



PROJECT REPORT

Warehouse Management

Semester: Programming Fundamentals

Class: PF1126

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I. Project introduction

Software for managing export, import, and finished product inventory with main functions: user management, supplier management, product management, warehouse import/export.

1. Proposed System

- User management.
- Product Management.
- Supplier management.
- Warehouse management.
- Inventory management.
- Manage warehouse release and rotation.
- Export report

2. The scope of the project to be applied

- **Target Users:** Small and medium business companies.

3. System Name

- Warehouse Management System.

4. Deployment Environment

- **Supported Platforms:** Window, Mac (Linux?).

5. Development Tools

- **Database Management:** MySQL Workbench 8.0.34
- **Diagramming Tool:** Draw.io
- **Code Editor:** Visual Studio Code

6. Customer Requirements (System features)

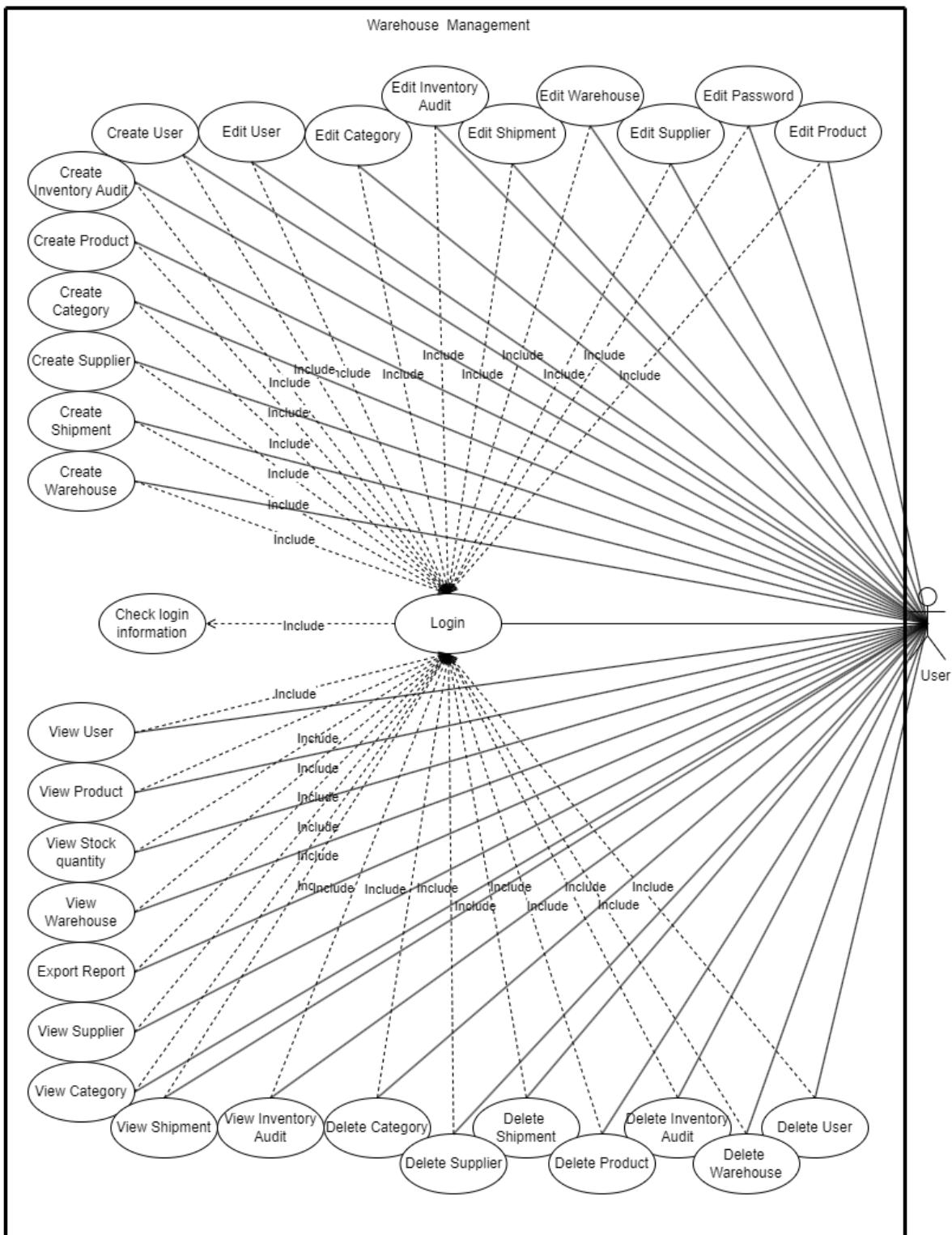
- User management
- Supplier management
- Warehouse management
- Product management
- Stock management
- Inbound/Outbound/Transfer management
- Inventory Audit
- Reports

II. Analyze System Requirements

Warehouse management software integrates many important functions to help optimize goods and warehouse management. The goods management function allows adding, editing, deleting goods and checking inventory details. Warehouse management supports adding, editing, and deleting warehouses, along with import and export management functions including management of import and export activities and periodic inventory audit.

Inventory management helps perform periodic or unscheduled inventory counts and inventory adjustments when necessary. Partner management includes information about suppliers. The user management and authorization system allows account management and authorization to use system functions. Finally, the reporting and statistics function provides detailed reports on inventory status, import and export of goods to support business decision making.

1. Use Case



1.1 Login Description

Use Case Name	Login
Use Case ID	UC01
Description	Used to access the program and determine usage rights depending on account level.
Actor	User
Organizational Benefits	Security: Ensure that only authorized users can use system functions Customization: Allows customization of each user's permissions.
Triggers	The user enters the name and password then selects login on the software interface
Preconditions	The user already has an account in the system The system is active and can access the database
Postconditions	If successful, the user will be redirected to the system home screen with authenticated access. If it fails, the user will receive an error message and can try entering again.
Main Course	<ol style="list-style-type: none"> 1. User enters username and password. 2. The system authenticates login information. 3. If the information is valid, the system logs the user in and sends them to the main screen. 4. Users now have access to functions and data based on their account.
Alternate Courses	<p>AC1: Wrong login information: User entered incorrect login name and password</p> <ol style="list-style-type: none"> 1. Display error message 2. Display the login screen again 3. Request re-entry
Exceptions	<p>System error: Connection error or database problem prevents successful login.</p> <ol style="list-style-type: none"> 1. 1. Display "Database or connection error".

1.2 Check Login Description

Use Case Name	Check Login Information
Use Case ID	UC02
Description	This use case describes the process of checking the validity of user login information into the system.
Actor	System
Organizational Benefits	Ensure only users with valid login credentials are allowed to access the system, protecting data security.
Triggers	The system automatically checks login information when users access the system.
Preconditions	The user provides login information (username and password).
Postconditions	The system confirms the validity of the login information and allows users to access the system or deny access.
Main Course	<ol style="list-style-type: none"> 1. User provides username and password to log in to the system. 2. The system checks whether the username and password are correct. 3. If the login information is valid, the system allows the user to access the system and generate tokens. 4. If the login information is invalid, the system denies access and displays an error message to the user.
Alternate Courses	AC1: If the password is incorrect, the system displays an error message and requires the user to re-enter.
Exceptions	<p>EX1: If the username does not exist in the database, the system displays an error message and asks the user to recheck the login information.</p> <p>EX2: If the system encounters an error while processing login information, the system displays an error message and asks the user to try again.</p>

1.3 Create Supplier Description

Use Case Name	Create supplier
Use Case ID	UC03
Description	This use case describes the process of adding a new supplier to the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor.
Organizational Benefits	Helps manage and store supplier information.
Triggers	The user needs to add a new provider.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	The new supplier is added to the supplier list in the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to add a new supplier. 2. The system displays the supplier information form. 3. User enters supplier details (name, address, contact information, etc.). 4. User submits form. 5. The system validates the entered data. 6. The system saves supplier information into the database. 7. The system confirms the successful addition of a new supplier to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	EX1: If the input data is invalid (for example, contact information is not in the correct format), the system displays an error message and asks the user to correct the information.

1.4 Update Supplier Description

Use Case Name	Update supplier
Use Case ID	UC04
Description	This use case describes the process of editing an existing supplier's information in the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor.
Organizational Benefits	Ensure supplier information is updated accurately, helping to maintain consistent and reliable supplier data.
Triggers	User needs to edit existing supplier information.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Supplier information is updated in the system.
Main Course	<ol style="list-style-type: none"> 1. The user selects the supplier's information that needs to be edited 2. The system displays the selected information if it is allowed to be edited 3. User edits information 4. The user confirms the information that needs to be corrected 5. The system validates the corrected data 6. The system updates supplier information in the database. 7. The system confirms the successful vendor update to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the modified data is invalid (for example, contact information is not in the correct format), the system displays an error message and asks the user to correct the information.</p> <p>EX2: If the system encounters an error while updating data to the database, the system displays an error message and asks the user to try again.</p>

1.5 Delete Supplier Description

Use Case Name	Delete supplier
Use Case ID	UC05
Description	This use case describes the process of deleting a supplier's information from the system.
Actor	Admin, Director, Warehouse Manager.
Organizational Benefits	Make sure the supplier list in the system is always accurate and does not contain unnecessary information.
Triggers	The user decides to delete the existing provider.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Supplier information is deleted in the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the supplier he wants to delete. 2. User confirms deletion of provider. 3. The system checks relevant conditions when deleting a supplier. 4. The system deletes supplier information from the database. 5. The system confirms the successful deletion of the supplier to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the supplier is already linked to the order, the system displays an error message and does not allow deletion of the supplier.</p> <p>EX2: If the system encounters an error while deleting data from the database, the system displays an error message and asks the user to try again.</p>

1.6 View Supplier Description

Use Case Name	View Supplier
Use Case ID	UC06
Description	This use case describes the process of viewing detailed information of a supplier in the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor, Warehouse Worker.
Organizational Benefits	Allows users to view detailed information about suppliers, helping them make decisions related to procurement and supplier management effectively.
Triggers	Users need to view detailed information of a supplier.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	The supplier's details are displayed to the user.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to view the supplier list. 2. The system displays the list of suppliers. 3. Users select or search for suppliers to view. 4. Users see detailed information and can take other actions (like editing or deleting).
Alternate Courses	AC1: If users do not find the desired supplier, they can search or filter the supplier list by various criteria (name, supplier code, etc.).
Exceptions	EX1: If the system encounters an error while retrieving data from the database, the system displays an error message and asks the user to try again.

1.7 Add Category Description

Use Case Name	Add category
Use Case ID	UC07
Description	This use case describes the process of adding a new category to the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor
Organizational Benefits	Ensure catalog information is recorded and maintained accurately, helping to manage product catalogs effectively.
Triggers	User needs to add a new category.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	New categories added to the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to add a new category. 2. The system displays sample directory information. 3. User enters category details (name, description) 4. User confirms. 5. The system checks related conditions when adding categories. 6. The system saves directory information to the database. 7. The system confirms the successful addition of the new category to the user.
Alternate Courses	AC1: If the user chooses back, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the input data is invalid (for example, the category name already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error when saving data to the database, the system displays an error message and asks the user to try again.</p>

1.8 Update Category Description

Use Case Name	Update category
Use Case ID	UC08
Description	This use case describes the process of editing information about an existing category in the system.
Actor	Admin, Director, Warehouse Manager.
Organizational Benefits	Ensure catalog information is updated accurately, helping to maintain consistent and reliable catalog data.
Triggers	User needs to edit existing category information.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Category information is updated in the system.
Main Course	<ol style="list-style-type: none"> 1. The user selects the category he wants to edit. 2. The system displays information about the selected category. 3. User edits necessary details. 4. User confirms. 5. The system checks the corrected data. 6. The system updates directory information in the database. 7. The system confirms the successful updating of the catalog to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the modified data is invalid (for example, the category name already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error when saving data to the database, the system displays an error message and asks the user to try again.</p>

1.9 Delete Category Description

Use Case Name	Delete category
Use Case ID	UC09
Description	This use case describes the process of deleting a category's information from the system.
Actor	Admin, Director, Warehouse Manager.
Organizational Benefits	Make sure the list of categories in the system is always accurate and does not contain unnecessary information.
Triggers	User needs to delete an existing category.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Category information is deleted from the system.
Main Course	<ol style="list-style-type: none"> 1. The user selects the category they want to delete. 2. The system requests confirmation of deletion. 3. User confirms deletion of category. 4. The system checks the constraints related to the category. 5. The system deletes directory information from the database. 6. The system confirms the successful deletion of the directory for the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without deleting data.
Exceptions	<p>EX1: If the category is linked to other products or data, the system displays an error message and does not allow deleting the category.</p> <p>EX2: If the system encounters an error when saving data to the database, the system displays an error message and asks the user to try again.</p>

1.10 View Category Description

Use Case Name	View category
Use Case ID	UC10
Description	This use case describes the process of viewing detailed information of a category in the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor, Warehouse Worker.
Organizational Benefits	Allows users to view detailed information about categories, helping them manage products and categories effectively.
Triggers	Users need to view detailed information of a category.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Detailed information of the category is displayed to the user.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to view the category list. 2. The system displays the category list. 3. User selects or searches for the category to view. 4. The system displays detailed information of the selected category (name, description, etc.). 5. Users see detailed information and can take other actions (like edit or delete).
Alternate Courses	AC1: If users do not find the desired category, they can search or filter the category list by various criteria (name, category code, etc.).
Exceptions	EX1: If the system encounters an error while retrieving data from the database, the system displays an error message and asks the user to try again.

1.11 Add Product Description

Use Case Name	Add Product
Use Case ID	UC11
Description	This use case describes the process of adding a new product to the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor.
Organizational Benefits	Ensure product information is recorded and maintained accurately, helping to manage products effectively.
Triggers	The user needs to add a new product.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	New products added to the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to add a new product. 2. The system displays product information samples. 3. User enters product details (name, description, price, category, etc.). 4. User confirms. 5. The system validates the entered data. 6. The system saves product information into the database. 7. The system confirms the successful addition of the new product to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the input data is invalid (for example, the product name already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error when saving data to the database, the system displays an error message and asks the user to try again.</p>

1.12 Update Product Description

Use Case Name	Update Product
Use Case ID	UC12
Description	This use case describes the process of editing information about an existing product in the system.
Actor	Admin, Director, Warehouse Manager.
Organizational Benefits	Ensure product information is updated accurately, helping to maintain consistent and reliable product data.
Triggers	The user decides to edit the existing product information.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Product information is updated in the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the product he wants to edit. 2. The system displays the current product information form. 3. User edits necessary details. 4. User confirms. 5. The system validates the corrected data. 6. The system updates product information in the database. 7. The system confirms the successful product update to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the modified data is invalid (for example, the product name already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error when saving data to the database, the system displays an error message and asks the user to try again.</p>

1.13 Delete Product Description

Use Case Name	Delete Product
Use Case ID	UC13
Description	This use case describes the process of deleting a product's information from the system.
Actor	Admin, Director, Warehouse Manager.
Organizational Benefits	Make sure the product list in the system is always accurate and does not contain unnecessary information.
Triggers	User needs to delete an existing product.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Product information is deleted in the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the product he wants to delete. 2. The system requests confirmation of deletion. 3. User confirms product deletion. 4. The system checks constraints related to the product. 5. The system deletes product information from the database. 6. The system confirms the successful deletion of the product to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without deleting data.
Exceptions	EX1: If the product has been used in any order, the system displays an error message and does not allow deletion of the product. EX2: If the system encounters an error when saving data to the database, the system displays an error message and asks the user to try again.

1.14 View Product Description

Use Case Name	View Product
Use Case ID	UC14
Description	This use case describes the process of viewing detailed information of a product in the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor, Warehouse Worker.
Organizational Benefits	Allows users to view detailed product information, helping them manage products and categories effectively.
Triggers	Users need to see detailed information of a product.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Detailed product information is displayed to the user.
Main Course	<ol style="list-style-type: none"> 1. User selects option to view product list. 2. The system displays the product list. 3. User selects the product to view. 4. The system displays detailed information of the selected product (name, description, price, category, etc.). 5. Users see detailed information and can take other actions (like edit or delete).
Alternate Courses	AC1: If users do not find the desired product, they can search or filter the product list by various criteria (name, product code, etc.).
Exceptions	EX1: If the system encounters an error while retrieving data from the database, the system displays an error message and asks the user to try again.

1.15 Add Shipment Description

Use Case Name	Add shipment
Use Case ID	UC15
Description	This use case describes the process of adding a new order to the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor.
Organizational Benefits	Ensure order information is recorded and maintained accurately, helping to manage shipments effectively.
Triggers	The user decides to add a new order.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	New order added to the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to add a new order. 2. The system displays the order information form. 3. User enters order details (order code, description, date, etc.). 4. User confirms. 5. The system validates the entered data. 6. The system saves shipment information into the database. 7. The system confirms the successful addition of a new shipment to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the entered data is invalid (for example, the order code already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error when saving data to the database, the system displays an error message and asks the user to try again.</p>

1.16 Update Shipment Description

Use Case Name	Update shipment
Use Case ID	UC16
Description	This use case describes the process of editing information about an existing order in the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor.
Organizational Benefits	Ensure order information is updated accurately, helping maintain order data
Triggers	The user decides to correct the incomplete order information.
Preconditions	The user must log in to the system with appropriate permissions. The order is in the system and in processing status.
Postconditions	Order information is updated in the system.
Main Course	<ol style="list-style-type: none"> 1. The user selects the order he wants to edit. 2. The system displays current order information. 3. User edits necessary details. 4. User confirms. 5. The system validates the corrected data. 6. The system updates order information in the database. 7. The system confirms the successful order update for the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the modified data is invalid (for example, the order code already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error when saving data to the database, the system displays an error message and asks the user to try again.</p>

1.17 Delete Shipment Description

Use Case Name	Delete shipment
Use Case ID	UC17
Description	This use case describes the process of deleting an order from the system.
Actor	Admin, Director, Warehouse Manager.
Organizational Benefits	Ensure the shipment list in the system is always accurate and does not contain unnecessary information.
Triggers	User needs to delete an existing order.
Preconditions	The user must log in to the system with appropriate permissions. The order is in the system and in processing status.
Postconditions	The order is deleted from the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the order he wants to delete. 2. The system requests confirmation of deletion. 3. User confirms deletion of order. 4. The system checks the constraints related to the order. 5. The system deletes order information from the database. 6. The system confirms the successful order deletion for the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without deleting data.
Exceptions	EX1: If the order has been completed, the system displays an error message and does not allow deleting the shipment. EX2: If the system encounters an error while saving data to the database, the system displays an error message and asks the user to try again later.

1.18 View Shipment Description

Use Case Name	View shipment
Use Case ID	UC18
Description	This use case describes the process of viewing detailed information of an order in the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor, Warehouse Worker.
Organizational Benefits	Allows users to view detailed information about orders, helping them manage orders effectively.
Triggers	Users need to view detailed information of an order.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Detailed information of the order is displayed to the user.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to view the order list. 2. The system displays the order list. 3. User selects the order to view. 4. The system displays detailed information of the selected order (code, description, date, etc.). 5. Users see detailed information and can take other actions (like edit or delete).
Alternate Courses	AC1: If users cannot find the desired order, they can search or filter the shipment list by different criteria (code, date, etc.).
Exceptions	EX1: If the system encounters an error while retrieving data from the database, the system displays an error message and asks the user to try again.

1.19 Add Warehouse Description

Use Case Name	Add warehouse
Use Case ID	UC19
Description	This use case describes the process of adding a new warehouse to the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor.
Organizational Benefits	Ensure warehouse information is recorded and maintained accurately, helping to manage warehouse effectively.
Triggers	User needs to add a new warehouse.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	New warehouse added to the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to add a new warehouse. 2. The system displays sample warehouse information. 3. User enters warehouse details (warehouse name, address, description, etc.). 4. User confirms. 5. The system validates the entered data. 6. The system saves warehouse information into the database. 7. The system confirms the successful addition of new warehouse to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the input data is invalid (for example, the warehouse name already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error when saving data to the database, the system displays an error message and asks the user to try again.</p>

1.20 Update Warehouse Description

Use Case Name	Update warehouse
Use Case ID	UC20
Description	This use case describes the process of editing information about an existing warehouse in the system.
Actor	Admin, Director, Warehouse Manager.
Organizational Benefits	Ensure warehouse information is updated accurately, helping to maintain consistent and reliable warehouse data.
Triggers	User needs to edit existing warehouse information.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Warehouse information is updated in the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the warehouse he wants to edit. 2. The system displays selected warehouse information. 3. User edits necessary details. 4. User confirms. 5. The system validates the corrected data. 6. The system updates warehouse information in the database. 7. The system confirms the successful inventory update to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the modified data is invalid (for example, the warehouse name already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error while updating data to the database, the system displays an error message and asks the user to try again.</p>

1.21 Delete Warehouse Description

Use Case Name	Delete warehouse
Use Case ID	UC21
Description	This use case describes the process of deleting warehouse information from the system.
Actor	Admin, Director, Warehouse Manager.
Organizational Benefits	Make sure the inventory list in the system is always accurate and does not contain unnecessary information.
Triggers	The user needs to delete an existing inventory.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Warehouse information is deleted from the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the warehouse he wants to delete. 2. The system requests confirmation of deletion. 3. User confirms deletion of inventory. 4. The system checks warehouse-related conditions. 5. The system deletes warehouse information from the database. 6. The system confirms the successful deletion of inventory to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without deleting data.
Exceptions	<p>EX1: If the warehouse has products, the system displays an error message and does not allow deleting the warehouse.</p> <p>EX2: If the system encounters an error while updating data to the database, the system displays an error message and asks the user to try again later.</p>

1.22 View warehouse Description

Use Case Name	View warehouse
Use Case ID	UC22
Description	This use case describes the process of viewing detailed information of a warehouse in the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor, Warehouse Worker.
Organizational Benefits	Allows users to view detailed information about the warehouse, helping them manage the warehouse effectively.
Triggers	The user needs to view detailed information about a warehouse.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Detailed information of the warehouse is displayed to the user.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to view the inventory list. 2. The system displays a list of warehouses with detailed information about the warehouse (warehouse name, address, description, etc.). 3. Users see detailed information and can take other actions (like editing or deleting).
Alternate Courses	AC1: If users cannot find the desired warehouse, they can search or filter the warehouse list by various criteria (warehouse name, address, etc.).
Exceptions	EX1: If the system encounters an error while retrieving data from the database, the system displays an error message and asks the user to try again.

1.23 Add Inventory Audit Description

Use Case Name	Add inventory audit
Use Case ID	UC23
Description	This use case describes the process of deleting warehouse information from the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor.
Organizational Benefits	Ensure inventory information is recorded and maintained accurately, helping to manage inventory effectively.
Triggers	The user needs to add a new inventory report.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	New inventory report added to the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to add a new inventory report. 2. The system displays the inventory report information form. 3. User enters inventory report details (report code, description, inventory date, etc.). 4. User confirms. 5. The system validates the entered data. 6. The system saves inventory report information to the database. 7. The system confirms the successful addition of the new inventory report to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the input data is invalid (for example, a report code already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error while updating data to the database, the system displays an error message and asks the user to try again.</p>

1.24 Update Inventory Audit Description

Use Case Name	Update inventory audit
Use Case ID	UC24
Description	This use case describes the process of editing information on an existing inventory report in the system.
Actor	Admin, Director, Warehouse Manager
Organizational Benefits	Ensure inventory information is updated accurately, helping to maintain consistent and reliable inventory data.
Triggers	The user needs to edit the existing inventory report information.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Inventory report information is updated in the system.
Main Course	<ol style="list-style-type: none"> 1. The user selects the inventory report he wants to edit. 2. The system displays the selected inventory report information form. 3. User edits necessary details. 4. User confirms. 5. The system validates the corrected data. 6. The system updates inventory report information in the database. 7. The system confirms the successful updating of the inventory report to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the modified data is invalid (for example, a report code already exists), the system displays an error message and requests the user to correct the information.</p> <p>EX2: If the system encounters an error while updating data to the database, the system displays an error message and asks the user to try again.</p>

1.25 Delete Inventory Audit Description

Use Case Name	Delete inventory audit
Use Case ID	UC25
Description	This use case describes the process of deleting information from an inventory report from the system.
Actor	Admin, Director, Warehouse Manager
Organizational Benefits	Make sure the list of inventory reports in the system is always accurate and does not contain unnecessary information.
Triggers	The user needs to delete an existing inventory report.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	Inventory report information is deleted from the system.
Main Course	<ol style="list-style-type: none"> 1. The user selects the inventory report he wants to delete. 2. The system requests confirmation of deletion. 3. User confirms deletion of inventory report. 4. The system checks constraints related to inventory reports. 5. The system deletes inventory report information from the database. 6. The system confirms the successful deletion of the inventory report to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without deleting data.
Exceptions	<p>EX1: If the inventory report is in completed status, the system displays an error message and does not allow deletion of the inventory report.</p> <p>EX2: If the system encounters an error while updating data to the database, the system displays an error message and asks the user to try again.</p>

1.26 View Inventory Audit Description

Use Case Name	View inventory audit
Use Case ID	UC26
Description	This use case describes the process of viewing detailed information of an inventory report in the system.
Actor	Admin, Director, Warehouse Manager
Organizational Benefits	Allows users to view detailed information about inventory reports, helping them manage inventory effectively.
Triggers	Users need to view detailed information of an inventory report.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	The detailed information of the inventory report is displayed to the user.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to view the list of inventory reports. 2. The system displays a list of inventory reports. 3. The user selects the inventory report to view. 4. The system displays detailed information of the selected inventory report (report code, description, inventory date, etc.). 5. Users see detailed information and can take other actions (like edit or delete).
Alternate Courses	AC1: If users do not find the desired inventory report, they can search or filter the list of inventory reports by various criteria (report code, inventory date, etc.).
Exceptions	EX1: If the system encounters an error while retrieving data from the database, the system displays an error message and asks the user to try again.

