

# Order Creation and Orchestration

Lab 5.0

60 minutes

## Table of contents

|  |    |
|--|----|
| Lab objectives .....   | 1  |
| Scenarios .....  | 2  |
| Section 1 Create and fulfill product orders via API .....                    | 2  |
| Section 1.1 Create an order via API.....                                     | 2  |
| Section 1.2 Verify Product Order in Agent Workspace.....                     | 4  |
| Section 1.3 Decompose SD-WAN Product Order.....                              | 6  |
| Section 1.4 Review Workflows and Decision Tables using Decision Builder..... | 8  |
| Section 1.5 Fulfill SD-WAN Product Order .....                               | 12 |
| Section 1.6 Review Inventory .....   | 17 |
| Section 2 Create and fulfill Managed Firewall service order.....             | 18 |
| Section 2.1 Create an order via API.....                                     | 18 |
| Section 2.2 Verify Service Order in Agent Workspace.....                     | 20 |
| Section 2.3 Decompose Managed Firewall service order.....                    | 22 |
| Section 2.4 Review Workflows and Decision Tables .....                       | 24 |
| Section 2.5 Fulfill Managed Firewall Service Order.....                      | 27 |
| Section 2.6 Review Inventory .....   | 32 |

## Lab objectives

You will achieve the following objectives:

- Create product and service orders Via TMF API.
- Decompose and complete the orders.
- Validate the inventory: sold products, install base, and Configuration Items (CIs).

**Lab Dependency:** This lab is foundational for all subsequent lab exercises. Do not skip.

## Scenarios

External applications can submit telecom orders into the ServiceNow Order Management system for orchestration and fulfillment. B2B product orders are usually captured in CPQ systems and pushed to the ServiceNow Order Management system for processing.

ServiceNow Order Management solution supports API-based order capture via TMF 622 and TMF 641 to get product and service orders from external systems.

In this lab, we will post product and service orders via API and initiate the order decomposition and fulfillment process to have the product, service, and resource orders with order tasks. We will also explore how workflows decompose orders into order tasks for fulfillment.

## Section 1 Create and fulfill product orders via API

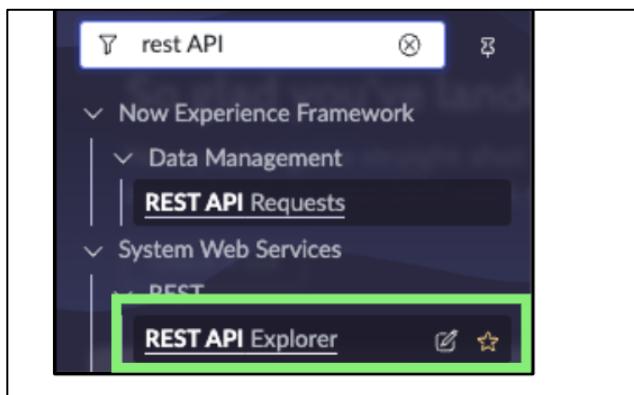
### Section 1.1 Create an order via API

This section will create a new SD-WAN product order from an API payload. (The JSON payload file is available with the lab files).

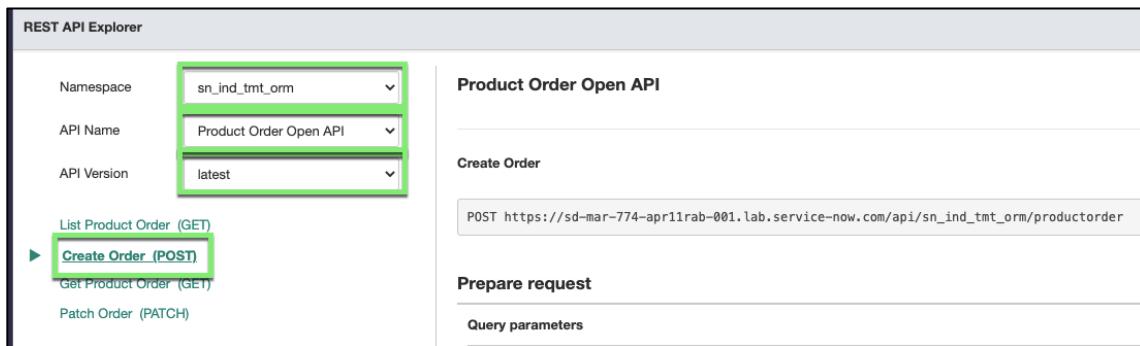
1. Log in to the student lab instance with your admin user credentials.
2. Navigate to **All > System Web Services > REST > REST API Explorer**.

Option: Open **REST API Explorer** using the below URL in your instance. Please replace the instance name with your lab instance name.

[https://YOURINSTANCE/\\$restapi.do?ns=sn\\_ind\\_tmt\\_orm&service=Product%20Order%20Open%20API&version=&resource\\_id=2879b1ea53b820102f18ddeff7b1244](https://YOURINSTANCE/$restapi.do?ns=sn_ind_tmt_orm&service=Product%20Order%20Open%20API&version=&resource_id=2879b1ea53b820102f18ddeff7b1244)



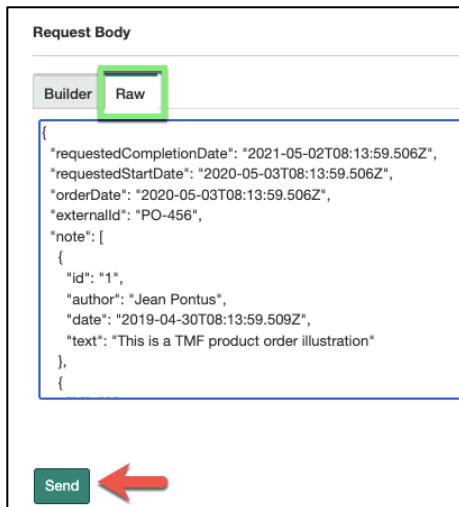
3. Select **Explore** (first-time use only)
4. On API explorer, complete the following fields:
  - Namespace: *sn\_ind\_tmt\_orm*
  - API name: *Product Order Open API*
  - API version: *latest*
5. Then select **Create order (POST)**.



6. Select the **Raw** tab under **Request Body** of the REST message and paste the copied payload body. (The SD-WAN order payload is available for download with this lab file).

**File Name:** SDWAN\_Create\_PO\_Tokyo

7. Select **Send**, then select **OK** on the pop-up.



8. Check the Response Status Code – API request is successful if the response is **201 Created**.

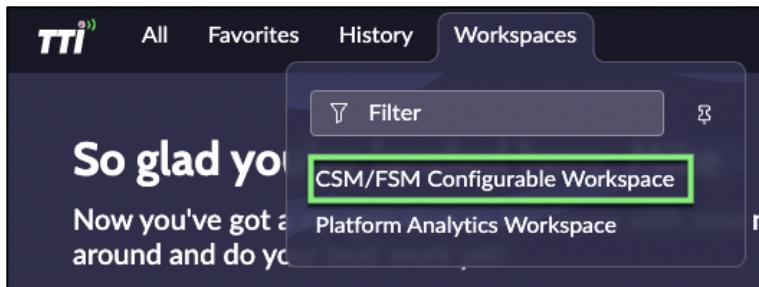
| Response            |                  |
|---------------------|------------------|
| Status code         | 201 Created      |
| Execution time (ms) | 1872             |
| Headers             |                  |
| Content-Encoding    | gzip             |
| Content-Type        | application/json |

## Section 1.2 Verify Product Order in Agent Workspace

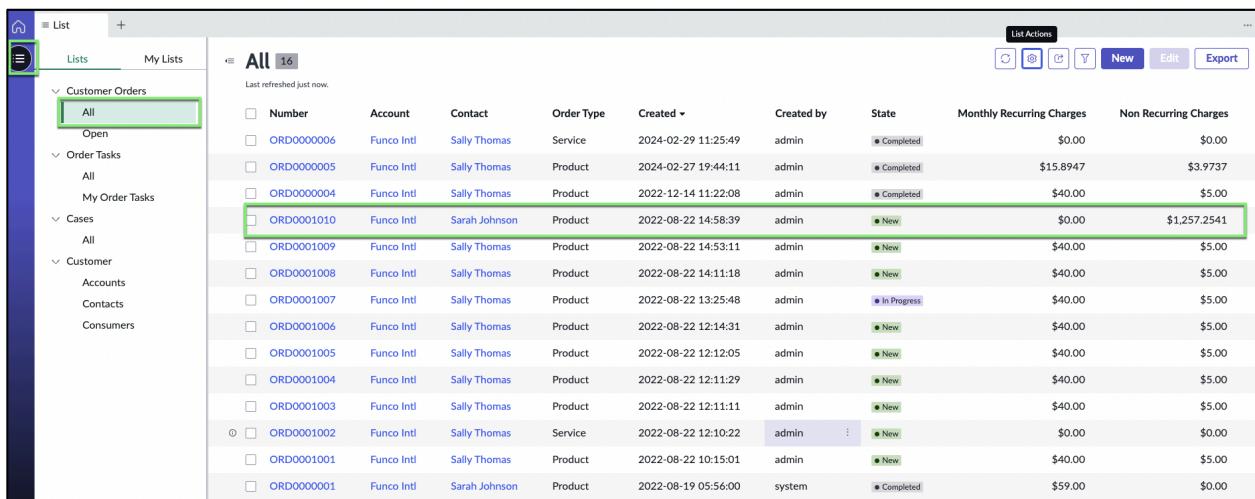
1. A new SD-WAN product order is created.
2. Impersonate **Mike Davis**, the Order Fulfillment Manager.
3. Navigate to **All > Customer Order Management > Workspace > Configurable Workspace Home** to launch Agent Workspace in a separate browser tab.



Option: Select the **CSM/FSM Configurable Workspace** link in the **Unified Navigation Header**.

