



# Inventory Replenishment

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ERP Implementation

# Timing and Agenda

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**March 28, 2023 -10:00-11:00 AM**

**Day 1**

**Lesson 1: Configuring Replenishment for Stock Items**

**March 29, 2023 -10:00-11:00 AM**

**Day 2**

**Lesson 2: Replenishing Inventory Through Transfers**

**Lesson 3: Replenishing Inventory Through Purchases**

**Lesson 4: Replenishing Inventory Through a Distribution Center**

Day 1

# Lesson 1: Configuring Replenishment for Stock Items

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## Learning Objectives

In this lesson, you will learn how to do the following:

- Become familiar with the general steps involved in workflow of replenishment configuration
- Learn about replenishment classes and sources
- Develop an understanding of the tasks that must be performed for automated calculation of replenishment parameters
- Become familiar with replenishment methods and their parameters
- Learn about the Acumatica ERP Moving Average demand forecast model
- Configure replenishment for a stock item in a particular warehouse
- Set up the calculation of replenishment parameters for a stock item that requires replenishment in a particular warehouse

# General Steps of the Replenishment Configuration

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- You create replenishment classes.
- You can create seasonality.
- You specify the default replenishment class for each warehouse that is involved in replenishment.
- You specify the default replenishment settings for each item class whose items will be replenished.
- You update the replenishment settings for each existing stock item for which replenishment will be performed.
- Optional: You calculate the replenishment parameters for a stock item that requires replenishment in a particular warehouse.
- Optional: You apply the calculated replenishment parameters used in automated replenishment to a particular item–warehouse pair.

## General Steps of the Replenishment Configuration, Cont.

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- Optional: You specify the vendors from which the item has been or can be purchased and the replenishment parameters for the item on the Vendors tab of the Stock Items form.
- Optional: You adjust the replenishment settings for item–warehouse pairs.

# Specification of Vendors for a Stock Item

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The Vendors tab of the Stock Items (IN202500) form contains a list of the vendors from which the selected item has been or can be purchased, along with the settings of the item if it is purchased from the vendor. On this tab, you can specify the following vendor-specific replenishment settings for the stock item:

- **Lead Time (Days):** The lead time required to ship the item from the vendor location to the warehouse.
- **Add Lead Time (Days):** The additional lead time required to ship the item from the vendor location to the warehouse.
- **Lot Size:** The lot size in which the item can be purchased from this vendor. If you specify a value, the system rounds up the order quantity for the Min./Max. replenishment method to the next integer.
- **Min Order Freq. (Days):** The minimum order frequency (the minimum number of days between two successive orders).

## Specification of Vendors for a Stock Item , Cont.

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- Min. Order Qty.: The minimum order quantity.
- Max. Order Qty.: The maximum order quantity.
- EOQ: The economic order quantity (EOQ).

# Processing of Replenishment Requests

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Processing of Replenishment Requests In Acumatica ERP, a replenishment request is an internal record that the system creates when you process the stock items on the Prepare Replenishment (IN508000) form. The prepared replenishment requests can then be processed as follows, depending on how you replenish stock items:

- You replenish stock items through purchases: On the Create Purchase Orders form
- You replenish stock items through transfers: On the Create Transfer Orders form
- You replenish stock items through a distribution center: On the Create Transfer Orders form

# Creation of a Replenishment Class

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You create replenishment classes by using the Replenishment Classes (IN208800) form; for each class, you specify its name, description, and replenishment source. As the replenishment source, you can select one of the following options:

- Drop-Shipment
- Manufacturing
- None
- Purchase – Can be used with automatic calculation of replenishment
- Purchase to Order
- Transfer – Can be used with automatic calculation of replenishment

If you want to configure automatic calculation of replenishment parameters, you must use only replenishment classes with the Purchase or Transfer replenishment source.