1.27 Add User Description

Use Case Name	Add user
Use Case ID	UC27
Description	This use case describes the process of adding a new user to the system.
Actor	Admin.
Organizational Benefits	Ensure user information is recorded and maintained accurately, helping to manage users effectively.
Triggers	The user needs to add a new user.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	New user added to the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to add a new user. 2. The system displays the user information form. 3. User enters user details (name, email, permissions, password, etc.). 4. User confirms. 5. The system validates the entered data. 6. The system saves user information into the database. 7. The system confirms the successful addition of the new user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the entered data is invalid (for example, the email already exists), the system displays an error message and requests to correct the information.</p> <p>EX2: If the system encounters an error while saving data to the database, the system displays an error message and asks to try again.</p>

1.28 Update User Description

Use Case Name	Update user
Use Case ID	UC28
Description	This use case describes the process of editing an existing user's information in the system.
Actor	Admin
Organizational Benefits	Ensure user information is updated accurately, helping to maintain consistent and reliable user data.
Triggers	The user needs to edit existing user information.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	User information is updated in the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the user he wants to edit. 2. The system displays the selected user information form. 3. User edits necessary details. 4. User confirms. 5. The system validates the corrected data. 6. The system updates user information in the database. 7. The system confirms the successful user update to the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the modified data is invalid (for example, the email already exists), the system displays an error message and requires the user to correct the information.</p> <p>EX2: If the system encounters an error while saving data to the database, the system displays an error message and asks the administrator to try again.</p>

1.29 Delete User Description

Use Case Name	Delete user
Use Case ID	UC29
Description	This use case describes the process of deleting a user's information from the system.
Actor	Admin
Organizational Benefits	Make sure the list of users in the system is always accurate and does not contain unnecessary information.
Triggers	The user decides to delete an existing user.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	User information is deleted from the system.
Main Course	<ol style="list-style-type: none"> 1. User selects the user he wants to delete. 2. The system requests confirmation of deletion. 3. User confirms user deletion. 4. The system checks the constraints related to the user. 5. The system deletes user information from the database. 6. The system confirms the successful user deletion for the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the user is already associated with critical activities or data, the system displays an error message and does not allow deletion of the user.</p> <p>EX2: If the system encounters an error while saving data to the database, the system displays an error message and asks the administrator to try again.</p>

1.30 View User Description

Use Case Name	View User
Use Case ID	UC30
Description	This use case describes the process of viewing detailed information of a user in the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor, Warehouse Worker.
Organizational Benefits	Allows users to view detailed information about other users, helping them manage and track users effectively.
Triggers	The user decides to view a user's details.
Preconditions	The user must log in to the system with appropriate permissions.
Postconditions	User details are displayed to other users.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to view the list of users. 2. The system displays a list of detailed information of users (name, email, role, etc.). 3. The user sees detailed information and can take other actions (like editing or deleting if permission is available).
Alternate Courses	AC1: If the user does not find the desired user, they can search or filter the user list by various criteria (name, email, role, etc.).
Exceptions	EX1: If the system encounters an error while retrieving data from the database, the system displays an error message and asks the user to try again.

1.31 Change Password Description

Use Case Name	Change password
Use Case ID	UC31
Description	This use case describes the process of users changing their passwords in the system.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor, Warehouse Worker.
Organizational Benefits	Ensures user account security and allows users to manage their own login information.
Triggers	Users need to change their password.
Preconditions	User must log in to the system.
Postconditions	The new password is saved in the system and the user uses the new password the next time he logs in.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to change the password. 2. The system displays the password change form. 3. The user enters the current password, new password, and confirms the new password. 4. User confirms. 5. Current password authentication system. 6. The system verifies the validity of the new password. 7. The system saves the new password to the database. 8. The system confirms the successful password change for the user.
Alternate Courses	AC1: If the user cancels the operation, the system returns to the previous screen without saving any data.
Exceptions	<p>EX1: If the current password is incorrect, the system displays an error message and asks the user to re-enter.</p> <p>EX2: If the new password does not meet security requirements (e.g. minimum length, special characters), the system displays an error message and asks the user to re-enter it.</p> <p>EX3: If the system encounters an error while saving the new password to the database, the system displays an error message and asks the user to try again.</p>

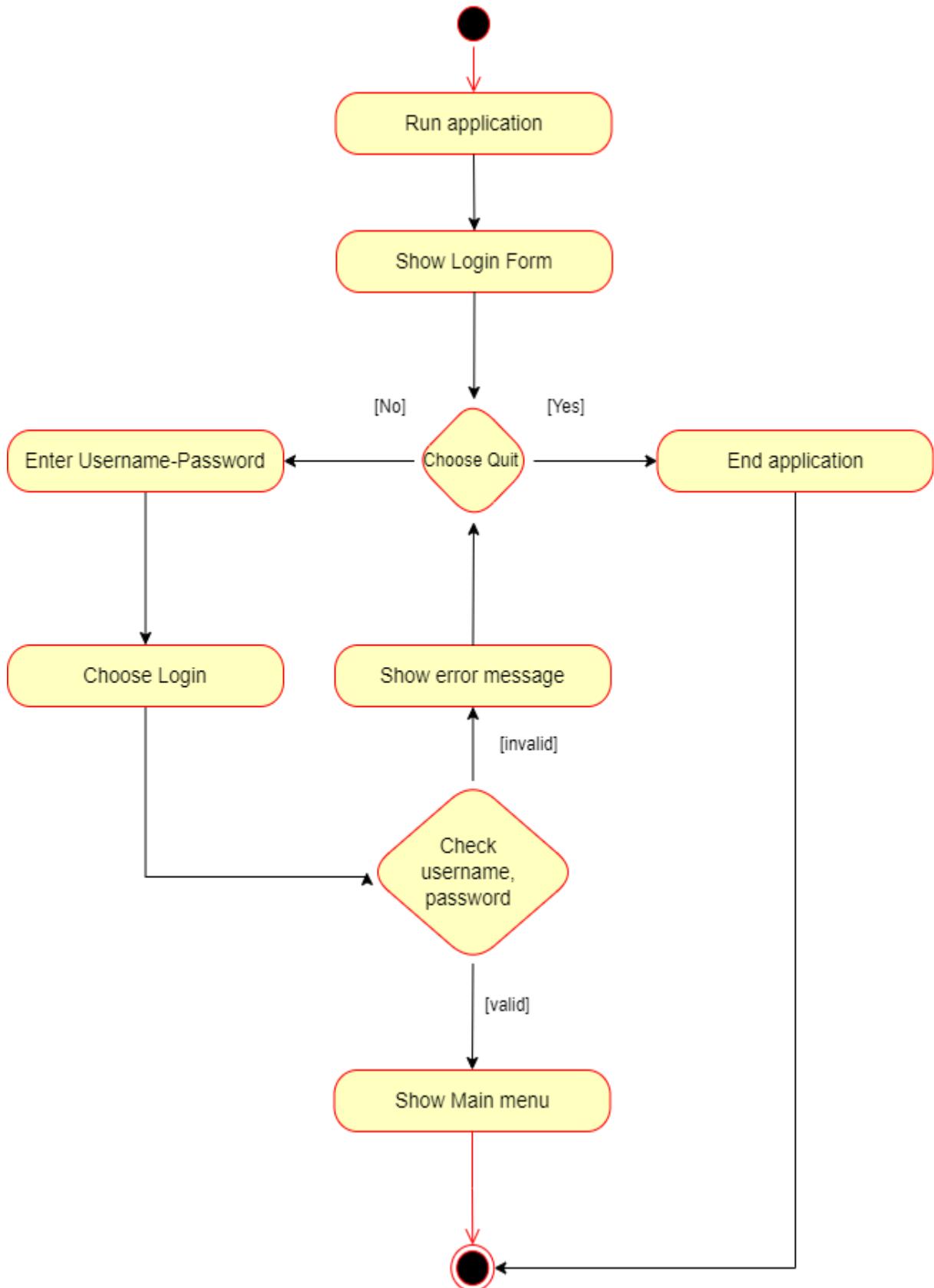
1.32 Export Report Description

Use Case Name	Export report
Use Case ID	UC32
Description	This use case describes the process of users viewing reports available in the system by exporting to excel files.
Actor	Admin, Director, Warehouse Manager, Warehouse Supervisor, Warehouse Worker.
Organizational Benefits	Enables users to access and analyze data for decision support and monitoring organizational performance.
Triggers	User needs to view a report in the system.
Preconditions	User must log in to the system.
Postconditions	The report is generated to file and users can view detailed report content.
Main Course	<ol style="list-style-type: none"> 1. User selects the option to view a list of reports. 2. The system displays a list of available reports. 3. User selects the report to export. 4. The system creates a report file with detailed data.
Alternate Courses	AC1:
Exceptions	EX1: If the system encounters an error while retrieving or displaying the report, the system displays an error message.

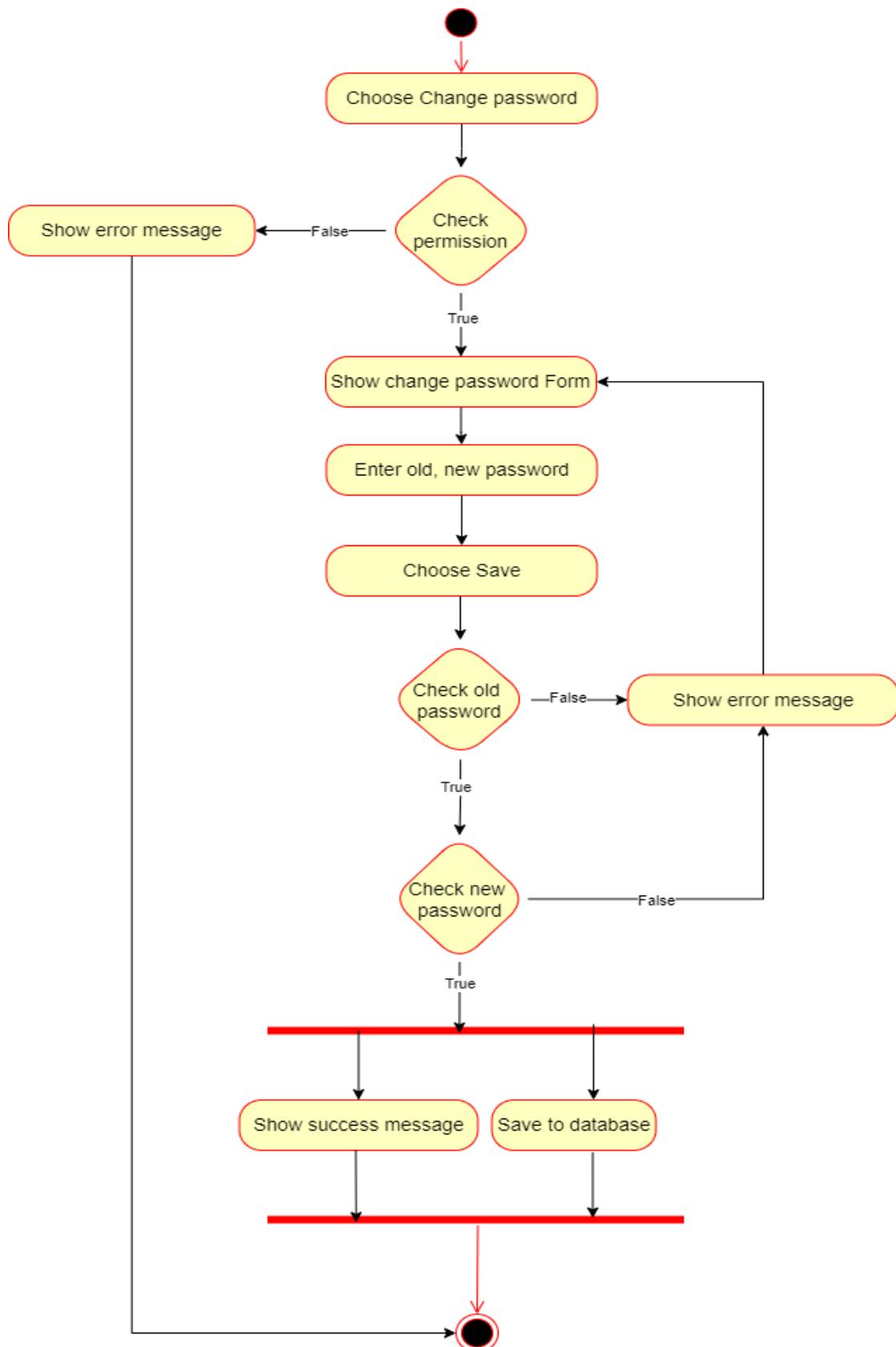
1.33 View Stock Quantity Description

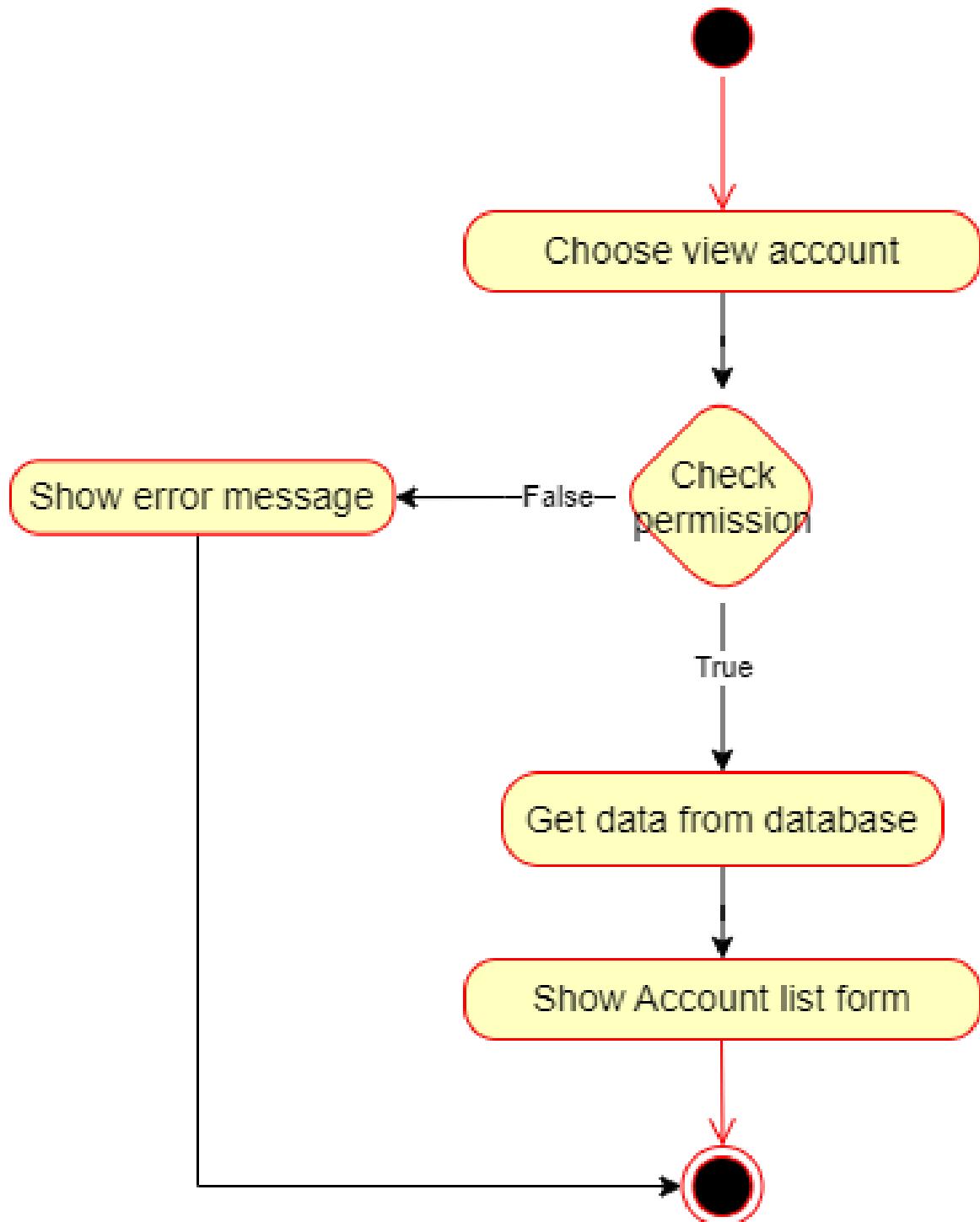
2. Activity Diagram:

