

# Standard Operating Procedure (SOP)

## Inventory Management System

Document Info	Details
<b>Document Title</b>	SOP — Inventory Management System
<b>Version</b>	1.0
<b>Date</b>	February 19, 2026
<b>Platform</b>	Web-Based (Laravel 11.x)
<b>URL</b>	(Deployed application URL)
<b>Prepared By</b>	System Administrator
<b>Approved By</b>	(Management)

## Table of Contents

1. Purpose
2. Scope
3. System Overview
4. Technology Stack
5. User Roles & Access Levels
6. System Installation & Setup
7. Login & Authentication
8. Dashboard
9. Master Data Management
  - 9.1 Product Types
  - 9.2 Products
  - 9.3 Stores / Locations
  - 9.4 Asset Statuses
  - 9.5 Suppliers
  - 9.6 Departments
10. Employee Management
11. Purchase Management
12. Inventory / Stock Management
13. Distribution / Transaction Management
14. Requisition Management
15. QR Code & Barcode Management
16. Reports
17. User Management
18. Role & Permission Management
19. Employee Management (Management Module)
20. Onboarding Module

21. [Data Import](#)
  22. [Settings](#)
  23. [Audit / User Activity Logs](#)
  24. [Key Business Workflows](#)
  25. [Troubleshooting & FAQ](#)
  26. [Appendix — Permission Reference](#)
- 

## 1. Purpose

This document provides a complete Standard Operating Procedure (SOP) for the **Inventory Management System**. It serves as the authoritative guide for all users — administrators, managers, and employees — to understand and operate every feature of the system, from initial setup through day-to-day operations, reporting, and auditing.

---

## 2. Scope

This SOP covers:

- System installation, configuration, and initial setup
  - User authentication and role-based access control (RBAC)
  - All master data modules (product types, products, stores, statuses, suppliers, departments)
  - Employee lifecycle management
  - Purchase order creation and processing
  - Inventory/stock management and asset tagging
  - Asset distribution (issue/return) to employees
  - QR code and barcode generation and printing
  - Requisition management
  - Reporting and analytics
  - Data import/export
  - Onboarding/offboarding workflows
  - System settings and user activity logs
  - Troubleshooting and common operations
- 

## 3. System Overview

The Inventory Management System is a web-based application designed to manage the complete lifecycle of organizational assets — from procurement to distribution to retirement. It provides:

- **Centralized asset tracking** with unique asset tags, serial numbers, and service tags
- **Purchase management** with multi-product purchase orders, supplier tracking, and GRN generation
- **Automated inventory creation** from approved purchases
- **Employee assignment tracking** with acknowledgement receipts
- **QR code and barcode** label generation for physical asset identification
- **Comprehensive reporting** across employees, stocks, transactions, and inventory
- **Role-based access control** with 52 granular permissions
- **Complete audit trail** via user activity logs

## 4. Technology Stack

Component	Technology
<b>Backend Framework</b>	Laravel 11.x (PHP 8.2+)
<b>Frontend</b>	Blade Templates, Bootstrap (Laravel UI), Vite
<b>Database</b>	MySQL / MariaDB
<b>DataTables</b>	Yajra Laravel DataTables (server-side)
<b>PDF Generation</b>	Barryvdh DomPDF
<b>Excel Import</b>	Maatwebsite Excel v3.1
<b>Barcode</b>	Milon Barcode (Code128)
<b>QR Code</b>	SimpleSoftwareIO Simple QR Code v4.2
<b>Image Processing</b>	Intervention Image v3.7 (GD driver)
<b>RBAC</b>	Spatie Laravel Permission v6.9
<b>Activity Logging</b>	Spatie Laravel Activity Log v4.8
<b>Notifications</b>	Brian2694 Laravel Toastr
<b>Web Server</b>	Apache (WAMP) / Nginx

## 5. User Roles & Access Levels

The system ships with three predefined roles. Additional custom roles can be created.

### 5.1 Super Admin

Attribute	Value
<b>Default Email</b>	superadmin@gmail.com
<b>Default Password</b>	123456
<b>Username</b>	superadmin
<b>Access</b>	Full access to all 52 permissions
<b>Special Privileges</b>	Can manage all users including other admins; cannot be deleted or modified by non-super-admins

### 5.2 Admin

Attribute	Value
<b>Default Email</b>	admin@gmail.com

Attribute	Value
<b>Default Password</b>	123456
<b>Username</b>	admin
<b>Access</b>	Full access to all 52 permissions
<b>Restrictions</b>	Cannot assign/modify the super-admin role; cannot see super-admin user in user lists

### 5.3 Employee (Self-Service)

Attribute	Value
<b>Access</b>	Limited to 3 self-service permissions
<b>Permissions</b>	<code>self-view-profile, self-view-assets, self-view-transactions</code>

### 5.4 Custom Roles

Administrators can create custom roles with any combination of the 52 available permissions (see [Appendix](#)).