# Use of Replenishment Classes

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You can specify a replenishment class for the following:

- Any warehouse
- Any item class
- Any stock item
- Any item–warehouse pair

# Configuration of Replenishment: Replenishment Methods

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Acumatica ERP supports replenishment at a fixed quantity and replenishment between the minimum and maximum quantities.

- **Min./Max.:** You use this method to keep the stock level of an item at a particular warehouse between the specified minimum and maximum quantities. If you are using the Moving Average demand forecast model, the system calculates the demand for a specific future period based on historical sales data.
- **Fixed Reorder Qty:** You use this method to replenish the stock of an item with a fixed quantity each time it falls below the reorder point.

# Configuration of Replenishment: Demand Forecast Model

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In Acumatica ERP, you can use the moving average demand forecast model, to calculate the demand for a specific future period based on historical sales data for recent consecutive periods. This demand forecast model works well for items with specific trends in sales or with stable sales that are not subject to random significant fluctuations.

You can specify the moving average model at the following levels:

- At the item class level on the Replenishment tab of the Item Classes form
- At the stock item level on the Replenishment tab of the Stock Items form

# Configuration of Replenishment: Demand Forecast Model

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## Use of the Forecast Model to Predict Demand

The Moving Average forecast model uses the data available for the specified number of past periods to forecast demand for the period immediately following the last period whose data is used in forecasting.

## Setup of the Forecast Model to Predict Demand

You can specify the moving average model at the following levels:

- At the item class level on the Replenishment tab of the Item Classes form
- At the stock item level on the Replenishment tab of the Stock Items form

# Use of the Forecast Model to Predict Demand

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## Automatic Calculation of Replenishment Parameters

By using the calculated average daily demand (daily sales), average lead time, and their standard deviation values, the system computes the reorder point and safety stock used in automated replenishment. The reorder point is calculated according to the following formula.

Reorder Point = (Average Daily Demand) \* (Average Lead Time) + (Safety Stock)

# Use of Seasonality Settings for Forecasting

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The system uses seasonality settings as follows:

- Normalizes the historical data available for the specified seasons. The sales volumes for each day of a season are divided by the appropriate seasonality factor to calculate the sales quantities as though it were a normal season.
- Calculates the average daily sales quantity based on the historical data of the specified number of periods. For seasons within the specified periods, the system uses the normalized data.

# Update of Replenishment Parameters Using Forecast-Based Values

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To calculate and use the updated replenishment parameters based on values from the forecast, you perform the following general steps:

- On the Calculate Replenishment Parameters (IN508500) form, you compute the average daily sales and average lead time, and then calculate the following parameters, which are used in automated replenishment: Max. Qty., Reorder Point, and SafetyStock.
- On the Apply Replenishment Parameters (IN509500) form, you review the calculated parameter values that are based on the forecast. You can then replace the old values of replenishment parameters with the calculated ones or manually adjust the calculated parameters.
- On the Prepare Replenishment (IN508000) form, you review the stock items that need to be replenished and calculate replenishment quantities for these items.
- On the Create Purchase Orders (IN505000) form, you generate purchase orders for items requiring replenishment.

# Exercise!

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Configuration of Replenishment: To Configure Replenishment for an Item– Warehouse Pair

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## Configuration of Replenishment: To Configure Replenishment for an Item– Warehouse Pair

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### Story

Suppose that the SweetLife Service and Equipment Sales Center branch of SweetLife Fruits & Jams company provides repair services and stores the required spare parts for juicers. The branch orders these spare parts directly from vendors and stores them in the EQUIPHOUSE warehouse.

Acting as purchasing manager Matt Parker, you need to configure the replenishment functionality to regularly restock the spare parts that the company uses for juicer maintenance and repair. The branch should have no more than 70 juicing screens in the EQUIPHOUSE warehouse, and purchasing managers should order juicing screens when 30 items or fewer are left in stock. You also need to review the settings that the system will use to calculate the replenishment of the juicing screens in the EQUIPHOUSE warehouse.

