

## Use Case F: Automatically Place Order Due to Shortage

### Textual Description

When an item in the inventory drops below the minimum threshold, the system automatically triggers a process to create a supplier order. The system retrieves relevant supplier data, compares prices, and selects the most optimal supplier. It generates and sends the order. Upon delivery, the system logs the receipt and updates the inventory stock levels accordingly. If any failure occurs in data validity, supplier availability, or delivery, the system logs the event and flags the item for manual intervention.

### List of Actors

- Timer (automated scheduled trigger)
- Supplier

### Pre-conditions

- The automated inventory monitoring system is active
- The scheduled trigger has occurred
- Inventory contains items, regardless of data validity or supplier availability

### Post-conditions

- If successful:
  - A supplier order is created and recorded
  - The delivery is logged upon receipt
  - Inventory levels are updated accordingly
- If unsuccessful:
  - The issue is logged (e.g., invalid item data, discontinued product, unavailable supplier, failed delivery)
  - Affected items are flagged for manual handling

### Main Success Scenario

1. Timer triggers the order process
2. System detects an item below minimum threshold
3. System retrieves supplier data for the item
4. System compares suppliers and selects the most optimal one
5. System creates and sends the order
6. Supplier delivers the items
7. System updates inventory levels

### Alternatives/Extensions

- [A1] Item data is missing or invalid: System cancels the process and logs error
- [A2] Product discontinued: System flags item for manual replacement action
- [A3] Supplier unavailable: System logs the failure; item is flagged for manual intervention
- [A4] Delivery delayed or fails: System logs the delay and notifies inventory manager