve the payload.

Section 6.2 Trigger Order creation from REST API explorer

1. Log in as the **System Administrator**.
2. Navigate to **All > REST API Explorer**.
 - a. Select namespace as **sn_ord_qual_mgmt**.



b. Select **Create Service Qualification (POST)**.

- c. Use the JSON payload saved in your local machine with **TMF645_qualify_existing_inventory.json** from the above knowledge article, paste it into the payload's Raw section, and select **Send**.

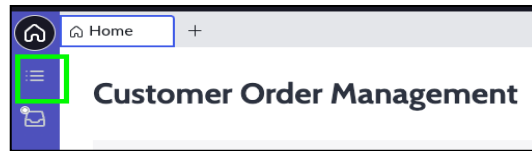
Note: Please verify the 201 Created response.

Response	
Status code	201 Created
Execution time (ms)	1155

Section 6.3 View Order details in CSM/FSM Configurable Workspace

1. Impersonate **Mike Davis**, the *Fulfilment Manager*.
2. Navigate to the **CSM/FSM Configurable Workspace**.

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



- From under **Customer Orders** List, click **All** (if not already open) and see the newly created Order.

<input type="checkbox"/> Number	Short description	State	Account	Contact	Consumer	Order date	Total price
<input type="checkbox"/> ORD0001004	check service qualification illustration	New	Funco Intl	Sally Thomas	(empty)	2023-09-29 17:42:28	£0.00
<input type="checkbox"/> ORD0001003	check service qualification illustration	Completed	Funco Intl	Sally Thomas	(empty)	2023-09-29 14:56:59	£0.00
<input type="checkbox"/> ORD0001002	check service qualification illustration	Completed	Funco Intl	Sally Thomas	(empty)	2023-09-29 14:13:32	£0.00
<input type="checkbox"/> ORD0001001	check service qualification illustration	Completed	Funco Intl	Sally Thomas	(empty)	2023-09-29 12:41:16	£0.00

- On opening the Order, please verify the Order and the Fulfillment type value of **Qualify**.

Customer Order

Number

ORD0001005

Account

Funco Intl

Contact

Sally Thomas

Order date

2023-10-02 18:14:19

Order type *

Service

State

New

Result

None

Fulfillment type *

Qualify

Section 6.4 Approve Order

- On the Order details page, click on the **Approve** button.

Note: The order status will change to **Acknowledged** after approval and immediately to **In Progress**. The order line-item state also changes to **In Progress**. 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 6.5 Qualify Order

- Open the top Order Line item and click on the **Order Tasks** related list. You will observe that the Service Order for child specification is also created as per the specification relationship of the Managed Firewall Service.

Details	Order Orchestration	Order Characteristics (4)	Order Line Item Contacts	Order Tasks (4)	External product inventories
Order Tasks 4 <small>Last refreshed just now</small>					
Number	Short description	Priority	State	Assignment group	Assigned to
SO0001013	Service Order for Managed Firewall Service	4 - Low	Draft	(empty)	(empty)
SO0001014	Service Order for Firewall Administration	4 - Low	Draft	(empty)	(empty)
SO0001015	Service Order for Firewall & DMZ	4 - Low	Draft	(empty)	(empty)
SO0001016	Service Order for Threat and Intrusion Prevention Service	4 - Low	Draft	(empty)	(empty)

2. Notice the **Inventory ID** and the **Location** values on the Order Line item record.

Order Line Item

Number
ORDL0001004

Account
Funco Intl

Order *
ORD0001004

Order type *
Service

Parent line item
—

State
In progress

Service specification
Managed Firewall Service

Result
None

Ordered quantity
1

Location
200 South James street,Atlanta, GA

Priority
4 - Low

PONR

Compose

Comments Work notes (Private)

Type your Comments here

Everyone can see this comment Post Comments

Activity

System Administrator
Field changes • 2023-09-29 17:46:12
State: Acknowledged was New

System Administrator
Work notes • 2023-09-29 17:42:28
Reference Service Inventory ID:
4b5072aec3a83010abc8b5183c40dd42

Note: Copy the **Inventory ID** value in the Work Notes, as it will be used later.

