



User Guide

# AWS Supply Chain



# AWS Supply Chain: User Guide

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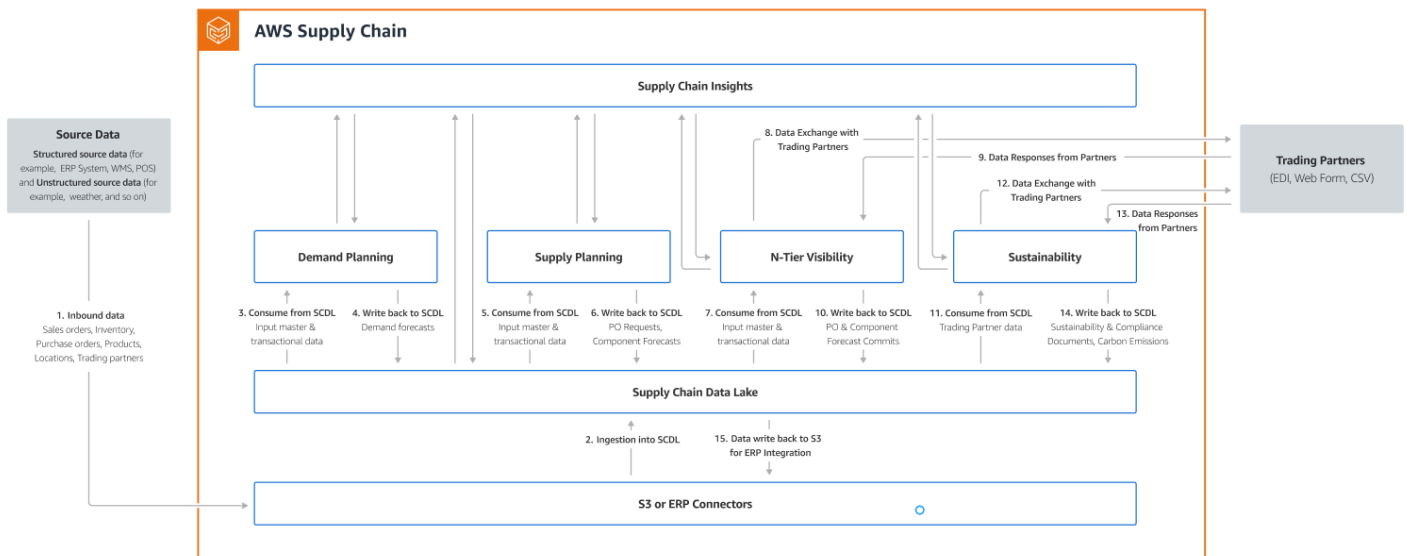
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# What is AWS Supply Chain?

AWS Supply Chain is a cloud-based supply chain management application that works with your existing enterprise resource planning (ERP) and supply chain management systems. Using AWS Supply Chain, you can connect and extract your inventory, supply, and demand related data from existing ERP or supply chain systems into one unified AWS Supply Chain data model.



## Topics

- [Features of AWS Supply Chain](#)
- [Signing into AWS Supply Chain](#)
- [User permissions](#)

## Features of AWS Supply Chain

AWS Supply Chain supports the following features:

- **Data Lake** – The AWS Supply Chain data lake simplifies the process of aggregating data from your supply chain systems in one place, using an extensible data model built for supply chain management. The data lake consumes data from any structured data source, including your existing ERP and supply chain management systems. To connect to any of the other Warehouse management systems, you can use the Amazon S3 connector. Once the data source is connected, you can review and confirm the data mapping between your data source to AWS Supply Chain's

data model. Once the data fields are mapped, you can start importing your data from your data source. For more information, see [Data lake](#).

- **Insights** – AWS Supply Chain insights uses the supply chain data in the data lake to automatically generate insights of potential supply chain risks (for example, stockouts, excess stocks, lead time deviations). After the data is imported, AWS Supply Chain automatically computes the projected inventory based on the inventory snapshots, open orders, in-transit shipments, and demand from outbound orders and forecast. AWS Supply Chain proactively alerts inventory managers of potential inventory risks that include both below and above the stock levels stored in inventory policy and provides rebalance recommendations to resolve stockouts. Inventory managers are also alerted when there are consistent lead time deviations by a vendor and recommends updating contractual lead times to avoid such deviations in the future. For more information, see [Insights](#).
- **Work order insights** – You can use Work Order Insights to view work order status, expected time of arrival (ETA) predictions, delivery risk and recommendations for each work order. For more information, see [Work Order Insights](#).
- **Demand planning** – You can use AWS Supply Chain Demand Planning to create demand forecasts, adjust the forecasts according to market conditions, and allow demand planners to collaborate across teams. For more information, see [Demand Planning](#).
- **Supply planning** – You can use Supply planning to plan and forecast purchases of raw materials, components, and finished goods. Supply planning supports two types of supply plans, *Auto replenishment* and *Manufacturing plans*. For more information, see [Supply Planning](#).
- **N-Tier Visibility** – N-Tier Visibility extends visibility and insights beyond your organization to your external trading partners. For more information, see [N-Tier Visibility](#).
- **Sustainability** – You can invite partners by using the AWS Supply Chain data lake connectors and by mapping the partner information to Partners or Partner's point-of-contact from Amazon S3 or other ERP systems. For more information, see [Sustainability](#).

## Signing into AWS Supply Chain

AWS Supply Chain has a web-based client so you can access your AWS Supply Chain account from a web browser. To get started with the AWS Supply Chain, you need a broadband internet connection and one of the web browsers listed in the following table.

Browser	Supported Versions
Google Chrome	Latest three versions.
Mozilla Firefox Extended Support Release (ESR)	All versions are supported until the version's <a href="#">end-of-life date</a> . For more information, see the <a href="#">Firefox ESR release calendar</a> .
Mozilla Firefox	Latest three versions.
Microsoft Edge and Edge Chromium	Version 84 and later.
Safari	Safari 10 or later on macOS.

Your AWS Supply Chain system administrator provides you with a unique AWS Supply Chain web client URL. To recover a lost or forgotten password, contact your administrator.

#### Note

The AWS Supply Chain dashboard is customized according to your permission role. For more information, see [User permissions](#).

1. In your web browser, enter the **web client URL** provided by your AWS Supply Chain administrator. For example, <https://alias.awsapps.com>.
2. For **Username** and **Password**, enter your **AWS IAM Identity Center SSO credentials** (formerly known as AWS SSO).
3. Choose **Sign In**.

## User permissions

AWS Supply Chain supports the following default user permission roles. Additionally, you can create custom user permission roles that include multiple permission roles. You can also add specific locations and products.

- **Administrator** – Access to create, view, and manage all data and user permissions.
- **Data Analyst** – Access to create, view, and manage all data connections.

- **Inventory Manager** – Access to create, view, and manage Insights.
- **Planner** – Access to create, view, and manage forecasts and overrides, and also publish demand plans.
- **Partner Data Manager** – Access to manage and view partners, manage and view data requests, and view sustainability data.
- **Supply Planner** – Access to manage and view supply plans.



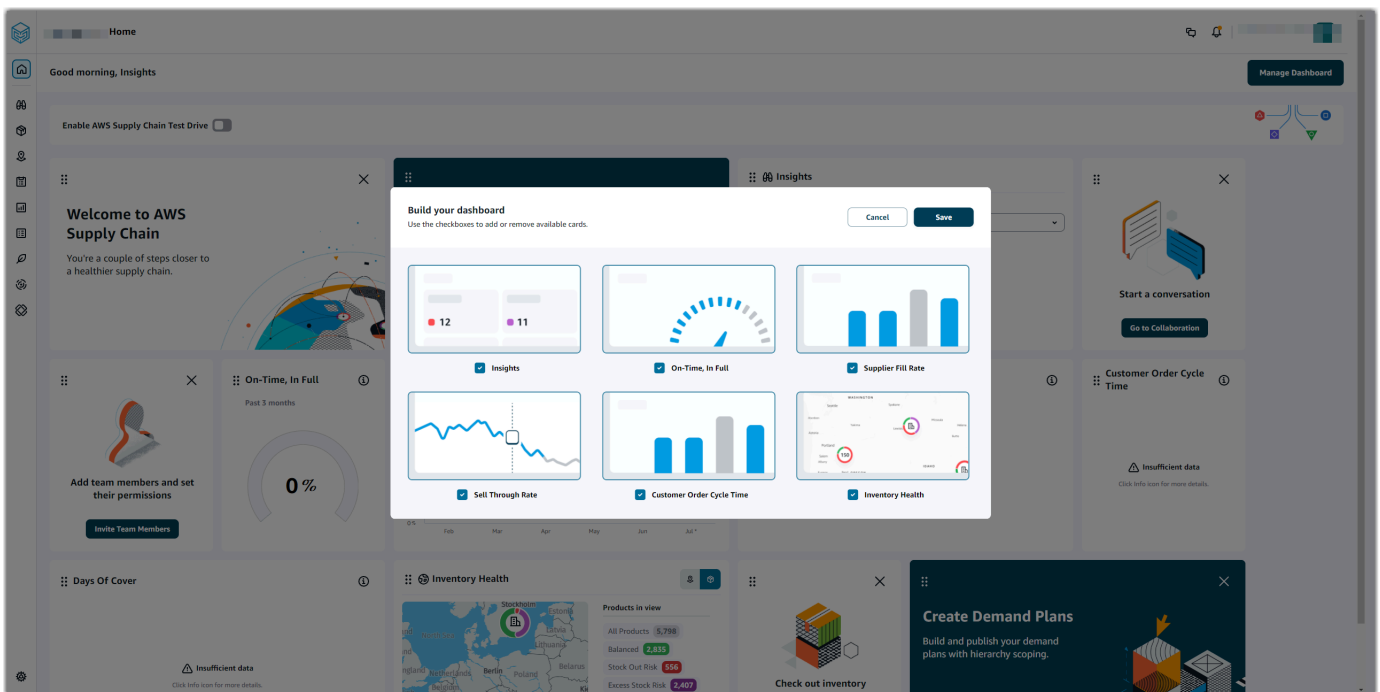
# AWS Supply Chain dashboard

You can view your data connections and inventory visibility, add users or groups, and monitor your watchlists and key performance indicators (KPIs) directly from the dashboard. Your default dashboard view depends on the permission the AWS Supply Chain administrator assigns you.

To customize your dashboard, complete the following procedure:

1. On the AWS Supply Chain dashboard, choose **Manage dashboard**.

The **Build your dashboard** page appears.



2. Depending on your user permission role, you will see cards that you can use for customizing your dashboard. For each card that you want to add to your dashboard, select its check box.
3. Choose **Save**.

## Key Performance Indicators

Key performance indicators (KPIs) are metrics that can help measure the performance of a supply chain. AWS Supply Chain administrator supports the following KPIs:

## On-Time in-full

On-time In-Full (OTIF) measures the effectiveness of customer fulfillment operations, such as, picking, packing and shipping orders on-time and in full. This metric is measured by adding the total number of orders shipped in-full, on or before the expected ship date divided by the total number of shipments with an expected ship date for the month.

OTIF requires the following entities to be populated and mapped in AWS Supply Chain Data lake:

Dataset	Entity
Outbound_Shipment	Shipped_Qty
Outbound_Order_Line	Quantity_Promised
Outbound_Shipment_Records	Actual_Ship_Date
Outbound_Shipment	Expected_Ship_Date

To calculate OTIF, AWS Supply Chain uses the following formula:

**SUM (outbound\_shipment.shipped\_qty = outbound\_order\_line.Quantity promised AND outbound\_shipment\_records.actual\_ship\_date ≤ outbound\_shipment.expected\_ship\_date) ÷ by total number of orders with outbound\_shipment.expected\_ship\_date for a given month.**

## Customer order cycle time

Customer order cycle time measures the efficiency of the supply chain fulfillment process. This metric is calculated by the average number of days between the order date and when the order is shipped.

Customer order cycle time requires the following entities to be populated and mapped in AWS Supply Chain data lake.

Dataset	Entity
Outbound_Order_Line	Order_Date
Outbound_Shipment_Records	Actual_Ship_Date

AWS Supply Chain uses the following formula to calculate customer order cycle time:

**Average number of days between `Outbound_order_Line.order_date` and `Outbound_Shipment.actual_ship_date` for all outbound order lines during a given month.**

## Supplier fill rate

The supplier fill rate measures your supplier's commitment to your organization. This metric is calculated by adding all the inbound orders where the quantity received matches the quantity requested by the expected delivery date.

The supplier fill rate requires the following entities to be populated and mapped in AWS Supply Chain data lake.

Dataset	Entity
Inbound_Order_Line	Quantity_Submitted
Inbound_Order_Line	Quantity_Received
Inbound_Order_Line	Received_Date
Inbound_Order_Line	Expected_Delivery_Date

To calculate supplier fill rate, AWS Supply Chain uses the following formula :

**Sum (`inbound_order_line.Quantity Submitted = inbound_order_line.quantity_recieved` and `inbound_order_line.order.recieve.date ≤ inbound_order_line.expected_delivery_date`) ÷ by the total number of lines with `inbound_order_line.expected_delivery_date` within a given month.**

## Sell-through rate

A sell-through rate measures the percentage of available inventory sold in a given month. This metric is calculated by adding all outbound shipment quantities for a given month divided by the sum of current inventory at the beginning of the month and the inventory received during the month.

The sell-through rate requires the following entities to be populated and mapped in AWS Supply Chain data lake.

Dataset	Entity
Outbound_Shipment	Shipped_Qty
Outbound_Shipment_Records	Actual_Ship_Date
Inventory_Level_Records	On_Hand_Inventory
Inbound_Order_Line	Expected_Delivery_Date
Inbound_Order_Line	Quantity_Received
Inbound_Order_Line	Received_Date

To calculate sell-through rate, AWS Supply Chain uses the following formula:

**SUM outbound\_shipment\_records.quantity\_shipped for a given month ÷  
by SUM( InventoryLevel\_records.on\_hand\_inventory at start of month+  
inbound\_order\_line.quantity\_recieved during the month).**

## Enabling KPIs

To enable KPIs in AWS Supply Chain, complete the following procedure:

1. On the AWS Supply Chain dashboard, under **Monitor KPIs**, choose **Enable**.

The AWS Supply Chain dashboard updates to display the KPIs for the current dataset.

2. To view the actual value or percentage, hover over the KPI.

## Managing KPIs

To view or remove KPIs from the AWS Supply Chain dashboard, complete the following procedure:

1. On the AWS Supply Chain dashboard, choose **Manage dashboard**.
2. Choose the KPIs that you want to see or remove from the AWS Supply Chain dashboard.
3. Choose **Save**.

## Collaborating with other AWS Supply Chain users

You can collaborate with other AWS Supply Chain users to discuss supply chain related issues.

On the AWS Supply Chain dashboard, choose **Go to collaboration**. You can do the following:

- Under **Team Conversations**, you can see all the individual users with whom you have had conversations.
- Under **Insight Conversations**, all the conversations within the team for an Insight are listed.
- Once you select a particular Insight conversation, you can view the Insight risk on the right with recommendations to resolve the risk. You can also choose **View Insight Details** to view the Insight risk page.
- Choose **Start Conversation**. The **New Conversation** dialog box appears.

From the **Add User(s)** drop-down, select the user to start the conversation and choose **Start Conversation**.

- Slide the **Get notifications for this thread** button to activate the web application notifications for the conversation.

## Notifications

You can receive a notification in the AWS Supply Chain web application or through email.

To enable notifications, perform the following procedure:


1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.

The **Settings** page appears.

2. Choose **Notifications**.

The **Notification Preferences** page appears.

3. Under **Insights**, slide the **In-app** and **Email** button to receive notifications when a lead time deviation is identified, inventory risks are identified, lead time export fails, or when lead time export succeeds.

 **Note**

You can choose to receive an email, in-app notification, or both.

4. Under **Forecast Collaboration**, slide the **In-app** button to receive a notification in AWS Supply Chain when there is an update to the forecast or if the forecast request is decline by the Partner.

You can also use the **Email** button to receive a summarized email once a day on all the forecast updates.

5. Under **Purchase Orders**, slide the **In-app** button to receive a notification in AWS Supply Chain when there is a purchase order update by the Partner.

You can also use the **Email** button to receive a summarized email once a day on all the purchase order updates.

6. Under **Disclosure Data Requests**, slide the **In-app** button to receive a notification in AWS Supply Chain when a data request is submitted or declined or to track the status of the data request. For example, in progress, rework requested, canceled, and so on.
7. Choose **Save**.
8. On the AWS Supply Chain dashboard, choose the **Bell** icon on the top-right to view the in-app notifications.

# AWS Supply Chain Analytics

AWS Supply Chain uses Amazon QuickSight's authoring capability that enables you to build custom dashboards using the data you ingested into AWS Supply Chain data lake and data generated by AWS Supply Chain. For example, demand forecast, project inventory, supply plans, and so on. Using a single dashboard, a supply chain manager can visualize supply chain data, perform custom analysis, derive metrics, and gain insights from multiple sources. For information on Amazon QuickSight, see [Amazon QuickSight](#).

AWS Supply Chain Analytics supports Administrator, Author, and Reader permission roles. The default role is an AWS Supply Chain Analytics Author.

## Note

When you are enabling AWS Supply Chain Analytics for the first time, you can either setup under **Settings** or choose **Analytics** in the left navigation pane on the AWS Supply Chain dashboard.

## Topics

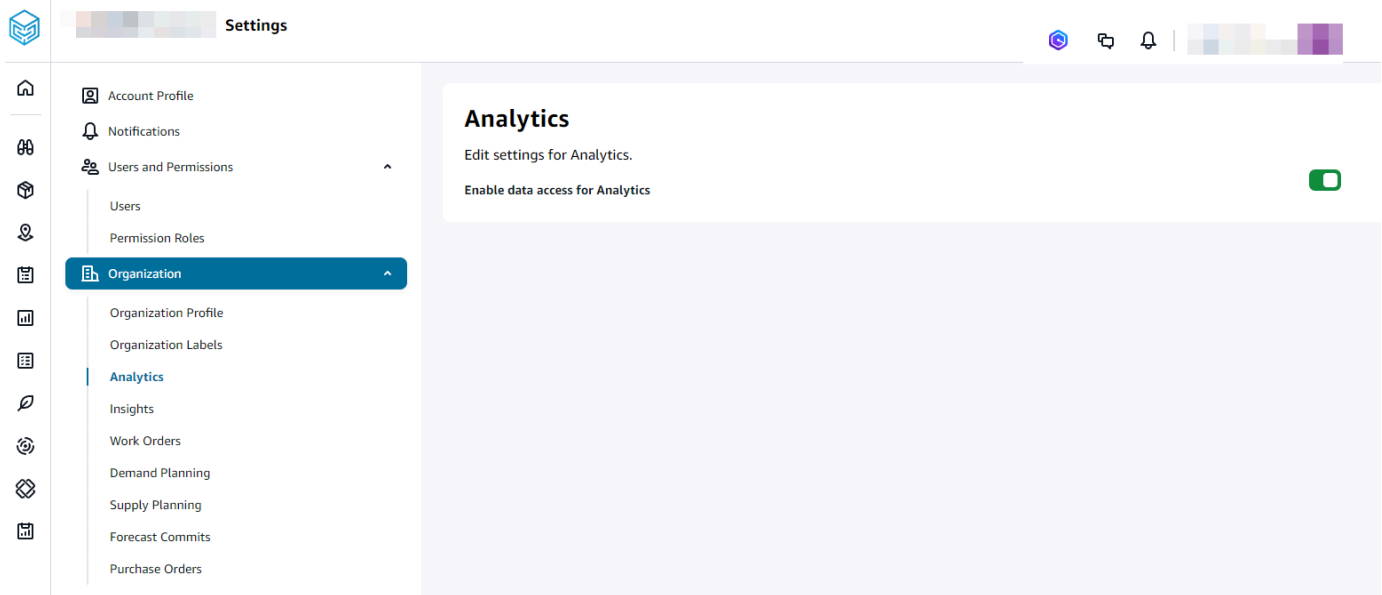
- [Setting AWS Supply Chain Analytics](#)
- [Configuring AWS Supply Chain Analytics as an administrator](#)
- [Creating new analysis](#)
- [Prebuilt dashboards](#)
- [Application datasets used in AWS Supply Chain Analytics](#)

## Setting AWS Supply Chain Analytics

You must enable AWS Supply Chain Analytics before you can start using Amazon QuickSight dashboards.

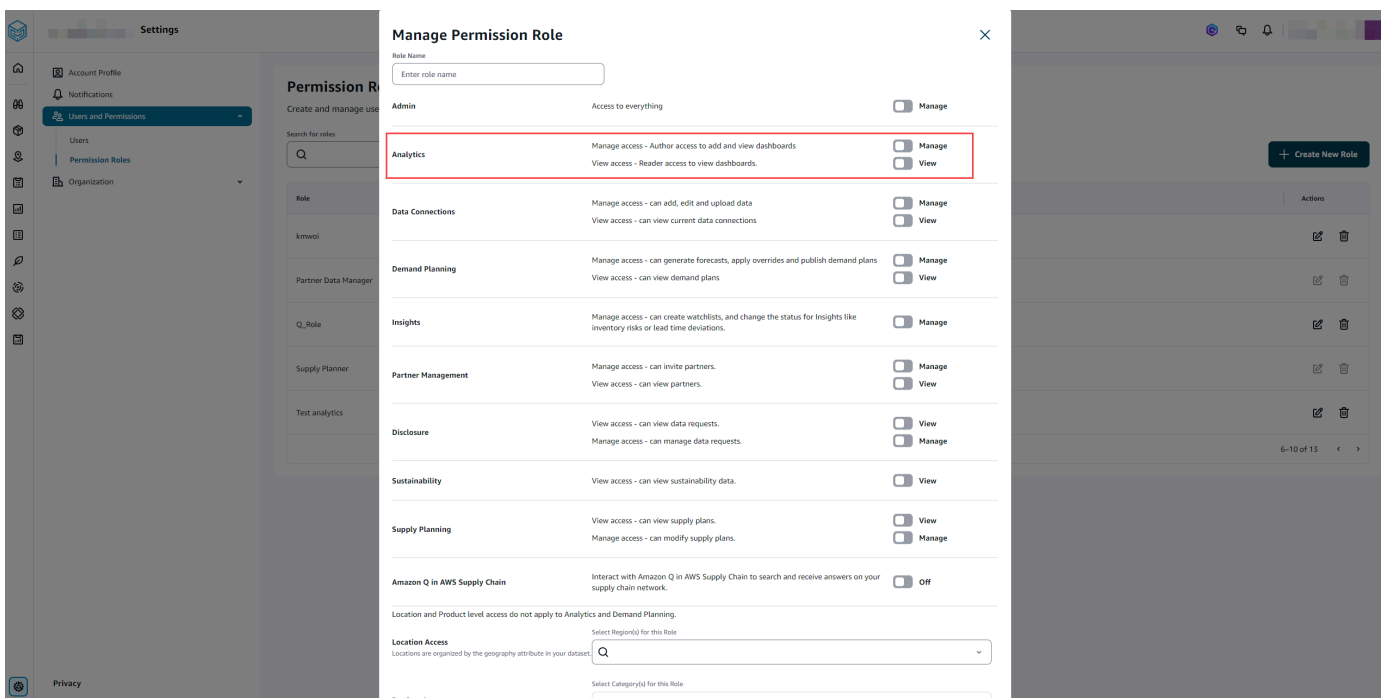
1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.
2. Under **Organization**, choose **Analytics**.

The **Analytics** setting page appears.



3. Slide the **Enable data access for Analytics** button to enable AWS Supply Chain Analytics.
4. Under **User and Permissions**, choose **Permission Roles**.

You can edit the permission roles for a current user or add a new permission role to enable Analytics access.



5. On the **Manage Permission Role** page, under **Analytics**, slide the **Manage** or **View** button to grant read or write access.



- *Manage* – Select this permission role if you want the Analytics user to create and view dashboards.
- *View* – Select this permission role if you want the Analytics user to only view the dashboards.

## Configuring AWS Supply Chain Analytics as an administrator

You must configure AWS Supply Chain Analytics to use Analytics dashboard.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Analytics** or choose **Go to Analytics** from the AWS Supply Chain dashboard.

The **Set up AWS Supply Chain Analytics** page appears.

### Note

If you have not ingested data into Data Lake, you need to ingest data before using AWS Supply Chain Analytics. To ingest data, see [Data lake](#).

2. Choose **Set up Analytics**.

The Amazon QuickSight dashboard page appears.

3. Choose **Analyses**.

You can view all the existing analysis.

## Creating new analysis

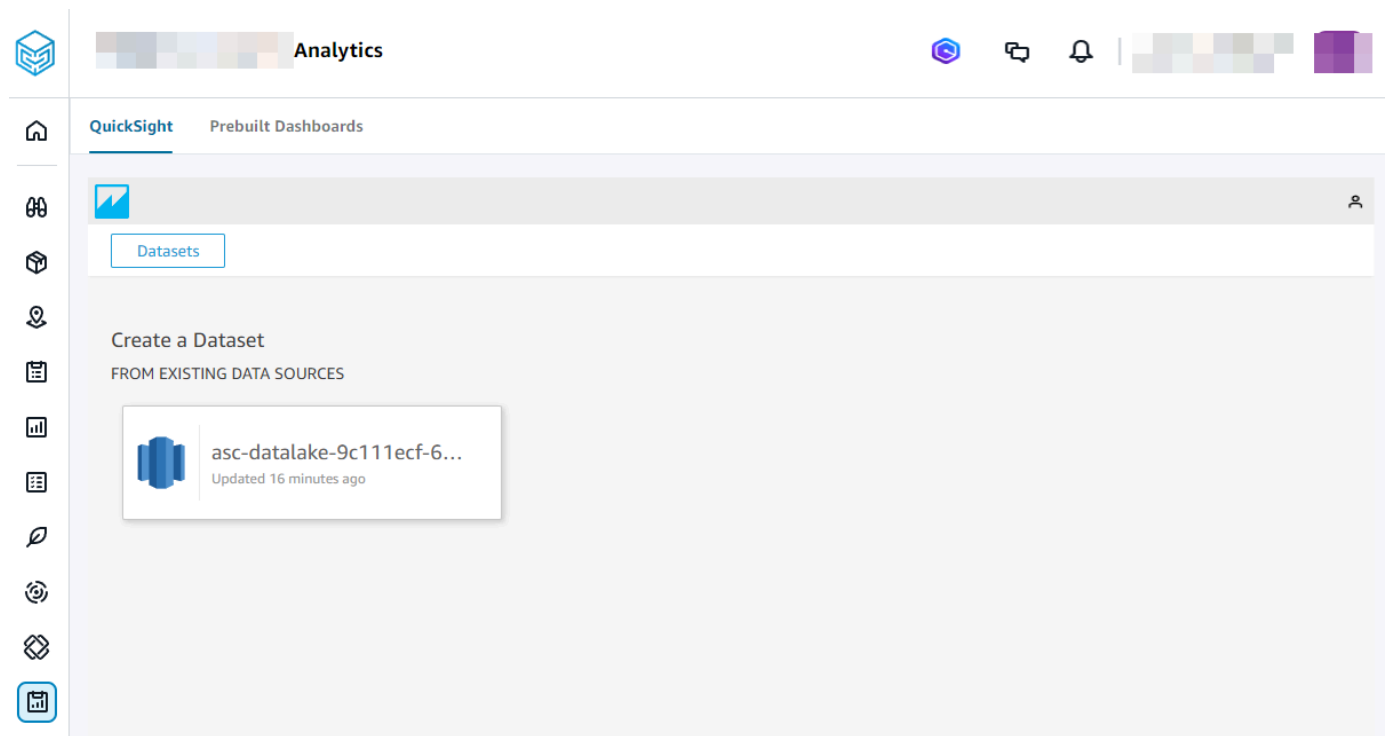
To create a new analysis, follow the below procedure.

### Note

Granular access based on Location and Product is not supported in AWS Supply Chain Analytics.

1. On the Amazon QuickSight dashboard page, choose **New analysis**.
2. Choose **New dataset**

The **Create a Dataset** page appears. You will see the AWS Supply Chain data lake as an existing dataset for you to pick. For example, `asc-datalake-your instance id`.



3. Choose the data source.

**Note**

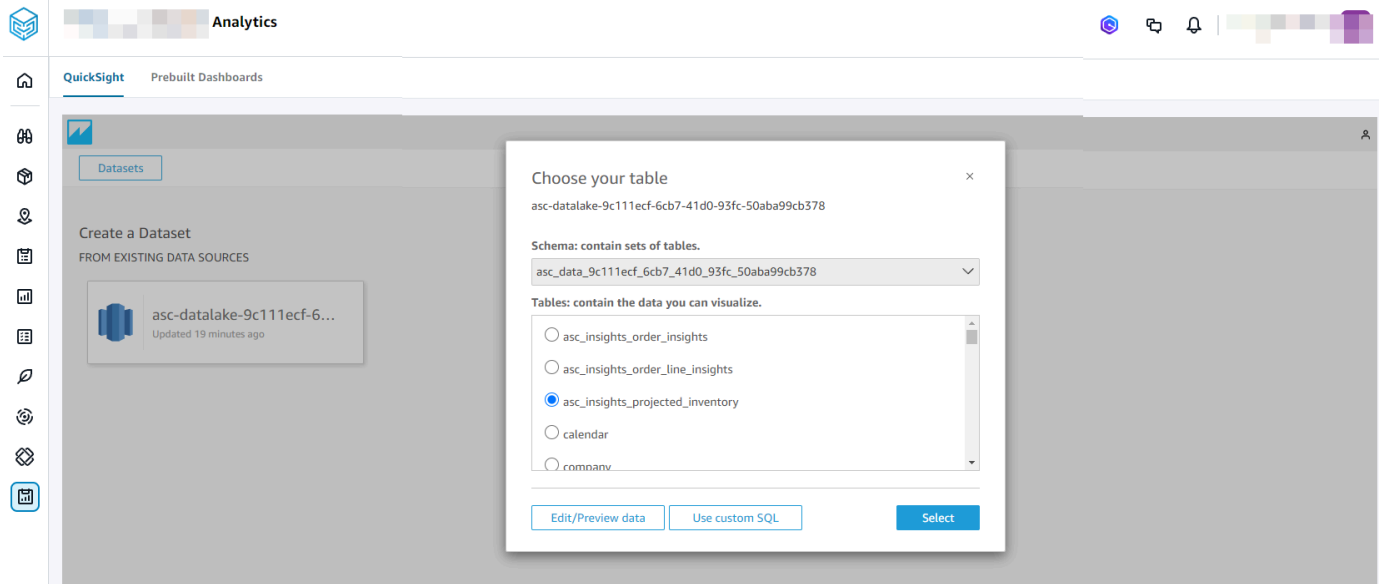
Select the blue Amazon QuickSight logo to navigate to the Amazon QuickSight menu to view the datasets or analyses.

4. Choose **Create dataset**.

5. Under **Schema:contain set of tables** drop-down, select one of the following data source names:

1. `asc_data_<your instance id>`: Contains datasets processed and transformed by AWS Supply Chain for use within the application. These can be used for creating dashboards and custom analyses. Examples include `asc_insights_order_insights` and `asc_adp_forecast`. For more information on available datasets and their uses, see [Application datasets used in AWS Supply Chain Analytics](#).

2. `asc_custom_data_<your instance id>`: Contains original, non-transformed data as provided. You can query these datasets to access and analyze your raw data directly and build dashboards out of them.
6. Under **Tables: contain the data you can visualize**, choose the dataset from the list of AWS Supply Chain datasets.



7. Choose **Select**.
8. Under **Finish dataset creation**, choose **Visualize**.
9. Under **Data**, choose the fields you want to visualize and choose **Publish**.

The **Publish a dashboard** page appears.

10. Under **Publish new dashboard as**, enter a name for your dashboard.
11. Choose **Publish dashboard**.

You will see the new dashboard created under **Dashboards** and a new analysis created under **Analyses**. For more information on using Dashboards or Analyses, see [Amazon QuickSight](#).

## Prebuilt dashboards

AWS Supply Chain Analytics supports the following prebuilt dashboards.

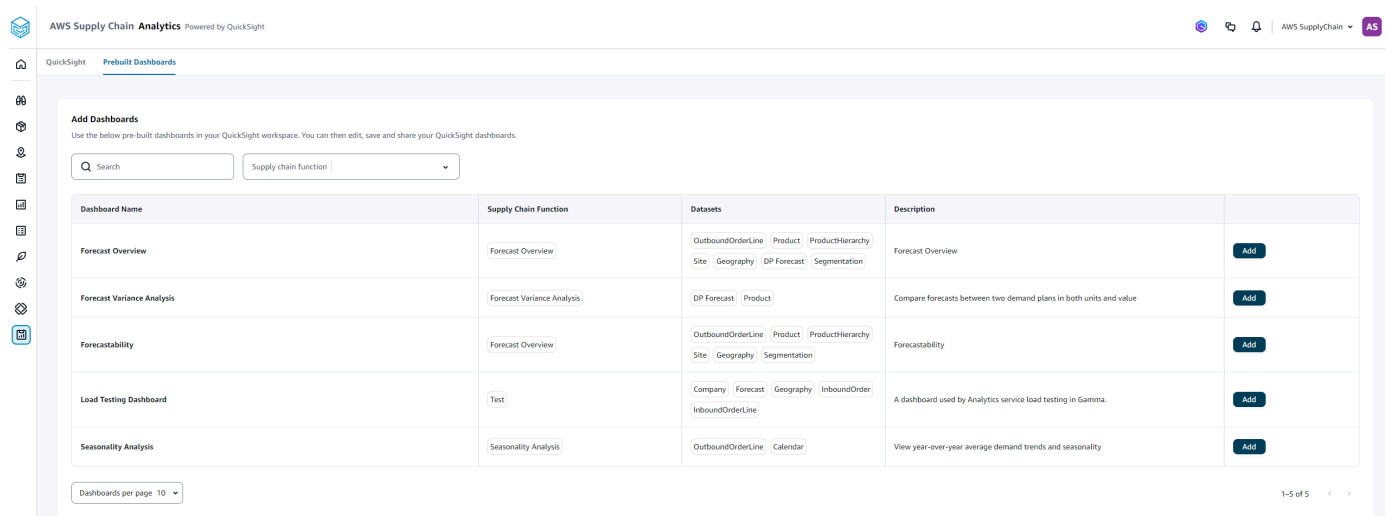
- Plan-over-plan variance analysis – Use this dashboard to compare two demand plans and view the difference in both units and values across key dimensions such as product, site, and time periods.

- **Seasonality analysis** – Displays the year-over-year view of demand, displaying the trends in average demand quantities, and highlighting seasonality patterns through peaks at both monthly and weekly intervals. You can identify the demand patterns and assign the appropriate forecasting levels.

To add a prebuilt dashboard to your dashboard page, follow the below procedure.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Analytics**.

The **AWS Supply Chain Analytics** page appears.



The screenshot shows the 'Prebuilt Dashboards' page in the AWS Supply Chain Analytics interface. The page title is 'AWS Supply Chain Analytics Powered by QuickSight'. Below the title, there is a search bar and a dropdown menu for 'Supply chain function'. The main content is a table with the following columns: Dashboard Name, Supply Chain Function, Datasets, and Description. Each row includes an 'Add' button.

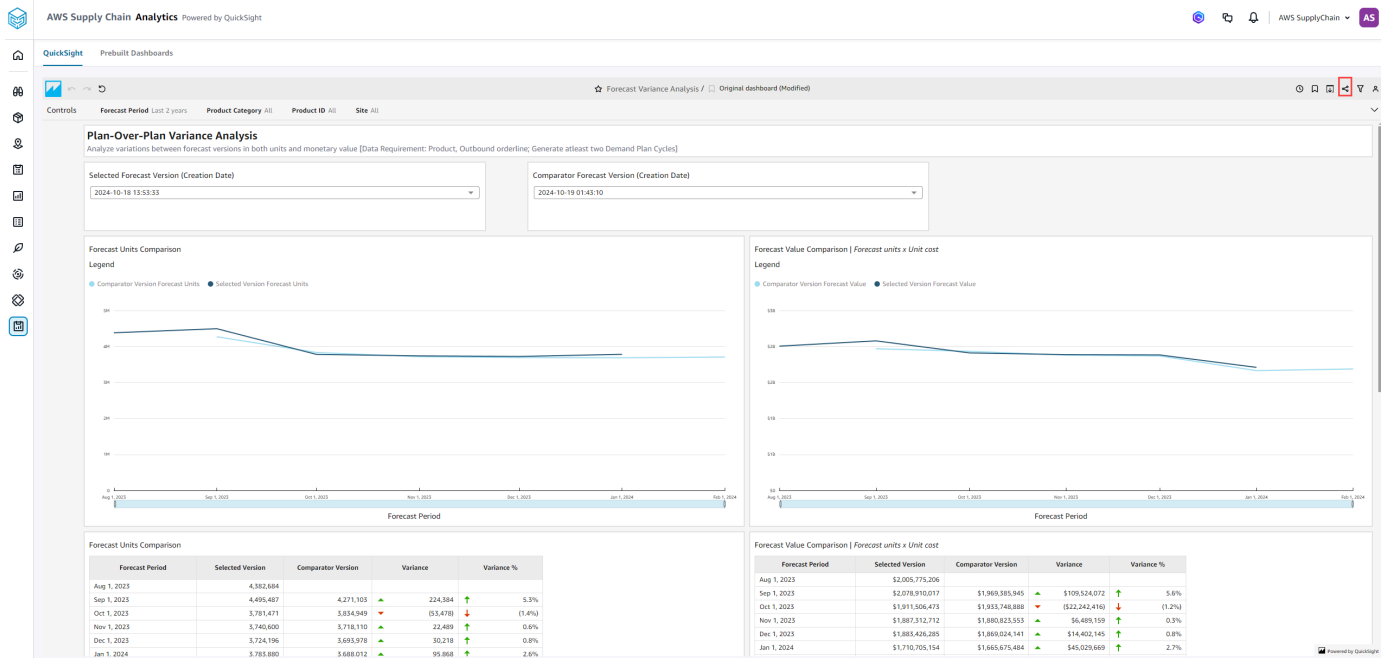
Dashboard Name	Supply Chain Function	Datasets	Description
Forecast Overview	Forecast Overview	OutboundOrderLine, Product, ProductHierarchy, Site, Geography, DP Forecast, Segmentation	Forecast Overview
Forecast Variance Analysis	Forecast Variance Analysis	DP Forecast, Product	Compare forecasts between two demand plans in both units and value
Forecastability	Forecast Overview	OutboundOrderLine, Product, ProductHierarchy, Site, Geography, Segmentation	Forecastability
Load Testing Dashboard	Test	Company, Forecast, Geography, InboundOrder, InboundOrderLine	A dashboard used by Analytics service load testing in Gamma.
Seasonality Analysis	Seasonality Analysis	OutboundOrderLine, Calendar	View year-over-year average demand trends and seasonality

At the bottom of the table, there is a 'Dashboards per page' dropdown set to 10 and a pagination indicator '1-5 of 5'.

2. Choose the **Prebuilt Dashboards** tab.
3. Under **Add Dashboards**, select the dashboard you want to add and choose **Add**.
4. Choose the **Amazon QuickSight** tab.
5. Choose **Dashboards**.

You should see the prebuilt dashboard you added from **Prebuilt Dashboards**.

6. Choose the dashboard you want to view.



- Choose the share icon to share the dashboard with other AWS Supply Chain Analytics users. For more information on permission roles, see [Setting AWS Supply Chain Analytics](#).

## Application datasets used in AWS Supply Chain Analytics

The following are the list of application datasets displayed in AWS Supply Chain Analytics.

AWS Supply Chain module name	Data entity	Dataset name	Description
Demand Planning	Forecast	asc_adp_forecast	Forecast generated by AWS Supply Chain's Demand Planning application.
	PlanningCycleAccuracy	asc_adp_planning_cycle_accuracy	Forecast accuracy data generated by Demand Planning.
Supply Planning	SupplyPlan	asc_supply_planning_supply_plan	Replenishment plan generated by AWS

AWS Supply Chain module name	Data entity	Dataset name	Description
			Supply Chain's Supply Planning application.
Insights	InboundOrderLine	asc_supply_planning_inbound_order_line	Data generated by AWS Supply Chain's Supply Planning application for Inbound_order_line.
	ProjectedInventory	asc_insights_projected_inventory	Projected inventory data generated by AWS Supply Chain's Insights application.
	OrderLineInsights	asc_insights_order_line_insights	Work order line data generated by AWS Supply Chain's Work Order Insights application.
	OrderInsights	asc_insights_order_insights	Work order insights data generated by AWS Supply Chain's Work Order Insights application.

# Data lake

You can use AWS Supply Chain to ingest your data stored in the following data sources and extract your supply chain information. AWS Supply Chain can store the extracted information in your Amazon S3 buckets and use the data for *Demand planning, Insights, Supply Planning, N-Tier Visibility, Work Order Insights, and Sustainability*.

- **Amazon S3 source data** – You can use the Amazon S3 data source flow option if you don't have an ERP system, or if you use another extraction tool. You can extract raw data from your data source, map the data fields with AWS Supply Chain data model, and upload them to Amazon S3 with an integration tool of your choice. You can only upload CSV files to Amazon S3 when you're using Auto-association.
- **Electronic data interchange (EDI)** – AWS Supply Chain supports X12 ANSI version 4010 for EDI messages 850, 860, and 856. Supported data formats are .edi or .txt. You can add your raw EDI messages to Amazon S3 using an integration tool of your choice. AWS Supply Chain can extract and associate your raw EDI messages using default templates by Natural Language Processing (NLP) for EDI 856. NLP templates are not supported for EDI 850 and 860 and come with pre-defined, but customizable recipes in AWS Supply Chain.
- **SAP S/4HANA** – To extract your supply chain data from an SAP S/4HANA data source, AWS Supply Chain can use the Amazon AppFlow connector to connect to this source. AWS Supply Chain can associate your supply chain data stored in SAP S/4HANA system to the AWS Supply Chain data model using AWS Glue DataBrew.
- **SAP ECC 6.0** – You can use an integration tool (for example, ETL or iPaaS) to extract your supply chain data stored in the SAP ECC 6.0 system and put it into the Amazon S3 bucket using an API. AWS Supply Chain can associate your supply chain data stored in the SAP ECC 6.0 system to the AWS Supply Chain data model using DataBrew.

## Topics

- [Terminology used in data lake](#)
- [Data lake dashboard](#)
- [Adding a new data source](#)
- [Ingesting data for existing connections](#)

## Terminology used in data lake

The following terms are used in data lake:

- **Entity** – Information about a data object for each category. For example, company, geography, and trading\_partner are entities for an organization. For more information, see [Data entities and columns used in AWS Supply Chain](#).
- **Dataset** – Information related to the entity. You can have only one dataset per entity.
- **Connector** – A way to import data into AWS Supply Chain.
- **Recipe** – A set of steps that describes how to map source data into one dataset.
- **Source Flows**<sup>1</sup> – Displays the datasets and fields that you uploaded.
- **Destination Flows**<sup>1</sup> – Associates the data from your dataset to the AWS Supply Chain data entities in data lake.
- **Source system**<sup>1</sup> – Your existing enterprise resource planning (ERP) system, Warehouse Management System (WMS), or any supply chain data management system.

<sup>1</sup> – These terms are only displayed when you ingest data through Amazon S3 (or the **Upload any CSV** option in the web application).

## Data lake dashboard

You can use AWS Supply Chain data lake to ingest your data from various data sources. For information about supported data sources, see [Data lake](#).



Destination Flow	Last Sync	Status	Detail	Actions
forecast	7/26/2024 02:25:54 PM	Success	Destination flow successful	Manage Flow Delete Flow
outbound-order-line	7/25/2024 12:56:58 PM	Success	Destination flow successful	Manage Flow Delete Flow
outbound-shipment	7/25/2024 12:54:24 PM	Success	Destination flow successful	Manage Flow Delete Flow
shipment	7/25/2024 12:44:45 PM	Success	Destination flow successful	Manage Flow Delete Flow
inbound-order-line	7/25/2024 12:43:40 PM	Success	Destination flow successful	Manage Flow Delete Flow
inbound-order-line-schedule	7/25/2024 12:43:06 PM	Success	Destination flow successful	Manage Flow Delete Flow
trading-partner	7/25/2024 12:41:55 PM	Success	Destination flow successful	Manage Flow Delete Flow
product-hierarchy	7/25/2024 12:41:15 PM	Success	Destination flow successful	Manage Flow Delete Flow
product	7/25/2024 12:41:11 PM	Success	Destination flow successful	Manage Flow Delete Flow
inventory-level	7/25/2024 12:40:48 PM	Success	Destination flow successful	Manage Flow Delete Flow
product-uom	7/25/2024 12:40:47 PM	Fail	S413: The following columns are required in the dataset schema, but missing in the input file ['eff_start_date', 'eff_end_date']	Manage Flow Delete Flow
site	7/25/2024 12:40:27 PM	Success	Destination flow successful	Manage Flow Delete Flow
inventory-policy	7/25/2024 12:39:53 PM	Success	Destination flow successful	Manage Flow Delete Flow

## Data Ingestion

You can view the current connections, source, and destination flows. To view the status of the ingested data, follow the procedure below.

1. On the AWS Supply Chain dashboard, on the left navigation pane, choose **Data Lake** and then choose the **Data Ingestion** tab.

The **Data Ingestion** page appears.

2. Choose the **Source Flows** tab.

- Source Flows – Displays the file or folder structure of the dataset that was uploaded.
- S3 Prefix – Displays the Amazon S3 path where the source files are uploaded.
- Status – Displays the source files' upload status.
- Last Sync – Displays when the files were last synced or updated.
- Actions – You can view the following:
  - Manage Flow – You can update the data mapping.
  - Upload Files – You can add additional source files to your existing source flows.
  - Delete Flow – You can delete the source flow completely.

3. Choose the **Destination Flows** tab.

4. Under **Actions**, choose **Manage Flow** to view and update the data mappings.

The **Manage Destination Flows** page appears.

5. Move any unassociated source columns under **Source Columns** to **Destination Columns**.
6. Choose **Exit and Review Destination Flows** to go back to the **Destination Flows** page to review the destination flows.
7. Choose the **Connections** tab.

You can view all the existing connections.

## Datasets

You can view the status of the datasets ingested.

To view all the datasets uploaded to existing connections, follow the procedure below.

1. On the AWS Supply Chain dashboard, on the left navigation pane, choose **Data Lake** and then choose the **Datasets** tab.

The **Datasets** page appears.

2. To view a dataset, choose **View**.
3. Under the **Dataset Fields** tab, you can view all the existing dataset fields in the dataset.
4. Under the **Source Connections** tab, you can view the connections that are feeding that dataset.

## Data quality

Any identified data quality errors are displayed on the web application under Module errors. You can view the dataset that has errors and the impacted AWS Supply Chain module. Additionally, you can download the data quality report from your Amazon S3 bucket. The report provides detailed information on the dataset errors in the ingested data.

### Viewing data quality reports

To view the AWS Supply Chain module errors, complete the following steps:

**Note**

For information on required and optional data entities for each AWS Supply Chain module, see the Demand Planning, Insights, and Work Order Insights sections under [Data entities and columns used in AWS Supply Chain](#).

1. On the AWS Supply Chain dashboard, on the left navigation pane, choose **Data Lake** and then choose the **Data Quality** tab.
2. Choose the **Module Errors** tab. You can view the data ingestion errors for the AWS Supply Chain modules.

**Note**

You can also view the dataset errors and the affected modules after the first ingestion is complete and the destination flows are successful. If the destination flows are unsuccessful, you can view the data quality errors under the **Detail** column of the **Destination Flows** tab.

You can filter the errors using the following filters in the **Module** dropdown box:

- All
- Multiple Applications
- Demand Planning
- Insights
- Order Insights

The screenshot displays the 'Module Errors' section of the AWS Supply Chain Data Lake interface. A dark blue banner at the top of the main content area reads 'Module Errors' and provides a summary: 'A summary of all the errors that adversely impact modules, such as Demand Planning or Insights.' Below this is a search bar and a dropdown menu set to 'Module: Demand Planning'. The main area contains a table with the following columns: Dataset, Error Date (Time), Impacted Module (Features), and Status Message (Records affected).

Dataset	Error Date Time	Impacted Module Features	Status Message Records affected
All Multiple Applications			
OutboundOrderLine Demand Planning	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "ship_to_site_id" has null or empty value in the OutboundOrderLine entity 10 records
OutboundOrderLine Insights	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "ship_to_site_address_country" has null or empty value in the OutboundOrderLine entity 10 records
OutboundOrderLine Field ship_to_site_address_city has null or empty values in the outbound_order_line entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "ship_to_site_address_city" has null or empty value in the OutboundOrderLine entity 10 records
OutboundOrderLine Field channel_id has null or empty values in the outbound_order_line entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "channel_id" has null or empty value in the OutboundOrderLine entity 10 records
OutboundOrderLine Field ship_to_site_address_state has null or empty values in the outbound_order_line entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "ship_to_site_address_state" has null or empty value in the OutboundOrderLine entity 10 records
Product Field brand_name has null or empty values in the Product entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "brand_name" has null or empty value in the Product entity 10 records
Product Field color has null or empty values in the Product entity	6/10/2024	Demand Planning	◆ The field "color" has null or empty value in the Product entity

3. View the data quality errors under the **Impacted Module** and **Status Message** columns.

The **Impacted Module** column displays the AWS Supply Chain application and the related feature that was impacted.

The **Status Message** column displays the product entity and the number of errors under each product entity. For example, the "The field "channel\_id" has null or empty value..." error means that the "channel\_id" column in the ingested outbound\_order\_line file is missing data.

AWS Supply Chain Data Lake

Data Ingestion Datasets Data Quality

Connection Errors Module Errors

Module Errors  
A summary of all the errors that adversely impact modules, such as Demand Planning or Insights.

Search Module Demand Planning

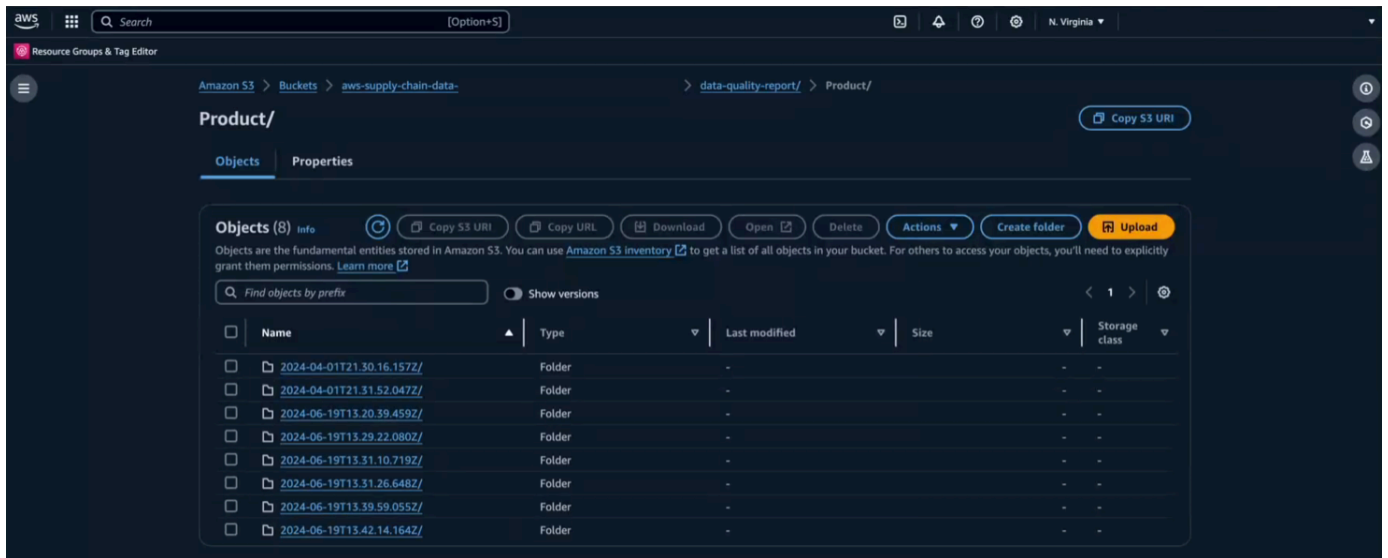
Dataset	Rule	Error Date Time	Impacted Module Features	Status Message Records affected
OutboundOrderLine	Field ship_to_site_id has null or empty values in the outbound_order_line entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "ship_to_site_id" has null or empty value in the OutboundOrderLine entity 10 records
OutboundOrderLine	Field ship_to_site_address_country has null or empty values in the outbound_order_line entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "ship_to_site_address_country" has null or empty value in the OutboundOrderLine entity 10 records
OutboundOrderLine	Field ship_to_site_address_city has null or empty values in the outbound_order_line entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "ship_to_site_address_city" has null or empty value in the OutboundOrderLine entity 10 records
OutboundOrderLine	Field channel_id has null or empty values in the outbound_order_line entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "channel_id" has null or empty value in the OutboundOrderLine entity 10 records
OutboundOrderLine	Field ship_to_site_address_state has null or empty values in the outbound_order_line entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "ship_to_site_address_state" has null or empty value in the OutboundOrderLine entity 10 records
Product	Field brand_name has null or empty values in the Product entity	6/10/2024 05:50:52 PM	Demand Planning Forecast Generation	◆ The field "brand_name" has null or empty value in the Product entity 10 records
Product	Field color has null or empty values in the Product entity	6/10/2024	Demand Planning	◆ The field "color" has null or empty value in the Product entity

## Downloading data quality reports

To download the data quality report, complete the following steps:

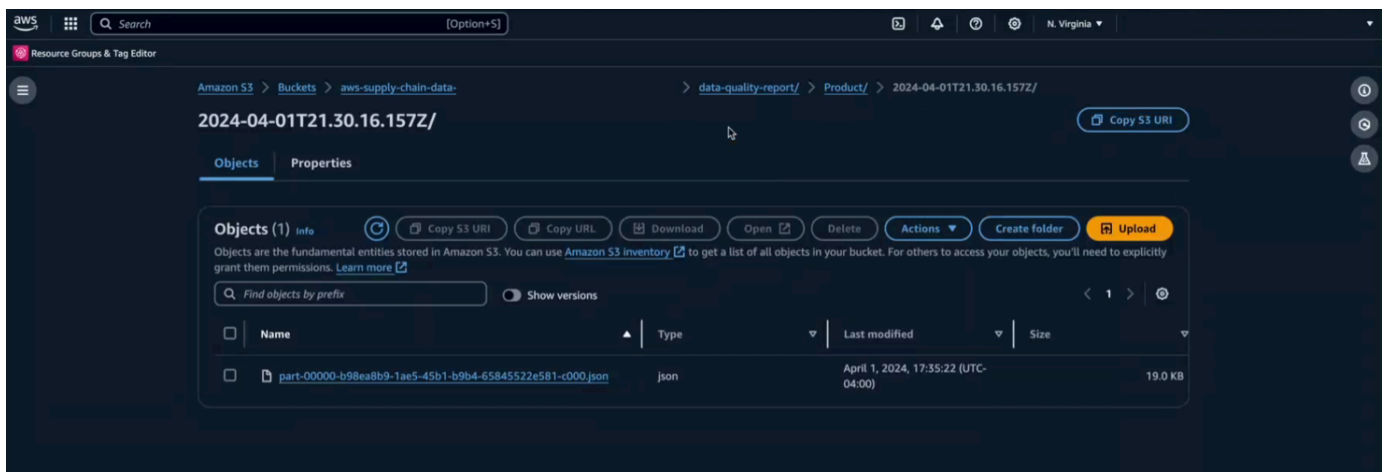
1. Open the Amazon S3 console at <https://console.aws.amazon.com/s3/> and sign in.
2. Navigate to the **aws-supply-chain-data** instance ID folder, then **data-quality-report**.
3. Select the folder for the data entity you want to view.

Individual folders for each data ingestion will appear.



4. Select the folder for the data ingestion you want to view.

The data quality report will appear.



5. Select the file and choose **Download** to download the data quality report in json format.

## Adding a new data source

You can use AWS Supply Chain to ingest your data stored in your data source and extract your supply chain information. AWS Supply Chain can store the extracted information in your Amazon S3 buckets and use the data for *Demand planning*, *Insights*, *Supply Planning*, *N-Tier Visibility*, *Work Order Insights*, and *Sustainability*.

### Topics

- [Prerequisites to ingest data](#)

- [Uploading files for the first time](#)
- [Connecting to an EDI](#)
- [Connecting to S/4 HANA](#)
- [Connecting to SAP ECC 6.0](#)
- [Adding a new outbound source for Supply Planning](#)

## Prerequisites to ingest data

Note the following before uploading your datasets for ingestion:

- The file that you upload should be less than 5 GB.
- The content in the dataset should follow the UTF-8 encoding format.
- The file type must be supported by the connector. The connectors for SAP systems supports CSV, EDI connector supports .txt and .edi formats, and Amazon S3 supports CSV.
- Data rows must contain non-null values for the required fields.
- The date and time format should follow the ISO8601 standards. For example, 2020-07-10 15:00:00.000, represents the 10th of July 2020 at 3 pm.
- The column names in the dataset shouldn't contain spaces or special characters. Column names should be separated by an underscore (\_) between two words.
- When using the Amazon S3 source path, AWS Supply Chain will create a parent folder named after the source system that you selected. Sub-folders are named after the source table that you selected. Make sure that the file names are unique. The file structure that you build will be used to create the Amazon S3 path.
- AWS Supply Chain follows a multi-step upload process with pre-assigned URLs. Due to browser security restrictions, to upload your dataset, your S3 bucket cross-origin resource sharing (CORS) permissions must allow *PUT* requests and return an *ETag* header. To update the CORS policy on your Amazon S3 bucket, under **Connections**, scroll-down to CORS and paste the following policy:

```
[
{
  "AllowedHeaders": [
    "*"
  ],
  "AllowedMethods": [
```

```
"PUT"  
],  
"AllowedOrigins": [  
"https://instance-id.scn.global.on.aws"  
],  
"ExposeHeaders": [  
"Etag"  
]  
}  
]
```

## Uploading files for the first time

You can use the AWS Supply Chain Auto-association feature to upload your raw data and automatically associate your raw data with AWS Supply Chain data model. You can also view the *required* columns and tables for each AWS Supply Chain module within the AWS Supply Chain web application.

### Note

You can only upload CSV files to Amazon S3 when you are using Auto-association.

After the source columns from your dataset are associated with the destination columns, AWS Supply Chain will automatically generate the SQL recipe.

### Note

AWS Supply Chain uses Amazon Bedrock for Auto-association, which it's not supported in all the &AWS Regions that AWS Supply Chain is available in. Hence, AWS Supply Chain will call Amazon Bedrock endpoint from the closest available region, Europe (Ireland) Region – Europe (Frankfurt) and Asia Pacific (Sydney) Region – US West (Oregon).



## Note

Auto-association using the Large Language Models (LLM) is only supported when data is ingested through Amazon S3.

1. On the AWS Supply Chain dashboard, on the left navigation pane, choose **Data Lake** and then choose the **Data Ingestion** tab.

The **Data Ingestion** page appears.

2. Choose **Add New Source**.

The **Select your data source** page appears.

3. On the **Select your data source** page, choose **Upload files**.
4. Choose **Continue**.

Horizon Data Lake

**Ingest your data**  
Upload, review, and associate your source data to the AWS Supply Chain Data Lake.

**Select source**  
Select the source system or file format of your supply chain data.

**2 Upload data**  
Use your local or source system file structure.

**3 Manage source tables**  
Review source tables and create source flows.

**4 Associate tables**  
Associate source tables with AWS Supply Chain Data Lake.

**Which capabilities do you want to run?**

Insights  Supply Planning  Demand Planning  Sustainability  N-Tier Visibility  Work Order Insights

**Upload your source files**  
We have created a parent folder named after your selected source system. You do not need to follow a prescribed file structure, but your filenames must be unique. The file structure you build will create the corresponding S3 paths.

Source system name:  Add a suffix (optional)

Drag and drop, select files, or folder  
We support CSV file formats. 5 GB limit per file.

**Review data requirements** [View full documentation](#)

Select each data entity to view the corresponding description, keys, and data columns.

**Geography** **Trading Partner** **Product** **Product Hierarchy** **Product Uom** **Site** **Transportation Lane** **Vendor Product** **Vendor Lead Time**

**Inventory Policy** **Sourcing Rules** **Sourcing Schedule** **Sourcing Schedule Details** **Product Bom** **Production Process** **Inventory Level** **Inbound Order**

**Inbound Order Line** **Inbound Order Line Schedule** **Shipment** **Outbound Order Line** **Outbound Shipment** **Forecast** **Uom Conversion**

**Geography**  
Entity stores geographical hierarchy of your company.

Data Columns

Primary key

Foreign key

Back **Continue** →

- On the **Which capabilities do you want to run** page, choose the AWS Supply Chain modules that you want to use. You can choose more than one module.
- Under **Upload your source files** section, add a suffix to the **Source system name**. For example, `oracle_test`.
- To upload your source dataset, choose **files** or drag and drop files.

The source tables with the name and status are displayed.

- Choose **Upload to S3**. The *upload status* will change to display the status.
- Under **Review data requirements**, review all the required data entities and columns for the selected AWS Supply Chain feature. All of the required primary and foreign keys are displayed.
- Choose **Continue**.
- Under **Manage your source tables**, the following source tables and the columns listed will be auto associated and imported into data lake.

Choose **Delete table** to delete any of the source tables before importing into data lake.

Horizon Data Lake

**Ingest your data**  
Upload, review, and associate your source data to the AWS Supply Chain Data Lake.

**Select source**  
Select the source system or file format of your supply chain data.

**Upload data**  
Use your local or source system file structure.

**3 Manage source tables**  
Review source tables and create source flows.

**4 Associate tables**  
Associate source tables with AWS Supply Chain Data Lake.

**Manage your source tables**  
Choose Accept all and continue if you are satisfied with the source tables and column names that will be imported to Data Lake. You can delete tables that you don't want to import.

Expand each source table to review.

othersources\_OutboundOrderLineRecords

Search for a field

Columns

product\_id company\_id ship\_from\_site\_id customer\_tpartner\_id final\_quantity\_requested requested\_delivery\_date order\_date actual\_delivery\_date  
promised\_delivery\_date status id cust\_order\_id

Delete Table

othersources\_ProductAlternateRecords

othersources\_ProductRecords2

Back Return to Dashboard Accept all and Continue

- Choose **Accept all and Continue**.

A message on auto-associating your tables to AWS Supply Chain data lake is displayed.

The screenshot shows the Horizon Data Lake interface. On the left is a navigation sidebar with icons for home, ingest your data, select source, upload data, manage source tables, and associate tables. The main content area has a blue header that says "Data Lake has automatically associated your supply chain data to AWS Supply Chain destination fields." Below this is the "Manage Destination Flows" section, which includes a sub-section for "Outbound Order Line". A dropdown menu shows the selected source table: "othersources\_outboundorderline\_recordsabc". The interface is divided into two columns: "Source Columns" on the left and "Destination Columns" on the right. The "Source Columns" list includes: link\_id, database\_create\_datetime, database\_update\_datetime, delivery\_instructions\_code, payment\_conditions\_code, standard\_agreement\_terms, standard\_agreement\_version, main\_item\_id, substitute\_item\_id, item\_weight, delivery\_cost, client\_shipping\_option\_id, and billing\_address\_line1. The "Destination Columns" list includes: link\_id, customer\_order\_identifier, item\_id, business\_id, purchase\_date, item\_category\_id, client\_partner\_id, and order\_status. An "Optional columns in Data Lake" section is also visible, listing: company\_id, order\_date, product\_group\_id, customer\_partner\_id, and status. At the bottom, there is an "SQL Query" input field.

13. Under **Manage Destination Flows**, you can review each auto-associated table.

By default, **Auto-Association** is enabled and the source columns are auto-associated with the destination columns. To update the auto-associated columns, you can update the SQL recipe to create your custom recipe.

14. Under **Source Columns**, all of the unassociated source columns are listed. Drag and drop the unassociated columns to the **Destination Columns** on the right.

15. Follow the preceding step for each auto-associated table.

16. Choose **Submit**.

17. Choose **Exit and Review Destination Flows**.

## Uploading subsequent files to an existing source

There are two ways to upload subsequent datasets to an existing source. You can either upload the dataset on the Amazon S3 path displayed under the **Source Flows** tab, or choose **Upload files** under the **Actions** tab.

If you're using an automated connector, executing scripts, or using a middle ware solution to ingest the dataset into AWS Supply Chain, you must update the Amazon S3 path with the Amazon S3 path displayed under the **Source Flows** tab.

### Note

If an existing file with the same file name is re uploaded to Amazon S3, AWS Supply Chain will overwrite the file on Amazon S3.

The screenshot shows the 'Data Ingestion' section of the AWS Supply Chain interface. It features a table with columns for Source Flow, S3 Path, Status, Last Sync, and Actions. The 'S3 Path' column is highlighted in red, and the 'Upload Files' button in the Actions column is also highlighted in red.

Source Flow	S3 Path	Status	Last Sync	Actions
othersources-outboundorderline-recordsabc	s3://aws-supply-chain-data-3c931912-4750-4102-97bb-a7b9d626ed49/othersources/outboundorderline_recordsabc	Success	4/17/2024 04:02:37 PM	Manage Flow Upload Files Delete Flow
othersources-outboundorderline-records2	s3://aws-supply-chain-data-3c931912-4750-4102-97bb-a7b9d626ed49/othersources/outboundorderline_records2	Success	4/17/2024 10:47:51 AM	Manage Flow Upload Files Delete Flow
othersources-outboundorderline-records1	s3://aws-supply-chain-data-3c931912-4750-4102-97bb-a7b9d626ed49/othersources/outboundorderline_records1	Success	4/17/2024 10:26:55 AM	Manage Flow Upload Files Delete Flow
othersources-productrecords1	s3://aws-supply-chain-data-3c931912-4750-4102-97bb-a7b9d626ed49/othersources/productrecords1	Success	4/12/2024 02:55:06 AM	Manage Flow Upload Files Delete Flow
othersources-productrecords2	s3://aws-supply-chain-data-3c931912-4750-4102-97bb-a7b9d626ed49/othersources/productrecords2	Success	4/12/2024 02:55:06 AM	Manage Flow Upload Files Delete Flow
othersources-man	s3://aws-supply-chain-data-3c931912-4750-4102-97bb-a7b9d626ed49/othersources/man	Success	4/11/2024 03:43:24 PM	Manage Flow Upload Files Delete Flow
othersourcestestAj-company	s3://aws-supply-chain-data-3c931912-4750-4102-97bb-a7b9d626ed49/othersourcestestAj/company	Success	4/11/2024 02:59:18 PM	Manage Flow Upload Files Delete Flow

## Connecting to an EDI

To ingest data from an EDI data source, follow the procedure below.

1. On the AWS Supply Chain dashboard, on the left navigation pane, choose **Data Lake**.
2. On the **Data lake** page, choose **Add New Source**.

The **Select your supply chain data source** page appears.

3. Choose **EDI**.
4. In the **EDI Connection Details** page, under **Name your connection**, enter a name for your connection.
5. (Optional) Under **Connection description**, enter a description for your connection.
6. Under **Amazon S3 Bucket Billing**, review the Amazon S3 billing information, and then select **Acknowledge**.
7. Choose **Next**.

8. Under **Data Mapping**, choose **Get started**.

9.

**Note**

EDI 850, EDI 860, and EDI 856 are supported in AWS Supply Chain.

**Note**

The required fields are already mapped. Perform this step only if you want to make specific changes to the default transformation recipe.

On the **Mapping Recipe** page, you can view the default transformation recipe under **Field mappings**.

Choose **Add mapping**, to map any additional destination field. The **Required Destination Fields** are mandatory. Choose **Destination field** to add an additional custom destination field.

**Note**

Review all the entities (for example, Inbound Order, Inbound Order Line, and Inbound Order Line Schedule for EDI 850 Entity Group) under each Entity Group.

10. To view the source field values and data mappings from the transformation recipe, you can upload sample data. On the **Mapping Recipe** page, under **Upload sample data**, choose **browse files**, or drag and drop files. The sample data file must contain the required parameters and include the source field names.
11. Choose **Accept all and continue**.
12. Under **Review and confirm**, you can view the data connection summary. To edit your data field mapping, choose **Go back to Data Mapping**.
13. Choose **Confirm and configure data ingestion** to review the Amazon S3 paths where your source data must be uploaded to start the ingestion process.
14. Choose **Confirm and configure data ingestion later** if you want to ingest data later. You can ingest data anytime after creating the connection from the AWS Supply Chain dashboard.
15. On the AWS Supply Chain dashboard, choose **Open Connections**. Select the connection dataflow that you want to ingest data, choose the vertical ellipsis, and select **Ingestion setup**.

## Connecting to S/4 HANA

Before you can connect to your S/4 HANA data source, you must complete the following prerequisites. After that, AWS Supply Chain automatically creates the Amazon S3 paths and ingests data from the SAP source tables.

### Prerequisites to connect to S/4 HANA

To connect to S/4 HANA data source, the following prerequisites must be completed before ingesting data.

1. Configure your SAP S/4 HANA system to turn on ODP-based data extraction through the SAP OData connector for Amazon AppFlow. For more information, see [SAP OData connector for Amazon AppFlow](#).
2. Configure your SAP data sources or extractors, and generate ODP based OData services for AWS Supply Chain to connect and extract information. For more information, see [SAP data sources](#).
3. Configure your SAP system with one of the following types of authentication:
  - Basic
  - OAuth
4. Configure security roles in the SAP system to turn on data extraction.
5. Set up network connectivity to SAP S/4 HANA. If your SAP instance is in a secure VPN and you can't open a port for AWS Supply Chain to connect, we recommend that you use AWS PrivateLink. To manually setup AWS PrivateLink, see [AWS for SAP](#) and to automatically setup using AWS CloudFormation, see [AWS CloudFormation](#).

### Configuring S/4 HANA connection


To ingest data from an SAP S/4HANA data source, follow the procedure below.

1. On the AWS Supply Chain dashboard, on the left navigation pane, choose **Data Lake**.
2. On the **Data lake** page, choose **Add New Source**.

The **Select your supply chain data source** page appears.

3. Choose **SAP S/4HANA**.
4. Choose **Next**.

5. Under **SAP S/4HANA Connection Details**, enter the following:
  - **Connection name** – Enter a name for this connection.
  - (Optional) **Connection description** – Enter a name for this connection.
  - **Use Existing AppFlow Connector** – Choose **Yes** to use an existing AppFlow connector.
  - **Application Host URL** – Enter the SAP account's URL.
  - **Application Service Path** – Enter the SAP application service path.
  - **Port Number** – Enter the SAP port number.
  - **Client Number** – Enter the SAP client number.
  - **Logon Language** – Enter the SAP language code. For example, EN for English.
  - **PrivateLink** – Choose **Enabled** to enable a private connection between the SAP server and your AWS account hosting AWS Supply Chain.
  - **Username** – Enter the username of the SAP account.
  - **Password** – Enter the password of the SAP account.


 **Note**

Amazon AppFlow uses the SAP **Username** and **Password** provided by you to connect to SAP.

6. Choose **Connect to SAP**.

If the SAP username and password are entered correctly, a **Connection Successful** message appears.

7. (Optional) Under **Optional AppFlow Configuration, Step 1 - Download the JSON template file**, choose **Download the existing JSON template file** to modify the appflow ingestion settings.

 **Note**

You can use your own editor to edit the .json file. You cannot edit the .json file in AWS Supply Chain.

After you update the .json file, under **Step 2 - Upload the modified JSON template file**, choose **browse files to upload**.

**Note**

If this upload is unsuccessful, the **Upload summary** will display the errors or conflicts in the .json file. You can update the .json file to fix the issues and re-upload the file.

Here is a sample .json file with the required schedule, data flows, and source tables.

```
{
  "schedule" : {
    "scheduleExpression" : "rate(1days)", // scheduleExpression key should be
    available and the value cannot be null/empty. Format starts with rate and having
    time values in minutes, hours, or days. For example, rate(1days)
    "scheduleStartTime" : null // Supported format - "yyyy-MM-
    dd'T'hh:mm:ss[+|-]hh:mm". For example, 2022-04-26T13:00:00-07:00. ScheduleStartTime
    should atleast be 5 minutes after current time. A null value will automatically
    set the start time as 5 minutes after the connection creation time
  },
  "dataFlows" : [ // DataFlows cannot be null or empty. Make sure to choose from
  the list below
    "Company-Company",
    "Geography-Geography",
    "Inventory-Inventory Level",
    "Inventory-Inventory Policy",
    "Outbound-Outbound Order Line",
    "Outbound-Outbound Shipment",
    "Product-Product",
    "Product-Product Hierarchy",
    "Production Order-Inbound Order",
    "Production Order-Inbound Order Line",
    "Purchase Order-Inbound Order",
    "Purchase Order-Inbound Order Line",
    "Purchase Order-Inbound Order Line Schedule",
    "Reference-Reference Fields",
    "Shipment-Shipment",
    "Site-Site",
    "Site-Transportation Lane",
    "Trading Partner-Trading Partner",
    "Transfer Order-Inbound Order Line",
    "Vendor Management-Vendor Lead Time",
```



```

        "Vendor Management-Vendor Product",
        "Product-Product UOM"
    ],
    "sourceTables" : [ // sourceTables cannot be empty
        {
            "tableName" : "SomeString", // Should be an existing table name from
the SAP instance
            "extractType" : "DELTA", // Should either be DELTA or FULL
            "tableCols" : [ // TableCols cannot be empty. Enter valid column
names for the table
                "col1",
                "col2",
                "col3"
            ],
            "filters" : [// Optional field
                "colName" : "col1", // colName value should be part of
tableCols
                "dataType" : "String", // Should contain values `STRING` or
`DATETIME`
                "value" : "String",
                "operator" : "String" // Choose a string
value from the pre-defined value of "PROJECTION", "LESS_THAN",
"CONTAINS", "GREATER_THAN", "LESS_THAN_OR_EQUAL_TO", "GREATER_THAN_OR_EQUAL_TO", "EQUAL_TO", "N
"VALIDATE_NUMERIC", "NO_OP";
            ]
        },
        {
            // sourceTables with same keys - tableName, extractType, tableCols,
filters(not mandatory)
        }
    ]
}

```

8. Under **Amazon S3 Bucket Billing**, review the Amazon S3 billing information, and then select **Acknowledge**.
9. Choose **Next**.
10. Under **Data Mapping**, choose **Get started**.

11. **Note**  
The required fields are already mapped. Perform this step only if you want to make specific changes to the default transformation recipe.

On the **Mapping Recipe** page, you can view the default transformation recipe under **Field mappings**.

Choose **Add mapping**, to map any additional destination field. The **Required Destination Fields** are mandatory. Choose **Destination field** to add an additional custom destination field.

12. To view the source field values and data mappings from the transformation recipe, you can upload sample data. On the **Mapping Recipe** page, under **Upload sample data**, choose **browse files**, or drag and drop files. The sample data file must contain the required parameters and include the source field names.
13. Choose **Accept all and continue**.
14. Under **Review and confirm**, you can view the data connection summary. To edit your data field mapping, choose **Go back to Data Mapping**.
15. (Optional) Under **Recipe Actions**, you can do the following:
  - **Download recipe file** - Select **Download** to edit your recipe files in SQL as a text file.

**Note**

For information about built-in SQL functions, see [Spark SQL](#).

- **Upload recipe file** - Choose **browse files** or drag and drop your edited recipe text files. Select **Confirm upload** to upload the edited recipe file and modify your data field mappings.
16. To review the Amazon S3 location paths where you must upload your SAP source data for ingestion, choose **Confirm and configure data ingestion**. Alternatively, you can choose **Confirm and configure data ingestion later**. You can view the data ingestion information anytime. From the AWS Supply Chain dashboard, select **Connections**. Select the connection dataflow that you want to ingest data, choose the vertical ellipsis, and select **Ingestion setup**.