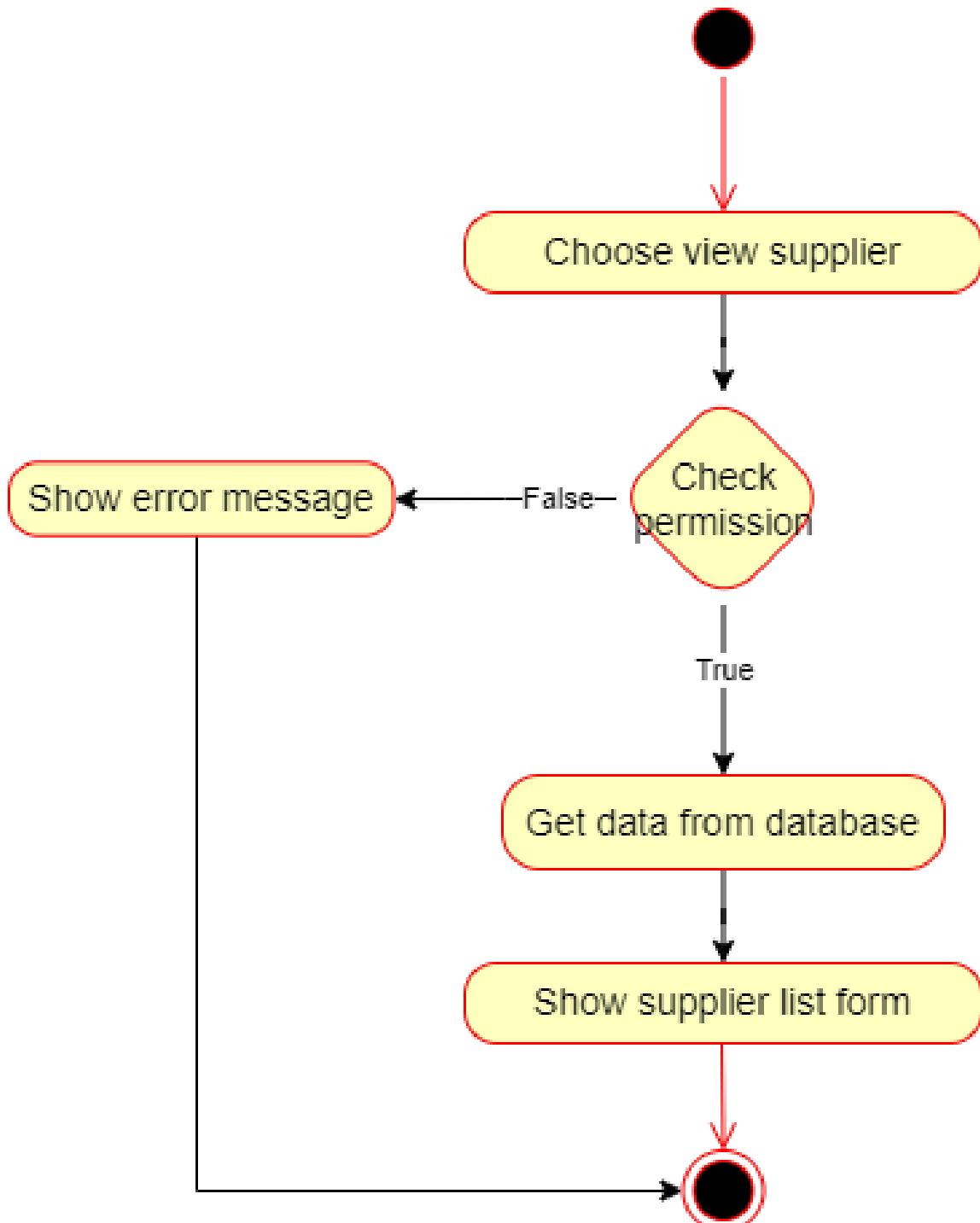
2.1 Login activity

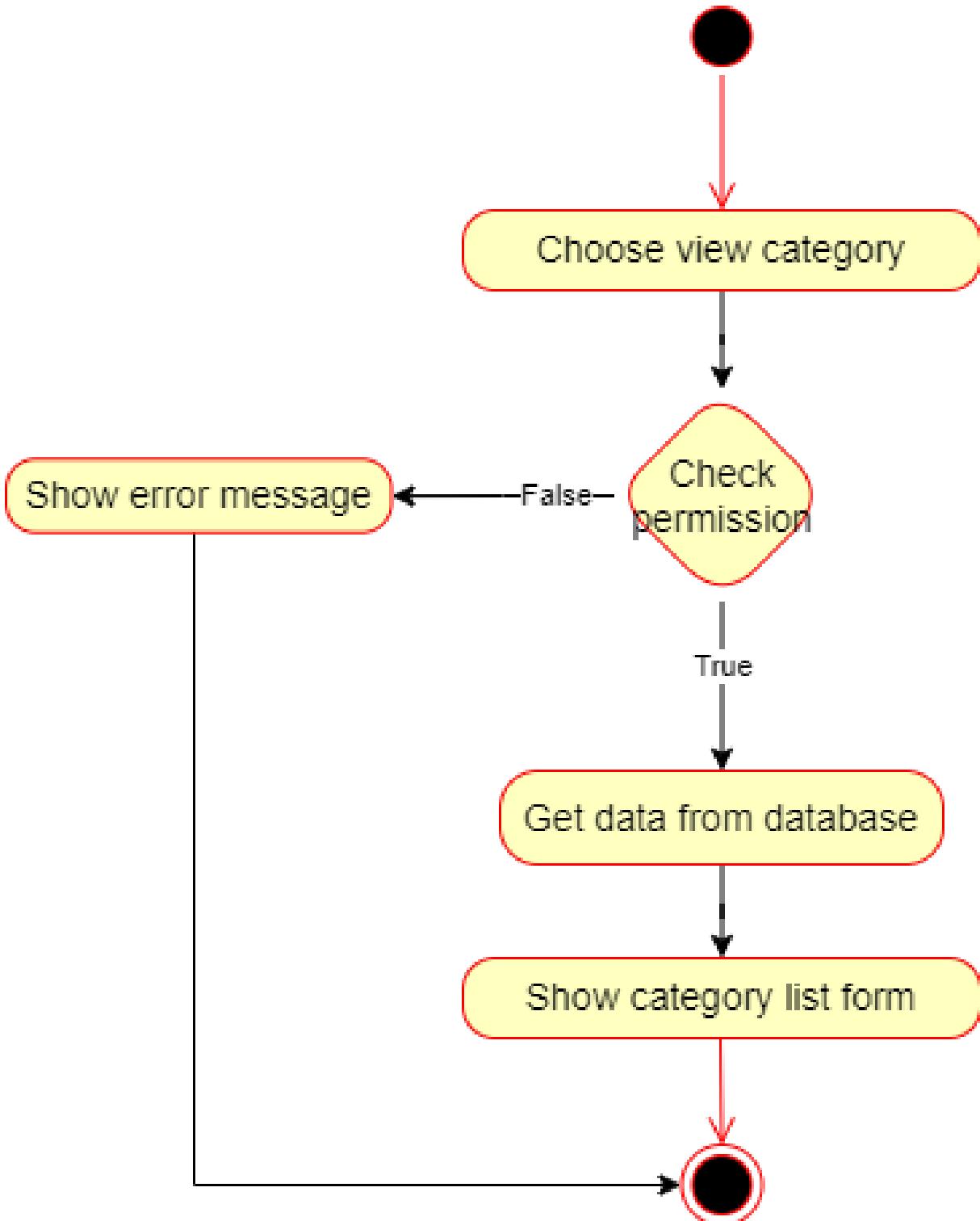


2.2 Change password activity

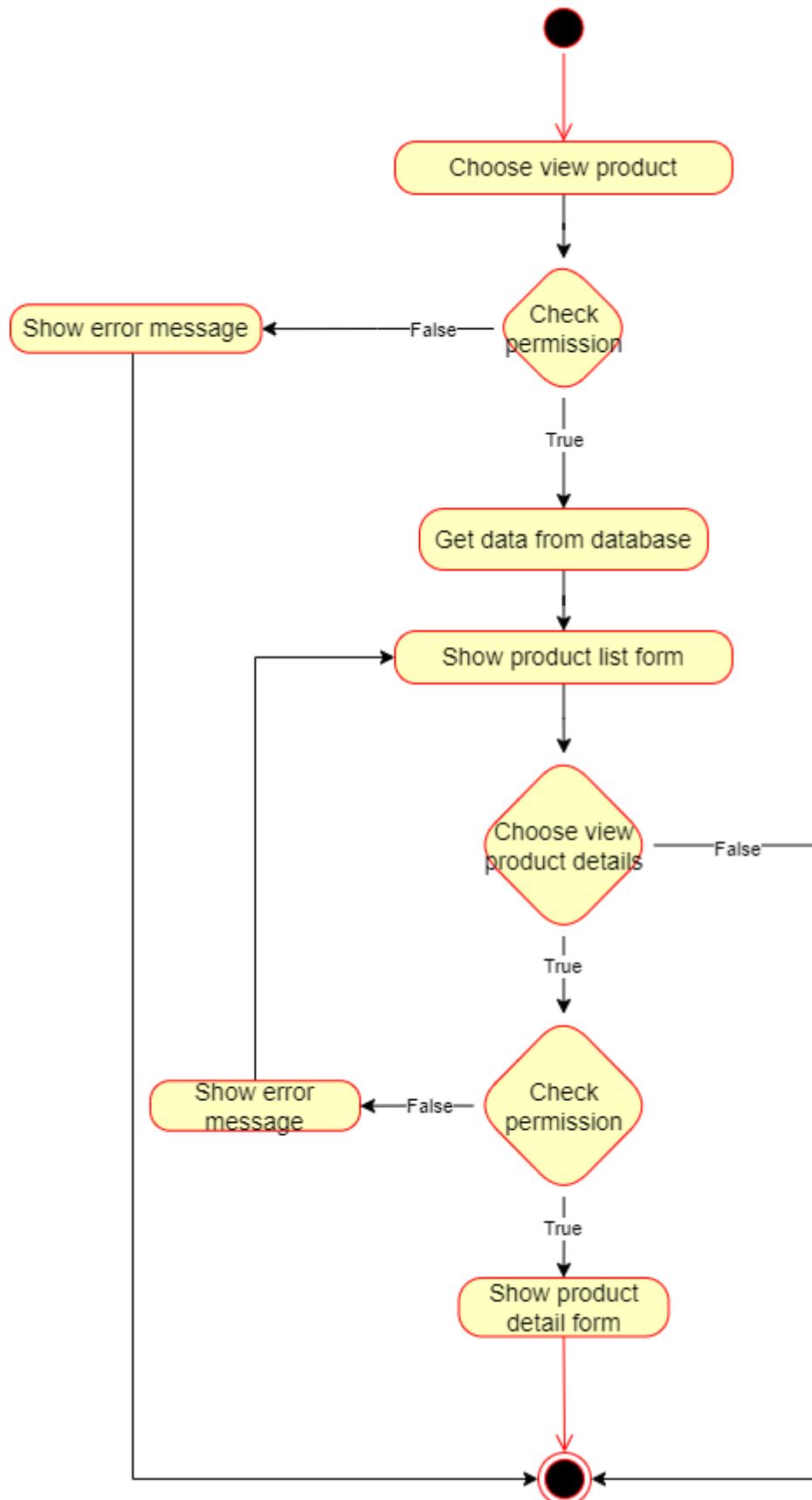


2.3 View account list activity

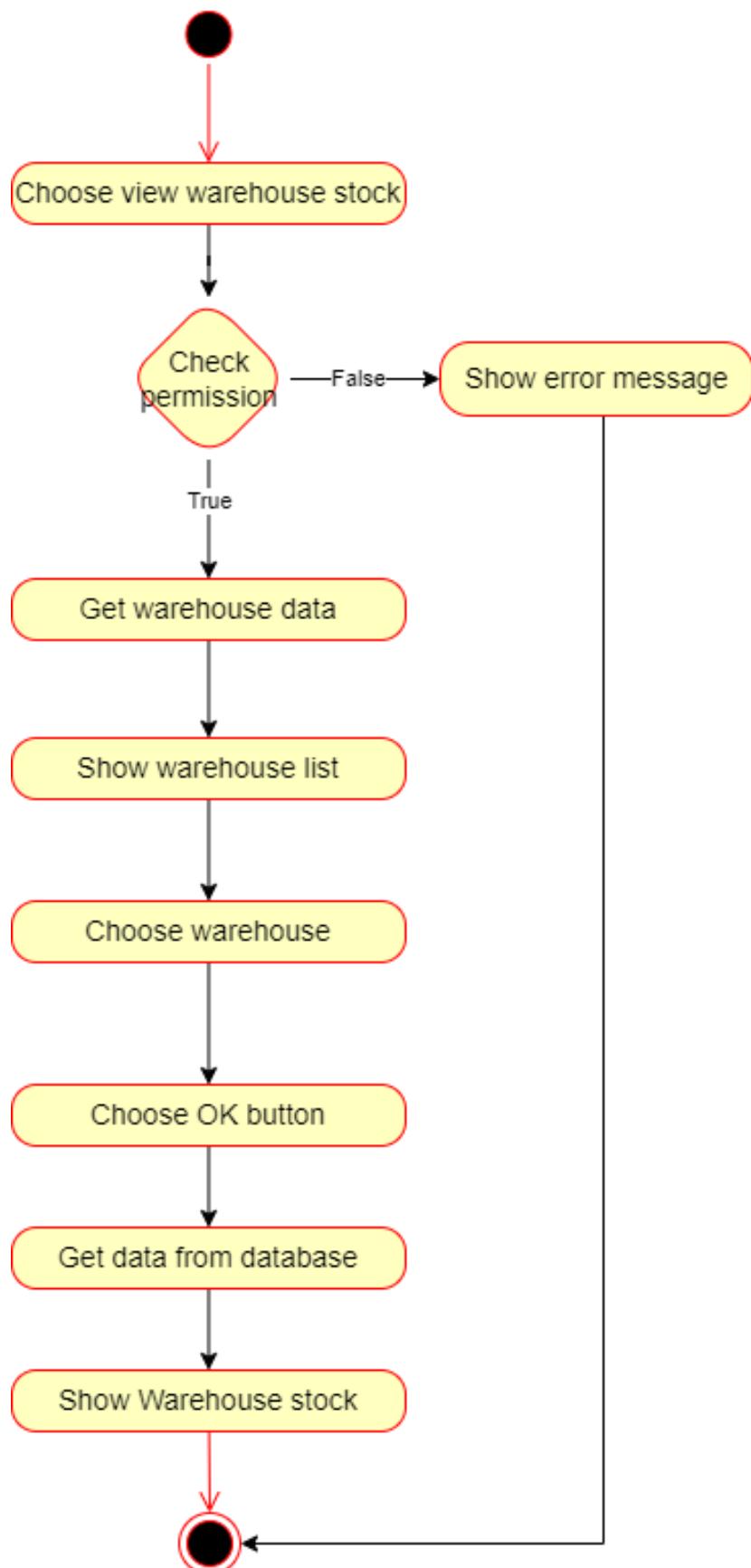
2.4 View supplier list activity

2.5 View category list activity

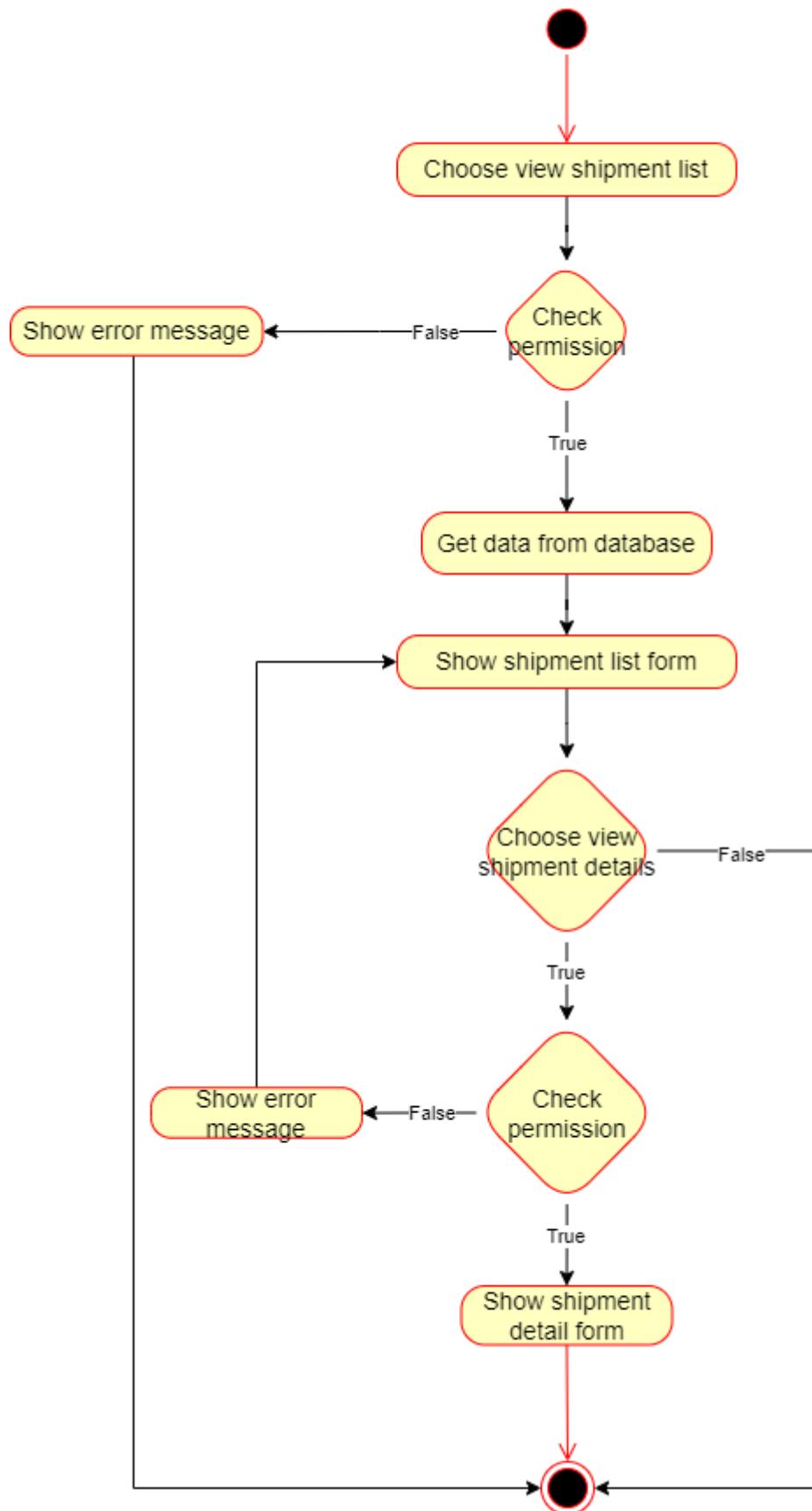
2.6 View product list activity



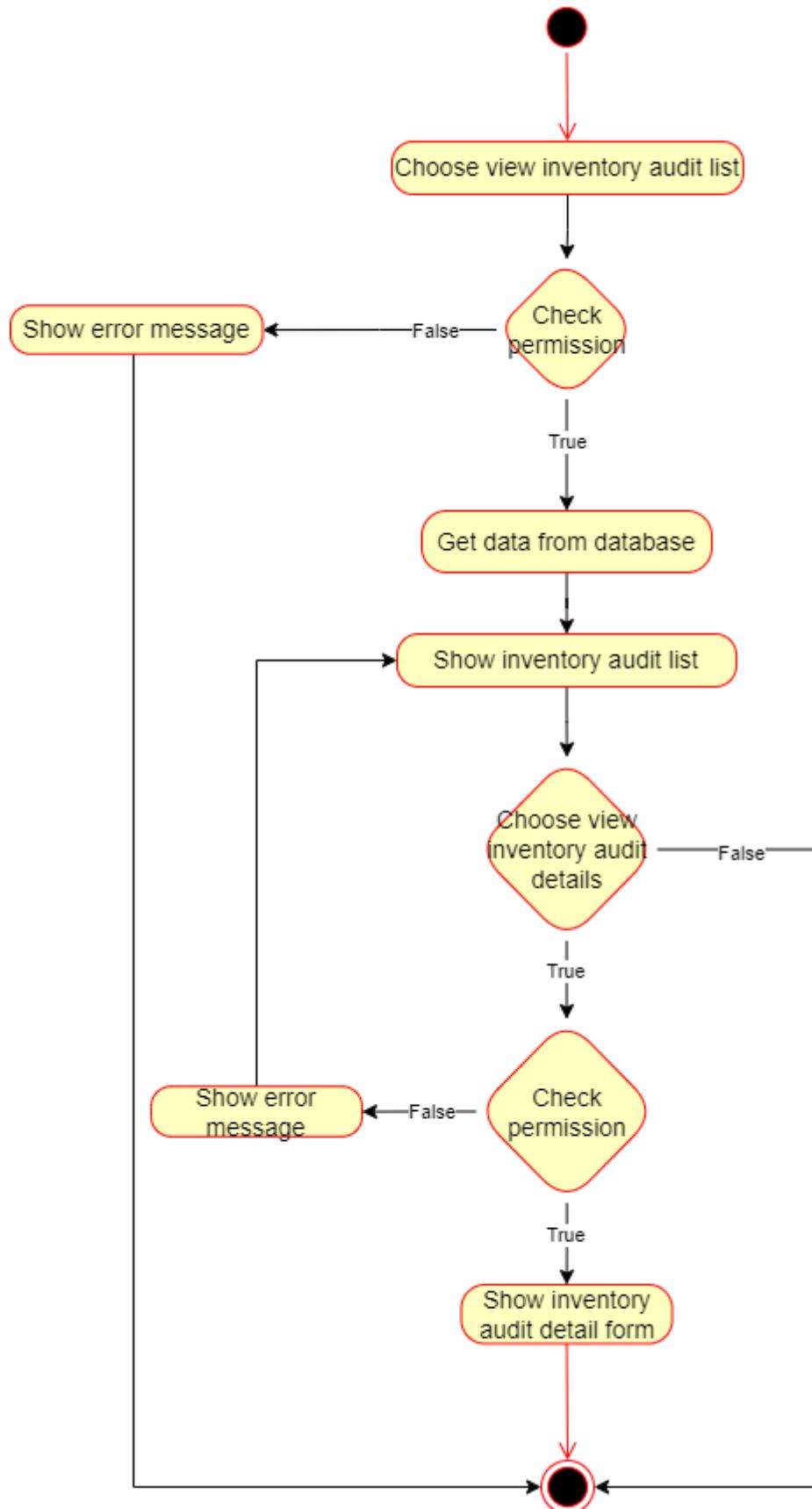
2.7 View warehouse stock activity



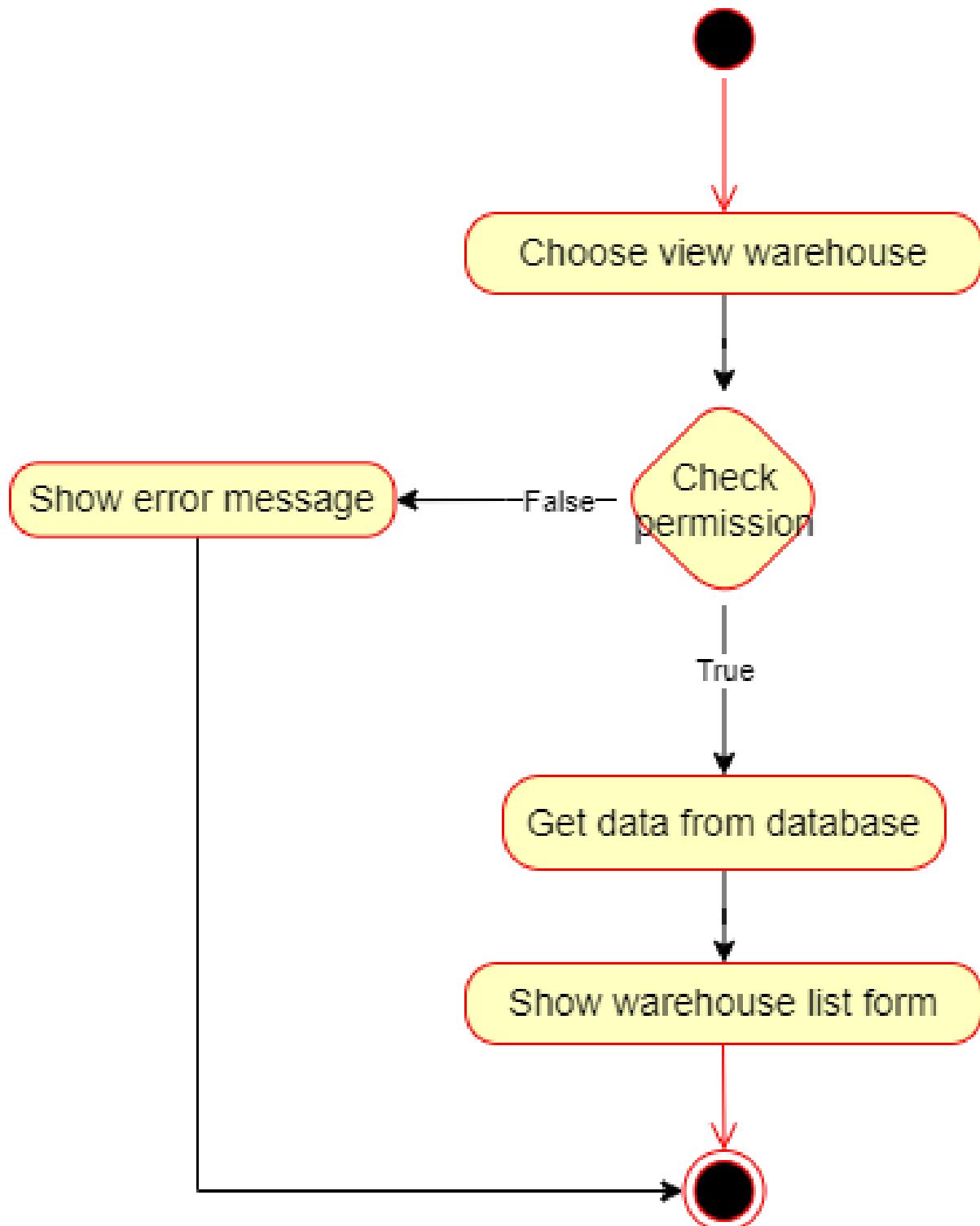
2.8 View shipment list activity



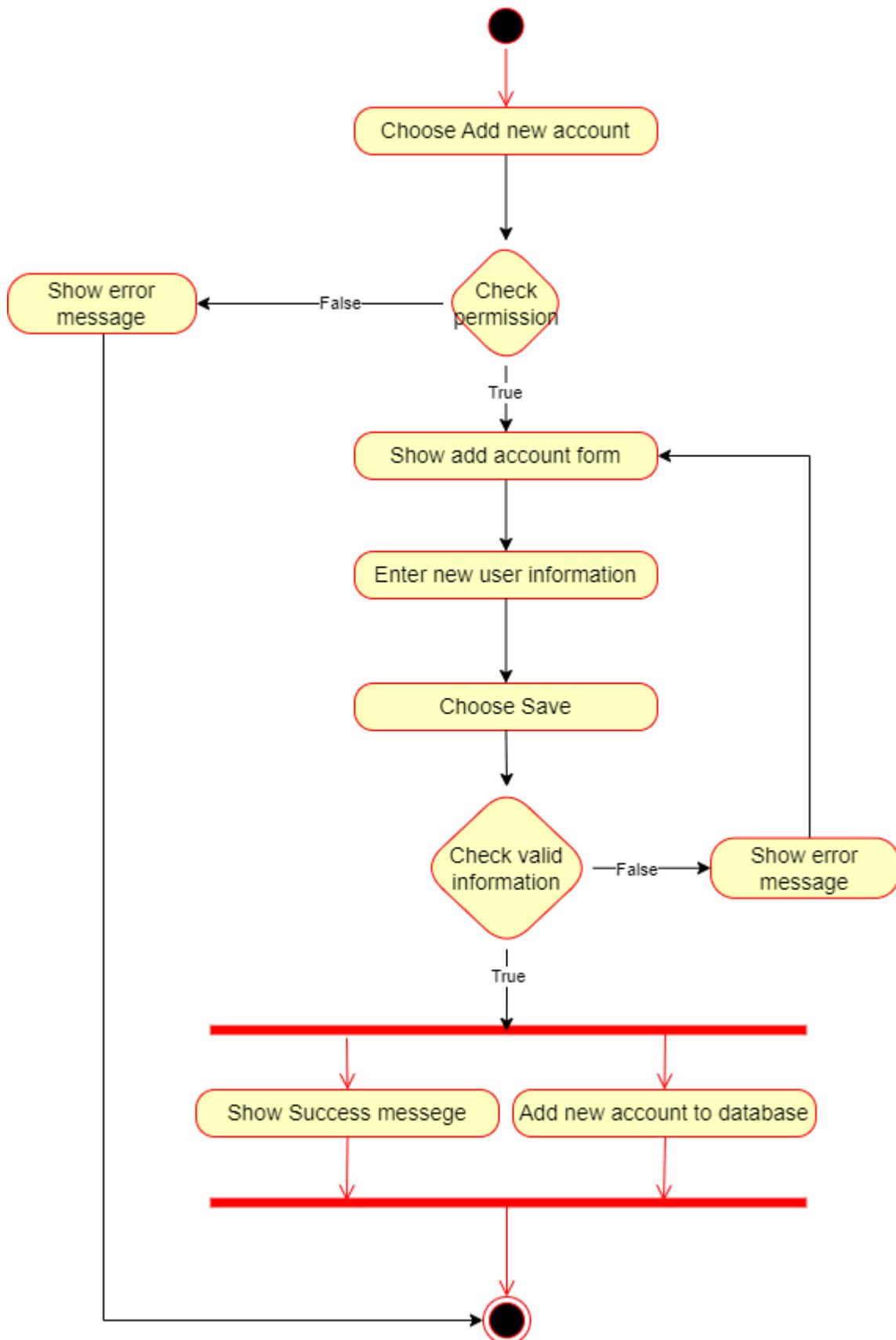
2.9 View inventory audit activity



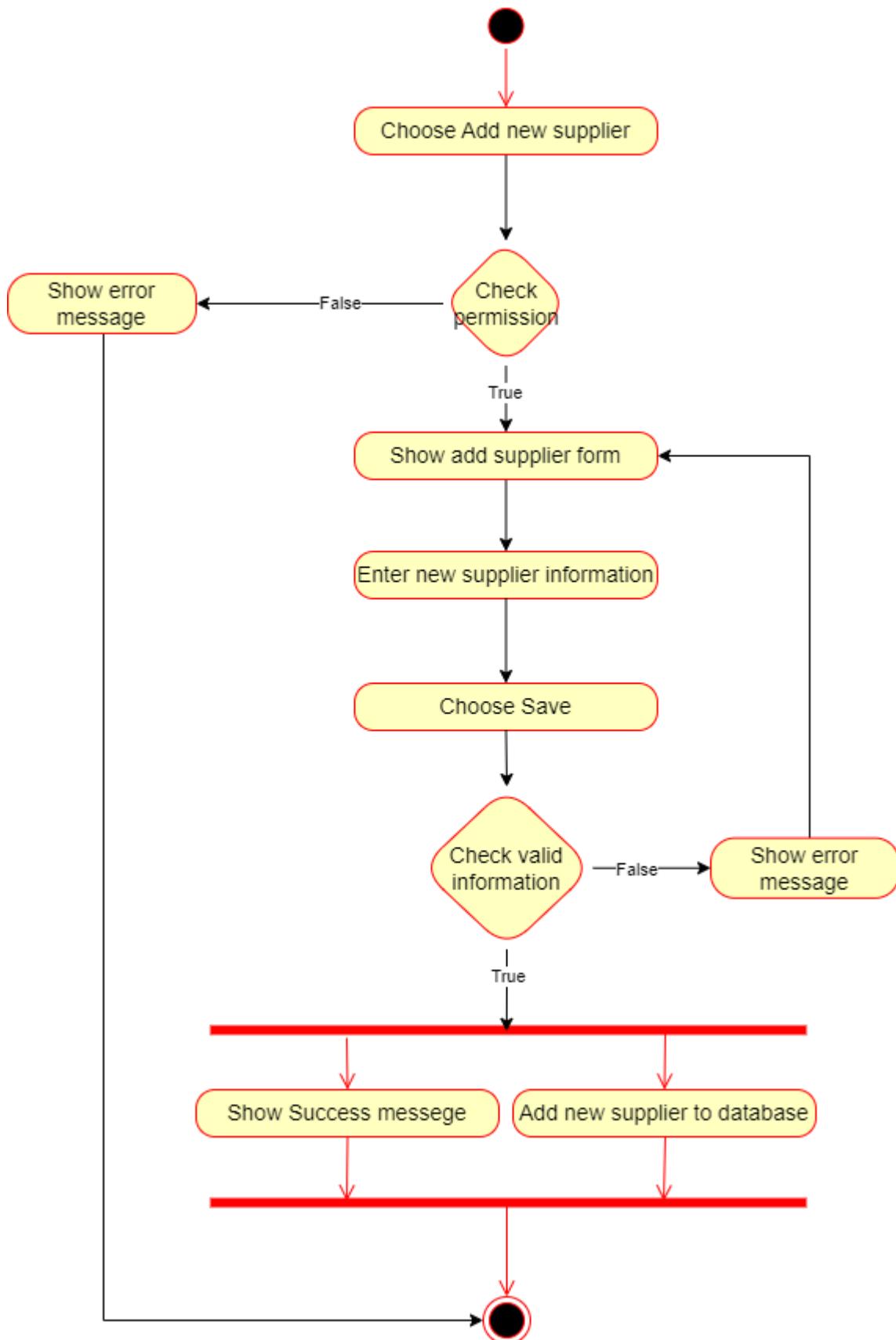
2.10 View warehouse list activity



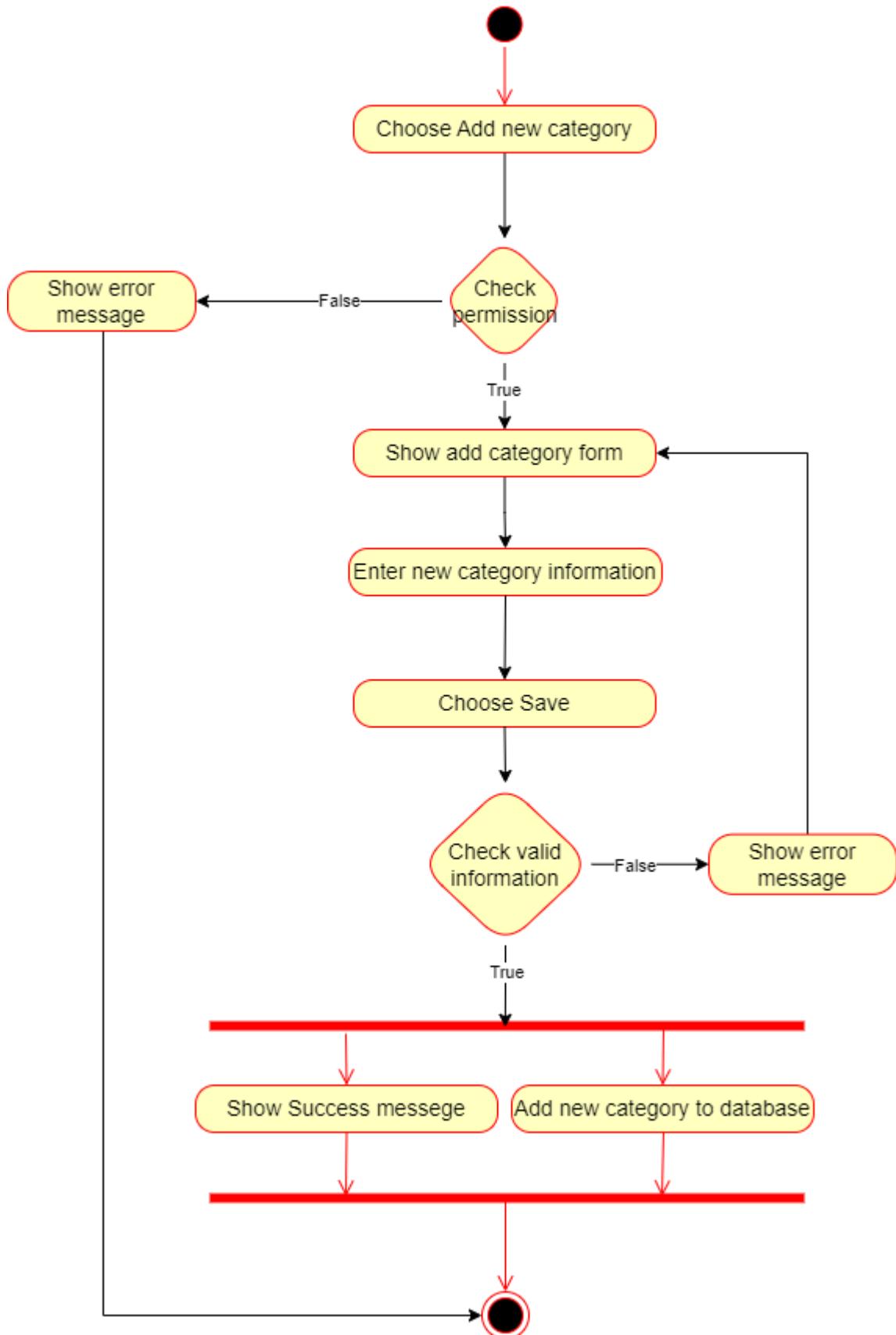
2.11 Create account activity



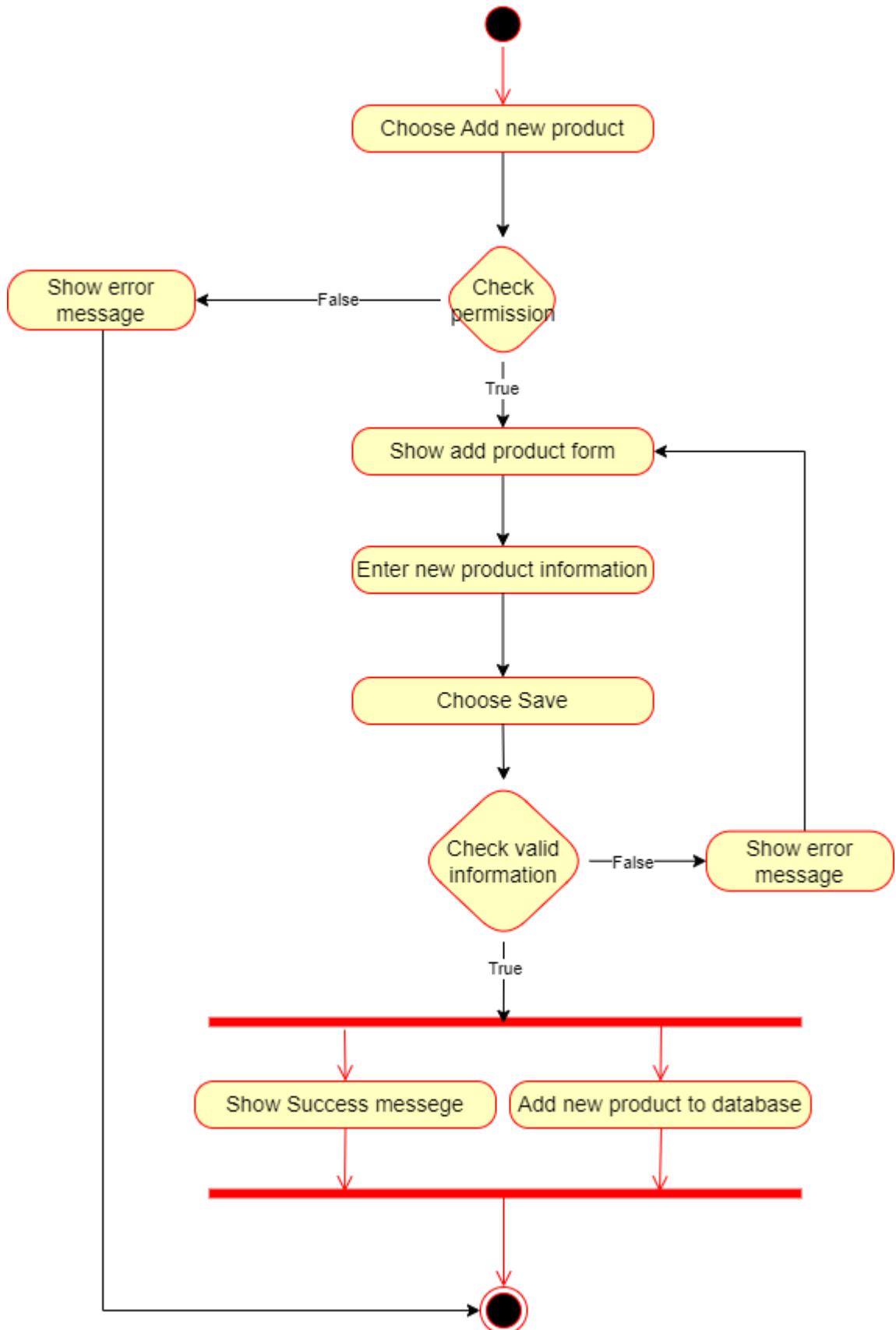
2.12 Create supplier activity



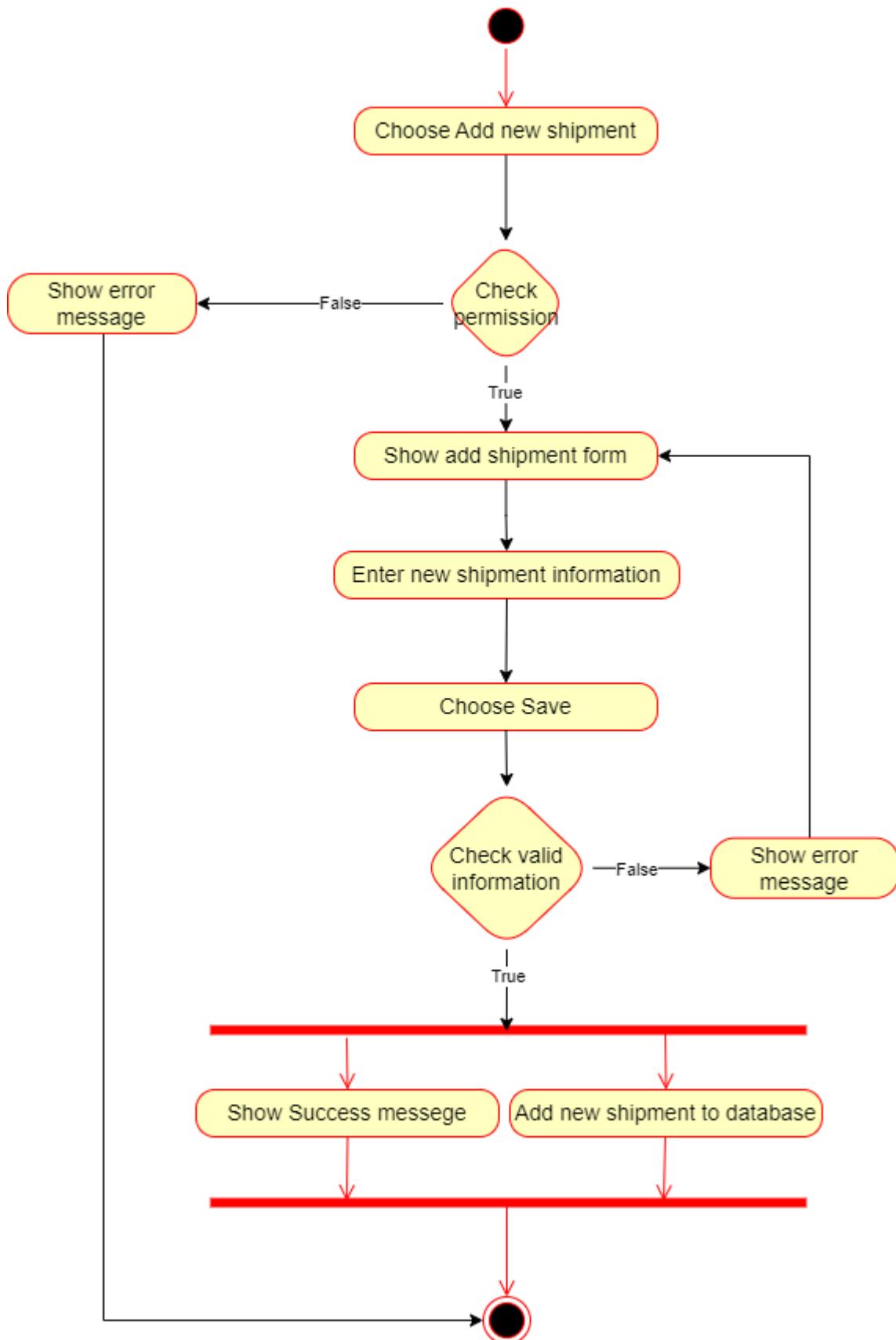
2.13 Create category activity



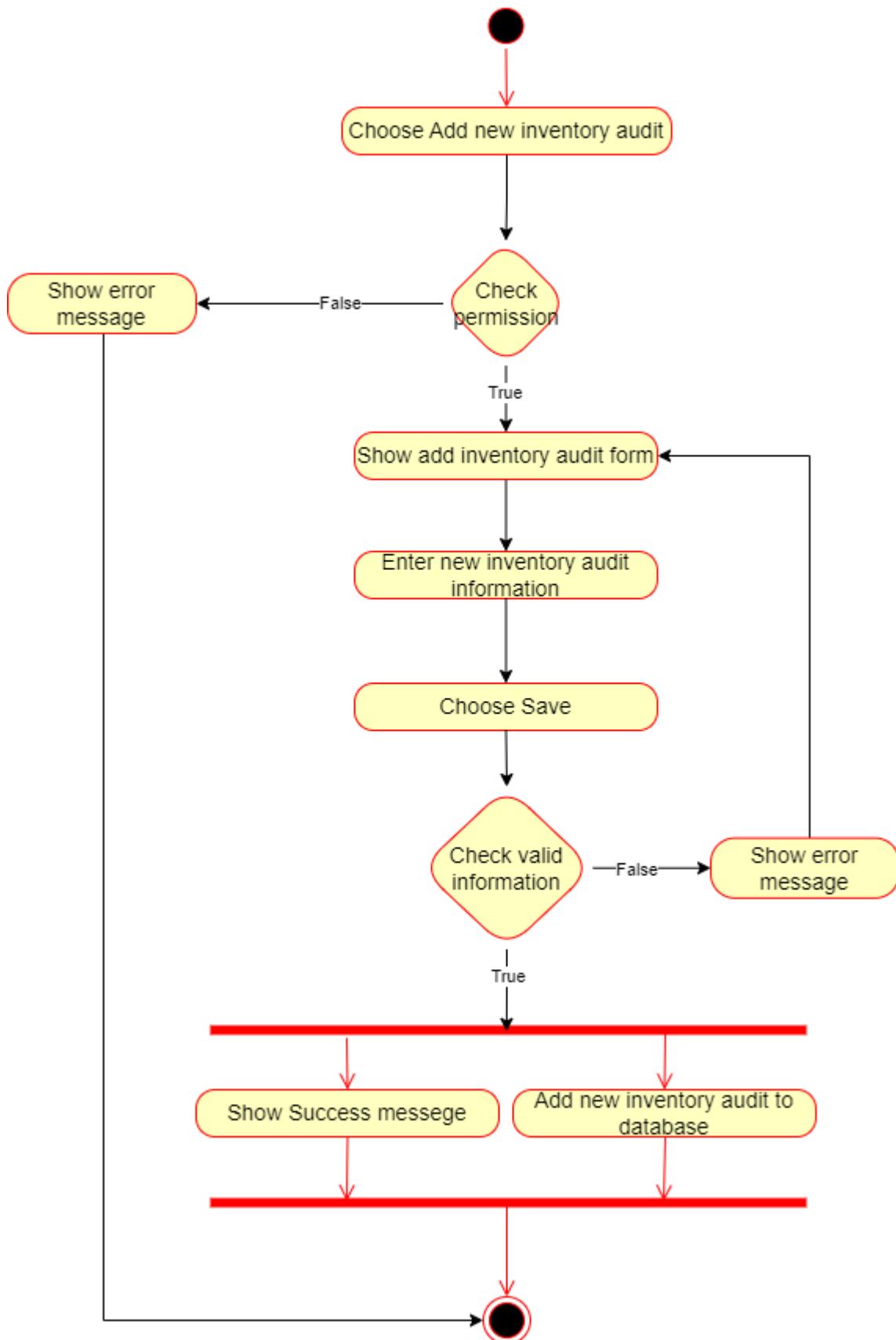
2.14 Create product activity



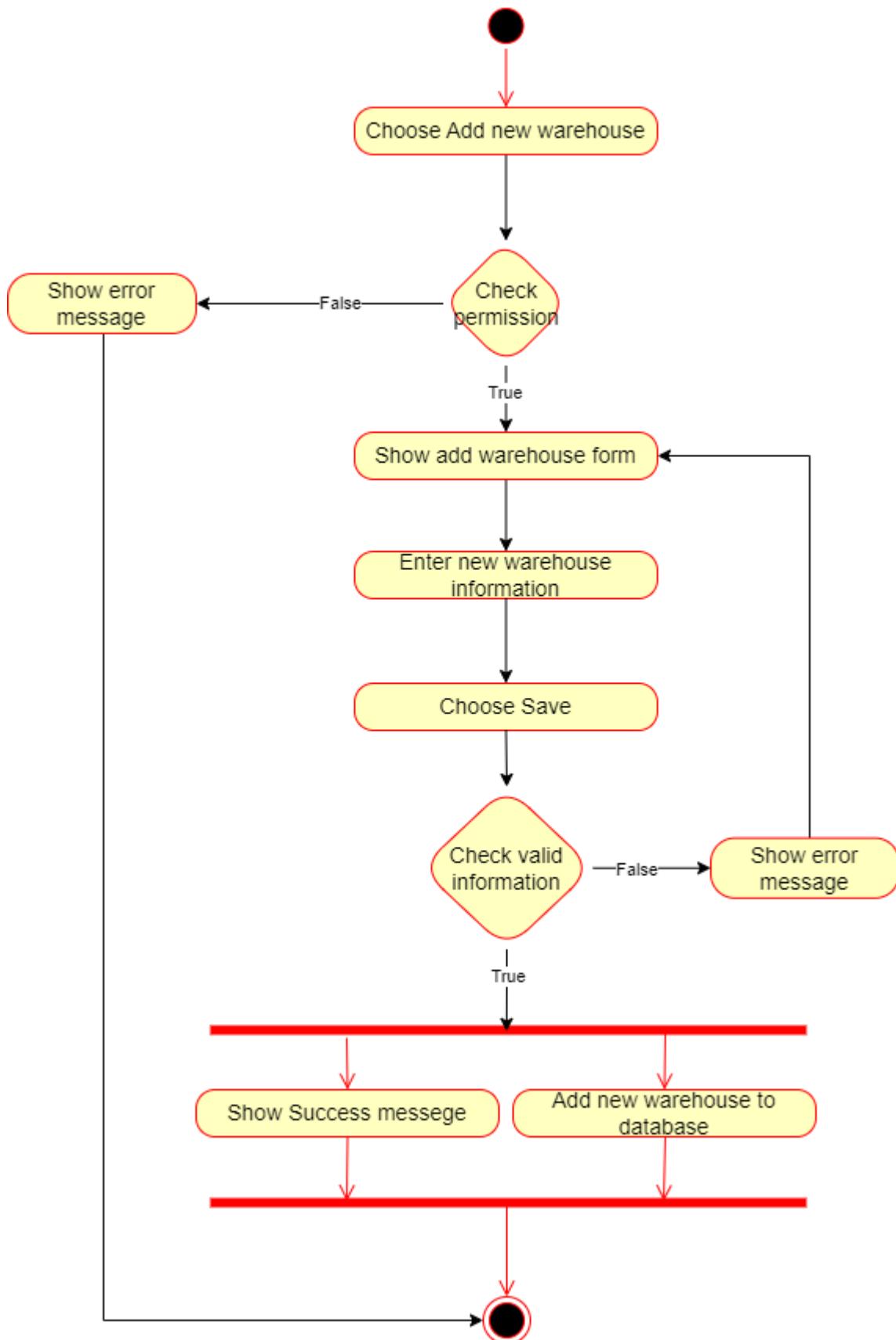
2.15 Create shipment activity



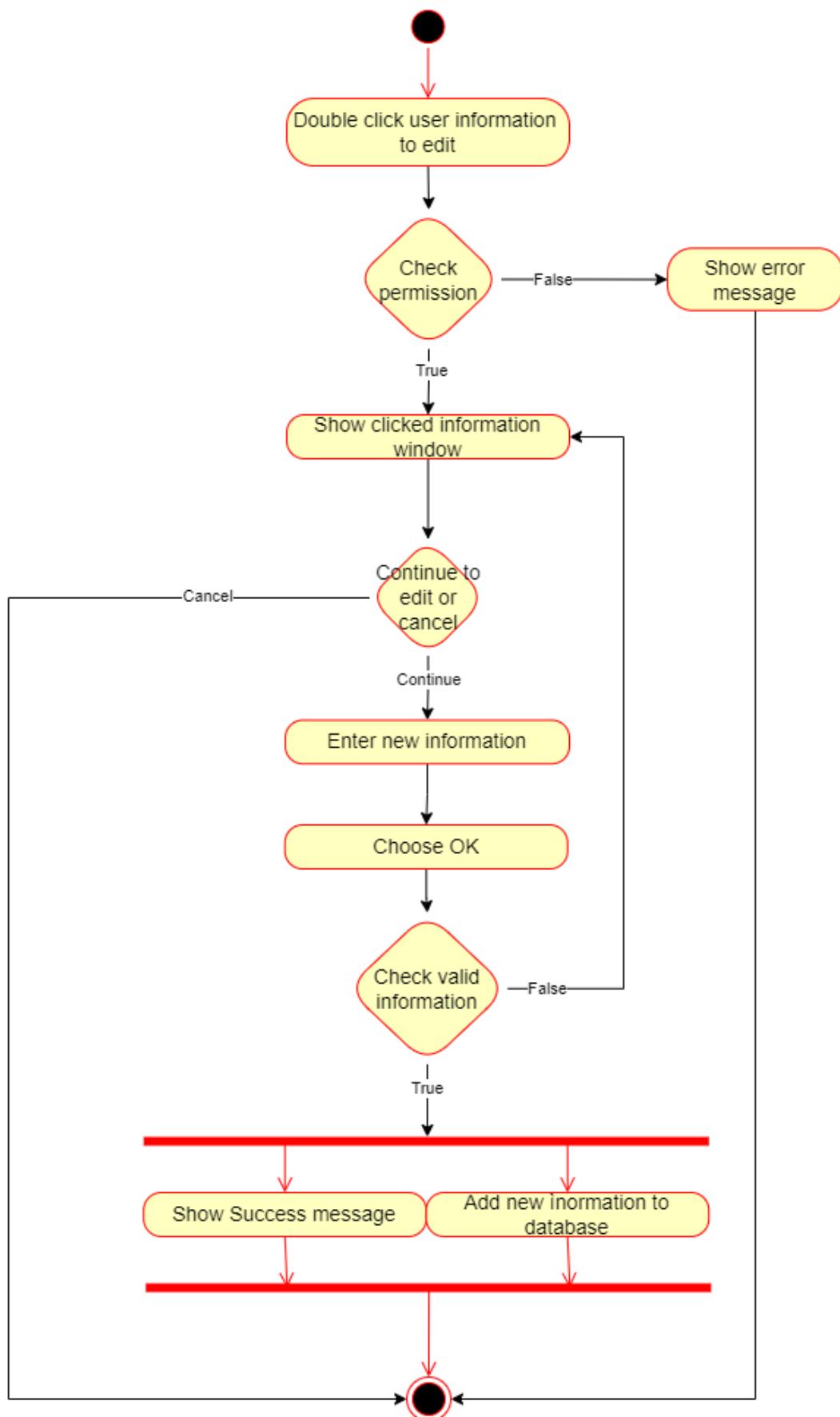
2.16 Create inventory audit activity



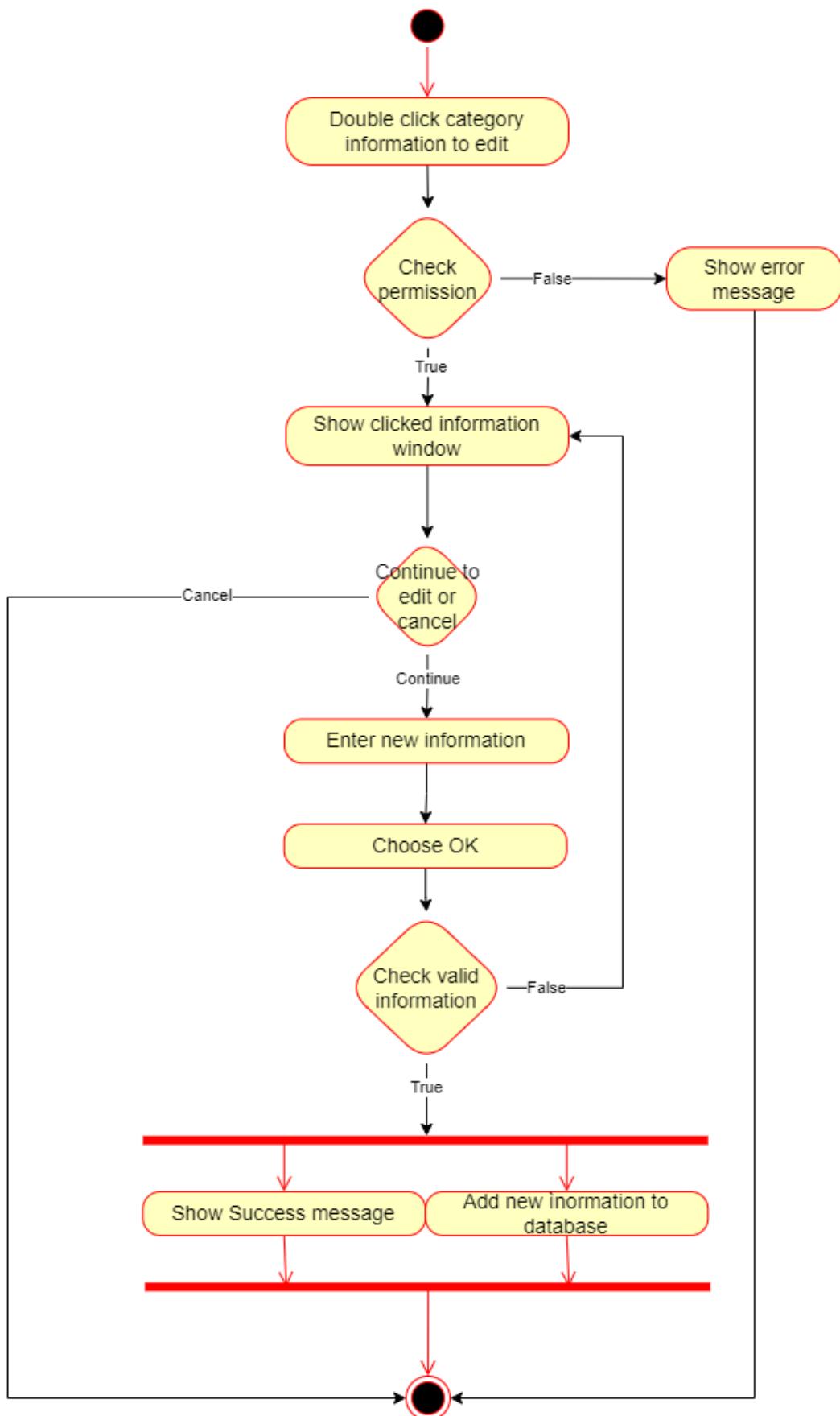
2.17 Create warehouse activity



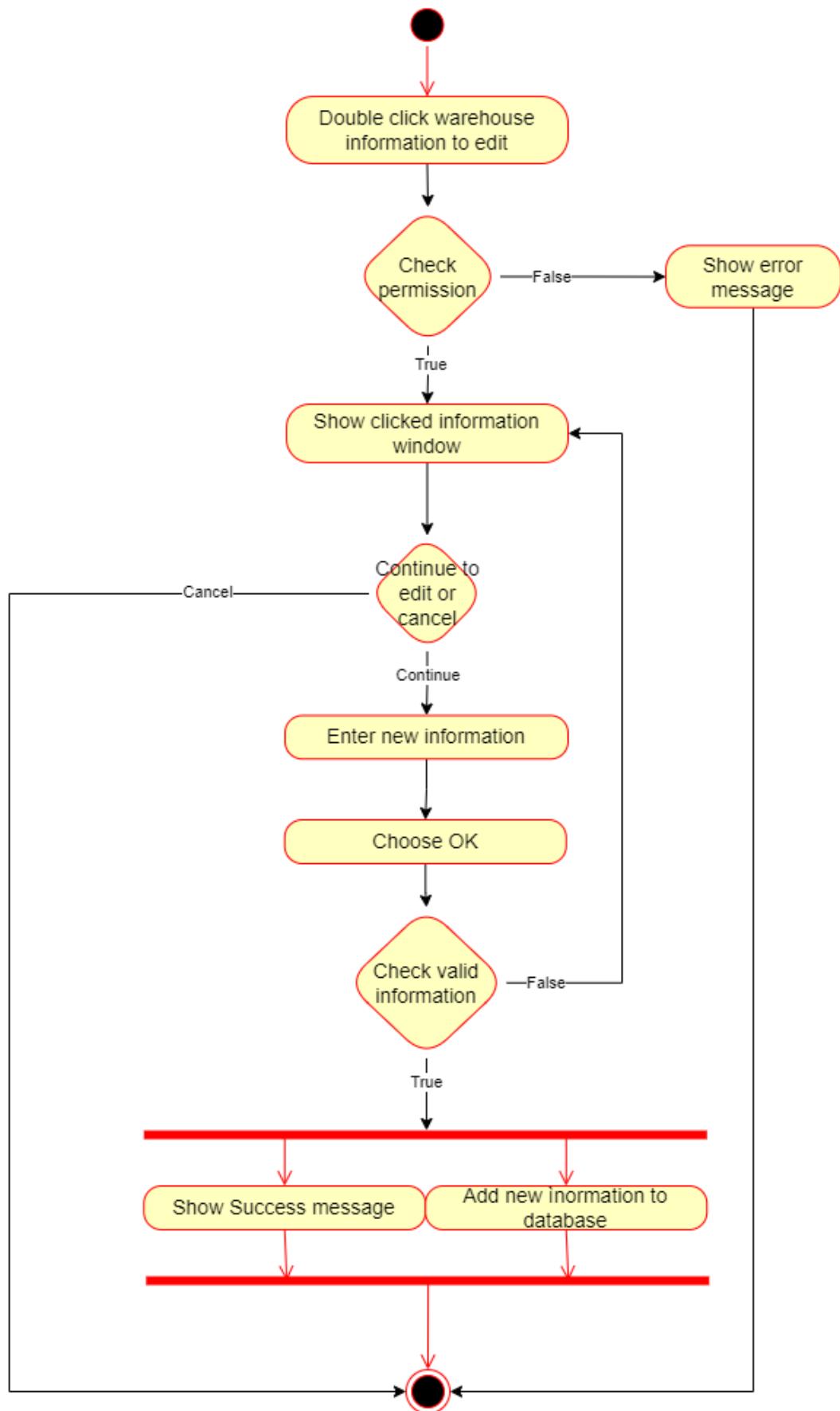
2.18 Edit user activity



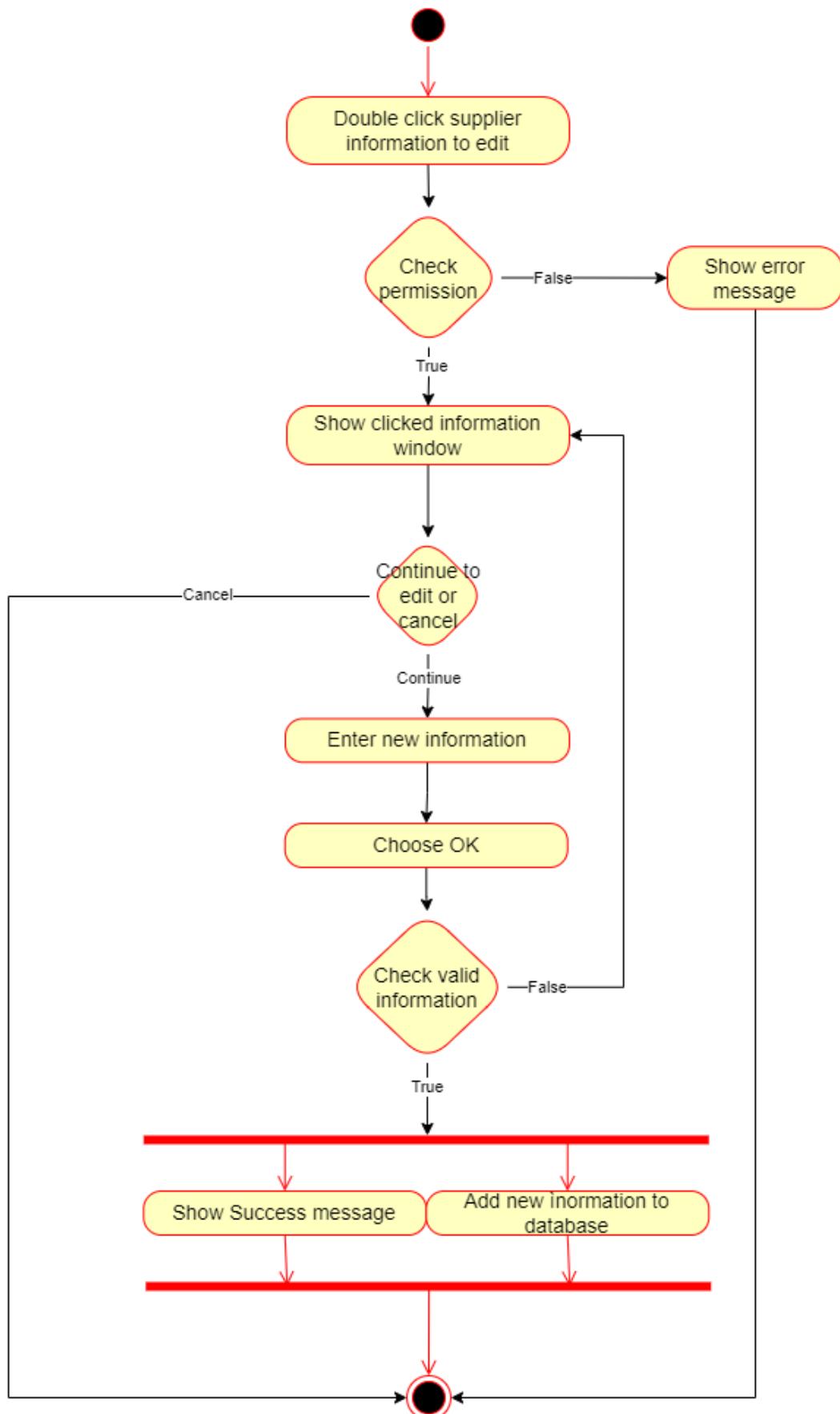
2.19 Edit category activity



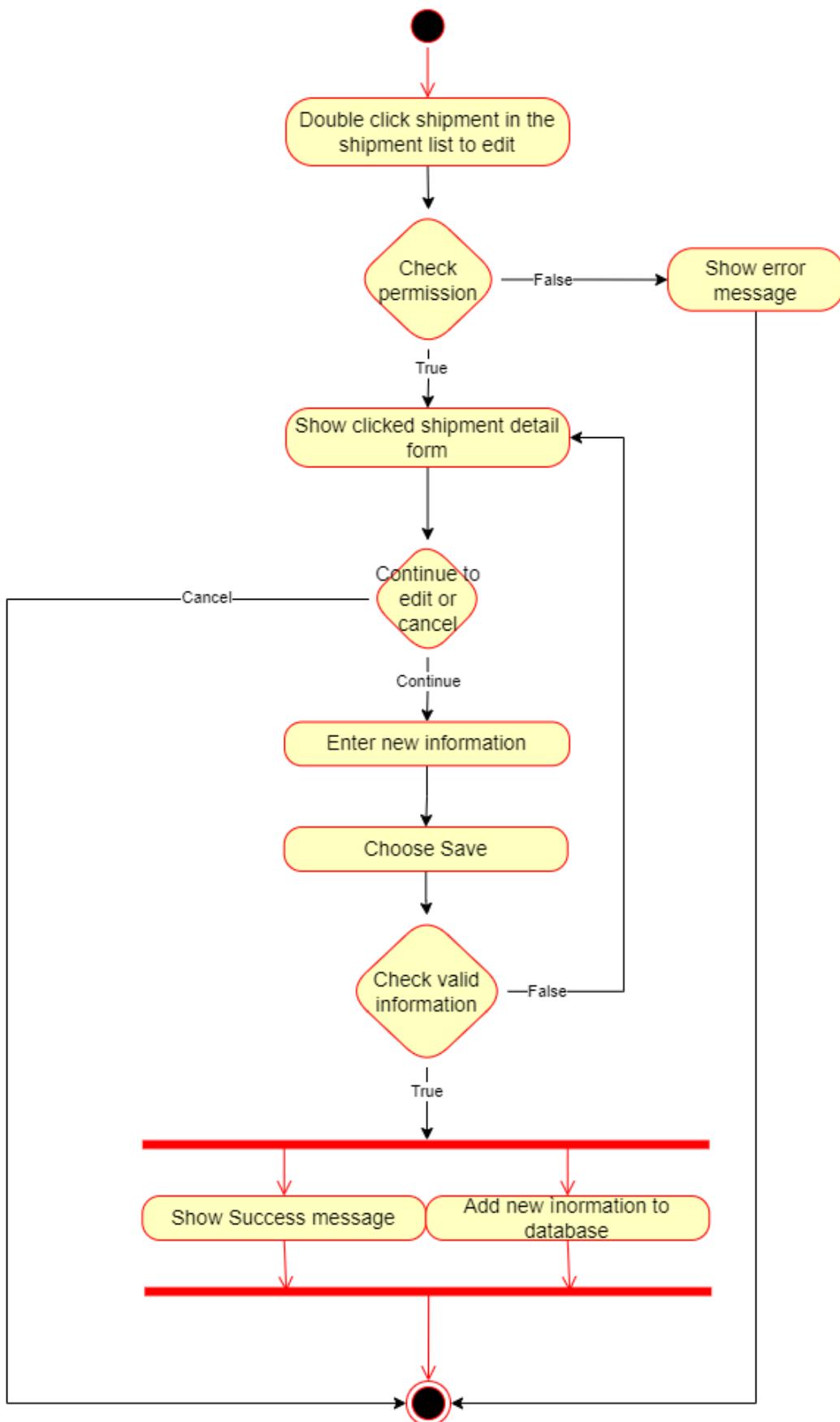
2.20 Edit warehouse activity



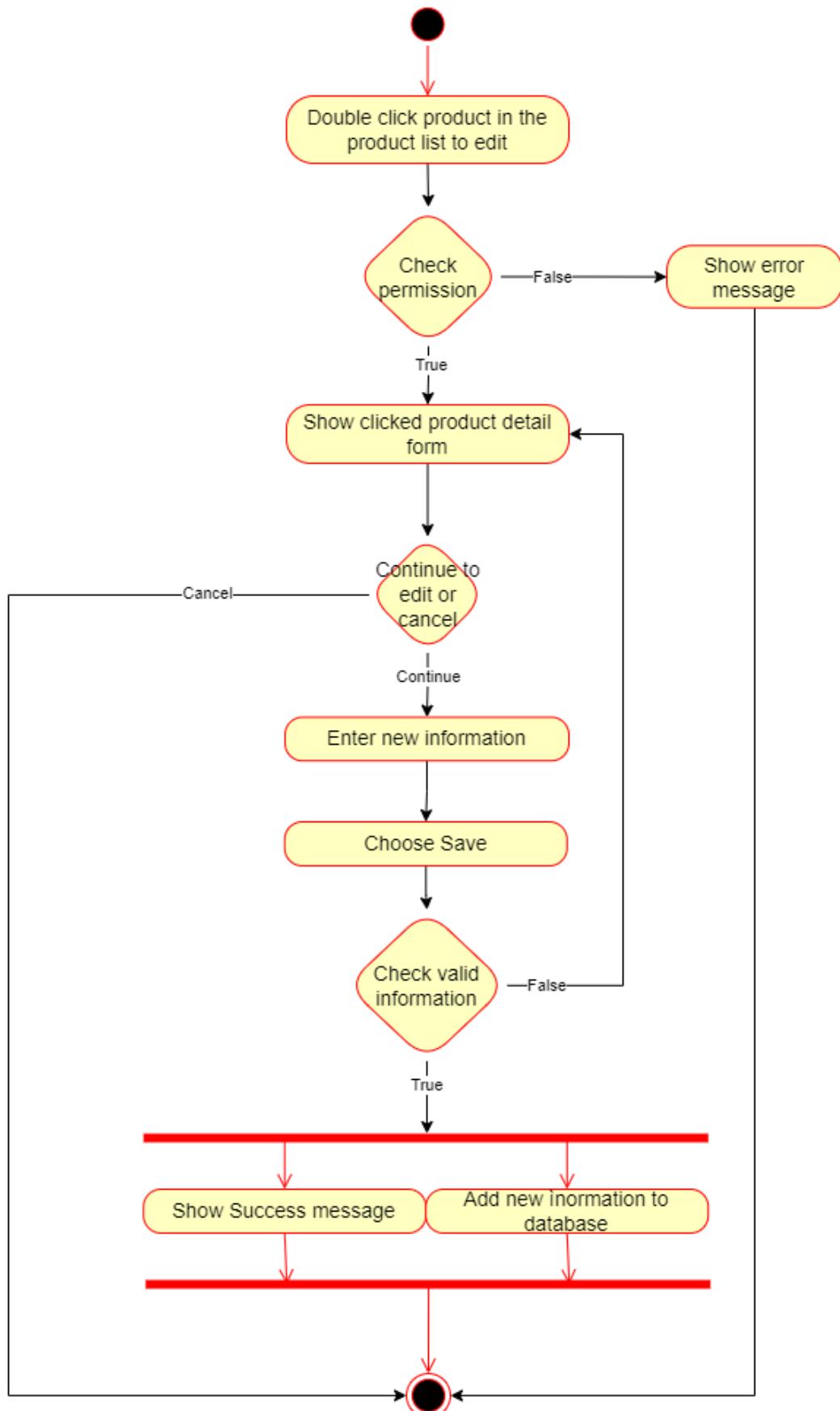
2.21 Edit supplier activity



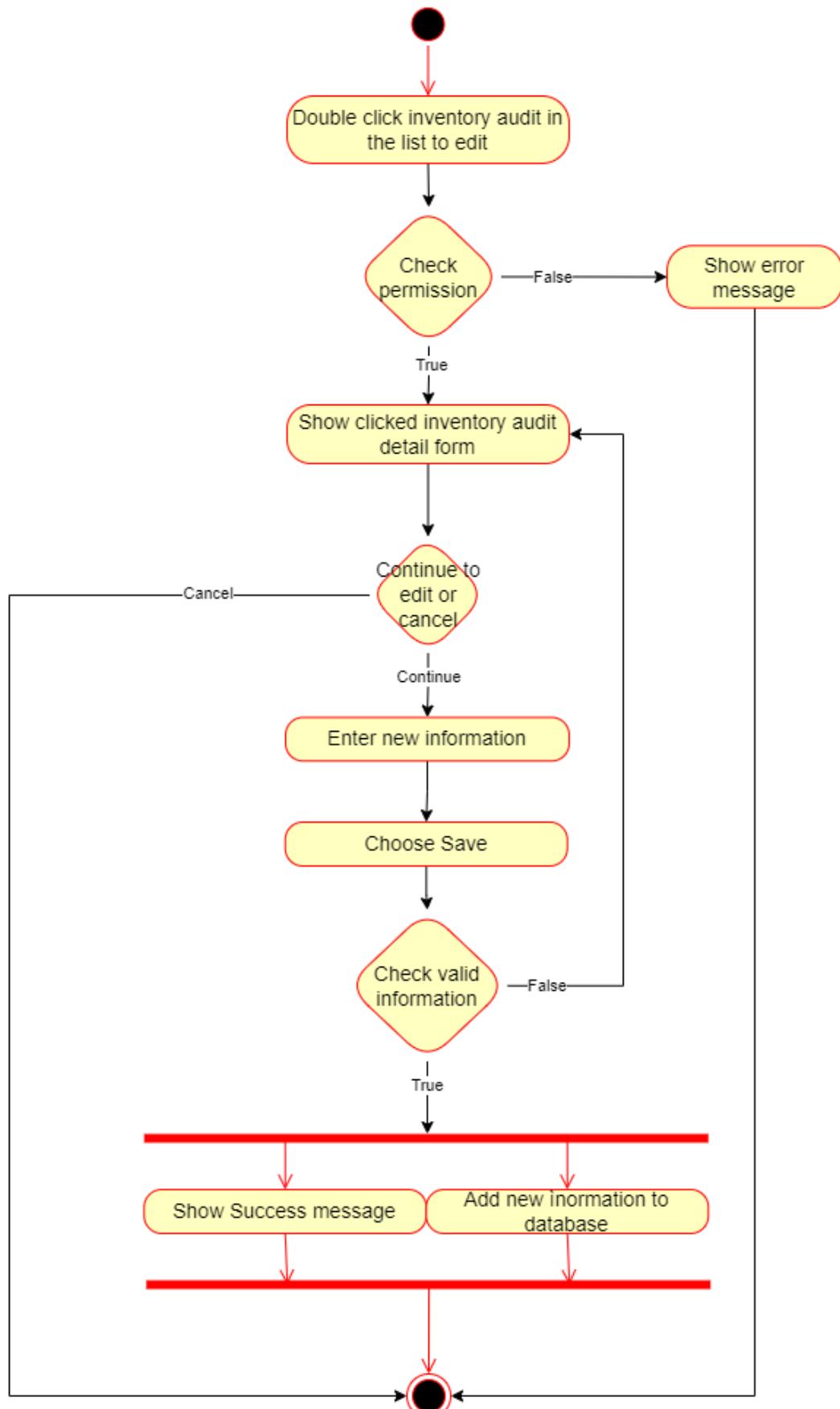
2.22 Edit shipment activity



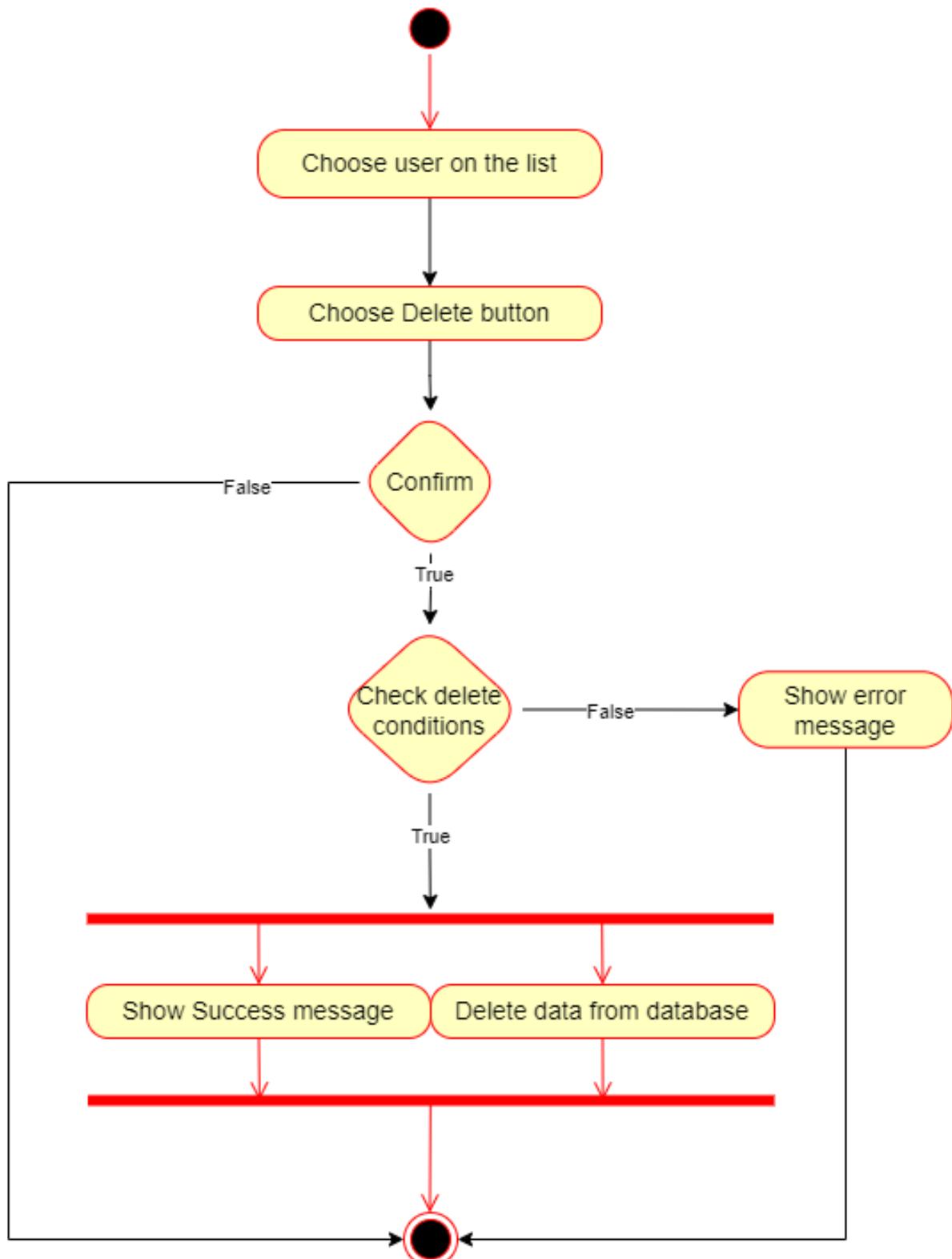
2.23 Edit product activity



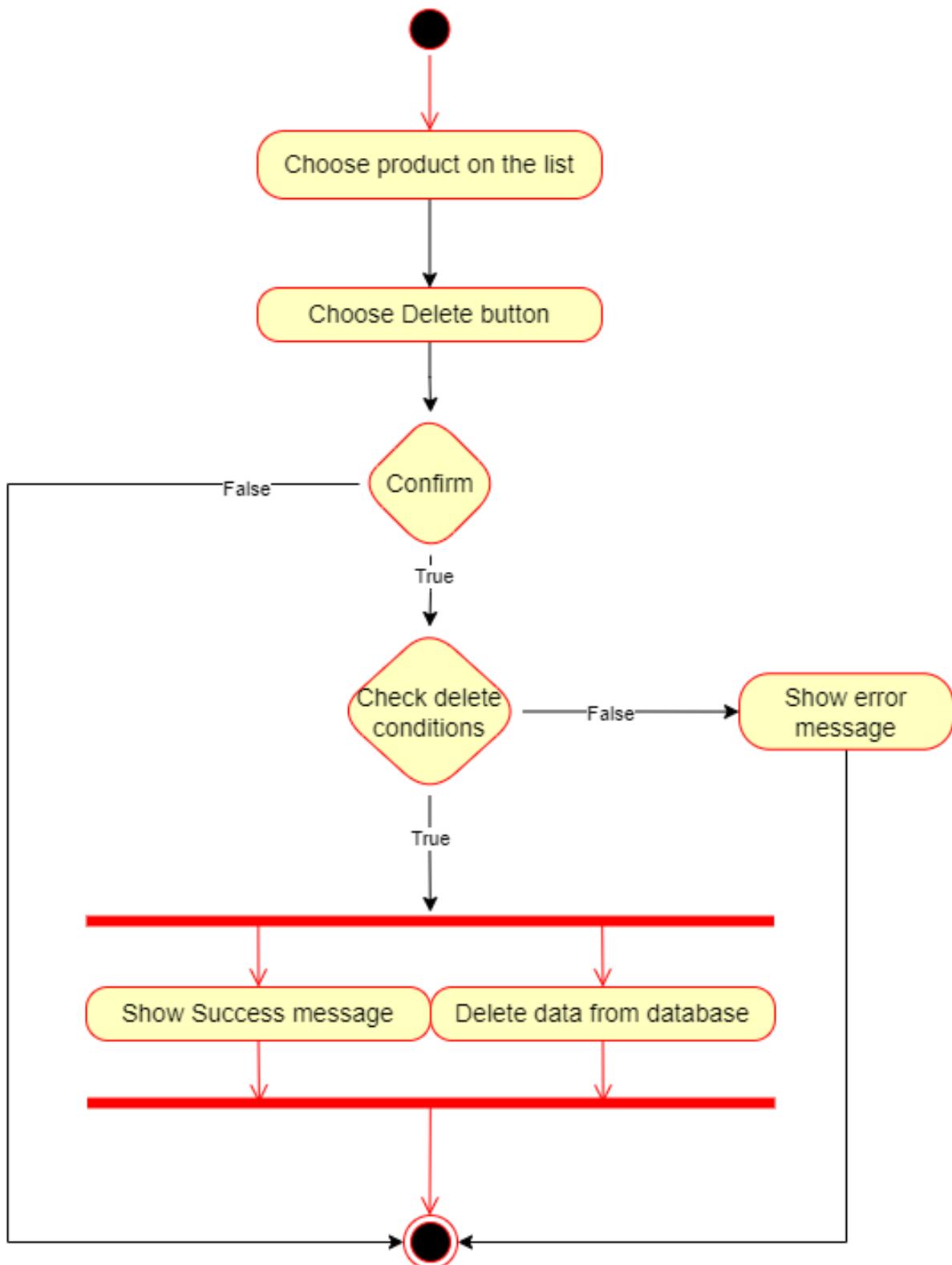
2.24 Edit inventory audit activity



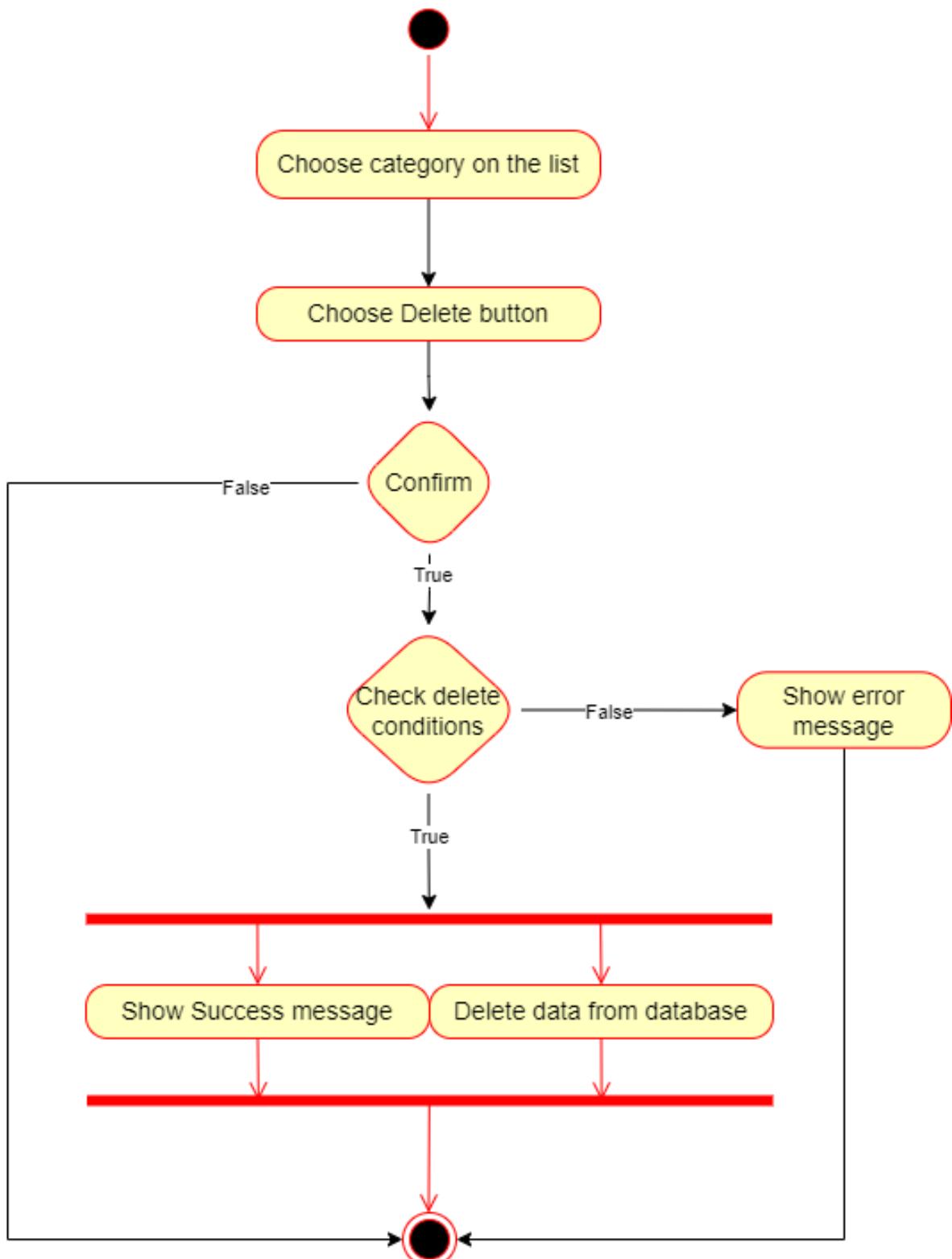
2.25 Delete user activity



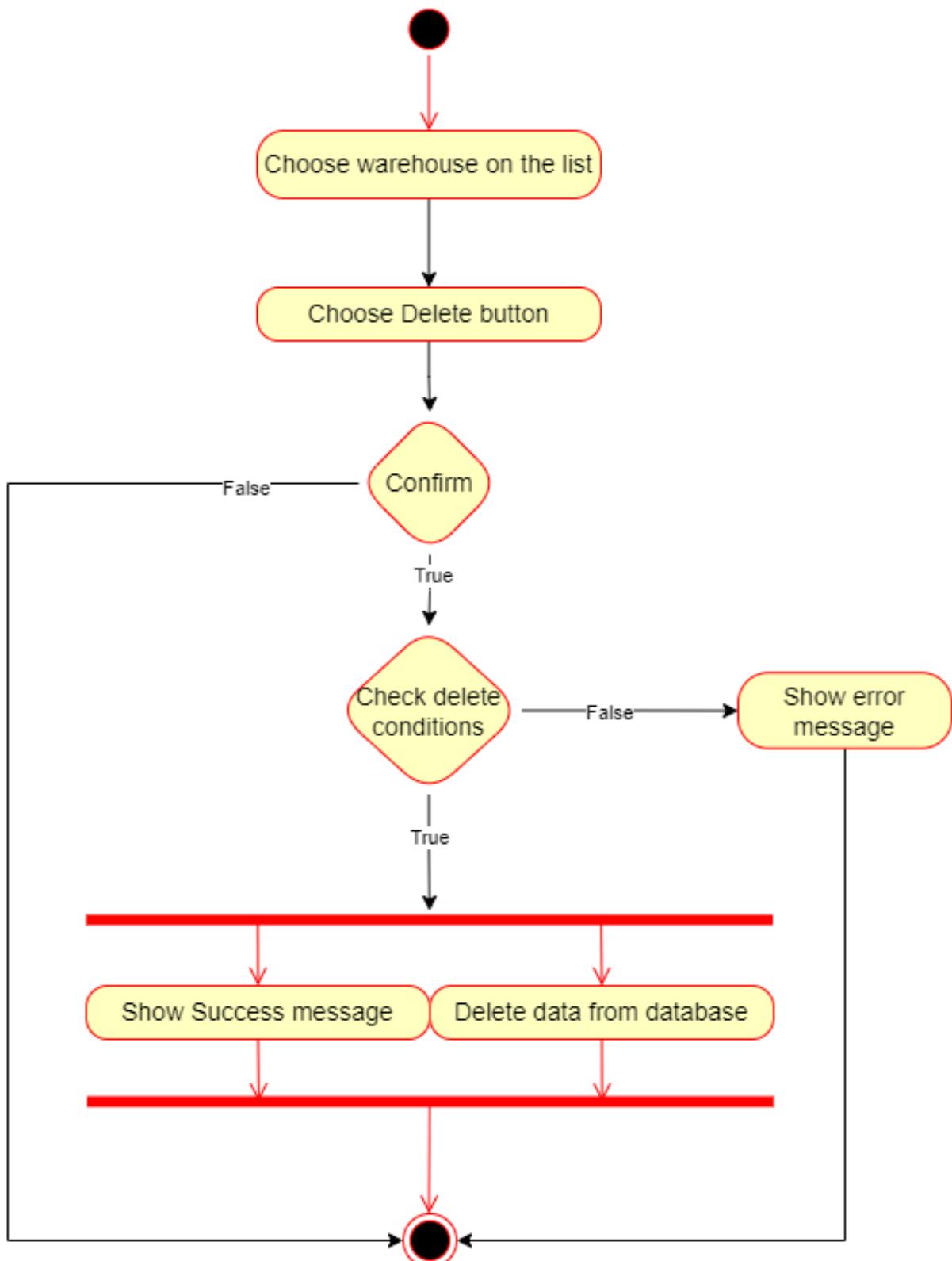
2.26 Delete product activity



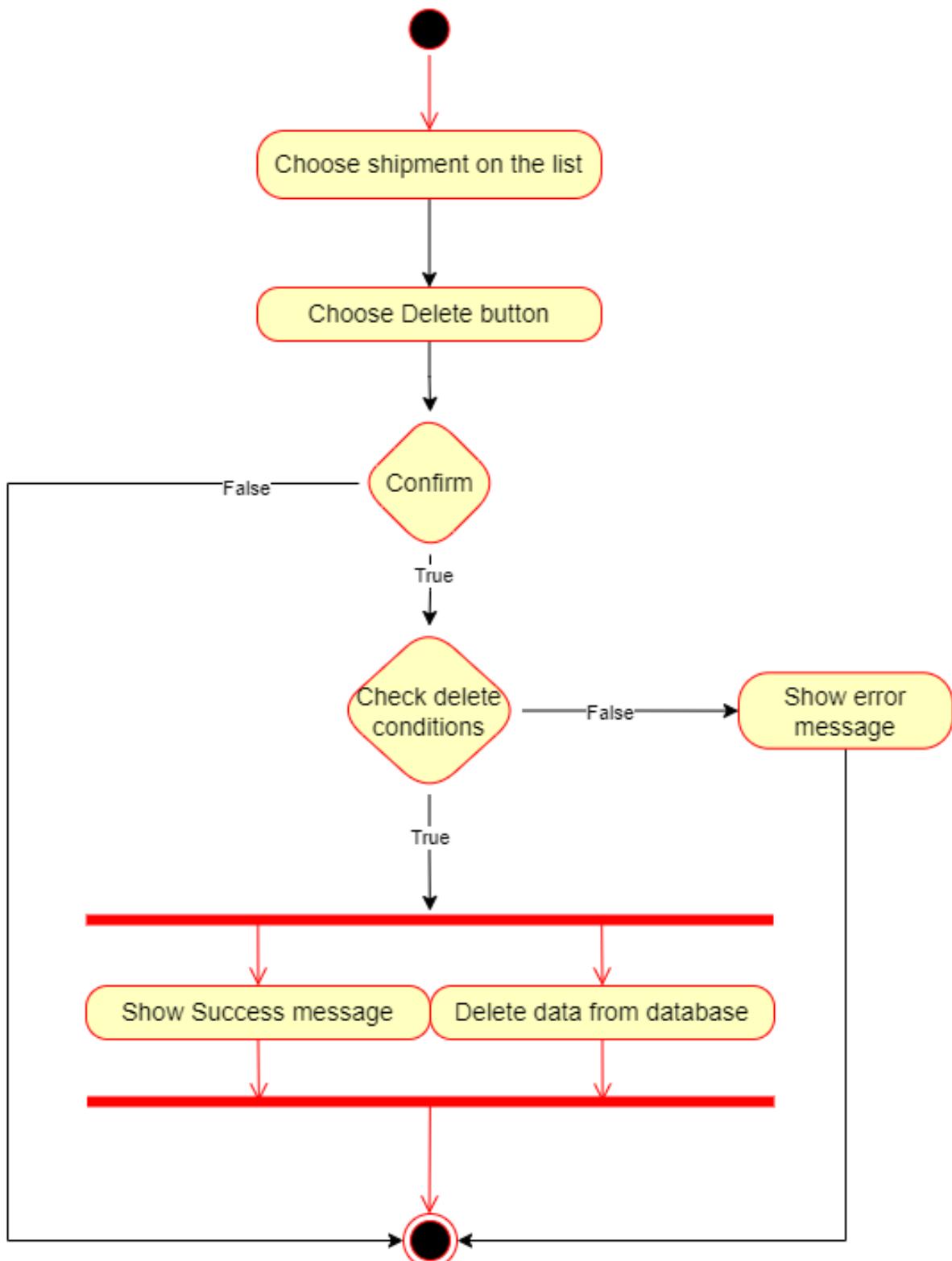
2.27 Delete category activity



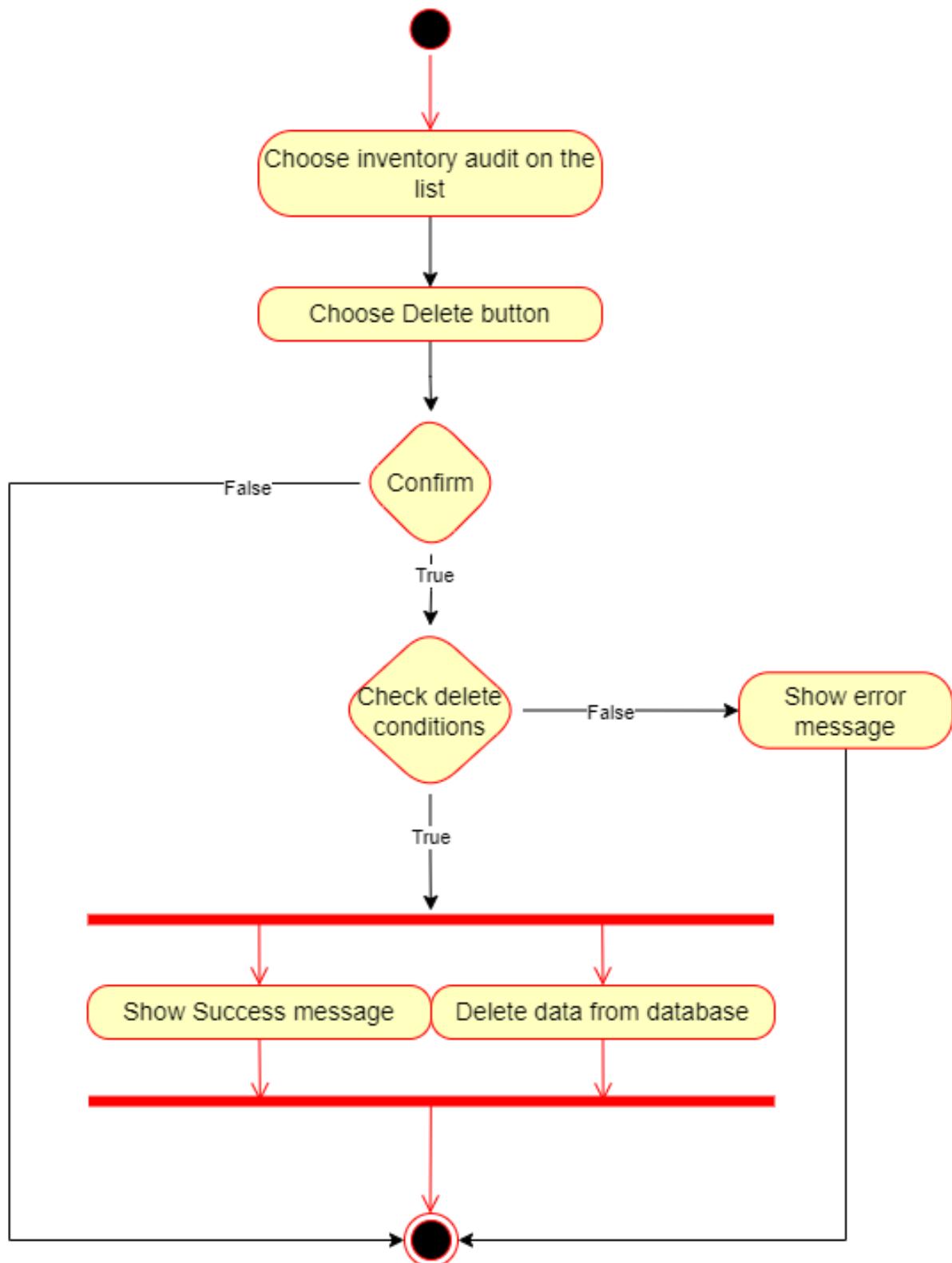
2.28 Delete warehouse activity



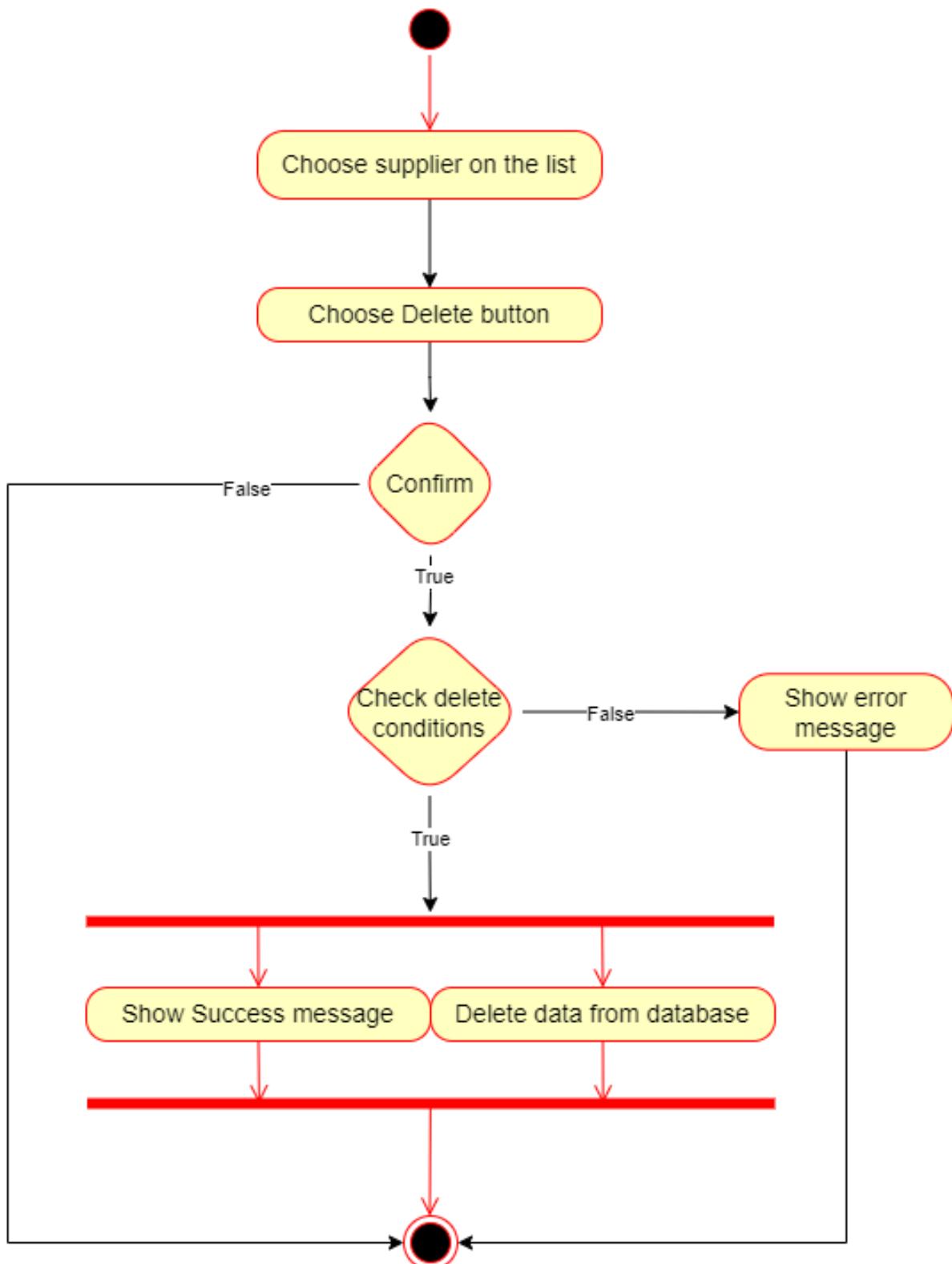
2.29 Delete shipment activity



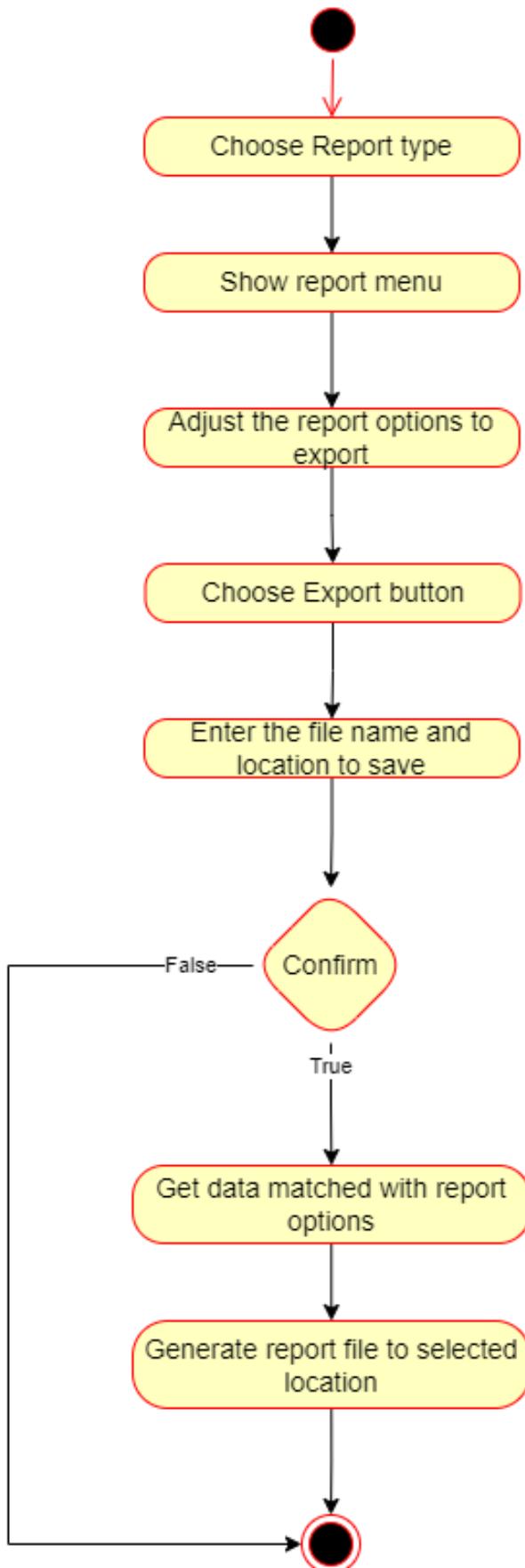
2.30 Delete inventory audit activity



2.31 Delete supplier activity



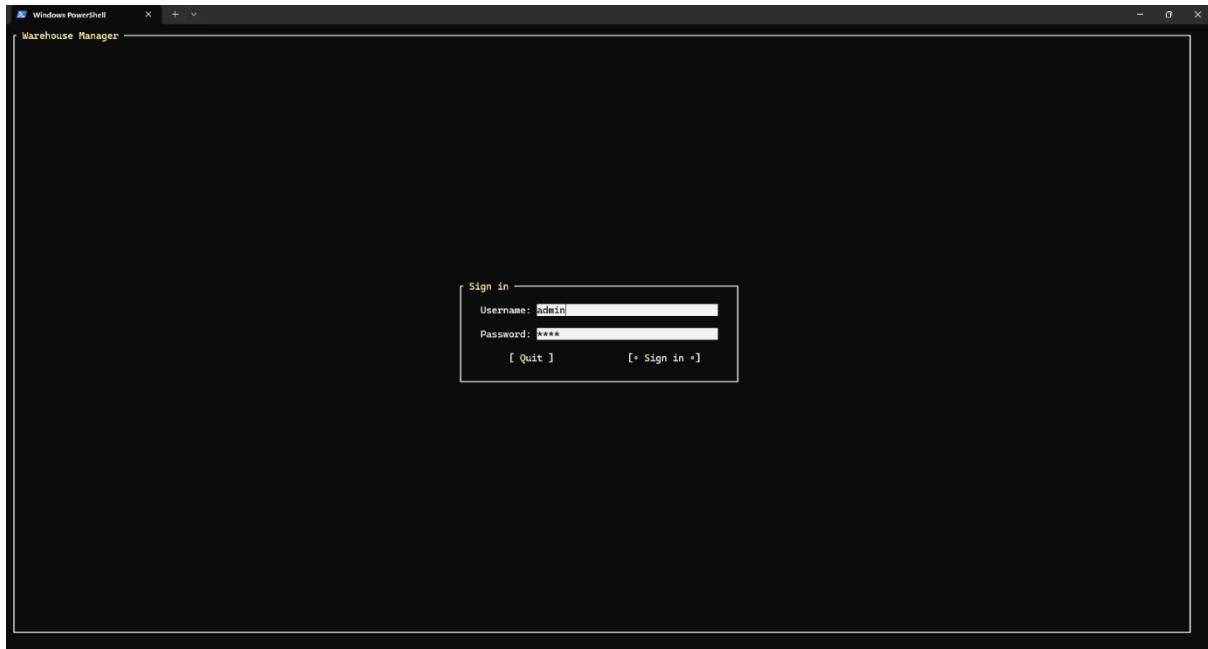
2.32 View report activity



III. Design Details

1. UI Design

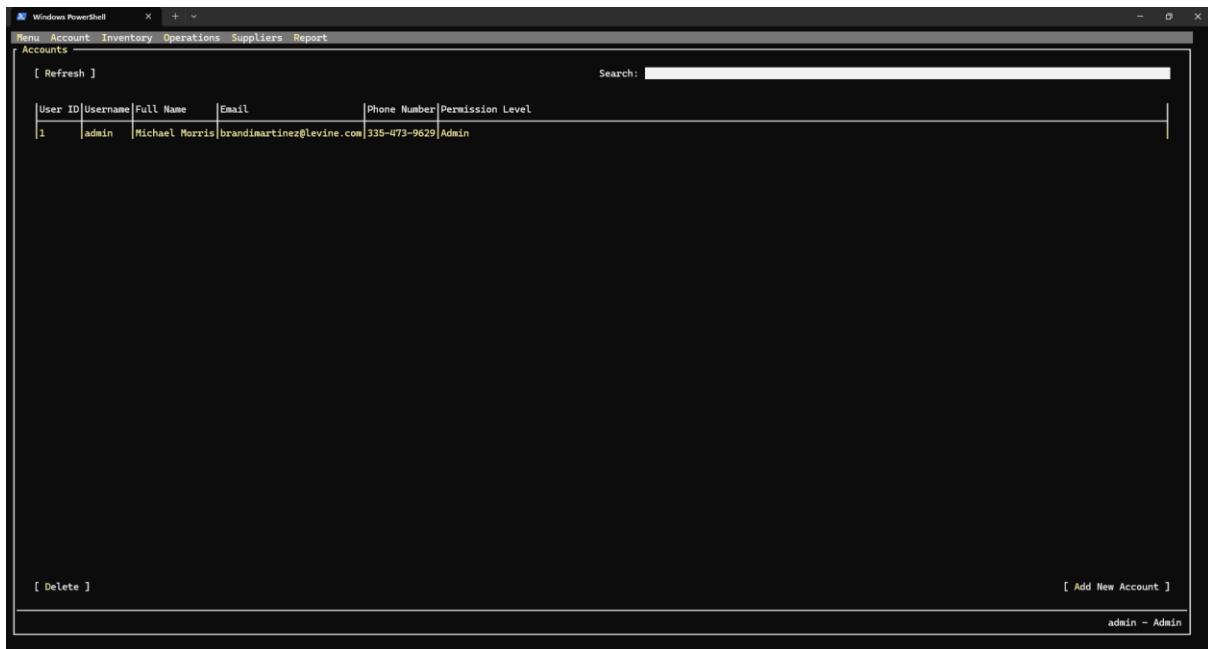
1.1 Login Interface



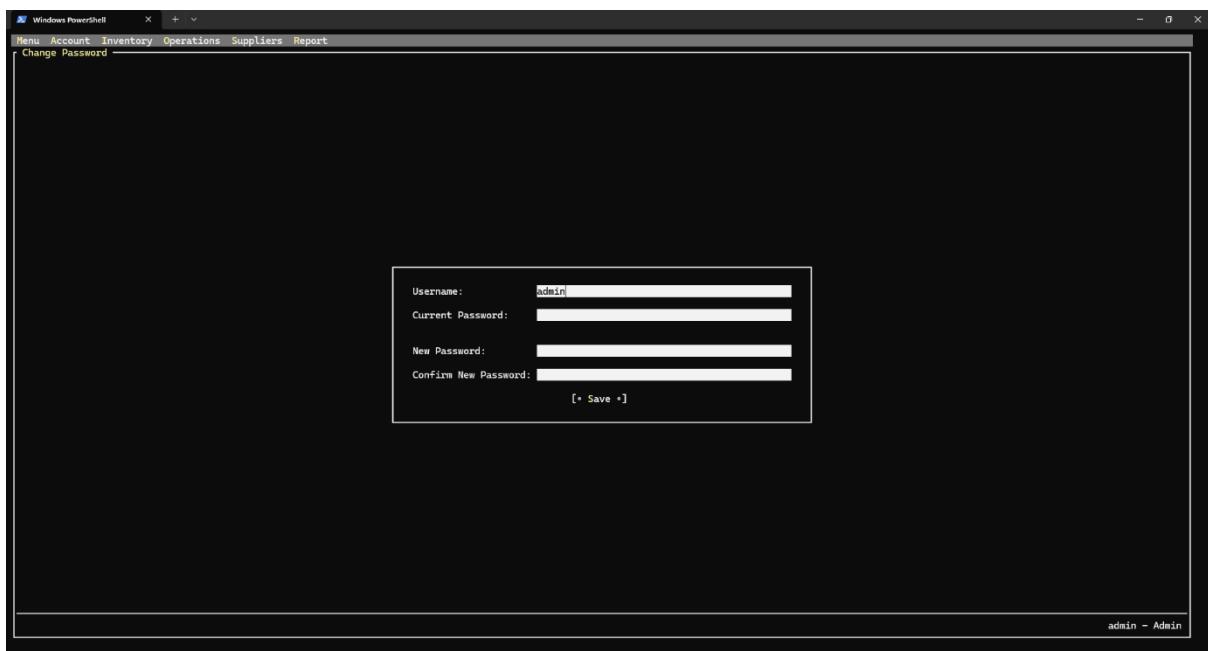
1.2 Home Menu Interface



1.3 User List Interface



1.4 Change Password Interface



1.5 Category List Interface

Category ID	Category Name	Category Description
1	Phelps LLC	Speak same effect order. Charge training hope remember money loss cover sure. Relationship he budget a
2	Nelson, Kennedy and Hunter	Sell group nation mother three partner trip. Until blood buy imagine. Could view act carry seek upon
3	Guerrero-Rosario	Possible son more cut return. Election property film possible physical small. You white ball surface
4	Harmon PLC	Force employee necessary window also yeah. Health factor find her continue town ago. Community sound t
5	Allen PLC	Middle always total or need knowledge. Smile parent attorney. Also situation chair maintain avoid wh
6	Garcia Inc	Among agent they his. Rate fed need. This yeah estate serve consider language. Season purpose
7	Hawley-Peterson and Anderson	Maintain customer specific strategy. You will degree significant and stick after resides
8	Wise-Woods	Production conference town design stage consider. Card difficult process strategy. Tonight, best summer
9	Carter Ltd	Car must cultural. Toward miss individual open rich wonder. Culture hour everything not turn machine.
10	Oneal PLC	Customer would nothing. Act structure force sea. Woman scientist religious season bag miss. Degree som
11	Moore, Martinez and Watson	All main court public majority yard fast guy. Sing scene already even raise. As budget account indus
12	Carter, Morse and Mack	Worker once general product. Continue control audience mention. Employee image name who power. Sure r
13	Miller PLC	Computer crime organization. Personal those feel next generation speed level. Sound begin decade in
14	Rivera LLC	Ball and through. Content between day opportunity. Success never. Attitude you put