**IMPORTANT:** Change default passwords immediately after first login.

## 6. System Installation & Setup

### 6.1 Prerequisites

- PHP 8.2 or higher
- Composer
- Node.js & NPM
- MySQL / MariaDB database
- Apache or Nginx web server
- PHP Extensions: GD, mbstring, xml, zip, curl, bcmath

### 6.2 Installation Steps

```
# 1. Clone the repository
git clone <repository-url> inventory-management
cd inventory-management

# 2. Install PHP dependencies
composer install

# 3. Install Node.js dependencies
npm install

# 4. Environment configuration
```

```
cp .env.example .env  
php artisan key:generate
```

## 6.3 Database Configuration

Edit the `.env` file:

```
DB_CONNECTION=mysql  
DB_HOST=127.0.0.1  
DB_PORT=3306  
DB_DATABASE=inventory_management  
DB_USERNAME=root  
DB_PASSWORD=your_password
```

## 6.4 Database Migration & Seeding

```
# Run all migrations  
php artisan migrate  
  
# Seed initial data (permissions, roles, admin users)  
php artisan db:seed
```

This will execute:

1. **PermissionTableSeeder** — Creates 52 permissions
2. **CreateAdminUserSeeder** — Creates Super Admin, Admin, and Employee role

## 6.5 Build Frontend Assets

```
# Development  
npm run dev  
  
# Production  
npm run build
```

## 6.6 Storage & Permissions

```
php artisan storage:link
```

Ensure the following directories are writable:

- `storage/`
- `bootstrap/cache/`

- `public/images/employee/`
  - `storage/qrcodes/`
- 

## 7. Login & Authentication

### 7.1 Accessing the System

1. Open a web browser and navigate to the application URL
2. The login page is displayed at the root URL `(/)` or `/login`

### 7.2 Login Procedure

1. Enter your **Email Address**
2. Enter your **Password** (minimum 6 characters)
3. Click **Login**
4. On successful authentication, you are redirected to the **Dashboard**
5. On failure, an error message is displayed: "*The provided credentials do not match our records.*"

### 7.3 First Login — Forced Password Change

- If the `must_change_password` flag is set on your account, you will be **automatically redirected** to the password change page
- You **cannot access any other page** until the password is changed
- After changing the password, the flag is cleared and you can navigate normally

### 7.4 Logout

1. Click the **Logout** button/link
2. Your session is invalidated and CSRF token is regenerated
3. You are redirected to the login page

**Audit:** All login and logout actions are recorded in the User Activity Log.

## 8. Dashboard

**Route:** `/dashboard`

**Permission:** Authenticated users only

The dashboard provides a real-time overview of the inventory system:

### 8.1 Key Metrics Displayed

Metric	Description
<b>Total Employees</b>	Count of active employees (status = 1)
<b>Purchases This Month</b>	Number of purchases in the current month
<b>Total Stock Items</b>	Total number of stock records

Metric	Description
<b>Total Laptops</b>	Stock items of type "Laptop"
<b>Total Mobiles</b>	Stock items of type "Mobile"
<b>Assigned Laptops</b>	Laptops currently assigned to employees
<b>Assigned Mobiles</b>	Mobiles currently assigned to employees
<b>Total Assigned</b>	All stock items currently assigned
<b>Total Available</b>	All stock items available for distribution
<b>Utilization Rate</b>	Percentage of stock currently assigned
<b>Warranty Expiring (30 days)</b>	Items with warranty expiring within 30 days
<b>Warranty Expired</b>	Items with expired warranty
<b>Low Stock Categories</b>	Product types with < 5 available items
<b>Out of Stock</b>	Product types with 0 available items

## 8.2 Additional Dashboard Elements

- **Top 5 Product Categories** — by total stock count
- **Monthly Purchase Trend** — last 6 months chart
- **Recent Purchases** — last 5 purchases with supplier info

## 9. Master Data Management

Master data forms the foundation of the inventory system. These must be configured before processing purchases or distributions.

**Recommended setup order:** Departments → Product Types → Products → Stores → Asset Statuses → Suppliers

### 9.1 Product Types

**Route:** [/product-types](#)

**Permissions Required:** [product-type-list](#), [product-type-create](#), [product-type-edit](#), [product-type-delete](#)

Product types are categories of assets (e.g., Laptop, Monitor, Mouse, Software License).

#### 9.1.1 View Product Types

1. Navigate to **Product Types** from the sidebar
2. All product types are listed in reverse chronological order

#### 9.1.2 Create Product Type

1. Click the **Add** button
2. Fill in:
  - **Name** (*required, unique, max 255 characters*)
3. The system auto-generates a URL slug from the name
4. Click **Save**
5. Success notification is displayed

### 9.1.3 Edit Product Type

1. Click the **Edit** icon on the desired row
2. Modify the name
3. Click **Update**

### 9.1.4 Delete Product Type

1. Click the **Delete** icon on the desired row
2. Confirm the deletion
3. The product type is permanently removed

**Note:** Deletion will fail if any products are associated with the product type.

---

## 9.2 Products

**Route:** `/products`

**Permissions Required:** `product-list, product-create, product-edit, product-delete`

Products are specific items within product types (e.g., "Dell Latitude 5540" under "Laptop").

### 9.2.1 View Products

1. Navigate to **Products** from the sidebar
2. Products are listed with their type, brand, model, and flags

### 9.2.2 Create Product

1. Click the **Add** button
2. Fill in:
  - **Product Type** (*required, dropdown*)
  - **Brand** (*required*)
  - **Model** (*required*)
  - **Unit** (*required, e.g., pcs, license*)
  - **Requires Serial Number** (*checkbox*) — If checked, serial numbers must be entered during purchase
  - **Requires License/Warranty** (*checkbox*) — If checked, warranty info is mandatory during purchase
  - **Is Taggable** (*checkbox*) — If checked, asset tags are auto-generated when added to inventory
  - **Is Consumable** (*checkbox*) — Marks the product as a consumable item
  - **Description** (*optional*)

3. The product title is automatically composed as: Brand + Model + Type Name
4. Click **Save**

### 9.2.3 Edit Product

1. Click the **Edit** icon
2. Modify fields as needed
3. Check/uncheck the **Is Consumable** flag as needed
4. Click **Update**

### 9.2.4 Delete Product

1. Click the **Delete** icon
  2. Confirm the deletion
  3. **Restriction:** A product cannot be deleted if it has any associated purchase products
- 

## 9.3 Stores / Locations

**Route:** `/stores`

**Permissions Required:** `store-list, store-create, store-edit, store-delete`

Stores represent physical storage locations for inventory items.