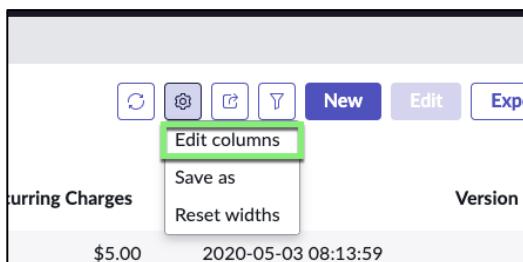


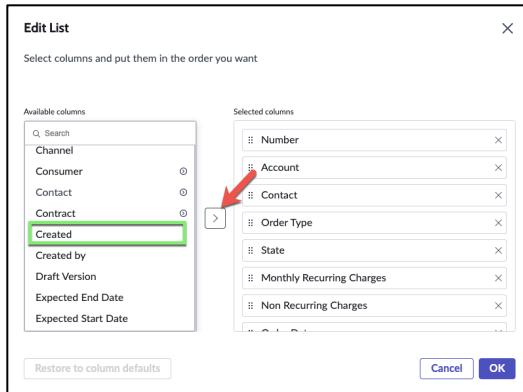
4. Navigate to **Lists > Customer Orders > All** to see all the customer orders available in the system. Select the newly created order from the list.



| Number     | Account    | Contact       | Order Type | Created             | Created by | State       | Monthly Recurring Charges | Non Recurring Charges |
|------------|------------|---------------|------------|---------------------|------------|-------------|---------------------------|-----------------------|
| ORD0000006 | Funco Intl | Sally Thomas  | Service    | 2024-02-29 11:25:49 | admin      | Completed   | \$0.00                    | \$0.00                |
| ORD0000005 | Funco Intl | Sally Thomas  | Product    | 2024-02-27 19:44:11 | admin      | Completed   | \$15.8947                 | \$3.9737              |
| ORD0000004 | Funco Intl | Sally Thomas  | Product    | 2022-12-14 11:22:08 | admin      | Completed   | \$40.00                   | \$5.00                |
| ORD0001010 | Funco Intl | Sarah Johnson | Product    | 2022-08-22 14:58:39 | admin      | New         | \$0.00                    | \$1,257.2541          |
| ORD0001009 | Funco Intl | Sally Thomas  | Product    | 2022-08-22 14:53:11 | admin      | New         | \$40.00                   | \$5.00                |
| ORD0001008 | Funco Intl | Sally Thomas  | Product    | 2022-08-22 14:11:18 | admin      | New         | \$40.00                   | \$5.00                |
| ORD0001007 | Funco Intl | Sally Thomas  | Product    | 2022-08-22 13:25:48 | admin      | In Progress | \$40.00                   | \$5.00                |
| ORD0001006 | Funco Intl | Sally Thomas  | Product    | 2022-08-22 12:14:31 | admin      | New         | \$40.00                   | \$5.00                |
| ORD0001005 | Funco Intl | Sally Thomas  | Product    | 2022-08-22 12:12:05 | admin      | New         | \$40.00                   | \$5.00                |
| ORD0001004 | Funco Intl | Sally Thomas  | Product    | 2022-08-22 12:11:29 | admin      | New         | \$40.00                   | \$5.00                |
| ORD0001003 | Funco Intl | Sally Thomas  | Product    | 2022-08-22 12:11:11 | admin      | New         | \$40.00                   | \$5.00                |
| ORD0001002 | Funco Intl | Sally Thomas  | Service    | 2022-08-22 12:10:22 | admin      | New         | \$0.00                    | \$0.00                |
| ORD0001001 | Funco Intl | Sally Thomas  | Product    | 2022-08-22 10:15:01 | admin      | New         | \$40.00                   | \$5.00                |
| ORD0000001 | Funco Intl | Sarah Johnson | Product    | 2022-08-19 05:56:00 | system     | Completed   | \$59.00                   | \$0.00                |

*Hint:* you may want to add the **Created** field to the list view to allow you to sort by most recent order.





## 5. Verify the following details

- Order details
- Order line-items (click into Order lines to verify)
- Order line-item characteristics
- Order line-item contacts
- Order state (New)

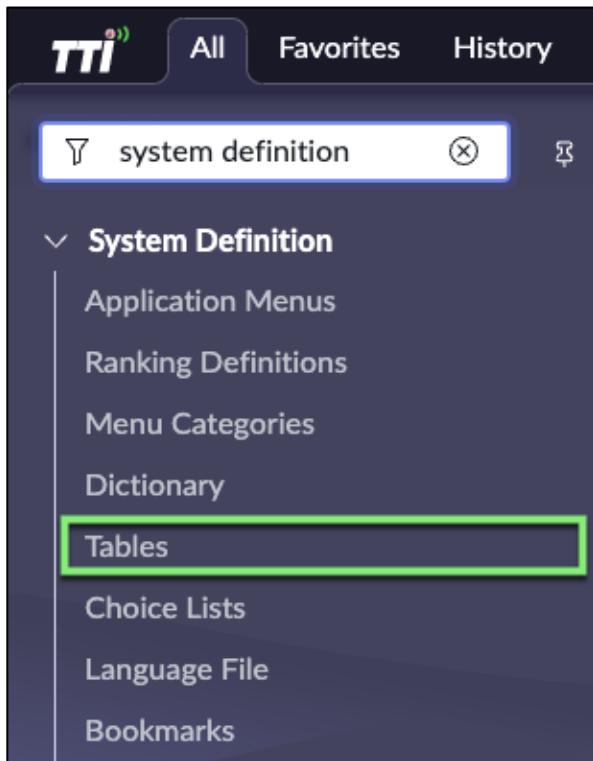
## Section 1.3 Decompose SD-WAN Product Order

Upon approval, the customer order goes through the order decomposition process to create required domain (product, service, and resource) orders.

To trigger order decomposition, approve the order as an Order Fulfillment Manager user.

### 1. Open the order record and select **Approve**.

2. Observe the order state changes to **Acknowledged**, which triggers the decomposition process to create the product, service, and resource orders for order fulfillment. Moments later, the order state changes to **In Progress**.
3. ServiceNow initiates identifying the workflow for each domain order to create the required order tasks for fulfillment.
4. Review the order structure; the order decomposition feature references the catalog definition of the SD-WAN product offering to create the order hierarchy.
5. As part of the order decomposition process, inventory records are created for each product, service, and resource specifications.
6. End impersonation of **Mike Davis** and impersonate an admin user.
7. View the inventory records by navigating to **All > System Definition > Tables** and search for *Product Inventory* in the **Label** field.



8. Select the **Product Inventory** name to open the table record.

| All > Label starts with Product Inventory |   |                         |               |  |  |
|---|---|-------------------------|---------------|--|--|
| Label                                     | Name ▾  | Extends table           | Extensible    | Updated                                    |  |
| Product Inventory                         | Search  | Search                  | Search        | Search                                     |  |
| Product Inventory Relationship            | sn_prd_inv_product_inventory<br>sn_prd_inv_product_inventory_relationship | Sold Product<br>(empty) | false<br>true | 2022-08-19 23:49:02<br>2022-08-19 23:49:03 |  |

9. Under **Related Links**, select **Show list** to view the records in the Product Inventory table.

### Related Links

[Design Form](#)  
[Layout Form](#)  
[Layout List](#)  
[Show Form](#)  
[Show List](#)  
[Show Schema Map](#)  
[Add to Service Catalog](#)  
[Run Point Scan](#)  
[Explore REST API](#)

10. Notice that all recently created records are for SD-WAN product offerings. Add the **Created** column to the list and sort to see the most recent records.

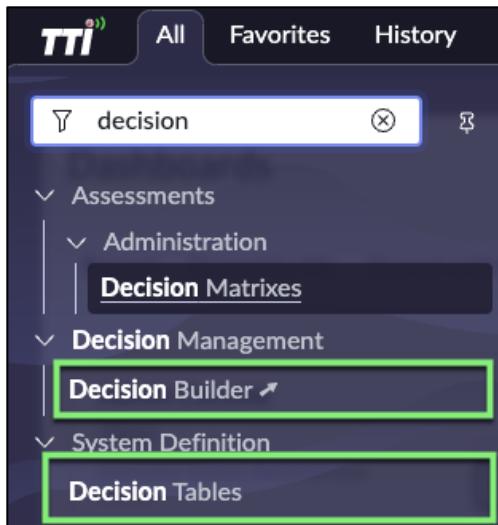
*Hint:* you may need to add the State column to the list view using the Personalized List option.

11. Note that these records are in a state of **Installation Pending** as order fulfillment is incomplete.

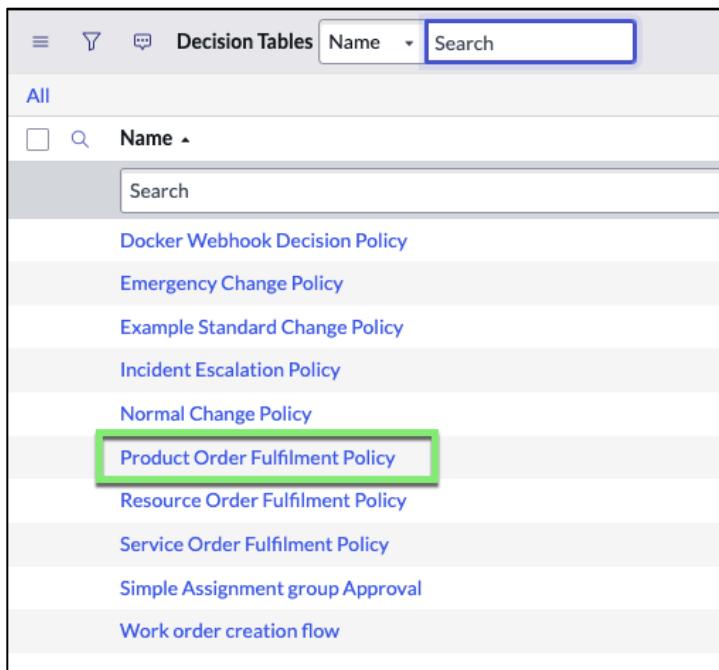
| Name                             | Product Model ▾                    | Account    | Contact      | Consumer | State                |
|----------------------------------|------------------------------------|------------|--------------|----------|----------------------|
| Search                           | Search                             | Search     | Search       | Search   | Search               |
| SD-WAN Service Package PI0001767 | SD-WAN Service Package PRD00001751 | Funco Intl | Sally Thomas | (empty)  | Installation Pending |
| SD-WAN Security PI0001768        | SD-WAN Security PRD00001487        | Funco Intl | Sally Thomas | (empty)  | Installation Pending |

## Section 1.4 Review Workflows and Decision Tables using Decision Builder

1. ServiceNow Order Management leverages the **Decision Tables** to identify workflow for domain (product, service, and resource) orders based on input parameters.
2. As an admin user, view the **Decision Tables** by navigating to **All >> System Definition >> Decision Tables** or **All >> Decision Management >> Decision Builder**.



