# **Inventory Management AI System**

A no-code/low-code AI-powered **Inventory Management System** built using <u>n8n</u>, Google Gemini AI, and Google Sheets as a live database. This system leverages AI automation to simplify and streamline inventory operations like reading items, updating inventory, and deleting data—all via natural language commands.

#### **Tech Stack**

- **n8n** No-code workflow automation platform
- Google Gemini API Al language model for natural conversation
- Google Sheets Live inventory database
- Simple Memory Node Maintains context across interactions

#### **Features**

• Chat-Triggered Workflow

Starts when a user sends a message (e.g., "Update stock for Item A").

Al Agent Node

Uses Google Gemini to interpret the message and decide what action to take.

Simple Memory

Stores context to enhance multi-turn conversation support.

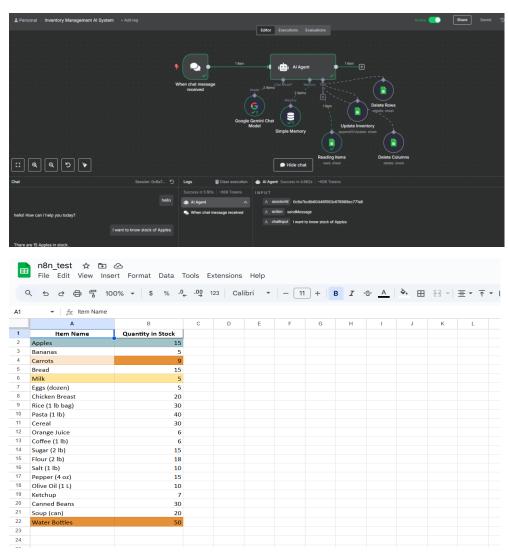
- Inventory Operations via Google Sheets
  - o Reading Items: View current inventory
  - o Update Inventory: Append or update items
  - o Delete Rows: Remove inventory items
  - o Delete Columns: Clear specific columns

### **How It Works**

- 1. **Trigger**: The workflow starts when a chat message is received.
- 2. Al Processing: The message is passed to the Gemini model via the Al Agent node.
- 3. **Context Memory**: A Simple Memory node retains previous conversation context if needed.
- 4. **Action Execution**: Based on the intent, the workflow interacts with the Google Sheet to:
  - o Fetch inventory data
  - o Update quantities
  - o Delete entries or columns

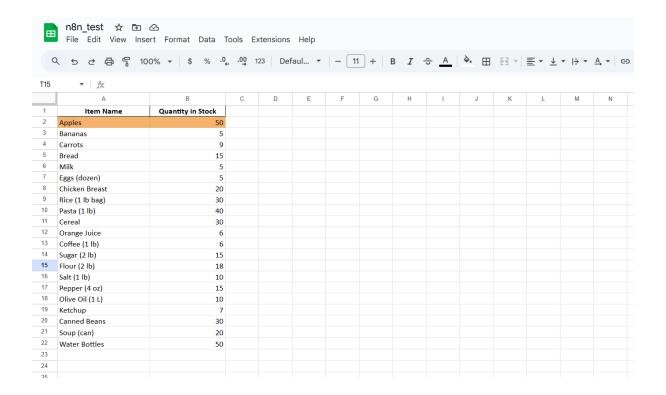
### **Workflow Preview:**

## Before updating the stock:



## After updating the stock:





## **Example Use Cases**

- "What's the current stock for item X?"
- "Update quantity of item Y to 25"
- "Remove item Z from the inventory"
- "Clear the expired column"

### **Future Enhancements**

- Integration with external databases (e.g., Firebase or PostgreSQL)
- Daily inventory summary emails
- Voice command support
- Role-based access

### Requirements

- n8n account or local setup
- Google Gemini API Key
- Google Sheet with predefined structure