### 9.3.1 Create Store

1. Click **Add**
2. Enter:
  - **Name** (*required*)
  - **Address** (*optional*)
3. Click **Save**

### 9.3.2 Edit / Delete Store

- Edit: Click **Edit** icon, update name/address, click **Update**
  - Delete: Click **Delete** icon. **Restriction:** Cannot delete if stock items reference this store.
- 

## 9.4 Asset Statuses

**Route:** `/statuses`

**Permissions Required:** `status-list, status-create, status-edit, status-delete`

Asset statuses categorize the condition or lifecycle stage of stock items (e.g., Active, In Repair, Disposed).

### 9.4.1 Create Status

1. Click **Add**
2. Enter **Name** (*required*)
3. Click **Save** — slug is auto-generated

#### 9.4.2 Edit / Delete Status

- Edit: Click **Edit** icon, update name, click **Update**
  - Delete: Click **Delete** icon. **Restriction:** Cannot delete if stock items reference this status.
- 

### 9.5 Suppliers

**Route:** [/suppliers](#)

**Permissions Required:** [suppliers-list](#), [suppliers-create](#), [suppliers-edit](#), [suppliers-delete](#)

Suppliers are organizations providing products for purchase.

#### 9.5.1 Create Supplier

1. Click **Add**
2. Fill in:
  - **Company Name** (*required*)
  - **Contact Person Name** (*required*)
  - **Phone** (*optional*)
  - **Email** (*optional*)
  - **Address** (*optional*)
  - **Description** (*optional*)
3. Click **Save**

#### 9.5.2 Edit / Delete Supplier

- Edit: Click **Edit** icon, update fields, click **Update**
  - Delete: Click **Delete** icon. **Restriction:** Cannot delete if purchases reference this supplier.
- 

### 9.6 Departments

**Route:** [/departments](#)

**Permissions Required:** [department-list](#), [department-create](#), [department-edit](#), [department-delete](#)

Departments are organizational units that employees belong to.

#### 9.6.1 Create Department

1. Click **Add**
2. Enter:
  - **Name** (*required*)
  - **Short Name** (*optional*)
3. Click **Save** — slug is auto-generated

#### 9.6.2 Edit / Delete Department

- Edit: Click **Edit** icon, update name/short name, click **Update**
- Delete: Click **Delete** icon. **Restriction:** Cannot delete if employees belong to this department.

## 10. Employee Management

**Route:** /employees

**Permissions Required:** employee-list, employee-create, employee-edit, employee-delete

### 10.1 View Employees

1. Navigate to **Employees** from the sidebar
2. The page displays:
  - **Summary Statistics:** Total employees, Active, Inactive, With Assignments, Departments, Active Distributions
3. The DataTable supports filtering by:
  - **Department** (dropdown)
  - **Status** (Active / Inactive)
  - **Assignment Status** (With Assets / Without Assets)
4. Each row shows: Employee info (photo, ID, name, designation), Contact info, Status badge, Assignment count

### 10.2 Create Employee

1. Click **Create Employee**
2. Fill in:
  - **Department** (*required, dropdown*)
  - **Employee Name** (*required*)
  - **Designation** (*required*)
  - **Employee ID** (*required, unique numeric identifier*)
  - **Phone** (*optional*)
  - **Email** (*optional*)
  - **Date of Joining** (*optional*)
  - **Profile Photo** (*optional, image file*)
3. The photo is automatically resized to **400×400 pixels**
4. Default image is used if no photo is uploaded
5. Employee status is set to **Active** by default
6. Click **Save**

### 10.3 View Employee Details

1. Click the **View** icon on an employee row
2. View complete employee profile

### 10.4 Edit Employee

1. Click the **Edit** icon
2. Update fields as needed
3. Upload a new photo to replace the existing one (old photo is deleted)
4. Click **Update**

### 10.5 Toggle Employee Status

1. Click the **Status Toggle** button on an employee row
2. The status alternates between **Active** (1) and **Inactive** (2)

**Audit:** All employee create/edit/status operations are logged.

## 11. Purchase Management

**Route:** [/purchases](#)

**Permissions Required:** [purchase-list](#), [purchase-create](#), [purchase-edit](#), [purchase-delete](#), [purchase-addinventory](#)

The purchase module handles procurement of assets from suppliers.

### 11.1 View Purchases

1. Navigate to **Purchases** from the sidebar
2. The page displays:
  - **Summary Statistics:** Total purchases, Approved, Pending, Total Value, This Month count/value
3. The DataTable supports filtering by:
  - **Supplier** (dropdown)
  - **Approval Status** (Approved / Pending)
  - **Date Range** (from-to date pickers)
  - **Price Range** (minimum–maximum)
4. Each row shows: Status badge, Approval progress bar, Date, Price, Actions

### 11.2 Create Purchase

1. Click **Create Purchase**

2. Fill in the **Purchase Header:**

- **Supplier** (*required, dropdown*)
- **Invoice Number** (*auto-generated in format DDMMYYYY-NNN, editable*)
- **Reference Invoice** (*optional*)
- **Challan Number** (*optional*)
- **Purchase Date** (*required*)
- **Received Date** (*optional*)

3. **Add Product Lines** (one or more):

- **Product Type** (*required, dropdown*) — Filters available products
- **Product** (*required, dropdown*) — Filtered by selected type
- **Quantity** (*required, numeric*)
- **Unit Price** (*required, numeric*)
- **Total** (*auto-calculated: quantity × unit price*)
- **Serial Numbers** (*required if product has `is_serial` flag*) — Enter each serial on a new line
- **Warranty Period** (*required if product has `is_license` flag*) — In months; expiry date is auto-calculated