## SAP data sources

Configure the following SAP table sources for AWS Supply Chain to connect and extract information.

### Note

When you search for an SAP data source, prefix the data source name with *EntityOf*. For example, for the data source *OBP\_DEF\_ADDRESS\_ATTR*, the entity name should be *EntityOfOBP\_DEF\_ADDRESS\_ATTR*.

When Amazon AppFlow extracts each SAP data source, the entity name format is used to extract information. For example, to extract data from *OBP\_DEF\_ADDRESS\_ATTR*, the data is extracted from the entity path */sap/opu/odata/sap/ZOBP\_DEF\_ADDRESS\_ATTR\_SRV/EntityOfOBP\_DEF\_ADDRESS\_ATT*.

SAP data source	SAP data source description	SAP source table	OData service name	BW data source	SAP data	Delta/Full
OBP_DEF_ADDRESS_ATTR	BP standard address extraction	NA	ZOBP_DEF_ADDRESS_ATTR_SRV	Data source	Master data	Delta
OBPARTNER_ATTR	BP: BW Extraction Central Data	NA	ZOBPARTNER_ATTR_SRV	Data source	Master data	Delta
OBPARTNER_TEXT	BP: DataSource for Business	NA	ZOBPARTNER_TEXT_SRV	Data source	Master data	Delta

SAP data source	SAP data source description	SAP source table	OData service name	BW data source	SAP data	Delta/Full
	Partner Texts					
OCO_PC_ACT_05	Material Valuation : Prices	NA	ZOCO_PC_ACT_05_SRV	Data source	Master data	Full
OCOMP_CODE_TEXT	Company Code Text	NA	ZOCOMP_CODE_TEXT_SRV	Data source	Master data	Full
OCUSTOMER_ATTR	Customer	NA	ZOCUSTOMER_ATTR_SRV	Data source	Master data	Delta
OMAT_VEND_ATTR	Material or Vendor	NA	ZOMAT_VEND_ATTR_SRV	Data source	Master data	Delta
OMATERIAL_ATTR	Material	NA	ZOMATERIAL_ATTR_SRV	Data source	Master data	Delta
OMATERIAL_TEXT	Material text	NA	ZOMATERIAL_TEXT_SRV	Data source	Master data	Delta
OPURCH_ORG_TEXT	Purchasing org text	NA	ZOPURCH_ORG_TEXT_SRV	Data source	Master data	Full
OVENDOR_ATTR	Vendor	NA	ZOVENDOR_ATTR_SRV	Data source	Master data	Delta

SAP data source	SAP data source description	SAP source table	OData service name	BW data source	SAP data	Delta/Full
2LIS_02_HDR	Purchasing Data (Header Level)	NA	Z2LIS_02_HDR_SRV	Data source	Transactional	Delta
2LIS_02_ITM	Purchasing Data (Item Level)	NA	Z2LIS_02_ITM_SRV	Data source	Transactional	Delta
2LIS_02_SCL	Purchasing Data (Schedule Line Level)	NA	Z2LIS_02_SCL_SRV	Data source	Transactional	Delta
2LIS_02_SCN	Confirmation of Schedule Lines	NA	Z2LIS_02_SCN_SRV	Data source	Transactional	Delta
2LIS_03_BF	Goods Movements from Inventory Management	NA	Z2LIS_03_BF_SRV	Data source	Transactional	Delta
2LIS_04_P_MATNR	Material View from PP/PP-PI	NA	Z2LIS_04_P_MATNR_SRV	Data source	Transactional	Delta

SAP data source	SAP data source description	SAP source table	OData service name	BW data source	SAP data	Delta/Full
2LIS_08TRFKP	Shipment Costs at Item Level	NA	Z2LIS_08TRFKP_SRV	Data source	Transactional	Delta
2LIS_08TRTLP	Shipment: Delivery Item Data by Section	NA	Z2LIS_08TRTLP_SRV	Data source	Transactional	Delta
2LIS_08TRTK	Shipment: Header Data	NA	Z2LIS_08TRTK_SRV	Data source	Transactional	Delta
2LIS_11_VAHDR	Sales Document Header	NA	Z2LIS_11_VAHDR_SRV	Data source	Transactional	Delta
2LIS_11_VAITEM	Sales Document Item	NA	Z2LIS_11_VAITEM_SRV	Data source	Transactional	Delta
2LIS_12_VCITM	Delivery Item Data	NA	Z2LIS_12_VCITM_SRV	Data source	Transactional	Delta
ZADRC	Addresses	ADRC	ZADRC_SRV	Table	Master data	Full
ZBUT021_FS	Partner Address	BUT021_FS	ZBUT021_FS_SRV	Table	Master data	Full

SAP data source	SAP data source description	SAP source table	OData service name	BW data source	SAP data	Delta/Full
ZCDHDR	Change document header	CDHDR	ZCDHDR_SRV	Table	Master data	Delta
ZEINA	Purchasing Info Record: General Data	EINA	ZEINA_SRV	Table	Master data	Full
ZEINE	Purchasing Info Record: Purchasing Organization Data	ZV_EINE	ZEINE_SRV	Table	Master data	Full
ZEKKO	Purchasing Document Header	ZV_EKKO	ZEKKO_SRV	Table	Transactional	Delta
ZEKPO	Purchasing Document Item	ZV_EKPO	ZEKPO_SRV	Table	Transactional	Delta
ZEQUI	Equipment master data	EQUI	ZEQUI_SRV	Table	Master data	Full

SAP data source	SAP data source description	SAP source table	OData service name	BW data source	SAP data	Delta/Full
ZGEOLOC	Geo Location	GEOLOC	ZGEOLOC_SRV	Table	Master data	Full
ZLIKP	Delivery Header Data	LIKP	ZLIKP_SRV	Table	Transactional	Delta
ZLIPS	Delivery: Item Data	ZV_LIPS	ZLIPS_SRV	Table	Transactional	Delta
ZMDRP_NO DTT	Node Type for DRP Network	MDRP_NOI T	ZMDRP_NOD TT_SRV	Table	Master data	Full
ZMARC	Plant Data for Material	ZQ_MARC	ZMARC_SRV	Table	Master data	Full
ZMARD	Storage Location Data for Material	ZQ_MARD	ZMARD_SRV	Table	Master data	Full
ZMCHB	Batch Stocks	ZQ_MCHB	ZMCHB_SRV	Table	Master data	Full
ZT001W	Plant	T001W	ZT001W_SRV	Table	Master data	Full
ZT005T	Country Names	T005T	ZT005T_SRV	Table	Master data	Full



SAP data source	SAP data source description	SAP source table	OData service name	BW data source	SAP data	Delta/Full
ZT141T	Descriptions of Material Status	T141T	ZT141T_SRV	Table	Master data	Full
ZT173T	Shipping Type of Transport Texts	T173T	ZT173T_SRV	Table	Master data	Full
ZT179	Materials : Product Hierarchies	T179	ZT179_SRV	Table	Master data	Full
ZT179T	Materials : Product Hierarchies Text	T179T	ZT179T_SRV	Table	Master data	Full
ZT370U	Equipment Category Text	T370U	ZT370U_SRV	Table	Master data	Full
ZT618T	Mode of Transport Descriptions	T618T	ZT618T_SRV	Table	Master data	Full
ZTVRAB	Route Stages	TVRAB	ZTVRAB_SRV	Table	Master data	Full

SAP data source	SAP data source description	SAP source table	OData service name	BW data source	SAP data	Delta/Full
ZTVRO	Routes	TVRO	ZTVRO_SRV	Table	Master data	Full
ZVALW	Route Schedule	VALW	ZVALW_SRV	Table	Master data	Full
ZVBBE	Sales Requirements: Individual Records	VBBE	ZVBBE_SRVs	Table	Master data	Full
ZINB_SHIPMENT	Shipment Header and Item (Inbound)	ZV_INB_SHIPMENT based with join condition: VTTK.MANIT = VTPP.MANIT and VTTK.TKNUM = VTPP.TKNUM	ZINB_SHIPMENT_SRV	Table	Transactional	Full
ZAUFK	Order Master Data	AUFK	ZAUFK_SRV	Table	Master data	Full

SAP data source	SAP data source description	SAP source table	OData service name	BW data source	SAP data	Delta/Full
ZMARM	Unit of Measure for Material	MARM	ZMARM_SRV	Table	Master data	Full
ZEBAN	Purchase requisitions	EBAN	ZEBAN_SRV	Table	Transactional data	Delta

## Connecting to SAP ECC 6.0

To extract your data from SAP ECC 6.0, follow the procedure below.

1. On the AWS Supply Chain dashboard, on the left navigation pane, choose **Data Lake**.
2. On the **Data lake** page, choose **Add New Source**.

The **Select your supply chain data source** page appears.

3. Choose **SAP ECC**.
4. Under **SAP ECC Connection Details**, enter the following:
  - **Connection name** – Enter a name for your connection. Connection names can only contain letters, numbers, and dashes.
  - **Connection description** – Enter a description for your connection.
5. Under **Amazon S3 Bucket Billing**, review the Amazon S3 billing information, and then select **Acknowledge**.
6. Choose **Next**.
7. Under **Data Mapping**, choose **Get started**.

8.

**Note**

The required fields are already mapped. Perform this step only if you want to make specific changes to the default transformation recipe.

On the **Mapping Recipe** page, you can view the default transformation recipe under **Field mappings**.

Choose **Add mapping** to map any additional destination field. The **Required Destination Fields** are mandatory. Choose **Destination field** to add an additional custom destination field.

9.

**Note**

You can only use AWS Glue DataBrew to edit the recipes for transactional entities. Use AWS Supply Chain to download your recipes, and edit them in DataBrew. Then upload the recipes back into AWS Supply Chain. You can't use the AWS Supply Chain web application to edit the transactional data fields in a recipe.

(Optional) Under **Recipe Actions**, you can do the following:

- **Download recipe file** - Select **Download** to edit your recipe files offline with DataBrew.
  - **Upload recipe file** - Choose **browse files**, or move (drag and drop) your edited recipe files. Select **Confirm upload** to upload the edited recipe file and modify your data field mappings.
  - **Reset to default recipe** - Select **Yes, reset my recipe** to remove all your custom mappings and revert to the default recipe recommended by AWS Supply Chain.
10. To edit your source field mappings and validate your transformation recipe, you can upload sample data. On the **Mapping Recipe** page, under **Upload sample data**, choose **browse files**, or move (drag and drop) files. The sample data file must contain the required parameters and include the source field names.
  11. Choose **Accept all and continue**.
  12. Under **Review and confirm**, you can view the data connection summary. To edit your data field mapping, choose **Go back to Data Mapping**.
  13. To review the Amazon S3 paths where you must upload your SAP source data for ingestion, choose **Confirm and configure data ingestion**. Alternatively, you can choose **Confirm and configure data ingestion later**. You can view the data ingestion information anytime. From

the AWS Supply Chain dashboard, select **Connections**. Select the connection dataflow that you want to ingest data, choose the vertical ellipsis, and select **Ingestion setup**.

14. If you're not using the Amazon S3 API to ingest data, create the Amazon S3 path manually on the Amazon S3 console. For more information about how to create paths, see [Uploading data to an Amazon S3 bucket](#).
15. Review the following table to map the AWS Supply Chain data entity with SAP source.

**⚠ Important**

On the **Amazon S3 path** page, you must upload the parent entity before the child entity. You can first upload all the parent entities and then upload all the child entities together.

Data entity	SAP source	Hierarchy	Data entity action
Company – <a href="#">company</a>	0COMP_CODE_TEXT	Parent	Replace
Geography – <a href="#">geography</a>	ADRC	Parent	Replace
Inventory – <a href="#">inv_level</a>	MARD	Parent	Update
	MCHB	Parent	Update
	VBBE	Child	Update
Inventory – <a href="#">inv_policy</a>	MARC	Parent	Replace
	0MATERIAL_ATTR	Child	Update
Outbound – <a href="#">outbound_order_line</a>	2LIS_11_VAITM	Parent	Update
	OBP_DEF_A DDRESS_ATTR	Child	Update
	0MATERIAL_ATTR	Child	Update
	2LIS_11_VAHDR	Child	Update

Data entity	SAP source	Hierarchy	Data entity action
Outbound – <a href="#">outbound_shipment</a>	2LIS_08TRTLP	Parent	Update
	2LIS_08TRFKP	Child	Update
	2LIS_08TRTK	Child	Update
	2LIS_12_VCITM	Child	Update
Product – <a href="#">product</a>	OMATERIAL_ATTR	Parent	Replace
	OMATERIAL_TEXT	Child	Update
Product – <a href="#">product_hierarchy</a>	T179	Parent	Replace
Purchase order – <a href="#">inbound_order</a>	2LIS_02_HDR	Parent	Update
	CDHDR	Child	Update
	EKKO	Child	Update
Purchase order – <a href="#">inbound_order_line</a>	2LIS_02_ITM	Parent	Update
	OMATERIAL_ATTR	Child	Update
	2LIS_03_BF	Child	Update
	EKPO	Child	Update
	LIPS	Child	Update
	LIKP	Child	Update
	INB-SHIPMENT	Child	Update
Purchase order – <a href="#">inbound_order_line_schedule</a>	2LIS_02_SCL	Parent	Update
	2LIS_02_SCN	Child	Update

Data entity	SAP source	Hierarchy	Data entity action
Production order – <a href="#">inbound_order</a>	2LIS_04_P_MATNR	Parent	Update
Production order – <a href="#">inbound_order_line</a>	2LIS_04_P_MATNR	Parent	Update
	OCO_PC_ACT_05	Child	Update
	OMATERIAL_ATTR	Child	Update
Reference – <a href="#">reference_field</a>	OPURCH_ORG_TEXT	Parent	Update
	MDRP_NODTT	Parent	Update
	T005T	Parent	Update
	T141T	Parent	Update
	T173T	Parent	Update
	T179T	Parent	Update
	T370U	Parent	Update
	T618T	Parent	Update
Shipment – <a href="#">shipment</a>	INB-SHIPMENT	Parent	Replace
	EQUI	Parent	Replace
	LIKP	Parent	Replace
	LIPS	Parent	Replace
	OMATERIAL_TEXT	Parent	Replace
	OMAT_VEND_ATTR	Parent	Replace
	OMATERIAL_ATTR	Parent	Replace
	EKPO	Parent	Replace

Data entity	SAP source	Hierarchy	Data entity action
	T001W	Parent	Replace
	ADRC	Parent	Replace
	OVENDOR_ATTR	Parent	Replace
	BUT021_FS	Parent	Replace
Site – <a href="#">site</a>	T001W	Parent	Replace
	ADRC	Child	Update
	GEOLOC	Child	Update
Trading partner – <a href="#">trading_partner</a>	OBPARTNER_ATTR	Parent	Update
	OBPARTNER_TEXT	Child	Update
	OVENDOR_ATTR	Child	Update
	OCUSTOMER_ATTR	Child	Update
	OBP_DEF_A DDRESS_ATTR	Child	Update
Transfer order – <a href="#">inbound_order_line</a>	2LIS_03_BF	Parent	Update
	OMATERIAL_ATTR	Child	Update
Transportation – <a href="#">transportation_lane</a>	TVRO	Parent	Replace
	TVRAB	Child	Update
	VALW	Child	Update
Vendor management – <a href="#">vendor_lead_time</a>	EINA	Parent	Replace
	EINE	Child	Update
	OMATERIAL_ATTR	Child	Update



Data entity	SAP source	Hierarchy	Data entity action
Vendor management – <a href="#">vendor_product</a>	EINA	Parent	Replace
	OMATERIAL_ATTR	Child	Update

## Adding a new outbound source for Supply Planning

You can use the new outbound source to upload the updated *Supply Planning* purchase order requests or plan enhancements.

1. On the AWS Supply Chain dashboard, on the left navigation pane, choose **Data Lake** and then choose the **Data Ingestion** tab.

The **Data Ingestion** page appears.

2. Choose **Add Outbound Source**.

The **Amazon S3 Connection details** page appears.

3. Under **Connection name**, enter a name for your Amazon S3 connection.
4. Under **Outbound Data**, select the outbound dataflow that you want to export. Purchase order request and Supply forecast data flows are supported.
5. Choose **Confirm**.

The new outbound source is created and the **Connections** page appears.

## Ingesting data for existing connections

The following are the ingestion options if you're using Amazon S3:

- **Append** – To append the ingestion data or for incremental ingestion, all files from the source path are combined into a single dataset before being ingested into data lake. This method ensures completeness of data for files spanning multiple days. When you remove files from the source path in your S3 bucket, files that are only available in the source path are ingested into data lake.

The *Append* option make sure that your files in Amazon S3 are replicated and synchronized in data lake.

- **Overwrite** – During replace, data files are ingested into data lake as they're updated in the source path. Each new file replaces the dataset entirely.

**Note**

You can delete source flows and corresponding data in both the *Append* and *Overwrite* options.

The following are the ingestion operation options for *EDI*, *SAP S/4 HANA*, and *SAP ECC*:

- **Update** – Updates existing rows of data using the same fields that are used in the recipe.
- **Replace** – Deletes existing, uploaded data and replaces it with the new, incoming data.
- **Delete** – Deletes one or more rows of data by using the primary IDs.

**To start data ingestion, follow the procedure below.**

1. On the AWS Supply Chain dashboard, on the left navigation pane, choose **Data Lake**.
2. On the **Data Ingestion** tab, choose **Connections**.
3. Select the connection to ingest data and choose **Data Ingestion**.

The **Data Ingestion Configuration** page appears.

4. Choose **Get started**.
5. On the **Data Ingestion Details** page, select if you would like to *Update*, *Replace*, or *Delete* the data. Copy the Amazon S3 path by choosing **Copy**.

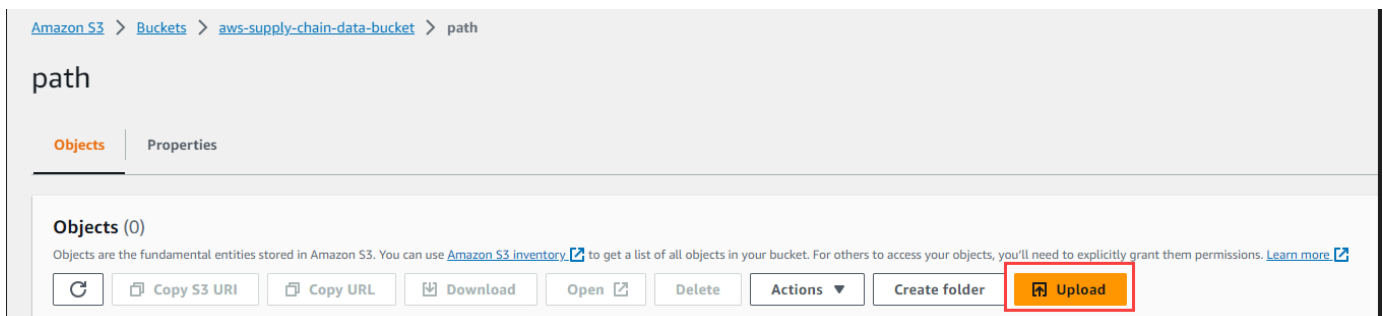
## Uploading data to an Amazon S3 bucket

**Note**

Follow this procedure for the SAP ERP Component Central (ECC) connector, and the EDI connector to manually ingest data in the S3 bucket associated with the AWS Supply Chain instance. If you're using the Amazon S3 API to upload data, see [Connecting to SAP ECC 6.0](#), or [Connecting to an EDI](#).

To upload data to an Amazon S3 bucket associated with the AWS Supply Chain instance follow the following procedure.

1. On the AWS Supply Chain dashboard, on the left navigation bar, choose **Open Connections**.
2. Select the required connection.
3. On the **Connection Details** page, note down the Amazon S3 path or choose **Copy** to copy the Amazon S3 path.
4. Open the Amazon S3 console at <https://console.aws.amazon.com/s3/> and sign in.
5. Under **Buckets**, select the name of the bucket (the first name in the Amazon S3 path) that you want to upload your folders or files to.
6. Navigate to the Amazon S3 path that you copied from the AWS Supply Chain dashboard.
7. Choose **Upload**.



# Insights

You can use AWS Supply Chain Insights to generate inventory shortage and excess and lead time deviation insights based on the watchlist configured. Insights also provides recommendations on how to resolve the deviations. Insights scans for inventory and lead time risks every 24 hours or when new data is ingested into data lake.

## Note

You can only view the current and projected inventory for products and locations that you are authorized to access.

## Topics

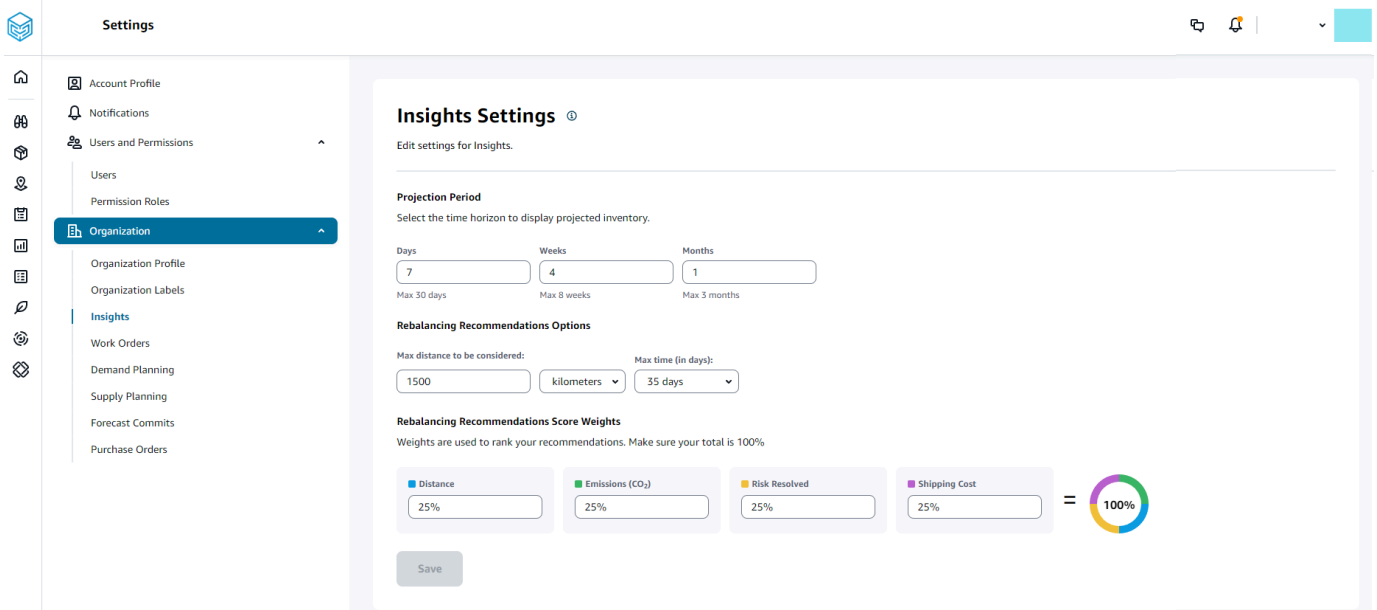
- [Insight settings](#)
- [Viewing the network map](#)
- [Viewing inventory visibility](#)
- [Creating insight watchlist](#)
- [Viewing inventory insights](#)
- [Resolving an inventory risk insight](#)
- [Lead time insights](#)

## Insight settings

After creating an instance, follow the procedure below:

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon. Choose **Organization** and then choose **Insights**.

The **Insight Settings** page appears.



2. Under **Projection Period**, enter the inventory projection time horizon and the time buckets. You can see inventory projections upto a total of six months.

**Note**

You can group and analyze the inventory projections in daily, weekly, or monthly intervals. Choosing a daily interval will provide a daily projection and weekly and monthly intervals will provide a long-term projection in a single bucket. Insights supports up to 60 days, 8 weeks, and 3 months per projection bucket.

The following example displays the projected inventory level for a portable air conditioner at the New York warehouse for 7 days, next 4 weeks, and 1 month beyond the weeks.

Products at New York Warehouse																		
Product	Category	On Hand Safety stock	On order For today	In transit For today	Prior	Today 05/15	Projected	05/16	05/17	05/18	05/19	05/20	05/21	+1w	+2w	+3w	+4w	+1m
Portable Air Conditioner	AC	180 CASES 11 - 151	0 CASES	0 CASES	<input type="checkbox"/>													

3. Under **Rebalancing Recommendations Options**, you can setup the radius surrounding the stocked out site to search for available stock for rebalance. You can setup the distance in miles or kilometers.

You can configure the rebalance model to optimize inventory levels for both supplying and receiving sites. Insights supports up to a maximum of six weeks beyond the current date, and you can customize the time horizon by factoring your lead times to see the impact of the rebalance before and after transfers.

4. Under **Rebalancing Recommendations Score Weights**, use the **Up/down** arrow to enter the core weight values to determine how ranking is calculated for rebalance recommendations.

Depending on the inventory risk resolved, distance, time horizon, available transportation modes from the ingested data (`transportation_lane.trans_mode`), and shipping costs (`transportation_lane.unit_costs`), Insights recommends one or more ways to resolve an inventory risk insight. Insights also provides a *Score* per recommendation which is derived based on the weights configured. The higher the score, the recommendation is ranked higher and is displayed at the top.

- *Distance* – Distance between your current location and the location where you want to transfer inventory from.
- *Emissions (CO2)* – CO2 emissions computed for the rebalance option.
- *Risk Resolved* – Net improvement in inventory risk percentage when excess inventory is reduced at one location to help restock the current stocked out location.
- *Shipping Cost* – Shipping cost to rebalance and transfer inventory from one location to another.

## Viewing the network map

After ingesting the required datasets for Insights, the network map displays the current and projected inventory for products and locations in a map view for quick understanding of your inventory health and projected health. Locations appear in clusters, and the total number of locations appear under each cluster. You can zoom in on each cluster to see individual locations. Each icon represents a location type. The colored ring shows the inventory health for each location or cluster for the selected time interval on the scroll bar at the bottom left. Inventory health status depends on the inventory policy, that is, *min\_safety\_stock* and *max\_safety\_stock* in your ingested data.

The ring colors are defined as follows:

### Note

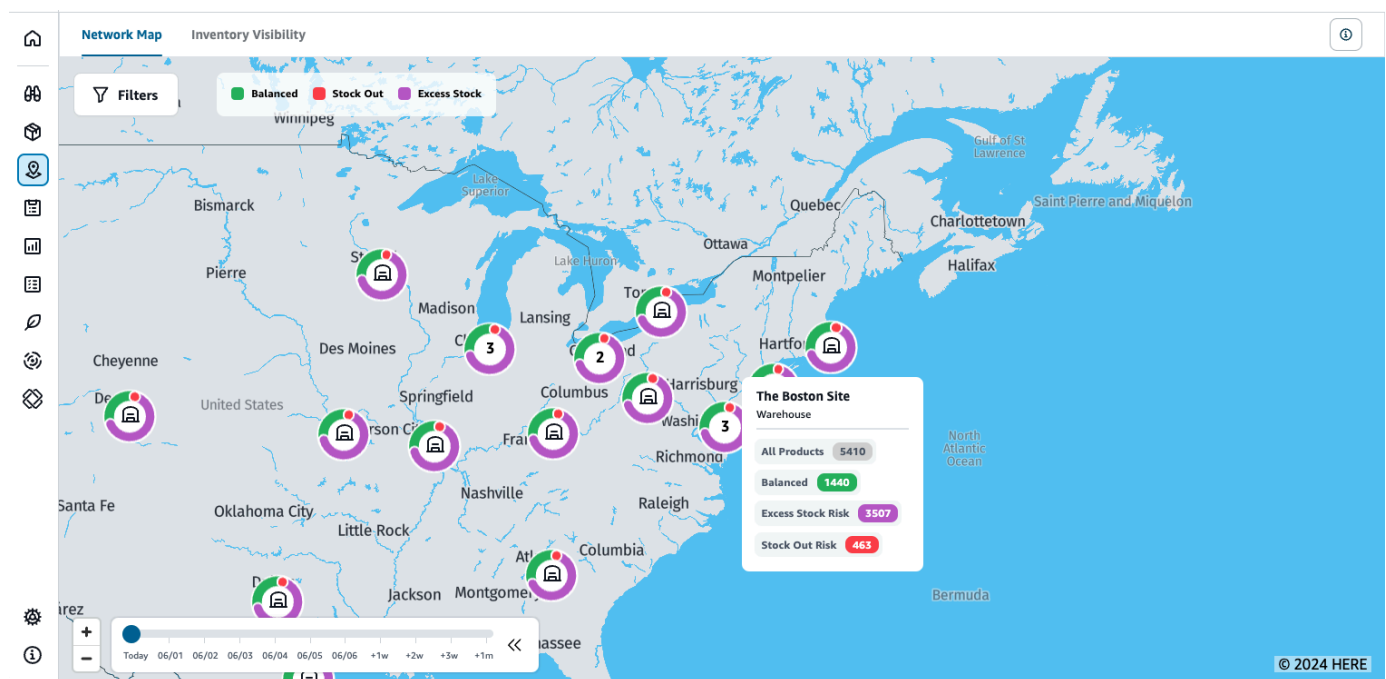
The color code definitions remain the same throughout Insights.

- **Red** – Products in this location are stocked out or are at risk of a stock out for future dates.
- **Green** – Products in this location are well within your safety stock levels.
- **Purple** – Products in this location have excess stock or are at risk of a holding more stock than your safety stock levels for this product and site.

To view the network map, perform the following procedure.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Network Map**.

The **Network Map** page appears.



2. Select a ring and zoom in on a location that you need. You can view the details of the current and projected inventory for one or more particular items.
3. Use the timeslider on the bottom left of the page to view the projected inventory for the current map view. The slider defaults to current date representing current inventory health.
4. Click the **+/-** symbol to zoom in and out of a particular location in the network map.

- Click the **Filter** icon to filter by **Locations** and **Products**. Your permissions determine your level of access.

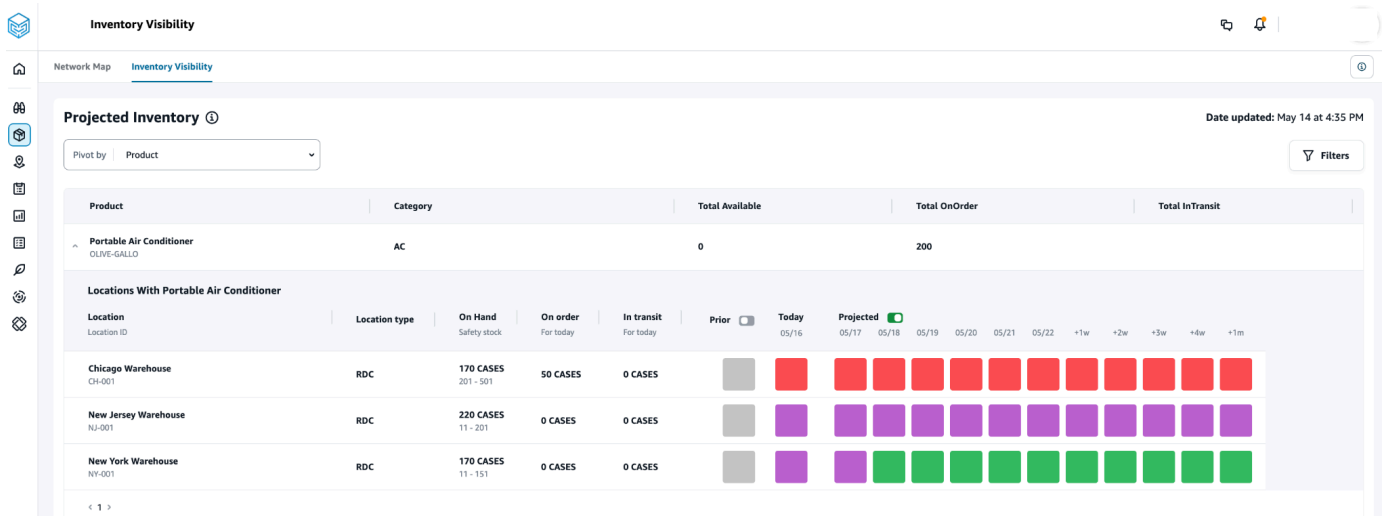
When you click on a cluster of sites, you will see a pop-up on the right side of the page, which displays the current inventory levels, safety stock levels for this product, and projected inventory graph.

## Viewing inventory visibility

You can use inventory visibility to view the inventory projections for all the ingested products and site combinations. You can change the projections view by product or location.

To view the inventory visibility, perform the following procedure.

- In the left navigation pane on the AWS Supply Chain dashboard, choose **Inventory Visibility**.



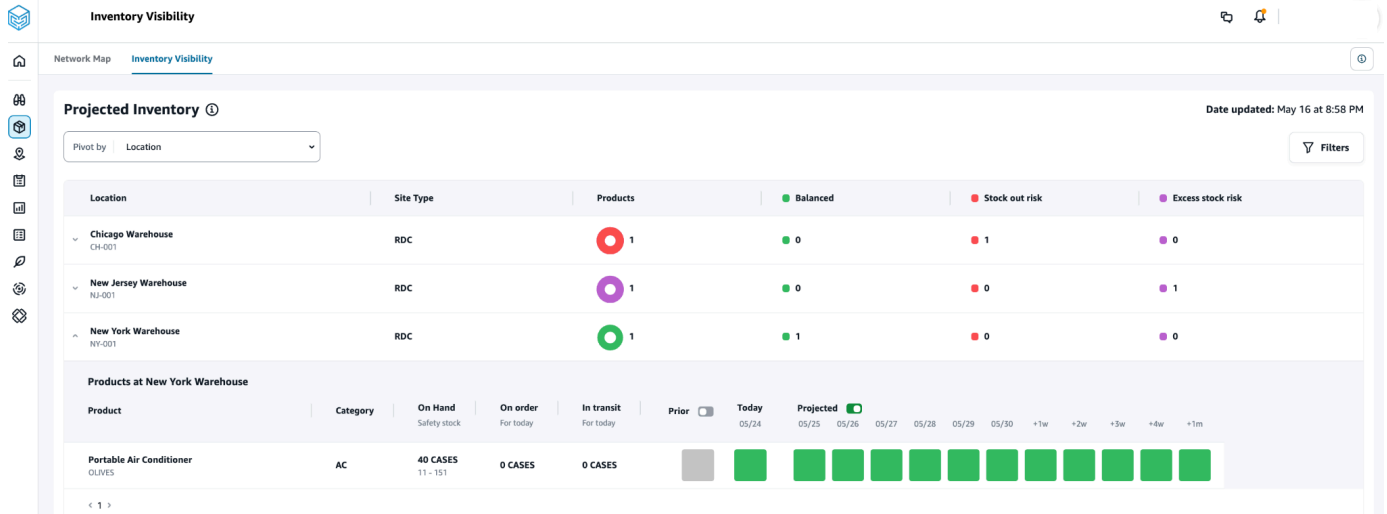
- To know when the inventory visibility page was last updated, see **Date updated** on the top right corner of the page. The page is refreshed when you ingest data into data lake. By default, Insights are generated every 24 hours or when data is ingested into data lake.
- Choose **Filters** to filter inventory projections based on *Products*, *Locations*, or *Inventory Risks*. Under **All Products**, you can select a group of products based on their product hierarchy, that are stored under the *product-hierarchy* data entity upto one level. Under **All Locations**, you can select a group of sites based on their regions, that are stored under the *geography* data entity upto one level.

Under **Inventory Risks - Current Day Locations**, select *Excess*, *Balanced*, or *Stock Out* to view projections with specific inventory risk for the current date.

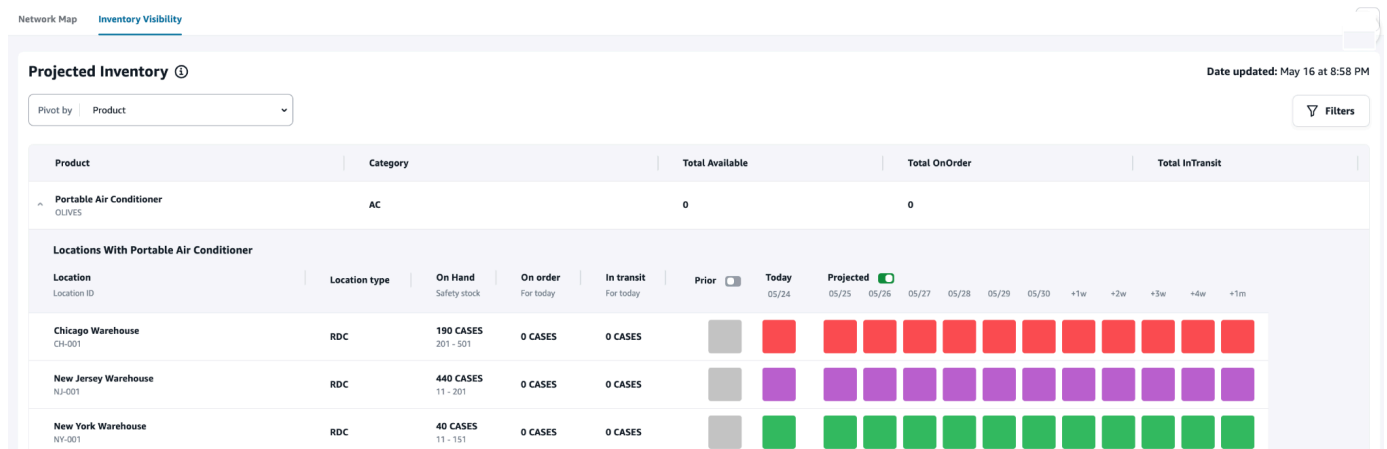


4. Select the **Pivot by** dropdown to filter the inventory by **Location** or **Product**.

**Pivot by Location** – When you pivot by location, the inventory projections are grouped by location. At a high-level, for a given location, you can view the site type (for example, RDC, DC, and so on), number of products at the location, number of products that are balanced (that is, well within their safety stock range), number of products that are stocked out, and the number of products that are excess in stock.

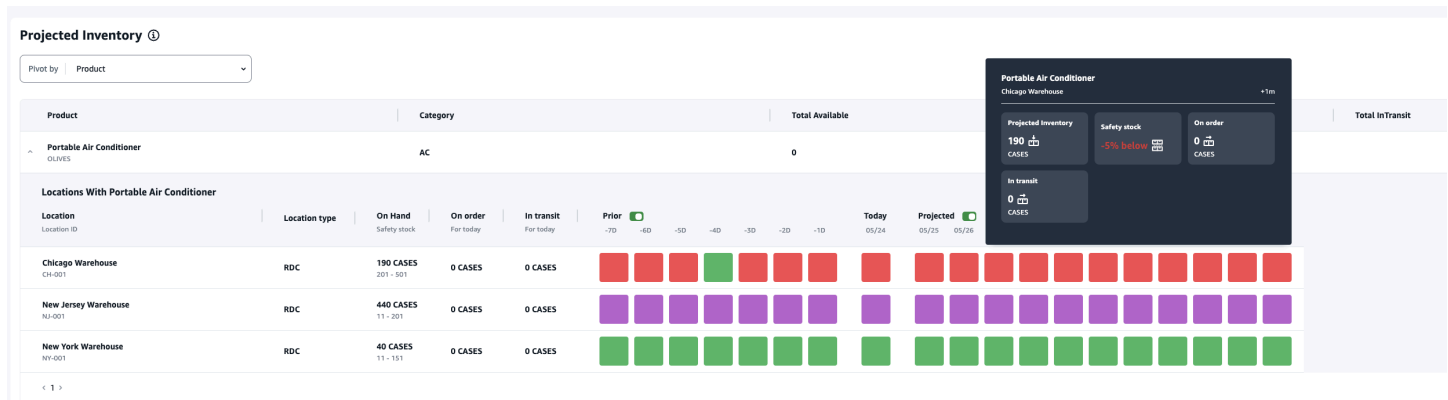


**Pivot by Product** – When you pivot by product, the projections are grouped by product. At a high-level, for a given product, you can view the category (that is, one level up), the total number of available products, the total number of products on order, and the total number of products currently in transit across locations.



## Understanding inventory projections

This section explains how to read the inventory projections.



- **What is On Hand and Safety stock?** – Displays the on-hand inventory value from the latest snapshot for both past dates and current date. This information is extracted from the *inv\_level* data entity. When there are multiple records with different on-hand values for the same snapshot date, Insights will select the latest snapshot record for processing. The safety stock is the range specified in the inventory policy.
- **How is demand calculated?** – Insights gathers data from the forecast, outbound sales orders, and the transfers orders (that is, products moving out of site for a given time frame) to calculate the total demand. When demand is available at a higher granularity, such as, weekly, monthly, and so on, Insights will spread the forecasted value across the given time frame.
- **Prior** – When you slide the **Prior** button, you can view the inventory values for the last seven days, including any day in the past.
- **How is Projected inventory different from On Hand?** – On hand inventory is the current stock in your ERP system and projected inventory is the future inventory level prediction based on factors such as previous day's ending on hand/projected level, inbound supply (inbound order line, inbound shipment, inbound order line schedules), outbound sales (outbound order line, outbound shipment, and the demand forecast. Using projected inventory, you can plan the future inventory required to avoid stockouts or overpricing.
- **How is On Hand different from Projected On Hand?** – Insights calculates projected on hand when there are no records available for the current date using the same logic used to calculate the projected inventory for future dates.
- **How is quantity unit of measure (UOM) calculated and are there any defaults used?** – The unit for inventory quantity measures, such as on hand, on order, in transit, and projected inventory are displayed to distinguish between eaches, pallets, and cases. To prevent UOM mismatches and streamline calculations, Insights defaults to using the product's base UOM specified in the product data entity for conversions. The unit conversions are derived from *product\_uom* and *uom\_conversion*. For more information on the data entities, see [Insights](#).

You can also set the default UOM by adjusting the default configuration. For more information on how to change the default configuration, see [Get support for AWS Supply Chain](#).

- **Are inventory projections and risks generated for products that are not in stock?** – Adjust the inventory policy safety stock range to zero for products that are not in stock. This adjustment will prompt Insights to categorize such product-site combinations as products not in stock. Similarly, you will be alerted to excess stock risks when stock is held at a location. Insights also offers recommendations to move excess stock out and receive stock when there is a stock out.

 **Note**

This feature is only available in US East (N. Virginia).

- **How does Insights handle unallocated demand?** – When *outbound\_shipment* information is unavailable, Insights will allocate demand from *outbound\_order\_line* to either the promised delivery date or the requested delivery date. When *outbound\_shipment* information is available, Insights will distribute the total demand quantity across ship dates. Any unallocated demand in a day and up to six months are carry forwarded. When there is a cancellation, Insights will stop carrying forward the demand.

 **Note**

This feature is only available in US East (N. Virginia).

## Creating insight watchlist

You can create an insight watchlist to track and notify you on supply chain risks and deviations.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Insights**.

The **Insights** page appears.

2. If you are a first-time user, select an insight type to create an insight watchlist. See [Creating an inventory risk watchlist](#) and [Creating a lead time deviation watchlist](#).

To view existing watchlists, see [Viewing inventory insights](#).

# Creating an inventory risk watchlist

You can create an inventory risk insight watchlist to view projected stock out and excess stock risks generated by Insights from the tracking parameters you selected.

The screenshot shows the 'Edit Insight Watchlist' page in the AWS Supply Chain dashboard. The page is titled 'Insights' and contains the following sections:

- Select an insight type:** A dropdown menu with 'Inventory Risk' selected.
- Name the Watchlist:** A text input field containing 'Dummy\_watchlist'.
- Select location(s):** A dropdown menu with 'All Locations' selected.
- Select product(s):** A dropdown menu with 'All Products' selected.
- Tracking parameters:** Three radio buttons: 'Stock Out Risk', 'Excess Stock Risk', and 'Both' (selected).
- Time horizon:** A dropdown menu with 'Day' selected and a text input field with '37'.
- Watchers:** A section for adding team members, with a search bar and a table showing one member: Jane Doe (samikhd-jane@amazon.com, Admin).
- Delete Watchlist:** A red button labeled 'Delete Watchlist'.

A right-hand panel titled 'Dummy\_watchlist' provides a preview of the watchlist configuration, including Site, Region, Product, and Category, along with tracking parameters and a 'Save' button.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Insights**.

The **Insights** page appears.

2. Choose **New Insight Watchlist**.

The **Create an Insight Watchlist** page appears.

3. Under **Select an insight type**, choose **Inventory Risk**.

4. Under **Name the watchlist**, enter a name to track your insight watchlist.

5. Under **Select location(s)**, select the locations from the drop-down that you want to add to your watchlist.

6. Under **Select product(s)**, select the products from the dropdown that you want to add to your watchlist.

7. Under **Tracking Parameters**, choose what you want to track. The options are Stock Out Risk, Excess Stock Risk, or Both.

8. Under **Time Horizon**, enter the time frame to generate inventory risk notifications.

- Under **Watchers**, you can add other users who you think might benefit from this insight. The users within this insight can track and collaborate to resolve risks.

All the settings you chose are displayed on the right.

- Choose **Save** to save and create an inventory risk watchlist.

## Creating a lead time deviation watchlist

You can view and receive notifications for lead time deviations that AWS Supply Chain discovers. You can select any insight, and AWS Supply Chain will recommend how to address it.

### Create an Insight Watchlist

Select an insight type ⓘ

Lead Time Deviation  
Track unit lead times to inform future orders

Name the Watchlist

Test

Select location(s)

All Locations

Select product(s)

All Products

---

### Tracking parameters

Standard Deviation

50%

Historical time period to track miss frequency

5 Years

---

### Watchers

Invite other members to track and collaborate with.

Add team members

Jane Doe

Added team members

User	Email Address	Title
Jane Doe	dsamiksha95@gmail.com	

- In the left navigation pane on the AWS Supply Chain dashboard, choose **Insights**.

The **Insights** page appears.

- Choose **New Insight Watchlist**.

The **Create an Insight Watchlist** page appears.

3. Under **Select an insight type**, choose **Lead Time Deviation**.
4. Under **Name the watchlist**, enter a name to track your insight watchlist.
5. Under **Select location(s)**, select the locations from the drop-down to add to your watchlist.
6. Under **Select product(s)**, select the products from the drop-down to add to your watchlist.
7. Under **Tracking Parameters, Standard deviation**, select the lead time deviation percentage from the drop-down. When the percentage is met, AWS Supply Chain will generate an insight and notify you about the lead time deviation.
8. Under **Tracking Parameters, Historical time period to track miss frequency**, select the historical time period of your ingested data from the drop-down to analyze lead time deviations.
9. Under **Watchers**, you can add other users to collaborate and share the risks and notifications.

All the settings you chose are displayed on the right.

10. Choose **Save** to save and create an inventory risk watchlist.

#### **Note**

AWS Supply Chain only supports 1000 insights per watchlist and 100 watchlists per instance. To increase the limit, contact [AWS Support](#).

## Viewing inventory insights

When you create a watchlist for a specific product, site, risk type, and planning horizon, depending on the notifications settings, you will get notified when Insights detects an inventory risk. You will receive notifications through the web application or email. You can view the inventory risks in *Card* or *Table* view. By using the *Card* view, you can view the risks in a list format separated by when the risks will happen. For example, 0 to 7 days, 7 to 14 days, or 14+ days.

Using the *Table* view, you can view the risks by name of the product, the impacted site name, type of risk, risk in days, the percentage deviation from the relevant threshold, start of the on-hand value, the safety stock values you ingested under the *inv\_policy* data entity for this product/site combination, and the inventory projections.

Choose the *chat* icon to collaborate with your peers on the inventory risk.

You can use the **Search** field to search the inventory insights page by product and site name.

Choose **Edit** on the top-right of the page to edit the inventory insights. For information on how to edit the insight watchlist page, see [Creating insight watchlist](#).

 **Note**

AWS Supply Chain supports rebalance planning horizon for up to six weeks.

- **New Insights** – This section displays all new insights that AWS Supply Chain discovers after you created your Insight Watchlist. AWS Supply Chain scans for Inventory Risk Insights every 6 hours, and Lead Time Insights every 24 hours.
- **In Review** – This section displays all insights that are currently under review.
- **Resolved** – This section displays resolved insights.

## Resolving an inventory risk insight

Insights recommends one or more ways to resolve an inventory risk depending on the distance, time horizon, available transportation modes in the ingested data (transportation\_lane.trans\_mode), shipping costs (transportation\_lane.unit\_costs), and emissions that you've configured under Insights settings. The recommendation might include an inventory transfer from other locations within a certain distance and this would resolve an inventory risk in the location under review.

Under **Settings > Insights, Rebalancing Recommendations Score Weights**, you can adjust the core weight values to determine how ranking is calculated for rebalance recommendations. You can setup the radius surrounding the stocked out site to search for available stock for rebalance. You can set the distance in miles and kilometers. You can configure the rebalance model to optimize inventory levels for both supplying and receiving sites. Insights supports up to a maximum of six weeks beyond the current date, and you can customize the time horizon by factoring your lead times to see the impact of the rebalance before and after transfers.

Inventory risk recommendations are helpful for immediately resolving stockout issues rather than overstocks. You may see rebalancing recommendations linked with overstock or excess stock issues but those will have a stockout risk at the receiving site.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Insights**.

The **Insights** page appears.


2. Under **New Insights**, select an insight to resolve the inventory risk.
3. Choose **View details**.

An overview of the inventory risk with the current and projected inventory, and the rebalance options are displayed.

4. Under the details page, you can view the following:
  - *Identified* – Displays the date on when the inventory risk was identified.
  - *Product* – Displays the product in the inventory that is at risk.
  - *Destination* – Displays the destination where the product should be shipped.
  - *Risk Timeframe* – Displays the upcoming risk in days with the current inventory.
  - *Summary* – Displays the details of the risk in detail.
  - *Current inventory* – Displays the inventory that is currently on hand, the safety stock limit, and the allocated amount of inventory against the current orders.
  - *Projected Inventory* – Displays how your current inventory is projected starting daily to upto six weeks. Choose the **graph** icon to view the inventory in a graph.
5. Under **Rebalance Options**, review the rebalance options and choose **Select** against the rebalance option recommended by Insights.

Once you select the rebalance option, you can view the current and projected inventories before and after the rebalance.

6. On the **Confirm Resolution** page, the rebalance option that you chose is shown under **Resolution Option**.
7. Under **Message the team**, select the **After clicking...** check box to notify the team on the selected rebalance option.
8. Choose **Confirm**.
9. Choose **Send to Amazon S3** to export the resolution recommendation to your Amazon S3 bucket.

 **Note**

Insights only recommends options to rebalance inventory. You must use your own planning system to update the inventory transfers or orders.



- Choose the chat icon to collaborate with other users or add users as watchers to the current insight.

## Lead time insights

AWS Supply Chain provides insights on the lead time deviation for a vendor, product, and destination site level. The vendor lead time deviation insights also includes transportation mode, source locations, and identify lead time deviations at a more granular level. You can incorporate the recommended lead times in your planning cycle for enhanced planning accuracy and to avoid stock out risks.

For example, for supplier S, product P, destination site D, source site S, and transportation mode like Truck, Ship, and so on, the **Miss Frequency** displays the frequency of time the lead time was missed, compared to the planned lead time (that is, contractual lead times) shared in the vendor\_lead\_time entity. Therefore, Insights recommends to update the planned lead time for the same vendor, product, and site to avoid future lead time issues.

Insight Id	Product	Destination	Source ID	Supplier	Transportation Mode	Miss Frequency	Planned Lead Time	Recommended Lead Time	Order Type
CKDYFXO7	Laptop Stand for Desk, Adjustable Laptop Stand for Desk, Laptop Riser for MacBook Pro and Air 13 15 17 inch, Laptop Stands Adjustable, Ergonomic Computer Stand, Notebook Stand Patented SecureStop	The Atlanta Site GA2	vendorSite1	Merchant Accounts Illinois	Truck	100%	4 Days	5 Days	PO
TDEHP00R	Yuarix Solar Powered Dummy Fake Security Camera Bullet CCTV Surveillance with Simulated LED Realistic Red Flashing Light and Security Warning Sticker Decal Indoor Outdoor, 4 Pack	The Phoenix Site AZ5	vendorSite1	Merchant Accounts Illinois	Plane	100%	4 Days	7 Days	PO
97Q1A4UG	P55 Stand and Cooling Station with Dual Controller Charging Station for Playstation 5 Console, P55 Accessories Incl. Controller Charger, Cooling fan, Headset holder, 3 USB Hub, Media Slot, Screw White	The Atlanta Site GA2	vendorSite1	Merchant Accounts Illinois	Plane	100%	4 Days	5 Days	PO
	Godox V1-N Flash for Nikon, 76Ws 2.4G 1/8000 HSS Flash,								

Choose **Export All Recommendations** to export the vendor lead time recommendations for the ingested product, site, or vendor combinations in a .csv file into your Amazon S3 bucket. Once the export is completed, you will receive an email and notification on the AWS Supply Chain web application with a link to the Amazon S3 bucket where the recommendations are exported.

When values for optional columns *source\_site\_id* and *trans\_mode* in the *vendor\_lead\_time* data entity are not available, Insights will use the master records for lead times. However, when transactional data for product, source site, destination site, vendor, and transportation mode is at a more granular level, that is, *inbound\_order\_line* and *inbound\_shipment*, it influences the recommendations and the planned lead time. When there are multiple planned lead time records in the master data file, Insights will use the highest planned lead time for calculation.

## Lead time deviations and recommendations

For every generated lead time insight, you can select a row to view the historical trend on the vendor's performance on delivering products from a given ship location to the destination location.

For all orders that are in progress, you can view the status of the order and anticipate the delivery date. Insights uses a machine learning model trained on historical data spanning 1 to 5 years, a time frame chosen during the watchlist creation process, to provide predicted delivery dates with varying levels of confidence.

The **Historical Orders** graph displays the historical average lead times by month calculated from historical order data based on submitted and delivery dates. The bar graphs represent the current planned lead time value and the recommended lead time for vendors at specific sites for the given products. The actual lead time for future orders will be equal or lower than the recommended lead time 50% of the time.

The **Upcoming Orders** graph displays the future purchase order lead times by day, calculated by viewing the order's submitted date and delivery dates. The bar graphs represent the current planned lead time value and the recommended lead time for vendors at specific sites for the given products. The actual lead time for future orders will be equal or lower than the recommended lead time 50% of the time.

The **Orders in Progress** table displays detailed information of the current or upcoming purchase orders that are at risk based on the model predictions from the historical data for the given vendor, product, and site. The table displays the granular view of all open orders with details such as order quantity, the expected or planned delivery date available from the order line data, and Insights predicted delivery dates with multiple options categorized as *Estimated - Low* and *Estimated - High*. The *deviation* determines the disparity between the estimated high dates and the actual delivery dates available at the order line level.

**Note**

The x-axis in the Historical Orders chart shows months according to the UTC timezone regardless of your location. This means that the beginning of the month coincides with 00h:00m:00s UTC of the first day of the month and the end of the month coincides with 23h:59m:59s UTC of the last day of the month.

# Work Order Insights

You can use Work Order Insights to view work order status, expected time of arrival (ETA) predictions, delivery risk and recommendations for each work order. AWS Supply Chain uses real-time data from your ERP system and provides in-depth visibility into each work order for better planning.

## Topics

- [Configuring Work Order Insights for the first time](#)
- [Work Orders settings](#)
- [Work Orders](#)
- [Procurement](#)
- [Logistics](#)
- [Troubleshooting](#)

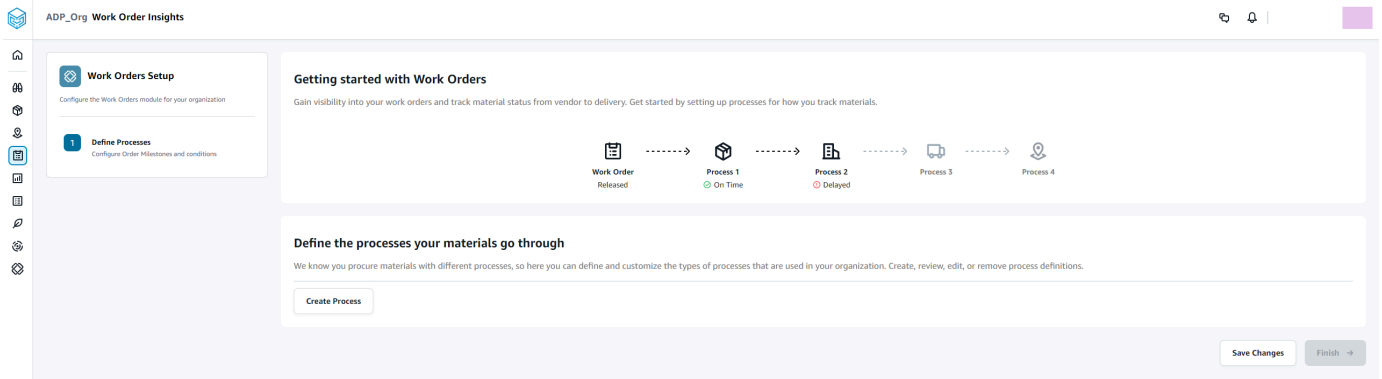
## Configuring Work Order Insights for the first time

As an administrator, you can create multiple processes and milestones to track your work orders.

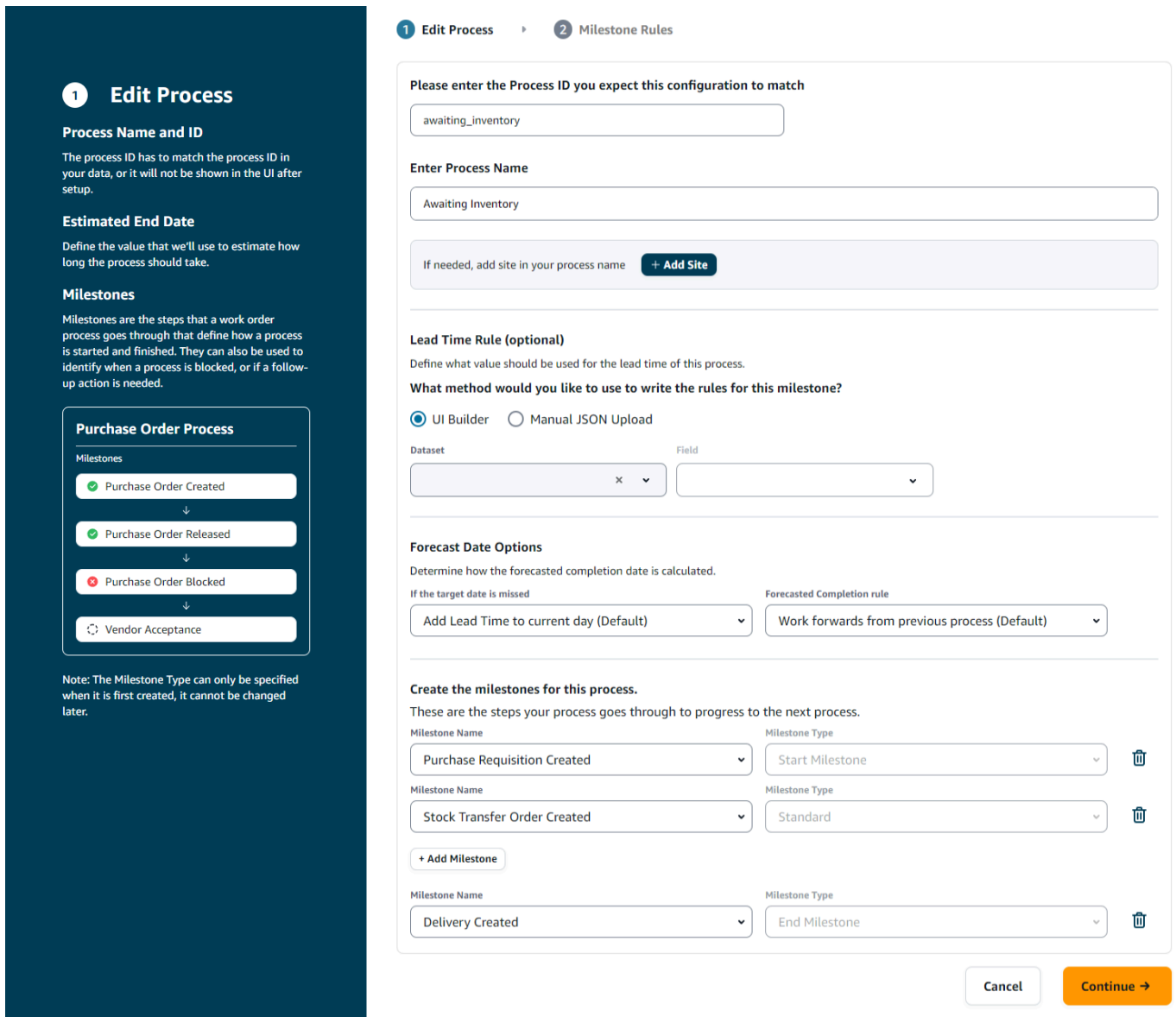
### Note

To generate a work order insight, in addition to configuring the processes and milestones for your work orders, you must ingest the required data entities and columns. For more information on the required data entities, see [Work Order Insights](#).

1. Open the AWS Supply Chain web application.
2. In the left navigation pane on the AWS Supply Chain dashboard, choose **Work Order Insights**. The **Manage your work orders** page appears.
3. Choose **Setup**.
4. On the **Work Orders Setup** page, under **Getting Started with Work Orders**, choose **Create Process**.



The **Edit Process** page appears.



5. Under **Please enter the Process ID you expect this configuration to match** – Enter the Process ID. If the *work\_order\_plan* data entity is uploaded, the *Process ID* is derived from the *work\_order\_plan* data entity or AWS Supply Chain will generate an UUID that you can modify to match the process ID you know will be ingested.
6. Under **Enter Process Name** – Enter a name for the process.

If you have multiple sites that uses the same process name, choose **Add Site** to add a site with your process. The site value can be determined from any of the entities (*process\_header*, *process\_operation*, *process\_product*, *product*, *site*, *vendor\_product*) that have a one-to-one relationship with the work order line (*process\_product*).

7. (Optional) Under **Lead Time Rule > What method would you like to use to write the rules for this milestone?**, choose one of the following:
  - *UI Builder* – Select the dataset and the corresponding columns that should be included in the lead time process. Make sure the dataset you select is ingested into data lake.
  - *Manual JSON Upload* – Paste the process and rule definitions in .json format.
8. Under **Forecast Date Options**, you can specify how you want the forecast completion date to be calculated.
  - *If the target date is missed* – Select *Add Lead Time to current day* if you want the forecast completion date to be the next day. Select *Add 1 day to current day* to add one day to the forecast completion target.
  - *Forecasted completion rule* – Select *Work forward from previous process* if you want the forecast calculation to work forward from the previous process completion date plus the duration of the current process. This means that the process is trying to complete as soon as possible. Select *Work backwards from required on site date* for the forecast calculation to subtract the duration from the process target date. This mean the process is trying to complete by the process target date.
9. **Create the milestones for this process** – Select the milestone name and type from the dropdown.
10. Choose **Add Milestone** to add a new milestone.
11. Choose **Continue**.

The **Milestone Rules** page appears.

Review the milestone rules you created.

12. Choose **Save and Exit**.

## Work Orders settings

You can setup work orders and track the material status from vendor to delivery using the following procedure.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.
2. Under **Organization**, choose **Work Orders** .

The **Work Order** setting page appears.

The screenshot displays the 'ConfigUI Settings' interface. On the left is a navigation sidebar with options like 'Account Profile', 'Notifications', 'Users and Permissions', 'Organization', 'Work Orders', 'Demand Planning', 'Supply Planning', 'Forecast Commits', and 'Purchase Orders'. The main content area is titled 'Process List' and includes tabs for 'Default Work Order Plans (optional)' and 'Procurement and Logistics (optional)'. A sub-section 'Getting started with Work Orders' features a flow diagram: 'Work Order Released' → 'Process 1 On Time' → 'Process 2 Delayed' → 'Process 3' → 'Process 4'. Below this is a section 'Define the processes your materials go through' with a table of process definitions.

Process Name	Status	Action	Configuration	Delete
Awaiting Inventory	No Data Match	Requires Configuration	Configure >	🗑️
Goods Receipting At PDC	No Data Match	Requires Configuration	Configure >	🗑️
Goods Receipting At PDC	No Data Match	Requires Configuration	Configure >	🗑️
In-Transit To Consumption Site	No Data Match	Requires Configuration	Configure >	🗑️
In-Transit To KSF	No Data Match	Requires Configuration	Configure >	🗑️
In-Transit To PDC	No Data Match	Requires Configuration	Configure >	🗑️
In-Transit To PDC	No Data Match	Requires Configuration	Configure >	🗑️
KGP Staging	No Data Match	Requires Configuration	Configure >	🗑️
KSF Staging	No Data Match	Requires Configuration	Configure >	🗑️
Material Consumed At Consumption Site	No Data Match	Requires Configuration	Configure >	🗑️
Purchase Order	No Data Match	Requires Configuration	Configure >	🗑️
Purchase Order	No Data Match	Requires Configuration	Configure >	🗑️

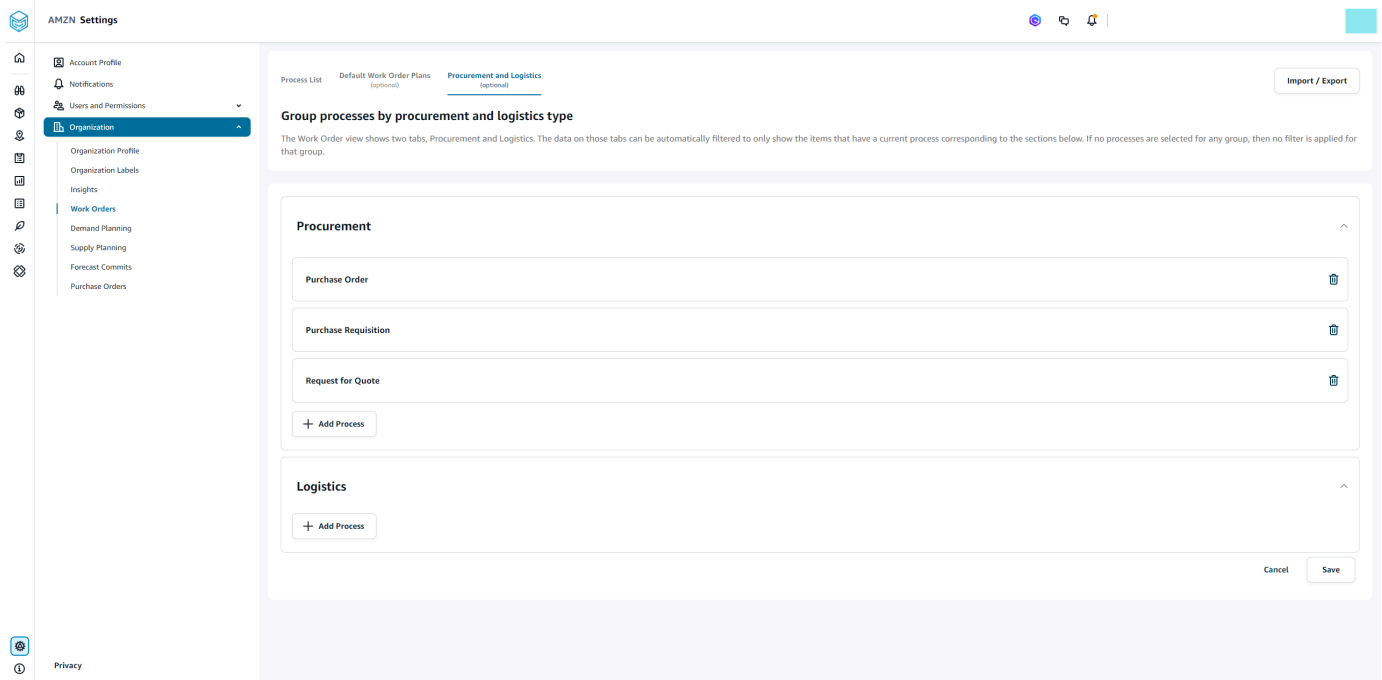
- Under the **Process List** tab, you can view all the configured processes or processes that need to be configured. You can delete or create new processes.
- Choose **Import/Export**.
- Under **Import / Export Work Order Configuration**, choose **Save** to copy the *Milestone Definitions*, *Process Definitions*, and *Default Work Order Plans* in JSON format. You can use this feature to setup the configuration in one instance (for example, pre-production instance) and then copy the same configuration to another instance (for example, production instance).



- (Optional) Under the **Default Work Order Plans** tab, you can setup fallback lead times for processes that don't match the work order plan data.

By default, work order insights uses the lead time information from the *work\_order\_plan* dataset. If work order insights can't find the material to process combination in the *work\_order\_plan* dataset, work order insights will use the default work order plan configuration for matching lead times. Work order plans are segmented by the *reservation\_type* in the *reservation* dataset. To use the default work order configuration, the *reservation* dataset must be ingested. The reservation types are displayed under the work order configuration and you can setup the work order plan for each reservation type by adding processes and defining lead times for each process.

- (Optional) Under the **Procurement and Logistics** tab, expand **Procurement and Logistics**.



- Under **Procurement and Logistics**, choose **Add Process** to add the processes that should be listed on the Procurement and Logistics page.

### Note

When there are no processes added under **Procurement** or **Logistics**, the Procurement and Logistics tab will display the details of all the processes.

- On the **Select an existing process** page, select an existing process from the drop-down.

10. Choose **Add**.
11. Choose **Save**.

## Organization Labels

As an administrator, you can customize the work order labels.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.
2. Under **Organization**, choose **Organization Labels**.

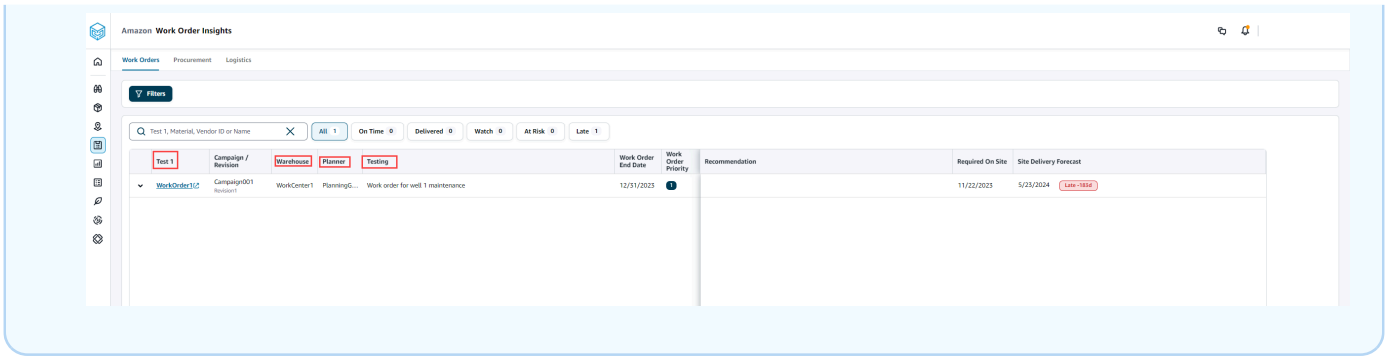
The **Organization Labels** page appears.

The screenshot shows the 'Organization Labels' page in the Amazon Supply Chain settings. The page title is 'Organization Labels' with a subtitle: 'Set your preferred labels in AWS Supply Chain. This will update the labels throughout your entire organization.' There is a search bar for labels and a 'Reset all to Defaults' button. A dropdown menu is set to 'Work Orders'. Below this, there are two columns: 'Default Label' and 'Change to Label'. The 'Default Label' column contains a red box around the text 'Text 1'. The 'Change to Label' column contains a red box around the text 'Testing'. The table lists various labels such as 'Work Order', 'Work Order Description', 'Work Order End Date', 'Work Order Priority', 'Campaign', 'Revision', 'Main Work Center', 'Planner Group', 'Site Delivery Forecast', and 'Recommendation'. Each label has a corresponding input field. At the bottom left, there is a 'Save' button. At the bottom right, there is a pagination indicator '1-20 of 30'.

3. Under **Change to Label**, enter the preferred name for each **Default Label**.

### Note

Changing the default label will update your entire organization with the new label for Work Orders. For example, you will see the **Work Orders** table updated when you update the *Work Order*, *Work Order Description*, *Main Work Center*, and *Planner Group* labels under **Organization Labels** (see screenshot above).

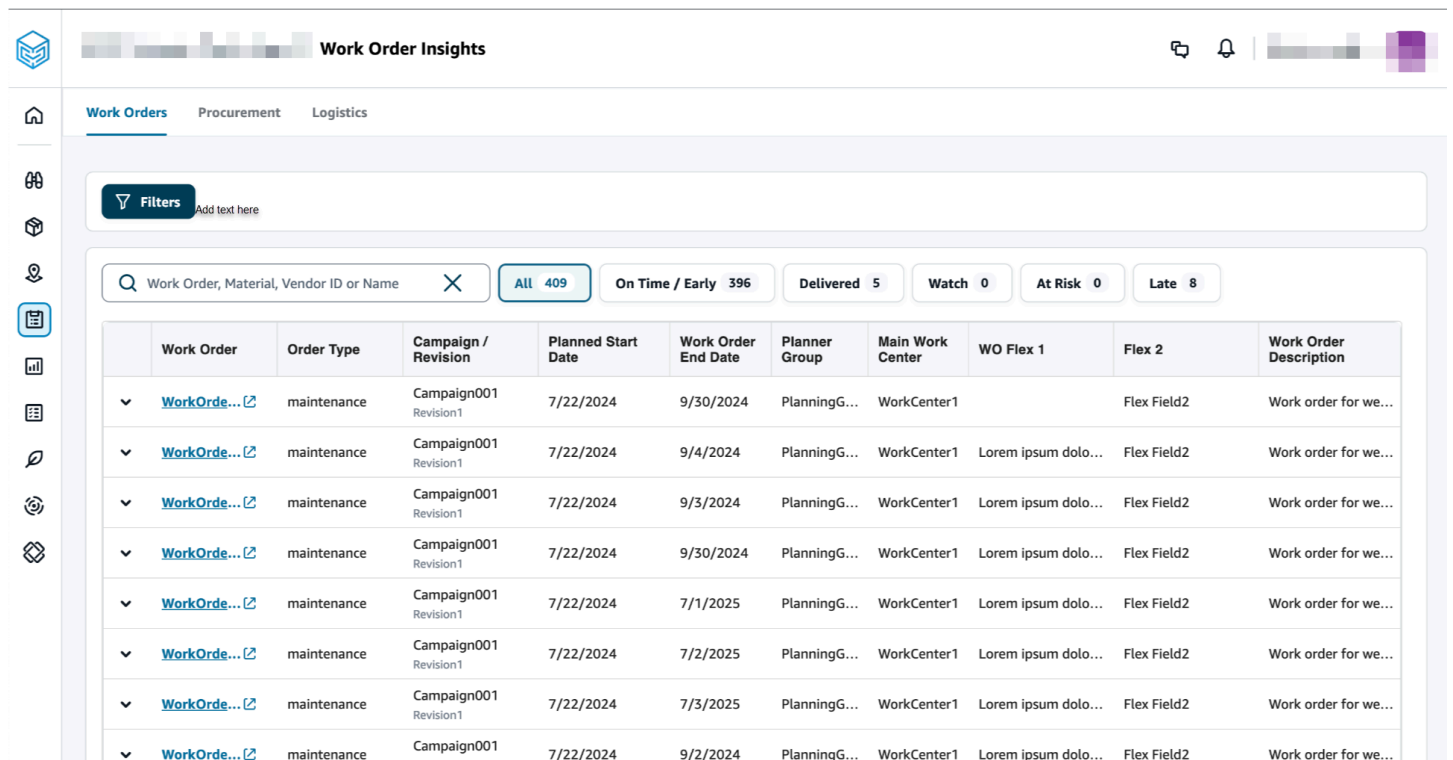


4. Choose **Save**.
5. To change the customized labels to the default labels, choose **Reset all to Defaults**.

## Work Orders

You can view all the work orders that are at-risk, delivered, early, late, on time, or watch. You can expand the work order to view the materials under each work order.