3. Select the **Product Order Fulfillment Policy** record.



| Name                             |
|----------------------------------|
| Docker Webhook Decision Policy   |
| Emergency Change Policy          |
| Example Standard Change Policy   |
| Incident Escalation Policy       |
| Normal Change Policy             |
| Product Order Fulfilment Policy  |
| Resource Order Fulfilment Policy |
| Service Order Fulfilment Policy  |
| Simple Assignment group Approval |
| Work order creation flow         |

4. Select the **Decisions** tab to see the list of decision tables available for product order fulfillment scenarios. The list includes decision tables for new, change, and disconnect scenarios.

Product Order Fulfilment Policy

Created: 2020-10-08 07:32:26 | Application: Order Management for Telecom, Media & Tech | Properties | Close | Save | ...

**Inputs** [Add](#)

| Label                    | Type      | Reference   | Mandatory  |
|--------------------------|-----------|---|--|
| Customer Order Line Item | Reference | Order Line Item [sn_ord_tmt_orm_order_line_item]        | <input type="checkbox"/> Add condition column   <a href="#">Add condition column</a> |
| Product Specification    | Reference | Product Specification [sn_prd_pm_product_specification] | <input type="checkbox"/> Add condition column   <a href="#">Add condition column</a> |
| Product Order            | Reference | Product Order [sn_ord_tmt_orm_product_order]            | <input type="checkbox"/> Add condition column   <a href="#">Add condition column</a> |

[Add an input](#)

**Decision table**

**Conditions**

|   | Action                    | Category               | Order Action | Flow                                   |
|---|---------------------------|------------------------|--------------|--|
| 1 | is one of "Add", "Change" | 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 | Change                    | SD-WAN Edge Device     |              | SDWAN Edge Device Change Fulfillment   |
| 5 | Change                    | SD-WAN Security        |              | SD-WAN Security Change                 |
| 6 | Add                       | SD-WAN Edge Device     |              | SDWAN Edge Device Fulfillment          |

**Results**

|   | Flow                                   |
|---|--|
| 1 | Flow [sys_hub_flow]                    |
| 2 | SDWAN Fulfillment Process              |
| 3 | New 4G Mobile plan fulfillment process |
| 4 | SD-WAN Edge Device Security Remove     |
| 5 | SDWAN Edge Device Change Fulfillment   |
| 6 | SD-WAN Security Change                 |
| 7 | SDWAN Edge Device Fulfillment          |
| 8 | SDWAN Controller Fulfillment           |

- View the following decision table records to see the Action, Category, Flow Action, and the Flow name used for the SD-WAN product order created.
  - SDWAN Package Fulfillment
  - SDWAN Controller Fulfillment
  - SDWAN Edge Device Fulfillment
- The Decision Builder record provides the Flow name in the **Flow** field and the **Conditions** evaluated for assigning a workflow to a product, service, or resource order.

**Decision table**

**Conditions**

|   | Action                    | Category               | Order Action | Flow                                   |
|---|---------------------------|------------------------|--------------|--|
| 1 | is one of "Add", "Change" | SD-WAN Service Package |              | Flow [sys_hub_flow]                    |
| 2 | Add                       | Mobile Plan            | Add          | SDWAN Fulfillment Process              |
| 3 | Disconnect                | SD-WAN Security        |              | New 4G Mobile plan fulfillment process |
| 4 | Change                    | SD-WAN Edge Device     |              | SD-WAN Edge Device Security Remove     |
| 5 | Change                    | SD-WAN Security        |              | SDWAN Edge Device Change Fulfillment   |
| 6 | Add                       | SD-WAN Edge Device     |              | SD-WAN Security Change                 |
| 7 | Add                       | SD-WAN Security        |              | SDWAN Edge Device Fulfillment          |
| 8 | Add                       | SD-WAN Controller      |              | SDWAN Security Fulfillment             |

**Results**

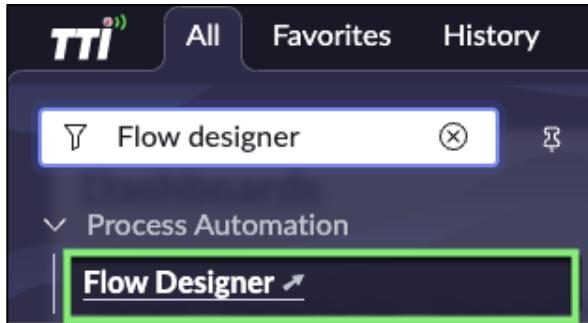
|   | Flow                                   |
|---|--|
| 1 | Flow [sys_hub_flow]                    |
| 2 | SDWAN Fulfillment Process              |
| 3 | New 4G Mobile plan fulfillment process |
| 4 | SD-WAN Edge Device Security Remove     |
| 5 | SDWAN Edge Device Change Fulfillment   |
| 6 | SD-WAN Security Change                 |
| 7 | SDWAN Edge Device Fulfillment          |
| 8 | SDWAN Controller Fulfillment           |

- Select the **Close** button to exit the Decision Builder.

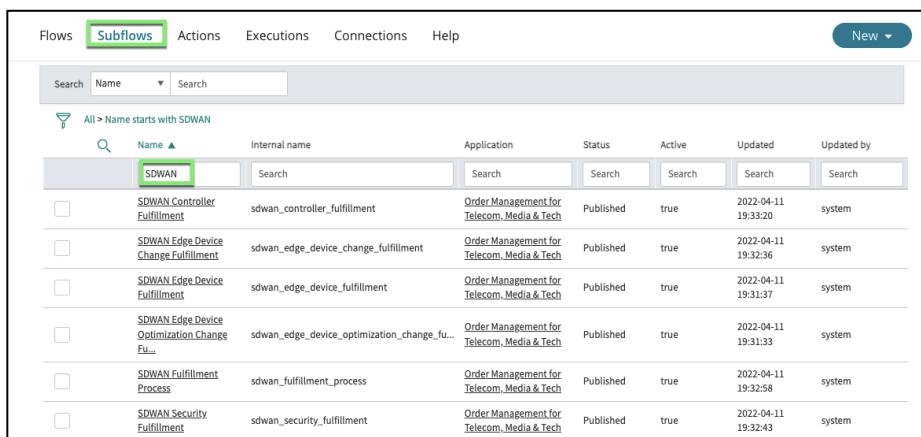
**Note:** You may need to use the back button and select the main header logo image to exit the Decision Builder.

Created: 2020-10-08 07:32:26 | Application: Order Management for Telecom, Media & Tech | Properties | **Close** | Save | ...

- To view a flow, navigate to **All >> Process Automation >> Flow Designer**.

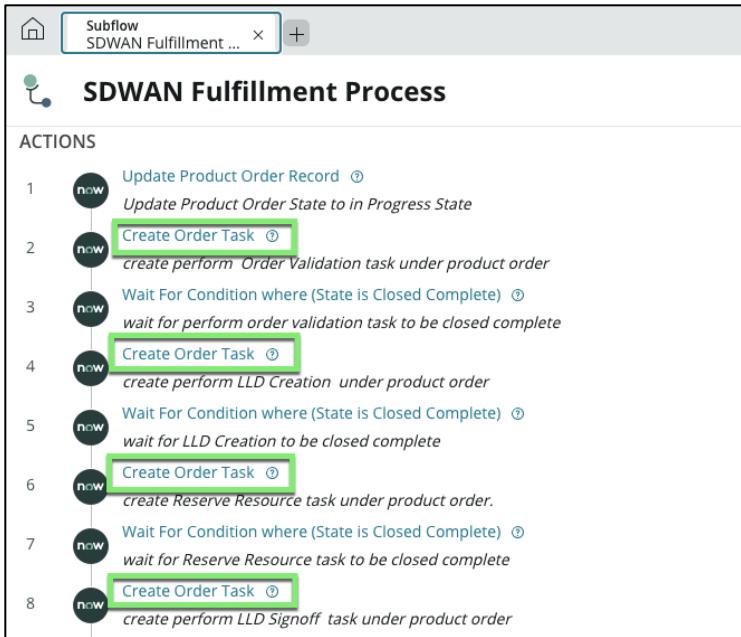


11. Within **Flow Designer**, select the **Subflows** tab.
12. In the **Name** field, enter SDWAN and press enter/return to search for Subflows starting with these characters.



|                          | Name  | Internal name                                     | Application                                | Status    | Active | Updated             | Updated by |
|--------------------------|---|---|--|-----------|--------|---------------------|------------|
| <input type="checkbox"/> | SDWAN Controller Fulfillment                      | sdwan_controller_fulfillment                      | Order Management for Telecom, Media & Tech | Published | true   | 2022-04-11 19:33:20 | system     |
| <input type="checkbox"/> | SDWAN Edge Device Change Fulfillment              | sdwan_edge_device_change_fulfillment              | Order Management for Telecom, Media & Tech | Published | true   | 2022-04-11 19:32:36 | system     |
| <input type="checkbox"/> | SDWAN Edge Device Fulfillment                     | sdwan_edge_device_fulfillment                     | Order Management for Telecom, Media & Tech | Published | true   | 2022-04-11 19:31:37 | system     |
| <input type="checkbox"/> | SDWAN Edge Device Optimization Change Fulfillment | sdwan_edge_device_optimization_change_fulfillment | Order Management for Telecom, Media & Tech | Published | true   | 2022-04-11 19:31:33 | system     |
| <input type="checkbox"/> | SDWAN Fulfillment Process                         | sdwan_fulfillment_process                         | Order Management for Telecom, Media & Tech | Published | true   | 2022-04-11 19:32:58 | system     |
| <input type="checkbox"/> | SDWAN Security Fulfillment                        | sdwan_security_fulfillment                        | Order Management for Telecom, Media & Tech | Published | true   | 2022-04-11 19:32:43 | system     |

13. Open each Flow to view the task records created per order.



## Section 1.5 Fulfill SD-WAN Product Order

1. Impersonate **Mike Davis**, the Order Fulfillment Manager.
  2. Navigate to **All > Customer Order Management > Workspace > Configurable Workspace Home**.
  3. Navigate to **Lists > Customer Orders > All** to see all the customer orders available in the system. Select the order mentioned in Section 1.2 Step 4 above.
- Note:** The order fulfillment tasks are created and sequenced using the fulfillment workflow. All line items contain the product, service, and resource tasks.
4. Open the order task records individually. You can close an order task by changing the **State** value to **Closed Complete** and selecting **Save**.

