Use Case Diagram

Inventory Management System (IMS)

- Warehouse Associate
- Supplier (External)
- Supervisor

- Receive Shipment Against ASN
- Submit ASN
- Validate Received Quantities — <<include>>
- Record Quality Check — <<include>>
- Generate Receiving Exception — <<extend>>
- Auto-Update Inventory Records
- Review & Approve Receiving Exception

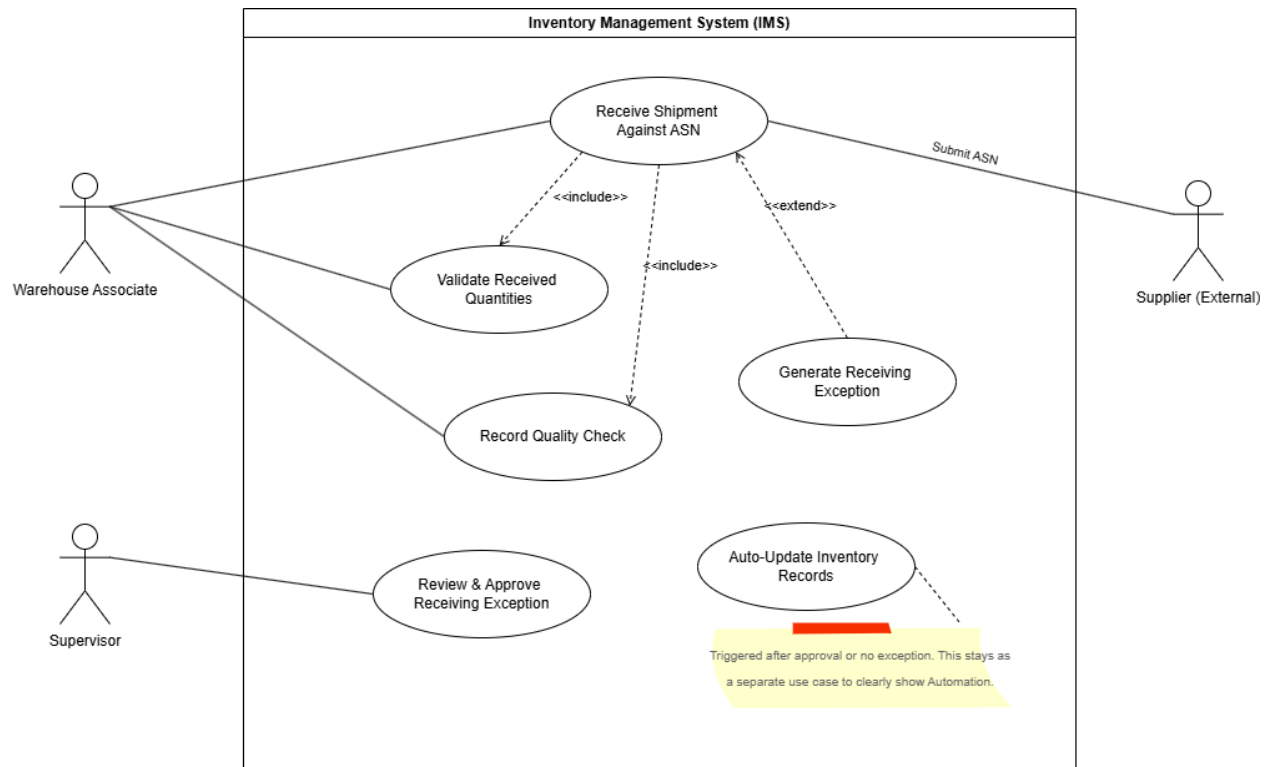Triggered after approval or no exception. This stays as a separate use case to clearly show Automation.

Use Case Specifications & Wireframes

UC-IN-01: Receive Shipment Against ASN

Primary Actor

Warehouse Associate

Supporting Actors

Supplier System, IMS

Brief Description

Allows warehouse staff to receive inbound shipments by validating them against a pre-received ASN.

Trigger

Shipment arrives at the receiving dock.

Preconditions

- ASN has been received in IMS prior to shipment arrival
- Shipment is assigned to a valid supplier
- Receiving dock is operational

Postconditions

- Shipment is registered in IMS
- Items move to receiving validation stage

Main Success Scenario

1. Warehouse Associate scans ASN barcode on arrival.
2. IMS retrieves expected shipment details from ASN.
3. IMS displays expected SKUs and quantities.
4. Warehouse Associate proceeds to unload and stage pallets.
5. System marks shipment as "Receiving In Progress".

Alternate Flows

A1: ASN Not Found

- IMS displays error.
- Receiving cannot proceed until ASN is resolved.

- Supervisor notification is triggered.