In the left navigation pane on the AWS Supply Chain dashboard, choose **Work Order Insights**. The **Work Order Insights** page appears.



Choose **Filters** to filter the work orders based on **Country/Location, Campaign, Revision , Main Work Center, Process Name, and Planner Group**. Once you set your filters, choose **Apply**. You can also choose **Save filter group** to save your filters.

You can also filter the work orders by **All, On Time/Early, Watch, At Risk, Late, Delivered, and Site Delivery Forecast** status. For example, if you choose **Late**, you will see all the work orders that are currently late or delayed.

You can use the **Search** field to search by work order or material number and use the *Sort* option to sort the work orders. You can sort them by any of the headers but by default, the work orders are sorted first by **Site Delivery Forecast** and second by **Work Order Priority**.

The **Work Orders** page, displays the following from your ERP or source system:

Work Orders column	Description	Data entity	Column
Work Order	Display the work order number. You can select the work order to view your ERP or source system. You can expand each work order to view the materials in the work order.	process_header	process_id
Campaign/Revision	Displays the campaign and/or the revision of the work order.	process_header	program_group
		process_header	revision
Main Work Center	Displays the main work center defined in the source system.	process_header	execution_group
Planner Group	Displays the planning group for each work order.	process_header	planning_group

Work Orders column	Description	Data entity	Column
Work Order Description	Displays a brief reasoning of the work order.	process_header	description
Work Order End Date	Displays the date by which the work order should be completed.	process_header	planned_completion_date
Work Order Priority	Displays the priority of the work order. AWS Supply Chain will only accept a numerical value for this field. For example, 1,2,3, and so on. If your ERP system doesn't contain a numerical value for this field, you will not be able to sort the work order by priority.	process_header	priority
Planned Start Date	The date when all the materials are required on-site before starting the work.	process_header	planned_start_date
Flex 1 to 5	Custom fields that can be renamed and populated with any data.	process_header	flex_1, flex_2, flex_3, flex_4, flex_5

Work Orders column	Description	Data entity	Column
Recommendation	Displays all actionable items and is linked to a milestone . For example, if the work order is blocked with a PO blocked milestone, the recommendation text will display to look for alternate products.	Calculated by Work Order Insights	Calculated by Work Order Insights

Work Orders column	Description	Data entity	Column
Site Delivery Forecast	<p>Displays one of the following:</p> <ul style="list-style-type: none"> <li>• <b>At risk</b> – Displayed when the material with the latest arrival date has a process that is either delayed or is in a blocked milestone. This item can still make the required date and is displayed in Yellow.</li> <li>• <b>Delivered</b> – Displayed after the last milestone of the last process is initiated indicating the completion of the process.</li> <li>• <b>Early</b> – Displayed in green when all the work order lines are early and includes the count of days of the earliest line.</li> <li>• <b>Late</b> – Displayed when the work order is running late due to the underlying work</li> </ul>		

Work Orders column	Description	Data entity	Column
	<p>order material with the latest delivery date estimated to arrive late. This item is displayed in Red.</p> <ul style="list-style-type: none"> <li>• <b>On-time</b> – Displayed when the materials under the work order is reaching the site within the required on-site date. This item is displayed in Green.</li> <li>• <b>Watch</b> – Displayed when the material with the latest date is either blocked or late in a current supply chain process.</li> </ul>		

## Viewing work order materials

You can view all the materials related to a work order.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Work Order Insights**.

The **Work Order Insights** page appears.

2. Expand the work order you would like to view.

The **Materials in Work Order** page appears.



Work Order Lines	Description	Data entity	Column
Material	Displays the material number.	process_product	product_id
Material Description	Provides a description of the material.	product	description
Quantity/UoM	Lists the quantity of the material. If UoM is available, UoM value is displayed . For example, 2 eaches.	reservation	quantity
			quantity_uom
Material Source	Displays if the material is in inventory or direct purchase.	site	description
		inbound_order	tpartner_id
		trading_partner	description
Required on Site	Displays the date on which the material is required on-site.	process_header	planned_start_date
		process_product	requested_availability_date
Brand name	Provides a name of the brand.	product	brand_name
Product status	Provides the status of the product.	process_product	status
Product type	Provides the type of the product.	process_product	type
Reservation type	Provides the type of the reservation.	reservation	reservation_type

Work Order Lines	Description	Data entity	Column
Process product allocation type	Displays the allocation type for the product. .	process_product	overallocation
Process product allocation status	Displays the allocation status for the product. .	process_product	allocation_status
Product flexible field 1 to 5	Custom fields that can be renamed and populated with any data.	process_product	flex_1, flex_2, flex_3, flex_4, flex_5
Reservation flexible field 1 to 5	Displays the reservation type of the product.	reservation	flex_1, flex_2, flex_3, flex_4, flex_5
Revision	Displays the material revision.	process_header	revision
Work order type	Displays the work order type.	process_header	type
Current Process	Displays the current supply chain process for the work order material.	Calculated by work order insights.	Calculated by work order insights.
Recommendation	Displays all actionable items and is linked to a milestone.		
Site Delivery Forecast	Displays the site delivery forecast and status.		

- Choose the **Material** you would like to view in-detail. The **Material Summary** page appears and displays the summary of the material.

↶

## Hammer

Late 51 day(s)

Show Completed Processes

Material: OLIVE-BL
Quantity/UoM: 50 eaches
Required On Site: 7/29/2024
Site Delivery Forecast: 9/18/2024

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📅

### Work Order Release

WO-WO-06

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	Target End	Forecasted Completion	
<div style="display: flex; align-items: center;"> <span style="font-size: 24px; margin-right: 5px;">📅</span> <h3 style="margin: 0;">Date Test</h3> </div> <p style="margin: 0;">Planned: 8 day(s)</p>	7/29/2024	9/18/2024	Late 51 day(s)

---

**Working Forwards Process**

**Inbound process:** Forecasts completion by working forwards from the previous process as materials enter the organization.

**Recommendation:**

**Notes:**

**Working Forwards Process**

**Inbound process:** Forecasts completion by working forwards from the previous process as materials enter the organization.

**Updated by Override Rule**

This date has been adjusted to match the most recent date on record, and no longer reflects the planned duration.

↶

## Wrench

Late 769 day(s)

Show Completed Processes

Material: OLIVE-RD
Quantity/UoM: 50 eaches
Required On Site: 6/15/2024
Site Delivery Forecast: 7/24/2026

---

📅

### Purchase Order - VF

Target End  
6/12/2024
 Forecasted Completion  
7/21/2026

Late 769 day(s)

---

**Milestones:**

- ✔ PO Created
- Vendor Accept

**Recommendation:**

---

<div style="display: flex; align-items: center;"> <span style="font-size: 24px; margin-right: 5px;">📅</span> <h3 style="margin: 0;">Delivery to NJ-001</h3> </div> <p style="margin: 0;">Planned: 3 day(s)</p>	<b>Target End</b> 6/15/2024	<b>Forecasted Completion</b> 7/24/2026	
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**Screwdriver** ⚠️ Late 120 day(s) Show Completed Processes

Material: OLIVE-GR    Quantity/UoM: 50 eaches    Required On Site: 6/16/2024    Site Delivery Forecast: 10/14/2024

---

**Request for Quote** ⚠️ Late 120 day(s)

Planned: 5 day(s)    Target End: 5/18/2024    Forecasted Completion: 9/15/2024

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**Purchase Order - VF**

Planned: 3 day(s)    Target End: 5/21/2024    Forecasted Completion: 9/18/2024

---

**In-Transit to PDC**

Target End: 5/27/2024    Forecasted Completion: 9/24/2024

**Working Backwards Process**

Outbound process: Forecasts completion by working backwards from the requirement date, tracking goods movements to the end-customer.

You can view the current milestone for the material and the recommendation AWS Supply Chain provides for each milestone.

Material	Description	Data entity	Column
Material name	Displays the name of the material.	product	description
Material	Provides a description of the material.	process_product	product_id
Quantity/UoM	Lists the quantity of the material. If UoM is available, UoM value is displayed. For example, 2 eaches.	reservation	quantity
		reservation	quantity_uom
Required on Site	Displays the date on which the material is required on-site.	process_header	planned_start_date
		process_product	requested_availability_date

Material	Description	Data entity	Column
Vendor	Display the vendor from which the material is being procured.	inbound_order	tpartner_id
		trading_partner	description
PO Delivery Date	Displays the purchase order delivery date.	inbound_order_line	expected_delivery_date
Site Delivery Forecast	Displays the site delivery forecast and status.	Calculated by work order insights.	
Updated PO Delivery Date	Displays the updated PO delivery date.		
Update Quantity	Displays the updated product quantity.		
Supplier Delivery Date Confirmation	Displays the delivery date confirmation from the supplier.		
Process product allocation type	Displays the allocation type for the product. .	process_product	allocation_type
Process product allocation status	Displays the allocation status for the product. .	process_product	allocation_status
Inventory Location	Displays the inventory location.	site	description

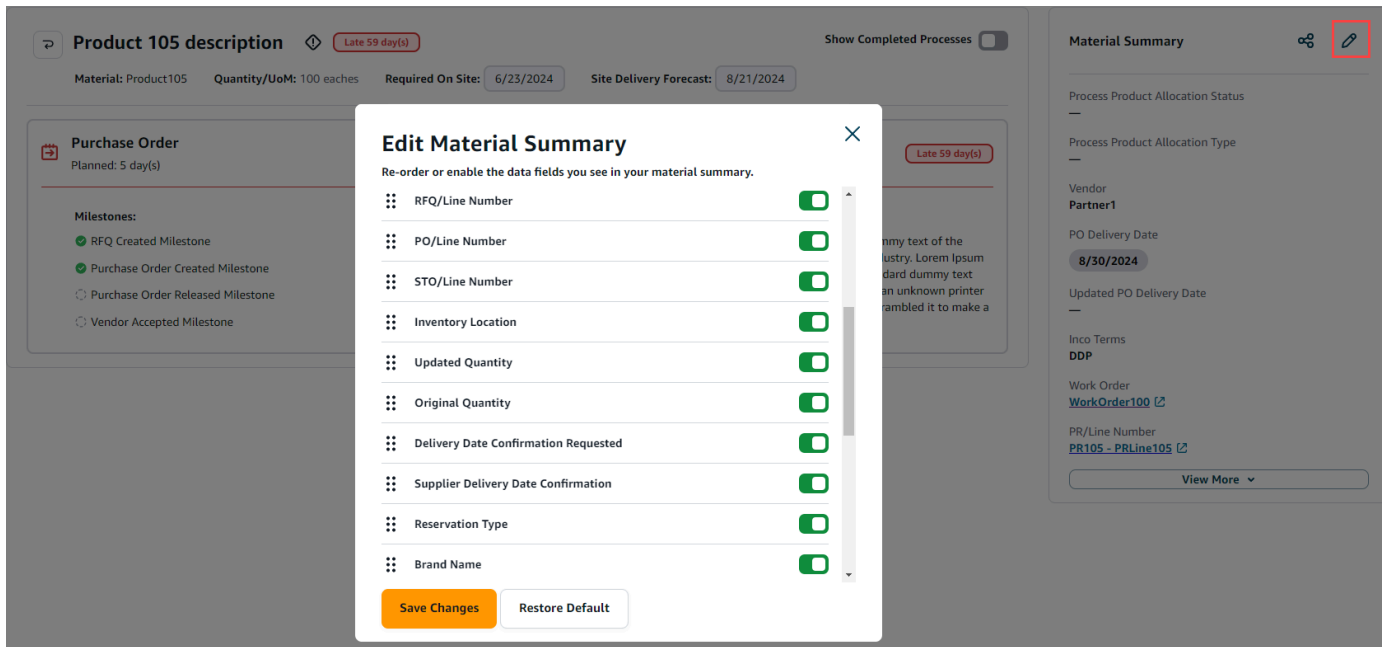
Material	Description	Data entity	Column
Inco Terms	Displays the incoterm code.	inbound_order_line	incoterm
Reservation Type	Displays the type of reservation.	reservation	reservation_type
Brand Name	Displays the brand name of the product.	product	brand_name
Product Status	Displays the product status.	process_product	status
Product Type	Displays the product type.	process_product	type
Campaign	Displays the campaign of the work order.	process_header	program_group
Work Order	Display the work order number. You can select the work order to view your ERP or source system.	process_product	process_id
		process_header	process_url
PR/Line Number	You can select the procurement or line number to view in your ERP or source system.	reservation	requisition_id
		reservation	requisition_line_id
		inbound_order_line	inbound_order_line_url

Material	Description	Data entity	Column
PO/Line Number	You can select the purchase order (PO) or line number to view in your ERP or source system.	reservation	order_id
		reservation	order_line_id
		inbound_order_line	inbound_order_line_url
STO/Line Number	You can select the STO or line number to view in your ERP or source system.	reservation	stock_transfer_1_order_id
		reservation	stock_transfer_1_order_line_id
		reservation	stock_transfer_2_order_id
		reservation	stock_transfer_2_order_line_id
		inbound_order_line	inbound_order_line_url
RFQ/Line Number	You can select the RFQ or line number to view in your ERP or source system.	reservation	rfq_id
		reservation	rfq_line_id
		inbound_order_line	inbound_order_line_url
Product Type	Displays the type of the product.	product	product_type
Currency UOM	Displays the currency unit of measure for the price and other economic variables of this product. .	process_product	currency_uom

Material	Description	Data entity	Column
Danger	Displays the products that are hazardous.	product	un_id
Hazmat Class	Displays the products that contain hazardous materials.	un_details	un_class
UN Class	Displays the products that are under the hazardous category.	un_details	hazmat_class
UN Description	Displays the description of the products that are under the hazardous category.	un_details	un_description
Image	Displays an image of the products that are under the hazardous category.	un_details	image_url

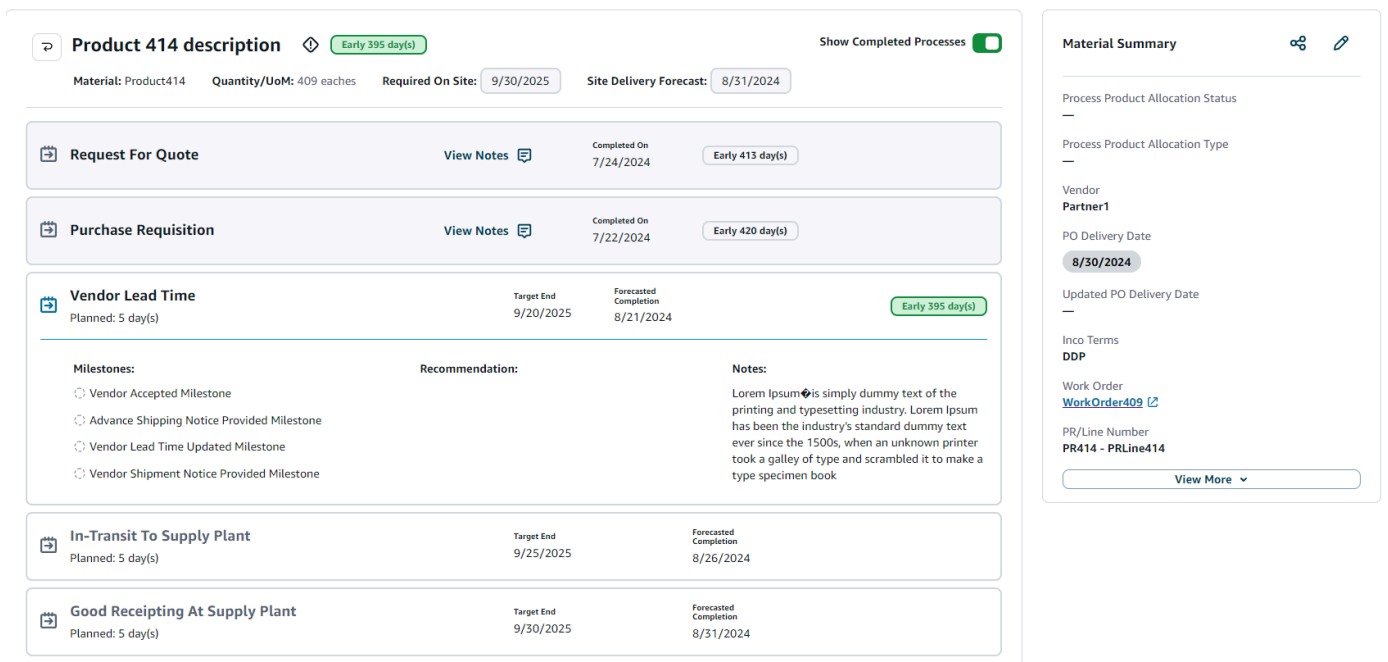
4. Choose **Copy shareable link to clipboard** to share the material summary dashboard.
5. Choose the **Edit** icon to edit the material summary view. Slide the data entity button to view the data field on the material summary page.





You can drag and drop the data entities to rearrange the date entity view on the material summary page.

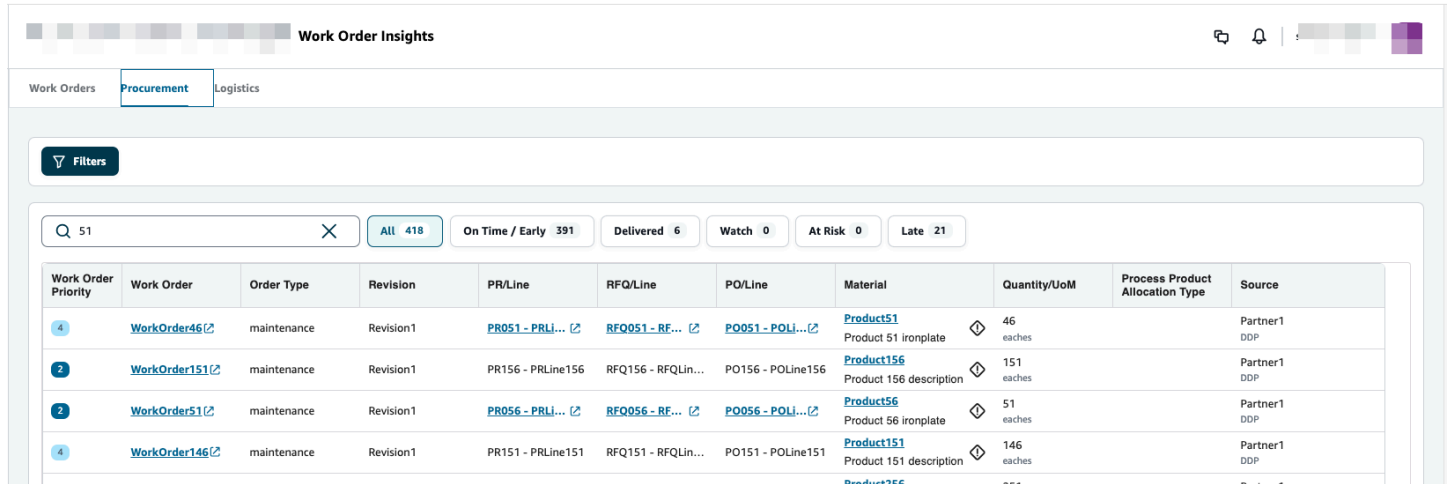
6. Choose **Save Changes**.
7. Slide the **Show Completed Milestones** button to view all the completed milestones for a material.



# Procurement

You can view the procurement details for all the items ordered as part of a work order. By default, you can view the supply chain processes for procurement and you can use the filters to view a subset of procurement processes. You can select the **Material Name** to view the corresponding procurement summary.

In the left navigation pane on the AWS Supply Chain dashboard, choose **Work Order Insights**. The **Work Order Insights** page appears. Choose the **Procurement** tab.



You can choose **Filters** to filter the work orders based on **Country/Location, Campaign, Revision, Main Work Center, Process Name, and Planner Group**. Once you set your filters, choose **Apply**. You can also choose **Save filter group** to save your filters.

You can also filter the work orders by **All, On Time, Delivered, Watch, At Risk, and Late** status. For example, if you choose **Late**, you will see all the work orders that are currently late or delayed.

You can use the **Search** field to search for the required work orders. You can sort them by any of the headers but by default, the work orders are sorted first by **Site Delivery Forecast** and second by **Work Priority**.

The **Procurement** page, displays the following from your ERP or source system:

Procurement column	Description	Data entity	Column
Work Order	Display the work order number. You can select the work	process_product	process_id
		process_header	process_url

Procurement column	Description	Data entity	Column
	order to view your ERP or source system.		
Revision	Displays the material revision.	process_header	revision
Order type	Displays the order type.	process_header	type
PR/Line	You can select the procurement or line number to view in your ERP or source system.	reservation	requisition_id
		reservation	requisition_line_id
		inbound_order_line	inbound_order_line_url
RFQ/Line	You can select the RFQ or line number to view in your ERP or source system.	reservation	rfq_id
		reservation	rfq_line_id
		inbound_order_line	inbound_order_line_url
PO/Line	You can select the purchase order (PO) or line number to view in your ERP or source system.	reservation	order_id
		reservation	order_line_id
		inbound_order_line	inbound_order_line_url

Procurement column	Description	Data entity	Column
Work Order Priority	<p>Displays the priority of the work order. AWS Supply Chain will only accept a numerical value for this field. For example, 1,2,3, and so on. If your ERP system doesn't contain a numerical value for this field, you will not be able to sort the work order by priority.</p>	process_header	priority
Material Name	<p>Displays the name of material that is being procured. If a material is marked Hazmat in your ERP system, AWS Supply Chain will display the Hazmat sign next to the material.</p> <p>You can select the material name to view the current work order milestone . Slide the Show Completed Milestones button to view all the completed milestones for a material.</p>	process_product	product_id

Procurement column	Description	Data entity	Column
Process product allocation type	Displays the allocation type for the product. .	process_product	allocation_type
QTY/UoM	Displays the quantity of the material that is being procured.	reservation	quantity
		reservation	quantity_uom
Source	Display the source from which the material is being procured.	trading_partner	description
		inbound_order	tpartner_id
Required on Site	Displays the date the product is required at the work order site.	process_header	planned_start_date
		process_product	request_availability_date
Current Process	Displays the current process of the work order.	Calculated by work order insights.	Calculated by work order insights.

Procurement column	Description	Data entity	Column
Site Delivery Forecast	<p>Displays the current process of the work order.</p> <ul style="list-style-type: none"> <li>• <b>Late</b> – Displayed when the work order is running late due to the underlying work order material with the latest delivery date estimated to arrive late. This item is displayed in Red.</li> <li>• <b>On-time</b> – Displayed when the materials under the work order is reaching the site within the required on-site date. This item is displayed in Green.</li> <li>• <b>At risk</b> – Displayed when the material with the latest arrival date has a process that is either delayed or is in a blocked milestone. This item can still make the required date</li> </ul>		

Procurement column	Description	Data entity	Column
	<p>and is displayed in Yellow.</p> <ul style="list-style-type: none"> <li>• <b>Watch</b> – Displayed when the material with the latest date is either blocked or late in a current supply chain process.</li> <li>• <b>Delivered</b> – Displayed after the last milestone of the last process is initiated indicating the completion of the process.</li> </ul>		
Recommended Action Due Date	Displays the current process of the work order.		
Recommendation	Displays all actionable items and is linked to a milestone.		

## Logistics

You can view the logistics details for all the items ordered as part of a work order. You can select the **Material Name** to view the corresponding material summary for any supply chain process.

In the left navigation pane on the AWS Supply Chain dashboard, choose **Work Order Insights**.

The **Work Order Insights** page appears. Choose the **Logistics** tab.

The screenshot displays the 'Logistics' tab in the 'AMZN Work Order Insights' application. At the top, there are navigation tabs for 'Work Orders', 'Procurement', and 'Logistics'. A 'Data last updated: 09/10/2024, 11:49 AM EDT' indicator is present. Below the navigation, there is a search bar and a 'Filters' button. A status filter bar shows counts for 'All 12', 'On Time / Early 0', 'Delivered 0', 'Watch 0', 'At Risk 0', and 'Late 12'. The main table lists work orders with columns: Work Order Priority, Work Order, PR/Line, PO/Line, STO/Line, Revision, Order Type, Material, and Quantity/UoM. The table contains 8 rows of data, each representing a different work order with its associated materials and quantities.

You can choose **Filters** to filter the work orders based on **Country/Location, Campaign, Revision, Main Work Center, Process Name, and Planner Group**. Once you set your filters, choose **Apply**. You can also choose **Save filter group** to save your filters.

You can also filter the work orders by **All, On Time, Delivered, Watch, At Risk, and Late** status. For example, if you choose **Late**, you will see all the work orders that are currently late or delayed.

You can use the **Search** field to search for the required work orders. You can sort them by any of the headers but by default, the work orders are sorted first by **Site Delivery Forecast** and second by **Work Priority**.

The **Logistics** page, displays the following from your ERP or source system:

Logistics column	Description	Data entity	Column
Work Order	Display the work order number. You can select the work order to view your ERP or source system.	process_product	process_id
		process_header	process_url



Logistics column	Description	Data entity	Column
Revision	Displays the material revision.	process_header	revision
Order type	Displays the order type.	process_header	type
PR/Line	You can select the procurement or line number to view in your ERP or source system.	reservation	requisition_id
		reservation	requisition_line_id
		inbound_order_line	inbound_order_line_url
PO/Line	You can select the purchase order (PO) or line number to view in your ERP or source system.	reservation	order_id
		reservation	order_line_id
		inbound_order_line	inbound_order_line_url
STO/Line	You can select the standard transfer order (STO) or line number to view in your ERP or source system.	reservation	stock_transfer_1_order_id
		reservation	stock_transfer_1_order_line_id
		reservation	stock_transfer_2_order_id
		reservation	stock_transfer_2_order_line_id

Logistics column	Description	Data entity	Column
Work Order Priority	<p>Displays the priority of the work order. AWS Supply Chain will only accept a numerical value for this field. For example, 1,2,3, and so on. If your ERP system doesn't contain a numerical value for this field, you will not be able to sort the work order by priority.</p>	process_header	priority
Material Name	<p>Displays the name of material that is being procured. If a material is marked Hazmat in your ERP system, AWS Supply Chain will display the Hazmat sign next to the material.</p> <p>You can select the material name to view the current work order milestone . Slide the Show Completed Milestones button to view all the completed milestones for a material.</p>	process_product	product_id

Logistics column	Description	Data entity	Column
QTY/UoM	Displays the quantity of the material that is being procured.	reservation	quantity
		reservation	quantity_uom
Source	Display the source from which the material is being procured.	trading_partner	description
		inbound_order	tpartner_id
Required on Site	Displays the date on which the material is required on-site.	process_header	planned_start_date
		process_product	request_availability_date

Logistics column	Description	Data entity	Column
Site Delivery Forecast	<p>Displays the current process of the work order.</p> <ul style="list-style-type: none"> <li>• <b>Late</b> – Displayed when the work order is running late due to the underlying work order material with the latest delivery date estimated to arrive late. This item is displayed in Red.</li> <li>• <b>On-time</b> – Displayed when the materials under the work order is reaching the site within the required on-site date. This item is displayed in Green.</li> <li>• <b>At risk</b> – Displayed when the material with the latest arrival date has a process that is either delayed or is in a blocked milestone. This item can still make the required date</li> </ul>	Calculated by work order insights.	Calculated by work order insights.

Logistics column	Description	Data entity	Column
	<p>and is displayed in Yellow.</p> <ul style="list-style-type: none"> <li>• <b>Watch</b> – Displayed when the material with the latest date is either blocked or late in a current supply chain process.</li> <li>• <b>Delivered</b> – Displayed after the last milestone of the last process is initiated indicating the completion of the process.</li> </ul>		
Current Process	Displays the current milestone.		
Recommended Action Due Date	Displays the current process of the work order.		
Recommendation	Displays all actionable items and is linked to a milestone.		

## Troubleshooting

This section contains information about how to troubleshoot work order insights issues that may occur.

Issue	Resolution
Work order insights page is blank	<ul style="list-style-type: none"><li>• Make sure data ingestion is complete.</li><li>• Check the data quality tab under <i>Data Lake</i> for missing required entities or any specific errors. For information on required entities for work order insights, see <a href="#">Work Order Insights</a>.</li><li>• Make sure the work order insights configuration is complete. For more information, see <a href="#">Work Orders settings</a>.</li></ul>
A specific column is not displayed under work orders or work order lines	<p>Hover over on any column name and select the three vertical dots. Choose <i>Manage columns</i> and make sure the required column is selected.</p>
Column or field values are not displayed under work orders or work orders insights	<ul style="list-style-type: none"><li>• Make sure the column name has a value in the dataset.</li><li>• Check the data mapping between the source and destination fields in the data lake page. For more information, see <a href="#">Uploading files for the first time</a>.</li></ul>
A column or field is not displayed under Material Summary	<ul style="list-style-type: none"><li>• Make sure the column name has a value in the dataset.</li><li>• Check the data mapping between the source and destination fields in the data lake page. For more information, see <a href="#">Uploading files for the first time</a>.</li><li>• Choose <b>Edit</b> on the material summary page to see if the data entity is enabled to view on the material summary page.</li></ul>

# Demand Planning

Demand Planning is a web-based application that allows business users to create, collaborate, and publish demand plans. Demand Planning generates forecasts using proprietary machine learning algorithms based on historical forecasting experience.

## Topics


- [Terminology used in Demand Planning](#)
- [First time configuration of Demand Plan](#)
- [Forecast Algorithms](#)
- [Forecast based on demand drivers](#)
- [Product lineage](#)
- [Product lifecycle](#)
- [Manage demand plans](#)
- [Forecast model analyzer](#)
- [Manage Demand Plan settings](#)
- [Role based access control](#)

## Terminology used in Demand Planning

The following is the common terminology that you may frequently use in Demand Planning.

- **Enterprise demand plan** – A single planning workbook that consolidates forecast input from multiple stakeholders to create a unified forecast. It can consist of multiple planning cycles, enabling iterative refinement of forecast based on evolving forecast input dataset. The enterprise demand plan displays two status points:
  - **Active** – The planning cycle is open and you can edit your forecast.
  - **Published** – The planning cycle is closed, and you cannot edit your forecast. However, you can view the demand plan.
- **Demand planning cycle** – The time taken to create and finalize demand plans, which include forecast generation, and collaborating with stakeholders to adjust and publish demand plans.
- **Dataset** – A collection of data used for generating forecasts, such as historical sales orders or product information.

- **Forecast granularity** – Defines how you want to create and manage the forecast. You can use a combination of product, location, customer, and channel dimensions. You can also choose the time interval for the forecast data to be aggregated by day, week, month, or year for each product in the dataset. For example, if your forecast granularity is set as Daily, you will see the forecast daily for each product in the dataset.

 **Note**

Demand Planning uses the Gregorian calendar for planning. The default start day of the week is Monday.

- **Forecast configuration** – The set of configurations for forecast generation. This includes the planning cycle configuration, time horizon granularity, and that hierarchy configuration that influences how Demand Planning will generate the forecast.
- **System generated forecast** – This is also known as the baseline forecast. It refers to the use of the historical data by the system to generate a forecast. It provides initial demand prediction before you apply any overrides.
- **Override** – A modification that you make to the system generated forecast.
- **Published demand plan** – The final output of the planning workbook. You can choose to publish the finalized demand plan to downstream inventory and supply planning systems for implementation.
- **Product lineage** – You can establish links between products and their previous versions or alternate products and set rules for the amount of historical data to be used in forecasting. For more information, see [Product lineage](#).
- **Product lifecycle** – The product lifecycle refers to the various stages of a product from introduction to End of Life (EoL). For more information on product lifecycle, see [Product lifecycle](#).
- **Demand driver** – Factors that directly influence the level of demand for a particular product. For example, advertising and marketing efforts, pricing strategies, and so on. For more information on demand drivers, see [Forecast based on demand drivers](#).
- **Forecast lag** – The time between when the forecast was created and the actual demand. For example, forecast from January considered for February is considered a one month lag. Similarly, forecast from January that is considered for March is considered a two month lag.
- **Forecast Model Analyzer** – You can use this tool to execute trial or experimental forecast by varying test conditions and reviewing the results of the different forecast methods. You can use



the results to compare and evaluate model performance, ensuring the best selection based on business priorities.

- **Forecast Lock** – You can use the forecast lock feature to lock specific periods in your forecast to prevent any further edits or adjustments.
- **Intra-cycle Forecast Refresh** – You can refresh the forecast mid-cycle and incorporate the latest forecast input data without finalizing the demand plan.

## First time configuration of Demand Plan

You can create demand plans to forecast your inventory demand accurately across your organization.

### Note

When you log into Demand Planning for the first time, you'll be able to view the onboarding pages that highlight the key features. This helps you to get familiar with the Demand Planning capabilities. Once Demand Planning is configured, you can view or modify the demand plan configuration settings under *Settings > Organization > Demand Planning*.

### Note

Overrides are not allowed on the locked forecast periods. For more information, see [Forecast lock](#).

The Enterprise Demand Plan is derived from single forecast configuration settings. Make sure that someone in your organization has used the following steps to complete the forecast configuration settings. If they have already been set up by someone else in your organization, then you won't need to complete these steps. Instead, you will be directed to the **Demand Planning** page where you can start reviewing the forecast.

1. Open the AWS Supply Chain web application.
2. In the left navigation pane on the AWS Supply Chain dashboard, choose **Demand Planning**.
3. On the **Demand Planning** page, choose **Next**.

You can read through to understand what Demand Planning offers, or choose **Next** until you get to the **Configure Demand Planning** page.

4. On the **Configure Demand Planning** page, there are five steps to configure Demand Planning.
  - **Scope** – Defines the dimensions and the time frame for Demand Planning to generate forecasts.
  - **Configure your dataset** – Defines the `outbound_order_line` dataset. This option is mandatory for Demand Planning to generate an accurate forecast. You also define how you want Demand Planning to handle negative quantity values in the `outbound_order_line` dataset. For more information about mandatory and optional Demand Planning fields, see [Data entities and columns used in AWS Supply Chain](#).
  - **Forecast Settings** – Set global parameters to determine the forecast period, minimum forecast value, and initialization values for new products with no alternate data.
  - **Scheduler** – You can define how and when forecasts should be refreshed and published.
  - **Organization Settings** – Defines where your Demand Plans will be published. It also shows other configuration options within the application.
5. Under **Scope, Planning Horizon**, select the following:
  - **Time Interval** – Select the time interval from the choice of daily, weekly, monthly, or yearly options. The time interval is used to aggregate and analyze data. Choose a time interval based on the nature of your business, availability, and granularity of historical data.
  - **Time Horizon** – Time horizon is the specific period for when a forecast is generated. The value should be a whole number with a minimum value of 1 and maximum of 500. The amount of historical data available also will dictate the Time Horizon. Make sure that at least one product in the `outbound_order_line` dataset has sales history at least four times the time horizon set. For example, if you set **Time Horizon** to 26 and **Time Interval** as *weekly*, the minimum order data requirement is  $26 * 4 = 104$  weeks.

Under **Forecast Granularity, Required Hierarchy**, select the parameters to define your forecast hierarchy. Product ID attribute is mandatory and is automatically selected as the last level in the hierarchy. You can choose **Add level** to add additional hierarchy levels between `product_group_id`, `product_type`, `brand_name`, `color`, `display_desc`, and `parent_product_id`. Make sure that the required hierarchy attributes have information in the product dataset, because you can use these attributes to filter the demand plan.

Under **Optional Hierarchy**, choose **Add level** to add up to five attributes from **Site**, **Channel**, and **Customer** to better manage your forecast. The supported columns from the *outbound\_order\_line* dataset are:

- Site hierarchy = ship\_from\_site\_id, ship\_to\_site\_id, ship\_to\_site\_address\_city, ship\_to\_address\_state, ship\_to\_address\_country
- Channel hierarchy = channel\_id
- Customer hierarchy = customer\_tpartner\_id

Make sure that the required hierarchy attributes have information in the product dataset since these attributes are used to filter demand plans.


6. Choose **Continue**.
7. On the **Configure your dataset** page, under **Configure Forecast Input**, you should configure the required and recommended datasets.

 **Note**

AWS Supply Chain recommends uploading two to three years of outbound order line history as an input to generate an accurate forecast. This duration allows the forecasting models to capture your business cycles and ensure a more robust and reliable prediction. For improved forecast accuracy, it is also recommended to include product attributes such as *brand*, *product\_group\_id*, and *price* in the product dataset.

- **Required Datasets** – The *outbound\_order\_line* and *product* data entities are required to generate a forecast.
  - **Recommended Datasets** – The *product\_alternate* and *supplementary\_time\_series* data entities are optional. You can generate a forecast without these data entities but when provided, the forecast quality will be improved.
8. Under **Required Datasets**, expand **Historical Demand** and choose **Configure** to set the negative value for missing data. *outbound\_order\_line* dataset is the primary source of historical demand.
    - **Ignore** – Select if you want AWS Supply Chain to ignore the products with missing *order\_date* before creating the forecast.

- **Replace with zero** – Select if you want AWS Supply Chain to replace the missing `order_date` fields with zero by default to the final requested quantity.
9. No additional configuration is required for *product* data entity. Product attributes are used for filters, configure hierarchy, and for training the learning model.
  10. Under **Recommended Datasets**, no additional configuration is required for *product\_lineage*. You can use the *product\_alternate* data entity to provide information on alternate or previous version of the product. For more information on product lineage, see [Product lineage](#).
  11. Select **Demand Drivers** if you have demand drivers information such as promotions, price changes, and so on, you can use *supplementary\_time\_series* data entity to ingest data. You can select up to 13 demand drivers and configure aggregation and missing data filling strategy. For more information on demand drivers, see [Forecast based on demand drivers](#).
  12. Choose **Continue**.
  13. On the **Forecast Settings** page, you need to configure the following:
    - Choose the forecast model/ensembler for the plan. AWS Supply Chain Demand Planning has a default forecast model assigned for the demand plan. Customers have the ability to change the default if they choose to.

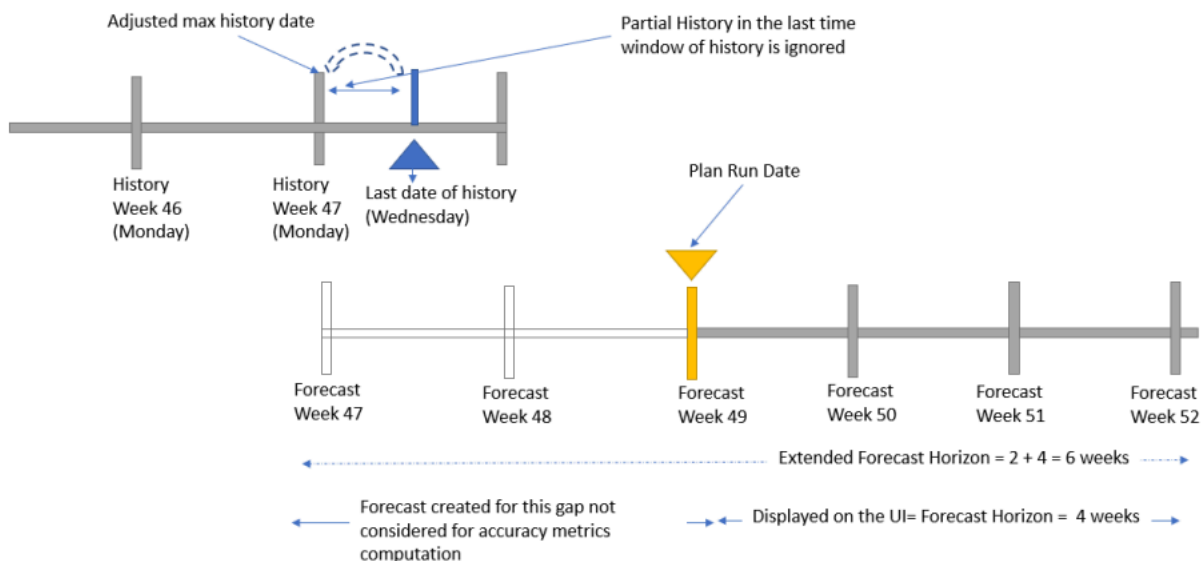
 **Note**

The AWS Supply Chain assigned default model will be used if the user does not change the selection.

- Under **Forecast Start Date**, enter the forecast start date to start the planning cycle.
  - Max History Date – Select this option if you want to start forecasting from the next time period after the last complete historical data point.
  - Plan Execution Date – Demand Planning uses this date when the forecast is triggered as the start of the planning cycle.
  - Custom Date – Select this option when the selected forecast start date is later than the `outbound_order_line` dataset end date then the default planning cycle start date is considered. If the selected forecast start date is before the `outbound_order_line` start date or if the length of the demand history is insufficient, the forecast will fail and display an error. For more information, see [Prerequisites before uploading your dataset](#). It is recommended to select the first of the month for monthly intervals or Monday for weekly intervals. If you choose a different date, Demand Planning will automatically adjust to

the nearest default date. For example, if you selected Wednesday as the forecast start date, Demand Planning will select the next Monday as the forecast start date for weekly intervals. Similarly, selecting May 10th 2024 will result in June 1st 2024 as the planning cycle start date for monthly intervals.

- Under **Handling Partial History and Filling Strategy**, select one of the following:
  - Trim Partial History – Select this option to trim the partial history. For example, the illustration below explains how trim partial history works for the following settings:
    - Weekly granularity start period – Monday (default Demand Planning setting)
    - Monthly granularity start period – 1st of the Gregorian Calendar Month (default Demand Planning setting)
    - Demand plan granularity – Weekly
    - Forecast start date– Plan run date
    - Trim partial history – Set to *Yes*
    - Plan run date – Set to *Monday*
    - Forecast horizon – Four weeks



- Include Partial History – Select this option to include the partial history and use a filling strategy to fill the gaps.

For example, if you are forecasting at a monthly level and your last month in history has only 10 days of data, you can choose to trim or exclude the 10 days of data. If you choose not to trim or exclude the 10 days of data, you can select a filling strategy to fill data for the rest of the month.

- **Zero** – Use this filling method when no sales activity is expected for certain periods.  
Impact: May lead to lower forecast, best for seasonal data with expected zero demand
- **NaN** – Use this filling method when marking data is missing.
- **Mean** – Use this filling method when smoothing out fluctuations.
- **Median** – Use this filling method when minimizing the influence of outliers or data skewness.
- **Min** – Use this filling method when representing the lowest possible value for conservative forecasting.
- **Max** – Use this filling method when assuming the highest possible value for optimistic forecasting Impact.
- Under **Configure Forecast Periods in...**, select the start and end dates for New Product Introduction (NPI) and End-of-life EOL) products. For more information, see [Product lifecycle](#).
- Under **New Product Initial Forecast**, enter an initial forecast value for products with no demand history or product lineage to make the products searchable in the demand plan web application and to create a forecast. Specify the value and the periods to apply.

 **Note**

The time period displayed will depend on the time period you chose under **Time intervals** in the **Planning Horizon** page. For example, if you chose *Monthly* under **Time intervals**, you will be able to specify the number of months before or after to start and stop the forecast, and for products with no demand history.

- The planning cycle start date is based on the last order date in the outbound order line dataset. If the time interval configuration is:
  - **Daily** – Planning cycle start date will be the day after the last order date. For example, if the last order date is October 30, 2023, the planning cycle start date will be October 31, 2023.
  - **Weekly or Monthly** – When the last order date is the same as the time boundary, the planning cycle start date will be after a week or month. For example, when the last order date is October 29, 2023 (which is a Sunday and Demand Planning's week time boundary), the planning cycle start date will be October 30, 2023.

When the last order date falls within the time boundary, Demand Planning will trim the order history for the last time window and create forecast from the new period. For example, when the last order date is November 01, 2023 (which is a Wednesday and not in the Demand Planning's week time boundary), the planning cycle start date will be October 30, 2023. Demand Planning will ignore the order history from October 30, 2023 to November 01, 2023.

- Under **Accuracy Metrics Preferences**, setup three different lags for your organization.

14. Choose **Continue**.

15. On the **Demand Plan Publish Scheduler** page, under **How do you like to manage ongoing forecast refresh and demand plan release?**, choose **Auto** to view your next forecast plan published on the Demand Planning page.

Under **Set the release frequency for the final demand plan**, choose the frequency at which you want to publish the demand plans to the downstream processes and close the planning cycle.

(Optional) Under **Set the intra-cycle forecast refresh frequency**, select the frequency of the forecast update within the same planning cycle without releasing the interim updates to the downstream processes or closing the planning cycle. You can also select **None** to opt-out of intra-cycle forecast refresh frequency.

16. Choose **Continue**.

17. Under **Organization Settings**, note the Amazon Simple Storage Service (Amazon S3) path where the demand plans are published.

 **Note**

You can also find the Amazon S3 path for the published demand plans on the **Settings** page. For more information, see [Manage Demand Plan settings](#).

18. Choose **Complete**.

The **Enterprise Demand Plan** page appears. To start using Demand Planning, choose **Create Forecast**.

**Note**

Forecast is generated only when you ingest data into AWS Supply Chain. Make sure that all the required and optional attributes that you chose have information in the dataset.

After you set the forecast settings, you can generate the forecast and demand plan for the time horizon that you set. On the **Enterprise Demand Plan** page, choose **Create Forecast**.

## Forecast Algorithms

AWS Supply Chain Demand Planning offers a combination of 25 built-in forecast models to create baseline demand forecasts for products with diverse demand patterns in customers' datasets. The list of 25 forecast models includes 11 forecast ensemblers (each ensembler is unique based on the set of models that make up the ensembler and/or the metric the ensembler optimizes to) and 14 individual forecast algorithms including statistical algorithms like Autoregressive Integrated and Moving Average (ARIMA) to complex neural network algorithms like CNN-QR, Temporal Fusion Transformer and DeepAR+. Customers have the choice of using forecast ensembler or individual forecast algorithm based on their use case and unique needs. While the forecast ensemblers offer the advantage of customers not having to manually deal with cumbersome tasks such as model selection, hyperparameter tuning and having to simply pick the forecast error metric that is best suited for the customer use case that the ensembler would optimize, the individual forecast algorithms offer flexibility for customer use cases that are best forecasted with a single model instead of an ensemble.

The following table lists the 25 built-in forecast models offered by AWS Supply Chain Demand Planning along with what they are best suited for.



Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Model(s) Ensembler	AutoGluon Best Quality (MAPE)	Ensemble of baseline, statistical, ML/Deep learning models in the <a href="#">AutoGluon</a> model library.	Yes	AutoGluon best_quality preset	MAPE (Mean Absolute Percentage Error)	Automated Ensemble without need for manual model assignment/selection.	Yes, Past and Future Related Time Series
Forecast Model(s) Ensembler	AutoGluon Best Quality (WAPE)	Ensemble of baseline, statistical, ML/Deep learning models in the <a href="#">AutoGluon</a> model library.	Yes	AutoGluon best_quality preset	WAPE (Weighted Absolute Percentage Error)	Automated Ensemble without need for manual model assignment/selection.	Yes, Past and Future Related Time Series
Forecast Model(s) Ensembler	AutoGluon Best Quality (MASE)	Ensemble of baseline, statistical	Yes	AutoGluon best_quality preset	MASE (Mean Absolute	Automated Ensemble without need for	Yes, Past and Future Related

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
		al , ML/ Deep learning models in the <a href="#">AutoGluon</a> model library.			Scaled Error)	manual model assignment/selection.	Time Series
Forecast Model(s) Ensembler	AutoGluon Best Quality (RMSE)	Ensemble of baseline, statistical , ML/ Deep learning models in the <a href="#">AutoGluon</a> model library.	Yes	AutoGluon best_quality preset	RMSE (Root Mean Squared Error)	Automated Ensemble without need for manual model assignment/selection.	Yes, Past and Future Related Time Series

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Model(s) Ensembler	AutoGluon Best Quality (WCD)	Ensemble of baseline, statistical, ML/Deep learning models in the <a href="#">AutoGluon</a> model library.	Yes	AutoGluon best_quality preset	WCD (Weighted Cumulative Deviation)	Automated Ensemble without need for manual model assignment/selection.	Yes, Past and Future Related Time Series
Forecast Model(s) Ensembler	AutoGluon StatEnsemble (MAPE)	Ensemble of all statistical models(only) in the <a href="#">AutoGluon</a> model library to produce forecasts.	Yes	AutoGluon all Supported Stats Model	MAPE (Mean Absolute Percentage Error)	Automated Ensemble without need for manual model assignment/selection.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Model(s) Ensembler	AutoGluon StatEnsemble (WAPE)	Ensemble of all statistical models(only) in the <a href="#">AutoGluon</a> model library etc to produce forecasts.	Yes	AutoGluon all Supported Stats Model	WAPE (Weighted Absolute Percentage Error)	Automated Ensemble without need for manual model assignment/selection.	No
Forecast Model(s) Ensembler	AutoGluon StatEnsemble (MASE)	Ensemble of all statistical models(only) in the <a href="#">AutoGluon</a> model library etc to produce forecasts.	Yes	AutoGluon all Supported Stats Model	MASE (Mean Absolute Scaled Error)	Automated Ensemble without need for manual model assignment/selection.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Model(s) Ensembler	AutoGluon StatEnsemble (RMSE)	Ensemble of all statistical models(only) in the <a href="#">AutoGluon</a> model library etc to produce forecasts.	Yes	AutoGluon all Supported Stats Model	RMSE (Root Mean Squared Error)	Automated Ensemble without need for manual model assignment/selection.	No
Forecast Model(s) Ensembler	AutoGluon StatEnsemble (WCD)	Ensemble of all statistical models(only) in the <a href="#">AutoGluon</a> model library etc to produce forecasts.	Yes	AutoGluon all Supported Stats Model	WCD (Weighted Cumulative Deviation)	Automated Ensemble without need for manual model assignment/selection.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Model(s) Ensembler	AWS Supply Chain AutoML	Ensemble of all in <a href="#">Amazon Forecast AutoML</a> .	Not Applicable	AutoML default settings	WQL (Weighted Quantile Loss) for P10, P50, P90	Automated Ensemble without need for manual model assignment/selection.	Depends on Selected Models by Ensembler .

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	CNN-QR	CNN-QR (Convolutional Neural Network - Quantile Regression) is a machine learning algorithm for time series forecasting using causal convolutional neural networks (CNNs).	Not Applicable	<a href="#">CNN-based parameter s</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for large datasets containing hundreds of time series.	Yes, Past and Future Related Time Series

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	DeepAR+	DeepAR+ is a machine learning algorithm for time series forecasting using recurrent neural networks (RNNs).	Not Applicable	<a href="#">DeepAR default settings</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for large datasets containing hundreds of time series.	Yes, Past and Future Related Time Series



Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	LightGBM	Light Gradient-Boosting Machine (LGBM) is a tabular machine learning model that uses historical demand data from past seasons.	Not Applicable	LightGBM default parameters	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for datasets where different items share similar demand trends. Less effective on datasets with diverse item characteristics and demand patterns.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Prophet	Prophet is a time series forecasting algorithm based on an additive model where non-linear trends are fit with yearly, weekly, and daily seasonality.	Not Applicable	<a href="#">Default Prophet settings</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for time series that have strong seasonal effects and several seasons of historical data.	Yes, Past and Future Related Time Series

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Triple Exponential Smoothing	Exponential Smoothing (ETS) is a statistical model for time series forecasting.	Not Applicable	Default ETS parameters	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for datasets with seasonality patterns, computing weighted averages of past observations with exponentially decreasing weights. ETS is most effective for time series with fewer than 100 items.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Auto Complex Exponential Smoothing (AutoCES)	Auto Complex Exponential Smoothing is an advanced variant of exponential smoothing, automatically adjusts smoothing parameters, offering accurate forecasts for time series with intricate seasonal structures.	Not Applicable	<a href="#">Default AutoCES settings</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for complex seasonal patterns in time series data, including multiple seasonality or irregular cycles.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	ARIMA	ARIMA (Auto-Regressive Integrated Moving Average) is a statistical model for time series forecasting. It combines autoregressive, moving average, and differencing components to model trends.	Not Applicable	<a href="#">ARIMA default parameters</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for datasets without strong seasonal effects.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Seasonal ARIMA	SARIMA (Seasonal Auto-Regressive Integrated Moving Average) is an extension of ARIMA that includes seasonal components. It models both non-seasonal and seasonal trends, ensuring accurate predictions for datasets with	Not Applicable	Seasonal ARIMA default parameters	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for time series with strong seasonal patterns.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
		multiple seasons of historical data.					

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Theta	The Theta model is a time series forecasting method that combines exponential smoothing with a decomposition approach to handle trend, seasonality, and noise. It uses a linear trend model and non-linear smoothing	Not Applicable	<a href="#">Theta method default settings</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for intermittent demand forecasting.	No



Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
		components to capture both short-term and long-term patterns, often outperforming traditional methods.					

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Aggregate - Disaggregate Intermittent Demand Approach (ADIDA)	ADIDA aggregates data at a higher level to capture broader patterns, then disaggregates it for accurate forecasts improves accuracy by reducing noise.	Not Applicable	<a href="#">ADIDA default parameter s</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for products with low or irregular demand, intermittent demand.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Croston	The Croston method is designed for intermittent demand forecasting. It separates demand into two components the size of non-zero demands and the intervals between them. These components are independently forecaste	Not Applicable	<a href="#">Croston default settings</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for intermittent demand forecasting.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
		d and combined.					

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Intermittent Multiple Aggregation Prediction Algorithm (IMAPA)	IMAPA is a forecasting method for intermittent demand data, where demand is irregular with many zero values. It aggregates data at multiple levels to capture different demand patterns, offering more robust	Not Applicable	<a href="#">IMAPA default parameter s</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for improving accuracy for intermittent demand patterns (compared to traditional methods like exponential smoothing).	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
		<p>predictions for datasets with highly irregular demand compared to methods like Croston.</p>					

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Moving Average	The Moving Average model forecasts by averaging past data points over a fixed window.	Not Applicable	Moving Average default parameters	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for short-term forecasts, especially in sparse data scenarios. This method performs well on time series with simple trends, providing quick, easy predictions without requiring complex modeling.	No

Type	Forecast Ensembler / Algorithm	Model(s) in Ensemble	Automated hyper Parameter Tuning (Yes/No)	Default Parameters	Metric Optimized	Scenario(s) the model is best suited for	Supports Related Times as Forecast Input - Yes/No?
Forecast Algorithm	Non Parametric Time Series (NPTS)	NPTS is a baseline forecasting method for sparse or intermittent time series data. It includes variants such as Standard NPTS and Seasonal NPTS.	Not Applicable	<a href="#">NPTS default parameter s</a>	WQL (Weighted Quantile Loss) for P10, P50, P90	Best suited for robust predictions for irregular time series by handling missing data and seasonal effects. It is scalable and effective for irregular demand data.	No

The following table lists the metrics available in Support Demand Planning forecast models.



Metric	Metric Description	Metric Formula	When to use this metric to optimize	Link
MAPE	MAPE measures the average magnitude of the errors in a set of forecasts, expressed as a percentage of the actual values.	Not Applicable	It is commonly used for evaluating the accuracy of predictive models, especially in time series forecasting, where all time series are treated equal for forecast error evaluation.	<a href="https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timeseries-metrics.MAPE">https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timeseries-metrics.MAPE</a>
WAPE	WAPE is a variation of MAPE that considers the weighted contributions of different data points.	Not Applicable	It is particularly useful when the data has varying importance or when some observations are more significant than others.	<a href="https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timeseries-metrics.WAPE">https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timeseries-metrics.WAPE</a>
RMSE	RMSE measures the square root of the average squared differences between	Not Applicable	RMSE is sensitive to large errors because of the squaring operation, which gives more weight to larger	<a href="https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timeseries-metrics.RMSE">https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timeseries-metrics.RMSE</a>

Metric	Metric Description	Metric Formula	When to use this metric to optimize	Link
	predicted and actual values.		errors. In use cases where only a few large mispredictions can be very costly, the RMSE is the more relevant metric.	<a href="https://gluon.timseries.metrics.RMSE">gluon.timseries.metrics.RMSE</a>
WCD	WCD is a measure of cumulative forecast error weighted by a set of predetermined weights.	Not Applicable	This metric is often used in applications where certain time periods, products, or data points have more importance than others, allowing for prioritization in the error analysis.	Not Applicable

Metric	Metric Description	Metric Formula	When to use this metric to optimize	Link
wQL	wQL is a loss function that evaluates the performance of a model based on quantiles, with weighted contributions from different data points.	Not Applicable	It's useful for assessing model performance in scenarios where the importance of different quantiles (e.g., 90th percentile, 50th percentile) or observations varies. It is particularly useful when there are different costs for underpredicting and overpredicting.	<a href="https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timseries-metrics.WQL">https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timseries-metrics.WQL</a>

Metric	Metric Description	Metric Formula	When to use this metric to optimize	Link
MASE	MASE (Mean Absolute Scaled Error) is a performance metric used to evaluate the accuracy of time series forecasting models. It compares the mean absolute error (MAE) of the forecasted values to the mean absolute error of a naive forecast.	Not Applicable	MASE is ideal for datasets that are cyclical in nature or have seasonal properties. For example, forecasting for items that are in high demand during summers and in low demand during winters can benefit from taking into account the seasonal impact.	<a href="https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timseries-metrics.MASE">https://auto.gluon.ai/dev/tutorials/timeseries/forecasting-metrics.html#auto-gluon-timseries-metrics.MASE</a>

## Forecast based on demand drivers

To enhance forecast accuracy while configuring your forecast, you can use demand drivers.

*Demand drivers* are related time series inputs that capture product trends and seasons. Instead of depending on historical demand, you can use demand drivers to influence the supply chain based on various factors. For example, promotions, price changes, and marketing campaigns. Demand Planning supports both historical and future demand drivers.

### Prerequisites to use demand drivers

Before ingesting data for demand drivers, make sure that the data meets the following conditions:

- Make sure to ingest the demand drivers data in the *supplementary\_time\_series* data entity. You can provide both historical and future demand driver information. For information about the data entities that Demand Planning requires, see [Demand Planning](#).

If you cannot locate the *supplementary\_time\_series* data entity, your instance might be using an earlier data model version. You can contact AWS Support to upgrade your data model version or create a new data connection.

- Make sure that the following columns are populated in the *supplementary\_time\_series* data entity.
  - *id* – This column is the unique record identifier and is required for a successful data ingestion.
  - *order\_date* – This column indicates the timestamp of the demand driver. It can be both past and future dated.
  - *time\_series\_name* – This column is the identifier for each demand driver. The value of this column must start with a letter, should be 2–56 characters long, and may contain letters, numbers, and underscores. Other special characters are not valid.
  - *time\_series\_value* – This column provides the data point measurement of a particular demand driver at a specific point in time. Only numerical values are supported.
- Select a minimum of 1 and a maximum of 13 demand drivers. Make sure that the aggregation and filling methods are configured. For more information on filling methods, see [Demand drivers data filling method](#). You can modify the settings at any time. Demand Planning will apply the changes in the next forecast cycle.

The following example illustrates how a Demand Plan is generated when the required demand driver columns are ingested in the *supplementary\_time\_series* data entity. Demand Planning recommends providing both historical and future demand driver data (if available). This data helps the learning model to learn and apply the pattern to the forecast.

Column name	Required or Optional	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8	Scenario 9	Scenario 10	Scenario 11
id	Required	Null				1	1	1	1	1	1	1
order_date	Required		Null			12/1/2023	12/1/2023	12/1/2023	12/1/2023	12/1/2023	12/1/2023	12/1/2023
time_series_name	Required			Null		sale_event	Price	Inventory	Price	Price	promotional_event	promotional_event
time_series_value	Required				Null	1	56	204	-30	56	back_to_school	1
product_id	Optional					Null	Product A	Product A	Product A	Product A	Product A	Product A
site_id	Optional					Null	Null	Site_001	Site_001	Site_001	Null	Null
channel_id	Optional					Null	Null	Null	ECommerce	ECommerce	Null	Null
customer_tpartner_id	Optional					Null	Null	Null	Null	ACME_Ltd	Null	Null
Expected behavior		Data ingestion fails				Applied to all products, sites, channels and customers (as configured as forecast granularity).	Applied to only 'Product A' across all sites, channels and customers (as configured as forecast granularity).	Applied to only 'Product A' and 'Site_001' across all channels and customers (as configured as forecast granularity).	Applied to only 'Product A', 'Site_001' and 'Ecommerce' across customers (as configured as forecast granularity).	Applied to only 'Product A', 'Site_001' and 'Ecommerce' and 'ACME Ltd' only.	Invalid data. The demand driver is ignored as categorical value in the time_series_value field is not supported. Recommend modelling it as '1' indicating the presence of the event.	Invalid data. A valid time_series_name must start with a letter, be 2 to 56 characters long, and may contain letters, numbers, and underscores, but no spaces or other special characters.

The following example illustrates how you can set up some common demand drivers in your dataset.

id	order_date	product_id	site_id	customer_tpartner_id	channel_id	time_series_name	time_series_value	Scenario
1	9/24/2023	Sorting Hat				Price	50	Model price or price changes at various granularity levels - national, site, channel and/or customer .
2	9/24/2023	Invisibility Cloak	Seattle DC			Price	30	
3	9/24/2023				E-commerce	Price	20	
4	9/24/2023	Hogwarts Lego		ACME Ltd		Price	30	
501	2/15/2021					Marquee_Events	1	Model the presence of sales events, promotions, marketing campaigns as '1'. The absence of events can be inferred inherently, eliminating the need for '0' entry records.
502	5/24/2021					Marquee_Events	1	
1001	2/1/2021					Holiday_Tier	3	Model importance tiers of holidays or promotions in the descending order of importance, with higher numerical values indicating greater significance.
1002	2/8/2021					Holiday_Tier	2	
1003	6/28/2021					Holiday_Tier	1	
2001	1/4/2021	Griffindor Pillow	Phoenix DC			Inventory	972	Model closing inventory for product at a site.
2002	1/4/2021	Griffindor Pillow	Seattle DC			Inventory	252	

When you provide leading indicators, Demand Planning highly recommends that you adjust the time series date. For example, say that a particular metric serves as a 20-day leading indicator with a 70% conversion rate. In this case, consider shifting the date in the time series by 20 days and then applying the appropriate conversion factor. While the learning model can learn patterns without such adjustments, aligning leading indicator data with corresponding outcome is more effective in pattern recognition. The magnitude of the value plays a significant role in this process, enhancing the model's ability to learn and interpret patterns accurately.

## Demand driver configuration

To use demand drivers, you must configure them. You can configure demand drivers only when you've ingested data in the *supplementary\_time\_series* data entity.

### Note

If you don't configure the demand drivers, you can still generate a forecast. However, Demand Planning won't use the demand drivers.

## Demand drivers data filling method

A *filling method* represents (or "fills") missing values in a time series. Demand Planning supports the following filling methods. The filling method that Demand Planning applies depends on the location of the gap in the data.

- Back filling – Applied when the gap is between a product's earlier recorded date and the last recorded date.
- Middle filling – Applied when the gap is between the last recorded data point for a given product and the global last recorded date.
- Future filling – Applied when the demand driver has at least one data point in the future and there is a gap in the future time horizon.



Demand Planning utilizes the last 64 data points from the *supplementary\_time\_series* data entity corresponding to the demand driver for consideration. Demand Planning supports *zero*, *median*, *mean*, *maximum*, and *minimum* options for all three filling methods.

The following example illustrates how demand drivers handle missing data when data is ingested to the *price* column in the *supplementary\_time\_series* data entity for Product 1, that includes both history and future data.

	id	order_date	product_id	site_id	customer_tpartner_id	channel_id	time_series_name	time_series_value
History	1	1/29/2024	Product 1				Price	32
	2	2/5/2024	Product 1				Price	38
	3	2/19/2024	Product 1				Price	26
Future	4	3/4/2024	Product 1				Price	40
	5	3/11/2024	Product 1				Price	35
	6	3/25/2024	Product 1				Price	29
	7	4/1/2024	Product 1				Price	30

2/12/2024  
2/26/2024  
3/18/2024 } Periods missing data

**Demand Driver Configuration:**

Back filling Mean

Middle filling Mean

Future filling Mean

Pre-processing:

Product 1	History	1/29/2024	2/5/2024	2/12/2024	2/19/2024	2/26/2024	Forecast Horizon	3/4/2024	3/11/2024	3/18/2024	3/25/2024	4/1/2024
		1/22/2024	32	38	35	26	32	40	35	34.2	29	30

Earliest date available for 'price' across ALL products. There is no data available for 'Product -1'. No

Middle Filling:  $(32 + 38) / 2 =$

Back Filling:  $(32 + 38 + 26) / 3 =$

Future Filling:  $(32 + 38 + 26 + 40 + 35) / 5 =$

## Aggregation method

Demand Planning uses the aggregation method to facilitate the integration of demand drivers at various levels of granularity by consolidating data over specific periods and granularity levels.

Time period aggregation – For example, when the *Inventory* demand driver is available at daily level but the forecast is at weekly level, demand planning will apply the aggregation method configured under the demand plan settings for inventory to use the information for forecasting.

id	order_date	product_id	site_id	customer_tpartner_id	channel_id	time_series_name	time_series_value
1	2/19/2024	Product 1	Site 1			Inventory	34
2	2/20/2024	Product 1	Site 1			Inventory	58
3	2/21/2024	Product 1	Site 1			Inventory	39
4	2/22/2024	Product 1	Site 1			Inventory	30
5	2/23/2024	Product 1	Site 1			Inventory	51
6	2/24/2024	Product 1	Site 1			Inventory	27
7	2/25/2024	Product 1	Site 1			Inventory	73
8	2/26/2024	Product 1	Site 1			Inventory	22
9	2/27/2024	Product 1	Site 1			Inventory	29
10	2/28/2024	Product 1	Site 1			Inventory	64
10	2/29/2024	Product 1	Site 1			Inventory	66
10	3/1/2024	Product 1	Site 1			Inventory	70
10	3/2/2024	Product 1	Site 1			Inventory	65
10	3/3/2024	Product 1	Site 1			Inventory	57

Week 1 starting 2/19/2024

Week 2 starting 2/26/2024

**Configuration:**

Time Interval	Weekly
Demand Driver Aggregation	Sum

**Pre-processing:**

order_date	product_id	site_id	time_series_name	time_series_value
2/19/2024	Product 1	Site 1	Inventory	312
2/26/2024	Product 7	Site 1	Inventory	373

Granularity level aggregation – Here is an example of how demand planning uses the granularity level aggregation. *out\_of\_stock\_indicator* is available daily at product-site level but forecast granularity is only available at product level. Demand Planning will apply the aggregation method configured under the demand plan settings for this demand driver.

id	order_date	product_id	site_id	customer_tpartner_id	channel_id	time_series_name	time_series_value
1	2/19/2024	Product 1	Site 1			out_of_stock_indicator	1
2	2/19/2024	Product 1	Site 2			out_of_stock_indicator	1
3	2/20/2024	Product 6	Site 1			out_of_stock_indicator	1
4	2/26/2024	Product 7	Site 1			out_of_stock_indicator	1
5	2/27/2024	Product 8	Site 2			out_of_stock_indicator	1
6	2/28/2024	Product 9	Site 1			out_of_stock_indicator	1
7	3/1/2024	Product 9	Site 2			out_of_stock_indicator	1
8	3/1/2024	Product 9	Site 1			out_of_stock_indicator	1
9	3/1/2024	Product 9	Site 5			out_of_stock_indicator	1

**Configuration:**

Forecast Granularity	Product
Demand Driver Aggregation	Sum

**Pre-processing:**

order_date	product_id	time_series_name	time_series_value
2/19/2024	Product 1	out_of_stock	2
2/20/2024	Product 6	out_of_stock	1
2/26/2024	Product 7	out_of_stock	1
2/27/2024	Product 8	out_of_stock	1
2/28/2024	Product 9	out_of_stock	1
3/1/2024	Product 9	out_of_stock	3

## Demand driver recommendations

While configuring aggregation and filling methods for demand drivers, a general guideline is to assign *mean* aggregation for both boolean and continuous data types. To fill a missing value, use *zero* filling for boolean data while *mean* filling is suitable for continuous data.

Note that the choice of aggregation and filling method configuration depends on the data characteristics and assumptions about missing values. Here is an example.



Demand Driver	Data Type	Aggregation	Back Filling	Middle Filling	Future Filling
Price	Continuous	Mean	Mean	Mean	Mean
Marquee_Events	Boolean	Maximum	Zero	Zero	Zero
Holiday_Tier	Ordinal	Maximum	Zero	Zero	Zero
Inventory	Continuous	Sum	Zero	Zero	Zero

Demand Planning recommends adjusting the demand driver configuration to best suit your dataset needs. The demand driver configuration will impact the forecast accuracy.

On the AWS Supply Chain web application, under **Demand planning, Overview**, you will view the impact scores associated with demand drivers, aggregated at the demand plan level. These impact scores measure the relative influence of demand drivers on forecast. A low impact score does not indicate that the demand driver has a minimal effect on forecast values. Instead, it suggests that its influence on forecast value is comparatively lower than the other demand drivers. When the impact score is zero under certain circumstances, it should be interpreted as the demand driver has no impact on the forecast values. Demand Planning recommends revisiting the aggregation and filling method configuration applied to that particular demand driver.

## Product lineage

*Product lineage* refers to the relationship established between products and their previous versions or alternate products. Demand Planning uses product lineage information to create surrogate histories for these products, which serve as forecast inputs for demand predictions.

Product lineage supports the following patterns:

- A single product has one lineage or alternate product = 1:1



The following example shows an 1:1 scenario.

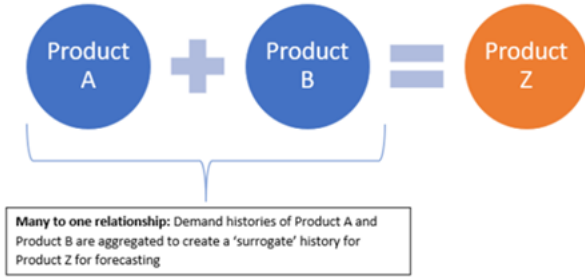
Product entity	id	product_available_day	discontinue_day	
	Generic medication	8/1/2020		>> Substitute for Branded medication
	Branded medication	10/1/2023		

Product_alternate entity	product_id	alternative_product_id	alternate_type	alternate_product_qty	alternate_product_qty_uom	eff_start_date	eff_end_date	Status
	Branded medication	Generic medication	similar_demand_product	100	percentage			Active

100% of entire order history for Generic medication available in the outbound\_order\_line data will be considered to create a *surrogate* order history for Branded medication.

- A single product has more than one product as lineage or alternate = Many:1



Demand Planning supports product lineage relationship modeled as both *chain* or *flattened* methods.

- **Chain format** – You can directly model lineage relationships like A to B and B to C. In the following example. Demand Planning will model the lineage relationship as A to B, B to C, and A to C.

Predecessor	Successor
A	B
B	C

The following example shows an Many:1 scenario - Chain format

Product entity	id	product_available_day	discontinue_day	
	Product A	8/1/2020	7/31/2022	>> Predecessor version
	Product B	8/1/2022	7/31/2023	>> Predecessor version
	Product C	8/1/2023		>>> New version

Product_alternate entity	product_id	alternative_product_id	alternate_type	alternate_product_qty	alternate_product_qty_uom	eff_start_date	eff_end_date	Status
	Product B	Product A	similar_demand_product	70	percentage	8/1/20 0:00	7/31/22 23:59	Active
	Product C	Product B	similar_demand_product	50	percentage	8/1/22 0:00	7/31/23 23:59	Active

Order date	8/1/2020	9/1/2020	.....	8/1/2022	...	7/31/2023
Add	70% of Product A's order history			50% of Product B's order history		
	Surrogate order history for Product C to create forecast					

- **Flattened format** – Demand Planning will continue to support lineage information in A to B and A to C format. In the following example, Demand planning will model the lineage relationship as A to B and A to C. B to C is not considered.

Predecessor	Successor
A	B
A	C

**Note**

Chain format will only support 10 levels of lineage relationship. If you have more than 10, you can use flattened format to model the lineage relationship.

The following example shows an Many:1 scenario - Flattened format

Product entity	id	product_available_day	discontinue_day	
	Product A	8/1/2020	7/31/2022	>> Predecessor version
	Product B	8/1/2022	7/31/2023	>> Predecessor version
	Product C	8/1/2023		>>> New version

Product_alternate entity	product_id	alternative_product_id	alternate_type	alternate_product_qty	alternate_product_qty_uom	eff_start_date	eff_end_date	Status
	Product C	Product A	similar_demand_product	70	percentage	8/1/20 0:00	7/31/22 23:59	Active
	Product C	Product B	similar_demand_product	50	percentage	8/1/22 0:00	7/31/23 23:59	Active

Order date	8/1/2020	9/1/2020	.....	8/1/2022	...	7/31/2023
<i>Add</i>	70% of Product A's order history			50% of Product B's order history		
	Surrogate order history for Product C to create forecast					

- A single product can be lineage or alternate for more than 1 product = 1 : Many



**One to one relationship:** Demand history of Product A is used to create a 'surrogate' history for Product Z and Product Y for forecasting

To enable the product lineage feature, you can define the lineage relationship for the different versions of the products or alternates/substitutes in the *product\_alternate* data entity. For more information, see [Demand Planning](#).

If your instance was created on or after September 11, 2023, you will see *product\_alternate* data entity in the AWS Supply Chain data Connection module. If your instance was created before

September 11, 2023, create a new data connection to enable the *product\_alternate* data entity for ingestion.

To ingest data into the *product\_alternate* data entity, follow the guidelines below:

- *product\_id* – The primary product to create the forecast.
- *alternative\_product\_id* – Previous version of the product or alternate/substitute product.

To consider multiple *alternative\_product\_id* for a single *product\_id*, enter them in separate rows.

- Demand Planning will consider the data ONLY when the values are provided in the following format.
  - *alternate\_type* is *similar\_demand\_product*.
  - *status* is *active*.
  - *alternate\_product\_qty\_uom* is the text *percentage*.
  - *alternate\_product\_qty* – Enter the proportion of history of the alternate product you want to use for forecasting new products in the *alternate\_product\_qty* data field. For example, if it is 60%, enter 60. When you have multiple *alternative\_product\_id* for a single *product\_id*, the *alternate\_product\_qty* does not have to add up to 100.
- The *eff\_start\_date* and *eff\_end\_date* data fields are required. However, you can leave this field empty and Demand Planning will auto-fill with 1000 and 9999 years respectively.

When the forecast is created using product lineage data, you will see an indicator *Forecast is based on alternate product's history* on the Demand Planning page when you filter by *product ID*.

The following table shows an example of how Demand Planning Product lineage feature works based on the data ingested into the *product\_alternate* data entity.