**Note:** You may also select the **Close** button to close a task record.

| Order Task        |                          | Activity                     | Attachments              |
|-------------------|--------------------------|------------------------------|--------------------------|
| Number            | QMTASK000001042          | Status: Closed Complete      | No Attachments Available |
| Account           | Funco Int'l              | Priority: 3 - Moderate       |                          |
| Primary Contact   | Sally Thomas             | Assignment group:            |                          |
| Parent            | P00001074                | Assigned to:                 |                          |
| Short description | Perform Order Validation | Opened by: Empty             |                          |
|                   |                          | Impact: 3 - Low              |                          |
|                   |                          | Priority: 3 - Moderate       |                          |
|                   |                          | State: In Progress           |                          |
|                   |                          | Created: 2022-08-23 13:51:59 |                          |

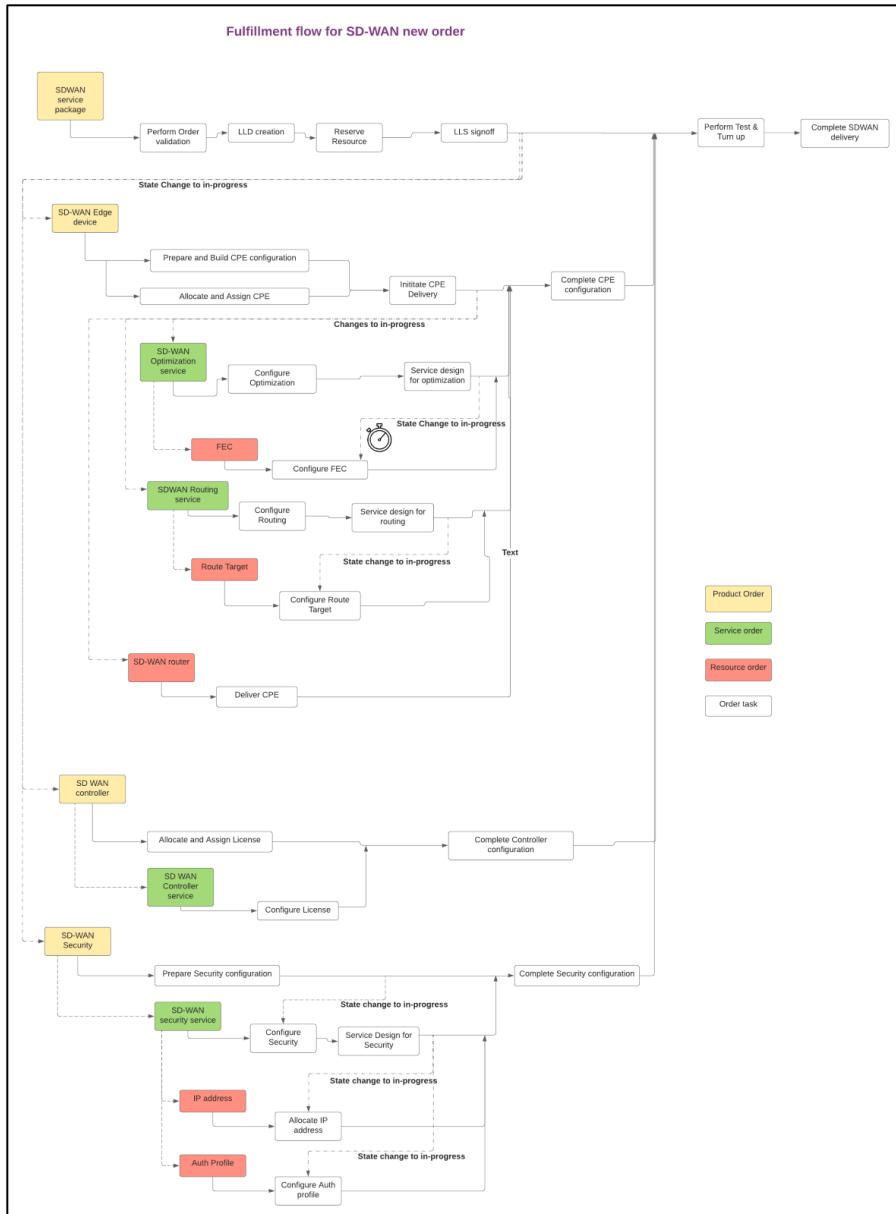
5. Close the order task records (prefix TASKXXXX) first with product tasks, then service, and finally resource tasks. Typically, these tasks are resolved by different users during the fulfillment process, so they don't require task sequencing.

**Note:** You don't need to close product, service, and resource orders as those are configured to close automatically once all underlying order tasks and child orders are completed.

**Note:** You can use the Order Orchestration tab to view the task records related to the order.

6. For the lab, you can use the below workflow diagram and order task table as a reference to work on order tasks.

**Note:** The list provided is an example and may not represent the tasks generated.



| Sequence number | Order line item        | Product Order          | Service order | Resource order | Task name                | Remark |
|-----------------|------------------------|------------------------|---------------|----------------|--------------------------|--------|
| 1               | SD-WAN service package | SD-WAN service package |               |                | Perform order validation |        |
| 2               | SD-WAN service package | SD-WAN service package |               |                | LLD creation             |        |

|    |                        |                        |                             |               |                                     |                                       |
|----|------------------------|------------------------|-----------------------------|---------------|-------------------------------------|---------------------------------------|
| 3  | SD-WAN service package | SD-WAN service package |                             |               | Reserve resource                    |                                       |
| 4  | SD-WAN service package | SD-WAN service package |                             |               | LLD Signoff                         |                                       |
| 5  | SD-WAN Edge device     | SD-WAN Edge device     |                             |               | Prepare and Build CPE configuration |                                       |
| 6  | SD-WAN Edge device     | SD-WAN Edge device     |                             |               | Allocate and assign CPE             | Enter the details in the task fields. |
| 7  | SD-WAN Edge device     | SD-WAN Edge device     |                             |               | Initiate CPE delivery               |                                       |
| 8  | SD-WAN Edge device     | SD-WAN Edge device     | SD-wan Optimization service |               | Configure optimization              |                                       |
| 9  | SD-WAN Edge device     | SD-WAN Edge device     | SD-wan Optimization service |               | Service Design for optimization     |                                       |
| 10 | SD-WAN Edge device     | SD-WAN Edge device     | SD-wan Optimization service | FEC           | Configure FEC                       |                                       |
| 11 | SD-WAN Edge device     | SD-WAN Edge device     | SD-wan Routing service      |               | Configure routing                   |                                       |
| 12 | SD-WAN Edge device     | SD-WAN Edge device     | SD-wan Routing service      |               | Service design for routing          |                                       |
| 13 | SD-WAN Edge device     | SD-WAN Edge device     | SD-wan Routing service      | Route Target  | Configure Route Target              |                                       |
| 14 | SD-WAN Edge device     | SD-WAN Edge device     |                             | SD-WAN router | Deliver CPE                         |                                       |
| 15 | SD-WAN Edge device     | SD-WAN Edge device     |                             |               | Complete CPE configuration          |                                       |
| 16 | SD-Wan Controller      | SD-Wan Controller      |                             |               | Allocate and assign license         | Enter the details in order task       |

|    |                        |                        |                           |              |                                   |  |
|----|------------------------|------------------------|---------------------------|--------------|-----------------------------------|--|
| 17 | SD-Wan Controller      | SD-Wan Controller      | SD-Wan Controller service |              | Configure license                 |  |
| 18 | SD-Wan Controller      | SD-Wan Controller      |                           |              | Complete Controller configuration |  |
| 19 | SD-WAN security        | SD-WAN security        |                           |              | Prepare security configuration    |  |
| 20 | SD-WAN security        | SD-WAN security        | SD-WAN security service   |              | Configure security                |  |
| 21 | SD-WAN security        | SD-WAN security        | SD-WAN security service   |              | Service design for security       |  |
| 22 | SD-WAN security        | SD-WAN security        | SD-WAN security service   | IP address   | Allocate IP address               |  |
| 23 | SD-WAN security        | SD-WAN security        |                           | Auth profile | Configure Auth profile            |  |
| 24 | SD-WAN security        | SD-WAN security        |                           |              | Complete security configuration   |  |
| 25 | SD-WAN service package | SD-WAN service package |                           |              | Perform Test and Turn up          |  |
| 26 | SD-WAN service package | SD-WAN service package |                           |              | Complete SD-WAN delivery          |  |

7. On completion of all order tasks, the SD-WAN order is successfully fulfilled. Observe the **SD-WAN Customer Order** has now moved to a **Completed** state.

The screenshot shows the 'Customer Order' details for order number ORD0001023. The 'State' field is set to 'Completed' with a note indicating it was modified by the system. Other fields visible include 'Number' (ORD0001023), 'Order Type' (Product), 'Account' (Funco Intl), 'Contact' (Sally Thomas), 'Order Date' (2022-08-22 17:10:33), and 'Fulfillment Type' (Deliver). The version is listed as 1.