3. End impersonation of Mike Davis to validate the Inventory Reference ID location and its characteristics to compare with the Order Line Item characteristics.
4. Enter **sn_prd_invt_product_inventory.LIST** in the filter navigator.

sn_prd_invt_product_in

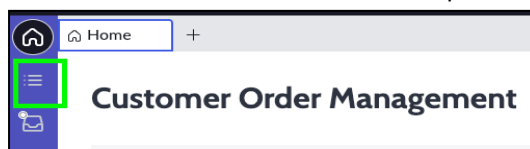
FAVORITES
No Results

5. Using the copied **Inventory ID** value from the Order Line Item, use the search filter to query using the **Inventory ID** as the **sys_id** value in the search. Select Run to execute the search.

6. Open the **Product inventory** record and notice the **Location** and **Product Characteristics** values.

Characteristic	Characteristic value
Firewall coverage	Premium(Up to 50 sites)
Administration Support	Basic(Customer Managed)
Firewall Security	Premium
CPE Type	Physical

- a. The **Product Characteristics** are administration support is Basic (Customer Managed), and the CPE type is Physical.
 - b. The Location is **200 South James Street, Atlanta, GA**.
6. Impersonate **Mike Davis**, the *Fulfilment Manager*.
 7. Return to the **CSM/FSM Configurable Workspace**.
 8. Click on the **List menu icon** on the top left.



9. Notice that the customer has raised a qualification order on the different characteristics for **CPE type and Administration support** compared to the inventory characteristics shown above.

Order Characteristics (18)					
Number	Specification	Characteristic	Previous characteristic value	Characteristic value	Characteristic option
ORC000001029	Managed Firewall Service	Firewall Security		Premium	Premium
ORC000001030	Managed Firewall Service	Firewall coverage		Premium (Up to 50 sites)	Premium (Up to 50 sites)
ORC000001031	Managed Firewall Service	CPE Type		Virtual	Virtual
ORC000001032	Managed Firewall Service	Administration Support		Premium (with all features including CLI)	Premium (with all features including CLI)

10. Also, notice that the qualification order is in the location where we have an inventory.

Order Line Item

Number: ORDL0001004

Account: Funco Intl

Order #: ORDL0001004

Order type: Service

Parent line item: -

State: In progress

Service specification: Managed Firewall Service

Ordered quantity: 1

PONR: ☐

Result: None

Location: 200 South James street,Atlanta, GA

Priority: 4 - Low

Compose

Comments: Type your Comments here

Activity:

- System Administrator: Field changes • 2023-09-29 17:46:12
- System Administrator: Work notes • 2023-09-29 17:42:28

Reference Service Inventory ID: 4b5072aec3a83010abc8b5183c40dd42

Section 6.6 Check the Results

With a click of a **Qualify** button, the result turns to **Qualified**, and the state changes to **Completed**.

ORDL0001004

Details | Order Orchestration | Order Characteristics (18) | Order Line Item Contacts | Service Orders (1) | Order Tasks (4) | External product inventories

Order Line Item

Number: ORDL0001004

Account: Funco Intl

Order #: ORDL0001004

Order type: Service

Compose

Comments: Type your Comments here

Record Information

Overview

Account: Funco Intl

ORDL0001004

Details | Order Orchestration | Order Characteristics (18) | Order Line Item Contacts | Service Orders (1) | Order Tasks (4) | External product inventories

Order Line Item

Number ORDL0001004	Account Funco Intl
Order * ORD0001004	Order type * Service
Parent line item —	State Completed
Service specification Managed Firewall Service	Result Qualified
Ordered quantity 1	Location 200 South James street,Atlanta, GA
PONR	Priority 4 - Low

System has modified this field value

System has modified this field value

Compose

Comments | Work notes (Private)

Type your Comments here

Everyone can see this comment

Post Comment

Activity

System
Field changes • 2023-09-29 18:23:38
State: Completed was *in-progress*

System Administrator
Field changes • 2023-09-29 17:46:16
State: In progress was *Acknowledged*

System Administrator
Field changes • 2023-09-29 17:46:16

Note: Please refer to [section 3.2](#), point number "viii." again to understand that we have mocked the qualification response as "**Qualified**."

Also, note that a successful "**Qualified**" outcome means that the new characteristics combination the customer has submitted is feasible on the existing location and the service.

Lab verification

1. In this lab, we were able to successfully test the qualification scenario for a fresh new service as well as for the existing service.



Congratulations! You have completed this lab.