Column	Requirement or Option	Example 1	Example 2	Example 3	Example 4	Example 5	Example 6	Example 7	Example 8	Example 9	Example 10	Example 11
product	Required	Product 123	Product 123	Product 123	Product 123	Product 123	Product 123	Product 123	Product 123	Product 123	Null	Product 123

Column	Requirement or Option	Example 1	Example 2	Example 3	Example 4	Example 5	Example 6	Example 7	Example 8	Example 9	Example 10	Example 11	
alternative_product_id	Required	Product XYZ	Null	Product XYZ	Product XYZ	Product XYZ	Product XYZ	Product XYZ	Product XYZ	Product XYZ	Null	Product XYZ	
alternative_type	Required	Similar product	Similar product	Null or a different value	Similar product	Similar product	Similar product	Similar product	Similar product	Similar product	Similar product	Similar_Demand_Product	
status	Required	active	active	active	inactive	active	active	Null	active	active	active	active	
alternative_quantity	Required	100	60	100	100	Null	100	100	100	100	100	60	
alternative_quantity_unit	Required	percentage	percentage	percentage	percentage	percentage	Null or a different value	percentage	percentage	percentage	percentage	percentage	
effective_start_date	Required	2023-01-01 00:00:	2023-01-01 00:00:	2023-01-01 00:00:	2023-01-01 00:00:	2023-01-01 00:00:	2023-01-01 00:00:	2023-01-01 00:00:	Null	2023-01-01 00:00:	2023-01-01 00:00:	Null	
effective_end_date	Required	2025-01-23:59:	2025-01-23:59:	2025-01-23:59:	2025-01-23:59:	2025-01-23:59:	2025-01-23:59:	2025-01-23:59:	2025-01-23:59:	2025-01-23:59:	Null	2025-01-23:59:	Null

Column	Requirement or Option	Example 1	Example 2	Example 3	Example 4	Example 5	Example 6	Example 7	Example 8	Example 9	Example 10	Example 11
Expected behavior	NA	100% of product XYZ's history from 1/1/20 to 31/12/2015 will be used to forecast product 123.	Invalid mapping since alternate_id is missing	Invalid mapping since alternate_type is not similar to 'product'	Inactive mapping	Invalid mapping since alternate_product_qty is missing	Invalid mapping since alternate_product_qty_uc is missing	Invalid mapping since status is missing	Ingestion will fail.	Ingestion will fail.	Invalid mapping since product_id and alternate_id are missing	Ingestion will fail.

Column	Requirement or Option	Example 1	Example 2	Example 3	Example 4	Example 5	Example 6	Example 7	Example 8	Example 9	Example 10	Example 11
	NA	NA	NA	NA	NA	NA	NA	NA	Demand Planning will auto-populate the <i>eff_start_date</i> to year 1000. This scenario is valid and data ingestion will not fail.	Demand Planning will auto-populate the <i>eff_end_date</i> to year 9999. This scenario is valid and ingestion will not fail.	NA	Demand Planning will auto-populate the <i>eff_start_date</i> to year 1000 and <i>eff_end_date</i> to year 9999. This scenario is valid and ingestion will not fail.

The following example explains how Demand Planning will interpret when the *status* is set as *inactive* and the product lineage is in chain format.

Column	Column	Status
A	B	Active
B	C	Inactive
C	D	Active

Demand planing considers the status of the first root and child mapping as the status for the entire chain.

A to B Active

A to C Active

A to D Active

B to C Inactive

B to D Inactive

C to D Active

## Product lifecycle

Product lifecycle describes the lifecycle of a product from introduction to End of Life (EoL). AWS Supply Chain supports forecasting products through it's lifecycle. To enable the Product lifecycle feature, populate the *product\_introduction\_day* and *discontinue\_day* columns in the *Product* data entity. Demand Planning uses the data from these columns to create forecast for a product when the product is active. For more information data entities, see [Data entities and columns used in AWS Supply Chain](#).

To enable product lifecycle, make sure the columns *id*, *description*, *product\_available\_day*, *discontinue\_day*, and *is\_deleted* are populated in the *Product* data entity.

The example below displays how Demand Planning works when data is ingested in the Product data entity.



Column name	Required for Data Lake	Required for Demand Planning	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7
id	Yes	Yes	Product13	Product13	Product13	Product13	Product13	Product13	Product123
description	Yes	Yes	Bottle	Bottle	Bottle	Bottle	Bottle	Bottle	Bottle
product_available_day	No	No	May 1, 2023	May 1, 2023	May 1, 2023	Null	Null	May 1, 2022	May 1, 2022
discontinue_day	No	No	Null	December 31, 2023	December 31, 2023	Null	Null	May 1, 2023	Past
is_deleted	No	No	No	No	Yes	No	Null	No	No
<b>Expected behavior</b>	NA	NA	Forecast will be created starting 3 months prior (or as configured) prior to May 1, 2023 to the end	Forecast will be created starting 3 months prior (or as configured) prior to May 1, 2023 until the	Forecast will not be created since the product is considered inactive.	Forecast will be created for the entire planning horizon.	Assumed that the product is active.	Forecast will be created for one day (May 1).	In case of conflict between is_deleted and discontinue_day, is_deleted is considered.

Column name	Required for Data Lake	Required for Demand Planning	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7
			of the planning horizon since there is no discontinu-ue date.	discontin-ue date (or as configur- d).					

For information on how to configure Product lifecycle, see [First time configuration of Demand Plan](#).

Under Demand Planning settings, you can set your forecast start date depending on the *product\_available\_day* in the Product data entity. By default, the forecast starts on the *product\_available\_day*. *Period* refers to the time interval set under **Scope** (daily, weekly, monthly, or yearly). You can adjust the start date to optimize inventory management.

Similar to start date, you can set an end date for your forecast depending on the *product\_discontinue\_day* in the Product data entity. By default, forecast will end on the *product\_discontinue\_day*. You can adjust the end date to prevent inaccurate forecasting beyond the product shelf life and avoid excess inventory cost. Enter zero if you want the forecast to match the *product\_available\_day* and *product\_discontinue\_day*. This global setting will apply to all eligible products.

When *product\_available\_day* and *product\_discontinue\_day* are not available, the forecast is created for the entire planning horizon.

You can also configure your system to initialize forecast values for products without historical data or alternate product links. The default value is zero. You can also set the period until which your system should use the initialize product forecast value based on the time interval set under **Scope** (daily, weekly, monthly, or yearly). The default value is three periods. This global setting will apply to all eligible products at the intersection of site, customer and channel dimensions, if they are selected as additional forecast granularity. For example, when forecast is set to weekly with

an initialized value of 10 for 12 periods, and the start forecast is set to three periods before the *product\_available\_day*, for a Product X with October 2, 2023 *product\_available\_date*, the initialized value of 10 will be applied for each week from September 11, 2023 to December 3, 2023.

To change the *product\_available\_day* and *product\_discontinue\_day*, update the Product data entity in AWS Supply Chain data lake. You can also update the forecast start and stop date. When you change the initialization value and period settings, the changes are applied to all eligible products, including those which were initialized with a different value in the previous planning cycles. All the updates are applied to the next forecast creation cycle.

## Manage demand plans

After the forecast is generated, choose **Demand Planning**, and then choose **Manage Demand Plan**. On the **Demand Planning** page, you can view the overall influence factors used in generating the forecast and the accuracy metrics of the forecast. You can also view the current demand plan.

### Topics

- [Overview](#)
- [Demand plan](#)
- [Forecast lock](#)

## Overview

### Note

You can only view the **Overview** page after the forecast is generated for the first time.

The **Overview** tab provides the following information.

- **Overall Influence Factors** – Indicates the impact score of product metadata attributes and demand drivers (if any), used to generate forecast in the current planning cycle. You can view the influence factors after the first successful forecast generation. A negative value indicates the attributes caused the forecast to go down and vice versa. A zero value indicates that the attribute has no influence on the forecast result. For information on forecast based on demand drivers, see [Forecast based on demand drivers](#).

- **Accuracy Metrics** – After you update the dataset (outbound\_order\_line) that contains the actual demand for the forecast period, choose **Recalculate**. You can view the accuracy metrics for the latest demand plan under the **Demand Plan** tab. Accuracy metrics measure how the accuracy of the current demand plan aligns with the actual demand.

Accuracy metrics are available at **plan (aggregate)** and **granular lowest** level during forecast generation. The **Overview** page displays the aggregate level metrics and under **Accuracy Metrics**, you can choose **Download** to download the granular metrics.

The following are the formulas used to calculate the metrics displayed on the web application.

- **Mean Absolute Percentage Error (MAPE)** – MAPE takes the absolute value of the percentage error between observed and predicted values for each unit of time and averages those values.

The formula at granular and plan level is below:

$$\frac{1}{n} \sum_{t=1,n} \left| \frac{A_t - F_t}{A_t} \right|$$

A MAPE less than 5% indicates the forecast is acceptably accurate. A MAPE greater than 10% but less than 25% indicates low, but acceptable accuracy, and MAPE greater than 25% indicates very low accuracy and the forecast is not acceptable.

- **Weighted Average Percentage Error (WAPE)** – WAPE measures the overall deviation of forecasted values from observed values. WAPE is calculated by taking the sum of observed values and the sum of predicted values, and calculating the error between those two values. A lower value indicates a more accurate model.

The formula at granular and plan level is below:

$$r \frac{\sum_{t=1,n} |A_t - F_t|}{\sum_{t=1,n} |A_t|}$$

A WAPE less than 5% is considered as acceptably accurate. A WAPE greater than 10% but less than 25% indicates low, but acceptable accuracy and WAPE greater than 25% indicates very low accuracy.

See the following example:

	A	B	C	D	E	F
4						
5	<b>Timestamp</b>	<b>Product ID</b>	<b>Forecast</b>	<b>Actual</b>	<b>MAPE</b>	<b>WAPE</b>
6	5/5/2023 12:05	FC01	74	69	7.25	7.25
7	5/5/2023 12:05	FC02	41	35	17.14	17.14
8	5/5/2023 12:05	FC03	82	77	6.49	6.49
9	5/5/2023 12:05	SN01	82	70	17.14	17.14
10		<b>Total</b>	<b>279.00</b>	<b>251.00</b>		
11						
12						
13			Overall MAPE	12.01	=AVERAGE(E6:E9)	
14			Overall WAPE	11.16	=ABS(D10-C10)/ABS(D10)*100	
15						

The metrics are not calculated when actual is zero or null. When a new forecast is generated subsequently, the previous reported metrics will no longer be available on the web application. Make sure the latest `outbound_order_line` dataset is updated and choose **Recalculate** to view the updated metrics.

The accuracy metrics reflect the accuracy of the current demand plan for all time periods that have an actual demand value in the current executed forecast.

For example, if your current planning cycle has forecast from January to December 2023 with monthly forecasts and you updated the actual data for January 2023, accuracy metrics will be computed for January 2023. Similarly, if your current planning cycle has forecast from January to December 2023 with monthly forecasts and you updated the actual data for January 2023 and February 2023, accuracy metrics will be computed for January 2023 and February 2023. The Demand Planning web application will display the aggregated metric for Jan-Feb-2023 and the export file will display the granular details.

### Note

When you modify the *Time interval* or *Hierarchy* configuration and regenerate the forecast, the accuracy metrics will not be displayed since the accuracy metric values are not relevant.

## Demand pattern

You can expand the individual metrics to view the demand characteristics such as *Smooth Demand*, *Intermittent Demand*, *Erratic Demand*, and *Lumpy Demand*. The segments are derived based on the actual demand used in the last forecast.

When one or more of the four segments are missing in the Demand Planning web application, it indicates that the Demand Planning web application could not find any product aligned with the patterns associated with the missing segments.

The following intermediate results are calculated:

- *Average Demand Interval (ADI)* – Represents the average time between consecutive demands.
- *Covariance Squared (CV2)* – Measures the variability in demand quantities.

The following cut-offs are applied to derive the segments:

- *Smooth Demand* (ADI less than 1.32 and CV2 less than 0.49) is highly regular in time and quantity, making it easy to forecast with low error margins.
- *Intermittent Demand* (ADI greater than or equal to 1.32 and CV2 lesser than 0.49) exhibits little variation in quantity but high variation in demand interval, leading to higher forecast error margins.
- *Erratic Demand* (ADI less than 1.32 and CV2 greater than or equal to 0.49) has regular occurrence in time but high variations in quantity, resulting in shaky forecast accuracy.
- *Lumpy Demand* (ADI greater than or equal to 1.32 and CV2 greater than or equal to 0.49) is characterized by large variations in both quantity and time, making it unforecastable.

## Forecast validation

By default, forecast validation is enabled. To make sure the forecast generated is accurate, Demand Planning will monitor and update you on the forecast quality or accuracy. If Demand Planning determines the forecast requires additional validation, Demand Planning will delay publishing the forecast and you will see a message that displays the date and time when the forecast will be published on the AWS Supply Chain web application.

You can also opt-out and Demand Planning will not monitor your forecast. For more information on how to opt-out, see [Opt-out preference](#).

You can view the last published demand plan in read-only mode.

## Lags

Lags represent the time interval between when the forecast was created and the actual forecast was realized. You can configure up to three forecast lags when you configure demand plan. For more information, see [First time configuration of Demand Plan](#). The forecast accuracy metrics displays the analysis based on the lag intervals defined.

Forecasts for the defined lags are generated for every planning cycle and the accuracy metrics can only be evaluated after the corresponding number of planning cycles. For example, if you choose lag six, accuracy metrics for lag six forecast will be calculated after six planning cycles.

Legend: Lag six Forecast Actualized period \*

	11/1/2023	12/1/2023	1/1/2024	2/1/2024	3/1/2024	4/1/2024	5/1/2024	6/1/2024	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024	1/1/2025	2/1/2025	3/1/2025	4/1/2025	5/1/2025	6/1/2025	7/1/2025	8/1/2025	9/1/2025
Actual		14	40																				
Forecast Cycle 1			48	43	25	12	41	17	37	35	32	39	47	39									
Forecast Cycle 2				38	23	31	20	28	22	32	27	25	35	31	40								
Forecast Cycle 3					22	28	22	24	10	37	40	40	27	23	22	23							
Forecast Cycle 4						32	28	24	38	25	25	29	26	20	40	29	22						
Forecast Cycle 5							24	38	28	31	22	32	30	33	26	23	34	36					
Forecast Cycle 6								39	27	39	24	31	30	32	28	23	33	32	28				
Forecast Cycle 7									27	21	40	26	40	28	27	23	37	33	29	21			

Lag six accuracy can be only calculated after six planning cycles
Lag six forecasts

**Note**

When you change the lag configuration, the drop-down values displayed are the newly selected lags. Choose **Refresh Metrics** to view the latest metrics. When you change the time interval (daily/weekly/monthly/yearly), or hierarchy (product/site/customer/channel) granularity, the previous lag metrics will no longer be available when you choose **Refresh Metrics**. The recalculation results will display the latest demand planning cycle as the only cycle in history.

Choose **Export Metrics** to download a detailed file that includes granular data corresponding to the aggregated metrics displayed on the web application. The downloaded file will contain the following information:

- Timestamp - Forecasted Period, Forecast Creation Date, Last Actual Period, Lag
- XYZ segment (smooth, intermittent, erratic or lumpy)
- Granularity - Product/site/customer/channel as configured
- Baseline forecasts - P10, P50 and P90
- Actual demand
- Metrics - Bias Units, Bias %, MAPE, SMAPE (at granular level, MAPE and WAPE are the same)


## Demand plan

After the forecast is generated, you can review the forecast values on the **Demand Plan** tab. The **Enterprise demand plan** is a single workbook that serves as a collaborative platform to work

together. It provides a centralized location for you to consolidate and synchronize the forecasting effort.

The Demand Plan table displays the following information:

- **Forecasted Demand** – Displays the system generated forecast and includes the following three values:
  - **Lower Bound** – Forecast prediction that is typically higher than the actual demand around 90 percent of the time.
  - **Median Demand** – Forecast prediction that is typically higher than the actual demand 50 percent of the time (central estimate).
  - **Upper Bound** – Forecast prediction that is typically higher than the actual demand 10 percent of the time.

 **Note**

*Lower and Upper Bound* information is only displayed when a *product\_id* is selected. *Median Demand* is displayed at both aggregate level and when a single *product id* is selected.

- **Demand Plan** – Median Demand is replicated in this row to allow for overrides.
- **Actual Demand** – Displays demand history for the current and prior years.

When comparing historical data on a weekly basis, Demand Planning will reference the closest Monday in the previous year. This is because Demand Planning considers Monday as the starting day of the week. Due to variations between years and leap years, the corresponding week in the previous year might not have the exact same date. For example, to compare if historical sales data for the week of 6/3/2023 is available, which is a Monday, Demand Planning will reference the week with the closest Monday in the previous year, which is 7/2/2022.

- **Prior Forecast Versions** – The last published demand plan displays. This will be blank during the first forecast creation because no history is available.
- **Lifecycle and Events** – Displays the products in the demand plan that are New Product Introductions (NPI) or products that are nearing End of Life (EoL). When you hover over the **NPI** or **EoL** icons, when more than one product is selected, you can view the number of products and the list of products. When only one product is selected, you can view the product metadata, product available day in case of NPI, discontinue day in case of EoL, and forecast start and stop date.



**Note**

You will only see the number of products that are new or nearing EoL listed when the product category is set to all or when a higher level in product hierarchy is selected.

You can use the **Graph** toggle button to hide or show the graph view. You can hide or show the specific value by choosing the eye icon. When you filter by products, you can hover over the *i* help icon to view the product description, unit of measure (UoM), product available date, and discontinue date.

## Viewing the forecast

To view the forecast, complete the following steps:

1. On the **Enterprise demand plan** page, you can see the timestamp of the forecast generated. If the **Enterprise demand plan** is in *active* state, you can use the filters and make adjustments.
2. On the **Enterprise demand plan** page, under **All**, choose **Change category/product** to change the generated forecast view. By default, the forecast displayed represents the total forecast demand for all products within the defined scope or time horizon.
3. On the **Select Category/Product** page, you can select the product from the list or use the search box to search for a particular product by *Product ID* or *Description*.
4. Choose **Apply**. You can now view the filtered forecast for the selected product or category.

**Note**

If you had chosen optional hierarchies during forecast configuration, the summary box will display the count of site, customer, and channel the selected product is sold.

5. Under **Refine your search**, if you chose optional hierarchies during forecast configuration, you can filter for **Site**, **Channel**, or **Customer** to further refine your forecast. For example, if you chose **Site** and **Channel** hierarchy during forecast configuration, the filters for Site and Channel will be available on the **Demand Plan** page.
6. In the **Time interval** dropdown list, select the time interval to view the forecast. You can use this filter to adjust the time hierarchy and view the forecast in both table and graph form. The lowest value corresponds to the forecast granularity time interval setting. For example, if the time interval is *Weekly*, you can view the forecast at *Weekly*, *Monthly* and *Yearly*.

You can also use the **Viewing window start** and **Viewing window end** to narrow down the period that you want to view in the forecast, both in table and graph view. You can view the historical sales for 28 days, 52 weeks, 48 months, and 10 years.

### Time interval example 1

Demand Plan is generated at daily time-intervals per configuration. You can view the Demand Plan at weekly time interval by selecting the option on the Time Interval filter on the Demand Plan page. The system will aggregate values into weeks with Monday as the starting day of the week.

You can also view the demand plan in monthly time interval by using the Time Interval filter and selecting the monthly option. System will aggregate values into Gregorian calendar month with start day as 1, because demand plan is available at daily granularity.

Demand Plan generated for daily time intervals

Day of the week	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Date	5/1/2023	5/2/2023	5/3/2023	5/4/2023	5/5/2023	5/6/2023	5/7/2023	5/8/2023	5/9/2023	5/10/2023	5/11/2023	5/12/2023	5/13/2023	5/14/2023	5/22/2023	5/23/2023	5/24/2023	5/25/2023	5/26/2023	5/27/2023	5/28/2023
Forecast period	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28
Demand Plan	17	18	22	30	11	33	18	32	29	17	10	20	15	25	34	37	36	35	17	35	18

You can view the demand plan in weekly time intervals. Demand planning will aggregate values into Gregorian calendar weeks with Monday as start day of the week

Beginning of the week	5/1/2023	5/8/2023	5/15/2023	5/22/2023	5/29/2023	6/5/2023	6/12/2023	6/19/2023	6/26/2023	7/3/2023	7/10/2023	7/17/2023	7/24/2023
End of the week	5/7/2023	5/14/2023	5/21/2023	5/28/2023	6/4/2023	6/11/2023	6/18/2023	6/25/2023	7/2/2023	7/9/2023	7/16/2023	7/23/2023	7/30/2023
Forecast period	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Demand Plan	169	148	169	212	201	196	210	159	181	203	196	189	152

You can view the demand plan in monthly time intervals. Demand planning will aggregate values into Gregorian calendar months with start day as 1, since forecast is available at daily granularity

Beginning of the month	5/1/2023	6/1/2023	7/1/2023
End of the month	5/31/2023	6/30/2023	7/31/2023
Forecast period	Month 1	Month 2	Month 3
Demand Plan	656	854	875

### Time interval example 2

Demand plan is generated at weekly time-interval per configuration. You can view the Demand plan at monthly time interval by selecting the Time Interval filter. The time boundaries for month will not be strict Gregorian calendar month.

Demand Plan generated for weekly time interval

Beginning of the week	5/1/2023	5/8/2023	5/15/2023	5/22/2023	5/29/2023	6/5/2023	6/12/2023	6/19/2023	6/26/2023	7/3/2023
End of the week	5/7/2023	5/14/2023	5/21/2023	5/28/2023	6/4/2023	6/11/2023	6/18/2023	6/25/2023	7/2/2023	7/9/2023
Forecast period	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Demand Plan	35	41	28	39	41	35	30	25	28	27

You can view the demand plan generated with a weekly time interval as monthly.

Beginning of the week	5/1/2023	6/5/2023	7/3/2023
End of the week	6/4/2023	7/2/2023	7/9/2023
Forecast period	Month 1-May	Month 2-June	Month 3-July
Demand Plan	184	118	27

## Adding an override

This section describes how to manually edit the forecast to override the projected demand.

**Note**

Manual forecast overrides from one planning cycle are automatically saved and reapplied on the next planning cycle.

1. Under **Demand Plan**, you can add overrides on the graph by moving the dot to the desired value or update the values directly on the Demand Plan row in the table.
2. On the **Edit Quantity** page, under **Change**, select if you want to increase, decrease, or fixed amount the demand.
3. Choose **Bulk edit** to bulk edit the forecast and add an override.

The **Edit your forecast** page appears.

4. Under **Change**, select the dropdown to increase or decrease the demand, or enter a value.
5. Under **Reason Code**, select from one of the options between *Promotion*, *Holiday*, *Seasonal*, *New Product*, *Product Rampdown* or *Others*. The reason code is mandatory to successfully process the override. It is optional to add more descriptive notes to a forecast override.
6. Choose **Save and Update**.

When you create an override, the impact can be viewed throughout the relevant levels of hierarchies. You can create many overrides but only the last override will be considered. After an override is created, a *clock* icon appears under **Demand Plan**. When you choose the *clock* icon, you can view the most recent change in the planning cycle. Choose **View more changes** to view past updates.

7. To make multiple overrides at the same time, from the **Edit Quantity**, choose **Go to bulk editing**. You can also choose **Bulk Edit** against **Demand Plan**.

**Note**

You can bulk edit only from the table.

8. On the **Edit your forecast** page, you can select all check boxes or a check box for each time period that you want to update, and then enter the updates.
9. Choose **Save and Update**.

The **Forecasted Demand** is updated.

## Exporting data plan files

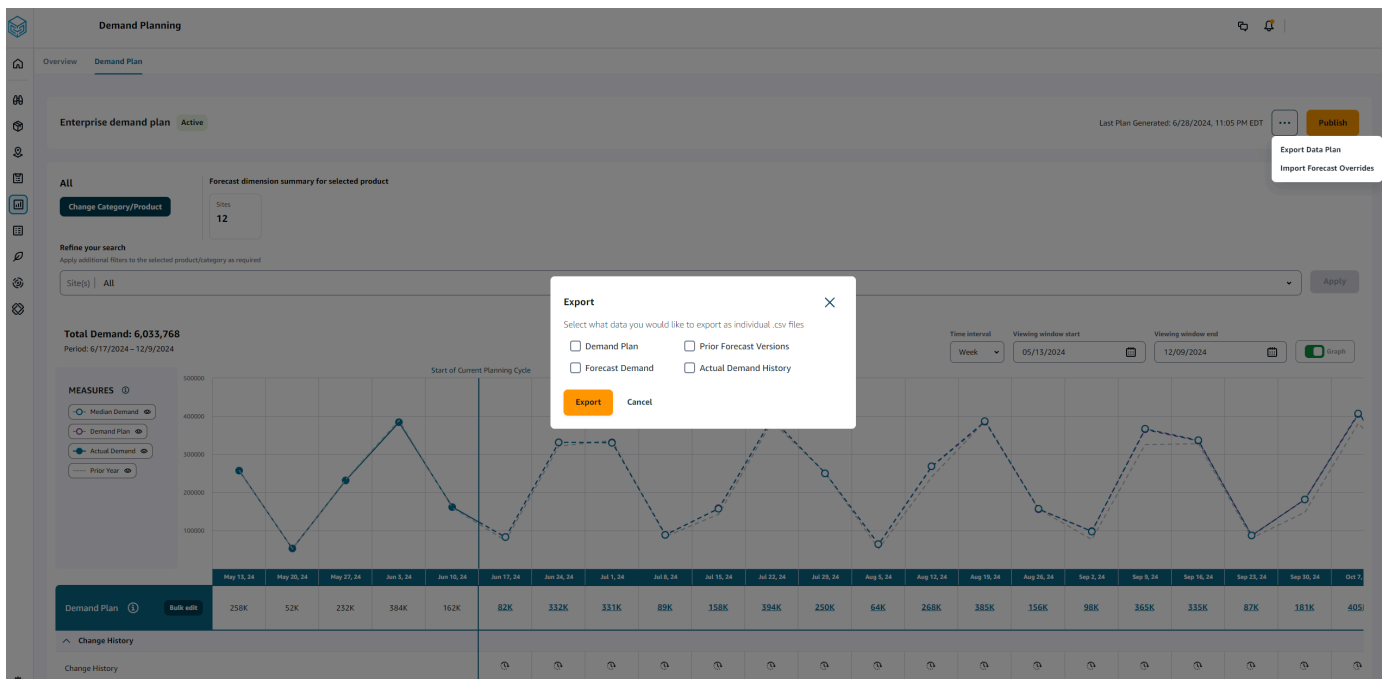
You can export **Demand Plan**, **Forecast Demand**, **Prior Forecast Versions**, and **Actual Demand History** from Demand Planning as individual .csv files.

### Note

The exported .csv file will contain the entire demand plan, despite which filters were active on the **Demand Planning** page at the time of export.

To export the data plan, complete the following steps:

1. On the **Enterprise demand plan** page, select the vertical ellipsis.
2. Choose **Export Data Plan**.



3. On the **Export** page, select the required data you would like to download.
4. Choose **Export**.

The file is downloaded on your local computer.

## Importing forecast overrides

You can use the import forecast overrides option to import the forecast overrides using a .csv file.

To upload the forecast overrides through a .csv file, complete the following steps:

1. On the **Enterprise demand plan** page, select the vertical ellipsis.
2. Choose **Import Forecast Overrides**.

The **Import Forecast Overrides** page appears.

The screenshot displays the 'Import Forecast Overrides' page. At the top, there's a navigation bar with 'Demand Planning' and user information. The main content area is titled 'Import Forecast Overrides' and contains an 'Upload files' section. This section includes a 'Download CSV Template' link and a large dashed box for file upload with the text 'Drag and drop, or select files'. Below the upload area, there's a table titled 'Import Forecast Overrides Status'. The table has columns for 'File Name', 'Date Uploaded', 'Status', 'Failure Reason', and 'User ID'. A single row is visible, showing 'forecast\_override\_template.csv' uploaded on '2024-07-11T14:23:33.274Z' with a status of 'Success' and user 'Josh Sheng'. There are also filters for 'Date Uploaded' and 'User ID', and a 'Refresh' button.

3. Under **Upload files**, choose **Download CSV template** to download the .csv file you need to use to add the override values.

The .csv file will contain the headers from the dataset you used to generate the forecast.

The .csv file can only contain upto 1000 rows and the file size should be within 5 MB.

4. After the .csv file is updated, you can drag and drop the files or choose **select files** to add the file.
5. Choose **Upload overrides**.

If the upload fails, check the following:

- Make sure the required fields *override\_start\_date*, *override\_end\_date*, *value*, and *reason\_code* are populated.
- The supported reason codes are *Promotion Holiday*, *Seasonal*, *New Product*, *Product Rampdown*, and *Others*.
- Make sure the *override\_start\_date* and *override\_end\_date* is the first day of the week or month depending on your configuration.

6. Under **Import Forecast Overrides Status**, you will see the status of all the forecast overrides you uploaded.

You can filter the forecast override status by **Data Uploaded**, **User ID**, or upload status.

## Demand Plan scheduler

Schedulers in Demand Planning determine when forecasts are generated and demand plans are finalized. Schedulers can be configured to operate automatically at set time intervals (auto schedulers) or triggered manually. Auto-schedulers ensure that the planning process runs smoothly and consistently according to predefined timelines, while manual schedulers gives you the flexibility to initiate forecast refreshes and finalize demand plans.

- Manual refresh and release – Make sure you choose **Manual** under **Demand Plan Scheduler** when you configure demand planning. To start a forecast refresh, on the **Demand Plan** page, select the three dots on the top-right, and choose **Generate Forecast**.

Select **Finalize demand plan**, if the demand plan is final and ready to be released to downstream processes.

Once the demand plan is final, the information is published to the *Forecast* data entity in Data Lake and to Amazon S3. The status on the demand plan page for this plan is changed to *Published*. You can view the Amazon S3 link under *Settings > Organization, Demand Planning, Publish Demand Plans*. You can see the **Generate forecast** button to start the next planning cycle.

When the **Finalize demand plan** is not selected, Demand Planning will publish the forecast as an interim version to the *Forecast* data entity in Data Lake. The status is changed to *Closed*. You can see the **Generate forecast** button to start the next planning cycle. Demand planning will initiate a new forecast as set in the demand planning configuration page and will use the same start date as the previous plan.

- Automatic refresh and release – Make sure you choose **Auto** under **Demand Plan Scheduler** when you configure demand planning. For more information, see [First time configuration of Demand Plan](#).

## Forecast lock

You can use the forecast lock feature to lock specific periods in your forecast to prevent any further edits or adjustments. To configure the forecast lock, enter a number between zero and time horizon -1 in the Demand Plan settings page to lock the first x forecast period. The default value is 0, indicating no periods are locked.

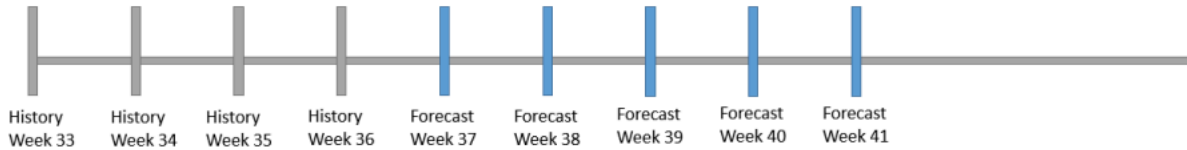
The forecast lock is not applied to the initial forecast but will take effect from the second demand planning cycle carrying over the finalized values from the previous demand plan. In the Demand Plan, locked periods are indicated by a *lock* icon. The change history icon will display the reason code *PLAN\_LOCKED* for audit purpose at the most granular level. Once the forecast period is locked, the lock applies to all products within that timeframe.

When the forecast granularity is changed, forecast overrides from the prior planning cycles are not carried over to the current planning cycle. The prior forecast and accuracy metrics will also not display any data in the Demand plan and any prior forecast locks are no longer valid. It takes two consecutive forecast executions in the modified granularity to apply a new forecast lock. You can unlock forecast periods by setting the configuration to zero and starting a new forecast.

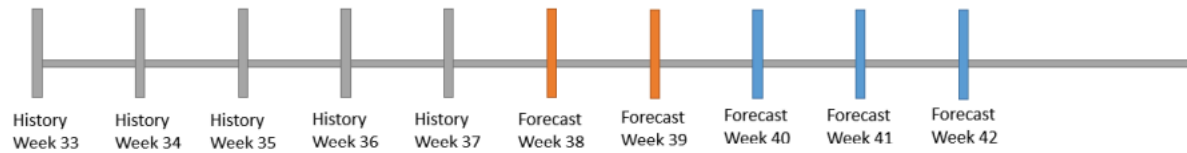
The example below displays how intra-cycle forecast refresh scheduler works (when it's disabled) with forecast lock in the following settings:

- Demand plan granularity – Weekly
- Forecast horizon selected – 5
- intra-cycle forecast refresh schedule – Disabled
- Final forecast publish – 7th day of the week
- Lock period – 2

**First Forecast Run in the DP instance:** No periods are locked. User makes adjustments and publishes. Publishes = closes the planning cycle



**Second Forecast Run after actual for Week 37 is updated:** Lock takes effect. User makes adjustments and publishes. Publishes = closes the planning cycle



**Second Forecast Run after actual for Week 38 is updated:** Lock takes effect. And it continues....

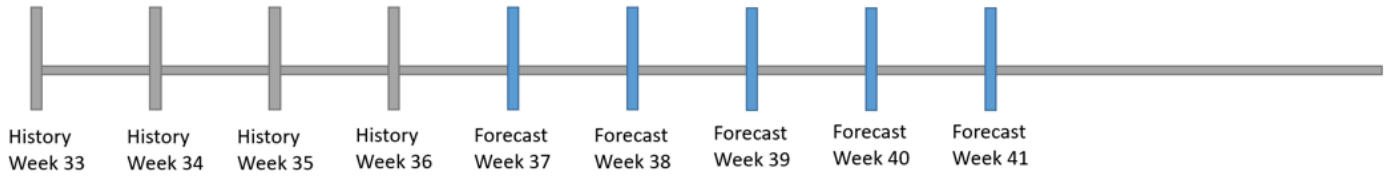


The example below displays how intra-cycle forecast refresh scheduler works (when it's enabled) with forecast lock in the following settings:

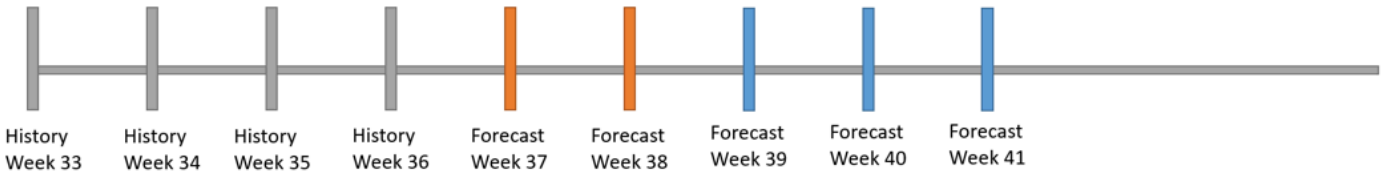
- Demand plan granularity – Weekly
- Forecast horizon selected – 5
- intra-cycle forecast refresh schedule – Enabled
- Final forecast publish – 7th day of the week
- Interim forecast publish – 3rd day of the week
- Lock period – 2



**First Forecast Run in the DP instance on day 7 week 36:** No periods are locked. User makes adjustments. Publishes forecast as interim plan on day 3 week 37.



**Second Forecast Run on day 3 week 37:** Forecast horizon \* is the same as the last run since it is a new forecast version for the same demand plan cycle. Lock takes effect. User makes adjustments and publishes. Publishes as the final plan on day 7 week 37 = closes the planning cycle

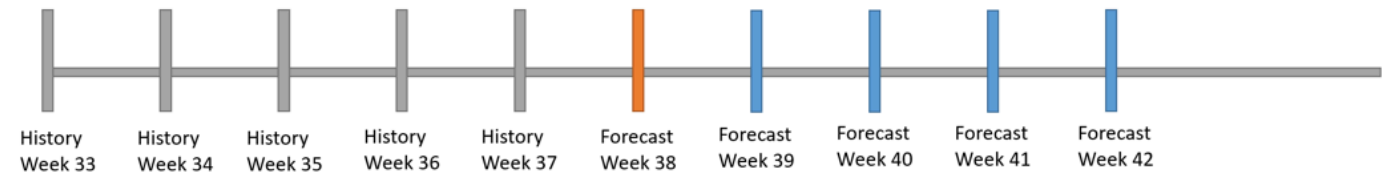


Forecast horizon \* =

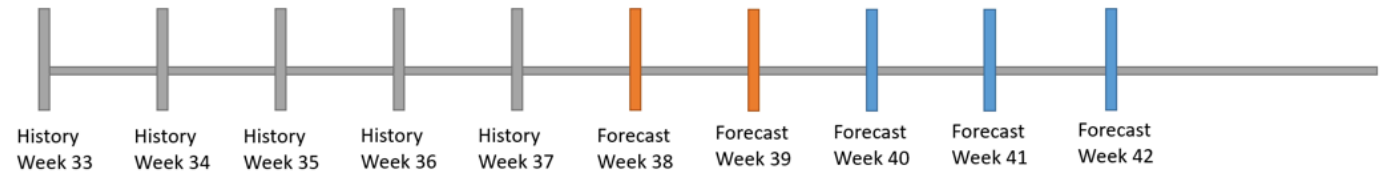
Phase 1: Irrespective of new history availability, system re-forecasts the same horizon

Phase 2: If history updates are available, then system re-forecasts the same horizon. Else copies over forecast values from prior plan.

**Third Forecast Run on day 7 week 37:** Fresh demand plan cycle. 1 period is locked. User makes adjustments. Publishes forecast as interim plan on day 3 week 38.



**Fourth Forecast Run on day 3 week 38:** Forecast horizon \* is the same as the last run since it is a new forecast version for the same demand plan cycle. Lock takes effect. User makes adjustments and publishes. Publishes as the final plan on day 7 week 38 = closes the planning cycle. And it continues..



Forecast horizon \* =

Phase 1: Irrespective of new history availability, system re-forecasts the same horizon

Phase 2: If history updates are available, then system re-forecasts the same horizon. Else copies over forecast values from prior plan.

## Forecast model analyzer

Forecast model analyzer is a self-service tool that you can use to execute forecast experiments on multiple forecast models (forecast period in past and future). Once executed, you can review the results of the different forecast models. Using accuracy metrics and visual comparison between forecasts and actual demand, you can choose the required forecast model that suits your business

data patterns. You can execute the forecast model analyzer at the same time the production demand plan is running without any interference between each other or vice-versa.

**Note**

Forecast model analyzer is an optional work flow. If you do not have multiple forecast models to compare, you can continue to use the default forecast model recommendations provided by AWS Supply Chain.

The forecast model analyzer supports two main evaluation scenarios:

- Back test scenario – You set the forecast start date in the past. In this scenario, forecasts are created and accuracy metrics are calculated and reported for forecast periods of overlap with actual demand periods.
- Forward forecast scenario – You do not set the forecast start date and there is no overlap between forecast and actual data. In this scenario, forecasts are created but since actual demand data is not available (for future periods), accuracy metrics are not calculated or reported. You can still verify how the demand is forecasted against recent trend and prior year(s) demand.

Make sure the demand plan settings are configured before you execute the forecast model analyzer. The forecast model analyzer inherits the demand plan settings for *time interval* and *hierarchy granularity*, while providing the flexibility to adjust the forecast horizon and optionally select the forecast start date.

You can choose to execute a back test or a forward forecast scenario. The default is forward forecast scenario where you do not specify a forecast start date and it is based on the last order date in the actual demand history. For more information, see [First time configuration of Demand Plan](#). However, if you choose to run a back test scenario, you can override the forecast start date and select a date in the past for back testing purposes. When the selected forecast start date is later than the *outbound\_order\_line* dataset end date, the default planning cycle last order date in the actual demand history is used. When the selected forecast start date is before the *outbound\_order\_line* start date or if the length of the demand history is insufficient, the forecast will fail and display an error. For more information, see [Prerequisites before uploading your dataset](#).

It is recommended to select the first of the month for monthly intervals or Monday for weekly intervals. If you choose a different date, Demand Planning will automatically adjust to the nearest default date. For example, if you selected Wednesday as the forecast start date, Demand Planning

will select the next Monday as the forecast start date for weekly intervals. Similarly, selecting May 10th 2024 will result in June 1st 2024 as the planning cycle start date for monthly intervals.

**Note**

Make sure you have at least four times the historical demand data for the forecast period you enter.

After reviewing the model analyzer results, you can select or change the choice of forecast algorithm in the forecast analyzer tool. Alternatively, you can choose not to use model analyzer and proceed to directly selecting or changing the choice of forecast algorithm to be used. AWS Supply Chain will pick the default forecast method for your dataset when the model analyzer is not used.

Forecast Model Analyzer produces forecasts and forecast metrics from across multiple models. The list of models included in [the section called "Forecast Algorithms"](#).

## Viewing the forecast model analyzer details

To view the generated forecast model analyzer details, complete the following steps:

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Demand Planning** and then choose **Forecast Model Analyzer**.
2. Under **Forecast Model Analyzer**, you can view the meta data for each iteration of model analyzer including forecast summary that includes key metrics (such as the count of products, sites, channels and customers for which forecast were created), forecast scope such as time-interval, forecast horizon, forecast start date, the list of datasets used, forecast granularity, and input data used.
3. Under **Forecast(s) Vs. Actual Demand**, you can view a graph that displays the actual demand history, prior year demand, and the forecast to analyze trends and seasonality. You can adjust the **Viewing window start** and **Viewing window end** to review historical periods. Depending on the configured time-interval, you can view the historical sales for 28 days, 52 weeks, 48 months, and 10 years. You can view and compare up to five forecast results simultaneously.
4. Under **Measures**, choose **Edit** to edit the selected forecast models.
5. Under **Model Overview and Selection**, the tables displays a summary of the forecast methods that were evaluated. In a back testing scenario, the table also displays aggregate forecast

accuracy metrics such as, WAPE, Bias %, MAPE and sMAPE. Additionally, you can choose **Select** to select the forecast model. The change will be applied during the subsequent forecast cycle.

## 6. Choose **Apply Selection to Demand Plan**.

You can view up to two forecast model analyzer results simultaneously. The most recent analyzer result remains fully interactive, allowing you to select and apply the preferred forecast method after carefully evaluating the products. This will be applied in the next forecast generation. The previous analyzer result is rendered as read-only. You can export both the results of the forecast method with actual demand history. The exported data includes detailed information at the forecast period and granularity level, forecast by the P10/50/90 quantiles. For back test scenarios, the export will include actual demand data and corresponding accuracy metrics.

You can modify the forecast selection method using the forecast model analyzer or under demand plan settings anytime. The changes will be applied during the subsequent forecast cycle. The demand plan page will show meta data around the forecast method for current and the next forecast model.

## Manage Demand Plan settings

You can update the Demand Planning settings at any time to make sure that your forecasts are more accurate and take effect when the forecast is successfully generated.

### Note

Your prior forecast versions will be unavailable when you modify the *Time Interval* and *Hierarchy levels* on the **Demand Plan** page, because those prior versions will no longer align with the new forecast settings.

When you modify the *Time interval* or *Hierarchy* configuration and when you regenerate the forecast, the accuracy metrics will not be displayed since the accuracy metric values are not relevant.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.
2. Under **Organization**, choose **Demand Planning**.

The **Demand Planning Setting** page appears.

Use the steps in [First time configuration of Demand Plan](#) to edit the Demand Planning configuration settings.

## Role based access control

You can assign permission roles to the Demand Planner user role.

- *Manage* – Select this permission role if you want the Demand Planner to generate forecasts, add overrides, publish demand plans, and access the Model Analyzer.
- *View* – Select this permission role if you want the Demand Planner to only view the published demand plans.

To assign permission roles, complete the following steps:

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.
2. Under Organization, choose **Users and Permissions**.
3. Choose **Permission Roles**.

You can edit an existing permission role or create a new one.

4. Choose **Create New Role**.
5. Under **Role Name**, enter a name for the demand planner role.
6. Under **Demand Planning**, slide the **Manage** or **View** button to assign the permission role.
7. Choose **Save**.

# Supply Planning

AWS Supply Chain supports two types of supply plans to help you accurately plan inventory to meet demand.

## Note

You can only choose one supply plan per AWS Supply Chain instance to configure in AWS Supply Chain. To create multiple supply plans, you can create a new AWS Supply Chain instance under the same AWS account.

- Auto Replenishment
- Manufacturing Plan

## Topics

- [Auto Replenishment](#)
- [Manufacturing Plans](#)
- [Planning configuration data](#)

## Auto Replenishment

You can use the Auto Replenishment feature to determine the amount of inventory to hold and when to order more inventory by automating inventory management. Auto Replenishment streamlines the inventory management process by monitoring inventory, forecasted demand, and automatically reordering items based on configured inventory policy, ordering schedules, minimum order quantities, and vendor lead times.

You can use Auto Replenishment to generate purchase order requests that can be imported into your ERP or purchasing systems to create purchase orders (POs) for your suppliers.

## Key inputs

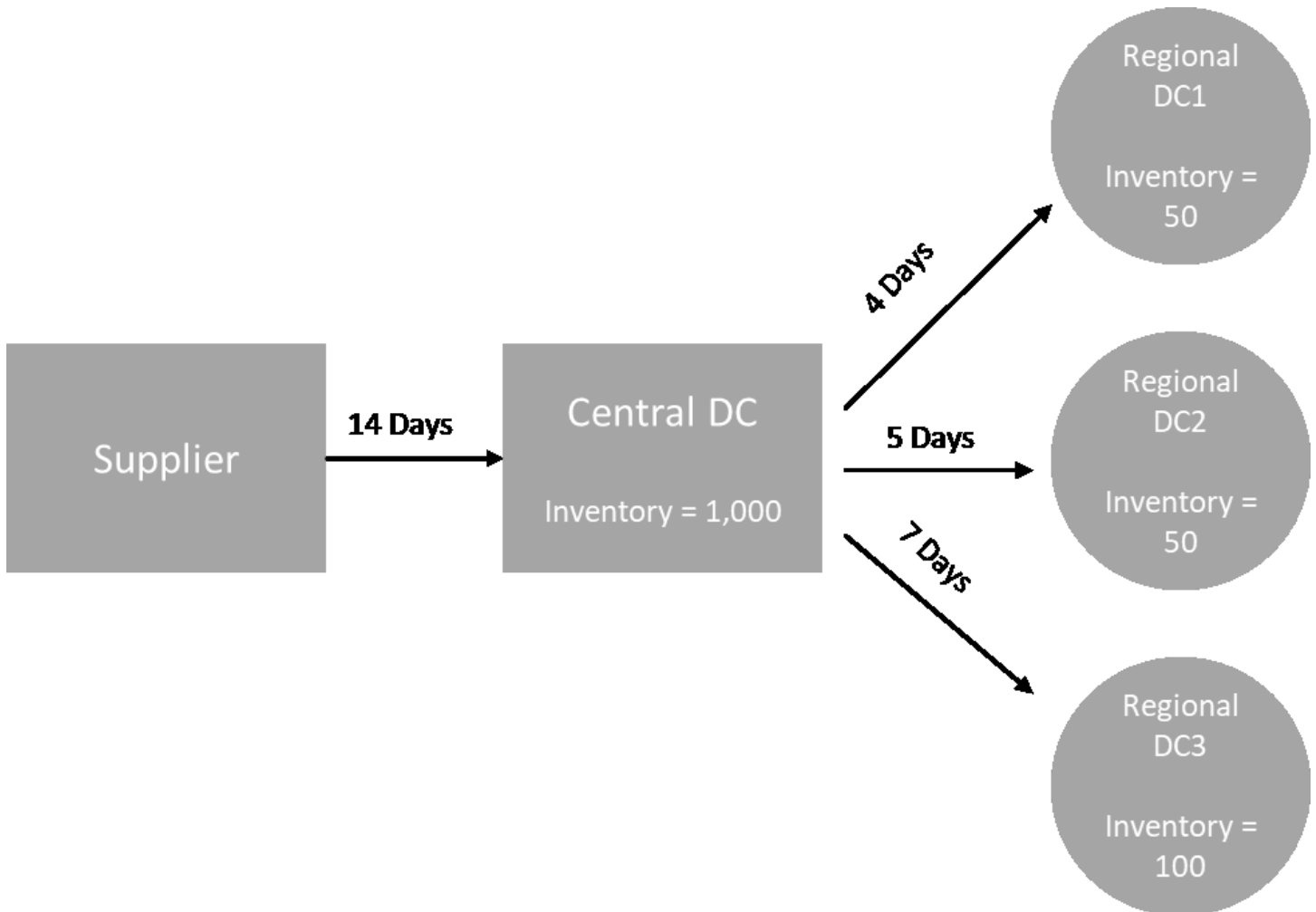
Auto Replenishment relies on the following inputs to make accurate and informed calculations for inventory replenishment:

- **Demand** – Demand data is the fundamental input for replenishment calculations. This data helps AWS Supply Chain understand the demand either in terms of past sales or future forecasts to be able to determine inventory requirements for future time buckets. You can provide demand forecasts or past sales history as an input for demand data. If demand forecasts are not available, you can provide sales history, and AWS Supply Chain will use historical consumption rate for replenishment calculations.
- **Inventory** – Auto Replenishment uses on-hand inventory and on-order inventory as an input for replenishment calculations. On-hand inventory is the available inventory at locations that can be used to fulfill demands. On-order inventory is the open purchase or transfer orders that are inbound to the stocking location. Demand will be calculated from on-hand and on-order inventory to determine net supply requirements.
- **Lead time** – Lead time is the time it takes for an order to be placed and the items to be received. Lead time helps AWS Supply Chain determine how far in advance it must place orders. For items that are ordered or procured from suppliers, lead time will refer to supplier/vendor lead time, which is the time it takes for a supplier to fulfill an order and deliver the goods. Any time required for internal order processing, quality checks, or handling should be included as part of the lead time. For items or products that are transferred from an enterprise's internal locations, such as distribution centers or fulfillment centers, lead time will refer to transportation time, which is the time required for transportation and delivery from a source location to a destination location.
- **Sourcing rules** – You can use sourcing rules to model supply chain network topology. Use sourcing rules to define relationships between different levels of locations (for example, regional DC to central DC) or relationships between suppliers and their sites. These relationships can be modeled at a product group or region level, or at a product or site level.
- **Sourcing schedules** – Use Auto Replenishment to regularly monitor and replenish items with every run, or configure predefined schedules for items to be replenished. Use a sourcing schedule to define ordering schedules based on suppliers or shipping schedules, and on transportation schedules. You can define a sourcing schedule to replenish items multiple times a week, once a week, or during specific weeks of the month.
- **Inventory policy** – Inventory policy is a key input to determine the target inventory level that is used to drive replenishment requirements. You can configure inventory policy at the most detailed product level, site level, or at an aggregate level such as product group, product segment, site, or region. Auto Replenishment supports absolute inventory level, days of cover, and service level inventory policies. You can define the target value for the configured inventory policy, and AWS Supply Chain uses the target value to determine the target inventory level.

For more information on data fields required for supply planning, see [Supply Planning](#).

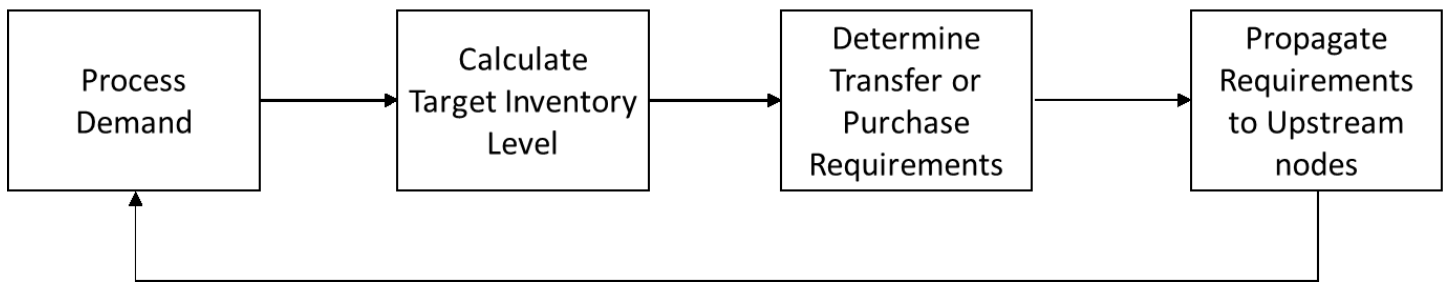
## Planning process

Replenishment requirements are calculated based on the configured network topology for an item. The following is a sample network topology that we use to describe various calculations involved in generating replenishment orders.



Auto Replenishment generates transfer requirements from spoke nodes to hub nodes (for example, regional DCs to the central DC), and it generates purchase requirements from hub nodes to suppliers (for example, central DC to suppliers). The following steps are involved in generating replenishment orders. These steps are repeated for each product and site combination that is in scope for replenishment planning. Requirements from downstream nodes are propagated upstream based on sourcing rules information, and the process repeats at the upstream node until it reaches the root node for that item.





- **Demand processing** – AWS Supply Chain prepares the historical demand or forecast data based on the replenishment plan configuration. Demand or forecasts are processed at the level of product, site, day, or week based on the replenishment plan configuration settings. Sales history or forecast data are aggregated at the product and site level if they are provided at a more detailed level, such as product, site, customer or product, site, channel. Similarly, day to week aggregation occurs if a replenishment plan is configured at the week level. In the preceding example, demand is taken from spoke nodes, which are regional DCs, and it is aggregated at the product, site, and day/week level. If consumption or demand based inventory policy is used, the last 30 days of demand (sales history) is used to calculate average consumption.
- **Target inventory level** – Use the demand or forecasts along with the configured inventory policy to determine target inventory level for a specific time period. Auto Replenishment supports two different replenishment models.
  - Forecast-driven replenishment
  - Consumption-based replenishment

AWS Supply Chain generates inventory targets based on the forecast. These inventory targets are determined based on lead time and sourcing schedules to ensure inventory levels account for the variability in demand and supply lead times.

- **Transfer or purchase requirements** – AWS Supply Chain nets demand in each period from the supply (on-hand + on-order inventory) to project inventory into future time. AWS Supply Chain maintains the projected inventory levels at the same level as the target inventory level calculated in the previous step. The difference between projected inventory level and target inventory level is the net supply requirement or reorder quantity (RoQ). AWS Supply Chain applies minimum order quantity, or it orders multiples to generate the final transfer requirements or purchase requirement (POR). AWS Supply Chain uses the transfer or vendor lead time to determine the order by date. The default for lot size is 1.0, and the minimum order quantity is 0.

### Calculation logic

$$\text{rounding} = f(\text{RoQ}, \text{MOQ}, \text{Lot\_Size})$$

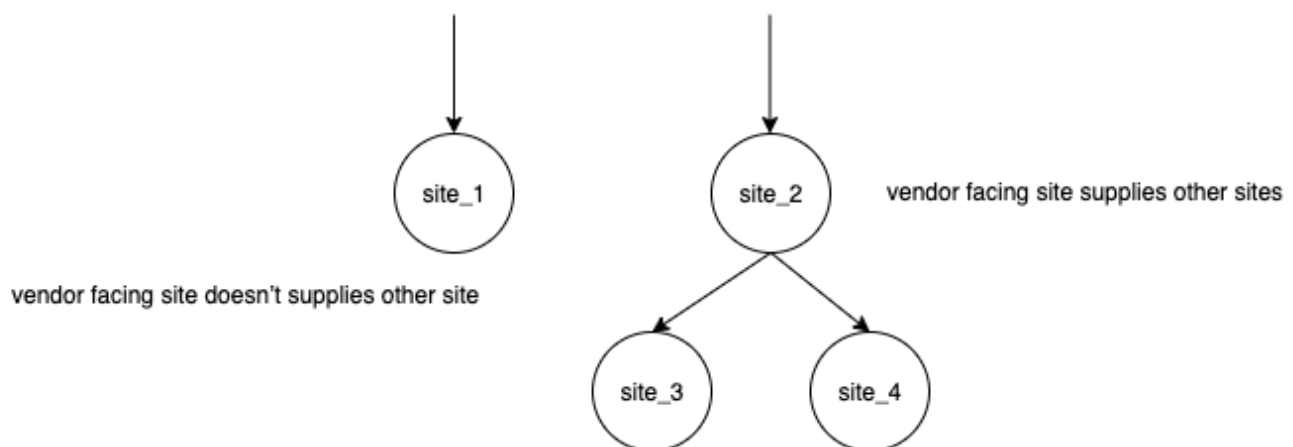
$$= \text{Lot\_Size} \times \text{Max}(\text{RoQ}, \text{MOQ})$$

The preceding formula describes the rounding logic in Auto Replenishment. AWS Supply Chain first compares the reorder quantity RoQ and minimum order quantity MOQ, gets the final order proposal, and then multiplies by the lot size factor for the actual quantity. The lot size is configured in the sourcing rules entity with the field *qty\_multiple*.

- **Requirement propagation** – For spoke nodes, AWS Supply Chain uses sourcing rules to look up parent nodes and propagate transfer requirements to the upstream node. AWS Supply Chain offsets the required delivery date by transfer lead time to determine the required date at the parent node. AWS Supply Chain only supports single sourcing. When this step is completed for all child or spoke nodes under a hub node, AWS Supply Chain repeats the previous steps on the hub node. This process is repeated until it reaches the root node in an item's topology.

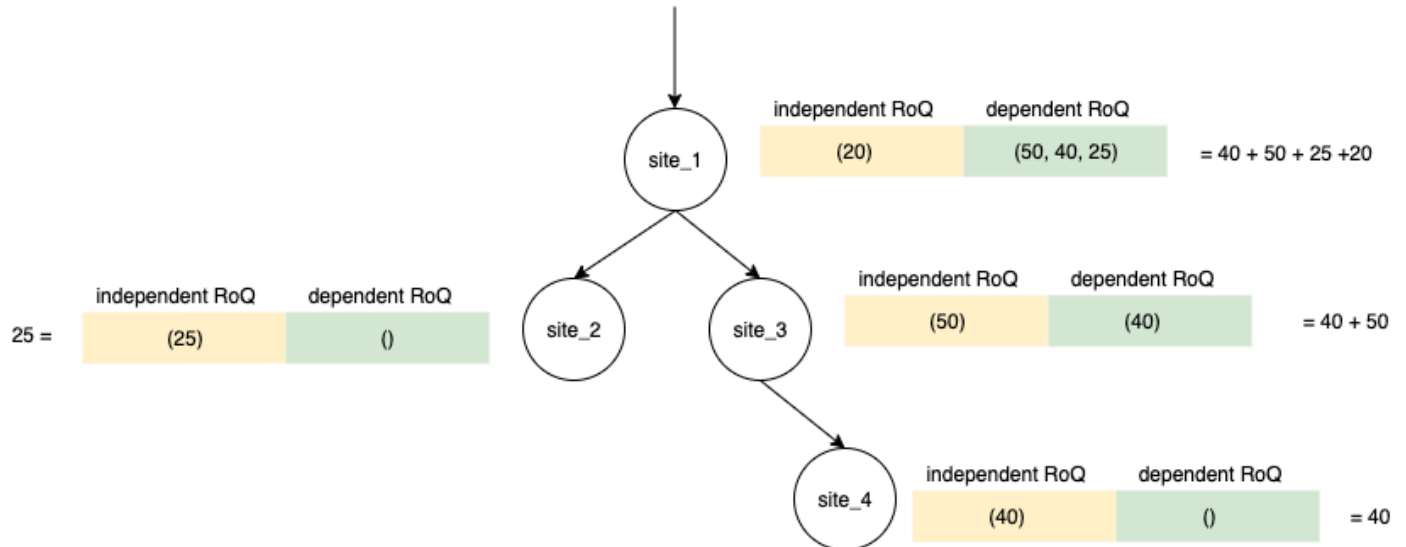
Auto Replenishment only shows purchase order requests for vendor-facing sites. There are two kinds of vendor-facing sites:

- Vendor-facing sites that supply other sites
- Vendor-facing sites that don't supply other sites



For vendor facing-sites that supply other sites, the reorder quantity is the reorder quantity from its child sites, plus the independent reorder quantity from its own demand. For vendor-facing sites that don't supply other sites, the reorder quantity is computed based on the demand

forecast of the site. The independent reorder quantity for vendor-facing sites follows the same logic in the reorder quantity computation. The dependent demand is the summation of all the child sites. If the days of coverage is 7, the RoQ is the summation of the quantity of all orders in the covered period. The following example shows a scenario in the planning horizon where there is only one order for each site, and it explains the computation.



## Inventory policies

Auto Replenishment supports three different inventory policies. Each policy computes a plan based on a different algorithm, and each policy requires different inputs.

### Topics

- [Absolute inventory level](#)
- [Days of Cover](#)
- [Service level](#)

### Absolute inventory level

If you use *absolute quantities* to manage your inventory levels, you can use this policy setting to calculate target inventory level and RoQ. The absolute inventory level policy uses the configured target inventory level instead of computed inventory level (position). The target inventory level is the value of *target\_inventory\_qty*.

## Inputs and defaults

The absolute inventory level policy requires forecast, lead time, and configuration for absolute inventory level policy, as shown in the following table.

Data required	Entity	Field	Value	Notes
Inventory policy	inventory_policy	ss_policy	abs_level	NA >
Inventory policy	inventory_policy	target_inventory_qty	Inventory level quantity	NA >
Forecast	forecast	NA	NA	Mean or forecast quantities. >
Lead time	transportation_lane	NA	NA	Lead time from a source location to a destination.
Lead time	vendor_lead_time	NA	NA	Lead time from a vendor to a destination location.

*target\_inventory\_qty* from *inventory\_policy* data entity used at the target inventory level

### Calculating reorder quantity

The inputs for the reorder quantity (RoQ) calculation is the target inventory level and the current inventory level. If the inventory level record is missing, AWS Supply Chain generates a plan exception to review.

## Calculation logic

$$RoQ_{P,S,D} = Max(TIL_{P,S,D+R_{P,S,D}} + Max((\sum_{d=D+LT_{P,S,D}}^{D+R_{P,S,D}} Demand_{P,S,d}) - IL_{D+LT_{P,S,D}}, 0) - IL_{P,S,D+R_{P,S,D}}, 0)$$

The reorder quantity is the difference between the target inventory level and the current inventory level. If the current inventory level is higher than the target inventory level, the reorder quantity is 0.

The goal of absolute policy is to make sure that on each review date there is enough on-hand inventory to match the desired inventory level. The inner max function computes the extra demand before the target review date (the first review date after delivery). The covering period starts from the expected deliver date and ends with the target review date. If the current on-hand inventory or delivery date is able to cover demand for a specific period, the reorder quantity is 0. The max function determines if you must order extra. The outer max function computes the deficit of inventory and determines whether an order should be placed. The reorder quantity calculation for sites that supply to other sites is calculated according to the logic explained in the Days of Cover (DOC) inventory policy.

## Days of Cover

If you use Days of Cover (DoC) to manage your inventory levels, then this would be an appropriate policy setting to drive the calculation of target inventory levels and RoQ. DoC inventory policy uses the configured days of coverage. This policy doesn't consider sourcing schedule (vendor review calendar) or vendor lead times to compute DOC. DOC is based on the *target\_doc\_limit* field in the *inventory\_policy* data entity. Note that, for weekly planning, *target\_doc\_limit* still uses unit of day. A coverage of 2 weeks translates to 14 days. DoC policy can be used with forecast (*doc\_fcst*) or demand (*doc\_dem*). The difference between *doc\_fcst* and *doc\_dem* is the forecast source. *doc\_fcst* is based on forecast, while *doc\_dem* is based on the demand history in *outbound\_order\_line*. The forecast based days of coverage uses P50 of forecast, while the demand based planning uses the last 30 days of demand history to calculate average consumption rate.

## Inputs and defaults

Target inventory level or Target inventory position (TIP) is the desired inventory position or level on a given date. Inventory position includes inventory on hand, in-transit, or on-order, while the inventory level is only the inventory on-hand. Inventory position is used for service level (sl) inventory policy, and inventory level is used for *doc\_fcst*, *doc\_dem*, and *abs\_level* inventory policies. DOC policy requires forecast, lead time, and configuration for inventory policy.

For *doc\_fcst* policy, you must provide the following information:

Data required 1	Entity	Field	Value	Notes
Inventory policy	inventory_policy	ss_policy	doc_fcst	NA >
Inventory policy	inventory_policy	target_doc_limit	Number of days	NA >
Forecast	forecast	NA	NA	Mean or forecast quantities. >
Lead time	transportation_lane	NA	NA	Lead time from a source location to a destination.
Lead time	vendor_lead_time	NA	NA	Lead time from a vendor to a destination location.

For inventory policy based on days of coverage, the days to cover is the *target\_doc\_limit* value.

### Calculation logic for DOC\_fcst policy

$$RoQ_{P,S,D} = \text{Max}(TIL_{P,S,D+R_{P,S,D}} + \text{Max}((\sum_{d=D+LT_{P,S,D}}^{D+R_{P,S,D}} Demand_{P,S,d}) - IL_{D+LT_{P,S,D}}, 0) - IL_{P,S,D+R_{P,S,D}}, 0)$$

## Calculation Logic for doc\_dem policy

$$TIL_{P,S,D+R_{P,S,D}} =$$

$$DOC_{P,S} \times Avg(Consumption_{P,S} |_{D_{start}-\delta}^{D_{start}})$$

$$+ Max((R_{P,S,D} - LT_{P,S,D}) \times Avg(Consumption_{P,S} |_{D_{start}-\delta}^{D_{start}}) - IL_{D+LT_{P,S,D}}, 0)$$

The goal of days of coverage policy is to make sure on each review date that there is enough on-hand inventory to cover the configured days of coverage. The first part of the formula computes the days of coverage from the next review date until the end of days of coverage configured. The total covering period is  $DOC_{P,S}$  for product  $P$  and site  $S$ . The second part of the formula computes the extra demand before the target review date (the first review date after delivery). The covering period starts from the expected deliver date and ends with the target review date. If the current on-hand inventory on the delivery date is able to cover demand of this period, the system reorders 0. The max function determines whether we must order extra.

## Calculating reorder quantity

The input for the reorder quantity calculation is the target inventory level and the current inventory level. If the inventory level record is missing, the system generates plan exceptions for you to review.

$$RoQ_{P,S,D} = Max(TIL_{P,S,R_{P,S,D}} - IL_{P,S,D+R_{P,S,D}}, 0)$$

The reorder quantity of product  $P$ , site  $S$ , and date  $D$  is the difference between the target inventory level and the current inventory level. If the current inventory level is higher than the target inventory level, the reorder quantity is 0.

## Service level

If you use in-stock percentage to manage your inventory levels, you can use this policy setting to drive the calculation of target inventory level and replenishment.

## Inputs and defaults

For  $sl$  policy, Supply Planning requires the following fields. If these fields are empty, the default value is set to *null*, and the application throws an exception.

Data required	Entity	Field	Value	Notes
Inventory policy	inventory_policy	ss_policy	sl	Service level is abbreviated as <i>sl</i> . >
Inventory policy	inventory_policy	target_sl	percentage value	For example, 0.8 >
Forecast	forecast	NA	NA	Mean or forecast quantities. >
Lead time	transportation_lane	NA	NA	Lead time from a source location to a destination.
Lead time	vendor_lead_time	NA	NA	Lead time from a vendor to a destination location.
Sourcing schedule or Vendor schedule	sourcing_schedule and sourcing_schedule_details	NA	NA	Defines the calendar or days during which vendors accept orders.

## Calculating target inventory level

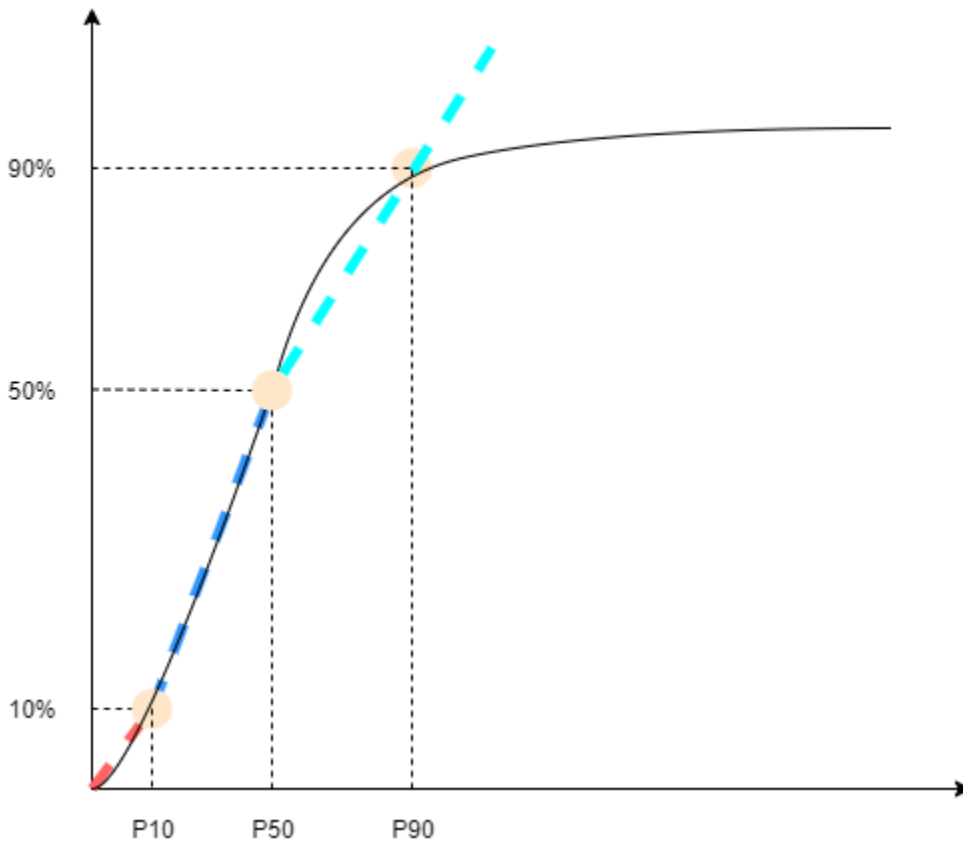
Target Inventory Position (TIP) is used for service level (sl) inventory policy. TIP represents the desired inventory position on a given date. TIP includes on-hand and on-order inventory. The inputs required for service-level policy are forecast, lead time, sourcing schedule (plus sourcing schedule details), and configuration for service level.



$$TIP_{P,S,D+R_{P,S,D}} = \sum_{d=D+LT_{P,S,D}}^{D+LT_{P,S,D}+LT_{P,S,D}+R_{P,S,D}} Demand_{P,S,d}$$

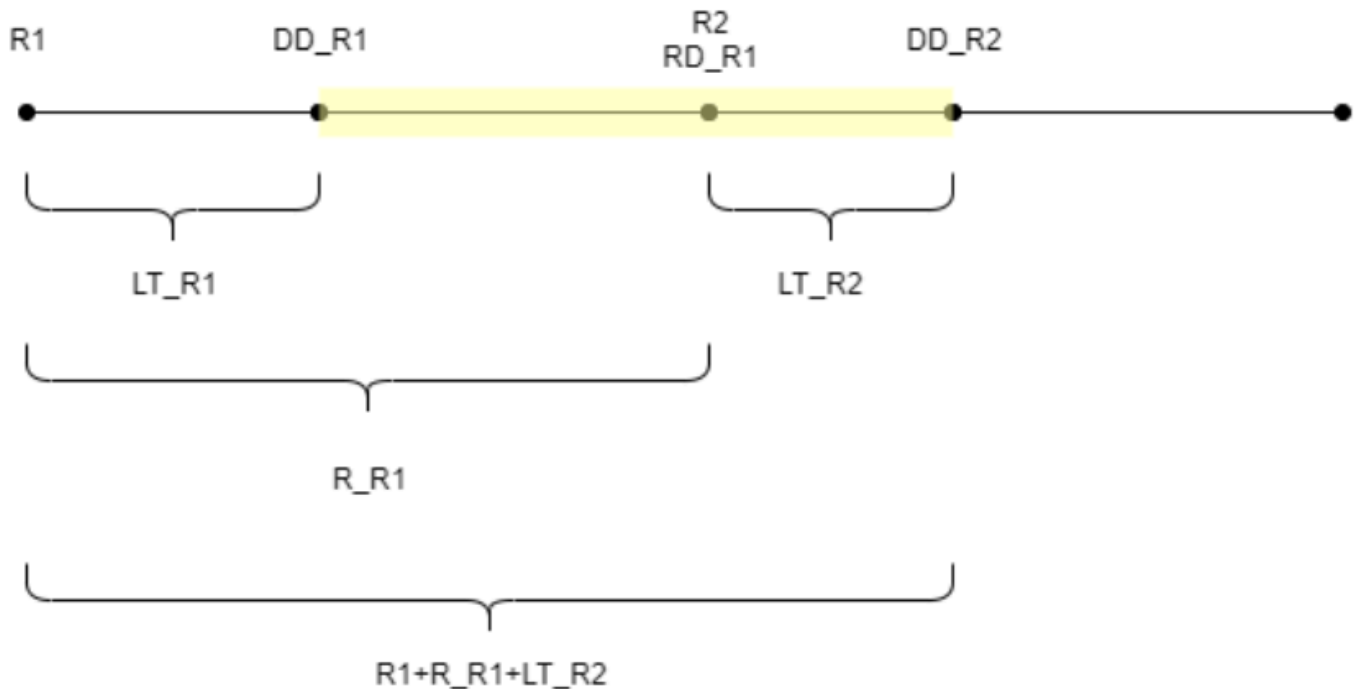
TIP is based on forecast distribution. Supply Planning applies the critical ratio (CR or service\_level) to forecast distribution, computes the demand, and sums up on days to cover. The available method to apply the critical ratio (service level) to forecast distribution is listed in the following.

First, Supply Planning applies a CR to distribution in forecast (P10/P50/P90) by using linear interpolate.



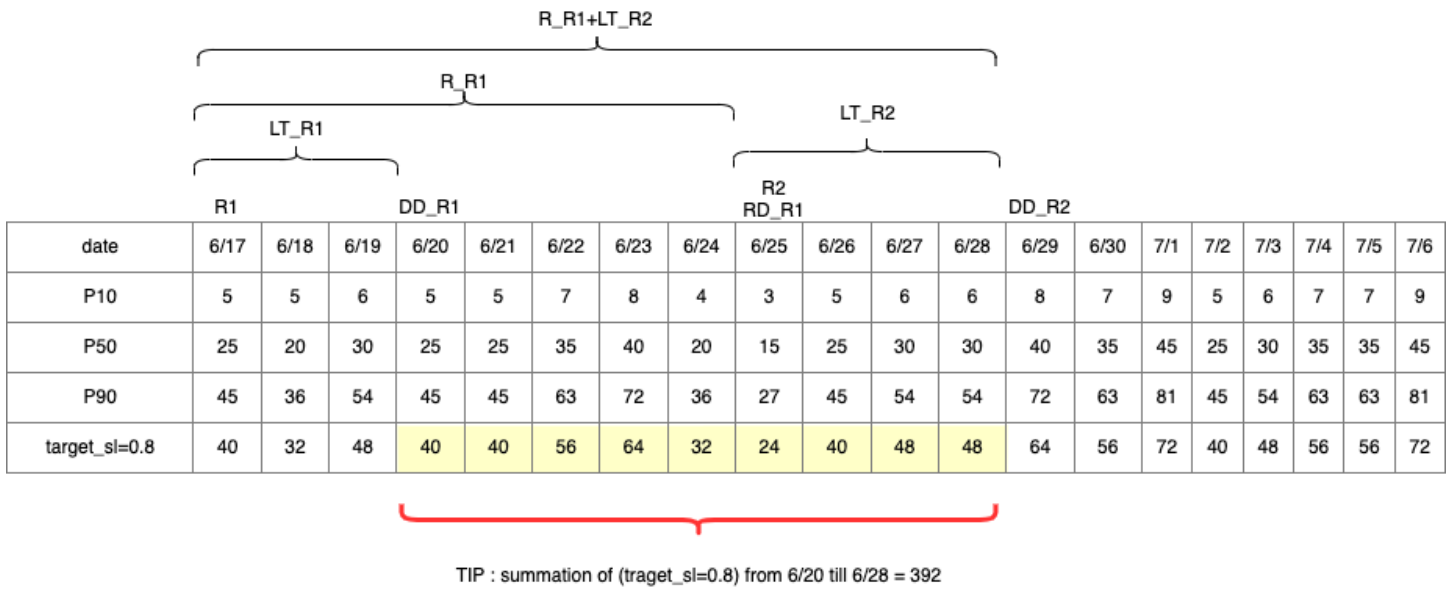
Supply Planning uses P10 for target\_sl=0.1, P50 for target\_sl=0.5, and P90 for target\_sl=0.9. For a percentile that doesn't exist in the forecast entity, Supply Planning uses a linear interpolate approach. Supply Planning computes other percentiles of demand forecast based on P10/P50/P90. Here are formulas for computing P40 (target\_sl=0.4) and P75 (target\_sl=0.75):  $P40 = 50 - 10 \times \frac{40 - 10}{50 - 10} \times (P50 - P10) + P10$   $P75 = 90 - 50 \times \frac{75 - 50}{90 - 50} \times (P90 - P50) + P50$

When Supply Planning gets demand, the demand is summed up to use arbitrary summation by days to cover. Days to cover starts from the upcoming deliver date until the deliver date after the upcoming deliver date.