## Section 1.6 Review Inventory

1. The Product Inventory state value is updated to **Active** as part of post-order processing.
2. Log in as an admin user.
3. To view the inventory records, navigate to **All > System Definition > Tables** and search for "Product Inventory" in the **Label** field.

| All > Label starts with Product Inventory |                                |   |              |         |                     |
|---|--------------------------------|---|--------------|---------|---------------------|
|   | Name ▲                         | Extends table                             | Extensible   | Updated |                     |
| <input type="checkbox"/> <b>Label</b>     | Product Inventory              | Search                                    | Search       | Search  | Search              |
|   | Product Inventory              | sn_prd_inv_product_inventory              | Sold Product | false   | 2022-08-19 23:49:02 |
|   | Product Inventory Relationship | sn_prd_inv_product_inventory_relationship | (empty)      | true    | 2022-08-19 23:49:03 |

4. Under **Related Links**, select **Show list** to view the records in the Product Inventory table.

**Related Links**

[Design Form](#)  
[Layout Form](#)  
[Layout List](#)  
[Show Form](#)  
**Show List**  
[Show Schema Map](#)  
[Add to Service Catalog](#)  
[Run Point Scan](#)  
[Explore REST API](#)

5. Observe the Product Model's state values update to a value of **Active**.

| Name                                | Product Model ▾                       | Account    | Contact      | Consumer | State  | Updated             |
|-------------------------------------|---------------------------------------|------------|--------------|----------|--------|---------------------|
| <input type="checkbox"/> Name       | Search                                | Search     | Search       | Search   | Search | Search              |
| SD-WAN Service Package PI0001767    | SD-WAN Service Package PRD00001751    | Funco Intl | Sally Thomas | (empty)  | Active | 2022-08-23 14:10:41 |
| SD-WAN Security PI0001768           | SD-WAN Security PRD00001487           | Funco Intl | Sally Thomas | (empty)  | Active | 2022-08-23 14:10:41 |
| SD-WAN Routing PI0001777            | SD-WAN Routing PRD00001001            | Funco Intl | Sally Thomas | (empty)  | Active | 2022-08-23 14:10:41 |
| SD-WAN Edge Device PI0001772        | SD-WAN Edge Device PRD00001502        | Funco Intl | Sally Thomas | (empty)  | Active | 2022-08-23 14:10:41 |
| SD-WAN Controller Service PI0001771 | SD-WAN Controller Service PRD00001002 | Funco Intl | Sally Thomas | (empty)  | Active | 2022-08-23 14:10:41 |
| SD-WAN Controller PI0001770         | SD-WAN Controller PRD00001528         | Funco Intl | Sally Thomas | (empty)  | Active | 2022-08-23 14:10:41 |

6. Open a Product Model record and view the **Product Model Characteristics** related list to view the value for each characteristic.

| Product Model Characteristics (4) |                       |                                |          |
|-----------------------------------|-----------------------|--------------------------------|----------|
| Characteristic                    | Characteristic Option | Product Model                  | Value    |
| WAN Optimization                  | Base                  | SD-WAN Edge Device PRD00001502 | Base     |
| CPE Type                          | Physical              | SD-WAN Edge Device PRD00001502 | Physical |
| CPE Model                         | ISR                   | SD-WAN Edge Device PRD00001502 | ISR      |
| Routing                           | Base                  | SD-WAN Edge Device PRD00001502 | Base     |

7. Finally, navigate to the **Product Characteristics** table to see the inventory characteristics.

**Note:** Navigate to the Tables module and search for Product Characteristics in the Label field. Select the Show List option to view the records in the table.

| Tables   |                                   |               |            | Name                    | Search                              | Actions |
|--|-----------------------------------|---------------|------------|-------------------------|-------------------------------------|---------|
| All > Update name is not empty > Label starts with Product Chara |                                   |               |            |                         |                                     |         |
| Label  | Name                              | Extends table | Extensible |                         |                                     |         |
| Product Chara  | Search                            | Search        | Search     | Product Characteristics | sn_prd_invt_product_characteristics | false   |
| Product Characteristics  | sn_prd_pm_product_characteristics | (empty)       | true       | Product Characteristics |                                     |         |

| Characteristic        | Characteristic Value | Sold Product                             | Domain | Updated             |
|-----------------------|----------------------|--|--------|---------------------|
| Edge Router Id        | (empty)              | Customer Premise SD-WAN Router PI0001773 | global | 2022-08-23 14:10:41 |
| CPE Id                | My ID                | SD-WAN Edge Device PI0001772             | global | 2022-08-23 14:10:41 |
| CIFS Optimization     | (empty)              | SD WAN Optimization Service PI0001774    | global | 2022-08-23 14:10:41 |
| Controller License ID | New Value            | SD-WAN Controller Service PI0001771      | global | 2022-08-23 14:10:41 |
| Controller License ID | ABC1234              | SD-WAN Controller PI0001770              | global | 2022-08-23 14:10:41 |

## Section 2 Create and fulfill Managed Firewall service order

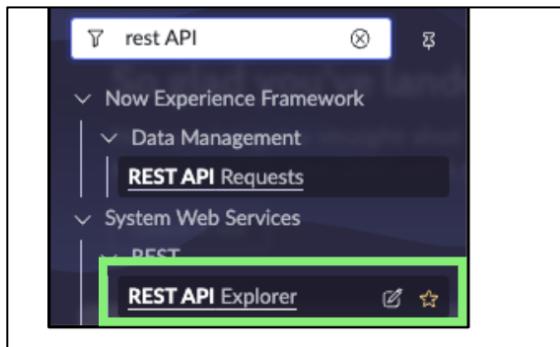
### Section 2.1 Create an order via API

In this section, we will create a new Managed Firewall service order from an API payload JSON payload file attached to this lab module.

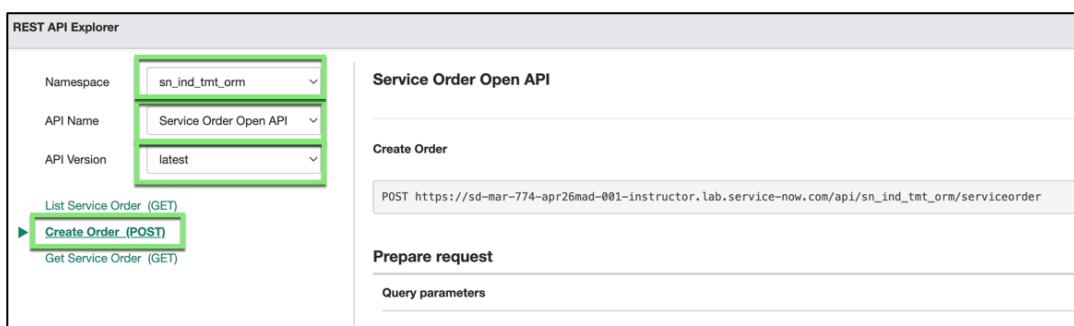
1. Log in to the student lab instance with your **admin** user credentials.
2. Navigate to **All > System Web Services > REST > REST API Explorer**.

**Option:** Open REST API Explorer using the below URL in your instance. Please replace the instance name with your lab instance name.

[https://YOURINSTANCE/\\$restapi.do?ns=sn\\_ind\\_tmt\\_orm&service=Service%20Order%20Open%20API](https://YOURINSTANCE/$restapi.do?ns=sn_ind_tmt_orm&service=Service%20Order%20Open%20API)



3. Select **Explore** (first-time use only)
4. Complete the following fields:
  - Namespace: *sn\_ind\_tmt\_orm*
  - API name: *Service Order Open API*
  - API version: *latest*
5. Select **Create order (POST)**

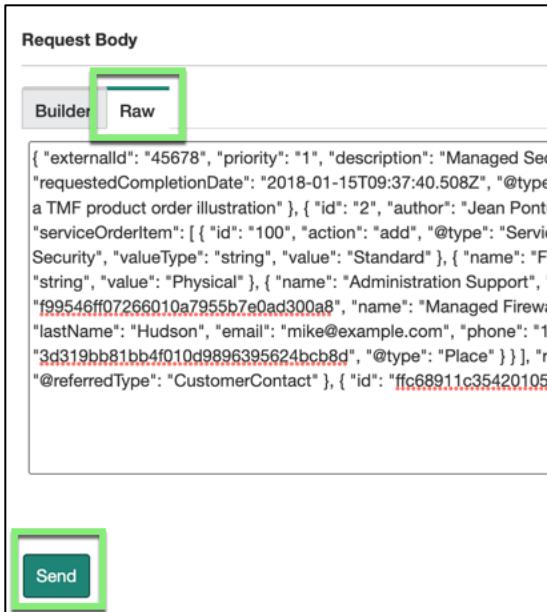


6. Select the **Raw** tab under the Request Body and paste the copied payload into the field.

**Note:** The Managed Firewall Service order payload is attached to this lab module.

**File Name:** Managed\_Firewall\_ServiceOrder\_Tokyo

7. Select **Send**, then select **OK** on the pop-up window.



- Check the Response Status Code – API request is successful if the response is **201 Created**.

| Response               |                                 |
|------------------------|---------------------------------|
| Status code            | 201 Created                     |
| Execution time (ms)    | 489                             |
| Headers                |                                 |
| Content-Encoding       | gzip                            |
| Content-Type           | application/json                |
| Date                   | Tue, 26 Apr 2022 18:01:57 GMT   |
| Server                 | ServiceNow                      |
| Server-Timing          | sem_wait;dur=0, sesh_wait;dur=0 |
| Transfer-Encoding      | chunked                         |
| X-Content-Type-Options | nosniff                         |
| X-Is-Logged-In         | true                            |
| X-Transaction-Id       | a57a08aa1943                    |

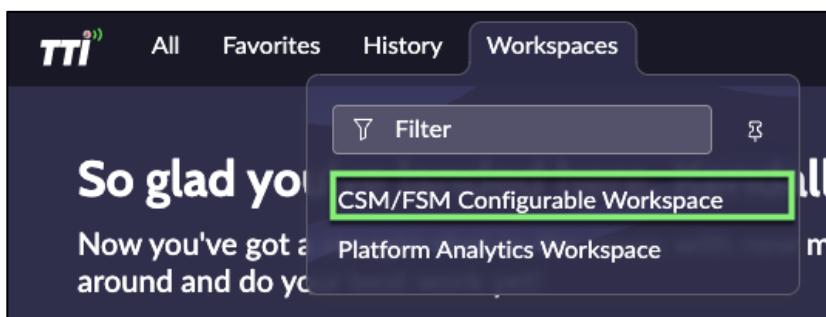
## Section 2.2 Verify Service Order in Agent Workspace

- A successful API operation will create a new Managed Firewall service order in your instance.