# Figure: The settings on the Prepare Replenishment form

Prepare Replenishment TOOLS ▾

↻ ↺ PROCESS PROCESS ALL ↻ ▾ VIEW VENDOR INVENTORY |⇌| ✕ 🔍

\* Warehouse:

\* Purchase Date:

Product Mana...   Me

Product Workg...   My

Only Suggested Items

Vendor:

Item Class ID:

Inventory ID:

Description:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Warehouse	Inventory ID	Description	Qty. To Process	Reorder Point	Max. Qty.	Replenishment Source
>	<input type="checkbox"/>	<input type="checkbox"/>	EQUIPHOUSE	<a href="#">JSCREEN</a>	Juicing screen compatible with pro-series and commercial...	70.00	30.00	70.00	Purchase

## Day 2

# Lesson 2: Replenishing Inventory Through Transfers

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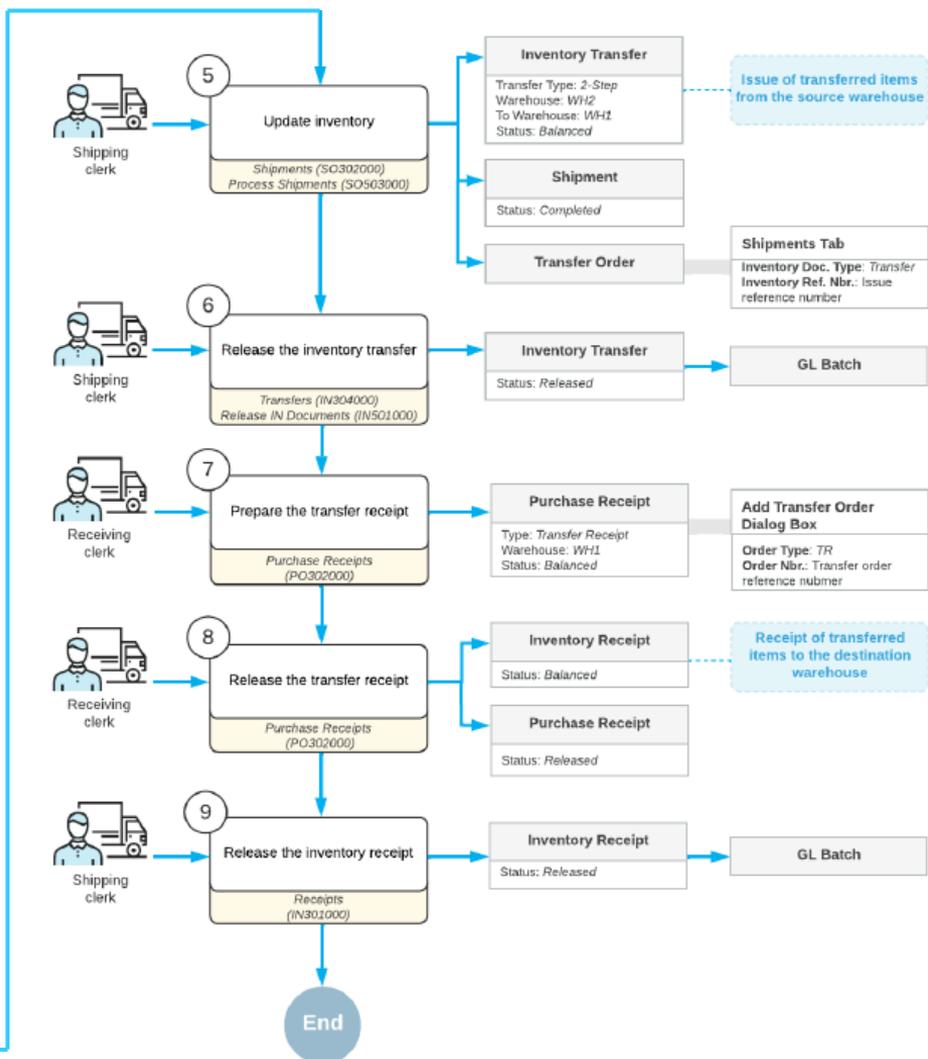
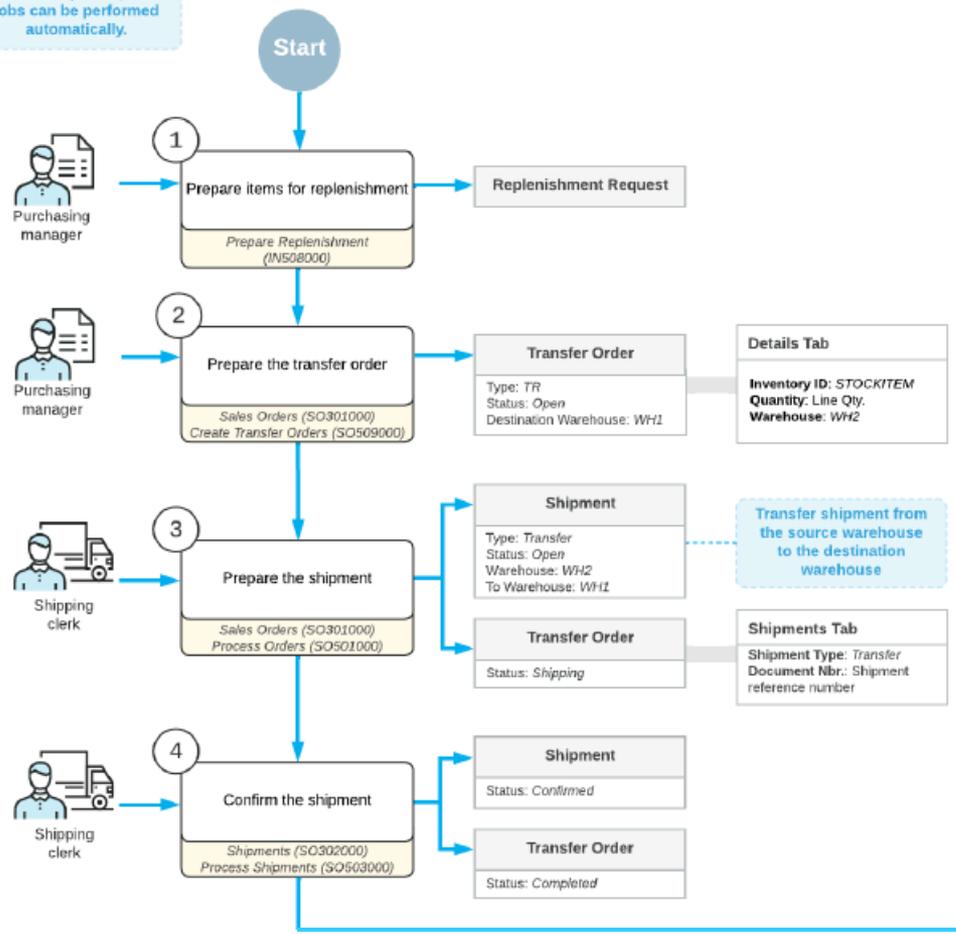
## Learning Objectives

In this lesson, you will learn how to do the following:

- Become familiar with the general workflow of item replenishment through transfers
- Replenish stock by transferring items between warehouses

# Workflow of replenishment through transfers

Job titles may vary across companies; some jobs can be performed automatically.



# Replenishment Through Transfers: Process Activity

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## Story

Suppose that you are Matt Parker, a purchasing manager of the SweetLife Fruits & Jams company. You are going to buy grapefruit for the SweetLife Store branch and refill the stock in the Retail warehouse. In this branch, replenishment is performed by transferring the needed goods from the Wholesale warehouse of the SweetLife Head Office and Wholesale Center branch to the Retail warehouse.