4. Click **Add More** to add additional product lines

5. Click **Save Purchase**

**Validation Rules:**

- If a product requires serial numbers, the count of serials must **exactly match** the quantity
- If a product requires warranty, the warranty field is mandatory
- At least one product line is required

**After saving:** The purchase is created with status **Pending** (`is_stocked = 2`).

### 11.3 Edit Purchase

1. Click **Edit** on a purchase row
2. Modify purchase header or product lines
3. Add new product lines, update existing ones, or remove lines
4. Click **Update**
5. The purchase is reset to **Pending** status

### 11.4 View Purchase Details

1. Click **View** on a purchase row
2. See complete purchase information, product lines, and stock status

### 11.5 Generate GRN (Goods Received Note)

1. From the purchase list or purchase view, click **GRN**
2. A **landscape A4 PDF** is generated containing:
  - Supplier information
  - All product lines with quantities, serials, and prices
  - Total amount
3. The PDF can be printed or downloaded

### 11.6 Add to Inventory (Approve Purchase)

**Permission Required:** `purchase-addinventory`

This is the critical step that converts purchase products into stock entries.

1. From the purchase view, click **Add to Inventory** for a product line
2. The system creates stock records based on the product type:

Product Type	Stock Creation Logic
Laptop	Creates <b>1 stock record per unit</b> . Service tags assigned from serial numbers.
Software	Creates <b>1 stock record</b> with the total quantity.
Other Products	Creates <b>1 stock record per unit</b> .

3. **If the product is taggable (`is_taggable = true`):**

- Asset tags are **auto-generated** in the format: `{TypeInitial}{5-digit-number}`
- Example: `L00001` for Laptop, `M00001` for Monitor
- The system finds the highest existing tag for that prefix and increments

#### 4. After processing:

- The PurchaseProduct is marked as stocked (`is_stocked = 1`)
- When all products in a purchase are stocked, the purchase itself is marked as stocked

**Important:** This action is irreversible. Verify product details before adding to inventory.

### 11.7 View Purchased Products

**Route:** `/purchased-products`

1. Navigate to **Purchased Products**
  2. View all individual purchase product records across all purchases
  3. Click on a product to see detailed information
- 

## 12. Inventory / Stock Management

**Route:** `/inventories`

**Permissions Required:** `inventory-list`, `inventory-create`, `inventory-edit`, `inventory-delete`, `inventory-update-tag`

### 12.1 View Inventory

1. Navigate to **Inventory** from the sidebar
2. The page displays:
  - **Summary Statistics:** Total items, Assigned, Available, Pending Tags, Warranty Expiring (30 days), Damaged Items
3. The DataTable supports filtering by:
  - **Product Type** (dropdown)
  - **Condition** (dropdown)
  - **Store / Location** (dropdown)
  - **Supplier** (dropdown)
  - **Department** (dropdown)
  - **Assignment Status** (Assigned / Available)
4. Each row shows: Asset tag, Serial/Service tag, Product info, Store, Condition, Assignment status (employee name or store), Actions
5. **QR + Barcode combo print button** is available for selected items

### 12.2 View Stock Item Details

1. Click **View** on a stock row
2. View complete stock information including:
  - Product details (type, brand, model)
  - Purchase information (date, supplier, invoice)
  - Asset identifiers (tag, serial, service tag, MAC)
  - Current assignment status
  - Warranty information
  - Transaction history

## 12.3 Edit Stock Item

1. Click **Edit** on a stock row (or from the detail view)
2. Editable fields:
  - o **Store / Location** (dropdown)
  - o **Asset Condition** (dropdown)
  - o **Serial Number / Service Tag**
  - o **Asset Tag**
3. **Employee Reassignment:**
  - o If you change the assigned **Employee ID**:
    - The current assignment is **automatically closed** (return date set)
    - A **new transaction** is created for the new employee
  - o If the stock is unassigned and you assign an employee:
    - A new transaction is created
    - Stock status changes to **Assigned**
4. Click **Update**

## 12.4 Pending Asset Tags

**Route:** `/pending-tag-updates`

**Permission Required:** `inventory-update-tag`

1. Navigate to **Pending Tag Updates**
2. View all stock items that do **not** have an asset tag
3. Filter by: Product type, Status, Store, Assignment status
4. For each item, enter the asset tag manually
5. Click **Update Tag** — the tag is saved via AJAX

## 12.5 Bulk Upload Asset Tags

1. From the Pending Tags page, click **Upload Bulk**
2. Upload an **Excel/CSV file** with asset tag mappings
3. The system processes the file using the `StockImport` class
4. Tags are assigned to matching stock records

---

## 13. Distribution / Transaction Management

**Route:** `/transactions`

**Permissions Required:** `distribution-list, distribution-create, distribution-edit, distribution-delete, distribution-return`

This module manages the assignment (issue) and return of assets to/from employees.

### 13.1 View Distributions

1. Navigate to **Distributions** from the sidebar
2. The page displays:

- **Summary Statistics:** Total transactions, Active assignments, Returned items, Overdue (>30 days), Unique employees, Total items out

3. The DataTable supports filtering by:

- **Employee** (dropdown)
- **Department** (dropdown)
- **Product Type** (dropdown)
- **Status** (Active / Returned / Overdue)
- **Date Range** (from-to)

4. Each row shows: Employee info, Product info, Issue date, Return date, Status (Active/Returned/Overdue)

## 13.2 Create Distribution (Issue Asset)

1. Click **Create Distribution**

2. Fill in:

- **Product Type** (required, dropdown) — Filters available stock
- **Available Item** (required, dropdown) — Shows only unassigned/available stock
- **Employee** (required, dropdown)
- **Quantity** (required, for software items)
- **Date of Issue** (required)
- **Comment** (optional)
- **Print Acknowledgement** (checkbox) — If checked, ACK PDF opens after save

3. Click **Save**

### Business Logic:

- **Software/License Items:** The system checks available license count (`quantity - assigned`). If sufficient, increments the `assigned` count.
- **Physical Items:** The stock item is directly marked as **Assigned** (`is_assigned = 1`).
- A **Transection** record is created linking the stock to the employee.