2. Impersonate **Kendall Sharpe**,
3. Navigate to **All > Customer Order Management > Workspace > CSM Configurable Workspace Home** to launch **Agent Workspace** in a separate browser tab.



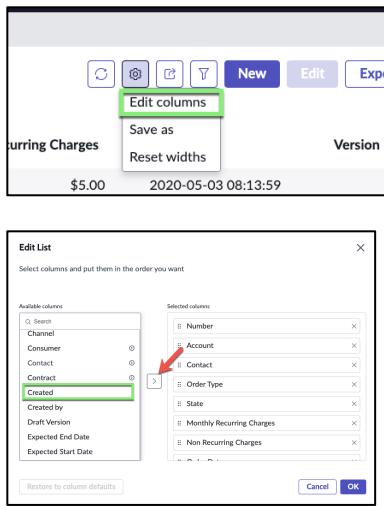
Option: Select the **CSM/FSM Configurable Workspace** link in the **Unified Navigation Header**.



4. Navigate to **Lists > Customer Orders > All** to see all the customer orders available in the system. Select the newly created **order** from the list.

| List           |  | All      |  |  |  |   |  |
|----------------|--|----------|--|--|--|---|--|
|                |  |          |  |  |  |   |  |
| Lists          |  | My Lists |  |  |  |   |  |
| Service Orders |  |          |  |  |  |       |  |
| All            |  |          |  |  |  |   |  |
| Open           |  |          |  |  |  |   |  |
| Order Tasks    |  |          |  |  |  |   |  |
| All            |  |          |  |  |  |   |  |
| My Order Tasks |  |          |  |  |  |   |  |
| Cases          |  |          |  |  |  |   |  |
| All            |  |          |  |  |  |   |  |
| Customer       |  |          |  |  |  |   |  |
| Accounts       |  |          |  |  |  |   |  |
| Contacts       |  |          |  |  |  |   |  |
| Consumers      |  |          |  |  |  |   |  |

*Hint:* you may want to add the **Created** field to the list view to allow you to sort by most recent **order**.



## 5. Verify the following details

- Order details
- Order line-items (click into Order lines to verify)
- Order line-item characteristics
- Order line-item contacts
- Order state (New)

## Section 2.3 Decompose Managed Firewall service order

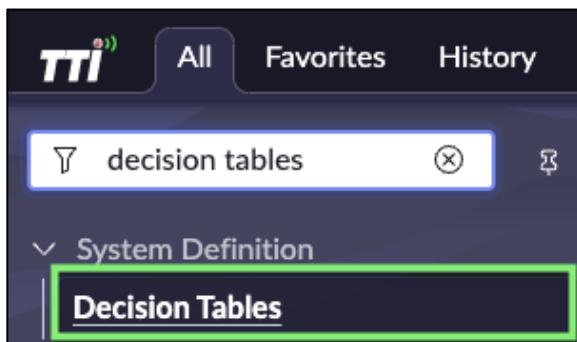
Upon approval, the order goes through the order decomposition process to create required domain (service and resource) orders.

To trigger order decomposition, approve the order as an Order Fulfillment Manager user (Kendall Sharpe).

### 1. Open the order record and select **Approve**.

The screenshot shows the ServiceNow Order Details page for order number ORD0001024. The page includes fields for Customer Order (Number: ORD0001024, Order Type: Service, State: New), Account (Funco Int'l), Contact (Sally Thomas), Order Date (2022-08-23 14:29:23), and Revision Operation (None). On the right side, there is a Compose section with a text input field and a Post Comments button. Below it is an Activity feed showing a comment from System Administrator (Fadi Chahine) and a draft state update from System Administrator.

2. Observe the order state changes to **Acknowledged**, which triggers the decomposition process to create the product, service, and resource orders for order fulfillment. Moments later, the order state changes to **In Progress**.
3. ServiceNow initiates identifying the workflow for each domain order to create the required order tasks for fulfillment.
4. Review the order structure; the order decomposition feature references the catalog definition of the Managed Firewall service offering to create the order hierarchy.
5. The Managed Firewall service is a customer-facing service specification consisting of three decomposition rules for three underlying resource-facing service specifications.
6. End impersonation of **Kendall Sharpe** and impersonate an admin user.
7. View the inventory records by navigating to **All > System Definition > Tables** and search for "Product Inventory" in the **Label** field.



8. Select the **Product Inventory** name to open the table record.
9. Under **Related Links**, select **Show list** to view the records in the Product Inventory table.

| Label                          | Name                                       | Extends table | Extensible | Updated             |
|--------------------------------|--|---------------|------------|---------------------|
| Product Inventory              | sn_prd_invt_product_inventory              | Search        | false      | 2022-08-19 23:49:02 |
| Product Inventory Relationship | sn_prd_invt_product_inventory_relationship | (empty)       | true       | 2022-08-19 23:49:03 |

## Related Links

- [Design Form](#)
- [Layout Form](#)
- [Layout List](#)
- [Show Form](#)
- [Show List](#)
- [Show Schema Map](#)
- [Add to Service Catalog](#)
- [Run Point Scan](#)
- [Explore REST API](#)

10. Notice that all recently created records are for Managed Firewall service offerings. Add the **Created** column to the list and sort to see the most recent records.

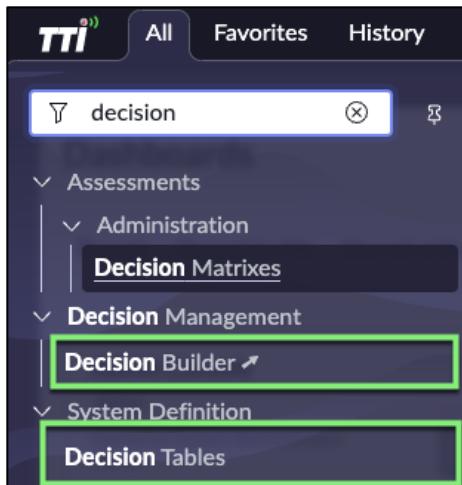
*Hint:* you may need to add the State column to the list view using the Personalized List option.

11. Note that these records are in a state of **Installation Pending** as order fulfillment is incomplete.

| Name  | Product Model | Account    | Contact      | Consumer | State                | Updated             |
|---|---------------|------------|--------------|----------|----------------------|---------------------|
| Cisco Intrusion Monitoring system PI0001786 | (empty)       | Funco Intl | Sally Thomas | (empty)  | Installation Pending | 2022-08-23 14:37:04 |
| Threat and Intrusion Prevention Service ... | (empty)       | Funco Intl | Sally Thomas | (empty)  | Installation Pending | 2022-08-23 14:37:04 |
| Cisco Firepower Monitoring system PI0001784 | (empty)       | Funco Intl | Sally Thomas | (empty)  | Installation Pending | 2022-08-23 14:37:04 |
| Firewall & DMZ PI0001783                    | (empty)       | Funco Intl | Sally Thomas | (empty)  | Installation Pending | 2022-08-23 14:37:03 |
| Cisco Firewall Management system PI0001782  | (empty)       | Funco Intl | Sally Thomas | (empty)  | Installation Pending | 2022-08-23 14:37:03 |
| Firewall Administration PI0001781           | (empty)       | Funco Intl | Sally Thomas | (empty)  | Installation Pending | 2022-08-23 14:37:02 |
| Managed Firewall Service PI0001780          | (empty)       | Funco Intl | Sally Thomas | (empty)  | Installation Pending | 2022-08-23 14:37:01 |

## Section 2.4 Review Workflows and Decision Tables

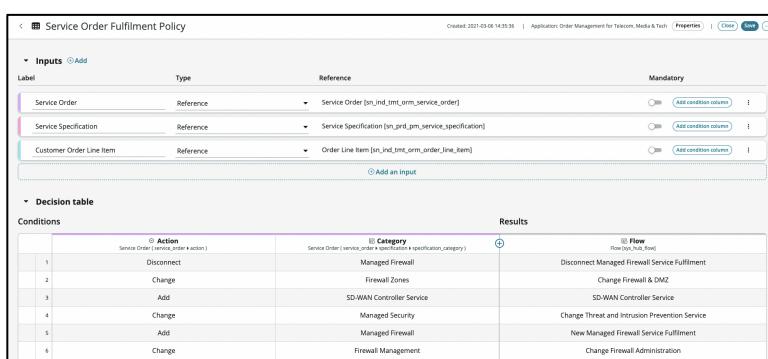
1. ServiceNow Order Management leverages the **Decision Tables** to identify workflow for domain (product, service, and resource) orders based on input parameters.
2. As an admin user, view the **Decision Tables** by navigating to **All >> System Definition >> Decision Tables** or **All >> Decision Management >> Decision Builder**.



3. Select the **Service Order Fulfillment Policy** record.

| Name                                   |
|--|
| Search                                 |
| Docker Webhook Decision Policy         |
| Emergency Change Policy                |
| Example Standard Change Policy         |
| Incident Escalation Policy             |
| Normal Change Policy                   |
| Product Order Fulfilment Policy        |
| Resource Order Fulfilment Policy       |
| <b>Service Order Fulfilment Policy</b> |
| Simple Assignment group Approval       |
| Work order creation flow               |

4. The **Decision table** displays a list of decision options available for service order fulfillment scenarios. The list includes decision tables for new, change, and disconnect scenarios.