# Figure: The stock item in transit

## Inventory Allocation Details

TOOLS ▾

🔄 ↶ INVENTORY SUMMARY |🔍 ☒ ▾

\* Inventory ID:  On Hand: 0.00  
Warehouse:  Available: -25.00  
Location:  Available for Shipping: 0.00  
Base Unit: LB Available for Issue: 0.00  
On Loc. Not Available: 0.00  
 [\*] Except Location Not Available

ITEM PLANS **QTY BY PLAN TYPE**

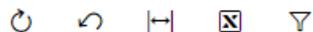
Addition			Deduction		
🔍 ☒	<input type="text" value="All Records"/> ▾		🔍 ☒	<input type="text" value="Deduction Non-Zero Qty"/> ▾	
Plan Type	Quantity	Included	Plan Type	Quantity	Included
Purchase Prepared	0.00	<input type="checkbox"/>	> SO Booked [*]	25.00	<input checked="" type="checkbox"/>
Purchase Orders	0.00	<input type="checkbox"/>	<b>Total Deduction</b>	<b>25.00</b>	<input type="checkbox"/>
PO Receipts	0.00	<input checked="" type="checkbox"/>			
IN Receipts [*]	0.00	<input checked="" type="checkbox"/>			
> In-Transit [*]	125.00	<input type="checkbox"/>			

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## Figure: The stock item received in the RETAIL warehouse

### Inventory Summary

TOOLS ▾



* Inventory ID: <input type="text" value="GRAPEFRUITS - Fresh grape"/>		Warehouse: <input type="text" value="RETAIL - Retail Warehouse"/>						
		Location: <input type="text"/>						
Warehouse	Location	Available	Available for Shipment	SO Booked	SO Allocated	SO Shipped	SO Back Ordered	On Hand
> RETAIL	<UNASSIGNED>	-25.00	0.00	25.00	0.00	0.00	0.00	0.00
RETAIL	MAIN	125.00	125.00	0.00	0.00	0.00	0.00	125.00
<b>Total:</b>		<b>100.00</b>	<b>125.00</b>	<b>25.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>125.00</b>

# Lesson 3: Replenishing Inventory Through Purchases

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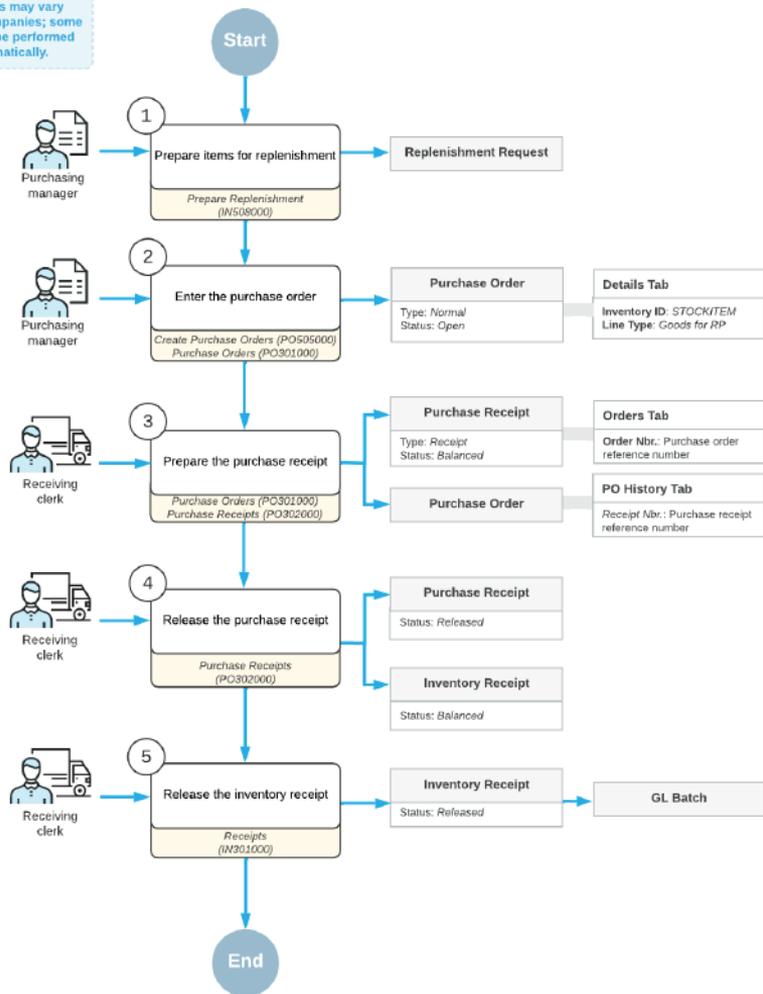
## Learning Objectives