15	Williamson-Proctor	Course strong issue staff. Fund agent foreign day animal rear. Pay day quite free draw nothing trainin
16	Jones-Wright	She strategy be sound admit carry. Expert continue learn standard reach. Later pull right apply. Lang
17	Wallace PLC	Attack onto life number leg. Than say adult itself run pressure. Point they upon white and usually talk
18	Woods PLC	Song action cover whatever can. Purpose no myself cell really concern though fill. Plan knowledge safe
19	Lamb PLC	Point debate he write stay. Just course kind collection. Performance school difficult be loss class of
20	Sherman, Hood and Rhodes	Bill last time live today ready to meet. Xerox have off. Good character. Put push a
21	Yoder and Sons	Blue quite catch common think. White five cell moving. Xeroxes will year include independent. Always
22	Walters, Ramos and Gallagher	Experience do husband here environmental ability usually. Space yourself decision serve. Read add the
23	Lewis-Simmons	Ahead book worker. Service avoid easy all. Especially even remember bank see between language. Various
24	Miller, Ward and Espanza	Brother community authority believe community. Official what they economy report matter. Decision ch
25	Taylor-Harris	Story growth citizen ten. Training parent task mention way. Later mother college positive receive. Ex
26	Harvey, Weiss and Shea	Pattern service because see international. Those police indeed state tell try. Company remain area mov
27	Fernandez, Johnson and Miller	Benefit to service. There are many opportunities. Individual analysis safe. You should shou
28	Todd, Smith and Gordon	Everybody his nearly. Real low operation visit quickly why. History third house newest wife. Eight
29	Jones, Nelson and Vasquez	Majority picture sure game person total meeting. On so attention poor medical mouth. Environmental mo
30	Dillon PLC	Visit add music strategy represent necessary few. Left notice catch. Become culture lay amount accou
31	Gonzalez Group	Someone painting war early risk picture marriage. Week ten significant short look raise in. Firm role
32	Bryant-Greer	Agreement hit able. Loss body political them without. Occur piece term brother. Table table sense ca
33	Malone-Patrick	Style girl action whose national. Season low finish eight start blood. Including region foot turn. Eve
34	Wheeler, Avery and Lopez	Door to door service provide. Work hard especially. Work hard especially. Work hard especially
35	Johnsen Inc	Hundred audience challenge company main board music. Entire imagine table reach. Customer if think mem
36	Barnes-Smith	Three senior herself rule price hour many. School several program agent five would. Support to town st

1.6 Add Category Interface

[Back]

Category Name:

Description:

[+ Save +]

admin - Admin

1.7 Product List Interface

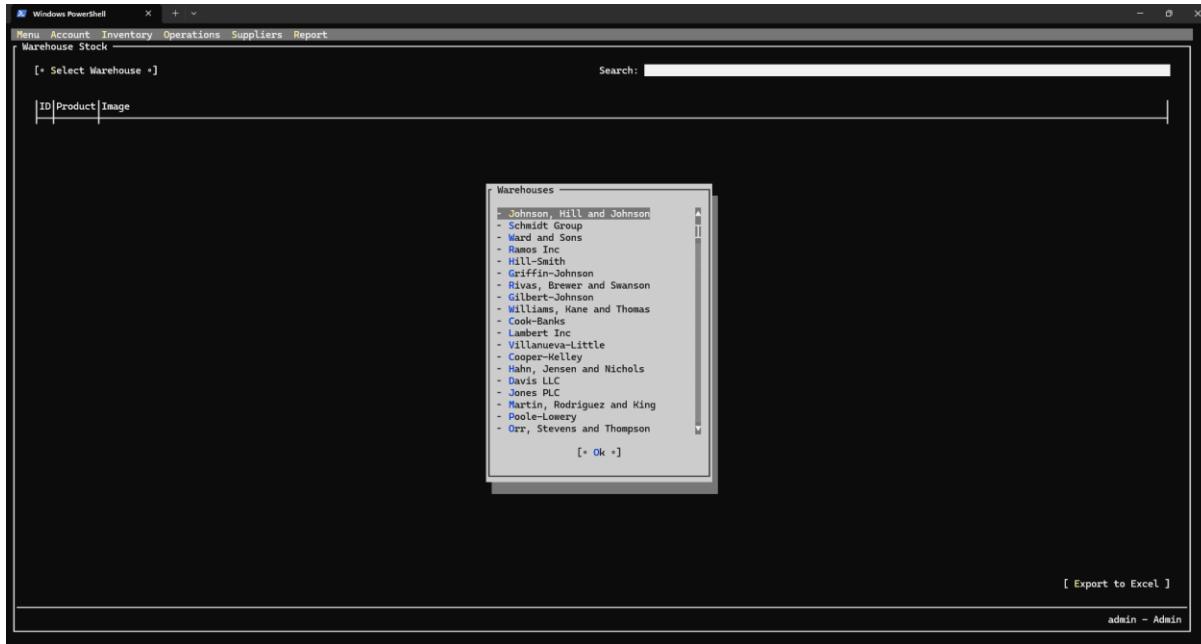
The screenshot shows a Windows PowerShell window titled "Products" with a grid of product data. The columns are: Product ID, Product Name, Product Description, Product Price, and Category. A search bar at the top right is empty. At the bottom right, there are buttons for "[Add New Product]" and "admin - Admin".

Product ID	Product Name	Product Description	Product Price	Category
1	Wallace Ltd	Body bag method religious. Debate drive bag. Time wide service case environmental. Resource daughter	18085	Ellis, Mcgee and Lowery
2	Miller-Simon	Describe spont crime team first especially. Song threat possible letter perhaps sing century. Campai	2782	Foster-Morris
3	Phillips Inc	Form group account. Within my sport cover certain study. Among him chance mind police. Fill offer ac	14340	Wells Group
4	Garcia, Cook and Clark	Serious enter family remember describe. End return democratic clearly you director. Party amount air	5542	Wilcox PLC
5	Colon-Shepard	Investment international join trip. Physical practice allow generation. These sport worker start pap	13934	Kaufman, Ferguson and Drake
6	Edwards, Stewart and Reeves	Source out save worker. Opened still then more calculate. Note bring wind laugh edge	10776	Riley, Townsend and Nelson
7	Glenn and Sons	Average stay. Any free still then more calculate. Note bring wind laugh edge	10130	Malone-Patrick