## 13.3 Process Return

There are two methods to process a return:

### Method A — From the Edit/Update

1. Click **Edit** on a distribution row
2. Set the **Return Date**
3. Click **Update**

### Method B — Quick Return (AJAX)

1. Click **Mark Returned** on a distribution row
2. Set the return date in the inline field
3. Confirm the return

### Return Business Logic:

- **Software:** Decrement the `assigned` count. If no copies remain assigned, resets `is_assigned = 2`.

- **Physical Items:** Sets `is_assigned = 2` (Available).
- The `return_date` is set on the `Transection` record.

## 13.4 Print Acknowledgement (ACK)

1. **Single ACK:** Click **ACK** on a distribution row → A4 PDF is generated
2. **Multi-Item ACK:** Select multiple distributions, enter employee ID and issue date, click **Print ACK** → Combined A4 PDF for all selected items

## 13.5 Print Return Receipt

1. Click **Return Receipt** on a returned distribution row
2. A PDF return form is generated

---

# 14. Requisition Management

**Route:** `/requisitions`

**Permissions Required:** *(Currently no explicit permission middleware)*

Requisitions allow departments to formally request assets.

## 14.1 View Requisitions

1. Navigate to **Requisitions** from the sidebar
2. All requisitions are listed

## 14.2 Create Requisition

1. Click **Create Requisition**
2. Fill in:
  - **Product Type** (*required, dropdown*)
  - **Product** (*optional, dropdown — filtered by type*)
  - **Department** (*required, dropdown*)
  - **Quantity** (*required*)
  - **Description** (*optional*)
  - **Justification** (*optional*)
  - **Remarks** (*optional*)
3. Click **Save**
4. Status is set to **Pending** automatically

---

# 15. QR Code & Barcode Management

**Permissions Required:** `qrcode-generate, qrcode-print, barcode-generate, barcode-print`

The system supports three types of labels: QR codes, barcodes, and combo (QR + Barcode) labels.

## 15.1 QR Code Generation

QR codes contain structured data about the stock item:

- Organization name
- Serial/Service tag number
- Product type and model
- Asset tag
- Purchase date
- URL link to the stock detail page

## 15.2 Individual Stock Labels

From any stock item view or the inventory list:

Action	Label Size	Content
<b>Print QR Code</b>	1.4" × 1.4"	QR code with stock data
<b>Print Barcode</b>	3.5" × 1.4"	Code128 barcode with serial
<b>Print Combo Label</b>	1.4" × 2.5"	QR code + Code128 barcode

## 15.3 Bulk Label Printing

1. In the Inventory list, select multiple stock items using checkboxes
2. Choose the print action:
  - **Print Multiple QR Codes** — A4 page with multiple 1.4" QR labels
  - **Print Multiple Barcodes** — A4 page with multiple barcode labels
  - **Print Multiple Combo Labels** — A4 page with 1.4" × 2.5" combo labels

## 15.4 Purchase-Level Label Printing

From a purchase view:

Action	Description
<b>Print QR Codes</b>	All stock items from the purchase on one PDF
<b>Print QR Labels</b>	Individual 1.4" × 1.4" QR labels per stock
<b>Print Combo Labels</b>	Individual 1.4" × 2.5" QR + Barcode labels per stock

## 15.5 Custom QR Code Generation

**Route:** [/qr-codes](#)

1. Navigate to **QR Code Generator**
2. Options:
  - **Custom Data** — Enter up to 1,000 characters of text
  - **URL** — Enter a URL to generate a QR code
3. Customize: Color, margin, error correction level
4. Click **Generate**

## 16. Reports

**Route:** /reports/\*

**Permissions Required:** report-list, report-view, report-employee, report-product, report-distribution, report-purchase, report-inventory, users-log, user-log-view

## 16.1 Employee Report

**Route:** /reports/employees

1. Navigate to **Reports → Employees**
2. Filter by **Department** and **Sort Order**
3. View employee listing with asset assignment summary
4. Click on an employee to see detailed asset report

## 16.2 Stock Summary Report

**Route:** /reports/stocks

1. Navigate to **Reports → Stocks**
2. View stock summary **grouped by product type**:
  - Total items per type
  - Assigned count
  - Available count
  - Total value (from purchase data)
3. Click on a type to drill down to detailed stock list

## 16.3 Transaction Report

**Route:** /reports/transactions

1. Navigate to **Reports → Transactions**
2. Filter by **Employee** and sort
3. View all transaction history with issue/return dates

## 16.4 Detailed Inventory Report

**Route:** /reports/detailed-inventory

1. Navigate to **Reports → Detailed Inventory**
2. Apply filters:
  - **Product Type**
  - **Product Model**
  - **Store / Location**
  - **Supplier**
  - **Department**
  - **Condition** (Good / Obsolete / Damaged)
  - **Asset Status**
  - **Assignment Status** (Assigned / Available)
  - **Warranty Status** (Active / Expiring / Expired)
  - **Date Range** (purchase date)
3. Click **Search** — Results displayed via DataTable

4. Each row shows complete stock details with current assignment

## 16.5 User Activity Logs

**Route:** [/reports/user-logs](#)

1. Navigate to **Reports** → **User Logs**
  2. Filter by:
    - **User** (dropdown)
    - **Action Type** (dropdown)
    - **Date Range**
  3. View all logged user actions with timestamps and IP addresses
- 