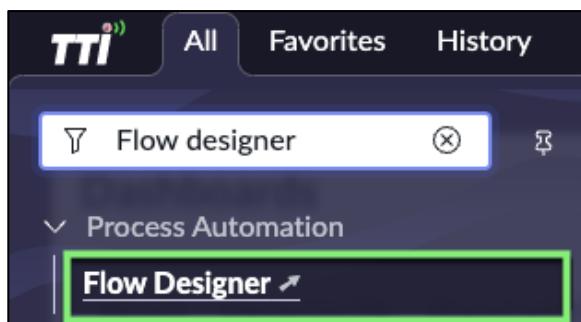
| Action     | Category                  | Flow  |
|------------|---------------------------|---|
| Disconnect | Managed Firewall          | Disconnect Managed Firewall Service Fulfillment |
| Change     | Firewall Zones            | Change Firewall & DMZ                           |
| Add        | SD-WAN Controller Service | SD-WAN Controller Service                       |
| Change     | Managed Security          | Change Threat and Intrusion Prevention Service  |
| Add        | Managed Firewall          | New Managed Firewall Service Fulfillment        |
| Change     | Firewall Management       | Change Firewall Administration                  |

5. View the following decision tables to see the conditions and the flow name used for the Managed Firewall service order created.
  - Managed Firewall Service
  - Firewall & DMZ
  - Firewall Administration
  - Threat and Intrusion Prevention service
6. The Decision record provides the Flow name in the **Flow** returned from the Decision table record.
7. Select the **Close** button to exit the Decision Builder.

**Note:** You may need to use the back button and select the main header logo image to exit the Decision Builder.

| Conditions |            |                           | Results   |
|------------|------------|---------------------------|---|
|            | Action     | ID Category               | Flow  |
| 1          | Disconnect | Managed Firewall          | Disconnect Managed Firewall Service Fulfillment |
| 2          | Change     | Firewall Zones            | Change Firewall & DMZ                           |
| 3          | Add        | SD-WAN Controller Service | SD-WAN Controller Service                       |
| 4          | Change     | Managed Security          | Change Threat and Intrusion Prevention Service  |
| 5          | Add        | Managed Firewall          | New Managed Firewall Service Fulfillment        |
| 6          | Change     | Firewall Management       | Change Firewall Administration                  |
| 7          | Add        | Firewall Zones            | New Firewall & DMZ                              |

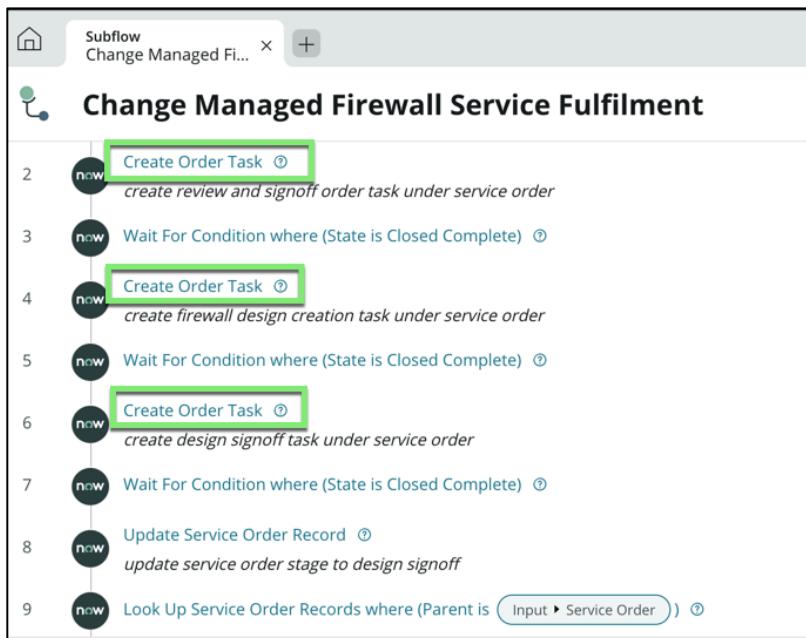
14. To view a flow, navigate to **All >> Process Automation >> Flow Designer**.



15. Within **Flow Designer**, select the **Subflows** tab.
16. In the **Name** field, enter \*Firewall and press enter/return to search for Subflows containing the word Firewall.

| Flows                        | Subflows   | Actions                                    | Executions   | Connections | Help   | New ▾               |
|------------------------------|--|--|--|-------------|--------|---------------------|
| Search                       | Name   | Search                                     |  |             |        |                     |
| All > Name contains Firewall |  |  |  |             |        |                     |
| Search                       | Name ▲   | Internal name                              | Application  | Status      | Active | Updated             |
|                              | *Firewall  | Search                                     | Search   | Search      | Search | Search              |
| <input type="checkbox"/>     | <a href="#">Change Cisco Firewall Management system</a>    | change_cisco_firewall_management_system    | <a href="#">Order Management for Telecom, Media &amp; Tech</a> | Published   | true   | 2022-04-26 17:48:00 |
| <input type="checkbox"/>     | <a href="#">Change Firewall &amp; DMZ</a>                  | change_firewall_dmz                        | <a href="#">Order Management for Telecom, Media &amp; Tech</a> | Published   | true   | 2022-04-26 17:47:41 |
| <input type="checkbox"/>     | <a href="#">Change Firewall Administration</a>             | change_firewall_administration             | <a href="#">Order Management for Telecom, Media &amp; Tech</a> | Published   | true   | 2022-04-26 17:48:30 |
| <input type="checkbox"/>     | <a href="#">Change Managed Firewall Service Fulfilment</a> | change_managed_firewall_service_fulfilment | <a href="#">Order Management for Telecom, Media &amp; Tech</a> | Published   | true   | 2022-04-26 17:48:16 |
|                              | <a href="#">Disconnect Cisco</a>                           |  | <a href="#">Order Management for Telecom, Media &amp; Tech</a> |             |        | 2022-04-26          |

17. Open a couple of the flow records to view the task records created per order.



## Section 2.5 Fulfill Managed Firewall Service Order

- Impersonate **Mike Davis**, the Order Fulfillment Manager.

2. Navigate to **All > Customer Order Management > Workspace > Configurable Workspace Home**.
3. Navigate to **Lists > Customer Orders > All** to see all the customer orders available in the system. Select the order mentioned in Section 1.2 Step 4 above.

**Note:** The order fulfillment tasks are created and sequenced using the fulfillment workflow. All line items contain service and resource tasks.

4. Open the order task records individually. You can close an order task by changing the **State** value to **Closed Complete** and selecting **Save**.

**Note:** You can also use the **Close** button to close a task record.

| Order Task         |                          | Activity   | Attachments              |
|--------------------|--------------------------|--|--------------------------|
| Number             | OMTASK000001066          | Mike Davis<br>Field Changes • 2022-08-23 15:24:52<br>State In Progress was Closed-Complete | No Attachments Available |
| Account            | Funco Int'l              | Mike Davis<br>Field Changes • 2022-08-23 15:24:31<br>State Closed Complete was In-Progress |                          |
| Primary Contact    | Sally Thomas             | System<br>Field Changes • 2022-08-23 14:37:06<br>Opened by Empty                           |                          |
| Parent             | SO0001240                | Impact 3 - Low<br>Parent SO0001240   | Browse                   |
| Short description  | Review and SignOff Order |  |                          |
| Work notes (DRAFT) |                          |  |                          |

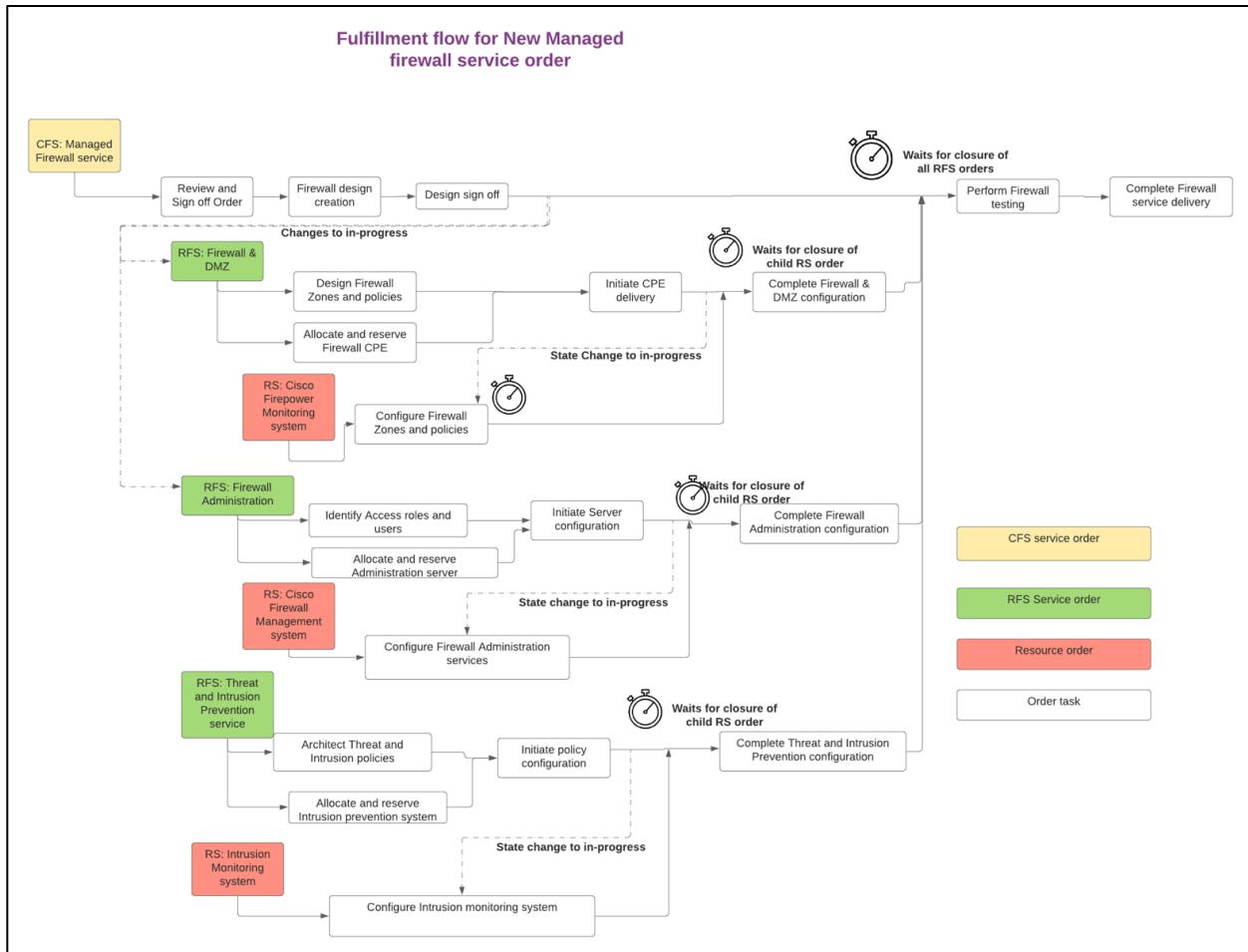
5. Close the order task records (prefix TASKXXXXX) with service and resource tasks. Typically, these tasks are resolved by different users during the fulfillment process, so they don't require task sequencing.

