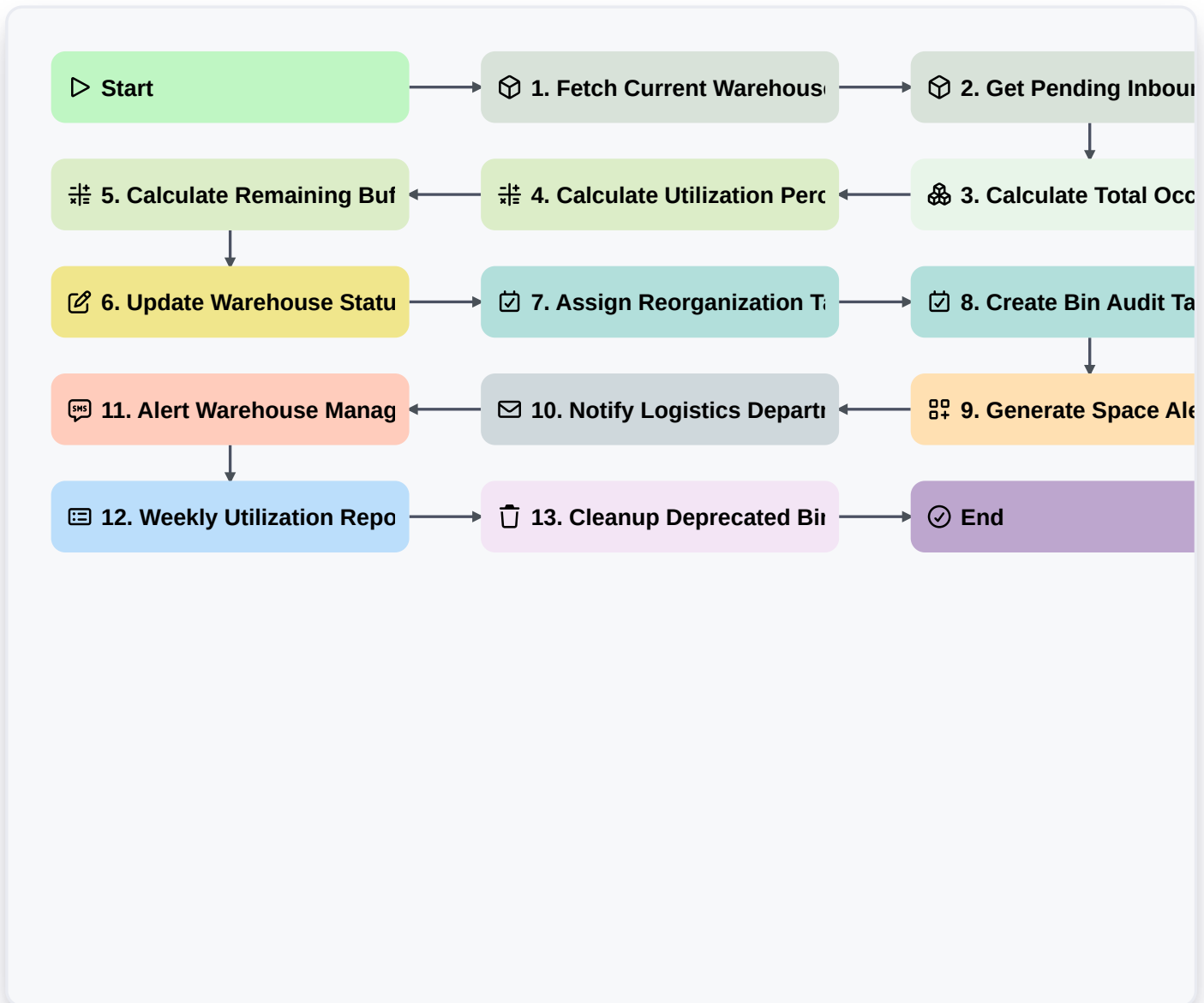


Warehouse Space Utilization Workflow



Start

Start of the Workflow/Process.

1. Fetch Current Warehouse Capacity

Retrieve all existing Warehouse Space entries to identify total available square footage and current occupancy.

2. Get Pending Inbound Shipments

Retrieve all Shipment entries with a status of 'Scheduled' or 'In-Transit' to calculate incoming volume.

3. Calculate Total Occupied Area

Sum the 'Used_Area' property from all active Inventory entries to determine total utilized space.

4. Calculate Utilization Percentage

Execute formula: $(\text{Total_Occupied_Area} / \text{Total_Warehouse_Capacity}) * 100$ to determine how full the warehouse is.

5. Calculate Remaining Buffer Space

Subtract Total_Occupied_Area from Total_Warehouse_Capacity to find the available footprint.

6. Update Warehouse Status

Update the 'Utilization_Level' field in the Warehouse Data Model based on the newly calculated percentage.



✔ **7. Assign Reorganization Task**

Create a task for the Warehouse Manager if utilization exceeds 85%, requiring a floor layout review.

✔ **8. Create Bin Audit Task**

Create a task for Floor Staff to verify empty bin counts if the system shows high vacancy.

📄 **9. Generate Space Alert Log**

Create a new entry in the 'Utilization_Alerts' data model to log the threshold breach for historical tracking.

✉ **10. Notify Logistics Department**

Send an email to the Logistics Team when capacity is critical, suggesting a slowdown in inbound shipments.

📱 **11. Alert Warehouse Manager**

Send an SMS alert to the Warehouse Manager if the utilization reaches a critical 95% threshold.

📄 **12. Weekly Utilization Report**

Generate a weekly PDF report summarizing space trends, peaks, and valleys for the Operations Director.

🗑 **13. Cleanup Deprecated Bin Records**

Delete entries from the 'Bin_Mapping' model that have been flagged as 'Decommissioned' or 'Obsolete'.

✔ **End**

End of the Workflow/Process.