In this lesson, you will learn how to do the following:

- Become familiar with the general workflow of item replenishment through purchases
- Replenish stock by purchasing items from a vendor

# Workflow of replenishment through purchases

Job titles may vary across companies; some jobs can be performed automatically.



# Replenishment Through Purchases: Process Activity

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## Story

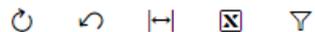
Suppose that you are Matt Parker, a purchasing manager of the SweetLife Fruits & Jams company. As part of your everyday routine, you buy fruits, including kiwis, in the SweetLife Head Office and Wholesale Center branch and refill stock. This branch orders fruit directly from vendors. It is time to buy kiwis when you have 50 pounds or less of the item in the available stock. You need to specify replenishment settings for the item and replenish the item in the Wholesale warehouse.

You replenish kiwis in the WHOLESALE warehouse by purchasing the stock item from a vendor. The KIWIS stock item appears in the list of items for replenishment on the Prepare Replenishment (IN508000) form when you have 50 pounds (which is the base unit of measure for this item) or less of the item in the available stock.

# Figure: The stock items received in the WHOLESALE warehouse

## Inventory Summary

TOOLS ▾



* Inventory ID: <input type="text" value="KIWIS - Fresh kiwis 1 lb"/>		Warehouse: <input type="text" value="WHOLESALE - Wholesale W."/>						
		Location: <input type="text"/>						
Warehouse	Location	Available	Available for Shipment	SO Booked	SO Allocated	SO Shipped	SO Back Ordered	On Hand
> WHOLESALE	MAIN	150.00	150.00	0.00	0.00	0.00	0.00	150.00
<b>Total:</b>		<b>150.00</b>	<b>150.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>150.00</b>