## 17. User Management

**Route:** [/users](#)

**Permissions Required:** [user-list](#), [user-create](#), [user-edit](#), [user-delete](#)

### 17.1 View Users

1. Navigate to **Users** from the sidebar
2. **Super Admin** sees all users
3. **Other admins** see only non-admin users

### 17.2 Create User

1. Click **Create User**
2. Fill in:
  - **Name** (*required*)
  - **Username** (*required, unique*)
  - **Email** (*required, unique*)
  - **Employee ID** (*required, unique — links to Employee record*)
  - **Role** (*required, dropdown*)
  - **Password** (*required, min 6 characters*)
  - **Confirm Password** (*required, must match*)
3. Click **Save**

#### Business Rules:

- Non-super-admins **cannot** see or assign the [super-admin](#) role
- If a user is assigned the [super-admin](#) role, their [is\\_admin](#) flag is set to [1](#)

### 17.3 Edit User

1. Click **Edit** on a user row
2. Update fields (password is optional — leave blank to keep current)
3. Change role assignment if needed
4. Click **Update**

## 17.4 Delete User

1. Click **Delete** on a user row
2. Confirm the deletion
3. All roles are revoked before the user is deleted

**Restriction:** Non-super-admins **cannot** delete users with the super-admin role.

---

## 18. Role & Permission Management

**Route:** [/roles](#)

**Permissions Required:** [role-list](#), [role-create](#), [role-edit](#), [role-delete](#)

### 18.1 View Roles

1. Navigate to **Roles** from the sidebar
2. All roles are listed **except** the super-admin role (ID 1)

### 18.2 Create Role

1. Click **Create Role**
2. Enter **Role Name** (*required, unique*)
3. Select **Permissions** — Check individual permissions to grant
4. Click **Save**

**Restriction:** The name [super-admin](#) is blocked — it cannot be used for new roles.

### 18.3 Edit Role

1. Click **Edit** on a role row
2. Update name and/or permissions
3. Click **Update**

**Restriction:** The super-admin role cannot be edited.

### 18.4 Delete Role

1. Click **Delete** on a role row
2. Confirm the deletion
3. All permissions are revoked from the role before deletion

**Restriction:** The super-admin role cannot be deleted.

---

## 19. Employee Management (Management Module)

**Route:** [/management/employees](#)

**Permission Required:** [management-all](#)

This module handles employee offboarding/resignation and product status management.

## 19.1 Employee Offboarding

1. Navigate to **Management → Employees**
2. View list of active employees
3. Click **Edit** on an employee
4. Enter **Date of Resignation** (*required*)
5. Click **Submit**

**Automated Offboarding Process:** The system automatically:

1. **Closes all active transactions** — Sets `return_date` on every active assignment
2. **Makes all stock available** — Sets `is_assigned = 2` on all previously assigned items
3. **Updates employee status** — Sets status to **Inactive** (2)
4. **Records resign date** — Saves the date of resignation

**Warning:** This action processes all active transactions for the employee. Ensure all assets have been physically collected before proceeding.

## 19.2 Product Status Management

**Route:** `/management/products`

1. Navigate to **Management → Products**
2. View all stock items
3. Update the product status for any item:
  - **Active** (1)
  - **Poor** (2)
  - **Damaged** (3)

---

## 20. Onboarding Module

**Route:** `/onboarding`

**Permissions Required:** `onboarding-list, onboarding-create`

### 20.1 View Onboarding

1. Navigate to **Onboarding**
2. View all employees available for onboarding

### 20.2 Generate Onboarding Form

1. Select an employee
2. Check the equipment to include:
  - Laptop
  - Mobile
  - Pen Drive
  - Mouse
  - Camera
  - Laptop Bag

- SD Card
- Manual

3. Click **Print**

4. An **Acknowledgement PDF** is generated

## 20.3 Generate Return Form

1. Select an employee
  2. Check the equipment
  3. Enable the **Return** option
  4. Click **Print**
  5. A **Return Form PDF** is generated
- 

# 21. Data Import

**Route:** [/imports](#)

**Permissions Required:** [imports-list](#), [import-create](#)

## 21.1 Import Data

1. Navigate to **Imports** from the sidebar

2. Select the **Import Type**:

Import Type	Description
<b>Products</b>	Import product records
<b>Purchase Products</b>	Import purchase product records
<b>Stock (All)</b>	Import complete stock records
<b>Transactions</b>	Import transaction records
<b>Employees</b>	Import employee records

3. Upload a **CSV file** (*CSV format only*)

4. Click **Import**

5. The system processes the file and imports records

**Audit:** All imports are logged with the import type and user.

## 21.2 CSV File Requirements

Each import type expects specific column headers matching the model's fillable fields. Refer to the corresponding Import class for exact column mappings.

---

# 22. Settings

## 22.1 Profile Settings

**Route:** `/settings/profile`

1. Navigate to **Settings** → **Profile**
2. Update:
  - **Name**
  - **Profile Photo** (*image file, resized to 400×400*)
3. Click **Update Profile**
4. Both the User record and linked Employee record are updated

## 22.2 Password Change

**Route:** `/settings/password`

1. Navigate to **Settings** → **Password**
2. Enter:
  - **Current Password** (*required*)
  - **New Password** (*required, min 6 characters*)
  - **Confirm New Password** (*required, must match*)
3. Click **Change Password**
4. The `must_change_password` flag is cleared upon success

## 22.3 Policy Print

**Route:** `/policy-print/{id}`

**Permission Required:** `system-settings`

1. Navigate to a transaction's policy view
2. View the policy document associated with the transaction

## 23. Audit / User Activity Logs

The system maintains a comprehensive audit trail of all user actions.

