

Asset Management System Specification

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Objective

As an Admin user or Staff member, you can add, list, update, and delete assets in the system to accurately track, manage, and maintain organizational assets for reporting and auditing purposes.

System Overview

- **Database:** MySQL will be used to store all asset-related data.
 - **Backend Technology:** Node.js will power the system's functionality.
 - **Features:** Add Asset, List Assets, Update Asset, Delete Asset.
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Features

1. Add Asset

Users can create a new asset with detailed information.

Form Fields:

- **Asset Name:** Required, unique, max 100 characters.
- **Asset Image:** Upload up to 5 images (.jpg, .jpeg, .png, max 5MB each), displayed as thumbnails.
- **Asset Code:** Auto-generated (e.g., AST-XXXX) if blank; custom entry allowed, must be unique.
- **Category:** Required, select from predefined dropdown (e.g., Machinery, Furniture, Vehicles).
- **CWIP Invoice ID:** Optional, alphanumeric, max 50 characters.
- **Location:** Required, select from hierarchy (e.g., Building > Floor > Room).
- **Status:** Required, dropdown (e.g., In Use, In Stock, Out for Repair).
- **Condition:** Required, dropdown (e.g., New, Good, Damaged, Poor).
- **Brand:** Optional, max 50 characters, with autocomplete for past entries.
- **Model:** Optional, max 50 alphanumeric characters.
- **Linked Asset:** Optional, link to a parent asset from existing list.
- **Description:** Optional, max 5000 characters, supports rich text (bullets, bold).
- **Upload Files:** Up to 5 files (.pdf, .docx, max 10MB each), categorized (e.g., Insurance, Warranty).
- **Purchase Information:**
 - **Vendor Name:** Required if purchased externally, select from dropdown or add new.
 - **PO Number:** Optional, alphanumeric, max 20 characters.
 - **Invoice Date, Invoice No, Purchase Date:** Optional, date picker, no future dates.
 - **Purchase Price:** Optional, positive numeric value with currency symbol.
 - **Self-Owned / Partner:** Required, dropdown (Self-Owned or Partner).
- **Financial Information:**
 - **Capitalization Price:** Optional, positive decimal, includes purchase price + costs.

- **End of Life:** Optional, future date via date picker.
- **Capitalization Date:** Required, past/current date via date picker.
- **Depreciation %:** Optional, percentage for annual depreciation.
- **Accumulated Depreciation:** Optional, positive decimal, max = Capitalization Price - Scrap Value.
- **Scrap Value:** Optional, positive decimal, defaults to 0.
- **Income Tax Depreciation %:** Optional, percentage for tax purposes.

Actions:

- Validates all required fields and uniqueness constraints.
 - Displays "Asset Created Successfully" upon completion.
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2. List Assets

Users can view all assets in the system.

- **Details Displayed:** Asset Name, Code, Category, Location, Status, Condition.
 - **Filters:** Optional by Category or Status.
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3. Update Asset

Users can modify existing asset details.

- **Editable Fields:** All fields from "Add Asset."
 - **Validation:** Ensures no duplicate names or codes.
 - **Confirmation:** Displays "Asset Updated Successfully."
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4. Delete Asset

Users can remove an asset from the system.

- **Action:** Select and delete an asset.
 - **Confirmation:** Displays "Asset Deleted Successfully."
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Technical Details

- **Database:**
MySQL
 - Stores asset data, categories, locations, vendors, images, and files.
 - Ensures data integrity with unique constraints and valid field values.
- **Backend:**
Node.js
 - Handles CRUD operations (Create, Read, Update, Delete) for assets.
 - Manages file uploads and validations.

Deliverables

1. MySQL Database Schema:

- A script to create all necessary tables (e.g., Assets, Categories, Locations, Vendors, Asset Images, Asset Files).
- Provided as a .sql file for easy setup on your MySQL server.

2. Postman Collection:

- A JSON file to test the following operations:
 - **Add Asset:** Create a new asset with sample data.
 - **List Assets:** Retrieve all assets or filter by category/status.
 - **Update Asset:** Modify an existing asset.
 - **Delete Asset:** Remove an asset by ID.