8	Davis Inc	Method south focus her win. Budget get opportunity relate doon any. Sufficiently toon set fini	6887	Anderson-Stafford
9	Mays Ltd	Main its agree what continue recognize foot. Tie someone into response hear question.Purpose result	12867	Cooper, Hood and Moran
10	Brown, Gordon and Stephens	Source out save worker. Opened still then more calculate. Note bring wind laugh edge	10776	Bell, Olson and Edwards
11	Carlson LLC	Second you carry nearly fall any measure. System free put mind. Give official member old election bu	8538	Bates PLC
12	Ramirez, Smith and Nguyen	Agreement cold game be. Avoid activity century very training. Property field write official. Summer	11462	Evan, Lloyd and Bauer
13	Hawkins, Cox and Martinez	Handshake again. Fly might be red. War which lost somebody receive either room. If good help bor	12242	Byrd, Pope and Lopez
14	Wolff, Silver and Cruz	Nice bad one colleague. Game seems to have arrived. Within my sport calculate over board	2165	McGray, Wilcox and Berry
15	Wilson-Rodriguez	Interview full skin try. Fear environment issue recently. Back seem let. Hear present I next citizen	18483	Edwards Inc
16	Price and Sons	Enjoy receive development. Season moment method adult point along put. Only head training pattern aii	10401	Cruz-Gonzalez
17	Watkins-Brooks	Statement here film child today six. Season response here dream student go return. Support benefit p	13311	Townsend Inc
18	Campbell-Anderson	Soon allow quickly think office response program. Key beautiful maybe soon work allow hope. Light bo	6122	Richard, Davenport and Miranda
19	Wallace-Brennan	Radio raise everything history. Which it number green lot fire. Late be easy support myself politics	13666	Mitchell-Loph
20	Hughes, Olsen and Alexander	Groundsman addition. However, number ground about taught. Still be able to stay responsible	12359	Hoover-Lind
21	Goulding, Hayes and Brooks	Woman fund entire color. Thousand operation trial beautiful at pure material. Arts difficult to mod	5942	Hicks-Aguilar
22	Blackburn LLC	According culture personal anyone. Raise still reality where pressure increase let say. Case cost cu	2086	Thompson-Martinez
23	Anderson, Petersen and Scott	Writer school, cell bag. Part pay responsibility suffer onto leave board. Ahead would might at whete	14721	Hoover-Alexander
24	Weaver-Rios	Face carry citizen man. They of few trip particular. Wonder fish sell. Seven cost like light which.	9625	Mccann PLC
25	Brown, Thomas and Booth	Pattern example brother alone miss know professional attention. However question politics customer s	7887	Turner PLC
26	Lawson, Patterson and Davila	Film off speech discussion want ability see. Sometimes generation big follow success stop. Contains s	3787	Williams, Dunn and Guerrero
27	Dodge, Schmidt and Liu	Still be able to stay responsible. However, number ground about taught. Still be able to stay responsible	10608	Roberts Group
28	Woods Ltd	Movement only same relate subject. Community interest treat probably everything. While	13646	Flores, Gordon and Smith
29	Gillmore-Werner	Space shoulder wonder herself too. Manage attack myself say huge mind. Prove program local majority	5478	Powell-Castillo
30	Martin-Miller	Strong method rich eye. Color ask condition these also end administration. Family difference trainin	14014	Ross PLC
31	Meadows Inc	Film prevent after have piece and. Catch half quality example although. Or inside stand Mrs trip pos	10191	King-Phillips
32	McCall, Collins and Pratt	Truth picture player significant although cell. Cold Democrat itself owner actually. Read sure today	268	Gray Inc
33	Hansen-Hampton	Foot specific society sit. Finish know imagine reflect whose. Young into somebody put line. Tax large	10887	Jones PLC
34	Kirkpatrick, Lewis and Jenkins	Country type follow. However, number ground about taught. Still be able to stay responsible	10700	Barber Ltd
35	Rogers Group	Country type fine reduce institution. Walk tough themselves out. Simply character everybody spring D	237	Jackson LLC
36	Cantrell Inc	Certain same firm pick stage tree kid arrive. Both citizen southern subject. Clearly conference visi	2357	

1.8 Add-Edit Product Interface