**Note:** You don't need to close service and resource orders as those are configured to close automatically once all underlying order tasks and child orders are completed.

6. For the lab, you can use the below workflow diagram and order task table as a reference to work on order tasks.

**Note:** The list provided is an example and may not represent the tasks generated.

**Note:** You can use the Order Orchestration tab to view the task records related to the order.



| Sequence number | Order line item          | CFS service order        | RFS Service order | Resource order | Task name                          | Remark |
|-----------------|--------------------------|--------------------------|-------------------|----------------|------------------------------------|--------|
| 1               | Managed Firewall service | Managed Firewall service |                   |                | Review and signoff order           |        |
| 2               | Managed Firewall service | Managed Firewall service |                   |                | Firewall design creation           |        |
| 3               | Managed Firewall service | Managed Firewall service |                   |                | Design signoff                     |        |
| 4               | Managed Firewall service | Managed Firewall service | Firewall & DMZ    |                | Design Firewall Zones and policies |        |

|    |                           |                           |   |                                   |  |  |
|----|---------------------------|---------------------------|---|-----------------------------------|--|--|
| 5  | Manage d Firewall service | Manage d Firewall service | Firewall & DMZ                          |                                   | Allocate and reserve Firewall CPE              | Enter the required details on order task |
| 6  | Manage d Firewall service | Manage d Firewall service | Firewall & DMZ                          |                                   | Initiate CPE delivery                          |  |
| 7  | Manage d Firewall service | Manage d Firewall service | Firewall & DMZ                          | Cisco Firepower monitoring system | Configure Firewall zones and policies          |  |
| 8  | Manage d Firewall service | Manage d Firewall service | Firewall & DMZ                          |                                   | Complete Firewall & DMZ configuration          |  |
| 9  | Manage d Firewall service | Manage d Firewall service | Firewall Administration                 |                                   | Identify access roles and users                |  |
| 10 | Manage d Firewall service | Manage d Firewall service | Firewall Administration                 |                                   | Allocate and reserve Administration server     | Enter the required details on order task |
| 11 | Manage d Firewall service | Manage d Firewall service | Firewall Administration                 |                                   | Initiate server configuration                  |  |
| 12 | Manage d Firewall service | Manage d Firewall service | Firewall Administration                 | Cisco Firewall management system  | Configure Firewall administration services     |  |
| 13 | Manage d Firewall service | Manage d Firewall service | Firewall Administration                 |                                   | Complete Firewall Administration configuration |  |
| 14 | Manage d Firewall service | Manage d Firewall service | Threat and Intrusion prevention service |                                   | Architect Threat and intrusion policies        |  |

|    |                           |                           |   |                             |  |                                 |
|----|---------------------------|---------------------------|---|-----------------------------|--|---------------------------------|
| 15 | Manage d Firewall service | Manage d Firewall service | Threat and Intrusion prevention service |                             | Allocate and reserve intrusion prevention system       | Enter the details in order task |
| 16 | Manage d Firewall service | Manage d Firewall service | Threat and Intrusion prevention service |                             | Initiate policy configuration                          |                                 |
| 17 | Manage d Firewall service | Manage d Firewall service | Threat and Intrusion prevention service | Intrusion Monitoring system | Configure Intrusion monitoring system                  |                                 |
| 18 | Manage d Firewall service | Manage d Firewall service | Threat and Intrusion prevention service |                             | Complete Threat and Intrusion Prevention configuration |                                 |
| 19 | Manage d Firewall service | Manage d Firewall service |   |                             | Perform Firewall testing                               |                                 |
| 20 | Manage d Firewall service | Manage d Firewall service |   |                             | Complete Firewall service delivery                     |                                 |

7. The Managed Firewall order is complete upon closure of all task records. Observe the **Managed Firewall Service Order** has now moved to a **Completed** state.

**ORD0001024**

| Details   | Account Information | Order Line Items (1) | Order Orchestration |
|---|---------------------|----------------------|---------------------|
| <b>Customer Order</b> <div style="display: flex; justify-content: space-between;"> <div style="flex: 1;"> <p>Number<br/>ORD0001024</p> <p>Account<br/>Funco Intl</p> <p>Contact<br/>Sally Thomas</p> <p>Order Date<br/>2022-08-23 14:29:23</p> <p><input checked="" type="checkbox"/> PONR</p> </div> <div style="flex: 1;"> <p>Order Type *<br/>Service</p> <p>State<br/><b>Completed</b> <small>• In Prog...<br/>④ system has modified this field value</small></p> <p>Fulfillment Type *<br/>Deliver</p> <p>Version<br/>1</p> <p>Revision Operation<br/>None</p> </div> </div> |                     |                      |                     |

## Section 2.6 Review Inventory

1. The Product Inventory state value is updated to **Active** as part of post-order processing.
2. Log in as an admin user.
3. To view inventory records, navigate to **All > System Definition > Tables** and search for "Product Inventory" in the **Label** field.

| All > Label starts with Product Inventory |                                |  |               |            |                     |
|---|--------------------------------|--|---------------|------------|---------------------|
|   | Label                          | Name                                       | Extends table | Extensible | Updated             |
|   | Product Inventory              | Search                                     | Search        | Search     | Search              |
|   | Product Inventory              | sn_prd_invt_product_inventory              | Sold Product  | false      | 2022-08-19 23:49:02 |
|   | Product Inventory Relationship | sn_prd_invt_product_inventory_relationship | (empty)       | true       | 2022-08-19 23:49:03 |

4. Under **Related Links**, select **Show list** to view the records in the Product Inventory table.

### Related Links

[Design Form](#)  
[Layout Form](#)  
[Layout List](#)  
[Show Form](#)  
**Show List**  
[Show Schema Map](#)  
[Add to Service Catalog](#)  
[Run Point Scan](#)  
[Explore REST API](#)

5. Observe the Product Model's state values update to a value of **Active**. Also, note the Product Model is assigned to the inventory record with the characteristic options selected by the customer.

| Name  | Product Model                               | Account     | Contact      | Consumer | State  | Updated             |
|---|---|-------------|--------------|----------|--------|---------------------|
| Firewall & DMZ PI0001783                    | Firewall & DMZ PRD00001967                  | Funco Int'l | Sally Thomas | (empty)  | Active | 2022-08-23 15:35:42 |
| Threat and Intrusion Prevention Service ... | Threat and Intrusion Prevention Service ... | Funco Int'l | Sally Thomas | (empty)  | Active | 2022-08-23 15:35:42 |
| Managed Firewall Service PI0001780          | Managed Firewall Service PRD00001973        | Funco Int'l | Sally Thomas | (empty)  | Active | 2022-08-23 15:35:42 |

6. Open a Product Model record for Managed Firewall Service and view the **Product Model Characteristics** related list to view the value for each characteristic.

This screenshot shows the Product Inventory screen for a Managed Firewall Service. The 'Product Characteristics' tab is active, displaying various service-level characteristics such as Firewall Security (Standard), CPE Type (Physical), and Administration Support (Basic/Customer Managed).

7. Navigate to the **Install Base Items** tab to see the Install base items created for the order. For Managed Firewall service order, an Install Base item is created for Managed Firewall service.

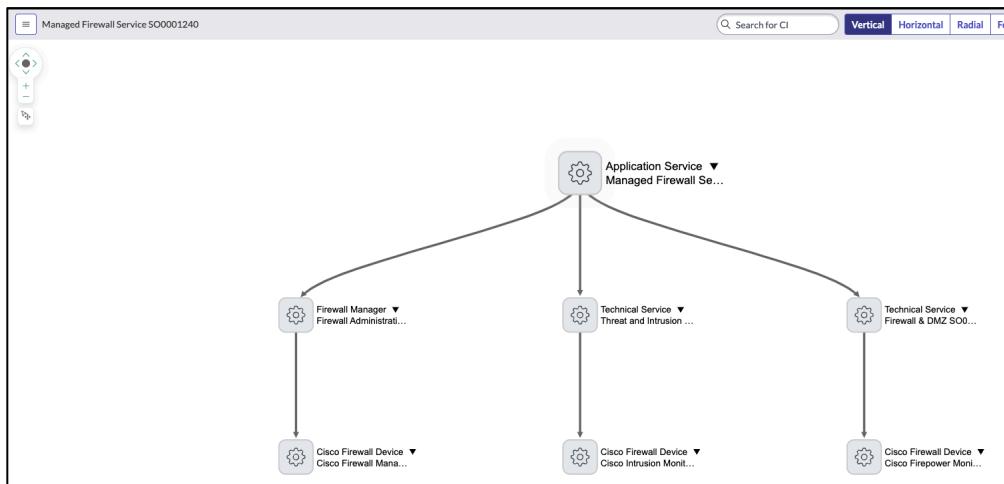
This screenshot shows the Product Inventory screen for a Managed Firewall Service. The 'Install Base Items' tab is active, displaying a single record for an Install Base Item named 'Managed Firewall Service SO0001240'.

8. Select the Install Base Item record to see more details.
9. On Install Item for Managed Firewall service, notice that a Configuration Item (CI) is created and associated. Select the **Dependency View** icon against the CI record to see more details on the CIs and how they relate.

This screenshot shows the Install Base Item screen for a Managed Firewall Service. It displays the following fields:

- \* Number: IBITM0001008
- \* Name: Managed Firewall Service SO0001240
- \* Configuration Item: Managed Firewall Service SO0001240

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10. You can see all related CIs created for Managed Firewall service using the Dependency View.



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