# Lesson 4: Replenishing Inventory Through a Distribution Center

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## Learning Objectives

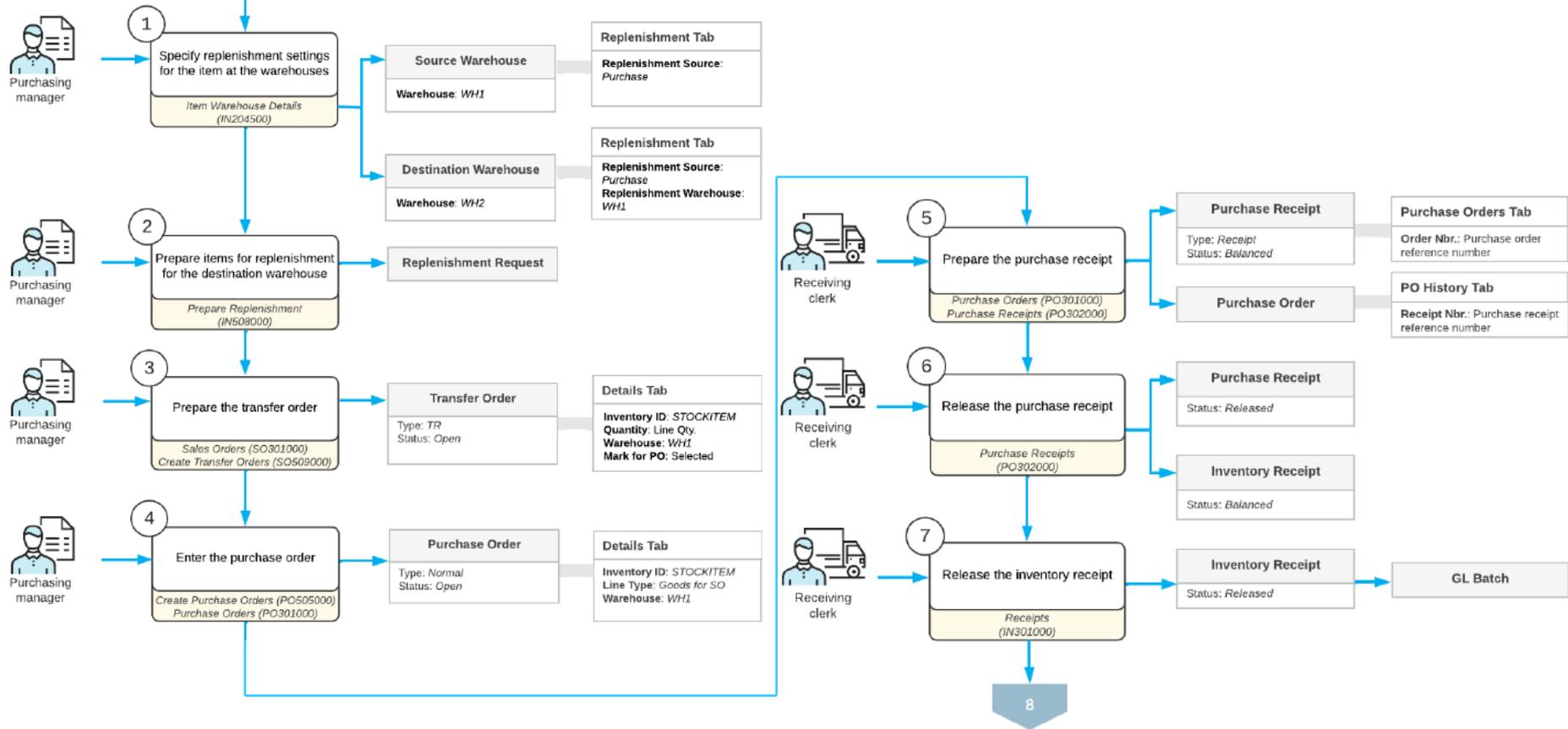
In this lesson, you will learn how to do the following:

- Become familiar with the general workflow of item replenishment through a distribution center
- Replenish stock by transferring items from a distribution center to the destination warehouse