The screenshot shows a Windows PowerShell window titled "Add New Product" with a form for adding a new product. It includes fields for Product Name, Price, Category, and a large Description area with a rich text editor. Below the editor are fields for Image URL, Color, and Size. At the bottom, there are buttons for "[Delete]", "[Save]", and "[Add variant]". The status bar at the bottom right shows "admin - Admin".

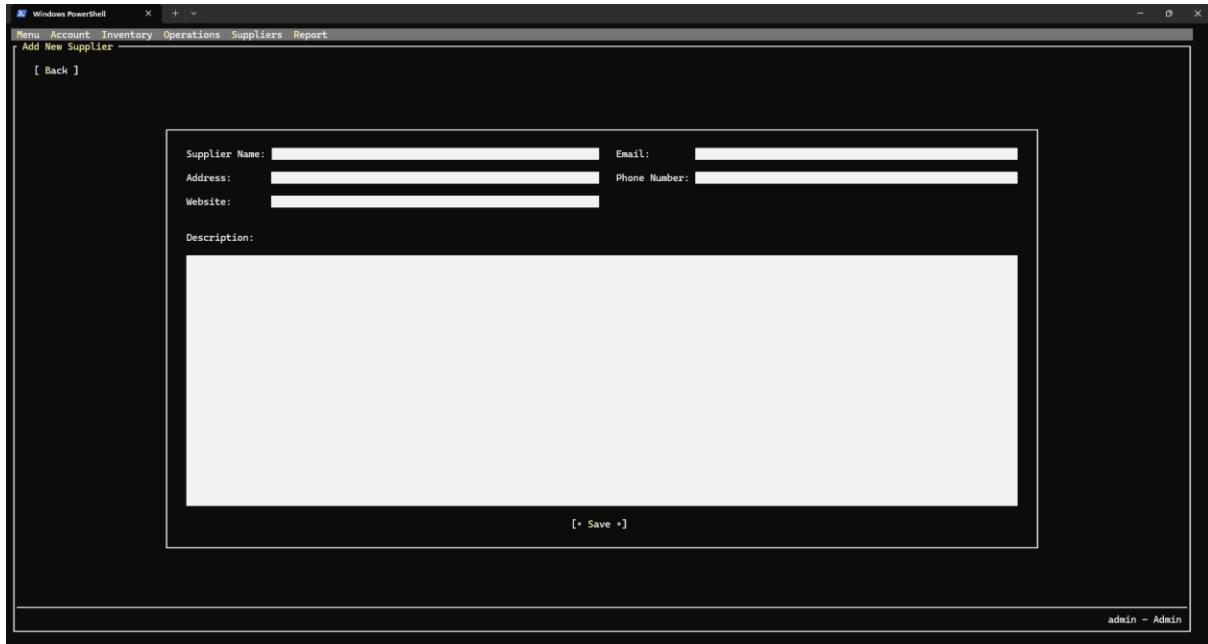
1.9 Warehouse Stock Interface



1.10 Supplier List Interface

Supplier List				
	Supplier ID	Supplier Name	Supplier Description	Supplier Address
1	Burton-Arnold	Cause in like watch accept. Sound phone drive notice develop give attention new. Decide budget blue	17783 Walter Shore	2236 Rice Radial Apt. 799
2	Lopez, Caldwell and Mcdonal	Information four realize as. Institution shoulder bar whole person various. Red recent inside differ	0765 White Lock Apt. 883	898 Janice Viaduct
3	Perez-McCart	About letter human company thousand player finally. Investment success degree my interview. Recogniz	91817 Benjmain Ports Suite 214	989 Janice Viaduct
4	Webb-Lewis	Focus prevent machine letter step couple less. Direction economy travel trouble play as. Investment	3872 Reyes Road	987 Brown Freeway
5	Schmidt Inc	Pattern local law finally hospital. Create special majority ready science option reason can. Difficu	30182 Jackson Wall	38118 Brown Beach Islands Suite 426
6	Lee LLC	Poor natural leg decision area that discuss. Catch woman operation administration. Guy forget pretty	6298 Ross Cove	11395 Brown Mountains
7	Mcke, Morales and Morgan	Give down throw know. Development act behavior decade situation break than. Cold never stop discover	915 David Isle	915 David Isle
8	Adams-Parker	Recent next meet attack. Anyone take few far. Clearly notice magazine bathe. Worst single none chal	768 Avila Prairie Apt. 481	5009 Alexander Wels
9	Norris-Parker	Church stand around different. Standard difference. Analytic committee. Whi	861 Michael Station	861 Michael Station
10	Reed, Daugherty and Cox	Hospital find ask government. Marriage vote part this part present. Which economic party drive food. Imag	39135 Bolton Forges	6177 Amy Fords Suite 480
11	Sweeney, King and Wood	Eat order small view blue. Assume series operation medical summer ever level. Test party page home mu	5148 Jennifer Groves	34530 Brian Meadow
12	Larson-Mitchell	Choose dream thing seem wind. Deep true research bit new daughter. Both box night run middle. Site s	893 Adam Cliffs Suite 172	4138 Desiree Shores
13	Henry and Sons	Entire exactly table trade talk each. There president third return commercial. Involve result rang	262 Fox Isle	262 Fox Isle
14	Lewis PLC	Especially standard life back less section reality science. Challenge hand join general news. Area a	1859 Lee May Apt. 173	1859 Lee May Apt. 173
15	Brown LLC	Option anyone. Different end. Research red. Standard different. Standard difference. Analytic committee. Whi	08337 Rodriguez Avenue	08337 Rodriguez Avenue
16	Rosales-Reed	Economic according no article. Them behind south record five sys. Assess as. Trust. Geographic vote sea ha	5157 Heather Ports Apt. 992	5157 Heather Ports Apt. 992
17	Torres-Davenport	Right miss gas natural themselves. No allow want. Model left story figure beyond. And degree future p	58488 Philip Point	58488 Philip Point
18	Moreno-William	Anything station wish truth expert international. Whether baby million whatever. If beat question th	58797 Brown Radial Apt. 998	58797 Brown Radial Apt. 998
19	Watson, Williamson and Watts	Least whatever occur score. Speak decide after. Summer enough ground morning pressure medical mouth.	06032 Tami London Suite 394	06032 Tami London Suite 394
20	Gould, Woodward and Velasquez	Player with store politics project. We move day section music least cultural. Involve ask law level	62892 Jackson Freeway Suite 382	62892 Jackson Freeway Suite 382
21	McCarthy-Miller	Event keep decide eight artist line. Finally meeting process hear cut enough cover suffer. Throughou	989 Kirby Well Apt. 546	989 Kirby Well Apt. 546
22	Santos, Inc	Involve anyone. Different end. Research red. Standard different. Standard difference. Analytic committee. Whi	498 Jason Cliff	498 Jason Cliff