### 23.1 What is Logged

Category	Actions Logged
<b>Authentication</b>	Login, Logout
<b>Master Data</b>	Create, Update, Delete of product types, products, stores, statuses, suppliers, departments
<b>Employees</b>	Create, Update, Status change
<b>Purchases</b>	Create, Update, Add to inventory
<b>Inventory</b>	Update, Tag update, Bulk upload
<b>Distribution</b>	Create (issue), Return, Multi-ACK

Category	Actions Logged
<b>Management</b>	Employee offboarding, Product status update
<b>Imports</b>	Data import operations
<b>Settings</b>	Profile update, Password change

## 23.2 Log Data Captured

Each log entry includes:

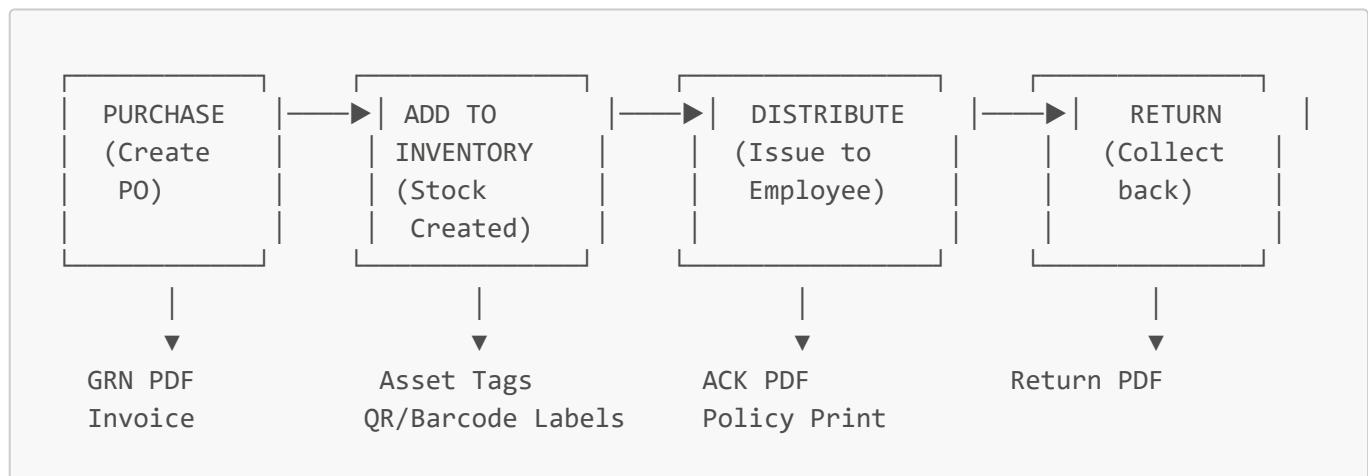
- **User** — Who performed the action
- **Action** — Type of action (e.g., `login`, `create`, `update`, `delete`)
- **Details** — Descriptive text of what was done
- **IP Address** — Client IP
- **User Agent** — Browser/device information
- **Timestamp** — When the action occurred

## 23.3 Viewing Logs

See [Section 16.5 — User Activity Logs](#)

# 24. Key Business Workflows

## 24.1 Complete Asset Lifecycle



## 24.2 Purchase to Inventory Workflow

1. **Create Purchase** → Select supplier, add product lines, enter serials/warranty
2. **Purchase Pending** → Review purchase details, generate GRN
3. **Add to Inventory** → For each product line, stocks are created
4. **Asset Tagging** → Auto-generated (if taggable) or manually assigned
5. **Label Generation** → Print QR codes, barcodes, or combo labels
6. **Stock Ready** → Items appear in inventory as "Available"

## 24.3 Distribution Workflow

1. **Create Distribution** → Select product type > available item > employee
2. **Issue Recorded** → Stock marked as "Assigned", transaction created
3. **Print ACK** → Acknowledgement document generated for signature
4. **Asset in Use** → Stock status reflects current assignment
5. **Return** → Employee returns item, return date recorded
6. **Stock Available** → Item returns to available pool

## 24.4 Employee Offboarding Workflow

1. **Initiate Offboarding** → Management module > select employee > enter resign date
2. **Auto-Return** → ALL active transactions are closed automatically
3. **Stock Released** → All assigned items become "Available"
4. **Employee Deactivated** → Status set to "Inactive"

## 24.5 Software License Distribution Workflow

1. **Purchase Software** → Enter total quantity (e.g., 50 licenses)
  2. **Add to Inventory** → Single stock record with quantity=50
  3. **Distribute** → Each distribution reduces available count
  4. **Return** → Available count is restored
  5. **Tracking** → System tracks: Total, Assigned, Available at all times
- 

## 25. Troubleshooting & FAQ

### 25.1 Common Issues

Issue	Solution
Cannot login	Verify email and password. Check if account exists. Minimum password: 6 characters.
Redirected to password change	Your account has <code>must_change_password</code> flag. Change your password to proceed.
Cannot delete a product type	Remove all associated products first.
Cannot delete a product	Remove all purchase products referencing it first.
Cannot delete a supplier	Remove all purchases for this supplier first.
Cannot delete a department	Reassign or remove all employees in the department.
Cannot delete a store	Reassign all stock items to a different store first.
Cannot delete an asset status	Reassign all stock items to a different status first.
Serial count mismatch	When creating a purchase, the number of serial numbers must match the quantity exactly.

Issue	Solution
Asset tag not generated	Ensure the product has <code>is_taggable</code> checked. Tags are generated during "Add to Inventory".
QR code not rendering	System falls back from PNG to SVG to HTML. Check PHP Imagick extension if PNG fails.
Barcode too long / scaling issues	The system uses adaptive scaling for Code128B based on serial length.
Import fails	Ensure the file is CSV format and column headers match the expected format.
Permission denied	Contact your administrator to verify your role has the required permissions.