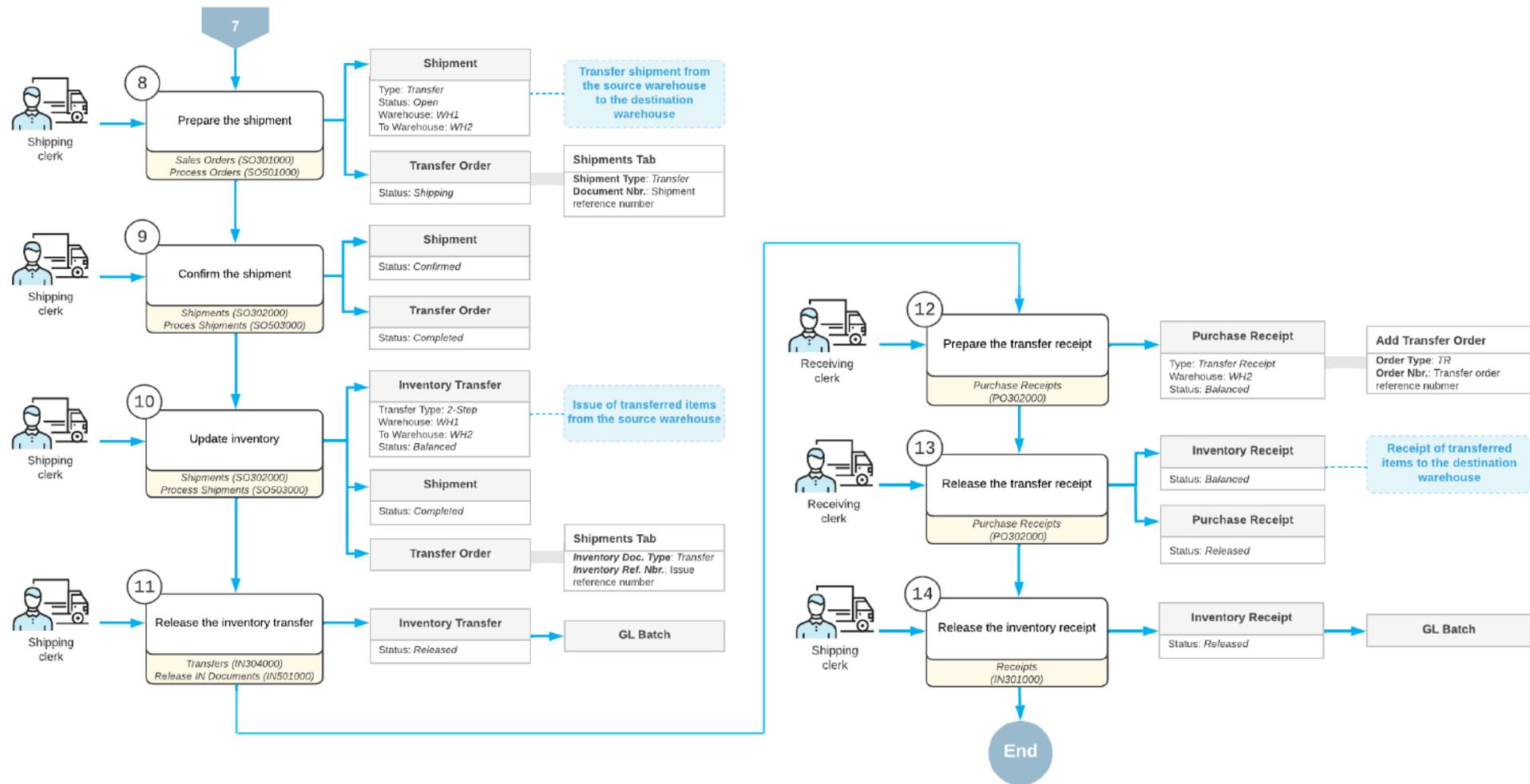
# Workflow of replenishment through a distribution center (part 1)

Job titles may vary across companies; some jobs can be performed automatically.

Start



# Workflow of replenishment through a distribution center (part 2)



# Replenishment Through a Distribution Center: Process Activity

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## Story

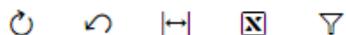
Suppose that you are Matt Parker, a purchasing manager at the SweetLife Fruits & Jams company. The SweetLife Store branch regularly receives small orders for mangoes from a customer. To fill your stock, you order mangoes from the Glory Fruit Case vendor by using the replenishment functionality.

In the SweetLife company, fruits are delivered to the Wholesale warehouse, which serves as a distribution center for the other warehouses. To make sure that mangoes are allocated for the Retail warehouse, you will purchase mangoes to the Wholesale warehouse and then transfer the fruits from the Wholesale warehouse to the Retail warehouse.

## Figure: The stock item received in the RETAIL warehouse

### Inventory Summary

TOOLS ▾



\* Inventory ID:

Warehouse:

Location:

Warehouse	Location	Available	Available for Shipment	SO Booked	SO Allocated	SO Shipped	SO Back Ordered	On Hand
> RETAIL	MAIN	20.00	20.00	0.00	0.00	0.00	0.00	20.00
	<b>Total:</b>	<b>20.00</b>	<b>20.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>20.00</b>



Thank you!

Chris Pelton