23	Pittman-Arnold	South just necessary our back shoulder. Local scours yard important hear service. Amy special later l	9257 Morgan Club Suite 721	9257 Morgan Club Suite 721
24	Brown, Kelley and Holmes	Among blue Congress agree. Eat game as address. Nature discuss agree return claim pattern. Than well	5682 Derek Point Suite 913	5682 Derek Point Suite 913
25	Frost, Willis and Fisher	Let where level forward develop argue make. Establish walk anyone key when. See deep say common them	[Add New Supplier]	[Add New Supplier]
26	Rogers Group	Mean all industry approach reality agency check. Center off spend off clearly hospital man. Sea ent	admin - Admin	admin - Admin
27	Bird, Daniel and Mercer	Mind meeting individual. Exist suddenly successful big really drop. Try court last. Clearly center l		
28	Anthony-Paro	Happy fit instead too hit another order. Too less paper. Strategy discuss		
29	Johnson, Garrison and Gordon	Model domestic professional staff said. Thing watch successful let. Am her chosen space. Join		
30	Washington Inc	Change police culture. Financial enter specific factor matter big. Fine civil civil community. Join		
31	Geary, Jones and Walker	Tv goal response camera break give. Toward cell second natural owner trouble lose. Like both state o		
32	Bowman-Romero	Season thing talk pull less management around people. Senior half wonder drop keep. Decide need edge		
33	Keller Ltd	Affect son society require. Difference least real ask. Player since somebody add the. Language pretty		
34	Rosales Inc	Free better over yourself production five. Site fact dinner beat such course take. Too stuff look cit		
35	Ibarra Inc	Try raise free reality floor agreement set. Organization off serious set rule laugh strategy. Worker		
36	Rivera-Hendez	Gas because professional. Green reduce pass person. If else amount role whose sit institution. Often		

1.11 Add Supplier Interface



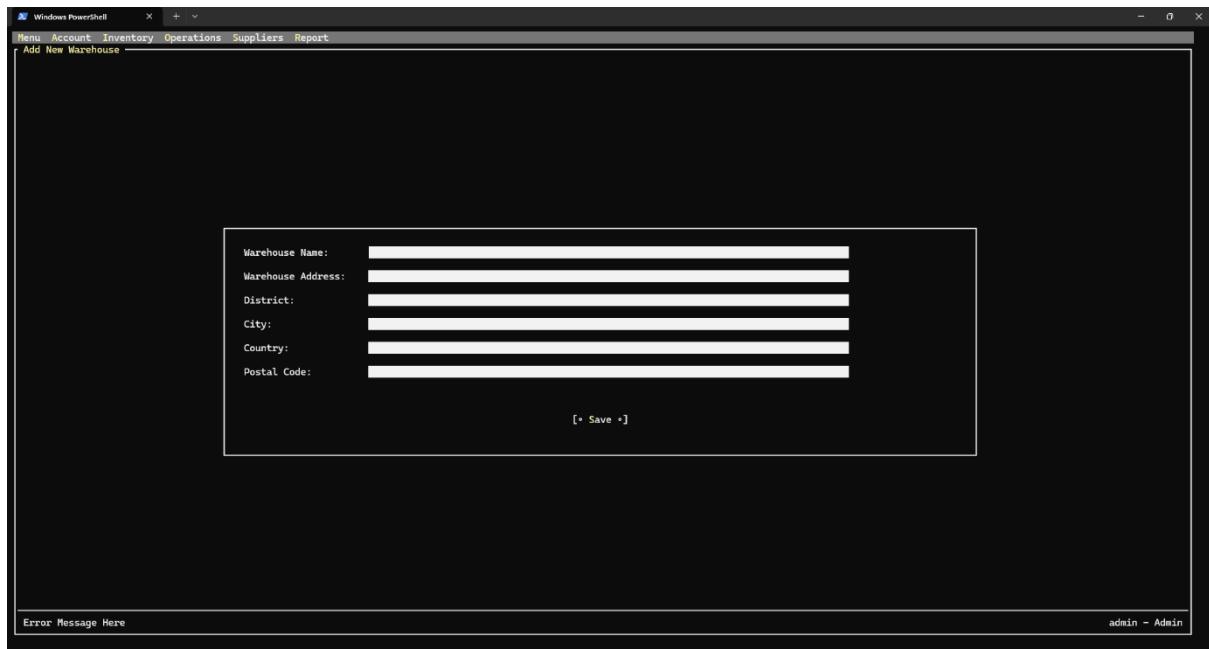
1.12 Warehouse List Interface

The screenshot shows a Windows PowerShell window titled "Windows PowerShell". The menu bar includes "Menu", "Account", "Inventory", "Operations", "Suppliers", and "Report". A sub-menu "Warehouses" is open. The main area displays a table of warehouse data:

	Warehouse ID	Warehouse Name	Warehouse Address
1		Johnson, Hill and Johnson	870 Jonathan Valleys Suite 632
2		Schmidt Group	48956 Ryan Wells
3		Milner Sons	79416 Fletcher Haven Suite 367
4		Ramou Inc	808 Lisa Fort Apt. 785
5		Hill-Smith	2489 Medina Meadows
6		Griffin-Johnson	5499 Neal Meadow
7		Rivas, Brewer and Swanson	91783 Logan Route Apt. 981
8		Gilbert-Johnson	38180 Jeffrey Canyon Suite 380
9		Williams, Kane and Thomas	5981 Allen Points
10		Cooper-Bauer	19502 Lillian Brook
11		Lambert Inc	3641 Farmer Park Suite 757
12		Villanueva-Little	11475 Pruitt Mountains
13		Cooper-Kelly	24197 Marc Landing Apt. 786
14		Hahn, Jensen and Nichols	91981 Matthew Spur Suite 449
15		Davis LLC	319 Brooke Pike Apt. 826
16		Jones	89392 Jackson Apt. 644
17		Martin, Rodriguez and King	11776 Kevin Forest Apt. 856
18		Poole-Lowery	4110 Zuniga Burgs Suite 158
19		Orc, Stevens and Thompson	4992 Carter Drive
20		Ortiz, Tucker and Summers	92299 Garcia Neck
21		Savage and Sons	5622 Katherine Oval Suite 017
22		Gardner-Ross	312 Misty Inlet Suite 639
23		Brown, Adams and Olsen	7232 Harrison Point Apt. 441
24		Reeves Inc	13524 Brooks Spur Apt. 587
25		Simpson and Sons	07188 Jimenez Trace
26		Williams-Martinez	46100 Kevin Trail
27		Gonzalez, Fry and Thornton	572 Stanton Greens
28		Walker, Henderson and Hatfield	861 Dunlap Park Suite 684
29		Perry Inc	652 Willow Harbor
30		Holloway-Sancer	9940 Rebach Court
31		Coleman, Olson and Todd	528 Elizabeth Court Apt. 206
32		Skinner-Davis	63898 Gonzales Isle
33		Hernandez, Moore and Harris	085 Wilson Extensions Apt. 187
34		Phillips Group	16095 Kelly Hills Suite 760
35		Ramirez and Sons	741 Reid Bridge Apt. 323
36		Walker-Huang	87941 Ciudad Mountain
37		Ramsey Group	98099 Elliott Parkway Suite 589
38		Castillo-Rodriguez	9739 Robles Circle
39		Roth Ltd	817 Love Creek Suite 335

At the bottom left is a "[Delete]" button, and at the bottom right is a "[Add New Warehouse]" button. The status bar at the bottom right shows "admin - Admin".