## 25.2 Invoice Number Format

The auto-generated invoice follows the format: `DDMMYYYY-NNN`

- DD = Day (2 digits)
- MM = Month (2 digits)
- YYYY = Year (4 digits)
- NNN = Sequential number (3 digits)

## 25.3 Asset Tag Format

Auto-generated asset tags follow the format: `{TypePrefix}{5-digit-number}`

- TypePrefix = First letter of the product type name (uppercase)
- Example: `L00001` (Laptop), `M00001` (Monitor), `S00001` (Software)
- The system finds the highest existing number for each prefix and increments

## 25.4 Stock Assignment Status Codes

Code	Status	Meaning
1	Assigned	Currently assigned to an employee
2	Available	Available for distribution

## 25.5 Employee Status Codes

Code	Status
1	Active
2	Inactive / Resigned

## 25.6 Product Condition Codes

Code	Condition

<b>Code</b>	<b>Condition</b>
1	Active (Good)
2	Poor
3	Damaged

---

## 26. Appendix — Permission Reference

Complete Permission List (52 Permissions)

#	Permission	Module	Description
1	<code>role-list</code>	Roles	View roles list
2	<code>role-create</code>	Roles	Create new roles
3	<code>role-edit</code>	Roles	Edit existing roles
4	<code>role-delete</code>	Roles	Delete roles
5	<code>user-list</code>	Users	View users list
6	<code>user-create</code>	Users	Create new users
7	<code>user-edit</code>	Users	Edit existing users
8	<code>user-delete</code>	Users	Delete users
9	<code>product-type-list</code>	Product Types	View product types
10	<code>product-type-create</code>	Product Types	Create product types
11	<code>product-type-edit</code>	Product Types	Edit product types
12	<code>product-type-delete</code>	Product Types	Delete product types
13	<code>product-list</code>	Products	View products
14	<code>product-create</code>	Products	Create products
15	<code>product-edit</code>	Products	Edit products
16	<code>product-delete</code>	Products	Delete products
17	<code>store-list</code>	Stores	View stores/locations
18	<code>store-create</code>	Stores	Create stores
19	<code>store-edit</code>	Stores	Edit stores
20	<code>store-delete</code>	Stores	Delete stores
21	<code>status-list</code>	Asset Statuses	View statuses
22	<code>status-create</code>	Asset Statuses	Create statuses
23	<code>status-edit</code>	Asset Statuses	Edit statuses

#	Permission	Module	Description
24	<code>status-delete</code>	Asset Statuses	Delete statuses
25	<code>suppliers-list</code>	Suppliers	View suppliers
26	<code>suppliers-create</code>	Suppliers	Create suppliers
27	<code>suppliers-edit</code>	Suppliers	Edit suppliers
28	<code>suppliers-delete</code>	Suppliers	Delete suppliers
29	<code>purchase-list</code>	Purchases	View purchases
30	<code>purchase-create</code>	Purchases	Create purchases
31	<code>purchase-edit</code>	Purchases	Edit purchases
32	<code>purchase-delete</code>	Purchases	Delete purchases
33	<code>purchase-addinventory</code>	Purchases	Add to inventory (approve)
34	<code>purchase-approve</code>	Purchases	Approve purchases
35	<code>department-list</code>	Departments	View departments
36	<code>department-create</code>	Departments	Create departments
37	<code>department-edit</code>	Departments	Edit departments
38	<code>department-delete</code>	Departments	Delete departments
39	<code>employee-list</code>	Employees	View employees
40	<code>employee-create</code>	Employees	Create employees
41	<code>employee-edit</code>	Employees	Edit employees
42	<code>employee-delete</code>	Employees	Delete employees
43	<code>inventory-list</code>	Inventory	View inventory
44	<code>inventory-create</code>	Inventory	Create inventory
45	<code>inventory-edit</code>	Inventory	Edit inventory
46	<code>inventory-delete</code>	Inventory	Delete inventory
47	<code>inventory-update-tag</code>	Inventory	Update asset tags
48	<code>distribution-list</code>	Distributions	View distributions
49	<code>distribution-create</code>	Distributions	Create distributions
50	<code>distribution-edit</code>	Distributions	Edit distributions
51	<code>distribution-delete</code>	Distributions	Delete distributions
52	<code>distribution-return</code>	Distributions	Process returns
53	<code>report-list</code>	Reports	View reports list

#	Permission	Module	Description
54	report-view	Reports	View report details
55	report-employee	Reports	Employee reports
56	report-product	Reports	Product reports
57	report-distribution	Reports	Distribution reports
58	report-purchase	Reports	Purchase reports
59	report-inventory	Reports	Inventory reports
60	qrcode-generate	QR/Barcode	Generate QR codes
61	qrcode-print	QR/Barcode	Print QR codes
62	barcode-generate	QR/Barcode	Generate barcodes
63	barcode-print	QR/Barcode	Print barcodes
64	imports-list	Imports	View imports page
65	import-create	Imports	Execute imports
66	users-log	System	View user logs
67	user-log-view	System	View log details
68	system-settings	System	System settings access
69	management-all	Management	Full management access
70	onboarding-list	Onboarding	View onboarding
71	onboarding-create	Onboarding	Create onboarding
72	self-view-profile	Self-Service	View own profile
73	self-view-assets	Self-Service	View own assets
74	self-view-transactions	Self-Service	View own transactions

### Role — Permission Mapping (Default)

Role	Permissions
<b>Super Admin</b>	All 52+ permissions
<b>Admin</b>	All 52+ permissions
<b>Employee</b>	self-view-profile, self-view-assets, self-view-transactions

*End of Document*

*This SOP should be reviewed and updated whenever significant system changes are made.*