As shown in the previous figure, the yellow period is the days to cover. The beginning of the days to cover does not start from the first day of the planning horizon. The reason is that Supply Planning doesn't order for days that cannot be covered. Supply Planning assumes that all lost sales are not recoverable.  $R1$ : the first review date based on the sourcing schedule.  $R2$ : the second review date based on the sourcing schedule.  $LT_{R1}$ : the lead time for putting order on  $R1$ .  $LT_{R2}$ : the lead time for putting order on  $R2$ .  $R_{R1}$ : the review period based on sourcing schedule.  $RD_{R1}$ : the first review date after  $R1$ , equal to  $R1+R_{R1}$ .  $DD_{R1}$ : the deliver date if submit order is on  $R1$ ;  $DD_{R1} = R1 + LT_{R1}$ .  $DD_{R2}$ : the deliver date if submit order is on  $R2$ ;  $DD_{R2} = R2 + LT_{R2}$ .

The following example shows the TIP computation.



### Calculating reorder quantity

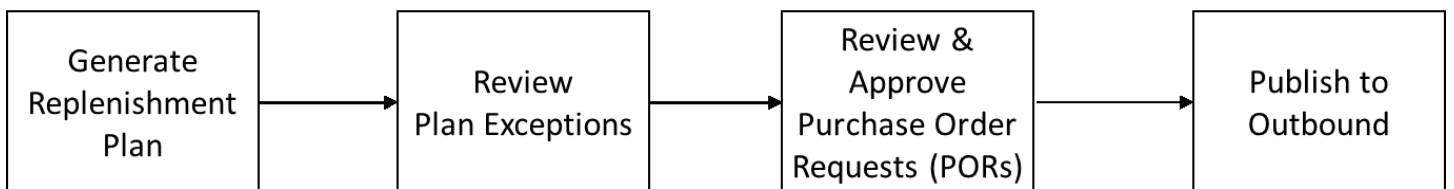
The inputs for the *sl* reorder quantity calculation are the target inventory level and the current inventory level. Supply Planning throws an exception if the inventory level record is missing.

$$RoQ_{P,S,D} = Max(TIP_{P,S,D+LT_{P,S,D}} - IP_{P,S,D+LT_{P,S,D}}, 0)$$

The reorder quantity is the difference between the target inventory position and the current inventory level. If the current inventory position is higher than the target inventory position, then the reorder quantity is set to 0.

### Business workflow

Auto Replenishment provides the following workflow for you to manage your inventory replenishment process.



- Generate replenishment plan – Supply Planning generates the replenishment plan according to the configured schedule. Recent input data required to generate replenishment plans is

retrieved from the AWS Supply Chain data lake. Supply Planning uses configuration data, transactional data, and plan settings to generate the replenishment plan that includes purchase order requests.

- Review plan exceptions – Supply Planning generates *Plan Exceptions* for products and site combinations that do not have either required configuration data (lead time, sourcing schedule, and so on) or required transactional data, such as on-hand inventory. Planners can review exceptions and provide required data before the next planning cycle in order to correct the issues and generate the replenishment plan.
- Review and approve purchase order requests – Generated purchase order requests are either auto-approved or flagged for manual approval, depending on the configured approval criteria in the plan settings. Planners can review, override, or approve purchase order requests by using AWS Supply Chain.
- Publish to outbound – Approved (auto or manual) purchase order requests are published to the outbound Amazon S3 at the configured schedule in Plan Settings. You can integrate these purchase order requests to your ERP or purchasing systems for execution. Purchase order requests that get converted to purchase orders are ingested back to the AWS Supply Chain data lake by using inbound connectors. AWS Supply Chain expects these purchase orders to carry the reference to the original purchase order request. This reference helps in tracking the conversion of purchase order requests to purchase orders.

## Configuring Auto Replenishment

By using Auto Replenishment, you can view the amount of inventory to hold and when to order more inventory by automating inventory management.

### Topics

- [Using Supply Planning for the first time](#)
- [Overview](#)
- [Purchase order requests](#)
- [Plan exceptions](#)
- [Supply planning settings](#)

## Using Supply Planning for the first time

You can define how and when you want to plan your supply chain.

**Note**

When you log in to Supply Planning for the first time, you can view the onboarding pages that highlight its key features. This helps you to get familiar with the Supply Planning capabilities.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Supply Planning**.

The **Supply Planning** page appears.

2. Choose **Get Started**.
3. On the **Choose your plan** page, select **Auto Replenishment**.
4. Choose **Get Started**.
5. On the **Supply Planning** page, choose **Next**.

You can read through the description to understand what Supply Planning offers, or you can choose **Next** to the **Supply Planning Setup** page.

6. On the **Supply Planning Setup** page, there are four steps to configure Supply Planning:
  - **Name and Scope** – Enter the name of the supply plan, and select the products and regions to be included in the supply plan.
  - **Horizon and Schedule** – Define the time frame for Supply Planning to generate plan schedules.
  - **Inputs** – Define how you want Supply Planning to use process demand forecasts.
  - **Output** – Choose the Supply Planning output to publish to your Amazon S3 connector. You can also use material deviation percentage for material plans.
7. Under **Horizon and Schedule**, you can do the following:
  - **Planning Horizon** – You can set the planning period by defining the following:
    - **Start day of the week** – You can define your weekly supply planning. For example, if your **Start day of the week** is Monday, and today is July 3, then the supply planning period will be from July 3 to 9.
    - **Time Bucketization** – Define the time details. Daily and Weekly options are supported.
    - **Time Horizon** – Define the planning time horizon. The supported range is from 1 to 90 days, or from 1 to 104 weeks.

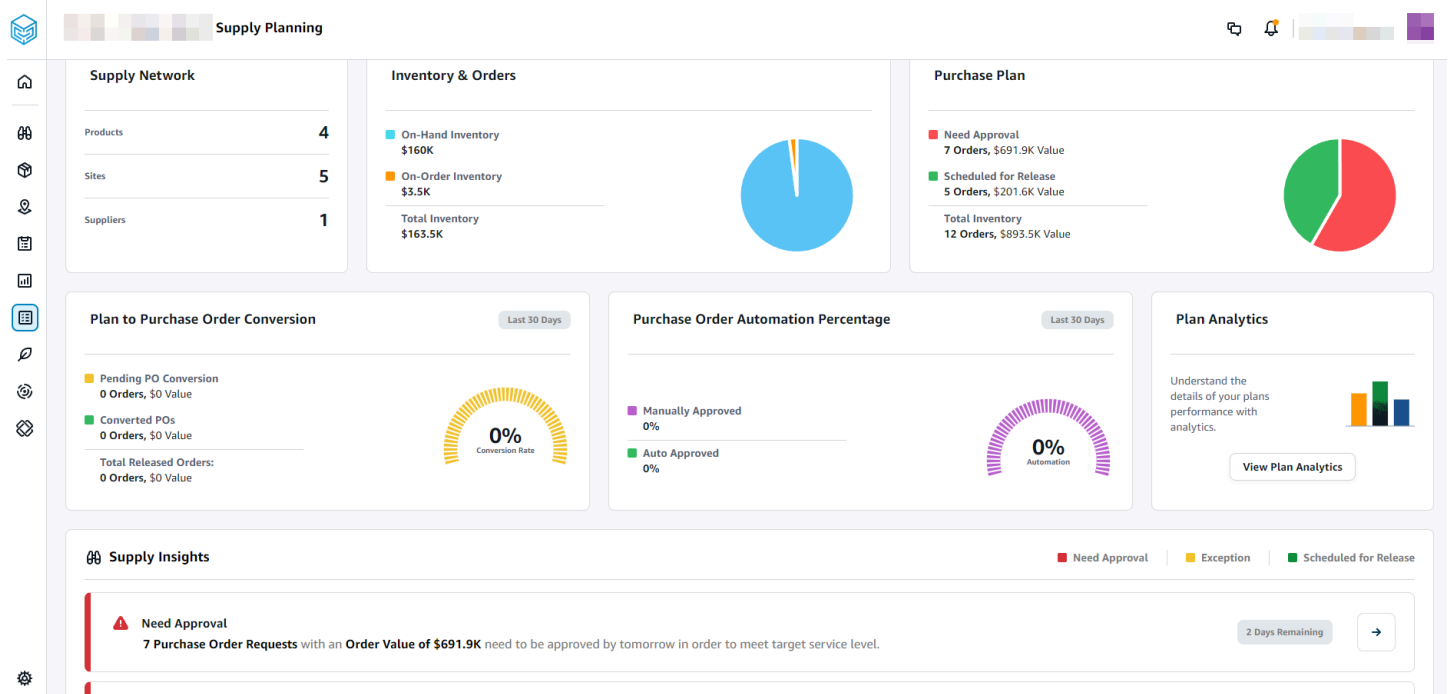
- **Plan Schedule** – Define when your supply plans must be executed.
  - **Planning Frequency** – Define how frequently you want to execute the supply plan.
  - **Start Time** – Define when to start planning on a scheduled day.
  - **Release Times** – Define the time Supply Planning releases the approved purchase orders into the ERP system.
- **Demand and Forecast** – Define the source for demand forecasts.
  - **Demand Planning** – Supply Planning will use the published forecasts from *Demand Planning* .
  - **External** – Supply Planning will use the demand forecasts ingested into the *Forecast* data entity in data lake.
- **Past days for average demand calculation in consumption-based planning** – For product, site combinations with inventory policy set as *doc\_dem*, Supply Planning looks at the past days of sales history from the *OutboundOrderLine* data entity to determine the average daily demand. You can choose between 30, 60, 90, 180, 270, or 365 days and Supply Planning will consider the corresponding number of days of historical sales data when generating the average.
- **Forecast Netting** – Independent demand includes both actual customer orders and forecasted demand. Forecast Netting offers four different methods to manage and consolidate these demand measures. By combining actual customer needs with forecast data effectively, businesses can better manage inventory levels and improve operational processes. Selecting the appropriate netting method helps align supply with demand, reducing inefficiencies and enhancing customer satisfaction. .
  - **Do not change forecasted demand** Do not change forecasted demand – Rely solely on forecasted demand to drive supply planning, disregarding actual customer orders.
  - **Replace forecasted demand with actual orders if higher than forecast** – If both forecasted demand and actual customer orders fall within the same time bucket, use the higher of the two values.
  - **Add actual orders to forecasted demand** Add actual orders to forecasted demand – If both forecasted demand and actual customer orders fall within the same time bucket, add the two values together.
  - **Enable demand time fence and forecast consumption** – Forecasted demand within the demand time fence is ignored. Outside the time fence, forecasted demand is adjusted by subtracting actual order quantity within the forecast consumption window. To use

this option, users should also specify the demand time fence days, forecast consumption backward days, and forecast consumption forward days.

- **Demand Time Fence Days** –The number of days between the current date and the demand time fence date. All forecasts on or before the demand time fence date will be ignored by the planning engine.
  - **Forecast Consumption Backward Days** –The number of days that the planning engine will go backward to find a matching forecast entry to consume starting from the due date of the sales order.
  - **Forecast Consumption Forward Days**– The number of days that the planning engine will go forward to find a matching forecast entry to consume starting from the due date of the sales order.
  - **Carry over unmet demand (backorders) in your planning?** – Select **Yes** to carry over the orders that are not fulfilled in the current time period to the next time period.
  - **Supply** – Define your supply related inputs.
    - **Past Due Orders** – When an order in the *InboundOrderLine* data entity is not delivered and the expected delivery date is before the execution date, by default, Supply Planning ignores this order. However, you can configure the number of past due days to be considered for inbound inventory to reorder stock. For example, if you set the *Past Due Orders* for 7 days and if an order was expected 4 days ago, the item will still be considered for inbound inventory.
8. Choose **Continue**.
  9. Choose **Finish**.

## Overview

You can view the overall supply plan for your organization, as shown in the following example page.



- **Supply Network** – Under supply network, you can view the current products, sites, and suppliers in the current supply plan.
- **Inventory and Orders** – Displays the total inventory across sites, including inventory on-hand and the inventory that is currently on-order with the suppliers.
- **Purchase Plan** – Displays the system-generated purchase order requests to replenish inventory at sites.
  - **Need Approval** – Supply Planning uses the approval criteria you set under **Settings** to flag purchase order requests for approval.
  - **Scheduled for Release** – Approved or auto-approved purchase order requests scheduled to be released to outbound connectors at the time you scheduled under **Settings**.
- **Plan to Purchase Order Conversion** – Purchase order requests converted to POs in your ERP or purchasing systems. To calculate the accurate metrics, Purchase Order data coming from your source system must carry the reference back to the Purchase Order Request ID published to the outbound. This metric helps planners identify purchase order requests that are not converted to POs and take corrective actions.
- **Purchase Order Automation Percentage** – Percentage of Purchase Order Requests that are auto-approved and released to outbound without user overrides to order quantity.



- **Supply Insights** – You can view all the purchase orders that are currently in-progress or awaiting approval. You can choose each insight to view and take action on. For more information, see [Plan exceptions](#).

You can download the supply plan report, which includes the inputs, intermediate calculations, and outputs for an auto-replenishment plan to your local computer.

1. On the Supply Planning **Overview** page, choose **Export**.

The **Export Supply Plan** window appears.

2. Choose **Download**.

## Purchase order requests

You can view current purchase order request details and status.

1. You can use the **Filters** option to filter your purchase orders according to your search criteria. You can search purchase orders based on vendors, products, sites, order value, order quantity, and requested delivery date.
2. Choose **Apply** to apply your filter criteria to the current purchase orders, and choose **Save filter group** to save the search filter.

Purchase Request Number	Actions	Status	Order Quantity	Product	Site	Order Value	Vendor	Review By	Order By
			% Change	Product Number	Site Number		Vendor Number	Days Remaining	
684546fe-422e-33c1-81615f-8748161b4d55	Approve	Needs Approval Over the threshold of order quantity 20	169 0%	UG04 Outlet Extending Surge Prot... 24-U004	The Boston Site W10	\$16,900	Mary Golden Pilot Supplies 37	8/1/2024 In 1 Day	8/2/2024
f77910bb-ef38-3847-a2c6-0ec35784eb62		Auto Releasing	12 0%	UG06 Outlet Extending Surge Prot... 24-U006	The Baltimore Site M16	\$1,200	Mary Golden Pilot Supplies 37	8/1/2024 In 1 Day	8/2/2024
6c3b471c-1cdd-3e00-853d-bb4860b2f3d2		Auto Releasing	9 0%	UG06 Outlet Extending Surge Prot... 24-U006	The Boston Site W10	\$900	Mary Golden Pilot Supplies 37	8/1/2024 In 1 Day	8/2/2024
2931febcb2fb-3b5c-9dfb-2accfb6e15bd	Approve	Needs Approval Over the threshold of order quantity 20	1,635 0%	UG05 Outlet Extending Surge Prot... 24-U005	The Boston Site W10	\$165,500	Mary Golden Pilot Supplies 37	8/1/2024 In 1 Day	8/2/2024
2d65ce26-727f-3e11-8e1d-080f2f666974	Approve	Needs Approval Over the threshold of order quantity 20	169 0%	UG03 Outlet Extending Surge Prot... 24-U003	The Boston Site W10	\$16,900	Mary Golden Pilot Supplies 37	8/1/2024 In 1 Day	8/2/2024
1a02ed48-ff65-3452-8d5f-42c6a2cae3db	Approve	Needs Approval Over the threshold of order quantity 20	200 0%	UG04 Outlet Extending Surge Prot... 24-U004	The Atlanta Site IL1	\$20,000	Mary Golden Pilot Supplies 37	8/1/2024 In 1 Day	8/2/2024

### 3. Under **Order Quantity**, choose **Edit** to view and update the quantity.


You can update the quantity based on the following inputs:

- **On-Hand** – Inventory currently in-stock.
- **On-Order** – Total product quantity of released purchase orders in the selected site.
- **Reorder Quantity** – The product quantity required to meet the inventory.
  - **Required** – Reorder quantity required to meet the inventory and fulfill the forecast.
  - **Minimum** – Minimum order quantity defined under *VendorProduct.min\_order\_unit* in the dataset. Supply Planning rounds the number to meet the minimum quantity.
  - **Suggested** – Final reorder quantity after adjustment.
  - **Days of Cover** – Number of days to replenish.

### 4. Choose **Update** to update the quantity request.

### 5. Under **Product**, choose the product to view the planned demand for the product.


c845abfe-422e-33c1-8163-8748161b4d55 - Purchase Request will cover planned demand from 8/6 to 8/13

 <b>Product</b> UG04 Outlet Extending Surge Protector 24-UG04		<b>Site</b> The Boston Site W10		<b>Vendor</b> Mary Golden Pilot Supplies 37									
<b>On-Hand</b> <b>40</b> As of 7/31	<b>On-Order</b> - As of 7/31	<b>Projected On-Hand Inventory</b> <b>31</b> for 8/6	<b>Reorder Quantity</b> <table border="1"> <tr> <td><b>169</b></td> <td>-</td> <td><b>1</b></td> <td><b>169</b></td> </tr> <tr> <td>Required</td> <td>Minimum</td> <td>Multiple Qty.</td> <td>Suggested</td> </tr> </table>			<b>169</b>	-	<b>1</b>	<b>169</b>	Required	Minimum	Multiple Qty.	Suggested
<b>169</b>	-	<b>1</b>	<b>169</b>										
Required	Minimum	Multiple Qty.	Suggested										
<b>Inventory Policy</b> doc_fcst - Days Of Cover Forecast	<b>Target Days Of Cover</b> <b>7</b> days	<b>Target Inventory</b> <b>200</b> for 8/6	<b>Lead Time</b> <b>4</b> days										

**Enter Order Quantity**  
Suggested: 169

Order Quantity

6. Under **Planned Demand**, select the site to view the replenishment plan.
7. The **Replenishment Plan** tab appears.

 **Note**

The **Replenishment Plan** page will appear empty. Make sure to select the product and site to view the demand forecast.

8. Choose **Change Product/Site**.

The **Choose a product and site combination** page appears.

9. Under **Product**, enter the product.
10. Under **Site**, enter the site.
11. Choose **Apply**.
12. Under **Enter order quantity**, you can update the suggested **Order Quantity**.
13. Choose **Update and Approve**.
14. Under **Actions**, choose **Approve** to approve a purchase order.
15. You can also use the **Show** dropdown to filter your purchase orders based on status and release time.

## Plan exceptions

You can view the list of product-site combinations that could not be planned. The **Exception Type** column displays the root cause of the exemption. You can provide the missing information, such as inventory policy-related attributes or lead times through data connectors, or you can upload the updated dataset in Amazon S3.

Under **Product**, you can choose multiple exceptions to delete or choose the **Product** header to delete all exceptions. Once selected, from the **Actions** drop-down, choose **Delete Exception(s)**.

## Supply planning settings

You can define how and when you want to plan and execute purchase orders.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon. Choose **Enterprise and Configuration**, and then choose **Supply Planning**.

The **Plan Settings** page appears.

2. Follow the steps in [Using Supply Planning for the first time](#) to edit the Supply Planning configuration settings.
3. Under **Reset Plan**, choose **Reset Plan** to delete the existing plan and start a new supply plan.

### Note

Only an administrator can reset a supply plan.

The **Reset entire plan** page appears.

4. Choose **Yes, reset the plan** to delete the current supply plan and all the existing purchase orders requests.
5. Choose **Save**.

## Manufacturing Plans

Manufacturing Plans helps you to determine production, transfer, and material requirements for multiple levels of sub-assemblies and components in a bill of material (BOM). Manufacturing Plans uses finished goods forecasts, BOMs, sourcing rules, on-hand inventory, on-order inventory, and

lead times to determine net material, transfer, and production requirements. Manufacturing Plans propagates finished goods forecasts through the BOMs and applies sourcing rules to determine production, transfer, and material requirements. You can use this capability if you have in-house manufacturing or use outsourced manufacturers to make finished products or sub-assemblies. You can input plans to your purchasing systems to help create purchase orders for components with suppliers, production planning systems for detailed production scheduling and performance, and labor and production capacity planning systems to manage mid- to long-term capacities.

Material plans (also called component forecasts) can also be shared with your contract manufacturers or with component suppliers through N-Tier Visibility. By sharing or publishing the Material Plans, you can provide better demand signals to upstream suppliers so that they can plan their inventory to meet future demand. By using N-Tier Visibility, suppliers can provide commitments on component forecasts back to you. For information on N-Tier Visibility, see [N-Tier Visibility](#).

## Key inputs

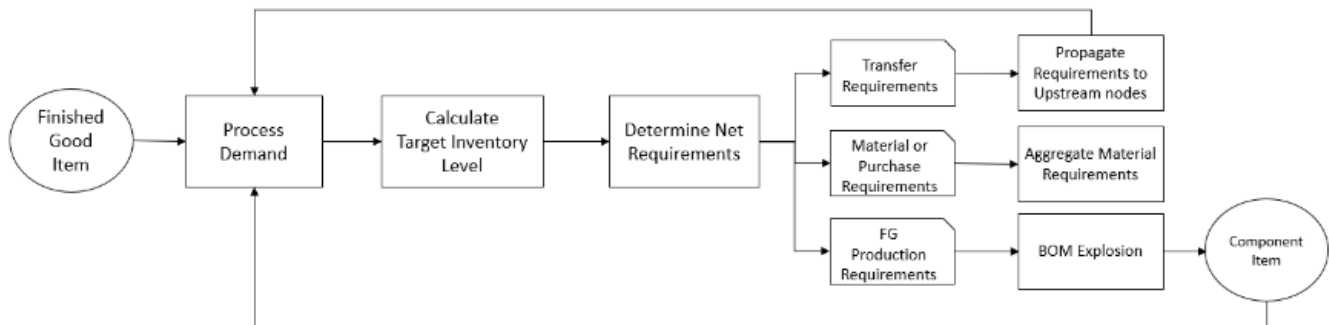
Manufacturing Plans depends on various inputs to make accurate and informed calculations for generating material, transfer, and production plans. Manufacturing Plans uses the same list of inputs as Auto Replenishment for inventory target calculation and net requirements determination for a product or site combination. For information on Auto Replenishment inputs, see [Key inputs](#). In addition, Manufacturing Plans also requires the following inputs:

- **Bill of Material (BOM)** – The BOM data entity is used to capture relationships between finished goods and various sub-assemblies and components that are required to make the finished goods. BOMs can contain multiple levels of components under a finished good, including alternates. Alternate or substitute components can be modeled under the same parent by using the *alternate\_group* field. AWS Supply Chain only supports priority-based alternates. Components with the lowest priority are selected by the planning process. Suppliers or vendors that supply components are not part of the BOM. This information is derived from sourcing rules and vendor management-related data entities.
- **Production process** – This process is used to model the production step for manufacturing finished goods. The sourcing rule contains a reference to the production process that's used to support the *Manufacture* type of rule. AWS Supply Chain only supports a single step manufacturing process. The component requirement date is determined based on production lead time and setup time, as defined in the production process entity. Lead time is the offset from the finished goods demand date, which is used to determine the requirement date for components.

For information on data fields required for Supply Planning, see [Supply Planning](#).

## Planning process

Manufacturing Plans include material, transfer, and production plans. These plans are created based on the configured network topology for an item. The following illustration shows the steps involved in generating these plans. These steps are repeated for each product or site combination that is in the scope of a Manufacturing Plan.



The steps and logic for Demand Processing, Inventory Target calculation, and Net Requirements calculation are common between Manufacturing Plans and Auto Replenishment. For more information, see [Planning process](#) and [Inventory policies](#).

- **Production requirements** – For products with site combinations with sourcing rule type *Manufacture*, Supply Planning uses the production process referenced in the sourcing rule to calculate production requirements. Make type should be used for finished goods or sub-assemblies that go through a production process. Lead times and setup times from the *production\_process* data entity, along with the BOM, is used to determine the material or component requirements. Supply Planning also applies the frozen horizon defined in the production process or the default setting to freeze supply during this time period and move all requirements to the first time period after the frozen time horizon.
- **BOM explosion** – For products or sites with sourcing rules of type *Manufacture*, Supply Planning uses the BOM defined in the *product\_bom* entity to determine production requirements for sub-assemblies and material requirements for component items. Supply Planning traverses the tree structure defined in the BOM for the finished good or sub-assembly item. If there are multiple components for a parent item with the same alternate group, Supply Planning prioritizes one of the component items that belong to the same alternate group. Component material requirements are calculated from the start date until the end date of the planning

horizon, as defined in the planning settings. After component requirements are determined, Supply Planning applies Demand Processing and Target Inventory level calculation steps to determine net component requirements by considering inventory policy, lead times, and on-hand and on-order inventories.

## Configuring Manufacturing Plans

Configure Manufacturing Plans to generate material, transfer, and production requirements for components and finished good items.

### Using Supply Planning for the first time

You can define how and when you want to plan your supply chain.

When you log in to Supply Planning for the first time, you can view the onboarding pages that highlight its key features. This helps you to get familiar with the Supply Planning capabilities.

#### Note

Make sure that the required data is ingested before configuring Manufacturing Plans. For information on the data fields required for Supply Planning, see [Supply Planning](#).

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Supply Planning**.

The **Supply Planning** page appears.

2. Choose **Get Started**.
3. On the **Choose your plan** page, select **Manufacturing Plans**.
4. Choose **Get Started**.
5. On the **Supply Planning** page, choose **Next**.

You can read through the description to understand what Supply Planning offers, or you can choose **Next** to get to the **Supply Planning Set-up** page.

6. On the **Material Plan Changes** page, you can view all the material plans that deviated from the predefined supply plan.

Under **Supply Insights**, you can search for a particular material plan in the **Search** box, by **Required Date** and **Insight Type**.

You can also choose a particular material plan to view more details.

7. Choose **Get Started**.
8. On the **Supply Planning Set-up** page, there are four steps to configure Manufacturing Plans:
  - Name and Scope
  - Horizon and Schedule
  - Inputs
  - Output
9. On the **Name and Scope** page, under **Plan Name**, enter a name for your plan.

Under **Supply Planning Scope**, select all the product groups and regions that must be included in the supply plan.

 **Note**

If you do not see the Product Groups or Regions that you ingested through Supply Chain data lake, ingest the Product BOM through the API and make sure that all the other datasets, such as Product, ProductHierarchy, Site, Geography, and SourcingRule, are already ingested.

10. Choose **Continue**.
11. On the **Horizon and Schedule** page, you can do the following:
  - **Planning Horizon** – You can set the planning period by defining the following:
    - **Start day of the week** – You can define your weekly supply planning. For example, if your **Start day of the week** is Monday, and today is July 3, then the supply planning period will be from July 3 to 9.
    - **Time Bucketization** – Define the time details. Daily and Weekly options are supported.
    - **Time Horizon** – Define the planning time horizon. The supported range is from 1 to 90 days, or from 1 to 104 weeks.
  - **Plan Schedule** – Define when your supply plans must be executed.
  - **Planning Frequency** – Define how frequently you want to execute the supply plan.
  - **Start Time** – Define when to start planning on a scheduled day.



- **Release Times** – Define the time Supply Planning releases the approved purchase orders into the ERP system.
- **Demand and Forecast** – Define the demand forecast for Supply Planning.
  - *Demand Planning* – Supply Planning will use the forecast information from the demand plan generated from *Demand Planning* .
  - *External* – Supply Planning will use the *Forecast* data entity to extract the demand forecasts for Supply Planning.
- **Past days for average demand calculation in consumption-based planning** – For each product-site combination, Supply Planning looks at the past 30 days of sales history from the *OutboundOrderLine* data entity to determine the average daily demand. You can choose between 30, 60, 90, 180, 270, or 365 days and Supply Planning will consider the corresponding number of days of historical sales data when generating the average.
- **Forecast Netting** – Independent demand includes both actual customer orders and forecasted demand. Forecast Netting offers four different methods to manage and consolidate these demand measures. By combining actual customer needs with forecast data effectively, businesses can better manage inventory levels and improve operational processes. Selecting the appropriate netting method helps align supply with demand, reducing inefficiencies and enhancing customer satisfaction. .
  - **Do not change forecasted demand** – Rely solely on forecasted demand to drive supply planning, disregarding actual customer orders.
  - **Replace forecasted demand with actual orders if higher than forecast** – If both forecasted demand and actual customer orders fall within the same time bucket, use the higher of the two values.
  - **Add actual orders to forecasted demand**– If both forecasted demand and actual customer orders fall within the same time bucket, add the two values together.
  - **Enable demand time fence and forecast consumption**– Forecasted demand within the demand time fence is ignored. Outside the time fence, forecasted demand is adjusted by subtracting actual order quantity within the forecast consumption window. To use this option, users should also specify the demand time fence days, forecast consumption backward days, and forecast consumption forward days.
  - **Demand Time Fence Days** –The number of days between the current date and the demand time fence date. All forecasts on or before the demand time fence date will be ignored by the planning engine.

- **Forecast Consumption Backward Days** –The number of days that the planning engine will go backward to find a matching forecast entry to consume starting from the due date of the sales order.
  - **Forecast Consumption Forward Days**– The number of days that the planning engine will go forward to find a matching forecast entry to consume starting from the due date of the sales order.
  - **Carry over unmet demand (backorders) in your planning?** – Select **Yes** to carry over the orders that are not fulfilled in the current time period to the next time period.
  - **Supply** – Define your supply related inputs.
    - **Past Due Orders** – When an order in the *InboundOrderLine* data entity is not delivered and the expected delivery date is before the execution date, by default, Supply Planning ignores this order. However, you can configure the number of past due days to be considered for inbound inventory to reorder stock. For example, if you set the *Past Due Orders* for 7 days and if an order was expected 4 days ago, the item will still be considered for inbound inventory.
12. Choose **Continue**.
  13. On the **Output** page, you can do the following:
    - **Plan Outputs** – Select the type of supply plan that you want Supply Planning to generate.
    - **Plan Insights** – Set the deviation criteria to generate supply plan insights.
  14. Choose **Finish**.
  15. (Optional) Choose **Invite Partners** to invite suppliers into your supply plan.

You can also choose **Skip for now** to return to Supply Planning.

## Plan overview

You can view the overall manufacturing plan for your organization.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Supply Planning**.

The **Supply Planning** page appears.

2. Choose **Get Started**.
3. On the **Choose your plan** page, select **Manufacturing Plan**.

The **Manufacturing Plan** page appears.

4. Choose **Export** to download the *Material Plans*, *Production Plans*, or *Transfer Plans* to your Amazon S3 bucket.
5. Choose the **Plan Overview** tab.

The screenshot shows the 'Supply Planning' interface. At the top, there's a 'Manufacturing Plan' header with an 'Export' button and a date range 'Horizon: 1/1/2024 - 6/24/2024'. Below this, the 'Plan Overview' tab is selected, showing a 'Plan Summary' section with five metrics: Inventory On Hand (\$73K), Open POs (\$23K), Suppliers (1 total), Material Requirements (\$14.06M), and Plan Exceptions (0 issue). The 'Supply Insights' section below contains a search bar and two insights about material plan changes at Boston and Baltimore sites.

- **Plan Summary** – Displays the overall manufacturing plan.

#### **Note**

Plan Summary metrics will not be available for new users. You can view the Plan Summary metrics after the next supply planning cycle.

- **Inventory On-hand** – Displays the current inventory on-hand in dollars.
- **Open POs** – Displays the current open purchase orders and the required dollars.
- **Suppliers** – Displays the total number of active suppliers.
- **Purchase Requirements** – Displays the total quantity of end components required and their total cost.
- **Plan Exceptions** – Displays exceptions for missing datasets or issues in any of the data entities.
- **Supply Insights** – Supply Insights are only generated for all Material Plan changes end components when they satisfy the deviation percent change compared with the previous plan. You can select each insight to view it and take action it.

You can use the **Search** box to search based on *Product Name* or *Site Name*, or you can search for specific supply insights by using the **Required Date Start** and **Required Date End**.

## Plan outputs

You can view the overall manufacturing plan for your organization.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Supply Planning**.

The **Supply Planning** page appears.

2. Choose **Get Started**.
3. On the **Choose your plan** page, select **Manufacturing Plans**.

The **Manufacturing Plan** page appears.

4. Choose the **Plan Outputs** tab.

Choose **Filters** to filter the list based on Products or Sites.

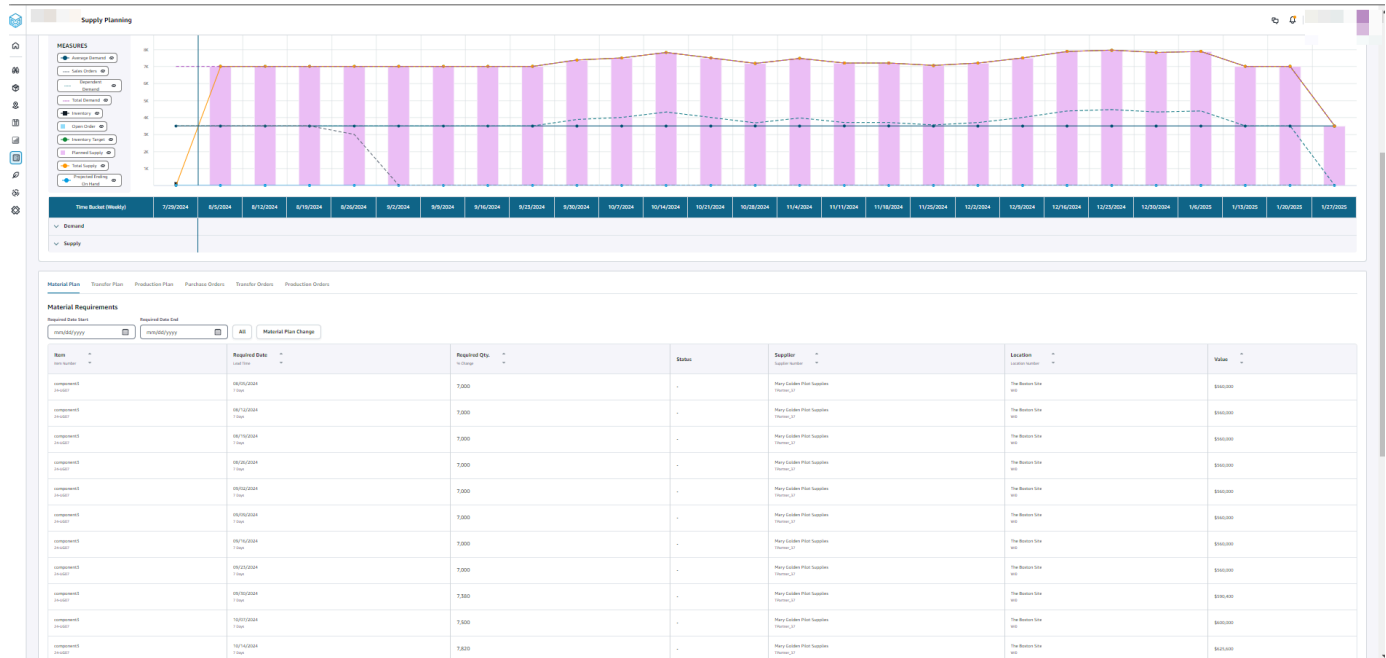
The screenshot displays the 'Supply Planning' dashboard. The 'Plan Outputs' tab is selected, showing a table of 'Material Requirements'. The table includes columns for Item, Required Date, Required Qty., Status, Supplier, Location, and Value. The data rows show requirements for 'component3', 'Motor', 'Fan', and 'Bracket'.

Item	Required Date	Required Qty.	Status	Supplier	Location	Value
Item Number	Lead Time	% Change		Supplier Number	Location Number	
component3 24-UG027	08/05/2024 7 Days	7,000	-	Mary Golden Pilot Supplies TPartner_37	The Boston Site W0	\$560,000
Motor 24-UG100	08/05/2024 7 Days	100	-	Mary Golden Pilot Supplies TPartner_37	The Atlanta Site IL1	\$4,000
Fan 24-UG301	08/05/2024 7 Days	100	-	Mary Golden Pilot Supplies TPartner_37	The Atlanta Site IL1	\$5,000
Bracket 24-UG302	08/05/2024 7 Days	100	-	Mary Golden Pilot Supplies TPartner_37	The Atlanta Site IL1	\$1,000

- **Material Plan** – Displays the overall material plan for end components from the supply plan generated.
- **Transfer Plan** – Displays the overall transfer plan for any materials or finished goods between sites from the supply plan generated.

- **Production Plan** – Displays the overall production plan for finished goods from the supply plan generated.
5. Under **Material Plan** and **Material Requirements**, you can view the supply details for each item.
  6. Under **Item**, choose the **Supply Plan Details** for the selected item.

The **Supply Plan Details** page appears.



The **Supply Plan Details** section displays item details and attributes. Choose **View all attributes** to view all the attributes of an item.

Under **Supply Plan**, you can view the supply plan for the selected item. You can view the supply plan for a specific date range by using **Start Date** and **End Date**.

- **Demand Forecast** – Displays the demand forecast or dependent demand related to an item or site.
- **Inventory** – Displays the on-hand inventory level related to an item or site.
- **Open Order** – Displays open order quantities based on the *expected\_delivery\_date* for an item or site. Supported order types are Purchase order, Transfer order, or Manufacturing order.
- **Inventory Target** – Target inventory level calculated based on the inventory policy and order schedule. For more information, see [Inventory policies](#).

- **Planned Supply** – Displays the planned supply.
- **Total Supply** – The sum of open orders and planned supply.
- **Projected Ending on Hand** – The projected order ending on hand.

Projected Ending On Hand (EOH) is calculated based on Demand, Supply, and Inventory.

$$\text{EOH}(T0) = \text{Inventory}(T0) + \text{Open Orders}(T0) + \text{Planned Supply}(T0) - \text{Demand Forecast}(T0)$$
$$\text{EOH}(T1) = \text{EOH}(T0) + \text{Open Orders}(T1) + \text{Planned Supply}(T1) - \text{Demand Forecast}(T1).$$

7. You can also view the overall Supply Planning for an item:

- **Material Plan** – Displays the material plan related to an item or site.
- **Transfer Plan** – Displays the transfer plan related to an item or site.
- **Production Plan** – Displays the production plan related to an item or site.
- **Purchase Orders** – Displays the input purchase orders used in generating the supply plan.
- **Transfer Orders** – Displays the input transfer orders used in generating the supply plan.
- **Production Orders** – Displays the input production orders used in generating the supply plan.

## Plan exceptions

You can view the overall manufacturing exceptions for your organization.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Supply Planning**.

The **Supply Planning** page appears.

2. Choose **Get Started**.
3. On the **Choose your plan** page, select **Manufacturing Plans**.

The **Manufacturing Plans** page appears.

4. Choose the **Plan Exceptions** tab.

You can use the **Filters** icon to filter exceptions based on Product and Site. Choose **View all** to view all the available filters.

## Importing product\_bom data

To import *product\_bom* data using the AWS CLI, follow the procedure below:

**Note**

You can only use AWS CLI to import *product\_bom* data into AWS Supply Chain.

1. Make a note of your instance ID where you want to import your *product\_bom* data. Your *URI* format for your supply chain data bucket will be "**s3://aws-supply-chain-data-*INSTANCE\_ID*/product\_bom.csv**".
2. Use the following command to upload your *product\_bom* data to the Amazon S3 instance bucket.

```
aws s3 cp Path To Local Product BOM CSV S3_BOM_URI "s3://aws-supply-chain-data-INSTANCE_ID/product_bom.csv".
```

3. Use the following command to invoke the *create bill of materials* import job.

```
aws supplychain create-bill-of-materials-import-job --instance-id INSTANCE_ID --s3uri "s3://aws-supply-chain-data-INSTANCE_ID/product_bom.csv"
```

**Note**

Make sure to use the same destination Amazon S3 URI that you used when uploading the CSV in step 2.

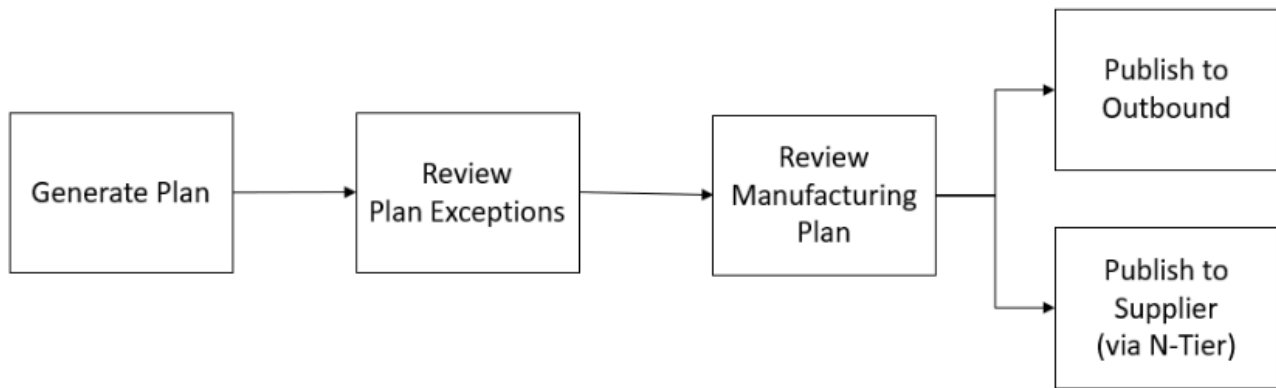
4. Make a note of the *job ID* returned.
5. Use the following command to view the imported result.

```
aws supplychain get-bill-of-materials-import-job --instance-id INSTANCE_ID --job-id job-id from step 4
```

For more information on AWS Supply Chain API see the [AWS Supply Chain API Reference](#).

## Business workflow

Supply Planning provides the following workflow to manage your manufacturing plans.



- **Generate plan** – Supply Planning generates the manufacturing plan according to the configured schedule. The latest input data required to generate the plan is received from the AWS Supply Chain data lake. Supply Planning uses configuration data, transactional data, and plan settings to generate the manufacturing plan, which includes material, transfer, and production plans. The Manufacturing Plan is generated for the configured planning horizon in terms of the number of time periods. You can create plans with either daily or weekly details, and you can create them on a daily or weekly frequency. If multiple plans are created within the same planning cycle (daily or weekly), new plans will override the existing plans. Existing plans are versioned after a new plan is generated at the beginning of a new planning cycle (for example, a new week).
- **Review plan exceptions** – Supply Planning generates plan exceptions for products or site combinations that do not have either required configuration data (lead time, sourcing schedule, and so on) or required transactional data, such as on-hand inventory. Planners can review exceptions and provide required data, and then they can rerun the plan to correct the issues and generate the supply plan for relevant product and site combinations.
- **Review Manufacturing Plan** – Supply planners can review material, transfer, and production plans by using the **Plan Overview**, **Plan Outputs**, and **Supply plan details Overview** pages on the AWS Supply Chain web application. Supply Planning generates *Material Plan Change* insights for products and sites that have a required quantity deviation above the configured threshold when compared to the most recent plan. Planners can specify the view of details in terms of inputs (for example, forecast, inventory, orders, and so on) that are used to calculate the plan output. The Supply Plan details page provides a timeline view of forecast, inventory, open orders, and planned supply.
- **Publish to Outbound** – Supply plans are published to the outbound Amazon S3 connector at the configured time scheduled under *Plan Settings*. You can integrate these plans into your ERP, purchasing, or production planning systems for execution.



- **Publish to N-Tier Visibility** – Material plans can optionally be published to the suppliers through N-Tier Visibility. Material plans are published to N-Tier Visibility based on the schedule that's configured under *Plan Settings*. N-Tier Visibility further publishes the material plan to onboarded suppliers based on collaboration settings.

## Planning configuration data

This section lists all the required fields used by Supply Planning and describes how each field is used. For information on data fields required for Supply Planning, see [Supply Planning](#).

### Topics

- [Product](#)
- [Site](#)
- [Trading Partner](#)
- [Vendor product](#)
- [Vendor lead time](#)
- [Sourcing rule](#)
- [Inventory policy](#)
- [Sourcing schedule](#)
- [Bill of Material \(BOM\)](#)
- [Production process](#)
- [Supply planning parameters](#)
- [Transactional data](#)

## Product

The product entity defines the list of items or products that must be included in the planning. The purchase order requests use *unit\_cost field* from the *Product* entity to determine the order value or amount. The *Product* entity also contains the product group corresponding to a specific product, which is a foreign key into a *product\_hierarchy* entity. Product groups can be used in configuring inventory policies, sourcing schedules, lead times, and so on, at the aggregate level.

## Site

The *Site* entity defines the list of sites or locations that must be included in the planning. The *Site* entity also contains Regions corresponding to a specific site, which is a foreign key into a Geography entity. Regions can be used in configuring inventory policies, sourcing schedules, lead times, and so on, at the aggregate level.

## Trading Partner

The *Trading\_partner* entity defines the list of suppliers. *tpartner\_type* should be set to *Vendor* when uploading supplier information.

## Vendor product

Products supplied by each supplier are defined in the *vendor\_product* entity. This entity also contains vendor-specific cost information.

## Vendor lead time

Vendor lead time is the time period between placing an order to a vendor and receiving the order. This data is defined in the *VendorMgmt* category under the *vendor\_lead\_time* data entity. Vendor lead time follows the following override logic:

- Product level vendor lead time overrides product group level vendor lead time.
- Site level vendor lead time overrides region level vendor lead time.
- Region level vendor lead time overrides company level vendor lead time.

To look for a record, Supply Planning uses the following fields:

- *company\_id*
- *region\_id*
- *site\_id*
- *product\_group\_id*
- *product\_id*

The following is an example of the override logic:

<b>company_id</b>	1	1	1	1	1	1
<b>region_id</b>		TX	TX	TX	TX	TX
<b>site_id</b>				TX0	TX1	TX0
<b>product_group_id</b>	electronics	electronics	electronics	electronics	electronics	electronics
<b>product_id</b>			laptop			laptop
<b>planned_lead_time</b>	5	4	10	3	2	1

The following is an example of how Supply Planning calculates vendor lead time:

company_id	region_id	site_id	product_group_id	product_id	planned_lead_time
1	TX	TX0	electronics	laptop	1
1	TX	TX0	electronics	cell phone	3
1	TX	TX1	electronics	laptop	10
1	TX	TX1	electronics	cell phone	2
1	TX	TX2	electronics	laptop	10
1	TX	TX2	electronics	cell phone	4
1	CA	CA0	electronics	laptop	5

Prioritization order is *product > product\_group > site > dest\_geo (region) > product segment > company*.

## Sourcing rule

Supply Planning generates a plan based on the supply chain network topology defined under the *sourcing\_rules* entity.

The supported sourcing rule types are transfer, buy, and manufacture.

Sourcing rules follow the *product\_id > product\_group\_id > company\_id* override logic.

- *site* – Site defines the site entity in the network.
- *transportation\_lane* – Supply Planning looks up *transit\_time* in *transportation\_lane* by *transportation\_lane\_id*.
- *sourcing\_rules* – Supply Planning uses the topology stored in *sourcing\_rules* as the sourcing network.

Supply Planning generates the plan based on the network in *sourcing\_rules*, not *transportation\_lane*. Sourcing rules follow the *product\_id > product\_group\_id > company\_id* override logic.

There are two steps to retrieve the transfer lead time.

1. Find *transportation\_lane\_id* based in *sourcing\_rules*. Only the sourcing rules that have both *to\_site\_id* and *from\_site\_id* are eligible for retrieving *transfer\_lead\_time*.
2. Use *transportation\_lane\_id* to look up *transportation\_lane* by using the following fields:
  - *to\_site\_id*
  - *product\_id* or *product\_group\_id*
  - *sourcing\_priority*

When there are multiple records with the same *to\_site\_id* and *product\_id* (*product\_group\_id*) in the *sourcing\_rule* entity, and when there are multiple sourcing rules for the same product and site combination, then the least sourcing priority is selected.

Sourcing rules example:

from_site_id	to_site_id	product_id	product_group_id	sourcing_priority	transportation_lane_id
ILO	TX0	laptop	electronics	1	transportaion_lane_9
NJ1	TX0	laptop	electronics	2	transportaion_lane_21
ILO	TX0		electronics	1	transportaion_lane_11

Based on the preceding definition, Supply Planning selects the following:

product_id	product_group_id	site_id	transportation_lane_id
laptop	electronics	TX0	transportaion_lane_9
cell phone	electronics	TX0	transportaion_lane_11

Supply Planning uses *transportation\_lane\_id* to look up the *transportation\_lane* entity to get the transportation lead time by reading the *transit\_time* field.

## Inventory policy

Supply Planning searches for a record in the dataset by using the following fields:

- *site\_id*

- *geodesic*
- *company\_id*
- *product\_id*
- *product\_group\_id*
- *segment\_id*

Supply Planning uses *ss\_policy* to determine the inventory policy. The override logic uses the following priority: *product\_id* > *product\_group\_id* > *site\_id* > and *dest\_geo\_id* > *segment\_id* > *company\_id*.

The supported *ss\_policy* values are *abs\_level*, *doc\_dem*, *doc\_fcst*, and *sl*.

The following example displays the override priority logic.

comany_id	segment_id	des_geo_id	site_id	product_group_id	product_id	ss_policy
a.com						abs_level
a.com	seg1					doc_dem
a.com	seg1	TX				abs_level
a.com	seg1	TX	TX0			doc_fcst
a.com	seg1	TX	TX0	electronics		abs_level
a.com	seg1	TX	TX0	electronics	laptop	sl
a.com		TX				doc_dem

The following is an example of the *ss\_policy* value based on the override logic.

product_id	segment_id	des_geo_id	site_id	product_group_id	ss_policy
laptop	seg1	TX	TX0	electronics	sl
cell phone	seg1	TX	TX0	electronics	abs_level
diaper	seg2	TX	TX0	baby	doc_dem
laptop	seg1	NY	NY2	electronics	doc_dem
PS4	seg3	TX	TX0	game	doc_fcst

## Sourcing schedule

### Note

Sourcing schedule is an optional entity. If this entity is not provided, Supply Planning uses a continuous review process to generate *required\_date* based on when products are needed.

Supply Planning uses sourcing schedule to generate purchase plans by using the following steps:

- Find *sourcing\_schedule\_id* in *sourcing\_schedule*.
- Find the schedule by using *sourcing\_schedule\_id* in *sourcing\_schedule\_details*.

Supply Planning searches for the following fields in *sourcing\_schedule\_id* under *sourcing\_schedule*.

- *to\_site\_id*
- *tpartner\_id* or *from\_site\_id*

Based on the sourcing path in sourcing rules, Supply Planning determines whether to use *from\_site\_id* or *tpartner\_id*. Supply Planning reads the value in the *sourcing\_schedule\_id* field to determine the next step.

Supply Planning reads the schedule details under *sourcing\_schedule\_details* with the following fields:

- *sourcing\_schedule\_id*
- *company\_id*
- *product\_group\_id*
- *product\_id*

*sourcing\_schedule\_details* follows the override logic, *product\_id* > *product\_group\_id* > *company\_id*.

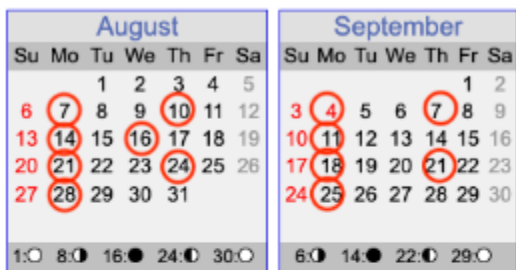
The following is an example of the override logic in *sourcing\_schedule\_details*.

sourcing_schedule_id	company_id	product_group_id	product_id	day_of_week
sourcing_schedule_1	a.com			1
sourcing_schedule_1	a.com	electronics		2
sourcing_schedule_1	a.com	electronics	laptop	3
sourcing_schedule_1	a.com		diaper	4

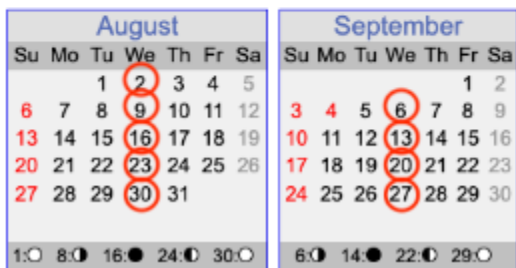
The following are the selected schedules after applying the override logic.

sourcing_schedule_id	company_id	product_group_id	product_id	day_of_week
sourcing_schedule_1	a.com	game	PS4	1
sourcing_schedule_1	a.com	baby	diaper	4
sourcing_schedule_1	a.com	electronics	laptop	3
sourcing_schedule_1	a.com	electronics	cell phone	2

The actual schedule can be from one row to multiple rows, based on the complexity of the schedule. For the field *week\_of\_month*, only one number is allowed in each row. For multiple weeks of the month, multiple records are required (see the following example). For the field *day\_of\_week*, both integer and name of day are allowed (Sun: 0, Mon: 1, Tue: 2, Wed: 3, Thu: 4, Fri: 5, Sat: 6). In the sourcing schedule details, weekly planning requires *week\_of\_month*. While in daily planning, *week\_of\_month* can be empty, which means every week. See the following examples.



date	day_of_week	week_of_month
8/16/2023		
		1
		4
		4
		2
		4



date	day_of_week	week_of_month
		3
		3
		3
		3
		3
		3
		1
		2
		3
		4
		5

Note that for weekly planning, *week\_of\_month* is required if *day\_of\_week* is provided.

The following example shows the dates that can be used for daily planning.

Date	Day of the week	Week of the month
8/1/2023	NA	NA
8/12/2023	NA	NA
NA	2	NA
NA	5	NA

The following example can be used for both daily and weekly planning.

Date	Day of the week	Week of the month
8/1/2023	NA	NA
8/12/2023	NA	NA
NA	2	1
NA	2	2
NA	2	3
NA	2	4
NA	2	5
NA	5	1
NA	5	2
NA	5	3
NA	5	4
NA	5	5



## Bill of Material (BOM)

Product BOM is used in Manufacturing Plans when *sourcing\_rule* is set to Manufacture. For information on how to ingest Product BOM, see the AWS Supply Chain API Reference document.

## Production process

*production\_process\_id* is referenced in the *sourcing\_rule* and *product\_bom* entities. These fields are used to consume lead time information to make or assemble a BOM.

## Supply planning parameters

In *supply\_planning\_parameters* entity, *planner\_name* of the supply planner can be assigned at *product\_id* level. Planner name will be displayed on the planned orders generated by the supply planning engine.

## Transactional data

### Topics

- [Forecast](#)
- [Sales history or demand](#)
- [Inventory level](#)
- [Inbound orders](#)

## Forecast

Supply Planning uses two different sources and types of forecast. You can use the following source systems to retrieve forecast source:

- *External* – Supply Planning uses the data that is being ingested into the data lake forecast entity.
- *Demand Planning* – Supply Planning uses the forecasts from Demand Planning.
- *None* – Supply Planning uses the sales or demand history data from the outbound order line.

Supply Planning supports two types of forecast: deterministic and stochastic. Deterministic forecasts contain only the mean of the forecast. Stochastic forecasts contain P10/P50/P90, sometimes along with mean. When mean is not provided with stochastic forecasts, Supply Planning uses P50(median) as mean.

Each forecast record has four fields to represent the demand forecast:

- mean(double)
- p10(double)
- p50(also known as median, double)
- p90(double)

Based on the configured inventory policy, different fields in this entity are required. For *sl*, p10/p50/90 is required; for *doc\_fcst*, policy p50 or mean is required. Supply Planning uses p50 as an approximation of the mean, and for *doc\_dem* and *abs\_level*, none of the forecast fields are required.

### Daily planning

Forecasts may be different for daily planning compared to weekly planning. Here is an example of the daily and weekly planning forecast requirement.

date	8/12/2022	8/13/2022	8/14/2022	8/15/2022	8/16/2022	8/17/2022	8/18/2022	8/19/2022
mean	4	3	5	7	12	7	5	4
p10	2	1	3	4	8	4	3	2
p50	4	3	5	7	12	7	5	4
p90	8	5	7	9	16	9	8	8

### Weekly planning

You can use the daily planning forecast example for weekly planning, or you can also use the following example for weekly planning.

date	8/12/2022	8/13/2022	8/14/2022	8/15/2022	8/16/2022	8/17/2022	8/18/2022	8/19/2022
mean	43	0	0	0	0	0	0	51
p10	25	0	0	0	0	0	0	23
p50	43	0	0	0	0	0	0	49
p90	62	0	0	0	0	0	0	71

### Sales history or demand

Inventory policy *doc\_dem* requires demand history to compute the historical average demand. Supply Planning gets the demand history from the *outbound\_order\_line* entity under the *Outbound* category. Supply Planning uses the following fields:

- *ship\_from\_site\_id*(string)
- *product\_id*(string)
- *actual\_delivery\_date*(timestamp); when missing, use *promised\_delivery\_date*(timestamp)

As part of the calculation, Supply Planning uses historical outbound order lines with delivery dates in the past 30 days. The target field used for quantity is *quantity\_delivered*; when missing, use *quantity\_promised*. If *quantity\_promised* is missing, then *final\_quantity\_requested* will be used. If all are missing, then 0 will be used.

For example, if you use Supply Planning for product “laptop” at site “TX0” on July 1, 2023, the record in *outbound\_order\_line* where *product\_id=laptop*, *ship\_from\_site\_id=TX0*, and *actual\_delivery\_date* is from June 1, 2023 to June 30, 2023. Supply Planning adds all the records and divides by 30 days to get the daily demand.

## Inventory level

Supply Planning requires a beginning inventory level to start the planning process. Supply Planning searches for the inventory level under the *entity inv\_level* data entity. Supply Planning searches for a record with the following fields:

- *product\_id*
- *site\_id*

Supply Planning uses *on\_hand\_inventory* to determine the inventory level.

## Inbound orders

Supply Planning uses *inbound\_order\_line* to retrieve the in-flight order quantity. If an order is delivered during the planning horizon, the quantity is considered as part of the existing supply.

Supply Planning searches for a record under *inbound\_order\_line* with the following fields:

- *order\_receive\_date*; when missing, use *expected\_delivery\_date*
- *product\_id*
- *to\_site\_id*

The following are the supported Order Types: PO (Purchase), TO (Transfer), and MO (Production or Manufacturing).

Supply Planning uses the *quantity\_received*; when missing, use *quantity\_confirmed* then *quantity\_submitted* to determine the on-order quantity.

# N-Tier Visibility

You can use N-Tier Visibility for the following:

- Forecast collaboration allows you to share component level forecasts generated from a supply plan with your trading partners and get their supply commitments. AWS Supply Chain only supports component forecasts generated by Supply Planning to be published to trading partners.
- Purchase Order (PO) collaboration allows you to share purchase orders and obtain confirmations from your trading partners on quantities and delivery dates. Purchase order collaboration is enabled only on POs associated with Work Orders that are part of Work Order Insights.

## Topics

- [Using N-Tier Visibility for the first time](#)
- [N-Tier Visibility dashboard](#)
- [Responding to requests as a Partner](#)
- [N-Tier Visibility settings](#)

If you are an AWS Supply Chain partner, you can do the following:

1. [Reviewing and accepting partner invites](#)
2. [Reviewing and accepting purchase orders](#)
3. [Reviewing and accepting forecast commits](#)

## Using N-Tier Visibility for the first time

You can use N-Tier Visibility with Supply Planning or Work Order Insights to extend visibility beyond your organization to your external trading partners. This visibility lets you align and confirm orders with suppliers, improving the accuracy of planning and execution processes.

**Note**

You can update the Forecast Commits and Purchase Orders response timeline anytime in AWS Supply Chain. On the AWS Supply Chain web application, choose the **Settings** icon, **Organization**, **Forecast Commits**, or **Purchase Orders** to update.

**Note**

When you use N-Tier Visibility for the first time, you'll be able to view the onboarding pages that highlight the key features. This helps you to get familiar with the N-Tier Visibility capabilities.

1. Open the AWS Supply Chain web application.
2. In the left navigation pane on the AWS Supply Chain dashboard, choose **N-Tier Visibility**.
3. On the **Connect with your partners** page, choose **Next**.

You can read through to understand what N-Tier Visibility offers, or choose **Next** until you get to the **Configure N-Tier Visibility Settings**.

4. Under **Setup forecast response time**, you can do the following:
  - **Set response timeline** – Define the number of days by when the Partner should respond to your data request.
  - **Auto accept responses** – Define a threshold limit for which you can let N-Tier Visibility auto accept responses from the Partner.
  - **Auto reject responses** – Define a threshold limit for which you can let N-Tier Visibility auto reject responses from the Partner.
  - **EDI connection settings** – Define if you would like N-Tier Visibility to use EDI for collaboration on forecast commits with partners.
5. Choose **Continue**.
6. Under **Setup your Purchase Order response timeline**, you can do the following:
  - **Set response timeline** – Define the number of days by when the Partner should respond to your purchase order requests.

- **Auto accept responses** – Define a threshold limit for which you can let N-Tier Visibility auto accept responses from the Partner.
- **Auto reject responses** – Define a threshold limit for which you can let N-Tier Visibility auto reject responses from the Partner.
- **EDI connection settings** – Define if you would like N-Tier Visibility to use EDI for collaboration on purchase orders with partners.

7. Choose **Finish**.

## N-Tier Visibility dashboard

You can use the n-tier dashboard to navigate through partner onboarding and collaboration. The N-Tier Visibility dashboard displays the following tabs:

- **Partner Network** – Displays the summary and onboarding status of your partners. You can also invite partners to onboard to N-Tier Visibility.
- **Purchase Orders** – Displays purchase orders and receive confirmations from your partners on quantities and delivery dates.
- **Forecast Commits** – Displays component-level forecasts generated from a supply plan with your partners and supply commitments.

partner-sustainability N-Tier Visibility

Partner Network | Purchase Orders | Forecast Commits

**Onboard your Partners and get visibility into your supply chain.**

Using AWS Supply Chain, request data, extend your network, and collaborate. Additional requests coming soon.

Invite partners →

Forecast Commit Collaboration

Purchase Order Collaboration

### Partner Overview

Onboarding metrics

Onboarded	Pending invites	Expired invites	Accept rate
0	1	0	0%

22 partners

Search: [ ] Show: All Statuses Product Group: [ ] Finished Good: [ ] Expired invites: 0

Actions Invite partners

Partner name	Partner ID	Supplier DUNS	Open Supplier ID	Contact name	Contact email	Invite date	Portal status
Partner4	Partner5	-	-	ok company	sbjevara+test198763@amazon.com	12/26/2023	Pending sign up
Partner19	Partner20	-	-	null null	-	-	Not invited
Partner11	Partner12	-	-	null null	-	-	Not invited
Partner21	Partner22	-	-	null null	-	-	Not invited
Partner3	Partner4	-	-	null null	-	-	Not invited
Partner12	Partner13	-	-	null null	-	-	Not invited
Farmers & Growers	FARM-GROW	-	-	null null	-	-	Not invited
Partner16	Partner17	-	-	null null	-	-	Not invited

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## Partner Network

You can view the list of partners that are imported through the AWS Supply Chain data lake into the AWS Supply Chain network.

1. Open the AWS Supply Chain web application.
2. In the left navigation pane on the AWS Supply Chain dashboard, choose **N-Tier Visibility**.
3. Under **Partner Overview**, you can view the following:



- **Onboarded** – Displays the number of partners who have accepted the invite and are Onboarded into the AWS Supply Chain network.
  - **Pending invites** – Displays the number of partners who have not yet accepted the invite.
  - **Expired invites** – Displays the number of partners who were invited but whose invite has expired due to no response.
  - **Accept rate** – Displays the overall partner invite accept rate.
4. Under **Partners**, you can view the partners that are imported through the AWS Supply Chain data lake into the AWS Supply Chain network.

You can use the **Search** field to search for a specific partner, and you can use the **Show, Product Group** or **Finished Good** dropdown to filter your partners based on the invite status, partner group, or finished goods.

- **Partner name** – Displays the partner name.
  - **Partner ID** – Displays the partner ID.
  - **DUNS** – Displays the supplier DUNS number.
  - **Open Supplier ID** – Displays the open partner hub ID.
  - **Contact name** – Displays the partner's contact name.
  - **Contact email** – Displays the partner's contact email.
  - **Invite date** – Displays the date when the partner was invited.
  - **Onboard status** – Displays the partner invite status.
    - **Not invited** – The partner is yet to be invited.
    - **Pending sign up** – The partner is invited but has not yet responded.
    - **Active** – The partner has accepted the invite and is active in the AWS Supply Chain network.
    - **Invite expired** – The partner was invited but the invite expired due to no response.
    - **Invite declined** – The partner declined the invite.
5. To view your partners in a list or map view, use the **List** or **Map** toggle button on the right.
6. Choose **Invite partners** to invite new partners from the dataset into the AWS Supply Chain network. For more information on inviting partners, see [Inviting partners](#).

## Purchase Orders

You can view the list of purchase order data requests that are published to your partners. Purchase orders collaboration can only be enabled through Work Orders. For more information, see [Work Order Insights](#).

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **N-Tier Visibility**.

The **N-Tier Visibility** page appears.

2. Choose the **Purchase Orders** tab.
3. Under **Purchase Orders**, you can view the details of all the purchase order data requests that are published to your partners from the generated order insight.

You can select any purchase order to review the purchase order details.

4. Select the **Status** dropdown to filter purchase orders based on collaboration status.
5. Choose **Review** for purchase orders with a *For review* collaboration status. These purchase orders require your review if the partner's response on date or quantity deviate from configured acceptance threshold.

The **Purchase Order** details page appears.

6. Under **Review the Purchase Order Update**, review the purchase order quantity and delivery date submitted by the partner, and then you can accept or reject the response.

You can read the reason for the update under **Update details from the partner**.

7. To accept the purchase order update, choose **Accept response**.

The **Accept update** window appears. Choose **Accept update**.

8. To reject the purchase order update, choose **Reject and send**.

The **Reject PO update and send feedback** window appears. Enter the rejection details and choose **Reject and send**. The purchase orders will be sent back to your partner and provided an updated response.

## Viewing purchase orders in EDI format

### Note

You will only see this configuration if you selected *Yes* to use **EDI Connection Settings** when setting up N-Tier Visibility.

You can view the Purchase Orders data received through EDI.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **N-Tier Visibility**.

The **N-Tier Visibility** page appears.

2. Choose the **Purchase Orders** tab.

The **Confirm or Update Pending Purchase Orders** page appears.

3. From the **Actions** drop-down, choose **Export EDI data**.

The .json file with the purchase orders information is downloaded to your local computer and also downloaded to the Amazon S3 folder created as part of the outbound connection setup for Supply Planning.

## Forecast Commits

You can view the forecast commit data requests that are published to your partners. These data requests are triggered from AWS Supply Chain supply planning. For more information, see [Supply Planning](#).

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **N-Tier Visibility**.

The **N-Tier Visibility** page appears.

2. Choose the **Forecast Commits** tab.

The **Forecast Commit** page appears.

3. Under **Forecast commit**, you can view the details of all the forecast data requests from the generated supply plan.

You can select any forecast commit to review the forecast commit details.

4. Select the **Status**, **Partner**, or **Site** dropdown to filter the forecast commits based on the collaboration status, partner, or site.
5. Choose **Review** for forecast commits with a *For review* collaboration status.

The **Forecast commit** details page appears.

6. Under **Review the Forecast Commit update**, review the committed forecast and deviation. You can decide to accept or reject the response, or you can decline and close the forecast commit.

You can read the reason for the update under **Latest update details from the partner**.

7. If you want to accept the forecast commit update, choose **Accept response**.

The **Accept update** window appears. Choose **Accept update**.

8. If you want to reject the forecast commit update, choose **Reject and send**.

The **Reject Forecast update and send feedback** window appears. Enter the rejection details and choose **Reject and send**.

9. If you want to decline and close the forecast commit request, choose **Decline and close**.

The **Decline and close Forecast Commit** window appears. Enter the details and choose **Decline and close**.

## Viewing forecast commits when EDI is enabled

### Note

You will only see this configuration if you selected *Yes* to use **EDI Connection Settings** when setting up N-Tier Visibility.

You can only export forecast commits data in EDI format.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **N-Tier Visibility**.

The **N-Tier Visibility** page appears.

2. Choose the **Forecast Commits** tab.

The **Confirm or Update Forecast Commits** page appears.

3. From the **Actions** drop-down, choose **Export EDI data**.

The .json file with the forecast commits information is downloaded to your local computer and also downloaded to the Amazon S3 folder created as part of the outbound connection setup for Supply Planning.

## Responding to requests as a Partner

As a Partner, you can accept or decline Partner requests, review purchase orders and forecast commits.

### Reviewing and accepting partner invites

As a **Partner**, you should have received an email to join the AWS Supply Chain network. Select the link on the email to review and accept the invite.

#### Note

When you are accepting invites for the first time, you can view the onboarding pages that highlight the key features. This helps you to get familiar with the AWS Supply Chain capabilities.

1. On the AWS Supply Chain login page, enter the *username*.

You will be sent a verification code to the same email address from which you received the invite to join.


2. On the **Additional verification required** page, under **Verification code**, enter the verification code from the email.
3. On the **Choose your password** page, create a password to sign into AWS Supply Chain.
4. Choose **Create AWS Builder ID**.
5. On the **Complete your user profile** page, the *firstname* and *lastname* are auto-populated. Enter your *Job title* and *timezone*.
6. Choose **Next**.
7. On the **Let's add your organization's information** page, choose **Upload logo** to upload your organization's logo and enter the **Organization name**.
8. Choose **Complete setup**.

The **N-Tier Visibility** page appears.

9. On the **N-Tier Visibility** page, under **Partner Network**, you can view all the invites that you have received.
10. Select a partner to accept or decline the invite.

The **N-Tier Visibility** page is displayed with the partner details.


11. Choose **Accept connection**. You will see the **Invite accepted** message.

 **Note**

If you choose to decline the invite, you must provide a reason on the **Decline connection invite** page.

## Reviewing and accepting purchase orders

As a **Partner**, you should have received an email to review the purchase orders. Select the link on the email to review and accept the purchase orders.

 **Note**

When you are accepting invites for the first time, you'll be able to view the onboarding pages that highlight the key features. This helps you to get familiar with the AWS Supply Chain capabilities.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **N-Tier Visibility**.

The **N-Tier Visibility** page appears.

2. Choose the **Purchase Orders** tab.
3. Under **Review Purchase Orders**, you can view all the purchase orders that must be reviewed and confirmed.
4. Choose **Confirm** to accept the purchase order update.
5. Choose **Update** to update the purchase order quantity and delivery date.

The **Update the Purchase Order** window appears. Enter the reason for the purchase order and details, and choose **Confirm**.

6. You can choose **Collaboration history** to read the purchase order updates and reason for the purchase order.

## Reviewing and accepting forecast commits

As a **Partner**, you should have received an email to review the forecast commits. Select the link on the email to respond to the request.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **N-Tier Visibility**.

The **N-Tier Visibility** page appears.

2. Choose the **Forecast Commits** tab.
3. Under **Review Forecast Commits**, you can view all the forecasts based on the status.
  - Forecast Requests – Displays all the forecast commit requests that are still pending review or awaiting response.
  - Forecasts Import – Displays all the forecasts that are imported.
  - Forecasts Export – Displays all the forecasts that are exported to edit offline. After you update, import the changes back.
4. Select the **Status**, **Requester**, or **Site** dropdown to filter the forecasts based on the collaboration status, requester, or site.
5. Choose **Review** for forecast commits with a *For review* collaboration status.

The **Forecast commit** details page appears.

6. Select the blue link on the specific date to edit the forecast, or you can bulk edit the committed forecast for the complete forecast timeline.

The **Edit quantity** page appears. Under the **Change** dropdown, select the reason for the edit, and under **Quantity**, enter the quantity.

7. Choose **Save and update**.
8. Choose **Save and confirm** to accept the forecast commit.
9. Choose **Decline** to decline the forecast commit request.

## N-Tier Visibility settings

You can update the forecast commits and purchase orders response settings in AWS Supply Chain.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.

The **Settings** page appears.

2. Choose **Organization**, **Forecast Commits**, or **Purchase Orders**, depending on what you want to edit.

For information on how to update the settings, see [Using N-Tier Visibility for the first time](#).



# Sustainability

Using Sustainability, you can request data from your partners who have accepted your invitation to join your network. You can use the *Simple reporting* feature to request different types of data from your partner network. You can enter detailed information on the type of data you are requesting from your partners. Responses to your data requests are downloaded to your Amazon S3 bucket everyday at 9 am.

## Topics

- [Using Sustainability for the first time](#)
- [Sustainability dashboard](#)
- [Responding to requests as a Partner](#)
- [Sustainability settings](#)

If you are a AWS Supply Chain partner, you can do the following:

1. [Reviewing and accepting partner invites](#)
2. [Reviewing or responding to data requests](#)

## Using Sustainability for the first time

You can use Sustainability to request and collect carbon emissions data and other compliance data from suppliers.

### Note

When you use Sustainability for the first time, you'll be able to view the onboarding pages that highlight the key features. This helps you to get familiar with the Sustainability capabilities.

1. Open the AWS Supply Chain web application.
2. In the left navigation pane on the AWS Supply Chain dashboard, choose **Sustainability**.
3. On the **Compliance and Sustainability** page, choose **Next**.

You can read through the page to understand what Sustainability offers, or you can choose **Next** to go the Sustainability dashboard.

## Sustainability dashboard

You can invite partners by using the AWS Supply Chain data lake connectors and by mapping the partner information to Partners or Partner's point-of-contact from Amazon S3 or other ERP systems. Make sure that the partner list or partner point-of-contact does not contain duplicate information and that it is up-to-date before you upload the partner information dataset. You can also manually add and invite partners. For more information on how to upload your data, see [Data lake](#).

partner-sustainability Sustainability

Partner Network Data Requests

### Getting Started

**Step 1**  
Invite partners into your AWS Supply Chain network.  
[Invite Partners](#)

**Step 2**  
Request and receive compliance and sustainability data.  
[Create data requests](#)

**Step 3**  
Review your partner's response, respond, or export the data.

### Partner Overview

**Onboarding metrics**

Onboarded	Pending invites	Expired invites	Accept rate
3	0	8	25%

**Data requests**

In progress	Overdue	Declined	Response rate
5	6	6	57%

**34 partners**

Search:  Show: [All Statuses](#) Expired invites: 8 Invite declined: 1 [Actions](#) [Invite partners](#)

<input type="checkbox"/>	Partner name	Partner ID	Supplier DUNS	Open Supplier ID	Contact name	Contact email	Invite date	Portal status
<input type="checkbox"/>	<a href="#">Farmers &amp; Growers</a>	FARM-GROW	128763883	-	amazon testcase	sbjevara+test07654@amazon.com	12/21/2023	Active
<input type="checkbox"/>	<a href="#">Farmers &amp; Growers</a>	FARM-GROW	-	-	djj fdhijkl	sbjevara+test004574@amazon.com	12/21/2023	Invite expired
<input type="checkbox"/>	<a href="#">Partner19</a>	Partner20	-	-	sanjay jevaragi sanju	sbjevara+test0054@amazon.com	12/21/2023	Invite declined
<input type="checkbox"/>	<a href="#">Partner7</a>	Partner8	-	-	vande bharat amazon	sbjevara+test101010@amazon.com	12/20/2023	Invite expired
<input type="checkbox"/>	<a href="#">Partner6</a>	Partner7	-	-	Praveen Kumar	kkumapra+Partner7@amazon.com	12/20/2023	Invite expired
<input type="checkbox"/>	<a href="#">Partner19</a>	Partner20	-	-	Maruti Ambai	ambmarut+test124@amazon.com	12/20/2023	Invite expired
<input type="checkbox"/>	<a href="#">Partner3</a>	Partner3	-	-	san sanju	sbjevara@amazon.com	12/19/2023	Invite expired
<input type="checkbox"/>	<a href="#">Partner12</a>	Partner13	124536545	CN2019067NZ95AM	sanju jevaragi	sbjevara+test90@amazon.com	12/19/2023	Active

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## Partner Network

You can view the partners in your scn network.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Sustainability**.

