

Document Title: **E Commerce Warehouse Management**

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3 Questions as a Dev

1. **Shortage Threshold:** At what level should AI flag a shortage (e.g., 10% inventory remaining)?
2. **Notification Method:** How should AI communicate shortages (email alerts, dashboard updates, or both)?
3. **Prediction Scope:** Should the AI only detect shortages, or also recommend reorder quantities based on demand trends?

Problem Statement

The current AI system in an e-commerce company predicts stock shortages, but the results are inaccurate and unreliable.

Solutions

Develop a new AI model that not only predicts stock shortages more accurately but also recommends reorder quantities based on sales history and demand forecasts.

Expected Output

- If email alerts are required generate a text summary and send automatically.
- If a dashboard integration is needed return results in JSON format for visualization.

Process

1. **Data Collection:** Gather supplier, inventory, and sales data from multiple sources.
2. **Data Transformation & Loading:** Standardize formats and store in a unified database.
3. **Relationship Mapping:** Link datasets (e.g., product IDs, supplier lead times).
4. **Model Selection:** Choose suitable AI/ML algorithms for classification (shortage prediction) and regression (quantity recommendation).
5. **Model Training:** Train the model on historical data.
6. **Evaluation:** Measure accuracy, precision, recall, and error rates.
7. **Deployment:** Integrate into production with automated notifications (email/JSON for dashboard).

Flowchart