Business Rules & Notes

- ASN is mandatory for inbound receiving.
- Receiving without ASN is not supported.

ASN RECEIVING			

ASN Number:
[ASN-456789]

Status:
In Progress

Supplier:
Bountiful Baskets

Expected Arrival:
23-May-2025

SKU ID	DESCRIPTION	EXPECTED QTY	RECEIVED QTY
SKU-101	APPLES 1KG	120	
SKU-102	BANANA 1KG	80	
SKU-103	ORANGES 1KG	100	

Scan SKU   **Confirm Receipt**   **Flag Issue**

System Messages:

✔ ASN matched successfully

⚠ Quantity mismatch detected for SKU-102

UC-IN-02: Validate Received Quantities

Primary Actor

Warehouse Associate

Supporting Actors

IMS

Brief Description

Validates physical received quantities against ASN expectations.

Trigger

Shipment is marked as "Receiving In Progress".

Preconditions

- Shipment is successfully registered against ASN
- Pallets are staged for counting

Postconditions

- Quantities are validated or flagged for discrepancy

Main Success Scenario

1. Associate scans SKU barcodes during unloading.
2. Associate enters or confirms received quantities.
3. IMS compares received quantities with ASN.
4. IMS determines whether quantities are within tolerance.

Alternate Flows

A1: Quantity Mismatch Detected

- IMS flags discrepancy.
- Flow moves to discrepancy handling use case.

Business Rules & Notes

- Tolerance thresholds vary by SKU category.
- System enforces tolerance rules consistently.

UC-IN-03: Record Quality Check

Primary Actor

Warehouse Associate

Supporting Actors

IMS

Brief Description

Captures visual quality inspection results during inbound receiving.

Trigger

SKU quantities are scanned during receiving.

Preconditions

- Shipment is actively being received
- SKUs are accessible for inspection

Postconditions

- Quality check results are recorded in IMS

Main Success Scenario

1. Associate performs quick visual inspection.
2. Associate records pass or fail status per SKU.
3. IMS stores quality results for audit.

Alternate Flows

A1: Quality Issue Identified

- IMS flags SKU for exception handling.
- Supervisor is notified.

Business Rules & Notes

- Visual QC only. No lab testing included.
- Quality failures require supervisor review.

UC-IN-04: Generate Receiving Exception

Primary Actor

IMS

Supporting Actors

Warehouse Supervisor

Brief Description

Automatically generates exceptions for quantity or quality variances beyond tolerance.

Trigger

Variance exceeds defined thresholds.

Preconditions

- Quantity or quality validation has occurred

Postconditions

- Exception case is created and routed

Main Success Scenario

1. IMS evaluates variance against rules.
2. IMS creates exception record.
3. IMS notifies supervisor.

Business Rules & Notes

- Only material variances trigger exceptions.
- Minor variances auto-resolve.

UC-IN-05: Review and Approve Receiving Exception

Primary Actor

Warehouse Supervisor

Supporting Actors

IMS

Brief Description

Allows supervisors to review and resolve inbound exceptions.

Trigger

Receiving exception notification is generated.

Preconditions

- Exception exists in IMS
- Supervisor has access rights

Postconditions

- Exception is approved or rejected

Main Success Scenario

1. Supervisor reviews exception details.
2. Supervisor approves inventory adjustment.
3. IMS records approval.

Alternate Flows

A1: Exception Rejected

- Procurement is notified.
- Inventory update is blocked.

Business Rules & Notes

- Supervisor approval is mandatory for adjustments.
- Audit trail is required.

INBOUND EXCEPTION REVIEW

Exception ID:	ASN Number:	Supplier:
[IN-EX-9021]	[ASN-456789]	Bountiful Baskets

SKU ID	EXPECTED QTY	RECEIVED QTY	VARIANCE
SKU-102	80	65	-15

Reason (Auto-Detected):

⚠️ Quantity mismatch beyond tolerance

Suggested Actions:

☐ Approve Adjustment

☐ Reject & Escalate to Procurement

☐ Request Recount

Supervisor Notes:

Confirm Action

UC-IN-07: Auto-Update Inventory Records

Primary Actor

IMS

Supporting Actors

OMS

Brief Description

Automatically updates inventory once receiving is approved or no exception exists.

Trigger

Receiving completion or exception approval.

Preconditions

- Receiving validation completed
- No unresolved exceptions

Postconditions

- QOH updated
- ATP recalculated
- Inventory made available for downstream processes

Main Success Scenario

1. IMS updates Quantity on Hand.
2. IMS recalculates ATP.
3. IMS sends inventory availability updates to OMS.

Business Rules & Notes

- Inventory updates are system-driven.
- No manual inventory posting allowed.