The Sustainability page appears.

2. On the **Sustainability** dashboard page, choose the **Partner Network** tab.

- **Getting Started** – You can choose **Invite Partners** to invite Partners into your AWS Supply Chain network, and you can choose **Create data requests** to request data from your partners.
- **Partner Overview** – The **Onboarding metrics** section displays the partners who are currently onboarding, invites that are pending acceptance by partners, expired invites and acceptance rate. The **Data requests** section displays data request details from the partners, including the status of data requests.
- **Partners** – You can view the list of partners that were imported through data lake, or you can invite new partners.

Under **Partners**, you can use the **Search** field to search for a specific partner, and you can use the **Show** dropdown to filter your partners based on invite status.

- **Partner name** – Displays the partner name.
- **Partner ID** – Displays the partner ID. The partner ID link to your source system.
- **Supplier DUNS** – Displays the partner DUNS.
- **Open Supplier ID** – Displays the open partner hub ID.
- **Contact name** – Displays the partner's contact name.
- **Contact email** – Displays the partner's contact email.
- **Invite date** – Displays the date when the partner was invited.
- **Portal status** – Displays the status of the invitation.
  - **Not invited** – Partner is not yet invited.
  - **Pending sign up** – Partner is invited but hasn't responded to the invite.
  - **Active** – Partner has accepted the invite and is active. Partner has to be active to receive data requests.
  - **Invite expired** – Partner was sent the invite but the invite expired without any response.
  - **Invite declined** – Partner declined the invitation.

You can choose a partner under **Partner name** to view partner details and details of the data request that are specific to the partner.

To resend a partner invite, choose a partner with an *Expired* portal status and, under the **Actions** dropdown, choose **Resend invite**.

## Inviting partners

You can invite or add new partners from the dataset into the AWS Supply Chain network.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Sustainability**.

The Sustainability page appears.

2. Choose the **Partner Network** tab.
3. On the **Partner Network** page, choose **Invite partners**.

The **Invite Partners** page appears.

The screenshot shows the 'Invite partners' page in the AWS Supply Chain Sustainability dashboard. The page is titled 'Sustainability' and has a left navigation pane with 'Invite partners' selected. The main content area is divided into two sections: 'How it will work' and 'Select partners to invite'.

**How it will work:** After your partners are invited they will receive an email to join AWS Supply Chain. Once they have onboarded, they will be able to receive data requests you send them. You will be able to manage your partners and the requests here in Sustainability.

**Select partners to invite:** Select an existing partner from your dataset or add a new partner manually. Below this is a search bar and a table of 4 partners found (0 partners selected).

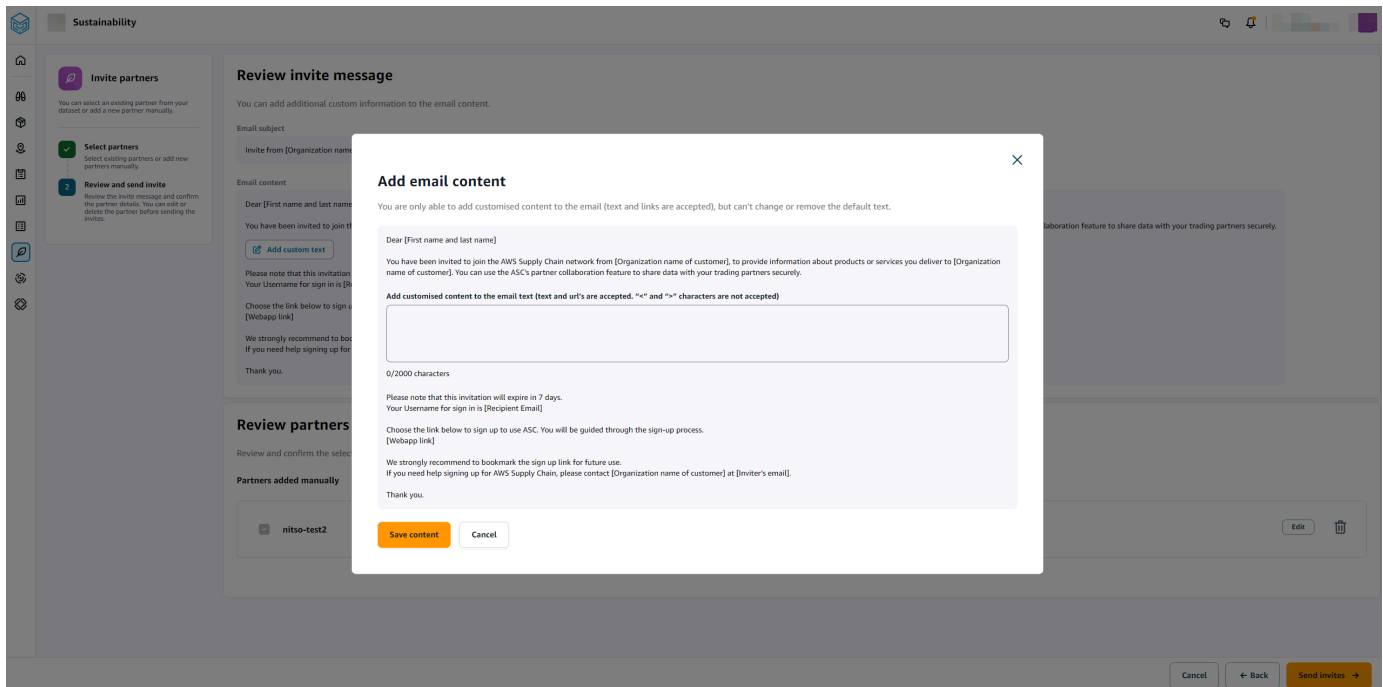
<input type="checkbox"/>	Partner name	Country	Partner ID	Contact name	Contact email
<input type="checkbox"/>	Captain Mills	United States	CapMI	-	-
<input type="checkbox"/>	Del Mountain	United States	DelMtn	-	-
<input type="checkbox"/>	Farmers & Growers	United States	FARM-GROW	-	-
<input type="checkbox"/>	Olive Pit	United States	OLIVE-PIT	-	-

At the bottom right of the table, there is a 'Partner not listed?' button and an 'Add a partner manually' button. At the bottom right of the page, there are 'Cancel' and 'Continue' buttons.

4. Under **Select partners to invite**, to add an existing partner, under **Partner name**, select the partner from the list.
5. To add a new partner, choose **Add a partner manually**.

On the **Enter new partner details** page, enter the **Partner details** and **Account administrator** information, and then choose **Add new partner**.

6. On the **Select partners to invite** page, you will see the partners that you added manually under **Manually entered partners**.
7. Choose **Continue**.
8. On the **Review invite message**, choose **Add custom text** to add a customized message to the partner invite.



9. Choose **Save content**.
10. Choose **Send Invites**.

## Data requests

You can request data from your partners that have accepted your invite and are in the AWS Supply Chain network. The **Portal status** under **Partners** must display *Active* before you request data.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Sustainability**.  
The Sustainability page appears.
2. Choose the **Data Requests** tab.  
You can view the current partners and the data request status, or you can create a new data request.
3. Under **Data Requests**, you can view the overall status of your data requests to partners.
  - **Total requests** – Displays the total number of data requests that you have submitted.
  - **Total partners** – Displays the total number of suppliers from which you have requested data.
  - **In progress** – The data request has been created or will be worked on by the data provider (supplier).

- **Submitted** – Displays the data requests submitted to partners.
  - **Rework requested** – Displays the number of data request responses that you rejected and sent back to the partner to edit their response and resubmit.
  - **Reviewed** – Displays the total number of data requests reviewed by partners.
  - **Declined** – Displays the number of partners who declined your data request.
  - **Canceled** – Displays the number of data requests that have been canceled because they are not needed.
4. You can use the **Search** field to search for a partner.
  5. You can use the **Show** dropdown to filter partners depending on the status of the data request.
  6. Choose **Due date risk** to view all the partners who haven't responded to the data request and are nearing the due date.
  7. Choose **Overdue** to view all the partners who haven't responded to the data request and the due date has passed.
  8. From the **Partner** list, you can choose a partner with a *Pending* status, and you can use the **Actions** dropdown to send a reminder.

## Creating data requests

You can use the simple reporting template to request any type of data from your partners. For example, you can request compliance information such as product brochure, safety report, or lab testing results of a product. You can also upload your own form for the partner to download, update information, and reupload to answer the data request.

To create a data request, do the following:

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Sustainability**.  
  
The Sustainability page appears.
2. Choose the **Data Requests** tab.
3. On the **Data Requests** page, choose **Create data request**.

The **Create data requests** page appears.

**Create data request**

Choose a data request, select partners and send data requests.

- Select data request**  
Select the data request you would like to send and add details.
- Select partners**  
Select the partners that you would like to receive the request.
- Review and send**  
Review and confirm the selected partners.

**Select data request type**

Data request type: Simple Reporting

Description: Upload your form with questions, ask a question, or request documents.

**Select data request options**

Enter the data request details to share with the partners. Once submitted, you will not be able to edit the data request details.

**Simple Reporting**

Enter a name and due date for the data request. You can also provide a reason for the data request under additional notes field.

Data request name:

Due date: MM/DD/YYYY

Data request description:

Additional notes (optional):

**Data request information**

Enter specific questions or instructions on your data request. You can upload a file to provide or ask specific information.

**Task instructions**

eg. Please type your percentage of arsenic in the input field provided. If you have a testing certificate, please upload that as well.

**File upload (optional)**

Drop your file here or [browse](#) to upload.  
Only xls, xlsx, pdf, xml, doc, docx, jpg, png, csv are accepted.

**Select the task input options**

Ask for a text response  
Partners will have the ability to type the answer in an input field.

Save template Cancel Continue →

- On the **Create data requests** page, under **Select data request type**, select the data request type.
- Under **Select data request options**, enter the details for the data request.
- Under **Select the task input options**, select **Ask for a text response** to receive the data request response in a text field.
- Select **Ask for a file response** if you want your partners to upload a response file to your data request.
- Choose **Save template** to save the details you entered and reuse again for additional data requests (due date and notes field will not be saved, as these change per data request).

The **Save template** page appears.

- Enter the name and description for your new template and choose **Save template**. Make sure you enter a name and description that is meaningful since you will use the name and description to find the template, understand its usage, and reuse to request data.

Under **Saved templates**, you will see the template listed under **Data request type**.



10. Choose **Continue** to send the data request.
11. Choose **Cancel** if you only want to create a new template for you and your team. The create data request flow will be canceled.
12. On the **Select partners to request data** page, under **Partner name**, select the partner to request data.

You can choose from the partners listed under **Partner name** or invite a new partner. For information on how to invite partners, see [Inviting partners](#).

13. Under **Selected partners**, review the partner details and choose **Send Request**.

The invited partner will receive an email invite requesting data.

## Data requests examples

Here are some examples on how you can structure the Simple Reporting data form to meet your needs.

### Collect compliance documents from partners

To collect compliance documents from your partners, you can do the following:

- **Data request name** – Q1 2023 Sample Compliance Document Collection
- **Additional Notes** – We are collecting [name of document] from our suppliers to fulfill our Q1 2023 compliance documents needed for [purpose for collecting documents] for the products we buy from you.
- **Task instructions** – Please upload [name of document] for the products we have purchased from you in Q1 2023. The information on this document should be similar to the reference document we have uploaded for you to review. In the Task Response field, provide us any comments you have about the document provided.
- **Ask for a text response** – Select *No* to make this field mandatory.

- **Ask for a file response** – Select **Yes** to make this field mandatory.

### Select data request options

Enter the data request details to share with the partners. Once submitted, you will not be able to edit the data request details.

#### Simple Reporting

Enter a name and due date for the data request. You can also provide a reason for the data request under additional notes field.

Data request name

Q1 2023 Compliance Document Collection

Due date

01/27/2024

Additional notes (optional)

We are collecting compliance artifacts needed to maintain regulatory compliance on the products you provide to use. During this round we will be collecting "XX" from you. Please see the sample document attached that you can download as a reference.

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#### Data request information

Enter specific questions or instructions on your data request. You can upload a file to provide or ask specific information.

Task instructions

Please Upload "XX" for the products we purchased from you in Q1 2023. The information your provide should be similar to the reference document you can download. In the Task Response Field, please provide us any additional comments about your document.

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File upload (optional)



#### Select the task input options

##### Ask for a text response

Partners will have the ability to type the answer in an input field.

Mandatory/required field?

Yes  No

##### Ask for a file response

Partners will have the ability to upload a file.

Mandatory/required field?

Yes  No

## Collect emissions documents

To collect emissions information, you can do the following:

- **Data request name** – 2023 Emissions Collection
- **Additional Notes** – To achieve our Climate Pledge Goals, we are collecting emissions data so that we have the information needed to understand our carbon footprint. Providing us with carbon data on the services your provide are needed for us to fully disclose our carbon emission.
- **Task instructions** – Please download the provided Emissions form, answer the questions in the form, and upload it when complete. Please ensure that you are only providing emissions information for the year 2023 and ensure that the form is signed.
- **Ask for a text response** – Not selected
- **Ask for a file response** – Select **Yes** to make this field mandatory.

### Select data request options

Enter the data request details to share with the partners. Once submitted, you will not be able to edit the data request details.

#### Simple Reporting

Enter a name and due date for the data request. You can also provide a reason for the data request under additional notes field.

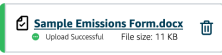
Data request name:  Due date:

Additional notes (optional):  225/255

#### Data request information

Enter specific questions or instructions on your data request. You can upload a file to provide or ask specific information.

Task instructions:  225/255

File upload (optional):  Upload Successful File size: 11 KB

#### Select the task input options

Ask for a text response  
Partners will have the ability to type the answer in an input field.  
Mandatory/required field?  
 Yes  No

Ask for a file response  
Partners will have the ability to upload a file.  
Mandatory/required field?  
 Yes  No

## Collect pilot ESG data

To collect pilot ESG data, you can do the following:

- **Data request name** – ESG Pilot Questionnaire V1
- **Additional Notes** – Thank you for agreeing to pilot our ESG questionnaire. In Q2 next year, we must disclose our impact on environmental and social indicators to meet compliance requirements. We need information from you so that we can complete our report.
- **Task instructions** – Download the provided questionnaire, answer the questions in the form, and upload it when complete. Indicate in the task response box how much time it took you to complete the questionnaire.
- **Ask for a text response** – Select *Yes* to make this field mandatory.
- **Ask for a file response** – Select *Yes* to make this field mandatory.

**Simple Reporting**

Enter a name and due date for the data request. You can also provide a reason for the data request under additional notes field.

**Data request name**

**Due date**

**Additional notes (optional)**


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**Data request information**

Enter specific questions or instructions on your data request. You can upload a file to provide or ask specific information.

**Task instructions**


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**File upload (optional)****Select the task input options** **Ask for a text response**

Partners will have the ability to type the answer in an input field.

Mandatory/required field?

Yes  No

 **Ask for a file response**

Partners will have the ability to upload a file.

Mandatory/required field?

Yes  No

## Emission data forms

You can use the emission data forms to collect scope 1, 2, and 3 emissions from your partner network at the granularity level of a country or facility. The following are the data request emission forms available.

- Supplier Emissions by country
- Supplier Emissions by facility

Additionally, you can use the Supplier Emissions by facility form to request address information for each facility. These forms can also be used to collect revenue information about products or services provided by the partner that can be used to measure year over year changes per products produced and sold. You can also use these forms to configure the sections to show or hide for your partners. You can also set the hierarchical level of information for emissions collection to optional or mandatory when setting up the form.

### Create data request

Choose a data request, select partners and send data requests.

- 1 **Select data request**  
Select the data request you would like to send and add details.
- 2 **Select partners**  
Select the partners that you would like to receive the request.
- 3 **Review and send**  
Review and confirm the selected partners.

### Select data request type

Data request type:

Description: Allows customers to share information on supplier emissions on a per country basis.

---

### Select data request options

Enter the data request details to share with the partners. Once submitted, you will not be able to edit the data request details.

#### Supplier Emissions by country

Enter a name and due date for the data request. You can also provide a reason for the data request under additional notes field.

Data request name:

Due date:

Reminder date (optional):

Data request description:

Additional notes (optional):

---

#### Reporting timeline

Select the year for which you want to request emissions information from your partners.

Report year:

To send a data request emission form, follow the procedure below:

1. Configure the data request type and the data request options. For information on how to configure the data request type and option, see [Creating data requests](#).
2. Under **Reporting timeline**, enter the reporting year of your partner.
3. Under **Electricity and scope emissions configuration**, select the top-level headings to be displayed for the partner. For example, in the below screen shot, Scope 3 emissions is not selected and will not be displayed to the partner.

Once you select a section or a sub-section to request emission information from your partner, it becomes mandatory for your partner to provide information for all the sections selected. For example, in the screen shot below, under Scope 1 > Type 1 - Stationary combustion emissions total, there are two sub-types that are selected and your partner must provide information for these fields.

## Electricity and scope emissions configuration

Select the electricity and scope emissions information you want to request from your partner(s).

### Carbon and electricity

Information about the method used for allocating carbon emission, ISO 14064-1 and third party verification.

Select which areas of the form will be mandatory for the partner to answer.

- Disclose of the method used for allocating carbon emission.
- Did your company use a third party verifier for your Scope 1 and 2 greenhouse gas emissions reported?
- Does this facility have ISO 14064-1 verification report for the reporting year?

### Scope 1

Direct greenhouse gas emissions produced by a company, such as those resulting from fuel combustion, vehicle operation, or gas leaks in facility operations.

Select which areas of the form will be mandatory for the partner to answer.

- Scope 1 total emissions
- Type 1 - Stationary combustion emissions total
  - Sub type - Fuel (Natural gas, Liquefied petroleum gas, Oil, Propane, other non renewable)
  - Sub type - Space and HW Heating Fuel (Natural gas, Liquefied petroleum gas, Diesel, Other fuels)
  - Sub type - Non-emergency electricity generation (Natural gas, Liquefied petroleum, Diesel, Other fuels)
- Type 2 - Mobile emission from company owned/leased vehicles total
  - Sub type emissions - Fuel (Liquefied petroleum gas, diesel, Other fuels)
- Type 3 - Fugitive emissions total
  - Sub type - Fugitive emissions (Direct emission from air conditioning, Direct emission from purchased/release of gases, Other emissions)
- Type 4 - Process emission total
  - Sub type - Process emissions (Heat transfer fluid, Fuel combustion for heat emissions, Other emissions)

### Scope 2

Indirect greenhouse gas emissions that result from the generation of purchased electricity, heat, or steam consumed by a company.

Select which areas of the form will be mandatory for the partner to answer.

- Scope 2 total emissions
  - Indirect emissions (Purchased electricity energy and equivalent, Steam energy and equivalent, Heat energy and equivalent, Cooling sources or equivalent, Market based emissions)
- Scope 2 total electrical energy consumption
  - Electricity type (On-site carbon-free electricity, Contracted offsite carbon free electricity and source, Energy attribute certificate information, Conventional electricity purchase and source)

### Scope 3

Indirect emissions that occur outside of an organization, such as those resulting from business travel, procurement, waste disposal, and transportation.

## 4. Select **Product Categories** to request product category information from your partner on volumes manufactured, sold, and revenue.

- Under **Add product categories**, you can select a category from a predefined industry list, or choose your own products. For example, in the below screen shot, there are four products and one unit of measure added. Your partner will provide details for these products as applicable to them.

**Product Categories**  
 Information about the classifications or groups that your facilities' products have, volume manufactured and sold.

Add the product categories your partners will be able to select when adding facility and/or country information, and select the units of measure they can select.

Add product categories

Apples ⊗ Bananas ⊗ Oranges ⊗ Melons ⊗ Energy Equipment & Services, Oil Gas & Consumable Fuels, Chemicals, etc.

Select product category unit of measure

Kg ⊗ Units, Kg, etc.

- Under **Add product category unit of measure**, you can select a category from a predefined industry list, or choose your own unit of measure.
- Under **Additional questions**, you can upload additional documents with supplementary questions to ask your partner. Make sure you enter the details of the supplementary questions in the data request description for the partner to understand and answer the supplementary questions.

## Transportation emission forms

You can use the transport emission Global Logistics Emissions Council (GLEC) data forms to collect the emission reports from transportation routes by parcels delivered or by account. The following are the transportation emission request forms available.

- Transportation Emissions (GLEC) by Parcel v0.1 – You can collect emissions from transport routes in accordance with the GLEC standard for parcels delivered.
- Transport Emissions (GLEC) by Account – You can collect emissions from transportation routes in accordance with the GLEC standard per account.

To send a transport emissions data request form, follow the procedure below:

1. In the left navigation pane on the AWS Supply Chain dashboard, choose **Sustainability**.

The Sustainability page appears.

2. Choose the **Data Requests** tab.

### 3. On the **Data Requests** page, choose **Create data request**.

The **Create data requests** page appears.

4. Depending on your request type, under **Data request type**, choose **Transport Emissions (GLEC) by Parcel v0.1** or **Transport Emissions (GLEC) by Account**
5. Under **Transport Emissions (GLEC) by Parcel v0.1**, enter a name, due date, and description for the data request.
6. Under **Data request information**, the .csv template to request information from the partner is auto-populated. You can add any additional notes.
7. Choose **Continue**.
8. Under **Select partners to request data**, select the partners you would like to request transport emissions information.
9. Choose **Continue**.
10. Under **Selected partners**, choose **Send data request**.
11. If the formatting in the .csv file is not in the correct format, the system automatically changes the data request *Status* to *Rework requested*. You can select the data request to view the information that needs to be reworked.



# Responding to requests as a Partner

As a Partner, you can accept or decline Partner requests, review and respond to data requests.

## Reviewing or responding to data requests

You will receive a daily digest letting you know if you have received any data requests within the last 24 hour period. Select the link in the email to view any new data requests.

The screenshot shows the Sustainability page interface. At the top, there's a 'Sustainability' header with a notification bell. Below it, a card titled 'Emissions Project Reporting' displays a table with request details:

Requester	Status	Requested	Due date	Submitted date	Submitted by
Amazon	Rework required	1/2/2024	1/31/2024	1/2/2024	Cole flipper

Below the table, there are three main sections:

- Please complete the following sections:** A button for 'Request Information' and a sub-section for 'Simple request for file based data'.
- Request description:** A prompt to 'Please provide information as requested.'
- Additional notes:** A note stating 'We would like to work with you on your climate projects in 2024'.
- Reworking:** A section showing rejection details: 'Rejection reason: Artifact is not valid', 'Rejection date: 1/4/2024', and 'Rejection details: rewere'.

At the bottom of the card, there are three buttons: 'Download', 'Decline', and 'Submit'. To the right of the card, there are 'Back' and 'Next section' navigation buttons.

1. On the **Sustainability** page, under **Data Requests**, you will see all the data requests from your partners.
2. Under **Title**, choose the data request that you want to view or take action on.
3. On the **Sustainability** page, under **Please complete the following sections**, review and provide the requested information.
4. Choose **Submit response**.
5. You can choose to **Download** the data request. The download option downloads the template requested by the partner.
6. You can also choose to **Decline** to answer the data request. You will be prompted to provide a reason for choosing to decline to answer.

You can export data in bulk and the data responses are exported every 24 hours to your Amazon S3 bucket. The folder structure would be `s3://aws-supply-chain-data-Instance ID/export/DisclosureDataResponse/YYYY/MM/DD/Execution ID`. Under your Amazon S3 folder, you will find an audit history and a data response file for each data type.

## Reviewing and accepting partner invites

As a **Partner**, you should have received an email to join the AWS Supply Chain network. Select the link on the email to review and accept the invite.

### Note

When you are accepting invites for the first time, you can view the onboarding pages that highlight the key features. This helps you to get familiar with the AWS Supply Chain capabilities.

1. On the AWS Supply Chain login page, enter the *username* which is the partner's email address.

You will be sent a verification code to the same email you received the invite to join.

2. On the **Additional verification required** page, under **Verification code**, enter the verification code from the email.

### Note

If you plan to use the same computer to log into AWS Supply Chain, after you use the verification code to access AWS Supply Chain for the first time, choose **Trusted device** on your computer to access AWS Supply Chain without the verification code the next time.

3. On the **Choose your password** page, create a password to sign into AWS Supply Chain.
4. On the **Complete your user profile** page, the *firstname* and *lastname* are auto-populated. Enter your *title* and *timezone*.
5. Choose **Next**.
6. On the **Let's add your organization's information** page, choose **Upload logo** to upload your organization's logo, and then enter the **Organization name**.
7. Choose **Complete setup**.

The **Sustainability** page displays.

8. On the **Sustainability** page, under **Partner Network**, you can view all the invites that you have received.
9. Review and select a partner to accept or decline the invite.

The **Sustainability** page displays with the partner details.


10. Choose **Accept connection**. You will see the **Invite accepted** message.

### Note

If you choose to decline the invite, you must provide a reason on the **Decline connection invite** page.

## Reviewing or responding to emission data forms

After you receive an emission data form request, you will view the request details and check the collaboration history.

<p>Please complete the following sections</p> <ul style="list-style-type: none"> <li><b>Request Information</b></li> <li>Country reporting           <ul style="list-style-type: none"> <li>Add Country</li> <li>Country Details</li> </ul> </li> <li>Other emissions</li> </ul>	<p><b>Request description</b></p> <p>We are committed to achieving our organization's carbon reduction pledges for our operations. To meet our goals, we need carbon emissions information from our partners. Please fill in sections in this Supplier Emissions Reporting data form, including optional questions that are applicable to your operations.</p> <hr/> <p>Latest update: <span style="float: right;"> Collaboration history <span style="font-size: 0.8em;">▼</span></span></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border: 1px solid #ccc; padding: 5px;">Data request created: 6/27/2024</td> <td style="width: 50%; border: 1px solid #ccc; padding: 5px;">Reason details: Data request created</td> </tr> </table>	Data request created: 6/27/2024	Reason details: Data request created
Data request created: 6/27/2024	Reason details: Data request created		

1. Under **Add country**, enter the countries where you have facilities and products within those facilities.

## Company details

Company name  
Popercips LLC

Year reporting the data  
2023

## Add country

Let us know how many countries you have facilities.

Country  # of facilities per country

Product Category

[Add new country](#)

## Countries you have facilities

Review the country information you provided.

Country	# of facilities	Product category	Table options
Chile	2	Apples	<a href="#">Edit</a>

## 2. Choose **Add emission information** to add emission information for each country.

2023 Emissions collection

Requester: Demo Customer Company | Status: In progress | Requested: 6/27/2024 | Due date: 7/31/2024 | Submitted date: - | Submitted by: -

Please complete the following sections

- Request information
  - Country reporting**
  - Add Country
  - Country Details
- Other emissions

### Emissions & Electricity

Share emissions and electricity details for each of the countries where you have facilities.

Brazil [Add emission information](#)

Chile [Add emission information](#)

## 3. Enter the emission information. All fields are mandatory.

# Reviewing or responding to transportation (GLEC) emission data forms

After you receive a transportation emission data form request, you will view the request details and check the collaboration history.

**Sustainability**

**Test**

Requester	Status	Requested	Due date	Submitted date	Submitted by
Galaxy	Not started	10/9/2024	10/11/2024	-	-

**Latest update:** Collaboration history

Data request created: 10/9/2024  
Reason details: Data request created

**Request description**

This data form is used to collect emissions from transportation routes in accordance with the GLEC standard for parcels delivered. Accepted data schema(s) are available below for your reference. Please note the validity period associated with each file. The validity period for each schema is based on the date the data is provided and not based on any dates within the data uploaded.

**Transport Emissions by Parcel**

Review the provided information about the transport emissions by parcel. Download and use your preferred spreadsheet editor to review and fill out the form file. Once you have completed the information, save and upload the file.

[transport-emissions-by-parcel-template.csv](#)
[transport-emissions-by-parcel-schema.csv](#)

Answer by uploading the provided asset file:

Drop your file here or [browse to upload](#)  
Accepted formats are: .csv. File size is limited to 2 GB.

Share notes related to the uploaded file (optional)

Decline Submit

Under **Transport Emissions by Parcel**, download the .csv files, populate the .csv with the transport emissions, and upload the file. Choose **Submit**.

Make sure the information you populate in the .csv file is in the correct format. If not, you will receive a rework request explaining the issue in the .csv file.

## Sustainability settings

To enhance your account security, you can use multifactor authentication.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.  
The **Settings** page appears.
2. Choose **Account Profile**.
3. Under **multifactor authentication**, choose **Multifactor Authentication Setup**.

You will be redirected to *AWS Access Portal*. For information on AWS Access Portal, see [Using the AWS access portal](#).

# Amazon Q in AWS Supply Chain

## Note

**Powered by Amazon Bedrock:** AWS implements [automated abuse detection](#). Because Amazon Q in AWS Supply Chain is built on Amazon Bedrock, users can take full advantage of the controls implemented in Amazon Bedrock to enforce safety, security, and the responsible use of artificial intelligence (AI).

Amazon Q in AWS Supply Chain is an interactive generative artificial intelligence (GenAI) assistant that helps you operate your supply chain more efficiently by analyzing the data in your AWS Supply Chain Data Lake, providing important operational and financial insights, and answering immediate supply chain questions. For example, you can ask Amazon Q in AWS Supply Chain, "What is my demand forecast over the next two weeks for Apples in Austin?" and you will get an accurate answer within seconds.

## Topics

- [Enabling Amazon Q in AWS Supply Chain](#)
- [Creating and assigning custom user roles to access Amazon Q in AWS Supply Chain](#)
- [Using Amazon Q in AWS Supply Chain](#)
- [Sample questions you can ask Amazon Q in AWS Supply Chain](#)
- [Cross-Region calls with Amazon Q in AWS Supply Chain](#)

## Enabling Amazon Q in AWS Supply Chain

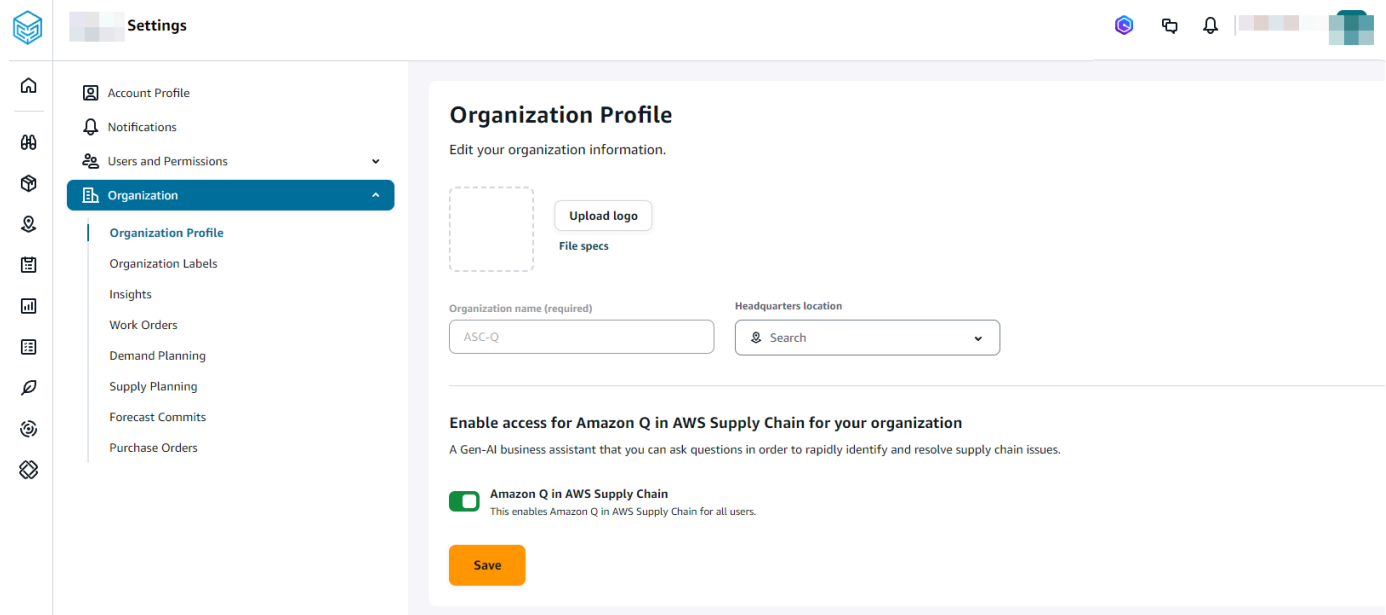
### Note

Only an AWS Supply Chain administrator can enable Amazon Q in AWS Supply Chain.

To enable Amazon Q in AWS Supply Chain, perform the following procedure:

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.
2. Under **Organization**, choose **Organization Profile**.

The **Organization Profile** page appears.



3. Under **Enable access for Amazon Q...**, slide the **Amazon Q in AWS Supply Chain** button to enable Amazon Q in AWS Supply Chain and ask questions regarding your supply chain.
4. Choose **Save**.

The **Confirm Amazon Q in AWS Supply Chain access** window appears.

5. Choose **Acknowledge**.

The Amazon Q dialog window should automatically appear on the right side of the page. You can hide or unhide the page by choosing the Amazon Q icon.

## Prerequisites for existing AWS Supply Chain users

### **Note**

If your AWS Supply Chain instance was created before the Amazon Q in AWS Supply Chain release, you will need to follow the procedure below to update the instance permissions.

To update the instance role in the IAM console, perform the following steps:

1. Make sure all the permissions listed under [KMS policy](#) are added to the KMS key policy used in the AWS Supply Chain instance.

2. In the IAM console, find the instance role with the AWS Supply Chain *InstanceId*. You can find the AWS Supply Chain *InstanceId* in the AWS Supply Chain console.
3. Attach the following policy as an inline policy to the role.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "AccessKmsToEnableAscQ",
      "Effect": "Allow",
      "Action": "kms:CreateGrant",
      "Resource": "{{kmsKeyArn}}",
      "Condition": {
        "ForAllValues:StringEquals": {
          "kms:GrantOperations": [
            "Encrypt",
            "Decrypt",
            "GenerateDataKey",
            "GenerateDataKeyWithoutPlaintext",
            "DescribeKey"
          ]
        },
        "StringLike": {
          "kms:ViaService": "scn.*.amazonaws.com"
        },
        "Bool": {
          "kms:GrantIsForAWSResource": true
        }
      }
    },
    {
      "Sid": "AccessKmsToInteractWithAscQ",
      "Effect": "Allow",
      "Action": [
        "kms:Decrypt",
        "kms:DescribeKey",
        "kms:GenerateDataKey"
      ],
      "Resource": "{{kmsKeyArn}}",
      "Condition": {
        "StringLike": {
          "kms:ViaService": "scn.*.amazonaws.com"
        }
      }
    }
  ]
}
```



```
}  
  }  
    }  
  ]  
}
```

Replace the `kmsKeyArn` with the actual AWS KMS Key Arn used in the AWS Supply Chain instance.

## Creating and assigning custom user roles to access Amazon Q in AWS Supply Chain

To create and assign custom user roles in AWS Supply Chain, perform the following procedure:

### Note

If you are an AWS Supply Chain administrator or have a custom user role with administrator privileges, you can access Amazon Q across all datasets without any additional permission requirements after Amazon Q is enabled on your account. This section is only applicable if you want to grant Amazon Q access permissions to non-administrator users.

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.
2. Under **Users and Permissions**, choose **Permission Roles**.

The **Permission Roles** page appears.

3. Choose **Create New Role**.

The **Manage Permission Role** page appears.

4. Under **Role Name**, enter a name for the role.
5. Choose the module or administrator access for the permission role you are creating.

**Note**

You must choose an administrator role or AWS Supply Chain module to enable Amazon Q in AWS Supply Chain. Amazon Q in AWS Supply Chain cannot be enabled independently.

6. Slide the **Amazon Q in AWS Supply Chain** button to create a user role to view and interact with **Amazon Q** in the **AWS Supply Chain** web application.
7. Under **Additional Data Permissions**, view the datasets that are automatically listed as per the user role you selected.
8. Choose **Save**.

## Updating existing custom user roles to access Amazon Q in AWS Supply Chain

To update an existing user permission role in AWS Supply Chain, perform the following procedure:

1. In the left navigation pane on the AWS Supply Chain dashboard, choose the **Settings** icon.
2. Under **Users and Permissions**, choose **Permission Roles**.

The **Permission Roles** page appears.

3. Under **Role**, select the role for which you would want to add the Amazon Q in AWS Supply Chain permission role and choose the **Edit** icon.

The **Manage Permission Role** page appears.

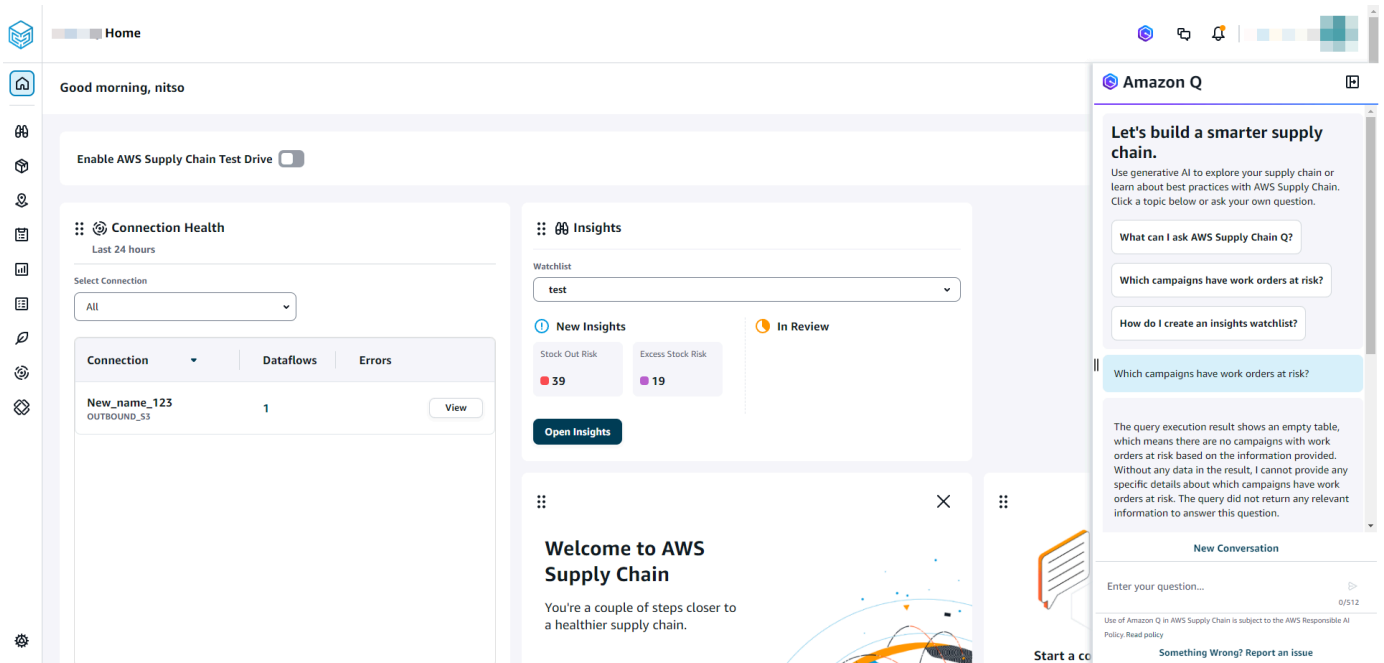
4. Slide the **Amazon Q in AWS Supply Chain** button to add Amazon Q in AWS Supply Chain permission role.
5. Choose **Save**.

## Using Amazon Q in AWS Supply Chain

After enabling Amazon Q in AWS Supply Chain, perform the following procedure:

1. On the AWS Supply Chain dashboard, choose the **Amazon Q** icon.

The Amazon Q dialog window should automatically appear on the right side of the page. You can hide or unhide the page by choosing the Amazon Q icon.



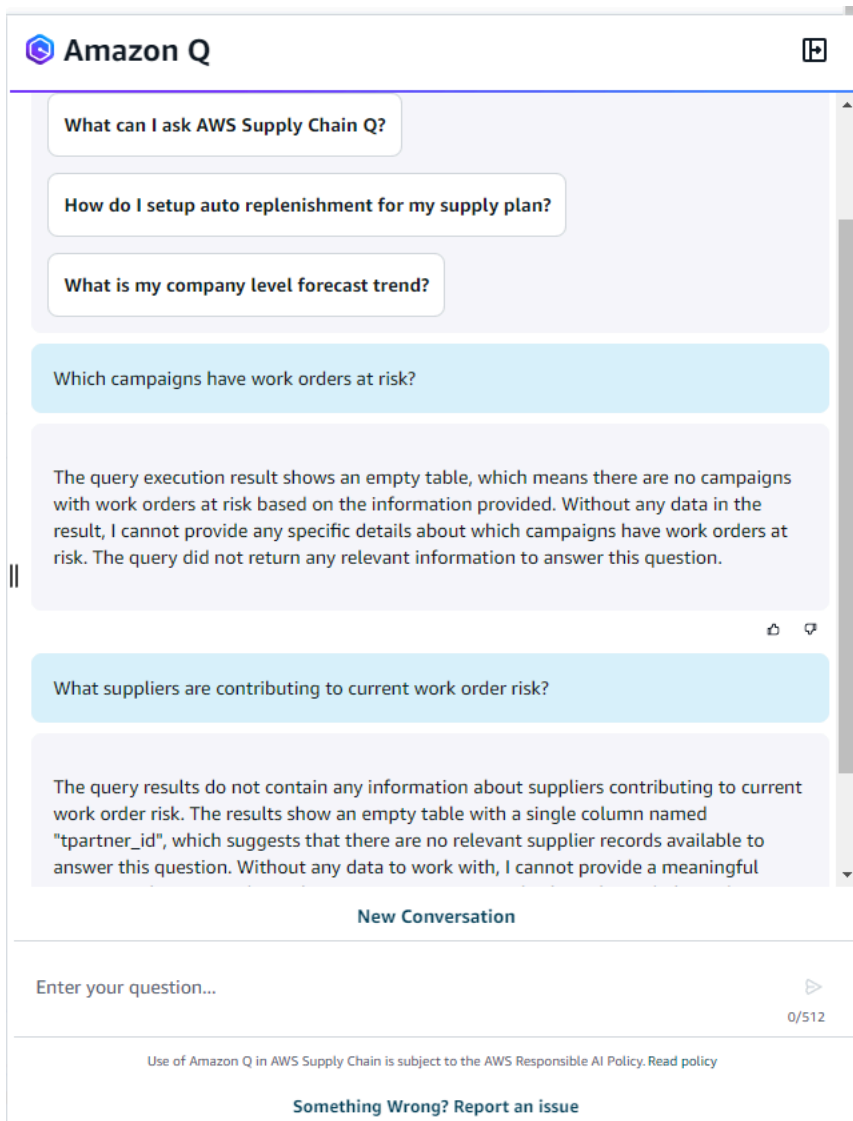
The screenshot displays the AWS Supply Chain console interface. On the right side, the Amazon Q dialog window is open, titled "Amazon Q". The dialog contains the following content:

- Let's build a smarter supply chain.**
- Use generative AI to explore your supply chain or learn about best practices with AWS Supply Chain. Click a topic below or ask your own question.
- Sample questions:
  - What can I ask AWS Supply Chain Q?
  - Which campaigns have work orders at risk?
  - How do I create an insights watchlist?
  - Which campaigns have work orders at risk?
- Text: "The query execution result shows an empty table, which means there are no campaigns with work orders at risk based on the information provided. Without any data in the result, I cannot provide any specific details about which campaigns have work orders at risk. The query did not return any relevant information to answer this question."
- New Conversation**
- Input field: "Enter your question..." (0/512)
- Footer: "Use of Amazon Q in AWS Supply Chain is subject to the AWS Responsible AI Policy. Read policy." and "Something Wrong? Report an issue"

The background console shows a "Connection Health" section with a table of connections. One connection is visible:

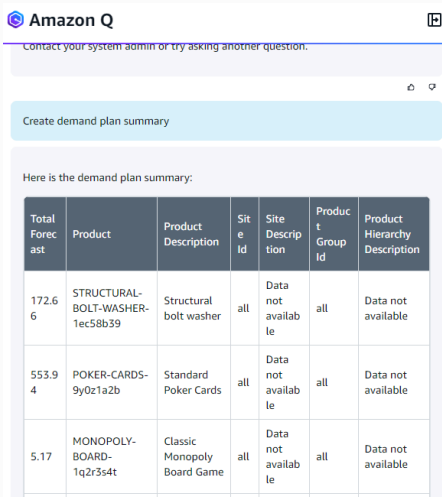
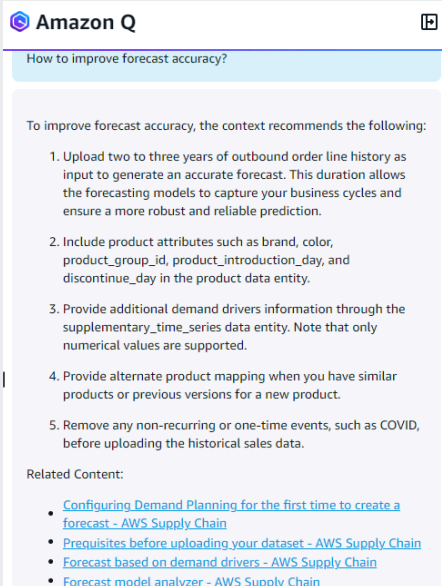
Connection	Dataflows	Errors
New_name_123 OUTBOUND_S3	1	<a href="#">View</a>

2. Choose a question from the list of sample questions displayed.



You can ask any questions regarding AWS Supply Chain from anywhere in the web application. Amazon Q in AWS Supply Chain will customize your answers using the context from the page you are in to provide more accurate responses. You can start with the default prompted questions or ask your own question.

## Sample questions you can ask Amazon Q in AWS Supply Chain

AWS Supply Chain module	Sample question	Sample answer																												
<p>Demand Planning</p> <div style="border: 1px solid #add8e6; border-radius: 15px; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>Make sure the demand plan is published before using Amazon Q in Demand Planning.</p> </div>	<p>Create demand plan summary</p>	 <p>Amazon Q</p> <p>Contact your system admin or try asking another question.</p> <p>Create demand plan summary</p> <p>Here is the demand plan summary:</p> <table border="1"> <thead> <tr> <th>Total Forecast</th> <th>Product</th> <th>Product Description</th> <th>Site Id</th> <th>Site Description</th> <th>Product Group Id</th> <th>Product Hierarchy Description</th> </tr> </thead> <tbody> <tr> <td>172.66</td> <td>STRUCTURAL-BOLT-WASHER-1ec58b89</td> <td>Structural bolt washer</td> <td>all</td> <td>Data not available</td> <td>all</td> <td>Data not available</td> </tr> <tr> <td>553.94</td> <td>POKER-CARDS-9y0z1a2b</td> <td>Standard Poker Cards</td> <td>all</td> <td>Data not available</td> <td>all</td> <td>Data not available</td> </tr> <tr> <td>5.17</td> <td>MONOPOLY-BOARD-1q2r3s4t</td> <td>Classic Monopoly Board Game</td> <td>all</td> <td>Data not available</td> <td>all</td> <td>Data not available</td> </tr> </tbody> </table>	Total Forecast	Product	Product Description	Site Id	Site Description	Product Group Id	Product Hierarchy Description	172.66	STRUCTURAL-BOLT-WASHER-1ec58b89	Structural bolt washer	all	Data not available	all	Data not available	553.94	POKER-CARDS-9y0z1a2b	Standard Poker Cards	all	Data not available	all	Data not available	5.17	MONOPOLY-BOARD-1q2r3s4t	Classic Monopoly Board Game	all	Data not available	all	Data not available
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	<p>How to improve forecast accuracy?</p>	 <p>Amazon Q</p> <p>How to improve forecast accuracy?</p> <p>To improve forecast accuracy, the context recommends the following:</p> <ol style="list-style-type: none"> <li>1. Upload two to three years of outbound order line history as input to generate an accurate forecast. This duration allows the forecasting models to capture your business cycles and ensure a more robust and reliable prediction.</li> <li>2. Include product attributes such as brand, color, product_group_id, product_introduction_day, and discontinue_day in the product data entity.</li> <li>3. Provide additional demand drivers information through the supplementary_time_series data entity. Note that only numerical values are supported.</li> <li>4. Provide alternate product mapping when you have similar products or previous versions for a new product.</li> <li>5. Remove any non-recurring or one-time events, such as COVID, before uploading the historical sales data.</li> </ol> <p>Related Content:</p> <ul style="list-style-type: none"> <li>• <a href="#">Configuring Demand Planning for the first time to create a forecast - AWS Supply Chain</a></li> <li>• <a href="#">Prerequisites before uploading your dataset - AWS Supply Chain</a></li> <li>• <a href="#">Forecast based on demand drivers - AWS Supply Chain</a></li> <li>• <a href="#">Forecast model analyzer - AWS Supply Chain</a></li> </ul>																												

AWS Supply Chain module	Sample question	Sample answer																		
Supply Planning	What products are at a stock-out risk?	<p>What products are at a stock-out risk?</p> <p>Based on the provided query results, the following products may be at a stock-out risk:</p> <table border="1"> <thead> <tr> <th>Product Description</th> <th>Product ID</th> </tr> </thead> <tbody> <tr> <td>Acme IriPlug lead</td> <td>ACME-SPARKPLUG-LEAD-c7b49d84</td> </tr> <tr> <td>Acme IriPlug sparkplug</td> <td>ACME-SPARKPLUG-8d04b765</td> </tr> <tr> <td>Acme ceramic brake pad</td> <td>ACME-BRAKE-PAD-95de60e1</td> </tr> <tr> <td>Acme kingpin</td> <td>ACME-KINGPIN-3fa91b82</td> </tr> <tr> <td>Acme performance rim</td> <td>ACME-TIRE-RIM-d9fa39c2</td> </tr> <tr> <td>Acme performance tire</td> <td>ACME-TIRE-57ee1816</td> </tr> </tbody> </table>	Product Description	Product ID	Acme IriPlug lead	ACME-SPARKPLUG-LEAD-c7b49d84	Acme IriPlug sparkplug	ACME-SPARKPLUG-8d04b765	Acme ceramic brake pad	ACME-BRAKE-PAD-95de60e1	Acme kingpin	ACME-KINGPIN-3fa91b82	Acme performance rim	ACME-TIRE-RIM-d9fa39c2	Acme performance tire	ACME-TIRE-57ee1816				
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	What is current lead time for all products?	<p>What is current lead time for all products?</p> <p>Here is the current lead time for all products:</p> <table border="1"> <thead> <tr> <th>Product</th> <th>Current Lead Time</th> </tr> </thead> <tbody> <tr> <td>MONOPOLY-BOARD-1q2r3s4t</td> <td>12</td> </tr> <tr> <td>ACME-TIRE-57ee1816</td> <td>16</td> </tr> <tr> <td>POKER-CARDS-9y0z1a2b</td> <td>7.33</td> </tr> <tr> <td>STRUCTURAL-BOLT-WASHER-1ec58b39</td> <td>13.5</td> </tr> <tr> <td>DRYWALL-SCREW-BOX-c7b49d84</td> <td>17.5</td> </tr> <tr> <td>TEDDY-SCARF-6a5b4c3d</td> <td>10.5</td> </tr> <tr> <td>ACME-BRAKE-PAD-95de60e1</td> <td>14</td> </tr> <tr> <td>ACME-TIRE-RIM-d9fa39c2</td> <td>16.25</td> </tr> </tbody> </table>	Product	Current Lead Time	MONOPOLY-BOARD-1q2r3s4t	12	ACME-TIRE-57ee1816	16	POKER-CARDS-9y0z1a2b	7.33	STRUCTURAL-BOLT-WASHER-1ec58b39	13.5	DRYWALL-SCREW-BOX-c7b49d84	17.5	TEDDY-SCARF-6a5b4c3d	10.5	ACME-BRAKE-PAD-95de60e1	14	ACME-TIRE-RIM-d9fa39c2	16.25
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ACME-TIRE-RIM-d9fa39c2	16.25																			

AWS Supply Chain module	Sample question	Sample answer																				
	<p>Are any purchase orders delayed?</p>	<p>Are any purchase orders delayed?</p> <p>Yes, there are purchase orders that are delayed based on the information provided. The table below shows the details:</p> <table border="1"> <thead> <tr> <th>Id</th> <th>Order Status</th> </tr> </thead> <tbody> <tr> <td>IOL.3815</td> <td>delayed</td> </tr> <tr> <td>IOL.3783</td> <td>delayed</td> </tr> <tr> <td>IOL.3803</td> <td>delayed</td> </tr> <tr> <td>IOL.3847</td> <td>delayed</td> </tr> <tr> <td>IOL.3807</td> <td>delayed</td> </tr> <tr> <td>IOL.3835</td> <td>delayed</td> </tr> <tr> <td>IOL.3795</td> <td>delayed</td> </tr> <tr> <td>IOL.2787</td> <td>delayed</td> </tr> </tbody> </table>	Id	Order Status	IOL.3815	delayed	IOL.3783	delayed	IOL.3803	delayed	IOL.3847	delayed	IOL.3807	delayed	IOL.3835	delayed	IOL.3795	delayed	IOL.2787	delayed		
Id	Order Status																					
IOL.3815	delayed																					
IOL.3783	delayed																					
IOL.3803	delayed																					
IOL.3847	delayed																					
IOL.3807	delayed																					
IOL.3835	delayed																					
IOL.3795	delayed																					
IOL.2787	delayed																					
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AWS Supply Chain module	Sample question	Sample answer																																
Work Order Insights	Which campaigns have work orders at watch status?	<p>Based on the query results, the campaigns that have work orders at 'watch' are:</p> <table border="1"> <thead> <tr> <th>Program Group</th> </tr> </thead> <tbody> <tr> <td>Campaign002</td> </tr> <tr> <td>Campaign001</td> </tr> <tr> <td>Campaign003</td> </tr> </tbody> </table>	Program Group	Campaign002	Campaign001	Campaign003																												
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## Cross-Region calls with Amazon Q in AWS Supply Chain

Amazon Q in AWS Supply Chain has a dependency on Amazon Kendra for retrieving relevant search results from public documentation that may be used to answer your questions. Amazon Kendra is available in a subset of AWS Regions that Amazon Q in AWS Supply Chain supports. Amazon Q in AWS Supply Chain calls Amazon Kendra local endpoints when Amazon Kendra is available locally in an AWS Region. When Amazon Kendra is not available locally, Amazon Q in AWS Supply Chain calls Amazon Kendra's endpoints in a different AWS Region. In these cross-region calls, Amazon Q in AWS Supply Chain may send your prompts to Amazon Kendra.



Amazon Q in AWS Supply Chain Region		Amazon Kendra Region	
Region Code	Region Name	Region Code	Region Name
eu-central-1	Europe (Frankfurt)	eu-west-1	Europe (Ireland)

# Data entities and columns used in AWS Supply Chain

This chapter describes the data entities and columns supported by each AWS Supply Chain module.

## Note

The data entities listed in this chapter are required for each AWS Supply Chain module. For data entities required for Data Lake ingestion, see [Data entities supported in AWS Supply Chain](#).

## Topics

- [Sustainability](#)
- [N-Tier Visibility](#)
- [Supply Planning](#)
- [Insights](#)
- [Work Order Insights](#)
- [Demand Planning](#)

## Sustainability

The table below list the data entities and columns used by Sustainability for partner invitations and onboarding.

## Note

### How to read the table:

- **Required** – The column name is mandatory in your dataset and you must populate the column name with values.
- **Optional** – The column name is optional. For enhanced feature output, it is recommended to add the column name with values.
- **Not required** – Data entity not required.

Data entity	Column	Is the column used by Sustainability?
<a href="#">trading_partner</a>	id	Required
	tpartner_type	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VA LUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VA LUE_PROVIDED for successful ingestion.
	geo_id	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VA LUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VA LUE_PROVIDED for successful ingestion.
	eff_end_date	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.

Data entity	Column	Is the column used by Sustainability?
	eff_start_date	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.
<a href="#">trading_partner_poc</a>	tpartner_id	Required
	email	Required

## N-Tier Visibility

The table below list the data entities and columns used by N-Tier Visibility.

### Note

#### How to read the table:

- **Required** – The column name is mandatory in your dataset and you must populate the column name with values.
- **Optional** – The column name is optional. For enhanced feature output, it is recommended to add the column name with values.
- **Not required** – Data entity not required.

Data entity	Column	Is the column used by N-Tier Visibility?
<a href="#">trading_partner</a>	id	Required

Data entity	Column	Is the column used by N-Tier Visibility?
	description	Required
	company_id	Optional
	tpartner_type	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VA LUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VA LUE_PROVIDED for successful ingestion.
	geo_id	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VA LUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VA LUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used by N-Tier Visibility?
	eff_end_date	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.
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<a href="#">trading_partner_poc</a>	tpartner_id	Required
	email	Required
<a href="#">product</a>	id	Required – Data entity is optional but <i>id</i> is used to generate Partner Network View.
<a href="#">product_hierarchy</a>	id	
<a href="#">site</a>	id	
<a href="#">sourcing_rules</a>	sourcing_rule_id	Required – Data entity is optional but <i>sourcing_rule_id</i> is used to generate Partner Network View.
<a href="#">supply_plan</a>	supply_plan_id	Required

Data entity	Column	Is the column used by N-Tier Visibility?
	snapshot_date	Optional
	creation_date	Optional
	tpartner_id	Required
	product_id	Required
	to_site_id	Required
	from_site_id	Optional
	plan_quantity	Required
	plan_type	Required
	plan_need_by_date	Required
	quantity_uom	Optional

## Supply Planning

The table below list the data entities and columns used by Supply Planning.

### Note

#### How to read the table:

- **Required** – The column name is mandatory in your dataset and you must populate the column name with values.
- **Optional** – The column name is optional. For enhanced feature output, it is recommended to add the column name with values.
- **Not required** – Data entity not required.

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
<a href="#">site</a>	id	Required	Required
	description	Required	Required
	geo_id	Required - Without this field, filters cannot group sites by category such as region, country, state, zip code and so on.	Required - Without this field, filters cannot group sites by category such as region, country, state, zip code and so on.
	site_type	NA	NA
	company_id	Optional	Optional
	latitude	NA	NA
	longitude	NA	NA
	is_active	Required - Identifies if a site needs to be considered for planning. Note, set the value to <i>False</i> if a site should not to be considered. If the field is kept blank or null, the site will be considered.	Required - Identifies if a site needs to be considered for planning. Note, set the value to <i>False</i> if a site should not to be considered. If the field is kept blank or null, the site will be considered.
	open_date	NA	NA
	end_date	NA	NA
<a href="#">transportation_lane</a>	id	Required	Required
	from_site_id	Required	Required
	to_site_id	Required	Required



<b>Data entity</b>	<b>Column</b>	<b>Is the column used for Auto Replenishment?</b>	<b>Is the column used for Manufacturing Plan?</b>
	product_group_id	Required	Required
	transit_time	Required	Required
	time_uom	Required - Supported values include Day.	Required - Supported values include Day.
	distance	Not required	Not required
	distance_uom	Not required	Not required
	eff_start_date	Optional	Optional
	eff_end_date	Optional	Optional
	product_id	Optional	Optional
	emissions_per_unit	Not required	Not required
	emissions_per_weight	Not required	Not required
	company_id	Optional	Optional

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	from_geo_id	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
	to_geo_id	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	carrier_t partner_id	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
	service_type	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	trans_mode	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
	cost_per_unit	Optional	Optional
	cost_currency	Optional	Optional
<a href="#">product</a>	id	Required	Required
	description	Required	Required
	product_group_id	Required - Without this field, filters cannot group by product category such as dairy, clothes, and so on.	Required - Without this field, filters cannot group by product category such as dairy, clothes, and so on.
	is_deleted	Required - Identifies if a product needs to be considered for planning. Set the field to <i>False</i> to consider this product and <i>True</i> to not consider the product. If this field is left blank or null, then the value will be defaulted to <i>True</i> .	Required - Identifies if a product needs to be considered for planning. Set the field to <i>False</i> to consider this product and <i>True</i> to not consider the product. If this field is left blank or null, then the value will be defaulted to <i>True</i> .

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	product_type	Not required	Not required
	parent_product_id	Optional	Optional
	base_uom	Optional	Optional
	unit_cost	Optional	Optional
	unit_price	Optional	Optional
<a href="#">product_hierarchy</a>	id	Required	Required
	description	Required – This field is used by filters to group by a product category such as dairy, clothes, and so on.	Required – This field is used by filters to group by a product category such as dairy, clothes, and so on.
	parent_product_group_id	Optional – This field is used by filters to support multiple product category hierarchy such as dairy, full fat milk and so on.	Optional – This field is used by filters to support multiple product category hierarchy such as dairy, full fat milk and so on.
<a href="#">geography</a>	id	Required	Required
	description	Required	Required
	parent_geo_id	Optional – This field is used by filters to support multiple location hierarchy such as USA → USA-EAST.	Optional – This field is used by filters to support multiple location hierarchy such as USA → USA-EAST.
<a href="#">trading_partner</a>	id	Required	Required
	description	Optional	Optional

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	country	Optional	Optional
	eff_start_date	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.
	eff_end_date	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.
	time_zone	Optional	Optional
	is_active	Optional	Optional
	tpartner_type	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	geo_id	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
<a href="#">inbound_order</a>	id	Required	Required
	order_type	Required	Required
	order_status	Not required	Not required
	to_site_id	Required	Required
	submitted_date	Optional	Optional
	tpartner_id	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
<a href="#">inbound_order_line</a>	id	Required	Required
	order_id	Required	Required
	order_type	Required	Required
	status	Not required	Not required
	product_id	Required	Required
	to_site_id	Required	Required
	from_site_id	Not required	Not required
	quantity_submitted	Required – You must set one quantity field.	Required – You must set one quantity field.
	quantity_confirmed	Optional – You must set one quantity field.	Optional – You must set one quantity field.
	quantity_received	Optional – You must set one quantity field.	Optional – You must set one quantity field.
	expected_delivery_date	Required	Required
	submitted_date	Not required	Not required
	incoterm	Not required	Not required
	company_id	Optional	Optional
	tpartner_id	Required – This field is required for successful ingestion.	Required – This field is required for successful ingestion.
quantity_uom	Not required	Not required	



Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	reservation_id	Not required	Not required
	reference_object_type	Optional – This field is used for associating purchase order requests to purchase orders to track plan to PO conversion in the ERP.	Optional – This field is used for associating purchase order requests to purchase orders to track plan to PO conversion in the ERP.
	reference_object_id	Optional – This field is used for associating purchase order requests to purchase orders to track plan to PO conversion in the ERP.	Optional – This field is used for associating purchase order requests to purchase orders to track plan to PO conversion in the ERP.
<a href="#">inv_policy</a>	site_id	Required	Required
	id	Required	Required
	dest_geo_id	Required	Required
	product_id	Optional – Either product_id or product_group_id is required.	Optional – Either product_id or product_group_id is required.
	product_group_id	Optional – Either product_id or product_group_id is required.	Optional – Either product_id or product_group_id is required.
	eff_start_date	Required	Required
	eff_end_date	Required	Required
	company_id	Optional	Optional

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	ss_policy	Required – The accepted values for this field are abs_level, doc_dem, doc_fcst, and sl.	Required – The accepted values for this field are abs_level, doc_dem, doc_fcst, and sl.
	target_inventory_qty	Required – This field is required when ss_policy is set to abs_level.	Required – This field is required when ss_policy is set to abs_level.
	target_doc_limit	Required – This field is required when ss_policy is set to doc_dem or doc_fcst.	Required – This field is required when ss_policy is set to doc_dem or doc_fcst.
	target_sl	Required – This field is required when ss_policy is set to sl.	Required – This field is required when ss_policy is set to sl.
<a href="#">sourcing_rules</a>	sourcing_rule_id	Required	Required
	company_id	Optional	Optional
	product_id	Optional – Either product_id or product_group_id is required.	Optional – Either product_id or product_group_id is required.
	product_group_id	Optional – Either product_id or product_group_id is required.	Optional – Either product_id or product_group_id is required.
	from_site_id	Optional – This field is required for sourcing_rule types transfer.	Optional – This field is required for sourcing_rule types transfer.
	to_site_id	Required	Required

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	sourcing_rule_type	Required – The allowed values for this field are transfer, buy, and manufacture.	Required – The allowed values for this field are transfer, buy, and manufacture. Only lower case is allowed.
	tpartner_id	Optional – This field is required for sourcing_rule types buy.	Optional – This field is required for sourcing_rule types buy.
	transportation_lane_id	Optional – This field is required for sourcing_rule types transfer.	Optional – This field is required for sourcing_rule types transfer.
	production_process_id	Optional – This field is required for sourcing_rule types manufacture.	Optional – This field is required for sourcing_rule types manufacture.
	sourcing_priority	Optional	Optional
	min_qty	Optional	Optional
	max_qty	Optional	Optional
	qty_multiple	Optional	Optional
	eff_start_date	Required	Required
	eff_end_date	Required	Required

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
<a href="#">sourcing_schedule</a>	sourcing_schedule_id	Required	Required
	company_id	Optional	Optional
	tpartner_id	Optional – This field is required for schedule_type InboundOrdering.	Optional – This field is required for schedule_type InboundOrdering.
	status	Required	Required
	from_site_id	Optional – This field is required for schedule_type OutboundShipping.	Optional – This field is required for schedule_type OutboundShipping.
	to_site_id	Required	Required
	schedule_type	Required – The allowed values for this field are InboundOrdering and OutboundShipping.	Required – The allowed values for this field are InboundOrdering and OutboundShipping.
	eff_start_date	Required	Required
	eff_end_date	Required	Required

**Note**

This data entity is optional.

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
<a href="#">sourcing_schedule_details</a>  <div style="border: 1px solid #00a0e3; border-radius: 10px; padding: 10px; width: fit-content;"> <p><b>Note</b> This data entity is optional.</p> </div>	sourcing_schedule_detail_id	Required	Required
	sourcing_schedule_id	Required	Required
	company_id	Optional	Optional
	product_id	Optional – Either product_id or product_group_id is required.	Optional – Either product_id or product_group_id is required.
	product_group_id	Optional – Either product_id or product_group_id is required.	Optional – Either product_id or product_group_id is required.
	day_of_week	Optional	Optional
	week_of_month	Optional	Optional
	time_of_day	Optional	Optional
	date	Optional	Optional
<a href="#">product_bom</a>	id	Not required	Required
	product_id	Not required	Required
	company_id	Optional	Optional
	site_id	Not required	Required
	production_process_id	Not required	Required

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	component_product_id	Not required	Required
	component_quantity_per	Not required	Required
	assembly_cost	Not required	Optional
	assembly_cost_uom	Not required	Optional
	priority	Not required	Optional
	eff_start_date	Not required	Required
	eff_end_date	Not required	Required
<a href="#">production_process</a>	production_process_id	Not required	Required
	production_process_name	Not required	Optional
	product_id	Not required	Required
	site_id	Not required	Required
	company_id	Optional	Optional
	setup_time	Not required	Optional
	setup_time_uom	Not required	Optional
	operation_time	Not required	Optional

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	operation_time_uom	Not required	Optional
<a href="#">inv_level</a>	snapshot_date	Required	Required
	site_id	Required	Required
	product_id	Required	Required
	company_id	Optional	Optional
	on_hand_inventory	Required	Required
	allocated_inventory	Not required	Not required
	bound_inventory	Not required	Not required
	lot_number	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
expiry_date	Not required	Not required	
<a href="#">forecast</a>	site_id	Required	Required

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	product_id	Required	Required
	mean	Optional	Optional
	p10	Optional	Optional
	p50	Optional	Optional
	p90	Optional	Optional
	forecast_start_dttm	Required	Required
	forecast_end_dttm	Required	Required
	snapshot_date	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.




Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	region_id	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
	product_group_id	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
<a href="#">vendor_product</a>	company_id	Optional	Optional
	vendor_partner_id	Required	Required
	product_id	Required	Required
	eff_start_date	Required	Required
	eff_end_date	Required	Required

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
<a href="#">vendor_lead_time</a>	company_id	Optional	Optional
	vendor_tp partner_id	Required	Required
	product_id	Optional	Optional
	site_id	Required	Required
	planned_lead_time	Required	Required
	eff_start_date	Required	Required
	eff_end_date	Required	Required
	product_group_id	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	region_id	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required – When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
<a href="#">outbound_order_line</a>	id	Required – This field determines the outbound shipment id.	Required – This field determines the outbound shipment id.
	product_id	Required – This field determines the id of the product shipped.	Required – This field determines the id of the product shipped.
	cust_order_id	Required – This field determines the id of the outbound order.	Required – This field determines the id of the outbound order.
	ship_from_site_id	Required – This field determines the site from where the product units are requested.	Required – This field determines the site from where the product units are requested.
	ship_to_site_id	Not required	Not required
	init_quantity_requested	Optional – This field determines the final quantity after any cancellations and changes.	Optional – This field determines the final quantity after any cancellations and changes.

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	quantity_promised	Optional – This field displays the promised quantity.	Optional – This field displays the promised quantity.
	quantity_delivered	Optional – This field displays the actual quantity delivered.	Optional – This field displays the actual quantity delivered.
	final_quantity_requested	Optional – Final quantity after any cancellations or changes	Optional – Final quantity after any cancellations or changes
	status	Optional – This field determines the status of the order line, that is, canceled, open, closed, and so on.	Optional – This field determines the status of the order line, that is, canceled, open, closed, and so on.
	requested_delivery_date	Required	Required
	promised_delivery_date	Optional	Optional
	actual_delivery_date	Optional	Optional
<a href="#">segmentation</a>	segment_id	Required	Required
	creation_date	Required	Required
	company_id	Optional	Optional
	site_id	Required	Required
	product_id	Required	Required
	segment_description	Optional	Optional

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	segment_type	Optional	Optional
	segment_value	Optional	Optional
	source	Optional	Optional
	eff_start_date	Required	Required
	eff_end_date	Required	Required
<u>company</u>	id	Required	Required
 <b>Note</b> This data entity is optional.	description	Optional	Optional
	address_1	Optional	Optional
	address_2	Optional	Optional
	address_3	Optional	Optional
	city	Optional	Optional
	state_prov	Optional	Optional
	postal_code	Optional	Optional
	country	Optional	Optional
	phone_number	Optional	Optional
	time_zone	Optional	Optional
calendar_id	Optional	Optional	

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
<a href="#">supply_planning_parameters</a>	product_id	Required	Required
	product_group_id	Required. For future Use. Please populate SCN_RESERVED_NO_VALUE_PROVIDED for now.	Required. For future Use. Please populate SCN_RESERVED_NO_VALUE_PROVIDED for now.
	site_id	Required. For future Use. Please populate SCN_RESERVED_NO_VALUE_PROVIDED for now.	Required. For future Use. Please populate SCN_RESERVED_NO_VALUE_PROVIDED for now.
	planner_name	Optional	Optional
	demand_time_fence_days	Optional.For future use	Optional.For future use
	forecast_consumption_backward_days	Optional.For future use	Optional.For future use
	forecast_consumption_forward_days	Optional.For future use	Optional.For future use
	eff_start_date	Required	Required
	eff_end_date	Required	Required
<a href="#">shipment</a>	id	Required	NA
	ship_to_site_id	Required	NA

**Note**

This data entity is optional.

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	product_id	Required	NA
	ship_from_site_id	Required – Supply Planning can use the value from <i>ship_from_site_id</i> or <i>supplier_tpartner_id</i> .	NA
	supplier_tpartner_id	Required – Supply Planning can use the value from <i>ship_from_site_id</i> or <i>supplier_tpartner_id</i> .	NA
	order_type	Required	NA
	units_shipped	Required	NA
	planned_delivery_date	Required – Supply Planning can use the value from <i>planned_delivery_date</i> , <i>actual_delivery_date</i> , or <i>carrier_eta_date</i> .	NA
	actual_delivery_date		
	carrier_eta_date		
	planned_ship_date	Required – Supply Planning can use the value from <i>planned_ship_date</i> , or <i>actual_ship_date</i> .	NA
	actual_ship_date		
	creation_date	Optional	NA
	shipment_status	Optional	NA

Data entity	Column	Is the column used for Auto Replenishment?	Is the column used for Manufacturing Plan?
	order_id	Required. When you ingest data from SAP or EDI, the default value for string is <i>SCN_RESERVED_NO_VALUE_PROVIDED</i> . When you upload data using the Amazon S3 connector, you must enter a value or use <i>SCN_RESERVED_NO_VALUE_PROVIDED</i> for successful ingestion.	NA
	order_line_id		
	package_id		
<a href="#">???</a>	id	Required	NA
	lot_qty	Required	NA
	expiry_date	Optional	NA
	shipment_id	Required	NA
	product_id	Required. When you ingest data from SAP or EDI, the default value for string is <i>SCN_RESERVED_NO_VALUE_PROVIDED</i> . When you upload data using the Amazon S3 connector, you must enter a value or use <i>SCN_RESERVED_NO_VALUE_PROVIDED</i> for successful ingestion.	NA
	tpartner_id		
	order_id		
	order_line_id		
	package_id		



# Insights

The table below lists the data entities and columns used by Insights for the Inventory Visibility, Network Map, Inventory Insights, and Rebalance Recommendations features. See the table below on how each feature in Insights uses the data entities.

## Note

### How to read the table:

- **Required** – The column name is mandatory in your dataset and you must populate the column name with values.
- **Optional** – The column name is optional. For enhanced feature output, it is recommended to add the column name with values.
- **Not required** – Data entity not required.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
<a href="#">site</a>	id	Required	Required	Required	Required	Required
	description	Required	Required	Required	Required	Optional
	geo_id	Required – This field is required for filters to group sites by geographical groups such as	Required – This field is required for filters to group sites by geographical groups such as	Required – This field is required for filters to group sites by geographical groups such as	Required	Required – This field is required for filters to group sites by geographical groups such as

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
		region/country/state and so on.	region/country/state and so on.	region/country/state and so on.		region/country/state and so on.
	site_type	Optional – Populating this column will display the site type on the inventory visibility page such as RDC, CDC, manufacturing site and so on.	Optional	Optional	Optional	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	company_id	Optional	Optional	Optional	Optional	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	latitude	Optional	Required – This field is used to view the <i>site</i> on the Network Map page.	Optional	Optional	Column name <i>latitude</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	longitude	Optional	Required – This field is used to view the <i>site</i> on the Network Map page.	Optional	Optional	Column name <i>longitude</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	is_active	Required – Identifies if the site needs to be considered for Insights computation. <b>Note:</b> If you want a site to be excluded from the Insights computation, make sure you set the column value to <i>False</i> . If the column is blank or null, the site is considered active.	Required – Identifies if the site needs to be considered for Insights computation. <b>Note:</b> If you want a site to be excluded from the Insights computation, make sure you set the column value to <i>False</i> . If the column is blank or null, the site is considered active.	Required – Identifies if the site needs to be considered for Insights computation. <b>Note:</b> If you want a site to be excluded from the Insights computation, make sure you set the column value to <i>False</i> . If the column is blank or null, the site is considered active.	Required – Identifies if the site needs to be considered for Insights computation. <b>Note:</b> If you want a site to be excluded from the Insights computation, make sure you set the column value to <i>False</i> . If the column is blank or null, the site is considered active.	Required – Identifies if the site needs to be considered for Insights computation. <b>Note:</b> If you want a site to be excluded from the Insights computation, make sure you set the column value to <i>False</i> . If the column is blank or null, the site is considered active.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	open_date	Optional	Optional	Optional	Optional	Column name <i>open_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	end_date	Optional	Optional	Optional	Optional	Column name <i>end_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.
<a href="#">transaction_e</a>	id	Not required	Not required	Not required	Required	Required



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	from_site_id	Not required	Not required	Not required	Required	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	to_site_id	Not required	Not required	Not required	Required	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	product_group_id	Not required	Not required	Not required	Required	Column name <i>product_group_id</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	transit_time	Not required	Not required	Not required	Required	Column name <i>transit_time</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	time_uom	Not required	Not required	Not required	Required – Supports day or days as units.	Column name <i>time_uom</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	distance	Not required	Not required	Not required	Required	Column name <i>distance</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	distance_uom	Not required	Not required	Not required	Required – Supports mile(s), km(s), or Kilometer (s) as units.	Column name <i>distance_uom</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	eff_start_date	Not required	Not required	Not required	Optional	Column name <i>eff_start_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	eff_end_date	Not required	Not required	Not required	Optional	Column name <i>eff_end_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	product_id	Not required	Not required	Not required	Optional – Either <i>product_id</i> or <i>product-group-id</i> is required. When the lane is linked with a product, this field is mandatory .	Column name <i>product_id</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	emissions_per_unit	Not required	Not required	Not required	Optional	Column name <i>emissions_per_unit</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	emissions_per_weight	Not required	Not required	Not required	Optional	Column name <i>emissions_per_unit</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	company_id	Not required	Not required	Not required	Optional	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	from_geo_id	Not required	Not required	Not required	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED for successful ingestion.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	to_geo_id	Not required	Not required	Not required	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	carrier_tpartner_id	Not required	Not required	Not required	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	service_type	Not required	Not required	Not required	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	trans_mode	Not required	Not required	Not required	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED for successful ingestion.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	cost_per_unit	Not required	Not required	Not required	Optional – You can view the shipping cost unit by lane during rebalance recommendations.	Column name <i>cost_per_unit</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	cost_currency	Not required	Not required	Not required	Optional – You can view the shipping cost unit by lane during rebalance recommendations.	Column name <i>cost_currency</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.
<a href="#">productd</a>		Required	Required	Required	Required	Required
	description	Required	Required	Required	Required	Required

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	product_group_id	Required – Using this field, you can group products by product category such dairy, clothes, and so on.	Required – Using this field, you can group products by product category such dairy, clothes, and so on.	Required – Using this field, you can group products by product category such dairy, clothes, and so on.	Required	Required – Using this field, you can group products by product category such dairy, clothes, and so on.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	is_deleted	Required – Identifies if the product needs to be considered for Insights computation. <b>Note:</b> If you want the product to be excluded from the Insights computation, make sure you set the column value to <i>True</i> and set to <i>False</i> to include this product for Insights	Required – Identifies if the product needs to be considered for Insights computation. <b>Note:</b> If you want the product to be excluded from the Insights computation, make sure you set the column value to <i>True</i> and set to <i>False</i> to include this product for Insights	Required – Identifies if the product needs to be considered for Insights computation. <b>Note:</b> If you want the product to be excluded from the Insights computation, make sure you set the column value to <i>True</i> and set to <i>False</i> to include this product for Insights	Required – Identifies if the product needs to be considered for Insights computation. <b>Note:</b> If you want the product to be excluded from the Insights computation, make sure you set the column value to <i>True</i> and set to <i>False</i> to include this product for Insights	Required – Identifies if the product needs to be considered for Insights computation. <b>Note:</b> If you want the product to be excluded from the Insights computation, make sure you set the column value to <i>True</i> and set to <i>False</i> to include this product for Insights

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
		computation. If the column is left blank or null, the system considers the default value of <i>True</i> .	computation. If the column is left blank or null, the system considers the default value of <i>True</i> .	computation. If the column is left blank or null, the system considers the default value of <i>True</i> .	computation. If the column is left blank or null, the system considers the default value of <i>True</i> .	computation. If the column is left blank or null, the system considers the default value of <i>True</i> .
	product_type	Optional – This field is required to support multiple product levels such as planning and fulfillment product.	Optional – This field is required to support multiple product levels such as planning and fulfillment product.	Optional – This field is required to support multiple product levels such as planning and fulfillment product.	Optional – This field is required to support multiple product levels such as planning and fulfillment product.	Column name <i>product_type</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	parent_product_id	Optional – This field is required to support multiple product levels such as planning and fulfillment product.	Optional – This field is required to support multiple product levels such as planning and fulfillment product.	Optional – This field is required to support multiple product levels such as planning and fulfillment product.	Optional – This field is required to support multiple product levels such as planning and fulfillment product.	Column name <i>parent_product_id</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	base_uom	Optional – This field is required for Insights to calculate the default base uom for a given product.	Optional – This field is required for Insights to calculate the default base uom for a given product.	Optional – This field is required for Insights to calculate the default base uom for a given product.	Optional – This field is required for Insights to calculate the default base uom for a given product.	Column name <i>base_uom</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.
<a href="#">product_hierarchy</a>		Required	Required	Required	Required	Required
	description	Required – Using this field, you can filter groups by product category such dairy, clothes, and so on.	Required – Using this field, you can filter groups by product category such dairy, clothes, and so on.	Required – Using this field, you can filter groups by product category such dairy, clothes, and so on.	Required – Using this field, you can filter groups by product category such dairy, clothes, and so on.	Required – Using this field, you can filter groups by product category such dairy, clothes, and so on.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	parent_product_group_id	Optional – This field is used by filters to support multiple product hierarchy category such as dairy, frozen diary products, fresh diary and so on.	Optional – This field is used by filters to support multiple product hierarchy category such as dairy, frozen diary products, fresh diary and so on.	Optional – This field is used by filters to support multiple product hierarchy category such as dairy, frozen diary products, fresh diary and so on.	Column name <i>parent_product_group_id</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.	Optional – This field is used by filters to support multiple product hierarchy category such as dairy, frozen diary products, fresh diary and so on.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
<p><a href="#">product_uom</a></p> <p><b>Note</b> This data entity is optional. For product uom conversions, data is required in either product-quantity</p>	product_uom_id	Required – This field is required to perform the product uom conversion.	Required – This field is required to perform the product uom conversion.	Required – This field is required to perform the product uom conversion.	Required – This field is required to perform the product uom conversion.	Not required
	product_id	Required	Required	Required	Required	Not required
	uom	Required – This field is required for conversion to units.	Required – This field is required for conversion to units.	Required – This field is required for conversion to units.	Required – This field is required for conversion to units.	Not required
	description	Optional	Optional	Optional	Optional	Not required
	quantity	Required – This field contains the conversion factor.	Required – This field contains the conversion factor.	Required – This field contains the conversion factor.	Required – This field contains the conversion factor.	Not required

<b>Data entity</b>	<b>Column</b>	<b>Is the column used for Inventory visibility?</b>	<b>Is the column used for Network map?</b>	<b>Is the column used for Inventory Insights?</b>	<b>Is the column used for Rebalance recommendations?</b>	<b>Is the column used for Lead time Insights?</b>
	quantity_uom	Required – This field is required for conversion from units.	Required – This field is required for conversion from units.	Required – This field is required for conversion from units.	Required – This field is required for conversion from units.	Not required
	eff_start_date	Optional	Optional	Optional	Optional	Not required
	eff_end_date	Optional	Optional	Optional	Optional	Not required
	company_id	Optional	Optional	Optional	Optional	Not required

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
<p><a href="#">uom_conversion</a></p> <p><b>Note</b> This data entity is optional. For product uom conversions, data</p>	company_id	Required – This field is required for conversion from units.	Required – This field is required for conversion from units.	Required – This field is required for conversion from units.	Required – This field is required for conversion from units.	Not required
	conversion_product_uom_id	Required – This field is required for conversion to units.	Required – This field is required for conversion to units.	Required – This field is required for conversion to units.	Required – This field is required for conversion to units.	Not required
	conversion_factor	Required – This field contains the conversion factor.	Required – This field contains the conversion factor.	Required – This field contains the conversion factor.	Required – This field contains the conversion factor.	Not required
	id	Required	Required	Required	Required	Required

<b>Data entity</b>	<b>Column</b>	<b>Is the column used for Inventory visibility?</b>	<b>Is the column used for Network map?</b>	<b>Is the column used for Inventory Insights?</b>	<b>Is the column used for Rebalance recommendations?</b>	<b>Is the column used for Lead time Insights?</b>
	description	Required	Required	Required	Required	Required
	parent_geo_id	Optional – This field is used to support multiple location hierarchy such as USA, USA-East, and so on.	Required – This field is used to support multiple location hierarchy such as USA, USA-East, and so on.	Optional	Optional	Required – This field is used to support multiple location hierarchy such as USA, USA-East, and so on.
<a href="#">tradingpartner</a>		Required	Required	Required	Required	Required
	description	Optional	Optional	Optional	Optional	Required
	country	Optional	Optional	Optional	Optional	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	eff_start_date	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Column name <i>eff_start_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	eff_end_date	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Column name <i>eff_end_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.




Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	time_zone	Optional	Optional	Optional	Optional	Column name <i>time_zone</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	is_active	Optional	Optional	Optional	Optional	Column name <i>is_active</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	tpartner_type	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Column name <i>tpartner_type</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	geo_id	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Column name <i>geo_id</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
<a href="#">inbound_order</a>		Not required	Not required	Not required	Not required	Required
<div style="border: 1px solid #00a0e3; border-radius: 15px; padding: 10px; margin-bottom: 10px;">  <p><b>Note</b> This data entity is required for <i>Lead Time Insights</i> but optional for <i>Inventory Visibility</i>, <i>Network Map</i>, <i>Inventory Insights</i>, and <i>Rebalance Recommendations</i>.</p> </div>	order_type	Not required	Not required	Not required	Not required	Optional – Data can be used by inbound order line.
	order_status	Not required	Not required	Not required	Not required	Optional
	Lead_time_to_site_id	Not required	Not required	Not required	Not required	Column name <i>site_id</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.
	submitted_date	Not required	Not required	Not required	Not required	Required

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	tpartner_id	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
<a href="#">inbound_order_l</a>	id	Required	Required	Required	Required	Required

<b>Data entity</b>	<b>Column</b>	<b>Is the column used for Inventory visibility?</b>	<b>Is the column used for Network map?</b>	<b>Is the column used for Inventory Insights?</b>	<b>Is the column used for Rebalance recommendations?</b>	<b>Is the column used for Lead time Insights?</b>
	order_id	Required	Required	Required	Required	Required
	order_type	Required	Required	Required	Required	Optional
	status	Required	Required	Required	Required	Optional
	product_id	Required	Required	Required	Required	Required
	to_site_id	Required	Required	Required	Required	Required
	from_site_id	Required	Required	Required	Required	Required
	quantity_submitted	Required – One quantity field should be set.	Required – One quantity field should be set.	Required – One quantity field should be set.	Required – One quantity field should be set.	Required – One quantity field should be set.
	quantity_confirmed	Optional – One quantity field should be set.	Optional – One quantity field should be set.	Optional – One quantity field should be set.	Optional – One quantity field should be set.	Optional – One quantity field should be set.
	quantity_received	Optional – This field should be blank for open orders.	Optional – This field should be blank for open orders.	Optional – This field should be blank for open orders.	Optional – This field should be blank for open orders.	Optional – This field should be blank for open orders.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	quantity_uom	Required – This field is required to determine the unit for quantity fields.	Required – This field is required to determine the unit for quantity fields.	Required – This field is required to determine the unit for quantity fields.	Required – This field is required to determine the unit for quantity fields.	Column name <i>quantity_uom</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.
	expected_delivery_date	Required	Required	Required	Required	Required



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	submitted_date	<p>Column name <i>submitted_date</i> should be available in your dataset. Value for the column name is not required for Inventory visibility.</p>	<p>Column name <i>submitted_date</i> should be available in your dataset. Value for the column name is not required for Network map.</p>	<p>Column name <i>submitted_date</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.</p>	<p>Column name <i>submitted_date</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.</p>	<p>Required</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	incoterm	<p>Column name <i>incoterm</i> should be available in your dataset. Value for the column name is not required for Inventory visibility.</p>	<p>Column name <i>incoterm</i> should be available in your dataset. Value for the column name is not required for Network map.</p>	<p>Column name <i>incoterm</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.</p>	<p>Column name <i>incoterm</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.</p>	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	product_group_id	<p>Column name <i>product_group_id</i> should be available in your dataset. Value for the column name is not required for Inventory visibility.</p>	<p>Column name <i>product_group_id</i> should be available in your dataset. Value for the column name is not required for Network map.</p>	<p>Column name <i>product_group_id</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.</p>	<p>Column name <i>product_group_id</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.</p>	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	company_id	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required for Network map.	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	tpartner_id	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	reservation_id	Optional – This field is used to determine the connection between order line and order line schedule. For example, 1001 - A, where 1001 is the order_id and A is the order_line_id in the inbound_order_line_schedule table.	Optional – This field is used to determine the connection between order line and order line schedule. For example, 1001 - A, where 1001 is the order_id and A is the order_line_id in the inbound_order_line_schedule table.	Optional – This field is used to determine the connection between order line and order line schedule. For example, 1001 - A, where 1001 is the order_id and A is the order_line_id in the inbound_order_line_schedule table.	Optional – This field is used to determine the connection between order line and order line schedule. For example, 1001 - A, where 1001 is the order_id and A is the order_line_id in the inbound_order_line_schedule table.	Column name <i>reservation_id</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	order_rec eive_date	Column name <i>order_rec eive_date</i> should be available in your dataset. Value for the column name is not required for Inventory visibility.	Column name <i>order_rec eive_date</i> should be available in your dataset. Value for the column name is not required for Network map.	Column name <i>order_rec eive_date</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.	Column name <i>order_rec eive_date</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
<a href="#">inbound_order_line_sche</a>	order_id	Required – This field is required to link back to an order line along with the order_line_id.	Required – This field is required to link back to an order line along with the order_line_id.	Required – This field is required to link back to an order line along with the order_line_id.	Required – This field is required to link back to an order line along with the order_line_id.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
When data is not ingested for this data entity, Insights will use the supply data from <i>inbound o</i>	<i>order_line_id</i>	Required – This field is required to link back to an order line along with <i>order_id</i> .	Required – This field is required to link back to an order line along with <i>order_id</i> .	Required – This field is required to link back to an order line along with <i>order_id</i> .	Required – This field is required to link back to an order line along with <i>order_id</i> .	Column name <i>order_line_id</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.
	<i>company_id</i>	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required	Column name <i>company_id</i> should be available in your dataset. Value for the column name is not required

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	<a href="#">Supply Chain.</a>	for Lead Time Insights.	for Lead Time Insights.	for Lead Time Insights.	for Lead Time Insights.	for Lead Time Insights.
	product_id	Required	Required	Required	Required	Required
	expected_delivery_date	Optional – <i>delivery_date</i> or <i>expected_delivery_date</i> must be provided.	Optional – <i>delivery_date</i> or <i>expected_delivery_date</i> must be provided.	Optional – <i>delivery_date</i> or <i>expected_delivery_date</i> must be provided.	Optional – <i>delivery_date</i> or <i>expected_delivery_date</i> must be provided.	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	delivery_date	Optional – <i>delivery_date</i> or <i>expected_delivery_date</i> must be provided.	Optional – <i>delivery_date</i> or <i>expected_delivery_date</i> must be provided.	Optional – <i>delivery_date</i> or <i>expected_delivery_date</i> must be provided.	Optional – <i>delivery_date</i> or <i>expected_delivery_date</i> must be provided.	Column name <i>delivery_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	ship_date	Optional – Date when the order was shipped.	Optional – Date when the order was shipped.	Optional – Date when the order was shipped.	Optional – Date when the order was shipped.	Column name <i>ship_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	quantity_submitted	Required – One quantity field should be set. This field uses the uom set at the line level.	Required – One quantity field should be set. This field uses the uom set at the line level.	Required – One quantity field should be set. This field uses the uom set at the line level.	Required – One quantity field should be set. This field uses the uom set at the line level.	Column name <i>quantity_submitted</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	quantity_confirmed	Required – One quantity field should be set. This field uses the uom set at the line level.	Required – One quantity field should be set. This field uses the uom set at the line level.	Required – One quantity field should be set. This field uses the uom set at the line level.	Required – One quantity field should be set. This field uses the uom set at the line level.	Column name <i>quantity_confirmed</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	quantity_received	Required – One quantity field should be set. This field uses the uom set at the line level.	Required – One quantity field should be set. This field uses the uom set at the line level.	Required – One quantity field should be set. This field uses the uom set at the line level.	Required – One quantity field should be set. This field uses the uom set at the line level.	Column name <i>quantity_received</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.
<a href="#">shipment</a>		Required	Required	Required	Required	Optional
	order_id	Required – This field is required to calculate the <i>in-transit</i> and <i>on-order</i> values for projected inventory visibility.	Required	Required – This field is required to calculate the <i>in-transit</i> and <i>on-order</i> values for projected inventory visibility.	Required – This field is required to calculate the <i>in-transit</i> and <i>on-order</i> values for projected inventory visibility.	Required

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	order_line_id	Required – This field is required to calculate the <i>in-transit</i> and <i>on-order</i> values for projected inventory visibility.	Required	Required – This field is required to calculate the <i>in-transit</i> and <i>on-order</i> values for projected inventory visibility.	Required – This field is required to calculate the <i>in-transit</i> and <i>on-order</i> values for projected inventory visibility.	Required
	product_id	Required	Required	Required	Required	Required
	ship_to_site_id	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.	Required
	actual_delivery_date	Optional – <i>planned_delivery_date</i> or <i>actual_delivery_date</i> must be provided.	Optional – <i>planned_delivery_date</i> or <i>actual_delivery_date</i> must be provided.	Optional – <i>planned_delivery_date</i> or <i>actual_delivery_date</i> must be provided.	Optional – <i>planned_delivery_date</i> or <i>actual_delivery_date</i> must be provided.	Required



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	units_shipped	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.
	uom	Optional – This field is used to determine the unit for quantity fields.	Optional – This field is used to determine the unit for quantity fields.	Optional – This field is used to determine the unit for quantity fields.	Optional – This field is used to determine the unit for quantity fields.	Optional – This field is used to determine the unit for quantity fields.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	planned_s hip_date	Optional – <i>planned_s hip_date</i> or <i>actual_sh ip_date</i> must be provided.	Optional – <i>planned_s hip_date</i> or <i>actual_sh ip_date</i> must be provided.	Optional – <i>planned_s hip_date</i> or <i>actual_sh ip_date</i> must be provided.	Optional – <i>planned_s hip_date</i> or <i>actual_sh ip_date</i> must be provided.	Column name <i>planned_s hip_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	actual_ship_date	Optional – <i>planned_ship_date</i> or <i>actual_ship_date</i> must be provided.	Optional – <i>planned_ship_date</i> or <i>actual_ship_date</i> must be provided.	Optional – <i>planned_ship_date</i> or <i>actual_ship_date</i> must be provided.	Optional – <i>planned_ship_date</i> or <i>actual_ship_date</i> must be provided.	Column name <i>actual_ship_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	planned_delivery_date	Optional – <i>planned_delivery_date</i> or <i>actual_delivery_date</i> must be provided.	Optional – <i>planned_delivery_date</i> or <i>actual_delivery_date</i> must be provided.	Optional – <i>planned_delivery_date</i> or <i>actual_delivery_date</i> must be provided.	Optional – <i>planned_delivery_date</i> or <i>actual_delivery_date</i> must be provided.	Column name <i>planned_delivery_date</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.
	ship_from_site_id	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.	Optional – Derived from inbound order line.	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	supplier_tpartner_id	<p>Column name <i>supplier_tpartner_id</i> should be available in your dataset. Value for the column name is not required for Inventory visibility.</p>	<p>Column name <i>supplier_tpartner_id</i> should be available in your dataset. Value for the column name is not required for Network map.</p>	<p>Column name <i>supplier_tpartner_id</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.</p>	<p>Column name <i>supplier_tpartner_id</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.</p>	<p>Optional</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	transportation_mode	<p>Column name <i>transportation_mode</i> should be available in your dataset. Value for the column name is not required for Inventory visibility.</p>	<p>Column name <i>transportation_mode</i> should be available in your dataset. Value for the column name is not required for Network map.</p>	<p>Column name <i>transportation_mode</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.</p>	<p>Column name <i>transportation_mode</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.</p>	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	<p>ship_from_site_address_country</p>	<p>Column name <i>ship_from_site_address_country</i> should be available in your dataset. Value for the column name is not required for Inventory visibility.</p>	<p>Column name <i>ship_from_site_address_country</i> should be available in your dataset. Value for the column name is not required for Network map.</p>	<p>Column name <i>ship_from_site_address_country</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.</p>	<p>Column name <i>ship_from_site_address_country</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.</p>	<p>Optional</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	<p>ship_to_site_address_country</p>	<p>Column name <i>ship_to_site_address_country</i> should be available in your dataset. Value for the column name is not required for Inventory visibility.</p>	<p>Column name <i>ship_to_site_address_country</i> should be available in your dataset. Value for the column name is not required for Network map.</p>	<p>Column name <i>ship_to_site_address_country</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.</p>	<p>Column name <i>ship_to_site_address_country</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.</p>	<p>Optional</p>



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	carrier_id	Column name <i>carrier_id</i> should be available in your dataset. Value for the column name is not required for Inventory visibility.	Column name <i>carrier_id</i> should be available in your dataset. Value for the column name is not required for Network map.	Column name <i>carrier_id</i> should be available in your dataset. Value for the column name is not required for Inventory Insights.	Column name <i>carrier_id</i> should be available in your dataset. Value for the column name is not required for Rebalance Recommendations.	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	package_id	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.
<a href="#">inv_package_id</a>		Required	Required	Required	Required	Required

<b>Data entity</b>	<b>Column</b>	<b>Is the column used for Inventory visibility?</b>	<b>Is the column used for Network map?</b>	<b>Is the column used for Inventory Insights?</b>	<b>Is the column used for Rebalance recommendations?</b>	<b>Is the column used for Lead time Insights?</b>
	site_id	Required	Required	Required	Required	Required
	product_id	Required	Required	Required	Required	Required
	min_safety_stock	Required	Required	Required	Required	Required
	max_safety_stock	Required	Required	Required	Required	Required
	qty_uom	Optional – This field is used to determine the UOM for inventory policy.	Optional – This field is used to determine the UOM for inventory policy.	Optional – This field is used to determine the UOM for inventory policy.	Optional – This field is used to determine the UOM for inventory policy.	Optional – This field is used to determine the UOM for inventory policy.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	min_doc_limit	Optional – This field is required if you want to see the days of cover.	Optional – This field is required if you want to see the days of cover.	Optional – This field is required if you want to see the days of cover.	Optional – This field is required if you want to see the days of cover.	Column name <i>min_doc_limit</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	max_doc_limit	Optional – This field is required if you want to see the days of cover.	Optional – This field is required if you want to see the days of cover.	Optional – This field is required if you want to see the days of cover.	Optional – This field is required if you want to see the days of cover.	Column name <i>max_doc_limit</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	eff_start_date	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	eff_end_date	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.	Required – You must enter a value for eff_start_date and eff_end_date. If you don't have a value, enter <b>1900-01-01 00:00:00</b> for eff_start_date, and <b>9999-12-31 23:59:59</b> for eff_end_date.
	company_id	Optional	Optional	Optional	Optional	Optional
	ss_policy	Required – <i>abs_level</i> when there is no value.	Required – <i>abs_level</i> when there is no value.	Required – <i>abs_level</i> when there is no value.	Required – <i>abs_level</i> when there is no value.	Required – <i>abs_level</i> when there is no value.


Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	fallback_policy_1	Optional	Optional	Optional	Optional	Column name <i>fallback_policy_1</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	product_group_id	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	dest_geo_id	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	vendor_tp artner_id	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
<a href="#">inv_levels</a>	snapshot_date	Required	Required	Required	Required	Required
 <p><b>Note</b> Enter the company_id on-hand inventory at allocated_inventory</p>	site_id	Required	Required	Required	Required	Required
	product_id	Required	Required	Required	Required	Required
	company_id	Optional	Optional	Optional	Optional	Optional
	on_hand_inventory	Required	Required	Required	Required	Required
	allocated_inventory	Optional	Optional	Optional	Optional	Column name <i>allocated_inventory</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	quantity_uom	Optional – This field is used to determine the quantity UOM for inventory records.	Optional – This field is used to determine the quantity UOM for inventory records.	Optional – This field is used to determine the quantity UOM for inventory records.	Optional – This field is used to determine the quantity UOM for inventory records.	Column name <i>quantity_uom</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	inv_condition	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	lot_number	<p>Required – Insights expects one inventory level record per site and product for the given snapshot date. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_PROVIDED for successful ingestion.</p>	<p>Required – Insights expects one inventory level record per site and product for the given snapshot date. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_PROVIDED for successful ingestion.</p>	<p>Required – Insights expects one inventory level record per site and product for the given snapshot date. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_PROVIDED for successful ingestion.</p>	<p>Required – Insights expects one inventory level record per site and product for the given snapshot date. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_PROVIDED for successful ingestion.</p>	<p>Required – Insights expects one inventory level record per site and product for the given snapshot date. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_PROVIDED for successful ingestion.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
<a href="#">forecast</a>	site_id	Required	Required	Required	Required	Not required
	product_id	Required	Required	Required	Required	Not required
	mean	Required	Required	Required	Required	Not required



Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	forecast_start_dttm  <div style="border: 1px solid #add8e6; border-radius: 10px; padding: 10px;"> <p><b>Note</b></p> <p>Make sure the <i>forecast_start_dttm</i> and <i>forecast_end_dttm</i> are set at different dates when forecast is set at a daily interval. The <i>forecast_end_dttm</i> must be set at the explicit end of the date range.</p> </div>	Required	Required	Required	Required	Not required

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	forecast_end_dttm	Required	Required	Required	Required	Not required
	quantity_uom	Optional – This field is used to determine the quantity UOM for forecast.	Optional – This field is used to determine the quantity UOM for forecast.	Optional – This field is used to determine the quantity UOM for forecast.	Optional – This field is used to determine the quantity UOM for forecast.	Column name <i>quantity_uom</i> should be available in your dataset. Value for the column name is not required for Lead Time Insights.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	snapshot_date	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Not required</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	region_id	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESER VED_NO_VA LUE_PROVI DED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESER VED_NO_VA LUE_PROVI DED for successful ingestion.</p>	<p>Not required</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	product_group_id	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED for successful ingestion.</p>	<p>Not required</p>

<b>Data entity</b>	<b>Column</b>	<b>Is the column used for Inventory visibility?</b>	<b>Is the column used for Network map?</b>	<b>Is the column used for Inventory Insights?</b>	<b>Is the column used for Rebalance recommendations?</b>	<b>Is the column used for Lead time Insights?</b>
<a href="#">vendor_company_id</a> <a href="#">ad_time</a>		Not required	Not required	Not required	Not required	Optional
	vendor_tp	Not required	Not required	Not required	Not required	Required
	artner_id	Not required	Not required	Not required	Not required	Required
	product_id	Not required	Not required	Not required	Not required	Required
	site_id	Not required	Not required	Not required	Not required	Required
	planned_lead_time	Not required	Not required	Not required	Not required	Required
	eff_start_date	Not required	Not required	Not required	Not required	Optional
	eff_end_date	Not required	Not required	Not required	Not required	Optional

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	product_group_id	Not required	Not required	Not required	Not required	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	region_id	Not required	Not required	Not required	Not required	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VALUE_PROVIDED. When you upload data using the Amazon S3 connector , you must enter a value or use SCN_RESERVED_NO_VALUE_PROVIDED for successful ingestion.</p>



<b>Data entity</b>	<b>Column</b>	<b>Is the column used for Inventory visibility?</b>	<b>Is the column used for Network map?</b>	<b>Is the column used for Inventory Insights?</b>	<b>Is the column used for Rebalance recommendations?</b>	<b>Is the column used for Lead time Insights?</b>
	source_site_id	Not required	Not required	Not required	Not required	Optional. Site from where the inbound shipment originated.
	trans_mode	Not required	Not required	Not required	Not required	Optional. Transportation mode used. For example, ship, truck, rail.

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	<a href="#">outbound_order_line</a>	Required. Determine the outbound shipment ID.	Required. Determine the outbound shipment ID.	Required. Determine the outbound shipment ID.	Required. Determine the outbound shipment ID.	Not required
<p><b>Note</b></p> <p>This data entity is <i>optional</i>. Insights will use</p>	out_order_id	Required. Determine the outbound order ID.	Required. Determine the outbound order ID.	Required. Determine the outbound order ID.	Required. Determine the outbound order ID.	Not required
the demand data from	product_id	Required. Determine the product ID shipped.	Required. Determine the product ID shipped.	Required. Determine the product ID shipped.	Required. Determine the product ID shipped.	Not required
the <i>forecast</i> entity. If you ingest information	ship_from_site_id	Required. Determine the site from where the units are shipped.	Required. Determine the site from where the units are shipped.	Required. Determine the site from where the units are shipped.	Required. Determine the site from where the units are shipped.	Not required
	ship_to_site_id	Optional. Site where the products	Optional. Site where the products	Optional. Site where the products	Optional. Site where the products	Not required

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
<p>entity, make sure the shipment information is also ingested for the <i>outbound_shipment</i> entity to gather the demand for the</p>	<p><i>entity</i></p>	<p>should be shipped.</p>	<p>should be shipped.</p>	<p>should be shipped.</p>	<p>should be shipped.</p>	
	<p><i>final_quantity_requested</i></p>	<p>Optional. Final quantity after all updates and cancellations.</p>	<p>Optional. Final quantity after all updates and cancellations.</p>	<p>Optional. Final quantity after all updates and cancellations.</p>	<p>Optional. Final quantity after all updates and cancellations.</p>	<p>Not required</p>
	<p><i>quantity_promised_outbound_shipment</i></p>	<p>Required. Quantity agreed to be delivered.</p>	<p>Required. Quantity agreed to be delivered.</p>	<p>Required. Quantity agreed to be delivered.</p>	<p>Required. Quantity agreed to be delivered.</p>	<p>Not required</p>
	<p><i>quantity_delivered</i></p>	<p>Optional. Actual quantity delivered.</p>	<p>Optional. Actual quantity delivered.</p>	<p>Optional. Actual quantity delivered.</p>	<p>Optional. Actual quantity delivered.</p>	<p>Not required</p>
	<p><i>status</i></p>	<p>Optional. Displays the status of the order line. For example, canceled,</p>	<p>Optional. Displays the status of the order line. For example, canceled,</p>	<p>Optional. Displays the status of the order line. For example, canceled,</p>	<p>Optional. Displays the status of the order line. For example, canceled,</p>	<p>Not required</p>

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
		open, closed, and so on.	open, closed, and so on.	open, closed, and so on.	open, closed, and so on.	
	quantity_uom	Optional. Unit of measure for quantity. For example, eaches, cases.	Optional. Unit of measure for quantity. For example, eaches, cases.	Optional. Unit of measure for quantity. For example, eaches, cases.	Optional. Unit of measure for quantity. For example, eaches, cases.	Not required
	requested_delivery_date	Optional	Optional	Optional	Optional	Not required
	promised_delivery_date	Optional	Optional	Optional	Optional	Not required

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
<p><b>Note</b> This data entity is optional. AWS Supply Chain will use the demand data from the</p>	<u>outbound_shipment</u>	Required. Determine s the outbound shipment ID.	Required. Determine s the outbound shipment ID.	Required. Determine s the outbound shipment ID.	Required. Determine s the outbound shipment ID.	Not required
	entity_site_id	Required. Determine s the site from where the units are shipped.	Required. Determine s the site from where the units are shipped.	Required. Determine s the site from where the units are shipped.	Required. Determine s the site from where the units are shipped.	Not required
	product_id	Required. Determine s the product ID of the product shipped.	Required. Determine s the product ID of the product shipped.	Required. Determine s the product ID of the product shipped.	Required. Determine s the product ID of the product shipped.	Not required
	cust_order_id	Required. Determine s the outbound order ID.	Required. Determine s the outbound order ID.	Required. Determine s the outbound order ID.	Required. Determine s the outbound order ID.	Not required

<b>Data entity</b>	<b>Column</b>	<b>Is the column used for Inventory visibility?</b>	<b>Is the column used for Network map?</b>	<b>Is the column used for Inventory Insights?</b>	<b>Is the column used for Rebalance recommendations?</b>	<b>Is the column used for Lead time Insights?</b>
	cust_order_line_id	Required. Determines the outbound order line ID.	Required. Determines the outbound order line ID.	Required. Determines the outbound order line ID.	Required. Determines the outbound order line ID.	Not required
	expected_ship_date	Required. Determines when the products exit the from_site.	Required. Determines when the products exit the from_site.	Required. Determines when the products exit the from_site.	Required. Determines when the products exit the from_site.	Not required
	actual_ship_date	Optional. Determines the actual date when the product exits the from_site.	Optional. Determines the actual date when the product exits the from_site.	Optional. Determines the actual date when the product exits the from_site.	Optional. Determines the actual date when the product exits the from_site.	Not required
	shipped_qty	Required. Determines the quantity shipped from the from_site.	Required. Determines the quantity shipped from the from_site.	Required. Determines the quantity shipped from the from_site.	Required. Determines the quantity shipped from the from_site.	Not required

Data entity	Column	Is the column used for Inventory visibility?	Is the column used for Network map?	Is the column used for Inventory Insights?	Is the column used for Rebalance recommendations?	Is the column used for Lead time Insights?
	cust_shipment_status	Optional. Status of the shipment. For example, canceled, open, closed, and so on.	Optional. Status of the shipment. For example, canceled, open, closed, and so on.	Optional. Status of the shipment. For example, canceled, open, closed, and so on.	Optional. Status of the shipment. For example, canceled, open, closed, and so on.	Not required
	to_site_id	Optional. Site where products should be shipped.	Optional. Site where products should be shipped.	Optional. Site where products should be shipped.	Optional. Site where products should be shipped.	Not required
	expected_delivery_date	Optional	Optional	Optional	Optional	Not required
	actual_delivery_date	Optional	Optional	Optional	Optional	Not required


# Work Order Insights

## Note

To generate a work order insight, in addition to ingesting the required data entities and columns, you must configure your milestone and process definitions. For more information on configuring work orders, see [Configuring Work Order Insights for the first time](#).

The table below lists the required data entities and columns to generate a work order insight.

Data entity	Column	Is the column used by Work Order Insights?
<a href="#">site</a>	id	Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VA LUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VA LUE_PROVIDED for successful ingestion.

 **Note**

The *site* data entity columns not listed in this table are *optional* for work order insights. AWS Supply Chain



Data entity	Column	Is the column used by Work Order Insights?
<p>highly recommended for the <i>optional</i> columns to enhance the feature output. When data is ingested for the <i>optional</i> columns, you can use them to configure rules to evaluate the process</p>		

Data entity	Column	Is the column used by Work Order Insights?
milestone s.		

Data entity	Column	Is the column used by Work Order Insights?
<p><a href="#">product</a></p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>The <i>product</i> data entity columns not listed in this table are <i>optional</i> for work order insights. AWS Supply Chain highly recommends ingesting data for the <i>optional</i> columns to enhance</p> </div>	<p>id</p>	

Data entity	Column	Is the column used by Work Order Insights?
<p>the feature output. When data is ingested for the <i>optional</i> columns, you can use them to configure rules to evaluate the process milestones.</p>		

Data entity	Column	Is the column used by Work Order Insights?
<p><a href="#">vendor_product</a></p> <div style="border: 1px solid #add8e6; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>The <i>vendor_product</i> data entity columns not listed in this table are <i>optional</i> for work order insights. AWS Supply Chain highly recommends ingesting data for the <i>optional</i> columns</p> </div>	vendor_tpartner_id	
	product_id	
	eff_start_date	
	eff_end_date	

Data entity	Column	Is the column used by Work Order Insights?
<p>to enhance the feature output. When data is ingested for the <i>optional</i> columns, you can use them to configure rules to evaluate the process milestones.</p>		
<p><a href="#">geography</a></p>	<p>id</p>	<p>Required – This column is used by conditional filters to display regions or country.</p>

Data entity	Column	Is the column used by Work Order Insights?
<a href="#">inbound_order</a>	id	Required
	tpartner_id	Required

**Note**

The *inbound\_order* data entity columns not listed in this table are *optional* for work order insights. AWS Supply Chain highly recommends ingesting data for the *optional* columns

Data entity	Column	Is the column used by Work Order Insights?
<p>to enhance the feature output. When data is ingested for the <i>optional</i> columns, you can use them to configure rules to evaluate the process milestones.</p>		



Data entity	Column	Is the column used by Work Order Insights?
<p><a href="#">inbound_order_line</a></p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>The <i>inbound_order_line</i> data entity columns not listed in this table are <i>optional</i> for work order insights. AWS Supply Chain highly recommends ingesting data for the <i>optional</i> columns</p> </div>	id	<p>Required. When you ingest data from SAP or EDI, the default value for string is SCN_RESERVED_NO_VA LUE_PROVIDED. When you upload data using the Amazon S3 connector, you must enter a value or use SCN_RESERVED_NO_VA LUE_PROVIDED for successful ingestion.</p>
	order_id	
	tpartner_id	
	product_id	

Data entity	Column	Is the column used by Work Order Insights?
<p>to enhance the feature output. When data is ingested for the <i>optional</i> columns, you can use them to configure rules to evaluate the process milestones.</p>		

Data entity	Column	Is the column used by Work Order Insights?
<p><a href="#">shipment</a></p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>The <i>shipment</i> data entity columns not listed in this table are <i>optional</i> for work order insights. AWS Supply Chain highly recommends ingesting data for the <i>optional</i> columns to enhance</p> </div>	id	
	supplier_tpartner_id	
	product_id	
	order_id	
	order_line_id	
	package_id	

Data entity	Column	Is the column used by Work Order Insights?
<p>the feature output. When data is ingested for the <i>optional</i> columns, you can use them to configure rules to evaluate the process milestones.</p>		

Data entity	Column	Is the column used by Work Order Insights?
<p><a href="#">reservation</a></p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>The <i>reservation</i> data entity columns not listed in this table are <i>optional</i> for work order insights. AWS Supply Chain highly recommends ingesting data for the <i>optional</i> columns to</p> </div>	reservation_id	Required – This column is a required key for the <i>reservation_id</i> column in the <i>process_product</i> data entity.
	reservation_type	Required – This column is used when defining a default work order plan.
	reservation_detail_id	Required – This column is a required key for the <i>reservation_detail_id</i> column in the <i>process_product</i> data entity.

Data entity	Column	Is the column used by Work Order Insights?
<p>enhance the feature output. When data is ingested for the <i>optional</i> columns, you can use them to configure rules to evaluate the process milestones.</p>		

Data entity	Column	Is the column used by Work Order Insights?
<p><a href="#">process_header</a></p> <div style="border: 1px solid #add8e6; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>The <i>process_header</i> data entity columns not listed in this table are <i>optional</i> for work order insights. AWS Supply Chain highly recommends ingesting data for the <i>optional</i> columns</p> </div>	process_id	Required
	site_id	Required – This column is used by the <i>site_id</i> column in the <i>process_header</i> data entity. For example, this column can be referenced in the milestone rules for specific processes.
	status	Required
	required_on_site	Required – This date is required to calculate the forecast completion date and to determine the Work order line status.

Data entity	Column	Is the column used by Work Order Insights?
<p>to enhance the feature output. When data is ingested for the <i>optional</i> columns, you can use them to configure rules to evaluate the process milestones.</p>		




Data entity	Column	Is the column used by Work Order Insights?
<p><a href="#">process_product</a></p> <p><b>Note</b> The <i>process_product</i> data entity columns not listed in this table are <i>optional</i> for work order insights. AWS Supply Chain highly recommends ingesting data for the <i>optional</i> columns</p>	process_product_id	Required – This column is part of the primary key in the <i>process_product</i> data entity and is used as a reference in other entities.
	process_id	Required – This column is part of the primary key in the <i>process_product</i> data entity and is used to associate the header with the line.
	product_id	Required
	reservation_id	Required
	reservation_detail_id	Required
requested_availability_date	Required – The field is displayed as <i>Required on site date</i> in the AWS Supply Chain web application. This date is required to calculate the forecast completion date and to determine the Work order line status. When you ingest data, you must enter a value for <i>requested_availability_date</i> . When information is not available for the <i>requested_availability_date</i> column, work order insights will use the column values from <i>process_header &gt; planned_start_date</i>	

Data entity	Column	Is the column used by Work Order Insights?
<p>to enhance the feature output. When data is ingested for the <i>optional</i> columns, you can use them to configure rules to evaluate the process milestones.</p>		<p>to calculate the forecast completion date.</p>
<p><a href="#">work_order_plan</a></p>	<p>process_id</p>	<p>Required</p>
	<p>product_id</p>	<p>Required</p>
	<p>business_process_id</p>	<p>Required</p>
	<p>business_process_sequence</p>	<p>Required</p>

Data entity	Column	Is the column used by Work Order Insights?
	preferred_source	Required
	duration	Required – This column provides the process lead time to determine the target date of the process completion.

The following table describes the data entities that are *not* required to generate work order insights. If these data entities are included in your dataset, the required columns are listed in the table below.

Data entity	Column	Is the column used by Work Order Insights?
<a href="#">trading_partner</a>	id	Required – This column is used to link the trading partner.
	tpartner_type	
	geo_id	
	eff_start_date	
	eff_end_date	
<a href="#">process_operation</a>	process_operation_id	Required
	process_id	

 **Note**  
The *process\_operation* data entity

Data entity	Column	Is the column used by Work Order Insights?
<p>columns not listed in this table are <i>optional</i> for work order insights. AWS Supply Chain highly recommends ingesting data for the <i>optional</i> columns to enhance the feature output. When data is ingested for</p>		

Data entity	Column	Is the column used by Work Order Insights?
<p>the <i>optional</i> columns, you can use them to configure rules to evaluate the process milestones.</p>		

## Demand Planning

The following table lists the data entities and columns used by Demand Planning.

### How to read the table:

- **Required** – The columns in this data entity are mandatory to execute a demand forecast without any failures.
- **Conditionally required** – The columns in this data entity are required depending on the configurations set under demand plan settings. For more information, see [Manage Demand Plan settings](#).
- **Recommended for forecast quality** – The columns in this data entity are required for the quality for the forecast.
- **Optional** – The column name is optional. For enhanced feature output, it is recommended to add the column name with values.

## Prerequisites before uploading your dataset

To successfully generate a forecast, make sure your dataset adheres to the following.

- At least one *product\_id* has a sales history of at least four times the forecast time horizon provided in the *outbound\_order\_line* dataset. For example, if the forecast time horizon is 26 weeks, the minimum order data requirement is  $26 \times 4 = 104$  weeks.
- *Product\_id* under the product data entity should not contain any incomplete data (null or empty string) or duplicates.
- All the additional columns selected for granularity in the forecast configuration (that are *conditionally required* ') does not contain incomplete data (null or empty string).
- The column *id* across all data entities (for example, *product\_id*, *site\_id*, *ship\_from\_site\_id*) does not contain special characters, such as asterisk (\*) and double quotes (" ").
- The *order\_date* does not contain invalid date. For example, 2/29/2023, that is 29th February 2023 is only valid on a leap year.

To improve forecast accuracy, Demand Planning highly recommends the following.

- Upload two to three years of outbound order line history as input to generate an accurate forecast. This duration allows the forecasting models to capture your business cycles and ensure a more robust and reliable prediction.
- For improved forecast accuracy, it is also recommended to include product attributes such as *brand*, *color*, *product\_group\_id*, *product\_introduction\_day* and *discontinue\_day* in the product data entity.
- You can provide additional demand drivers information through the *supplementary\_time\_series* data entity. Note, only numerical values are supported.
- You provide alternate product mapping when you have similar products or previous version for a new product.
- Remove any non-recurring or one-time event such as COVID before uploading the historical sales data.

## Data mapping example for fulfillment

Below is an example to map brick and mortar or online sales to outbound order line dataset and optimize the historical demand setup. Use this example to structure your data for accurate

forecasting. Review the configurations in this example to make sure your forecasting models capture the different fulfillment scenarios.

**Note**

If the data fields *ship\_from\_site\_id*, *ship\_to\_site\_id*, and *channel\_id* are selected for forecast granularity, make sure they have values or enter *NULL* as the value. The forecast will fail if the fields are blank.

Data field	Description	Scenario 1 – Store sales (POS)	Scenario 2 – E-commerce demand fulfilled by store	Scenario 3 – E-commerce demand fulfilled by online fulfillment center (direct to customer)
<i>ship_from_site_id</i>	Site at which inventory is managed	Store ID	Store ID	Fulfillment Center ID
<i>ship_to_site_id</i>	Site that received the order	Enter <i>NULL</i> to avoid forecast failure	Country, Region, State, or Zip – as applicable	External retailer store ID, or Country, Region, State, or Zip – as applicable
<i>channel_id</i>	Map how an item is sold	Brick and mortar	E-commerce	E-commerce

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
outbound_order_line	Required	Demand Planning uses the product attributes to establish hierarchy filters for demand plan review and for model training.	id	Required	<i>id</i> , <i>cust_order_id</i> , and <i>product_id</i> are used to uniquely identify a record in the data entity and this combination should always be unique. Make sure the column values do not have invalid characters such as asterisk and double-quotes.
			cust_order_id	Required	
			product_id	Required	
			order_date	Required	Required for forecast creation. Identifies the period for time-series forecasting.
			final_quantity_requested	Required	Required for forecast creation.



Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
					<p>Identifies the quantity used for time-series forecasting. This column must not contain null values and must be <i>numerical</i>. Make sure there are no commas in the values. For example, 500000.00 is an accepted value in Demand Planning.</p>

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			ship_from_site_id	Conditionally required	This column is conditionally required for forecast creation <i>if</i> the column is selected for forecast dimension (Site Hierarchy). This column must have a value and is used for filtering and analysis of data. For information on how to map data for different fulfillment scenarios, see <a href="#">Data mapping example for fulfillment</a> .
			ship_to_site_id	Conditionally required	

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			channel_id	Conditionally required	<p>This column is conditionally required for forecast creation <i>if</i> the column is selected for forecast dimension (Channel Hierarchy). This column must have a value and is used for filtering and analysis of data. For information on how to map data for different fulfillment scenarios, see <a href="#">Data mapping example for fulfillment</a>.</p>

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			customer_ tpartner_id	Conditionally required	This column is conditionally required for forecast creation <i>if</i> the column is selected for forecast dimension (Customer Hierarchy). This column must have a value and is used for filtering and analysis of data. For information on how to map data for different fulfillment scenarios, see <a href="#">Data mapping example for fulfillment</a> .

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			ship_to_site_address_city	Conditionally required	This column is conditionally required for forecast creation <i>if</i> the column is selected for forecast dimension (Site Hierarchy). This column must have a value and is used for filtering and analysis of data. For information on how to map data for different fulfillment scenarios, see <a href="#">Data mapping example for fulfillment</a> .
			ship_to_site_address_state	Conditionally required	
			ship_to_site_address_country	Conditionally required	

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			status	Recommended for forecast quality	This column is recommended for forecast quality. Orders with <i>canceled</i> status are not considered as forecast input.

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
product	Required	Demand Planning uses this data as the primary source of historical demand for forecast. Additionally, fields selected as granularity are sent for training and are available as filters to review the demand plan.	id	Required	Required for data ingestion into Supply Chain Data Lake (SCDL). Make sure the column values do not have duplicate IDs and special characters such as asterix and double-quotes.
			description	Required	Required for data ingestion into Supply Chain Data Lake (SCDL). This column can contain special characters such as asterix, hyphen, quotes, and double-quotes.

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			parent_product_id	Conditionally required	This column is conditionally required for forecast creation <i>if</i> the column is selected for forecast dimensions (Product Hierarchy). Make sure the column has values and is used for filtering and analysis of data and model training.
			product_group_id	Conditionally required	
			product_type	Conditionally required	
			brand_name	Conditionally required	
			color	Conditionally required	
			display_desc	Conditionally required	



Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			product_available_day	Recommended for forecast quality	Recommended. The value in this column improves forecast quality by allowing the forecasting model to consider the timing of new product introductions.
			discontinue_day	Recommended for forecast quality	Recommended. The value in this column improves forecast quality by allowing the forecasting model to consider the timing for product retirements.

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			base_uom	Recommended for forecast quality	Unit of measure for product. Default is Eaches.
			is_deleted	Recommended for forecast quality	Recommended. Enter Y if the product ID should be excluded from forecasting.
			pkg_height	Recommended for forecast quality	Recommended. The physical characteristics of the product that the forecasting models can understand.
			pkg_length	Recommended for forecast quality	
			pkg_width	Recommended for forecast quality	
			shipping_dimension	Recommended for forecast quality	
			casepack_size	Recommended for forecast quality	

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
product alternate	Recommended for forecast quality	Demand Planning uses the data of product's predecessor(s) or alternate(s) to create forecast for new products. When data is ingested into the <i>product_alternate</i> data entity, Product lineage support for forecast is enabled. For more information, see <a href="#">Product lineage</a> . You can skip ingesting data into the <i>product_alternate</i> data entity and the forecast can still be generated.	alternate_product_id	Required	Required for data ingestion into Supply Chain Data Lake (SCDL). Unique record identifier.
			product_id	Required	Required for data ingestion into Supply Chain Data Lake (SCDL). ID of the new product or new version of the product. Make sure <i>product_id</i> is populated in the <i>product</i> data entity.
			product_alternate_id	Required	Required for data ingestion into SCDL. Identifier for a similar product or previous version of the product. To consider

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
					<p>multiple similar products as a single <i>product_id</i>, enter the products in separate rows. Make sure <i>product_alternate_id</i> is populated in the <i>product</i> data entity.</p>
			alternate_type	Required	<p>Required for applying product supersession or lineage. Use the static value <i>similar_demand_product</i> in all the rows.</p>

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			alternate _product_qty	Required	Required for applying product supersession or lineage. Enter the proportion of history of the <i>alternate_product_id</i> you want to use for forecasting <i>product_id</i> . For example, if it is 60%, enter 60. When you have multiple <i>alternate_product_id</i> for a single <i>product_id</i> , the <i>alternate_product_qty</i> does not have to add up to 100.

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			alternate_product_qty_uom	Required	Required for applying product supersession or lineage. Use the specific static value "percentage".
			eff_start_date	Required	Required for data ingestion into SCDL. Enter the start timeframe to consider the history of a similar product. Make sure this date is on or before the <i>eff_end_date</i> or you can leave this field empty and Demand Planning will auto-fill the year with 1000.

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			eff_end_date	Required	Required for data ingestion into SCDL. Enter the end timeframe to consider in history of a similar product. Make sure this date is on or after the <i>eff_start_date</i> or you can leave this field empty and Demand Planning will auto-fill the year with 9999..
			status	Recommended for forecast quality	Recommended. Enter <i>Inactive</i> to ignore the product supersession or lineage mapping.

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
supply_tin_series	Recommended for forecast quality	Demand Planning uses this data as the primary source for tagging casual factors such as promotional events, discounts, holidays, and so on.	id	Required	Required for data ingestion into Supply Chain Data Lake (SCDL). Unique record identifier.
			order_date	Required	Required for data ingestion into Supply Chain Data Lake (SCDL). Timestamp when the timeseries was recorded.



Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			time_series_name	Required	Required for data ingestion into Supply Chain Data Lake (SCDL). Name of the specific type of time series. The <i>time_series_name</i> column must start with a letter, be 2 to 56 characters long, and can contain letters, numbers, and underscores. No other special characters are allowed.

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			time_series_value	Required	Required for data ingestion into SCDL. Value corresponding to the specific time series. Demand Planning only supports numerical input and time-series with categorical value is not considered.
			product_id	Optional	Recommended. Unique identifier for a specific product. Use this column if the demand driver is available at product level.

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			site_id	Optional	Recommended. Unique identifier for a specific site or location. Use this column if the demand driver is available at site level. This column can represent either <i>ship_from_site_id</i> or <i>ship_to_site_id</i> based on the lowest level site hierarchy configuration.
			channel_id	Optional	Recommended. Unique identifier for a specific channel. Use this column if the demand driver is available at channel level.

Data entity	Is this data entity required?	How is this data entity used?	Column	Is the column required?	How is this column used in Forecasting?
			customer_tpartner_id	Optional	Recommended. Unique identifier for a specific customer. Use this column if the demand driver is available at customer level.

# Data entities supported in AWS Supply Chain

The following is an overview of the data entities supported in AWS Supply Chain.

## Note

The data entities listed in this chapter are required for Data Lake ingestion. For data entities required for each AWS Supply Chain module, see [Data entities and columns used in AWS Supply Chain](#).

For information on application datasets displayed in AWS Supply Chain Analytics, see [Application datasets used in AWS Supply Chain Analytics](#).

Category	Category type	Data entity and description
Organization	Non-trans actional data	<a href="#">company</a> - Entity to store the name and location of your company.
	Non-trans actional data	<a href="#">geography</a> - Entity stores geographical hierarchy of your company.
	Non-trans actional data	<a href="#">trading_partner</a> - Contains the partners that have trading relationship with your company, such as vendors, 3PLs, channel partners, or distributors.
	Non-trans actional data	<a href="#">trading_partner_poc</a> - Contains information that can be identified about the point of contacts at the partners such as vendors, 3PLs, channel partners, or distributors, that have trading relationship with your company.
Product	Non-trans actional data	<a href="#">product</a> - Contains the key product attributes, including name, description, brand, codes, category, business group, and price.

Category	Category type	Data entity and description
	Non-trans actional data	<a href="#">product_hierarchy</a> - Contains the product categories and sub-categories.
	Non-trans actional data	<a href="#">product_uom</a> - Contains the product packaging options and conversations between packages.
	Non-trans actional data	<a href="#">product_alternate</a> - Contains information about alternative products, including type of alternative.
	Non-trans actional data	<a href="#">un_details</a> - Contains information about hazardous products.
Network	Non-trans actional data	<a href="#">site</a> - Stores information for sites holding inventory such as Stores, Distribution Centers ,including ID, name, address, geographical region, and site type.
	Non-trans actional data	<a href="#">transportation_lane</a> - Contains information about transportation lanes, including from and to sites, transportation mode, and transit time.
Vendor management	Non-trans actional data	<a href="#">vendor_product</a> - Contains the product information per vendor, including price, lead-time, and inbound sites.
	Non-trans actional data	<a href="#">vendor_lead_time</a> - Contains the planned and actual lead times from the vendor.
	Non-trans actional data	<a href="#">vendor_holiday</a> - Displays information on vendor outages due to holidays and shutdowns.

Category	Category type	Data entity and description
Planning	Non-transactional data	<a href="#">inv_policy</a> - Contains inventory policies such as minimum and maximum safety stock policy, target inventory quantity, minimum or maximum order quantity and so on, for product, product-site, and other possible combinations.
	Non-transactional data	<a href="#">segmentation</a> - Used to store segments. Segments are used in conjunction with product, site, and effective dates for uniqueness. For example, HV1 for High Value, HLW for Halloween Products, seasonal, volatile and so on.
	Non-transactional data	<a href="#">sourcing_rules</a> - Defines rules at product-site level to specify the sourcing related attributes (for example, rule type, to and from site, transportation lane, minimum and maximum quantity, priority, ratio, and so on).
	Non-transactional data	<a href="#">sourcing_schedule</a> - Sourcing schedule determines when to source. For example, source from vendors or transfer between sites.
	Non-transactional data	<a href="#">sourcing_schedule_details</a> - Provides sourcing schedule details. For example, the days in a week, a product be sourced from a vendor.
	Transactional data	<a href="#">reservation</a> - Provides details about inventory reservation. For example, reservation ID, type, date, quantity, product ID.
	Transactional data	<a href="#">product_bom</a> - Displays bill of material for product with type, level, ratios, quantities, and cost attributes.

Category	Category type	Data entity and description
Operation	Transactional data	<a href="#">process_header</a> - Track execution activities within a plant or site. For example, manufacturing, maintenance or repairs.
	Transactional data	<a href="#">process_operation</a> - Defines operation associated with an activity. For example, Stop machine, Oiling, and so on.
	Transactional data	<a href="#">process_product</a> - Define the product or material associated with an activity.
	Transactional data	<a href="#">production_process</a> - Defines attributes associated with the manufacturing or production process.
Inventory Management	Transactional data	<a href="#">inv_level</a> - A snapshot of the product's inventory condition in each site. For example, snapshot date, on-hand inventory, condition of the product.
Inbound	Transactional data	<a href="#">inbound_order</a> - Contains information about inbound orders into your companies locations . For example, for example, purchase orders (POs), blanket POs, production orders, or stock transfer orders).
	Transactional data	<a href="#">inbound_order_line</a> - Stores line level information for inbound_order, including product_id, and quantity.
	Transactional data	<a href="#">inbound_order_line_schedule</a> - Stores schedule-line level data within an inbound_order_line and is relevant only when schedules are used.



Category	Category type	Data entity and description
	Transactional data	<a href="#">shipment</a> - Stores shipment information like origin, carrier code, ship date, product, quantity, ship from site, expected delivery date, and actual delivery date, or inbound orders (PO,TO and so on) including ship date, product, quantity, ship from site, expected delivery date, and actual delivery date.
	Transactional data	<a href="#">shipment_stop</a> - Contains list of shipment stops with corresponding date and time. This field is used when there are multiple stops for shipments.
	Transactional data	<a href="#">shipment_stop_order</a> - Contains list of orders picked and dropped per shipment stop.
	Transactional data	<a href="#">shipment_lot</a> - Contains the shipment details per shipment lot.
Outbound fulfillment	Transactional data	<a href="#">outbound_order_line</a> - Contains orders originating from your company and shipped to locations outside of the your network. Outbound_order_line contains order date, customer location, incoterms, and so on. It also includes product, price, discount, and units.
	Transactional data	<a href="#">outbound_shipment</a> - Stores shipment information for outbound orders, including ship date, product, quantity, ship from site, expected delivery date, and actual delivery date.

Category	Category type	Data entity and description
Cost management	Transactional data	<a href="#">customer_cost</a> - Displays the information about the costs incurred by you during the supply chain operations.
Plan	Transactional data	<a href="#">supply_plan</a> - Displays the supply plan generated by AWS Supply Chain Supply Planning.
Forecast	Transactional data	<a href="#">forecast</a> - Stores forecast over forecast horizon for product, product-site, or other combinations.
	Transactional data	<a href="#">supplementary_time_series</a> - Displays additional demand driver time series information such as price, promotions, and out-of-stock indicator to improve forecast quality.
Reference	Non-transactional data	<a href="#">reference_field</a> - Contains mapping of any entity-field-value combination to a corresponding description, such as mapping specific inbound_order status code to status description.
	Non-transactional data	<a href="#">calendar</a> - Calendars can be used for many purposes by the application, such as planning, execution, and reporting.
	Non-transactional data	<a href="#">uom_conversion</a> - Contains conversions for unit of measure (UOM).
Insights	Transactional data	<a href="#">work_order_plan</a> - Provides the supply chain process plan for a work order along with source type and duration to finish each supply chain process.

**Note**

- All fields marked as type *timestamp* should be in ISO 8601 format.
- The dataset that you ingest into AWS Supply Chain can only include the following special characters: ASCII 35 (number sign: #), 36 (dollar sign: \$), 37 (percent sign: %), 45 (hyphen: -), 46 (period: .), 47 (slash: /), 94 (caret: ^), 95 (underscore: \_), 123 (left curly brace: { ), and 125 (right curly brace: }).

## Organization

This section lists the data entities within the organization category.

### Topics

- [company](#)
- [geography](#)
- [trading\\_partner](#)
- [trading\\_partner\\_poc](#)

## company

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
company	id

The table below lists the column names supported by the data entity.

Column	Data type	Required	Description
id	string	Yes	ID of the company.

Column	Data type	Required	Description
description	string	No	Description of the company.
address_1	string	No	Company address.
address_2	string	No	Company address.
address_3	string	No	Company address.
city	string	No	City where the company is located.
state_prov	string	No	State where the company is located.
postal_code	string	No	Postal code of the company address.
country	string	No	Country where the company is located.
phone_number	string	No	Company's contact number.
time_zone	string	No	Company's local time zone.
calendar_id <sup>1</sup>	string	No	Default calendar that the company uses for planning.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.

Column	Data type	Required	Description
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
calendar_id	Reference	calendar	calendar_id

## geography

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
geography	id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Geographical ID. Referred to by other entities as geo_id or region_id.

Column	Data type	Required	Description
description	string	No	Geographical location.
company_id <sup>1</sup>	string	No	Company ID.
parent_geo_id <sup>1</sup>	string	No	Stores parent geographical ID for this record. If blank, this is a top level region in the company.
address_1	string	No	City corresponding to this geo-region.
address_2	string	No	City corresponding to this geo-region.
address_3	string	No	City corresponding to this geo-region.
city	string	No	Displays the city corresponding to this geo-region.
state_prov	string	No	State corresponding to this geo-region.
postal_code	string	No	Postal code corresponding to this geo-region.

Column	Data type	Required	Description
country	string	No	Country corresponding to this geo-region.
phone_number	string	No	Company's contact number.
time_zone	string	No	Company local time zone.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup> Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
parent_geo_id	Organization	geography	id

## trading\_partner

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
trading_partner	id, tpartner_type, geo_id, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Partner ID. Referred to by other entities as tpartner_id unless explicitly stated otherwise.
description	string	No	Description of the trading partner.
company_id <sup>2</sup>	string	No	Company ID.
tpartner_type	string	Yes <sup>1</sup>	Type of partner, for example, vendor, channel partner, or 3PL.
geo_id <sup>2</sup>	string	Yes <sup>1</sup>	Region of the company associated with the trading partner.
eff_start_date	timestamp	Yes <sup>1</sup>	The start timestamp of the relationship between the trading partner and the company.



Column	Data type	Required	Description
eff_end_date	timestamp	Yes <sup>1</sup>	The end timestamp of the relationship between the trading partner and the company.
is_active	string	No	Indicates whether trading partner is active or inactive.
address_1	string	No	The address corresponding to the trading partner.
address_2	string	No	The address corresponding to the trading partner.
address_3	string	No	The address corresponding to the trading partner.
city	string	No	The city corresponding to the trading partner.
state_prov	string	No	The state corresponding to the trading partner.
postal_code	string	No	The postal code of the trading partner.
country	string	No	The country corresponding to the trading partner.
phone_number	string	No	The trading partner's contact phone number.
time_zone	string	No	The trading partner's local time zone.
latitude	double	No	Latitude of trading partner location.

Column	Data type	Required	Description
longitude	double	No	Longitude of trading partner location.
os_id	string	No	Organizational identifier issued by Open Supplier Hub.
duns_number	string	No	Unique nine-digit identification number provided by Dun and Bradstreet (D and B).
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED; and the default value for *timestamp* is 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
geo_id	Organization	geography	id

## trading\_partner\_poc

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
trading_partner_poc	tpartner_id, email

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
tpartner_id <sup>1</sup>	string	Yes	Partner ID. Referred to by other entities as tpartner_id unless explicitly stated otherwise.
email	string	Yes	Partner's email ID.
poc_first_name	string	No	Partner's first name.
poc_last_name	string	No	Partner's last name.
poc_org_unit_name	string	No	Name of the team or internal organizational unit.
poc_org_unit_description	string	No	AWS profile or description of the team's role in an organization to be shared with the customer to describe their team.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.

Column	Data type	Required	Description
source_up date_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
tpartner_id	Organization	trading_partner	id

## Product

This section lists the data entities within the product category.

### Topics

- [product](#)
- [product\\_hierarchy](#)
- [product\\_uom](#)
- [product\\_alternate](#)
- [un\\_details](#)

## product

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
product	id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Displays the product ID. Referred to by other entities as product_id.
description	string	Yes	Displays the description of the product.
company_id <sup>1</sup>	string	No	Displays the company ID.
product_group_id <sup>1</sup>	string	No	Displays the product group ID that this product belongs to.
product_type	string	No	Type of product, for example, finished good, component, service, or packaging.
hts_code	string	No	Harmonized Tariff Schedule code.

Column	Data type	Required	Description
is_hazmat	string	No	Displays whether product is Hazmat compliant.
is_flammable	string	No	Indicator of whether the product is flammable or not.
is_special_handling	string	No	Displays if the product requires special handling.
is_perishable	string	No	Displays if the product is perishable.
is_digital	string	No	Displays if the product is digital.
is_deleted	string	No	Indicates whether product is deleted ("true") or active ("false").

Column	Data type	Required	Description
is_lot_controlled	string	No	Indicates if the product is a lot-controlled product.
is_expiry_controlled	string	No	Indicates if the product is an expiry-date controlled product.
creation_date	timestamp	No	Product launch or release date.
brand_name	string	No	Product brand name.
parent_product_id <sup>1</sup>	string	No	If the product is part of a bundle, lists the ID of the parent product.
display_desc	string	No	External facing description of the product.

Column	Data type	Required	Description
discontinue_day	timestamp	No	Date when the product was discontinued.
base_uom	string	No	Unit of measure for product. Default is Eaches.
unit_cost	double	No	Average unit cost of the product. Measured in currency_uom per base_uom.
unit_price	double	No	Unit price, standard price, or MSRP of the product.
inventory_holding_cost	double	No	Average yearly holding cost of the product.



Column	Data type	Required	Description
currency_uom	string	No	Currency unit of measure for the price and other economic variables of this product.
product_available_day	timestamp	No	Date when the product is available for fulfillment.
shipping_weight	double	No	Default weight to be used by the carrier.
shipping_dimension	double	No	Dimensional weight to be used by the carrier.
unit_volume	double	No	Volume of product per base_uom.
pkg_length	double	No	Packaged length of the individual product.

Column	Data type	Required	Description
pkg_width	double	No	Packaged width of the individual product.
pkg_height	double	No	Packaged height of the individual product.
weight_uom	string	No	Unit of measure for product's weight.
dim_uom	string	No	Unit of measure for product's dimensions.
volume_uom	string	No	Product volume.
diameter	double	No	Diameter of an individual product.
color	string	No	Product color
casepack_size	int	No	Number of products in each casepack.

Column	Data type	Required	Description
gtin	string	No	Global Trade Item Number (GTIN). 14-digit number that includes various EAN/UCC numbering structures and is used to uniquely identify a product.
long_term_horizon	double	No	Long Term Horizon time window used to determine salvage value.
long_term_horizon_uom	string	No	UOM for Long Term Horizon time window used to determine salvage value.
salvage_value_percentage	double	No	Product cost expected to recover at the end of Long Term Horizon.

Column	Data type	Required	Description
sap_0material_attr__prdha	string	No	Product hierarchy . Predicate key for SAP mapping. Upsert key for T179.
shelf_life	double	No	Duration for which a product can be stored or kept fresh and safe for consumption or use before it spoils or expires. This information is crucial for managing inventory levels, determining reorder points, and ensuring that products are sold or consumed before their expiration dates.

Column	Data type	Required	Description
shelf_life_uom	string	No	Unit of measure of the shelf life.
un_id	string	No	UN IDs are four-digit numbers that identify dangerous goods, hazardous substances and articles (such as explosives, flammable liquids, toxic substances, and so on.) in the framework of international transport. If this field is populated then the <i>is_hazmat flag</i> must be true.
demand_planning_enabled	string	No	Identifies parts used for demand planning.

Column	Data type	Required	Description
inventory_planning_enabled	string	No	Identifies parts used for inventory planning.
mrp_enabled	string	No	Identifies parts enabled for planning in MRP.
purchased_item	string	No	Identifies parts that are purchased.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
product_group_id	Product	product_hierarchy	id
parent_product_id	Product	product	id
un_id	Product	un_details	un_id

## product\_hierarchy

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
product_hierarchy	id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Product group ID.
description	string	No	Description of the product group.
company_id <sup>1</sup>	string	No	Company ID.
parent_product_group_id <sup>1</sup>	string	No	Parent of this product group. If null, it indicates this record is a top level product group.
creation_date	timestamp	No	Date when the product group was created.
update_date	timestamp	No	Date when the product group was updated.

Column	Data type	Required	Description
source	string	No	Source of data.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
parent_product_group_id	Product	product_hierarchy	id

## product\_uom

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
product_bom	product_uom_id, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
product_uom_id	string	Yes	ID for product unit of measure



Column	Data type	Required	Description
			nt (UOM) combination.
product_id	string	Yes	Product associated with product-uom combination.
uom	string	Yes	UOM identifier.
description	string	No	Description of product-uom.
company_id <sup>1</sup>	string	No	Company ID.
price	double	No	Price of product-uom.
cost	double	No	Cost of product-uom.
currency_uom	string	No	Unit of measure (UOM) of currency.
status	string	No	Status of record. For example, Active, Inactive and so on.

Column	Data type	Required	Description
is_standard	string	No	Describe if this is a standard product-uom.
barcode_type	string	No	Type of barcode.
barcode_value	string	No	Value of barcode.
type	string	No	Type of product-uom.
quantity	double	No	Displays the quantity for one product uom ID in terms of base UOM for the product.
quantity_uom	string	No	Unit of measure (UOM) of quantity in base UOM.
length	double	No	Length of the package.
width	double	No	Width of the package.

Column	Data type	Required	Description
height	double	No	Height of the package.
dimension_uom	string	No	Unit of measure (UOM) of dimension.
volume	double	No	Volume of the package.
volume_uom	string	No	Unit of measure (UOM) of volume.
weight	double	No	Package weight.
weight_uom	string	No	Unit of measure (UOM) of weight.
eff_start_date	timestamp	Yes	Displays the date and time the record becomes effective.
eff_end_date	timestamp	Yes	Displays the date and time the record ends.

Column	Data type	Required	Description
source	string	No	Source of data.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id

## product\_alternate

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
product_alternate	product_alternate_id, eff_start_date, eff_end_date

#### Note

To avoid data ingestion failure, you must enter a value for *eff\_start\_date* and *eff\_end\_date*.

The table below lists the column names supported by the data entity:

Column name	Data type	Required	Description
product_alternate_id	string	Yes	Unique identifier for a record.
product_id <sup>2</sup>	string	Yes	Product ID.
alternative_product_id	string	Yes	Alternate product ID.
site_id	string	No	Site ID.
alternate_type	string	No	Alternate product type. For example, similar_demand_value.
company_id <sup>2</sup>	string	No	Company ID.
priority	int	No	Priority or rank of alternatives.
alternate_group_id	string	No	Used to group interchangeable alternate products. Note, this field does not correspond to product_group in

Column name	Data type	Required	Description
			product_h ierarchy.
status	string	No	Status of the alternate product record. For example, Active, Inactive.
alternate_product_qty	double	No	Quantity of the alternate product. The conversion is done per base_UOM of primary product.
alternate_product_qty_uom	string	No	Unit of measure (UOM) of alternati ve product quantity.
eff_start_date	timestamp	Yes	Displays the date and time the record becomes effective.

Column name	Data type	Required	Description
eff_end_date	timestamp	Yes	Displays the date and time the record ends.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for string is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
product_id	Product	product	id
company_id	Organization	company	id

## un\_details

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
product_un_details	un_id

The table below lists the column names supported by the data entity:

Column name	Data type	Required	Description
un_class	string	No	Hazardous material categories and subcategories.
hazmat_class	string	No	One of nine classes of hazardous materials (as of 2024).
image_url	string	No	Image of the symbol for the hazmat class.
un_description	string	No	Description of the UN Proper Shipping Name.



Column name	Data type	Required	Description
un_id	string	Yes	UN IDs are four-digit numbers that identify dangerous goods, hazardous substances and articles (such as explosives, flammable liquids, toxic substances, and so on.) in the framework of international transport.

## Network

This section lists the data entities within the network category.

### Topics

- [site](#)
- [transportation\\_lane](#)

### site

#### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
site	id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Site ID.
description	string	No	Description of the site.
company_id <sup>1</sup>	string	No	Company ID.
geo_id <sup>1</sup>	string	No	If the site belongs to a geography, displays the ID of the geographical hierarchy.
address_1	string	No	Site address.
address_2	string	No	Site address.
address_3	string	No	Site address.
city	string	No	City in which the site is located.
state_prov	string	No	State where the site is located.
postal_code	string	No	Postal code of the site.
country	string	No	Country where the site is located.

Column	Data type	Required	Description
phone_number	string	No	Contact number of the site.
email	string	No	Point of contacts email information.
time_zone	string	No	Local time zone of the site.
site_type	string	No	Type of site, for example, warehouse , delivery station, factory, store, and so on.
unlocode	string	No	Standardized UN/LOCODE for the site.
latitude	double	No	Latitude of the site location.
longitude	double	No	Longitude of the site location.
is_active	string	No	Indicates whether site is active ("true") or deleted ("false")
site_calendar_id <sup>1</sup>	string	No	Site's operating and holiday calendar.
site_classifier	string	No	Information about site classification. For example, if a store is "high foot fall store" or if DC is Central DC vs Regional DC.

Column	Data type	Required	Description
open_date	timestamp	No	Date when the site started operations.
end_date	timestamp	No	Date when the site discontinued operational perspective.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
geo_id	Organization	geography	id
site_calendar_id	Reference	calendar	calendar_id

## transportation\_lane

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
transportation_lane	id, from_site_id, to_site_id, from_geo_id, to_geo_id, carrier_tpartner_id, trans_mode, service_type, product_group_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Lane ID.
from_site_id <sup>2</sup>	string	Yes <sup>1</sup>	Origin site location for the lane. You can exclude this field if the from_geo_id is populated.
to_site_id <sup>2</sup>	string	Yes <sup>1</sup>	Destination site location for the lane. You can exclude this field if the to_geo_id is populated.
company_id <sup>2</sup>	string	No	Company ID.
from_geo_id <sup>2</sup>	string	Yes <sup>1</sup>	When lane definition is at geographical level, displays the 'from' or 'source' geographical region.

Column	Data type	Required	Description
to_geo_id <sup>2</sup>	string	Yes <sup>1</sup>	When lane definition is at geographical level, displays the 'to' or 'source' geographical region.
carrier_tpartner_id <sup>2</sup>	string	Yes <sup>1</sup>	ID of the carrier.
trans_mode	string	Yes <sup>1</sup>	Transportation mode, for example, ship, rail, or truck.
service_type	string	Yes <sup>1</sup>	Provides information on the shipping method for the carrier.
product_group_id <sup>2</sup>	string	Yes <sup>1</sup>	Product group ID if transit time varies by product group.
product_id <sup>2</sup>	string	No	Product ID is used when a lane has product-specific configuration.
transit_time	double	No	Transit time of products.

Column	Data type	Required	Description
transit_time_sd	double	No	Standard deviation of transit time.
time_uom	string	No	Unit of measure of transit time.
distance	double	No	Distance traveled on the lane.
distance_uom	string	No	Unit of measure (UOM) of distance.
eff_start_date	timestamp	No	Date and time when this record becomes effective.
eff_end_date	timestamp	No	Date and time till when this record becomes effective.
daily_start_time	string	No	Time when the lane begins operating.
daily_end_time	string	No	Time when the lane ends operation.
open_sun	string	No	Displays whether the lane is open on Sunday.

Column	Data type	Required	Description
open_mon	string	No	Displays whether the lane is open on Monday.
open_tue	string	No	Displays whether the lane is open on Tuesday.
open_wed	string	No	Displays whether the lane is open on Wednesday.
open_thu	string	No	Displays whether the lane is open on Thursday.
open_fri	string	No	Displays whether the lane is open on Thursday.
open_sat	string	No	Displays whether the lane is open on Saturday.
cost_per_unit	double	No	Cost per distance UOM.
cost_per_weight	double	No	Cost per weight UOM.



Column	Data type	Required	Description
cost_currency	string	No	Currency UOM of costs.
weight_uom	string	No	Unit of measurement for weight.
emissions_per_unit	double	No	Carbon emissions emitted per unit distance UOM.
emissions_per_weight	double	No	Carbon emissions emitted per weight UOM.
source	string	No	Source of data.
transportation_cost	double	No	Transportation cost related to the transport lane.
transportation_cost_uom	string	No	Transportation cost UOM related to the transport lane.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is: SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
from_site_id, to_site_id	Network	site	id
company_id	Organization	company	id
from_geo_id, to_geo_id	Organization	geography	id
carrier_tpartner_id	Organization	trading_partner	id
product_group_id	Product	product_hierarchy	id
product_id	Product	product_id	id

## Vendor management

This section lists the data entities within the vendor management category.

### Topics

- [vendor\\_product](#)
- [vendor\\_lead\\_time](#)
- [vendor\\_holiday](#)

### vendor\_product

#### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
vendor_product	vendor_tpartner_id, product_id, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
company_id <sup>2</sup>	string	No	Company ID.
vendor_tpartner_id <sup>2</sup>	string	Yes	Trading partner ID of the vendor.
product_id <sup>2</sup>	string	Yes	Product ID.
vendor_product_code	string	No	Product identifier used by the vendor.
vendor_product_desc	string	No	Product description used by the vendor.
vendor_cost	double	No	Cost of product from this vendor.
vendor_cost_uom	string	No	Unit of measure (UOM) of the product cost from this vendor.

Column	Data type	Required	Description
status	string	No	Status of the product, for example, new product (NP), and obsolete (OB).
unit_volume	double	No	Volume of one unit of product.
volume_uom	string	No	Unit of measure (UOM) for volume.
unit_weight	double	No	Weight of one unit of product.
weight_uom	string	No	Weight unit of measurement for weight.
release_date	timestamp	No	Date when the product was released by the vendor.

Column	Data type	Required	Description
end_date	timestamp	No	Date when the vendor stopped supplying the product.
eff_start_date	timestamp	Yes <sup>1</sup>	Displays the date and time from when the vendor's product is active.
eff_end_date	timestamp	Yes <sup>1</sup>	Displays the date and time till when the vendor's product will be active.
min_order_unit	double	No	Minimum order quantity for a product from this vendor.
country_of_origin	string	No	Country of origin by product.

Column	Data type	Required	Description
sap_eina__infnr	string	No	Record on number of purchases . Predicate key for SAP mapping. Upsert key for EINE.
sap_eine__ebeln	string	No	Purchasing Document Number. Predicate key for SAP mapping. Upsert key for EKPO.
sap_eine__ebelp	string	No	Item Number of Purchasing Document. Predicate key for SAP mapping. Upsert key for EKPO.
max_order_unit	double	No	Maximum order quantity for the vendor.
source	string	No	Source of data.

Column	Data type	Required	Description
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *timestamp* date type value is 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
vendor_tpartner_id	Organization	trading_partner	id
product_id	Product	product_id	id

## vendor\_lead\_time

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
vendor_lead_time	vendor_tpartner_id, product_id, product_group_id, site_id, region_id, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
company_id <sup>2</sup>	string	No	Company ID.
vendor_tpartner_id <sup>2</sup>	string	Yes	Trading partner ID of the vendor.
product_id <sup>2</sup>	string	Yes <sup>1</sup>	Product ID.
product_group_id <sup>2</sup>	string	Yes <sup>1</sup>	Used if lead time is set at product-group level.
site_id <sup>2</sup>	string	Yes <sup>1</sup>	Site where this product is being supplied.
region_id <sup>2</sup>	string	Yes <sup>1</sup>	Used if lead time is set at geographical region level. Site level values will override this value.
planned_lead_time	double	No	Planned lead time from vendor into company's site.



Column	Data type	Required	Description
planned_lead_time_dev	double	No	Standard deviation of lead time.
actual_lead_time_mean	double	No	Field to store actual lead time computed from transactional data.
actual_lead_time_sd	double	No	Standard deviation of actual lead time.
actual_p50	double	No	50th percentile of actual lead time.
actual_p90	double	No	90th percentile of actual lead time.
shipping_cost	double	No	Inbound shipping cost from vendor to company.
cost_uom	string	No	Unit of measure of shipping cost.

Column	Data type	Required	Description
we_pay	string	No	Yes or No indicator. Yes if company pays for inbound shipping, and No if vendor pays for shipping.
eff_start_date	timestamp	Yes <sup>1</sup>	Date and time from when this record is effective.
eff_end_date	timestamp	Yes <sup>1</sup>	Date and time till when this record is effective.
sap_eina__infnr	string	No	Record on number of purchases. Predicate key for SAP mapping. Upsert key for EINE.
source_site_id <sup>2</sup>	string	No	Site from where the inbound shipment is originated.
trans_mode	string	No	Transportation mode. For example, ship, water, truck, or rail.

Column	Data type	Required	Description
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default values for string and timestamp date type values are SCN\_RESERVED\_NO\_VALUE\_PROVIDED for *string*; and for *timestamp*, 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
site_id	Network	site	id
source_site_id	Network	site	id
company_id	Organization	company	id
region_id	Organization	geography	id
vendor_tpartner_id	Organization	trading_partner	id
product_group_id	Product	product_hierarchy	id
product_id	Product	product_id	id

## vendor\_holiday

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
vendor_holiday	vendor_tpartner_id, outage_start_date, outage_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
company_id <sup>2</sup>	string	No	Company ID.
vendor_tpartner_id <sup>2</sup>	string	Yes	Trading partner ID of the vendor.
outage_start_date	timestamp	Yes <sup>1</sup>	Outage start date.
outage_end_date	timestamp	Yes <sup>1</sup>	Outage end date.
outage_type	string	No	Type of outage.
comment	string	No	Comment from the vendor.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *timestamp* date type value is 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
vendor_tpartner_id	Organization	trading_partner	id

## Planning

This section lists the data entities within the planning category.

### Topics

- [product\\_bom](#)
- [inv\\_policy](#)
- [segmentation](#)
- [sourcing\\_rules](#)
- [sourcing\\_schedule](#)
- [sourcing\\_schedule\\_details](#)
- [reservation](#)
- [supply\\_planning\\_parameters](#)

## product\_bom

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
product_bom	id, product_id, component_product_id

The table below lists the column names supported by the data entity:

column	Data type	Required	Description
id	string	Yes	Displays the BOM ID.
product_id <sup>2</sup>	string	Yes	Product for which the BOM is defined.
site_id <sup>2</sup>	string	No	Site for which the BOM is defined.
company_id <sup>2</sup>	string	No	Displays the company ID.
level	int	No	Displays the level of the BOM in multi-level BOM.
component_product_id	string	Yes <sup>1</sup>	Displays the component's product ID.
component_quantity_per	double	Yes	Quantity of component required to produce one unit of parent product.
component_quantity_uom	string	No	Unit of measurement of the component.
component_line_number	int	No	Line ID of the child record.
lifecycle_phase	string	No	Information about the life cycle phase associated with the BOM.
assembly_cost	double	No	UOM of the product.

column	Data type	Required	Description
assembly_cost_uom	string	No	Assembly cost of the product.
eff_start_date	timestamp	No	Dates from when the record is effective.
eff_end_date	timestamp	No	Dates till when the record is effective.
description	string	No	BOM description.
production_process_id	string	No	ID associated with a specific production process.
alternative_product_id	string	No <sup>1</sup>	ID of the alternate product used in the BOM.
priority	string	No	Priority of the product or components used in the BOM.
alternate_group_id	string	No	ID of the alternate product group.
alternate_product_qty	double	No	Quantity of the alternate product used in the BOM.
alternate_product_qty_uom	string	No	UOM associated with the quantity of the alternate product.
ratio	double	No	Ratio of the products in the BOM.

column	Data type	Required	Description
creation_date	timestamp	No <sup>1</sup>	Date when the BOM was created.
change_date	timestamp	No <sup>1</sup>	Date when the BOM was updated.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default values for string and timestamp date type values are: SCN\_RESERVED\_NO\_VALUE\_PROVIDED for *string*; and for *timestamp* , 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
product_id	Product	product	id
site_id	Network	site	id
production_process_id	Operation	production_process	production_process_id



Column	Category	FK/Data entity	FK/Column
alternative_product_id	Product	product_alternate	product_alternate_id

## inv\_policy

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
inv_policy	id, site_id, product_id, product_group_id, dest_geo_id, vendor_tpartner_id, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Policy ID.
site_id <sup>2</sup>	string	Yes <sup>1</sup>	Site ID for the policy being defined.
product_id <sup>2</sup>	string	Yes <sup>1</sup>	Product ID for the policy being defined.
company_id <sup>2</sup>	string	No	Company ID.
product_group_id <sup>2</sup>	string	Yes <sup>1</sup>	Product group ID that the policies are being defined

Column	Data type	Required	Description
			for. Overridden at product level.
dest_geo_id <sup>2</sup>	string	Yes <sup>1</sup>	Sets default values at geo level of the destination.
vendor_tpartner_id <sup>2</sup>	string	Yes <sup>1</sup>	Trading partner ID of the vendor. This field is used when policies vary by vendor.
status	string	No	Status of the inventory policy record, for example, on-hold, or active.

Column	Data type	Required	Description
ss_policy	string	No	<p>Type of safety stock policy. The safety stock policy is associated with corresponding data.</p> <p><b>abs_level</b> – Uses units specified in min/max safety stock (SS). Source is customer system or external tool. Ordering is suggested whenever inventory falls below min SS level.</p> <p><b>sl</b> – Targets inventory between min and max service level for in-stock percentages. For example, if min/max service level is 50% and 90%, ordering will be done to maintain inventory</p>

Column	Data type	Required	Description
			<p>between these percentiles of forecast over plan horizon.</p> <p><b>DOC_dem</b> – Uses days of cover computed from historical demand as target level of inventory.</p> <p><b>DOC_fcst</b> – Uses days of cover computed from forecast as target level of inventory.</p>
fallback_policy_1	string	No	Fallback inventory policy.
repl_interval	double	No	Specifies the replenishment interval.
min_safety_stock	double	No	For safety stock policy "abs_level". This field is absolute value of minimum safety stock level.

Column	Data type	Required	Description
max_safety_stock	double	No	For safety stock policy "abs_level". This is absolute value of maximum safety stock level.
min_inventory_qty	double	No	Minimum inventory level quantity threshold.
max_inventory_qty	double	No	Maximum inventory level quantity threshold.
target_inventory_qty	double	No	Target inventory level quantity.
woc_limit	double	No	Provides the weeks of cover limit.
max_doc_limit	double	No	Provides the maximum days of cover value for safety stock policies "DOC_dem" and "DOC_fcst".

Column	Data type	Required	Description
min_doc_limit	double	No	Provides the minimum days of cover value for safety stock policies "DOC_dem" and "DOC_fcst".
target_doc_limit	double	No	Provides the target value for safety stock policies "DOC_dem" and "DOC_fcst".
permitted_var	double	No	Allowed variance used in policies where deviations from min,max, and target is allowed.
min_sl		No	Provides minimum service level (sl). Used for safety stock policy sl.
target_sl	double	No	Target service level used of policy sl.

Column	Data type	Required	Description
max_sl	double	No	Provides maximum service level (sl). Used for safety stock policy.
qty_uom	string	No	Quantity UOM associated with this inventory policy.
min_order_qty	double	No	Minimum order quantity.
max_order_qty	double	No	Maximum order quantity.
order_qty_multiple	double	No	Order quantity computed in multiples of this value.
holding_cost_percent	double	No	Annualized holding cost of inventory in percent.
eff_start_date	timestamp	Yes <sup>1</sup>	Dates from when the record is effective.
eff_end_date	timestamp	Yes <sup>1</sup>	Dates till when the record is effective.

Column	Data type	Required	Description
salvage_value_percentage	double	No	Product cost that can be expected to recovered at the end of Long Term Horizon.
segment_id <sup>2</sup>	string	No	ID of segment associated with the inventory policy
demand_planning_enabled	string	No	Identifies parts used for demand planning.
inventory_planning_enabled	string	No	Identifies parts used for inventory planning.
mrp_enabled	string	No	Identifies parts enabled for planning in MRP.
purchased_item	string	No	Identifies parts that are purchased.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.



Column	Data type	Required	Description
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default values for string and timestamp date type values are: SCN\_RESERVED\_NO\_VALUE\_PROVIDED for *string*; and for *timestamp* , 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
site_id	Network	site	id
segment_id	Planning	segmentation	segment_id
company_id	Organization	company	id
dest_geo_id	Organization	geography	id
vendor_tpartner_id	Organization	trading_partner	id
product_group_id	Product	product_hierarchy	id
product_id	Product	product	id

## segmentation

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
segmentation	segment_id, creation_date, site_id, product_id, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
segment_id	string	Yes	Segment ID.
creation_date	timestamp	Yes	Date and time that the segment was created.
company_id <sup>2</sup>	string	No	Displays the company ID.
site_id <sup>2</sup>	string	Yes	Overrides policies specified for the region for this node in the product hierarchy.
product_id <sup>2</sup>	string	Yes <sup>1</sup>	Overrides policies specified for the product-group for this node in the geo hierarchy.
segment_description	string	No	Segment description.

Column	Data type	Required	Description
segment_type	string	No	Type of segmentation, for example, value based, demand variability based, or demand speed based.
segment_value	double	No	Metric associated with the segment calculated when the segment is generated. Value depends on segment_type.
source	string	No	Information about the segment creator.
eff_start_date	timestamp	Yes <sup>1</sup>	Effective start date of the calendar.
eff_end_date	timestamp	Yes <sup>1</sup>	Effective end date of the calendar.
source_event_id	string	No	ID of the event created in the source system.

Column	Data type	Required	Description
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default values for string and timestamp date type values are SCN\_RESERVED\_NO\_VALUE\_PROVIDED for *string*; and for *timestamp*, 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
site_id	Network	site	id
company_id	Organization	company	id
product_id	Product	product	id

## sourcing\_rules

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
sourcing_rules	sourcing_rule_id, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
sourcing_rule_id	string	Yes	Sourcing rule ID.
company_id <sup>2</sup>	string	No	Displays the company ID.
product_id <sup>2</sup>	string	No	Product ID to be sourced.
to_site_id <sup>2</sup>	string	No	Site ID into which product will be sourced.
from_site_id <sup>2</sup>	string	No	Site ID from which product will be sourced.
product_group_id <sup>2</sup>	string	No	Product group ID.
sourcing_rule_type	string	No	Type of sourcing rule. The supported sourcing rule types are transfer, buy, and manufacture. Only lower case is allowed.
tpartner_id <sup>2</sup>	string	No	Trading partner ID is used depending on sourcing rule type. For example, when sourcing rule

Column	Data type	Required	Description
			type is Buy, Buy is the Vendor ID and you can use this vendor ID along with other attributes to find additional details from vendor_product and other entities.
tpartner_location	string	No	The location of the trading partner. For example, Seattle, China, New Mexico, and so on.
transportation_lane_id	string	No	Transportation lane ID is used depending on sourcing rule type. For example, when sourcing type is Transfer, you can use this ID along with other attributes to choose the correct transportation_lane.

Column	Data type	Required	Description
sourcing_priority <sup>2</sup>	int	No	Priority of sourcing rule.
sourcing_ratio	double	No	Proportion of product to be sourced from this product/group, to_site, from_site/tpartner_id combination. All sources for a product, site should add to 1 for a specific time period (or application normalizes the ratio to 1).
qty_uom	string	No	Quantity UOM associated with sourcing rule.
min_qty	double	No	Minimum quantity for the sourcing rule.
max_qty	double	No	Maximum quantity for the sourcing rule.
qty_multiple	double	No	Quantity is in multiples of this value.

Column	Data type	Required	Description
eff_start_date	timestamp	Yes <sup>1</sup>	Effective start date of the calendar.
eff_end_date	timestamp	Yes <sup>1</sup>	Effective end date of the calendar.
source	string	No	Source of data.
production_process_id	string	No	Type of process operation. For example, stop machine.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default values for *timestamp* is, 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with a foreign key:



	Category	FK/Data entity	FK/Column
to_site_id, from_site_id	Network	site	id
company_id	Organization	company	id
product_id	Product	product	id
product_group_id	Product	product_hierarchy	id
tpartner_id	Organization	trading_partner	id
transportation_lane_id	Network	transportation_lane	id
production_process_id	Operation	production_process	production_process_id

## sourcing\_schedule

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
sourcing_schedule	sourcing_schedule_id, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
sourcing_schedule_id	string	Yes	Sourcing schedule ID.

Column	Data type	Required	Description
company_id <sup>2</sup>	string	No	Displays the company ID.
tpartner_id <sup>2</sup>	string	No	Trading partner ID.
status	string	No	Status of the supply schedule. For example, active, inactive.
from_site_id <sup>2</sup>	string	No	Origin site ID. For example, hub, vendor.
to_site_id <sup>2</sup>	string	No	Destination site ID. For example, hub or a customer in the network.
schedule_type	string	No	Type of schedule. For example, inbound ordering, outbound shipping.
eff_start_date	timestamp	Yes <sup>1</sup>	Date-time when schedule becomes effective.

Column	Data type	Required	Description
eff_end_date	timestamp	Yes <sup>1</sup>	Date-time till when schedule is effective.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default values for *timestamp* is, 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
from_site_id, to_site_id	Network	site	id
company_id	Organization	company	id
tpartner_id	Organization	trading_partner	id

## sourcing\_schedule\_details

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
sourcing_schedule_details	sourcing_schedule_detail_id, sourcing_schedule_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
sourcing_schedule_detail_id	string	Yes	Schedule detail ID.
sourcing_schedule_id	string	Yes	Sourcing schedule ID.
company_id <sup>1</sup>	string	No	Displays the company ID.
product_id <sup>1</sup>	string	No	Product ID used if schedule details are for a specific product.
product_group_id <sup>1</sup>	string	No	Product group ID used if schedule details are for a product group.
day_of_week	string	No	Day of the week when the supply schedule is active. Values can be integer or string: Sun: 0 Mon: 1 Tue: 2

Column	Data type	Required	Description
			Wed: 3 Thu: 4 Fri: 5 Sat: 6
week_of_month	string	No	To be used when ordering X times in a month. To be used in conjunction with day_of_week. If used multiple times in a month, use multiple rows.
time_of_day	timestamp	No	If supply schedule detail is for a specific time in a day, use this field to enter that information. Only time value is used.
date	timestamp	No	If supply schedule detail is for a specific date, use this field to enter that information. Only date value is used.
source	string	No	Source of data.

Column	Data type	Required	Description
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
product_id	Product	product	id
product_group_id	Product	product_hierarchy	id

## reservation

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
reservation	reservation_id, reservation_detail_id

The table below lists the column names supported by the *reservation* data entity:

Column	Data type	Required	Description
reservation_id	string	Yes	Reservation ID.
reservation_detail_id	string	Yes	Reservation detail ID.
reservation_type	string	No	Type of reservation. For example, procurement or build-to-stock.
company_id <sup>1</sup>	string	No	Company ID.
status	string	No	Status of the reservation.
product_id <sup>1</sup>	string	No	Product ID.
site_id <sup>1</sup>	string	No	Site ID.
quantity	double	No	Reservation quantity.
quantity_uom	string	No	Quantity UOM associated with reservation.
reservation_date	timestamp	No	Date when the reservation is generated.
is_deleted	string	No	Yes or No indicator to indicate whether the reservation is deleted or not.
requisition_id <sup>1</sup>	string	No	Source object identifier

Column	Data type	Required	Description
			reference to inbound order type.
requisition_line_id <sup>1</sup>	string	No	Source object identifier reference to inbound order line.
rfq_id <sup>1</sup>	string	No	Source object identifier reference to inbound order type RFQ.
rfq_line_id <sup>1</sup>	string	No	Source object identifier reference to inbound order line of type RFQ.
order_id <sup>1</sup>	string	No	Source object identifier reference to inbound order.
order_line_id <sup>1</sup>	string	No	Source object identifier reference to inbound order line.



Column	Data type	Required	Description
order_line_schedule_id <sup>1</sup>	string	No	Source object identifier reference to inbound order line schedule.
stock_transfer_1_order_id	string	No	Stock transfer order ID.
stock_transfer_1_order_line_id	string	No	Stock transfer order line ID.
stock_transfer_2_order_id	string	No	Stock transfer order ID.
stock_transfer_2_order_line_id	string	No	Stock transfer order line ID.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.
source_event_id	string	No	ID of the event created in the source system.
source	string	No	Source of data.
flex_1	string	No	Reservation flexible field 1
flex_2	string	No	Reservation flexible field 2
flex_3	string	No	Reservation flexible field 3

Column	Data type	Required	Description
flex_4	string	No	Reservation flexible field 4
flex_5	string	No	Reservation flexible field 5

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
site_id	Network	site	id
company_id	Organization	company	id
product_id	Product	product	id
requisition_id, rfq_id	Inbound	inbound_order_line	order_id
requisition_line_id, rfq_line_id	Inbound	inbound_order_line	id
order_line_schedule_id	Inbound	inbound_order_line_schedule	id

## supply\_planning\_parameters

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
supply_planning_parameters	product_id, product_group_id, site_id, eff_start_date, eff_end_date, connection_id

The table below lists the column names supported by the *supply\_planning\_parameters* data entity:

Column	Data type	Required	Description
product_id <sup>1</sup>	string	Yes	ID of product
product_group_id <sup>1</sup>	string	Yes	For future Use. Please populate SCN_RESER VED_NO_VA LUE_PROVIDED for now.
site_id <sup>1</sup>	string	Yes	For future Use. Please populate SCN_RESER VED_NO_VA LUE_PROVIDED for now.
planner_name	string	No	name of the supply planner who manages a product or a product group
demand_time_fence_days	int	No	For future Use.
forecast_consumption_backward_days	int	No	For future Use

Column	Data type	Required	Description
forecast_consumption_forward_days	int	No	For future Use.
eff_start_date	timestamp	Yes	effective start date time
eff_end_date	timestamp	Yes	effective end date time
connection_id	string	Yes	Unique identifier for the data source (i.e. connection). Auto populated by ASC.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
product_id	Product	product	id
product_group_id	Product	product_hierarchy	id
site_id	Network	site	id

## Operation

This section lists the data entities within the operation category.

### Topics

- [process\\_header](#)

- [process\\_operation](#)
- [process\\_product](#)
- [production\\_process](#)

## process\_header

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
process_header	process_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
process_id	string	Yes	Process ID. For example, process or work order, or maintenance order.
type	string	No	Type of process. For example, maintenance, repair.
company_id <sup>1</sup>	string	No	Company ID.
site_id <sup>1</sup>	string	No	Site or plant ID.
site_location	string	No	Name of the location or

Column	Data type	Required	Description
			section in site or plant.
planning_group	string	No	Group planning the work. This field will be an organization entity in the source system.
execution_group	string	No	Group executing the work. This field will be an organization entity in the source system.
program_group	string	No	Long running program or project name used for group work. For example, maintenance campaign.
status	string	No	Status of the process.
revision	string	No	Revision number associated with planning or program group.
latest_start_date	timestamp	No	Latest start date for the process.

Column	Data type	Required	Description
description	string	No	Process description.
priority	string	No	Priority of the process.
planned_cost	double	No	Total planned costs for the process.
currency_uom	string	No	Currency in which value is specified.
planned_completion_date	timestamp	No	Planned completion date of the process.
planned_closing_date	timestamp	No	Planned closing date of the process.
planned_release_date	timestamp	No	Date when the process is planned to be released.
planned_start_date	timestamp	No	Planned start date for the process.
actual_completion_date	timestamp	No	Actual completion date of the process.

Column	Data type	Required	Description
actual_closing_date	timestamp	No	Actual close date of the process.
actual_release_date	timestamp	No	Actual release date for process.
actual_start_date	timestamp	No	Actual start date for process.
process_url	string	No	URL to access process record in source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.
source_event_id	string	No	ID of the event created in the source system.
source	string	No	Source of data.
flex_1	string	No	Process flexible field 1
flex_2	string	No	Process flexible field 2
flex_3	string	No	Process flexible field 3
flex_4	string	No	Process flexible field 4



Column	Data type	Required	Description
flex_5	string	No	Process flexible field 5

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
site_id	Network	site	id
company_id	Organization	company	id

## process\_operation

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
process_operation	process_operation_id, process_id

The table below lists the column names supported by the *process\_operation* data entity:

Column	Data type	Required	Description
process_operation_id	string	Yes	Type of process operation.
process_id <sup>1</sup>	string	Yes	Process ID. For example,

Column	Data type	Required	Description
			process, work order, or maintenance order.
company_id <sup>1</sup>	string	No	Company ID.
type	string	No	Type of operation within the process. For example, open machine.
site_location	string	No	Name of the location or section in site or plant.
status	string	No	Status of the process.
operation_name	string	No	Name of the operation.
operation_sequence	string	No	Sequence of the operation within the process.
planned_start_dttm	timestamp	No	Planned start date-time of operation.
planned_end_dttm	timestamp	No	Planned end date-time of operation.

<sup>1</sup>Foreign key

## Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
process_id	Operation	process_header	process_id
company_id	Organization	company	id

## process\_product

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
process_product	process_product_id, process_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
process_product_id <sup>1</sup>	string	Yes	ID associated with the process and product.
process_id <sup>1</sup>	string	Yes	Process ID. For example, process or work order, or maintenance order.
process_operation_id <sup>1</sup>	string	No	Process operational

Column	Data type	Required	Description
			ID. This is an optional field.
company_id <sup>1</sup>	string	No	Company ID.
product_id <sup>1</sup>	string	No	Product ID of the requested product.
type	string	No	Type associated within the process. For example, consumption or production.
product_value	double	No	Monetary value of product being requested.
currency_uom	string	No	Currency UOM of the product.
status	string	No	Status of the product process.
requested_availability_date	timestamp	No	Date when the material was requested to be available.
quantity_submitted	double	No	Quantity submitted as part of the process for product.

Column	Data type	Required	Description
quantity_confirmed	double	No	Quantity confirmed against the request.
quantity_consumed	double	No	Quantity consumed against the quantity on this process/work order.
reservation_id <sup>1</sup>	string	No	Link to reservation ID associated with this record.
reservation_detail_id <sup>1</sup>	string	No	Link to reservation detail ID associated with this record.
quantity_uom	string	No	Unit of measure for quantity.
process_product_url	string	No	URL to access process product record in source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

Column	Data type	Required	Description
source_event_id	string	No	ID of the event created in the source system.
allocation_status	string	No	Status of the allocation for the product.
allocation_type	string	No	Type of allocation for the product.
flex_1	string	No	Process flexible field 1.
flex_2	string	No	Process flexible field 2.
flex_3	string	No	Process flexible field 3.
flex_4	string	No	Process flexible field 4.
flex_5	string	No	Process flexible field 5.
reservation_type	string	No	Type of reservation of the product.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column name
product_id	Product	product	id
company_id	Organization	company	id
process_id	Operation	process_header	process_id
process_operation_id	Operation	process_operation	process_operation_id
reservation_id	Planning	reservation	reservation_id
reservation_detail_id	Planning	reservation	reservation_detail_id

## production\_process

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
production_process	production_process_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
production_process_id	string	Yes	ID associated with the process and product.
production_process_type	string	No	Type of the specific production process. For example,

Column	Data type	Required	Description
			assembly, machining.
production_process_name	string	No	Name of the specific production process. For example, milling, drilling, welding.
product_id <sup>1</sup>	string	No	Product associated with the production process.
company_id <sup>1</sup>	string	No	Company ID associated with the production process.
site_id <sup>1</sup>	string	No	Site ID where the production process is taking place.
start_location	string	No	Location where the process starts.
end_location	string	No	Location where the process ends.
setup_time	double	No	Time to setup the process.



Column	Data type	Required	Description
setup_time_uom	string	No	Unit of measure of the setup time.
operation_time	double	No	Total time to complete the process.
operation_time_uom	string	No	Unit of measure of the operation time.
frozen_horizon	double	No	Time period when there are no changes to the production process.
frozen_horizon_uom	string	No	Unit of measure for the frozen horizon.
unit_cost	double	No	Cost of the production process.
cost_uom	string	No	Unit of measure of the production process cost.
source	string	No	Source of data.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

Column	Data type	Required	Description
source_event_id	string	No	ID of the event created in the source system.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column name
product_id	Product	product	id
company_id	Organization	company	id
site_id	Network	site	id

## Inventory management

This section lists the data entities within the inventory management category.

### Topics

- [inv\\_level](#)

### inv\_level

#### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
inv_level	snapshot_date, site_id, product_id, inv_condition, lot_number

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
snapshot_date	timestamp	Yes <sup>1</sup>	Date and time when the inventory snapshot was taken.
site_id <sup>2</sup>	string	Yes <sup>1</sup>	Site ID of the inventory.
product_id <sup>2</sup>	string	Yes <sup>1</sup>	Product ID of the inventory displayed.
company_id <sup>2</sup>	string	No	Company ID.
on_hand_inventory	double	Yes	Physical inventory available at the site.
allocated_inventory	double	No	Inventory allocated for some process.
bound_inventory	double	No	Inventory bound to some process.
quantity_uom	string	No	Quantity unit of measure for inventory.
inv_condition	string	Yes <sup>1</sup>	Condition of the inventory . Inventory in different

Column	Data type	Required	Description
			<p>conditions are displayed in different rows. You can also enter your own value.</p> <p>Reserved inventory condition values in AWS Supply Chain are as follows:</p> <ul style="list-style-type: none"><li>• Unrestricted - Inventory is available.</li><li>• Inspection - Below quality or any other inspection.</li><li>• Returns - Inventory goes to return area.</li><li>• Blocked - Inventory is blocked for a reason.</li><li>• InTransfer - Used during inventory stock transfer.</li></ul>

Column	Data type	Required	Description
			<ul style="list-style-type: none"> <li>Restricted - Restricted for other reasons but not blocked.</li> </ul>
lot_number	string	Yes <sup>1</sup>	Lot number of the inventory.
expiry_date	timestamp	No	Expiry date of the inventory.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.
source_event_id	string	No	ID of the event created in the source system.
tpartner_id	string	No	Unique identifier for a trading partner.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* data type value is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
product_id	Product	product	id

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
site_id	Network	site	id
tpartner_id	Organization	trading_partner	id

## Inbound

This section lists the data entities within the inbound category.

### Topics

- [inbound\\_order](#)
- [inbound\\_order\\_line](#)
- [inbound\\_order\\_line\\_schedule](#)
- [shipment](#)
- [shipment\\_stop](#)
- [shipment\\_stop\\_order](#)
- [shipment\\_lot](#)

## inbound\_order

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
inbound_order	id, tpartner_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes <sup>1</sup>	Object ID.
company_id <sup>2</sup>	string	No	Company ID.
order_creation_date	timestamp	No	Order creation date.
order_type	string	No	Displays the type of order. Reserved order types in AWS Supply Chain: <ul style="list-style-type: none"> <li>• PO - Purchase order</li> <li>• TO - Transfer order</li> <li>• MO - Manufacturing order</li> <li>• BO - Blanket order</li> <li>• CO - Consumption order</li> </ul>
order_status	string	No	Status of the order.
to_site_id <sup>2</sup>	string	No	Site where the order will arrive.
tpartner_id <sup>2</sup>	string	Yes <sup>1</sup>	Trading partner that the order will be sent to.

Column	Data type	Required	Description
order_currency_uom	string	No	Currency UOM that the company uses.
vendor_currency_uom	string	No	Currency UOM that the vendor uses.
exchange_rate	double	No	Exchange rate used for conversion.
exchange_rate_date	timestamp	No	Date and time when exchange rate was calculated.
incoterm	string	No	Three letter incoterm code.
incoterm2	string	No	Place of ownership transfer.
incoterm_location_1	string	No	Incoterm location 1. Can be a site_id or the location used on order/EDI.



Column	Data type	Required	Description
incoterm_location_2	string	No	Incoterm location 2. Can be a site_id or the location used on order/EDI.
submitted_date	timestamp	No	Date and time when order was submitted to vendor.
agreement_start_date	timestamp	No	If PO is associated with contract or agreement, then start datetime of contract.
agreement_end_date	timestamp	No	If PO is associated with contract or agreement, then end datetime of contract.
shipping_instr_code	string	No	Code for shipping instructions.
payment_terms_code	string	No	Code for payment instructions.

Column	Data type	Required	Description
std_terms_agreement	string	No	Agreement between company and vendor.
std_terms_agreement_ver	string	No	Version of agreement between company and vendor.
agreement_number	string	No	Number associated with contract or agreement.
inbound_order_url	string	No	URL to access inbound order record in source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.
source_event_id	string	No	ID of the event created in the source system.
source	string	No	Source of data.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

## Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
tpartner_id	Organization	trading_partner	id
company_id	Organization	company	id
to_site_id	Network	site	id

## inbound\_order\_line

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
inbound_order_line	id, order_id, tpartner_id, product_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes <sup>1</sup>	Order line ID. The value must be unique.
order_id <sup>2</sup>	string	Yes <sup>1</sup>	ID of parent order.
company_id <sup>2</sup>	string	No	Company ID.
tpartner_id <sup>2</sup>	string	Yes <sup>1</sup>	Partner that the order will be sent to.

Column	Data type	Required	Description
line_creation_date	timestamp	No	Line creation date.
product_id <sup>2</sup>	string	Yes <sup>1</sup>	Product ID.
product_group_id <sup>2</sup>	string	No	Product group ID.
supplier_product_id	string	No	Product number used by supplier.
order_type	string	No	Type of order.
external_line_number	string	No	Alternate line number if used by customer system.
status	string	No	Status of the line, for example, canceled, closed, or open.
from_site_id <sup>2</sup>	string	No	Site where order line originates.
to_site_id <sup>2</sup>	string	No	Site where the order will arrive.
vendor_status	string	No	Status of the line in the vendor system..

Column	Data type	Required	Description
cost	double	No	Cost of the product in company's currency, after all discounts.
cost_uom	string	No	Cost UOM in company's currency.
submitted_cost	double	No	Cost of the product at the time of submission, in company's currency.
submitted_cost_vendor	double	No	Cost of the product at the time of submission, in vendor's currency.
shipping_cost	double	No	Inbound shipping cost from vendor to company.
tax_cost	double	No	Tax cost for the product.
quantity_submitted	double	Yes	Quantity submitted to vendor.

Column	Data type	Required	Description
quantity_confirmed	double	No	Quantity confirmed by the vendor.
quantity_received	double	No	Quantity received into inventory.
quantity_uom	string	No	Quantity UOM for the order line.
submitted_date	timestamp	No	Date and time when the order was submitted to vendor.
expected_delivery_date	timestamp	No	Date when the order is expected to be delivered.
confirmation_date	timestamp	No	Date and time when the order was confirmed by the vendor.
earliest_ship_date	timestamp	No	Earliest date and time when the vendor can ship products in this order.

Column	Data type	Required	Description
latest_ship_date	timestamp	No	Latest date and time when the vendor can ship products in this order.
earliest_delivery_date	timestamp	No	Earliest date and time when the vendor can deliver products in this order.
latest_delivery_date	timestamp	No	Latest date and time when the vendor can deliver products in this order.
incoterm	string	No	Three letter incoterm code.
incoterm2	string	No	Place of ownership transfer.
incoterm_location_1	string	No	Incoterm location 1. Can be a site_id or the location used on order/ EDI.

Column	Data type	Required	Description
incoterm_location_2	string	No	Incoterm location 2. Can be a site_id or the location used on order/ EDI.
requisition_number	string	No	Requisition number.
order_receive_date	timestamp	No	Date and time when the order is unloaded into the company location.
reservation_id <sup>2</sup>	string	No	Reservation ID associated with the line.
reference_object	string	No	If record is created by or in response to another object / entity, then enter the entity name. For example, inbound_order, outbound_order



Column	Data type	Required	Description
reference_object_type	string	No	If activity is created by or in response to a specific type of object, specify the type here. For example, PO (Purchase Order) vs TO (Transfer Order)
reference_object_id	string	No	ID of associated reference object.
reference_detail_id	string	No	ID of associated reference object ID's detail/line, if any.
inbound_order_line_url	string	No	URL to access inbound order line record in source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.
source_event_id	string	No	ID of the event created in the source system.
source	string	No	Source of data.

Column	Data type	Required	Description
sap_lips__vbeln	string	No	Delivery Number. Predicate key for SAP mapping. Upsert key for VTTP, LIKP.
sap_vttp__tknum	string	No	Shipment Number. Predicate key for SAP mapping. Upsert key for VTTK.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
tpartner_id	Organization	trading_partner	id
company_id	Organization	company	id
product_id	Product	product	id
from_site_id	Network	site	id
product_group_id	Product	product_hierarchy	id
order_id	Inbound	inbound_order	id

Column	Category	FK/Data entity	FK/Column
reservation_id	Planning	reservation	reservation_id

## inbound\_order\_line\_schedule


### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
inbound_order_line_schedule	id, order_id, order_line_id, product_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes <sup>1</sup>	Order line ID. The value must be unique.
order_id <sup>2</sup>	string	Yes <sup>1</sup>	ID of parent order.
order_line_id <sup>2</sup>	string	Yes	ID of parent order line.
company_id <sup>2</sup>	string	No	Company ID.
status	string	No	Status of line, for example, submitted, or confirmed. The following are the reserved

Column	Data type	Required	Description
			<p>values for AWS Supply Chain.</p> <ul style="list-style-type: none"> <li>• Can celled - Populated in SAP mapping. Also used for deleted.</li> <li>• Open - Not populated in SAP mapping.</li> <li>• Closed - Not populated in SAP mapping.</li> <li>• InTransit - Not populated in SAP mapping.</li> <li>• Confirmed - Not populated in SAP mapping.</li> </ul> <div style="border: 1px solid #add8e6; border-radius: 10px; padding: 10px; margin-top: 20px;"> <p> <b>Note</b></p> <p>Null is also an accepted value, or you can enter your own value.</p> </div>

Column	Data type	Required	Description
schedule_creation_date	timestamp	No	Schedule creation date.
product_id <sup>2</sup>	string	Yes <sup>1</sup>	Product ID.
external_line_number	string	No	External line number.
expected_delivery_date	timestamp	No	Expected delivery date of the products.
confirmation_date	timestamp	No	Date and time when the vendor confirmed the order line schedule, or order.
goods_issue_date	timestamp	No	Date and time when the material was available at origin to ship.
material_availability_date	timestamp	No	Date and time when the material was available at origin to ship.

Column	Data type	Required	Description
ship_date	timestamp	No	Date and time when vendor will ship products in this order-line-schedule.
delivery_date	timestamp	No	Date and time when the vendor can deliver products in this schedule.
quantity_submitted	double	No	Quantity submitted to vendor (POs) or for transfer.
quantity_confirmed	double	No	Quantity confirmed by the vendor.
quantity_received	double	No	Quantity received into inventory at the destination.
sap_lips__vbeln	string	No	Delivery Number. Predicate key for SAP mapping. Upsert key for VTTTP

Column	Data type	Required	Description
sap_vttp__tknum	string	No	Shipment Number. Predicate key for SAP mapping. Upsert key for VTTK
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
product_id	Product	product	id
order_id	Inbound	inbound_order	id
order_line_id	Inbound	inbound_order_line	id

# shipment

## Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
shipment	id, supplier_tpartner_id, product_id, order_id, order_line_id, package_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Shipment ID.
creation_date	timestamp	No	Creation date.
packaging_hierarchy_type	string	No	Information on how the shipment is structured, for example, container, pallet, carton, or pallet.
supplier_tpartner_id <sup>2</sup>	string	Yes <sup>1</sup>	Supplier partner ID of the vendor.
supplier_description	string	No	Partner description.
company_id <sup>2</sup>	string	No	Company ID.



Column	Data type	Required	Description
customer_description	string	No	Customer description.
ship_from_site_id <sup>2</sup>	string	No	Site where this shipment starts from.
ship_from_site_description	string	No	Site description for outbound shipments.
ship_from_site_address_1	string	No	Address of ship-from site.
ship_from_site_address_2	string	No	Address of ship-from site.
ship_from_site_address_city	string	No	Site shipping city.
ship_from_site_address_state	string	No	Site shipping state.
ship_from_site_address_country	string	No	Site shipping country.
ship_from_site_address_zip	string	No	Site shipping postal code.
ship_to_site_id <sup>2</sup>	string	No	Site where this shipment ends.

Column	Data type	Required	Description
ship_to_site_description	string	No	Site description for inbound shipments.
ship_to_site_address_1	string	No	Address of ship-to site.
ship_to_site_address_2	string	No	Address of ship-to site.
ship_to_site_address_city	string	No	Site shipping city.
ship_to_site_address_state	string	No	Site shipping state.
ship_to_site_address_country	string	No	Site shipping country.
ship_to_site_address_zip	string	No	Site shipping postal code.
origin_port	string	No	Port of loading.
destination_port	string	No	Port of destination.
transportation_mode	string	No	Mode of transport.
routing_sequence	string	No	Routing sequence ID from the ASN.

Column	Data type	Required	Description
routing_description	string	No	Routing description.
carrier_id <sup>2</sup>	string	No	ID of the carrier.
carrier_description	string	No	Carrier description.
service_level	string	No	Service level of shipment.
transportation_id	string	No	Vessel code or trailer number.
transportation_description	string	No	Vessel description.
conveyance_id	string	No	Trip number.
bill_of_lading_number	string	No	Bill of lading number.
master_bill_of_lading_number	string	No	Master bill of lading number.
carrier_reference_number	string	No	Carrier reference number.
shipper_reference_number	string	No	Shipper reference number.

Column	Data type	Required	Description
equipment_code	string	No	Equipment code.
equipment_number	string	No	Equipment number.
seal_number	string	No	Seal number.
equipment_type	string	No	Type of equipment.
package_type	string	No	Type of package.
package_quantity	double	No	Quantity of the package.
weight_qualifier	string	No	Code specifying the type of weight in EDI, for example, consolidated weight.
weight	double	No	Weight of the product.
weight_uom	string	No	Weight UOM of the product.
shipment_status	string	No	Status of the shipment.

Column	Data type	Required	Description
planned_ship_date	timestamp	No	Planned shipping date.
actual_ship_date	timestamp	No	Actual shipping date.
planned_delivery_date	timestamp	No	Planned delivery date.
actual_delivery_date	timestamp	No	Actual delivery date.
carrier_eta_date	timestamp	No	ETA date from the carrier.
latest_milestone	string	No	Text or string field required to capture event or status related to the milestone_date, for example, arrived at consolidation center.
latest_milestone_date	timestamp	No	Latest milestone date.

Column	Data type	Required	Description
incoterms	string	No	Three letter incoterm code.
line_id	string	No	Shipment line ID.
product_id <sup>2</sup>	string	Yes	Product ID.
product_description	string	No	Product description.
tp_product_id	string	No	Trading partner product ID.
upc	string	No	UPC
units_shipped	double	No	Units shipped.
uom	string	No	UOM.
hts_code	string	No	Harmonized Tariff Schedule code.
order_id <sup>2</sup>	string	Yes <sup>1</sup>	Order ID.
order_type	string	No	Order type.
order_customer_tpartner_id	string	No	Customer ID of the order.
order_supplier_tpartner_id	string	No	Supplier ID of the order.

Column	Data type	Required	Description
order_line_id <sup>2</sup>	string	Yes <sup>1</sup>	Order line ID.
ship_to_site <sup>2</sup>	string	No	Final ship to location.
package_id	string	Yes <sup>1</sup>	Package ID.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.
source_event_id	string	No	ID of the event created in the source system.
source	string	No	Source of data.
volume	double	No	Volume of the shipment.
volume_uom	string	No	Volume unit of measurement of the shipment.

Column	Data type	Required	Description
sap_vttp__vbeln	string	No	Delivery Number. Predicate key for SAP mapping. Upsert key for LIKP, LIPS.
sap_but021_fs__addrnumber	string	No	Address Number. Predicate key for ADRC (for Ship-to Address).
sap_t001w__adrnr	string	No	Address Number. Predicate key for SAP mapping. Upsert key for ADRC.
sap_vttk__bev1_rpmowa	string	No	Vehicle number. Predicate key for SAP mapping. Upsert key for Equi.



Column	Data type	Required	Description
units_received	double	No	Represent the received quantity for a shipment for users who track receipts at a shipment level.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
supplier_tpartner_id	Organization	trading_partner	id
company_id	Organization	company	id
ship_from_site_id, ship_to_site_id, ship_to_site	Network	site	id
product_id	Product	product	id
order_id	Inbound	inbound_order	id
order_line_id	Inbound	inbound_order_line	id

## shipment\_stop

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
shipment_stop	shipment_stop_id, shipment_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
shipment_stop_id	string	Yes	Shipment stop ID.
shipment_id <sup>1</sup>	string	Yes	Shipment ID.
sequence	int	No	Sequence of the shipment.
company_id <sup>1</sup>	string	No	Company ID.
site_id <sup>1</sup>	string	No	Site ID.
planned_arrival_start_dttm	timestamp	No	Planned start date and time for the shipment arrival.
planned_arrival_end_dttm	timestamp	No	Planned end date and time for the shipments arrival.

Column	Data type	Required	Description
planned_departure_start_dttm	timestamp	No	Planned start date and time for the shipment departure.
planned_departure_end_dttm	timestamp	No	Planned end date and time for the shipment departure.
actual_arrival_start_dttm	timestamp	No	Actual start date and time for the shipment arrival.
actual_arrival_end_dttm	timestamp	No	Actual end date and time for the shipments arrival.
actual_departure_start_dttm	timestamp	No	Actual start date and time for the shipment departure.
actual_departure_end_dttm	timestamp	No	Actual end date and time for the shipment departure.

Column	Data type	Required	Description
appointment_number	string	No	Appointment number.
<div style="border: 1px solid #0070C0; border-radius: 10px; padding: 10px; background-color: #E6F2FF;"> <p><b>Note</b></p> <p>AWS Supply Chain web application will display this column as <i>appointment_number</i>.</p> </div>			
delivery_number	string	No	Delivery number of the shipment.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
site_id	Network	site	id

Column	Category	FK/Data entity	FK/Column
shipment_id	Inbound	shipment	id

## shipment\_stop\_order

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
shipment_stop_order	shipment_stop_order_id, shipment_stop_id, shipment_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
shipment_stop_order_id	string	Yes	Shipment stop order ID.
shipment_stop_id <sup>1</sup>	string	Yes	Shipment stop ID.
shipment_id <sup>1</sup>	string	Yes	Shipment ID.
company_id <sup>1</sup>	string	No	Company ID.
site_id <sup>1</sup>	string	No	Site ID.
inbound_order_id <sup>1</sup>	string	No	Inbound order ID.
inbound_order_line_id <sup>1</sup>	string	No	Inbound order line ID.

Column	Data type	Required	Description
inbound_order_line_schedule_id <sup>1</sup>	string	No	Inbound order line schedule ID.
action	string	No	Pickup or drop off shipment.
quantity	double	No	Quantity associated with action and order.
quantity_uom	string	No	Quantity UOM of the shipment.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
site_id	Network	site	id
shipment_id	Inbound	shipment	id
shipment_stop_id	Inbound	shipment_stop	shipment_stop_id
inbound_order_id	Inbound	inbound_order_line	order_id
inbound_order_line_id	Inbound	inbound_order_line	id
inbound_order_line_schedule_id	Inbound	inbound_order_line_schedule	id

## shipment\_lot

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
shipment_lot	id, product_id, tpartner_id, order_id, shipment_id, order_line_id, package_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Shipment ID. Unique shipment identifier.

Column	Data type	Required	Description
product_id <sup>2</sup>	string	Yes	Product ID. Unique product identifier.
serial_number	string	No	Unique serial number assigned to the lot. Serial numbers are often used for tracking and traceability purposes, particularly in industries where lot-level tracking is crucial.
lot_qty	double	Yes	Quantity or number of units within the specific lot. It allows you to track the size or volume of each lot.
mfg_date	timestamp	No	Manufacturing date.
expiry_date	timestamp	No	Expiry date.



Column	Data type	Required	Description
tpartner_id <sup>2</sup>	string	No <sup>1</sup>	Partner that is sending the shipment. For example, shipments generated under POs, this will be vendors.
order_id	string	No <sup>1</sup>	Order ID.
shipment_id <sup>2</sup>	string	Yes <sup>1</sup>	Shipment ID. Unique shipment identifier.
order_line_id <sup>2</sup>	string	No <sup>1</sup>	Order line ID.
package_id <sup>2</sup>	string	No <sup>1</sup>	Package ID. One shipment can have multiple packages in EDI.
source_event_id	string	No	ID of the event created in the source system.

Column	Data type	Required	Description
source_update_dttm	timestamp	No	Date timestamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
product_id	Inbound	shipment	product_id
tpartner_id	Inbound	shipment	supplier_tpartner_id
order_id	Inbound	shipment	order_id
shipment_id	Inbound	shipment	id
order_line_id	Inbound	shipment	order_line_id
package_id	Inbound	shipment	package_id

## Outbound fulfillment

This section lists the data entities within the outbound fulfillment category.

### Topics

- [outbound\\_order\\_line](#)
- [outbound\\_shipment](#)

## outbound\_order\_line

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
outbound_order_line	id,cust_order_id, product_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes <sup>1</sup>	Outbound order line ID.
cust_order_id	string	Yes <sup>1</sup>	Outbound order ID.
company_id <sup>2</sup>	string	No	Company ID.
order_date	timestamp	No	Date and time when customer order was placed.
product_id <sup>2</sup>	string	Yes <sup>1</sup>	Product ID.
product_group_id <sup>2</sup>	string	No	Product group ID.

Column	Data type	Required	Description
customer_tpartner_id <sup>2</sup>	string	No	Trading partner ID for customer.
status	string	No	Status of the customer order.
init_quantity_requested	double	No	Original order quantity.
final_quantity_requested	double	No	Final quantity after any cancellations or changes.
quantity_uom	string	No	Quantity unit of measure for the order line.
requested_delivery_date	timestamp	No	Requested delivery date for order line.
promised_delivery_date	timestamp	No	Delivery date promised for order lines.
actual_delivery_date	timestamp	No	Actual delivery date for order line.

Column	Data type	Required	Description
list_price	double	No	List price for product in order lines..
sold_price	double	No	Selling price for product in order line, after any promotions, price changes, discounts, and so on.
discount	double	No	Discount applied for order line for this product.
discount_code	string	No	Discount code used on order line.
currency_uom	string	No	UUOM for currency.
tax	double	No	Tax amount for order line.
incoterm1	string	No	Place of ownership transfer.
incoterm2	string	No	Place of ownership transfer.

Column	Data type	Required	Description
ship_from_site_id <sup>2</sup>	string	No	Site ID where the product is shipped from.
ship_to_site_id <sup>2</sup>	string	No	Site ID where the product is shipped to.
ship_to_site_address_1	string	No	Address of ship-to site.
ship_to_site_address_2	string	No	Address of ship-to site.
ship_to_site_address_city	string	No	City of ship-to site.
ship_to_site_address_state	string	No	State of ship-to site.
ship_to_site_address_country	string	No	Country of ship-to site.
ship_to_site_address_zip	string	No	Postal code of ship-to site.
availability_status	string	No	In-stock availability status of the product at the time of order.

Column	Data type	Required	Description
quantity_promised	double	No	Quantity promised on order line.
quantity_delivered	double	No	Quantity delivered against this order line.
channel_id	string	No	Channel ID that was used to place this order.
sap_2lis_11_vahdr__vbeln	string	No	Reference document number. Predicate key for SAP mapping. Upsert key for VEDA.
sap_2lis_11_vaitm__kunnr	string	No	Sold to party. Predicate key for SAP mapping. Upsert key for OCUST_SALES_ATTR.

Column	Data type	Required	Description
sap_2lis_11_vaitm__vkorg	string	No	Sales organization. Predicate key for SAP mapping. Upsert key for OCUST_SALES_ATTR.
sap_2lis_11_vaitm__vtweg	string	No	Distribution channel. Predicate key for SAP mapping. Upsert key for OCUST_SALES_ATTR.
sap_2lis_11_vaitm__spart	string	No	Division. Predicate key for SAP mapping. Upsert key for OCUST_SALES_ATTR.
sap_2lis_11_vaitm__pkunre	string	No	Bill-to party. Predicate key for SAP mapping.



Column	Data type	Required	Description
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
product_id	Product	product	id
product_group_id	Product	product_hierarchy	id
customer_tpartner_id	Organization	trading_partner	id
ship_from_site_id, ship_to_site_id	Network	site	id

## outbound\_shipment

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
outbound_shipment	id, cust_order_id, cust_order_line_id, product_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes <sup>1</sup>	Outbound shipment ID.
company_id <sup>2</sup>	string	No	Company ID.
cust_order_id <sup>2</sup>	string	Yes <sup>1</sup>	Customer order ID.
cust_order_line_id <sup>2</sup>	string	Yes <sup>1</sup>	Customer order line ID.
product_id <sup>2</sup>	string	Yes <sup>1</sup>	Product ID.
shipped_qty	double	No	Shipment quantity.
cust_shipment_status	string	No	Status of the shipment, for example, canceled, open, closed, or delivered.

Column	Data type	Required	Description
expected_ship_date	timestamp	No	Date product was expected to ship from the company location.
actual_ship_date	timestamp	No	Date product was actually shipped from the company location.
from_site_id <sup>2</sup>	string	No	Site ID where the product is shipped from.
to_site_id <sup>2</sup>	string	No	Destination site ID for outbound shipments.
expected_delivery_date	timestamp	No	Expected delivery date of the products to the customer.
actual_delivery_date	timestamp	No	Displays when the product was actually delivered to the customer.
shipping_cost	double	No	Final shipping cost.

Column	Data type	Required	Description
tracking_number	string	No	Tracking number associated with the shipment.
bill_weight	double	No	Shipped weight of product used for billing.
sap_2lis_08trtlp__vbeln	string	No	Delivery number. Predicate key for SAP mapping. Upsert key for 2LIS_12_VCITM.
sap_2lis_08trtlp__posnr	string	No	Delivery item number. Predicate key for SAP mapping. Upsert key for 2LIS_12_VCITM.
sap_2lis_08trtlp__tknum	string	No	Shipment item number. Predicate key for SAP mapping. Upsert key for 2LIS_08TRTK.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system.

Column	Data type	Required	Description
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.
tpartner_id	string	No	Unique identifier for a trading partner.
service_level	string	No	Focuses on the quality and speed of the shipment. For example, Standard, next day, two-day, expedited, and so on.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
product_id	Product	product	id
cust_order_line_id	OutboundFulfillment	outbound_order_line	id

Column	Category	FK/Data entity	FK/Column
cust_order_id	OutboundFulfillment	outbound_order_line	cust_order_id
from_site_id, to_site_id	Network	site	id
tpartner_id	Organization	trading_partner	id

## Cost management

This section lists the data entities within the cost management category.

### Topics

- [customer\\_cost](#)

### customer\_cost

#### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
customer_cost	cost_id, incurred_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
cost_id	string	Yes <sup>1</sup>	A unique identifier for each cost record associated with an user.

Column	Data type	Required	Description
customer_id <sup>2</sup>	string	Yes	The unique identifier for the user incurring the cost.
incurred_date	timestamp	Yes <sup>1</sup>	The date and time when the cost was incurred. Displays the timestamp of cost.
order_id <sup>2</sup>	string	No	The unique identifier of the user order associated with the cost.
shipment_id <sup>2</sup>	string	No	Unique identifier of the outbound shipment.
cost_type	string	No	Displays the cost type. For example, handling, packing, storage, and shipping.
amount	double	No	The amount of cost incurred by the user.

Column	Data type	Required	Description
amount_uom	string	No	Unit of measure for the amount of cost incurred by the user.
tax 1	string	No	Tax amount incurred by the user.
tax 2	string	No	Tax amount incurred by the user.
tax 3	string	No	Tax amount incurred by the user.
tax_uom	string	No	Unit of measure for the tax amount.
currency_uom	string	No	Unit of measure for the currency.
payment_status	string	No	The status of the payment. For example, Pending Paid.



Column	Data type	Required	Description
incoterm	string	No	A set of internationally recognized rules which define the responsibilities of sellers and buyers in the export transaction. For example, FOB, ExWorks, DDP.
source	string	No	Source of data.
source_event_id	string	No	ID of the event created in the source system. For example, PO receipt, Shipment schedule, and so on.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.
discount_1	double	No	The discount associated for a specific cost ID.
discount_2	double	No	The additional discount associated for a specific cost ID.

Column	Data type	Required	Description
discount_3	double	No	The additional discount associated for a specific cost ID.
online_order_id	string	No	Unique identifier for the order line.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED and the default value for *timestamp* date type value is 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
customer_id	Organization	trading_partner	id
order_id	Outbound fulfillment	outbound_order_line	id
shipment_id	Outbound fulfillment	outbound_shipment	id
order_line_id	Outbound fulfillment	outbound_order_line	id

## Plan

This section lists the data entities within the plan category.

### Topics

- [supply\\_plan](#)

## supply\_plan

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
supply_plan	supply_plan_id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
supply_plan_id	string	Yes	Supply plan ID.
company_id <sup>1</sup>	string	No	Company ID.
plan_uuid	string	No	Unique plan identifier generated by the application. To be only used if this ID is separate from supply_plan_id.
snapshot_date	timestamp	No	Date and time till when data is collected.
creation_date	timestamp	No	Date and time till when plan was created.
status	string	No	Supply plan status.

Column	Data type	Required	Description
<code>tpartner_id<sup>1</sup></code>	string	No	Trading partner ID. For example, contract Manufacturer, or supplier in n-tier network.
<code>product_id<sup>1</sup></code>	string	No	Product ID.
<code>product_group_id<sup>1</sup></code>	string	No	Product group ID.
<code>to_site_id<sup>1</sup></code>	string	No	Site where the order will arrive.
<code>from_site_id<sup>1</sup></code>	string	No	Site where order line originates.
<code>plan_need_by_date</code>	timestamp	No	Future date and time by when supply is needed at <i>to_site_id</i> .
<code>plan_quantity</code>	double	No	Planned quantity
<code>commit_date</code>	timestamp	No	Date committed by <code>tpartner</code> against the <code>plan_date</code> .
<code>commit_quantity</code>	double	No	Quantity committed by <code>tpartner</code> .

Column	Data type	Required	Description
supply_upside	double	No	Upside capacity published by the supplier.
plan_type	string	No	Type of plan. For example, Forecast Commit, Supplier Plan.
plan_window_start	timestamp	No	If plan corresponds to a planning bucket or window in application, this field stores the start of the planning window.
plan_window_end	timestamp	No	If plan corresponds to a planning bucket or window in application, this field stores the end of the planning window.
source	string	No	Source of data.
production_process_id <sup>1</sup>	string	No	ID associated with a specific production process.

Column	Data type	Required	Description
plan_cycle_sequence	double	No	Sequence number of the plan cycle for a particular order.
quantity_uom	string	No	UOM associated with the quantity.
plan_id	string	No	Recurring plan that covers multiple supply plan records.
plan_sequence_id	string	No	Unique identifier or sequence number assigned to each individual supply plan or supply plan version.

Column	Data type	Required	Description
plan_cost	double	No	Estimated or projected cost associated with a particular supply plan. This cost includes various factors such as raw material costs, labor costs, transportation costs, storage costs, and any other relevant expenses involved in executing the supply plan. It provides a financial measure to assess the viability and feasibility of the planned supply activities.
required_date	timestamp	No	Date when you are required to execute a plan under a specific supply_plan generated by supply planning.

Column	Data type	Required	Description
production_process_id	string	No	ID associated with a specific production process.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.
total_supply_quantity	double	No	The total supply expected to be delivered on the plan_need_by_date.
projected_inventory_level	double	No	Inventory quantity projected based on the plan_need_by_date.
target_inventory_level	double	No	The target inventory level on the required_date.

<sup>1</sup>Foreign key

## Foreign key (FK)



The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
product_id	Product	product	id
status	Organization	trading_partner	id
product_group_id	Product	product_hierarchy	id
to_site_id, from_site_id	Network	site	id
production_process_id	Operation	production_process	production_process_id

## Forecast

This section lists the data entities within the forecast category.

### Topics

- [supplementary\\_time\\_series](#)
- [forecast](#)

## supplementary\_time\_series

### Note

If you cannot locate the `supplementary_time_series` data entity, your instance might be using an older data model version. You can contact AWS Support to upgrade your data model version or create a new data connection.

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
forecast_supplementary_time_series	id

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
id	string	Yes	Unique identifier with each supplementary data entry.
product_id <sup>2</sup>	string	No	Unique identifier for a specific product. Corresponds to product_id in the outbound_order_line dataset.
product_group_id	string	No	Product hierarchy or grouping.
order_date	timestamp	Yes <sup>1</sup>	The timestamp indicating the date and time when the date for the respective time-series was recorded.
channel_id	string	No	Unique identifier for a specific product.

Column	Data type	Required	Description
			Corresponds to <code>product_id</code> in the <code>outbound_order_line</code> dataset.
<code>customer_tpartner_id</code> <sup>2</sup>	string	No	Unique identifier for a specific user. Corresponds to <code>customer_tpartner_id</code> field in <code>outbound_order_line</code> dataset.
<code>site_id</code> <sup>2</sup>	string	No	Unique identifier for a specific site or location.
<code>ship_to_site_id</code> <sup>2</sup>	string	No	Unique identifier for a specific site or location. This corresponds to the <code>ship_to_site_id</code> in the <code>outbound_order_line</code> dataset.
<code>ship_to_site_address_zip</code>	string	No	Postal code of <code>ship_to_site_id</code> .
<code>geo_id</code> <sup>2</sup>	string	No	Geographical hierarchy ID.

Column	Data type	Required	Description
ship_from_site_id <sup>2</sup>	string	No	Corresponds to the <i>ship_from_site_id</i> in the <i>outbound_order_line</i> dataset.
ship_from_site_address_zip	string	No	Postal code of <i>ship_from_site_id</i> .
time_series_name	string	Yes	The <i>time_series_name</i> must start with a letter, should be 2 to 56 characters long, and can contain letters, numbers, and underscores. No other special characters are allowed.

Column	Data type	Required	Description
time_series_value	string	Yes	Value corresponding to the specific time series. This could represent quantities, metric, or string that is relevant to the type of the data. Demand planning only supports numerical value as additional forecast input.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
product_id	Product	product	id
site_id	Network	site	id
customer_tpartner_id	Organization	trading_partner	id
ship_to_site_id	Outbound fulfilment	outbound_order_line	ship_to_site_id
geo_id	Organization	geography	id
ship_from_site_id	Outbound fulfilment	outbound_order_line	ship_from_site_id

## forecast

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
forecast	snapshot_date, product_id, site_id, region_id, product_group_id, forecast_start_dttm, forecast_end_dttm

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
snapshot_date	timestamp	Yes	Date up to when data was captured to generate forecasts.

Column	Data type	Required	Description
creation_date	timestamp	No	Date when a forecast was created.
company_id <sup>2</sup>	string	No	Company ID.
product_id <sup>2</sup>	string	Yes <sup>1</sup>	Product or product group level for the forecast.
site_id <sup>2</sup>	string	Yes <sup>1</sup>	Site ID that the forecast is generated for .
source	string	No	Source of the data.
region_id <sup>2</sup>	string	Yes <sup>1</sup>	Geographical region ID.
product_group_id <sup>2</sup>	string	Yes <sup>1</sup>	Product group ID.
reg_agg_type	string	No	Type of regional aggregation.
mean	double	No	Mean value of forecast.
p10	double	No	P10 quantile of forecast.
p20	double	No	P20 quantile of forecast.

Column	Data type	Required	Description
p30	double	No	P30 quantile of forecast.
p40	double	No	P40 quantile of forecast.
p50	double	No	P50 quantile of forecast.
p60	double	No	P60 quantile of forecast.
p70	double	No	P70 quantile of forecast.
p80	double	No	P80 quantile of forecast.
p90	double	No	P90 quantile of forecast.
forecast_start_dttm	timestamp	Yes	Forecast start date and time.
forecast_end_dttm	timestamp	Yes	Forecast end date and time.
default_price	double	No	Default MSRP of the product that is forecast.
forecast_price	double	No	Price at which the ASIN was forecast to be sold.



Column	Data type	Required	Description
num_casuals	int	No	Number of casuals applied to forecast.
causal_start	timestamp	No	Start date of causal.
causal_end	timestamp	No	End date of causal.
user_override	double	No	User override of forecast quantity.
user_id	string	No	ID of the user that overrode the forecast.
act_qty	double	No	Actual order quantity sold in the forecast period.
channel_id	string	No	Unique identifier for a specific channel. Corresponds to channel_id in the outbound_order_line dataset.
tpartner_id <sup>2</sup>	string	No	Tpartner ID.

Column	Data type	Required	Description
user_override_p10	double	No	Override value for the P10 quantile of forecast.
user_override_p20	double	No	Override value for the P20 quantile of forecast.
user_override_p30	double	No	Override value for the P30 quantile of forecast.
user_override_p40	double	No	Override value for the P40 quantile of forecast.
user_override_p50	double	No	Override value for the P50 quantile of forecast.
user_override_p60	double	No	Override value for the P60 quantile of forecast.
user_override_p70	double	No	Override value for the P70 quantile of forecast.

Column	Data type	Required	Description
user_override_p80	double	No	Override value for the P80 quantile of forecast.
user_override_p90	double	No	Override value for the P90 quantile of forecast.
postal_code	string	No	Trading partner's postal code.
tpartner_type	string	No	Trading partner type.
quantity_uom	string	No	Quantity unit of measure.
demand_plan_id	string	No	Demand plan ID.
plan_sequence_id	string	No	Unique identifier or sequence number assigned to each individual demand plan or demand plan version.
plan_type	string	No	Type of forecast or plan.

Column	Data type	Required	Description
plan_window_start	timestamp	No	If plan corresponds to a planning bucket or window in application, this field stores the start of the planning window.
plan_window_end	timestamp	No	If plan corresponds to a planning bucket or window in application, this field stores the end of the planning window.
ship_to_site_id	string	No	Site to which an order is shipped.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

Column	Data type	Required	Description
status	string	No	Status defining whether the plan generated in demand planning was created, saved, or published.
plan_name	string	No	Represents the name of the demand plan associated with the forecast

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id
product_id	Product	product	id
region_id	Organization	geography	id
product_group_id	Product	product_hierarchy	id
site_id	Network	site	id
tpartner_id	Organization	trading_partner	id

Column	Category	FK/Data entity	FK/Column
ship_to_site_id	Outbound	outbound_order_line	ship_to_site_id

## Reference

This section lists the data entities within the reference category.

### Topics

- [reference\\_field](#)
- [calendar](#)
- [uom\\_conversion](#)

## reference\_field

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
reference_field	object_name, object_field, object_field_value, object_field_desc

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
company_id <sup>2</sup>	string	No	Company ID.
object_name	string	Yes <sup>1</sup>	For example, sites, or transportation lanes.

Column	Data type	Required	Description
object_field	string	Yes <sup>1</sup>	For example, site_type, or trans_mode.
object_field_value	string	Yes <sup>1</sup>	For example, site_type:01, or trans_mode:01.
object_field_desc	string	Yes <sup>1</sup>	For example, site_type:01:DC, or trans_mode:01:Surface.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *string* is SCN\_RESERVED\_NO\_VALUE\_PROVIDED.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id

## calendar

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
calendar	calendar_id, date, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
calendar_id	string	Yes <sup>1</sup>	Calendar ID.
company_id <sup>2</sup>	string	No	Company ID.
name	string	No	Calendar name.
calendar_type	string	No	Type of Calender, based on customer data.
description	string	No	Calendar description.
date	timestamp	Yes	Date associated with each calendar record.
year	int	Yes	Calendar year.
day	int	Yes	Calendar day.
week	int	Yes	Calendar week.
month	int	Yes	Calendar month.
is_working	string	No	Boolean value that checks if the date is working.
is_holiday	string	No	Boolean value that checks if this date is a holiday.
eff_start_date	timestamp	Yes <sup>1</sup>	Effective start date of the calendar.
eff_end_date	timestamp	Yes <sup>1</sup>	Effective end date of the calendar.



Column	Data type	Required	Description
source	string	No	Source of data.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default values for string and timestamp date type values are SCN\_RESERVED\_NO\_VALUE\_PROVIDED for *string*; and for *timestamp*, 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id

## uom\_conversion

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
uom_conversion	uom, conversion_uom_id, eff_start_date, eff_end_date

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
uom	string	Yes	Unit of measure (UOM). For example, weight_uom, currency_uom.
company_id <sup>2</sup>	string	No	Company ID.
uom_code	string	No	Alternate code for UOM.
uom_description	string	No	UOM description.
uom_type	string	No	UOM type, for example, currency, weight, volume, or unit.
conversion_uom_id	string	Yes	UOM ID for conversion.
conversion_factor	double	Yes	Conversion factor.
eff_start_date	timestamp	Yes <sup>1</sup>	Effective start date and time.
eff_end_date	timestamp	Yes <sup>1</sup>	Effective end date and time.
source	string	No	Source of data.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>You must enter a value. When you ingest data from SAP or EDI, the default value for *timestamp* date type value is 1900-01-01 00:00:00 for start date, and 9999-12-31 23:59:59 for end date.

<sup>2</sup>Foreign key

### Foreign key (FK)

The table below lists the column names with the associated data entity and category:

Column	Category	FK/Data entity	FK/Column
company_id	Organization	company	id

## Insights

This section lists the data entities within the Insights category.

### Topics

- [work\\_order\\_plan](#)

## work\_order\_plan

### Primary key (PK)

The table below lists the column names that are uniquely identified in the data entity.

Name	Column
work_order_plan	process_id, product_id, business_process_id, business_process_sequence

The table below lists the column names supported by the data entity:

Column	Data type	Required	Description
process_id <sup>1</sup>	string	Yes	Work order ID.

Column	Data type	Required	Description
process_product_id	string	No	ID associated with the process and product.
preferred_source	string	No	Describes if the product is sourced from inventory (that is, stocked to forecasted) or from direct purchase (for non-stocked products).
product_id	string	Yes	Product ID (material) in the work order.
business_process_id	string	Yes	Business process identifier. For example, PO, PR, RFQ and so on. Product ID (material) in the work order. The plan should include both the purchasing and distribution business processes.
site_id	string	No	The site linked to the business process. This field is optional for purchasing process and mandatory for distribution related processes.

Column	Data type	Required	Description
business_process_sequence	int	Yes	Business process sequence.
duration	int	Yes	Unit in days.
notes	string	No	Additional notes on work order plan.
flex_1	string	No	Plan flexible field 1.
flex_2	string	No	Plan flexible field 2.
flex_3	string	No	Plan flexible field 3.
flex_4	string	No	Plan flexible field 4.
flex_5	string	No	Plan flexible field 5.
source_event_id	string	No	ID of the event created in the source system.
source_update_dttm	timestamp	No	Date time stamp of the update made in the source system.

<sup>1</sup>Foreign key

### Foreign key (FK)

The table below lists the columns with the associated foreign key.

Column	Category	FK/Data entity	FK/Column
process_id	Insights	process_header	id

# Get support for AWS Supply Chain

If you are an administrator and need to contact support for AWS Supply Chain, choose one of the following options:

- If you have an Support account, go to [Support Center](#) and submit a ticket.
- Open the [AWS Management Console](#) and choose **AWS Supply Chain, Support, Create case**.

It's helpful to provide the following information:

- Your AWS Supply Chain instance ID/ARN.
- Your AWS Region.
- A detailed description of your issue.

# Document history

The following table describes the documentation releases for AWS Supply Chain.

Change	Description	Date
<a href="#">Amazon Q in AWS Supply Chain</a>	You can use Amazon Q in AWS Supply Chain an interactive generative artificial intelligence (GenAI) assistant to operate your supply chain more efficiently.	November 10, 2024
<a href="#">Demand Planning updates</a>	Demand Planning introduces two new features, a new self-service tool called <i>Forecast model analyzer</i> and Forecast lock. There are also updates on how accuracy metrics is calculated.	August 20, 2024
<a href="#">Region updates</a>	Demand Planning and Supply Planning are supported in Europe (Ireland) Region.	August 12, 2024
<a href="#">Sustainability updates</a>	Added information on how to create and send Emission data request forms to partners.	July 22, 2024
<a href="#">Work order insights update</a>	Added a new Troubleshooting topic and added information on the data entities used to display user interface column values for work orders, procurement, and logistics.	July 8, 2024
<a href="#">Supply Planning configuration update</a>	You can carry over the unmet demand from the current	July 1, 2024

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	time period to the next time period.	
<a href="#">Organization Labels</a>	You can customize the work order labels.	April 30, 2024
<a href="#">Forecast validation in Demand Planning</a>	Demand Planning will monitor and update you on the forecast quality or accuracy.	April 29, 2024
<a href="#">Auto-association in Data lake</a>	You can use the AWS Supply Chain auto-association feature to upload your raw data and automatically associate your raw data with AWS Supply Chain data model.	March 27, 2024
<a href="#">Multi-factor authentication</a>	As a Sustainability partner, you can use multi-factor authentication to enhance your account security.	March 20, 2024
<a href="#">Configuring work order insights</a>	As an administrator, you can create multiple processes and milestones to track your work orders.	March 4, 2024
<a href="#">Forecasts based on demand drivers in Demand Planning</a>	To enhance forecast accuracy while configuring your forecast, you can use demand drivers.	February 22, 2024



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<a href="#">Sustainability</a>	Using Sustainability, you can request data from your partners who have accepted your invitation to join your network.	January 15, 2024
<a href="#">Supply Planning</a>	You can use Supply Planning to help accurately plan inventory to meet the demand.	January 15, 2024
<a href="#">N-Tier Visibility</a>	N-Tier Visibility enables you to share component level forecasts generated from a supply plan, with your trading partners and get their supply commitments.	January 15, 2024
<a href="#">Work Order Insights</a>	You can use the <i>Work Order Insights</i> to view the work orders for materials as they flow through your supply chain process and identify work orders with risks, resolve issues, or provide recommendations to increase the efficiency of the overall supply chain process.	November 8, 2023
<a href="#">Demand Planning updates</a>	Added information on <i>Product lifecycle</i> in the Demand Planning chapter.	October 31, 2023
<a href="#">Updated data entities used by Insights</a>	Consolidated all the required and optional data entities used by Insights in one table.	October 25, 2023

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<a href="#">Demand Planning updates</a>	Added information on <i>Product lineage</i> in the Demand Planning chapter.	October 2, 2023
<a href="#">Updated information on regions support</a>	Demand Planning is now also supported in Asia Pacific (Sydney) Region.	September 12, 2023
<a href="#">Demand Planning updates</a>	Added information on <i>Overall Influence Factors</i> and <i>Accuracy Metrics</i> in the Demand Planning chapter.	August 18, 2023
<a href="#">Demand Planning updates</a>	Updated the Demand Planning chapter to match the new Demand Planning user interface.	July 24, 2023
<a href="#">Updated information on regions support</a>	AWS Supply Chain is now also supported in Asia Pacific (Sydney) Region, and Europe (Ireland) Region Regions but AWS Supply Chain Demand Planning is not supported on these two new regions.	July 19, 2023
<a href="#">General availability release</a>	Added a chapter on data entities supported in AWS Supply Chain and updated the configuring to S/4 HANA and ECC sections.	April 3, 2023
<a href="#">Initial release</a>	Initial release of the AWS Supply Chain User Guide	November 29, 2022