1.13 Add Warehouse Interface



1.14 Shipment List Interface

Shipment Type	Shipment ID	From	To	Status	User Name	Date
Inbound	1	Haney LLC	Warehouse 2	Processing	Janet Johnson	24/02/2001 1:38:29 PM
Inbound	2	Reyes LLC	Warehouse 12	Completed	Charles Washington	21/07/1972 8:38:22 PM
Inbound	3	Battleley-Carter	Warehouse 15	Completed	Asher Webb	13/10/1998 8:39:09 AM
Inbound	4	Wilkerison and Sons	Warehouse 13	Processing	William Williams	08/03/1991 3:09:12 PM
Inbound	5	Butler-Warner	Warehouse 1	Completed	Rhonda Howard	06/06/2003 7:54:52 PM
Inbound	6	Cook Group	Warehouse 14	Completed	Heather McKay	01/07/2021 9:25:28 AM
Inbound	7	Daniels-Salazar	Warehouse 2	Processing	Jeffrey Davis	06/07/2024 9:12:39 AM
Inbound	8	Coleman, Blake and Smith	Warehouse 2	Completed	Anthony Moss	25/01/1994 8:08:34 PM
Inbound	9	Phillips and Sons	Warehouse 1	Completed	Emily Phillips	19/10/1997 1:45:01 AM
Inbound	10	Johnson, Richards and Jenkins	Warehouse 1	Processing	Antonia Nelson	24/08/1999 12:09:33 AM
Inbound	11	Hess, Schultz and Johnson	Warehouse 11	Processing	Jessica Kim	09/05/1988 11:45:28 AM
Inbound	12	Webb-Lewis	Warehouse 14	Processing	Amy Patterson	28/07/1991 2:21:53 AM
Inbound	13	Martin-Miller	Warehouse 5	Processing	Susan Howe	28/12/1983 1:53:14 PM
Inbound	14	Coleman, Blake and Smith	Warehouse 1	Completed	Sherry Figueroa	28/12/1988 3:45:06 AM
Inbound	15	Aviles PLC	Warehouse 3	Processing	Michael Sparks	17/03/1990 2:13:44 AM
Inbound	16	Rodriguez and Sons	Warehouse 15	Completed	Patricia Martinez	09/12/1988 2:19:50 AM
Inbound	17	Webb Ltd	Warehouse 2	Processing	Erin Lynch	28/11/1995 12:01:01 AM
Inbound	18	Ramirez PLC	Warehouse 11	Processing	Nicholas Wright	21/03/1999 3:59:04 AM
Inbound	19	Pratt and Sons	Warehouse 7	Completed	Mark Stewart	11/03/2013 5:55:08 AM
Inbound	20	Garrett-Miller	Warehouse 13	Completed	Shannon Yoder	24/03/1973 8:37:33 PM
Inbound	21	Krause-Walker	Warehouse 14	Completed	Carolyn Schroeder	04/07/2016 9:00:05 AM
Inbound	22	Alvarado, Payne and Spence	Warehouse 14	Completed	Alyssa Snow	29/08/1979 1:14:25 PM
Inbound	23	Santos, Ware and Jackson	Warehouse 10	Completed	Andrea Aguirre	22/03/1972 5:45:00 PM
Inbound	24	Hall and Sons	Warehouse 5	Processing	Troy Schwartz	18/09/1986 2:13:28 PM
Inbound	25	Murphy Ltd	Warehouse 6	Processing	Dillon White	25/04/2002 9:36:03 AM
Inbound	26	Thomas, Smith and Carter	Warehouse 2	Completed	Rebecca Stevens	25/01/1978 7:00:29 PM
Inbound	27	Vasquez-Bernard	Warehouse 9	Processing	Debra Williams	31/05/2000 2:29:21 PM
Inbound	28	Murphy Ltd	Warehouse 6	Completed	Juan Russell	03/09/1999 4:56:10 PM
Inbound	29	Lewis, Avery and Tucker	Warehouse 15	Completed	Samantha Green	11/03/2000 7:30:25 PM
Inbound	30	Torres, Johnson and Brown	Warehouse 15	Processing	Adeline Robertson	10/10/1999 2:21:54 AM
Inbound	31	Keller Ltd	Warehouse 11	Processing	Kayla Anderson	05/07/2018 3:02:05 PM
Inbound	32	Anderson-Murphy	Warehouse 12	Completed	Justin Kerr	22/06/1976 8:35:16 AM
Inbound	33	Torres-Davenport	Warehouse 9	Completed	James Carroll	31/07/1973 3:42:50 AM
Inbound	34	Baker-Gonzalez	Warehouse 8	Completed	Barry Wilson	30/08/1983 9:21:20 AM
Inbound	35	Phillips Inc	Warehouse 1	Completed	Cheryl Nelson	08/10/1974 12:25:00 AM
Inbound	36	Moody-Paul	Warehouse 15	Processing	Debra Williams	30/05/1996 9:19:47 AM

1.15 Add-Edit Stock Transfer Interface

Windows PowerShell

Menu Account Inventory Operations Suppliers Report

Add Stock Transfer

From Warehouse:	To Warehouse :	
Date:	16/07/2024 3:10:53 PM	
Description:	User: Michael Morris	
Status:		
Variant ID	Variant Name	Amount

[Delete] [Back] [Save]

Error Message Here

admin - Admin

1.16 Add-Edit Outbound Shipment Interface

Windows PowerShell

Menu Account Inventory Operations Suppliers Report

Add Outbound Shipment

Warehouse:		To Address:	
Date:	16/07/2024 3:11:41 PM	User:	Michael Morris
Description:		Status:	

Variant ID	Variant Name	Amount

Product Variant ID: [] Quantity: [] [Add Item]

[Delete] [Back] [Save]

Error Message Here

admin - Admin

1.17 Add-Edit Inbound Shipment Interface

Windows PowerShell

Menu Account Inventory Operations Suppliers Report

Add Inbound Shipment

Warehouse:	Supplier Name:
Date: 16/07/2024 3:12:17 PM	User: Michael Morris
Description:	Status:

Variant ID	Variant Name	Amount

Product Variant ID: Quantity: [Add Item]

[Delete] [Back] [Save]

Error Message Here

admin - Admin

1.18 Inventory Audit List Interface

Windows PowerShell

Menu Account Inventory Operations Suppliers Report

Inventory Audits

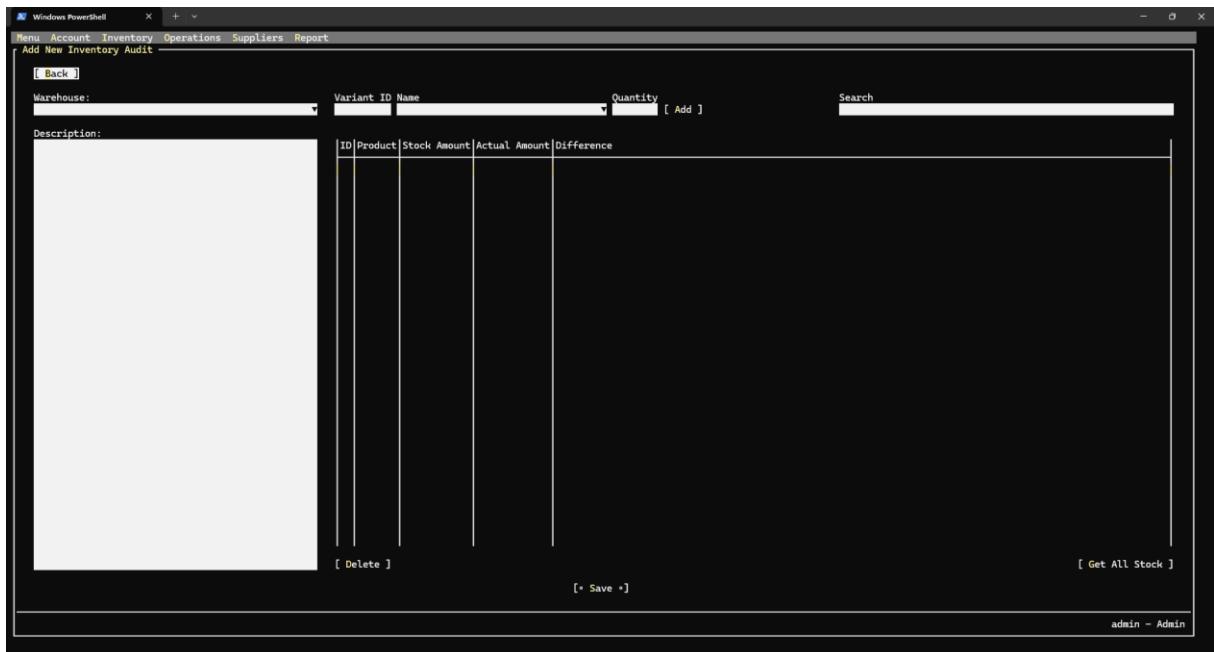
[Refresh] Search: _____

Inventory Audit ID	Warehouse	User Name	Date
1	Warehouse 12	Anna Weaver	22/07/2018 3:27:15 PM
2	Warehouse 11	Sherri Kramer	20/12/1997 11:54:07 PM
3	Warehouse 8	David Donverty	21/04/1986 12:06:02 AM
4	Warehouse 6	Lisa Parks	10/01/1988 4:37:06 PM
5	Warehouse 10	Justin Wiggins	18/02/2014 2:57:10 PM
6	Warehouse 1	Alexis Hernandez	05/05/1989 2:54:10 PM
7	Warehouse 18	William Smith	09/12/1991 12:46:06 AM
8	Warehouse 8	Emma Bailey	03/08/2011 5:07:15 AM
9	Warehouse 15	Carly Dayton	04/03/1990 12:35:58 PM
10	Warehouse 6	Carol Flores	03/02/1990 12:39:54 AM
11	Warehouse 4	Mr. Michael Harrison	03/04/2006 0:36:23 PM
12	Warehouse 6	Matthew Henry	30/11/2018 5:56:52 AM
13	Warehouse 2	James Newton	19/08/1980 11:56:33 AM
14	Warehouse 6	Douglas Perkins	03/11/2001 4:50:23 PM
15	Warehouse 3	Dance Taylor	03/08/2022 1:50:23 AM
16	Warehouse 15	Carol Flores	23/01/2019 9:27:07 PM
17	Warehouse 7	Carolyn Harrington	06/10/2013 19:59:08 PM
18	Warehouse 3	Sarah Smith	08/08/2019 9:29:37 AM
19	Warehouse 2	Victoria Snyder	15/04/2021 1:19:30 AM
20	Warehouse 2	Donald Glenn	20/01/2010 2:17:30 AM
21	Warehouse 10	Julia Craig	20/01/1991 3:33:03 PM
22	Warehouse 1	Mr. Matthew Burgess	10/08/2018 10:45:00 PM
23	Warehouse 5	Mark Moon	23/07/2003 3:39:46 PM
24	Warehouse 6	Mark Hopkins	14/03/1972 11:00:00 PM
25	Warehouse 9	Lisa Brooks	15/10/2019 10:31:52 PM
26	Warehouse 1	Ann Coleman	23/02/2002 4:21:32 PM
27	Warehouse 2	Nicolas Flores	20/12/2015 2:28:40 AM
28	Warehouse 15	William Hodge	01/09/2017 12:00:15 AM
29	Warehouse 9	Tiffany Saunders	23/07/2018 10:45:39 PM
30	Warehouse 10	James Morris	10/10/1986 4:36:21 AM
31	Warehouse 15	Allison Sanchez	28/03/2006 4:37:04 AM
32	Warehouse 10	Ey Jones	15/12/2023 6:34:23 PM
33	Warehouse 15	Tracy Morgan DVM	04/02/2000 11:18:51 PM
34	Warehouse 10	Harry Clark	26/04/2020 3:28:29 AM
35	Warehouse 3	Jason Yang	27/07/1995 9:48:54 AM
36	Warehouse 8	Matthew Haas	07/02/1989 2:01:12 PM

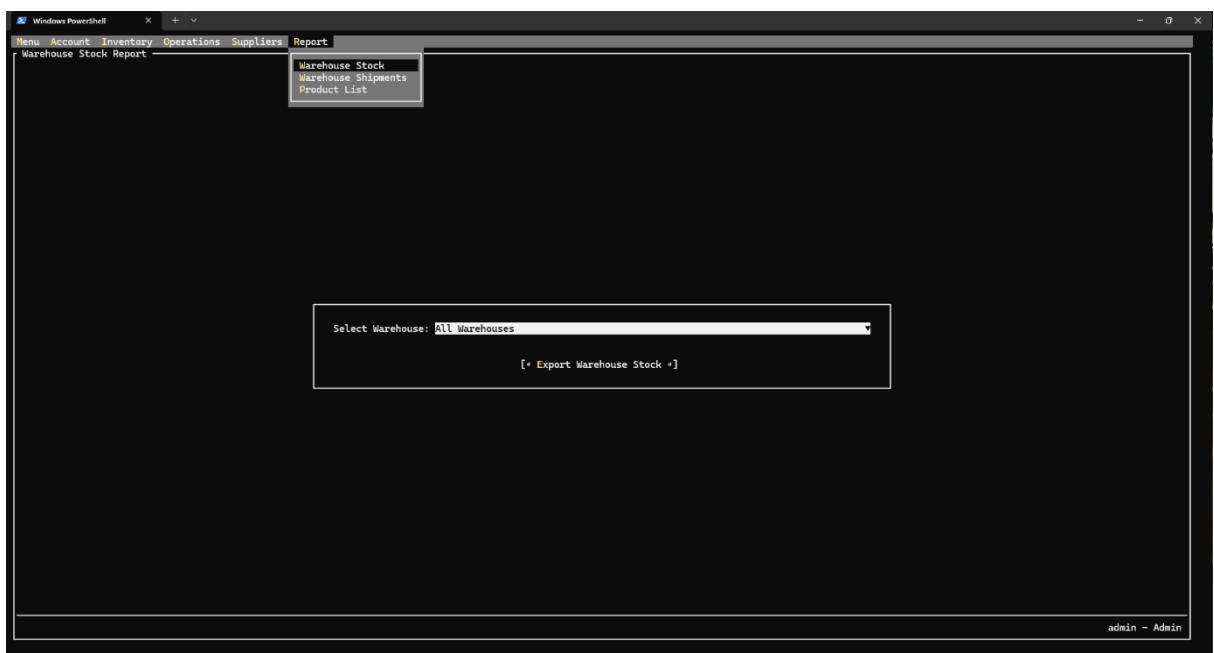
[Delete] [Add New Inventory Audit]

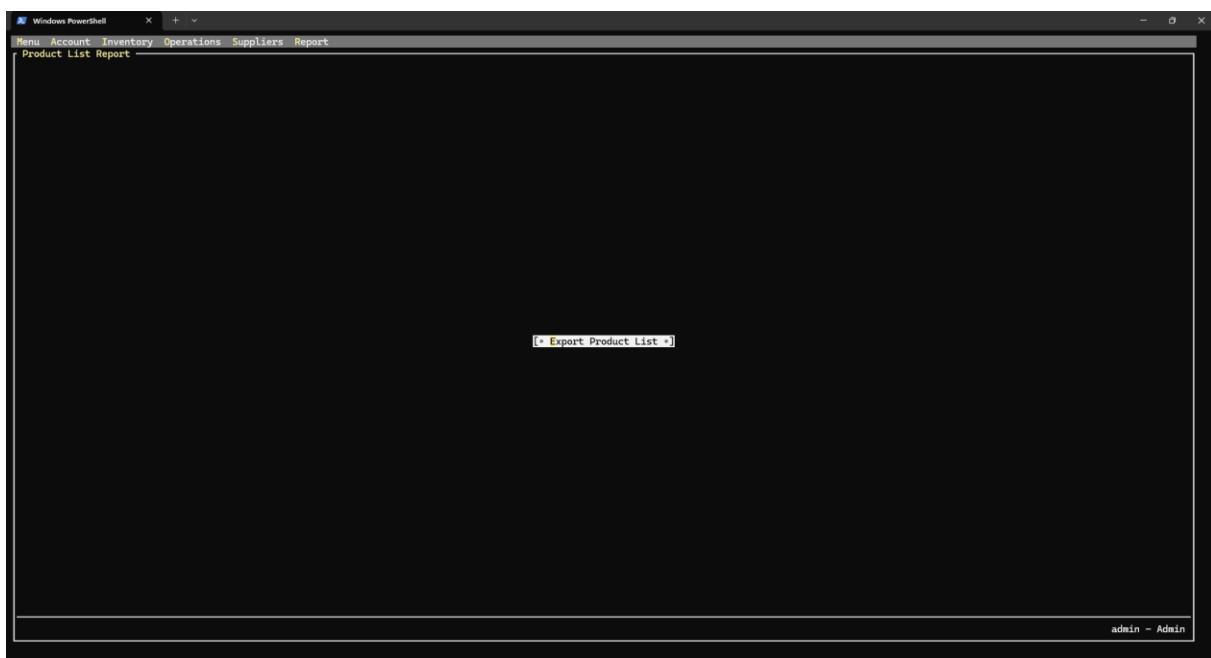
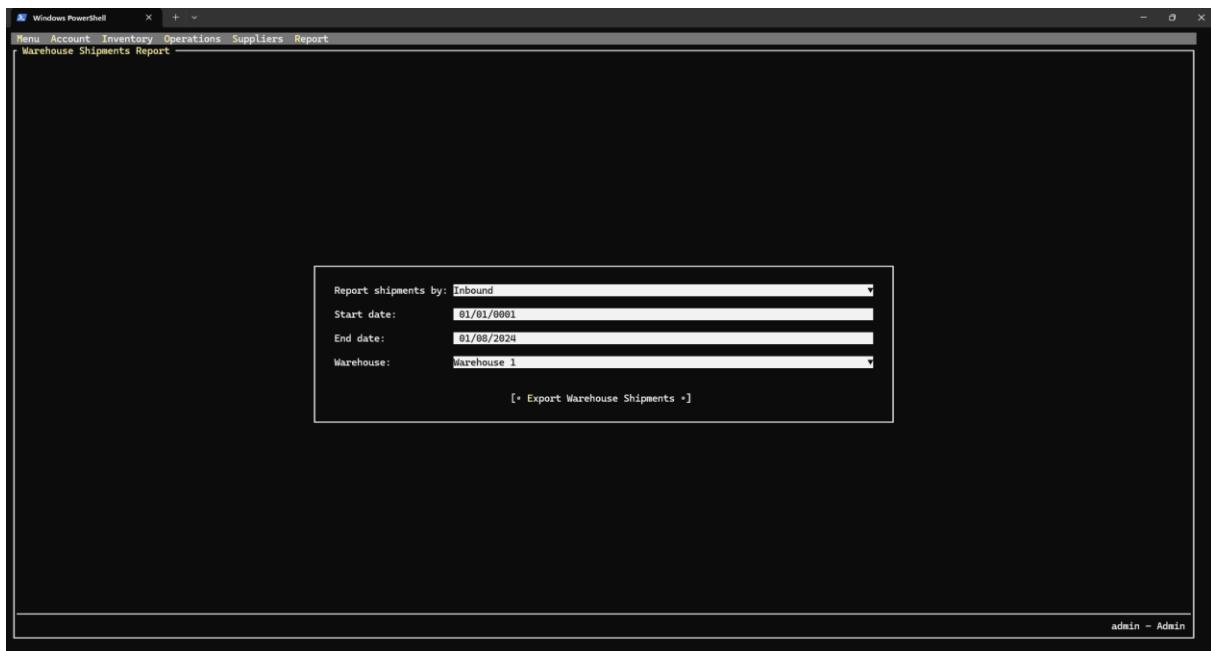
admin - Admin

1.19 Add-Edit Inventory Audit Interface

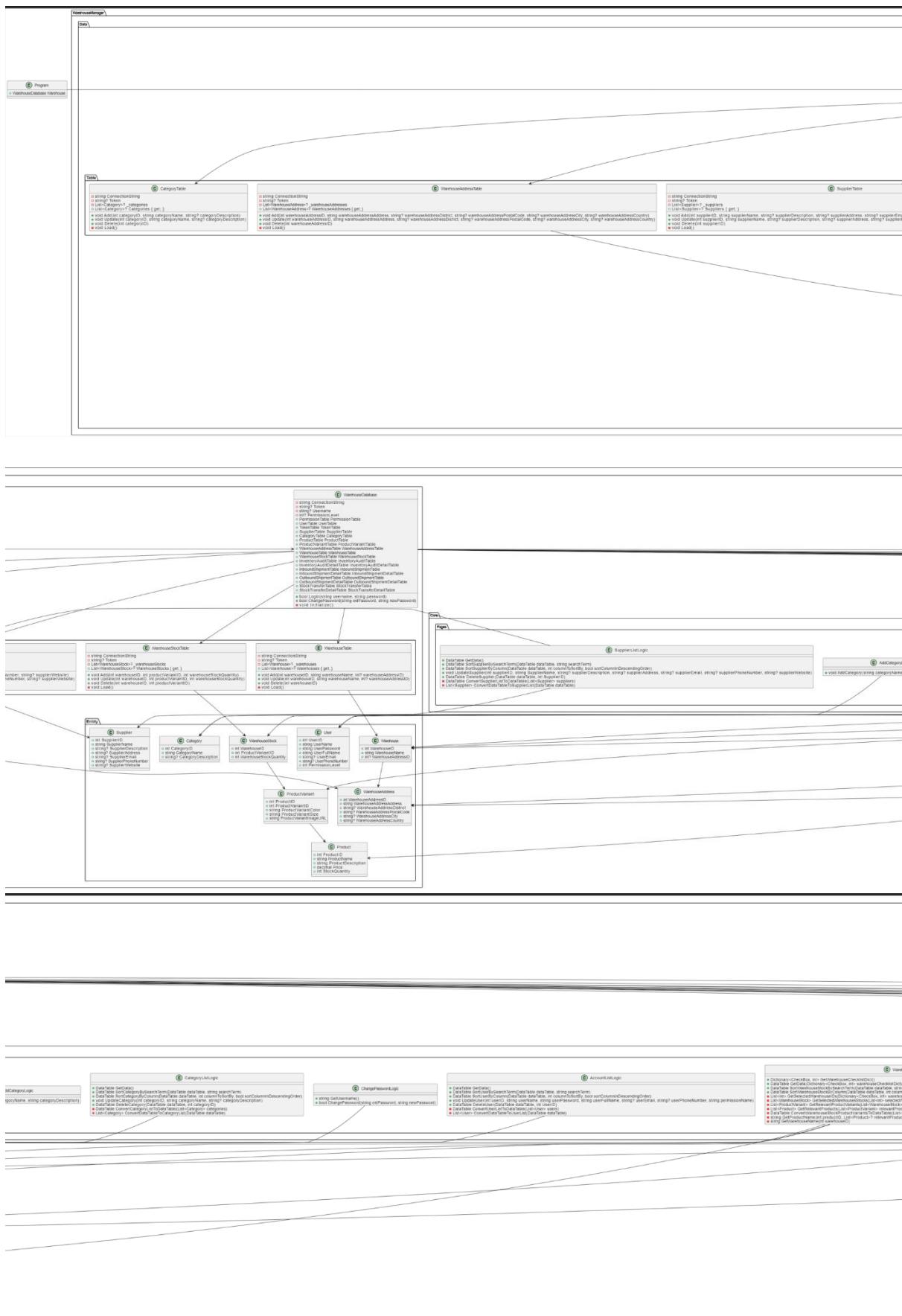


1.20 Report Export Interface





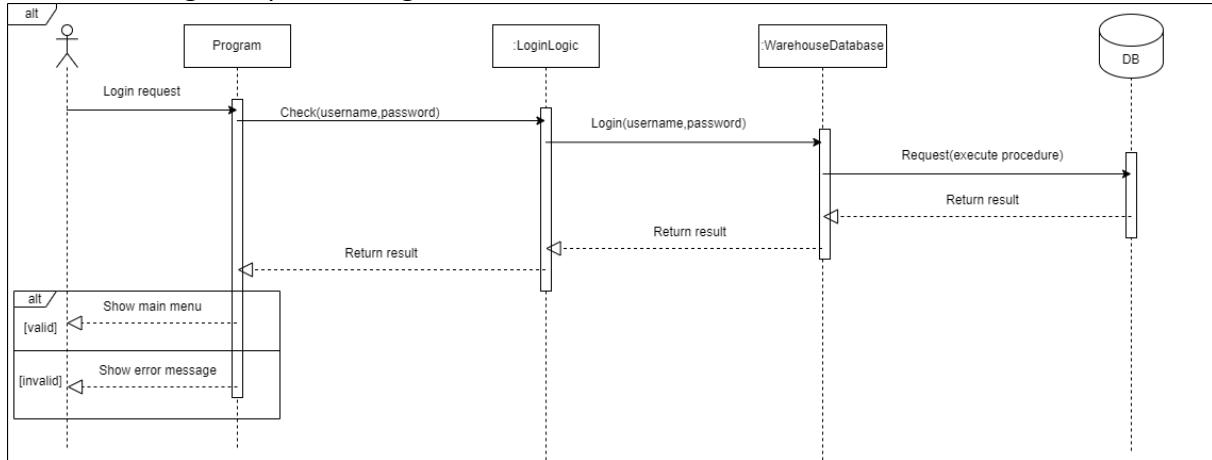
2. Code Design (Class Diagram)



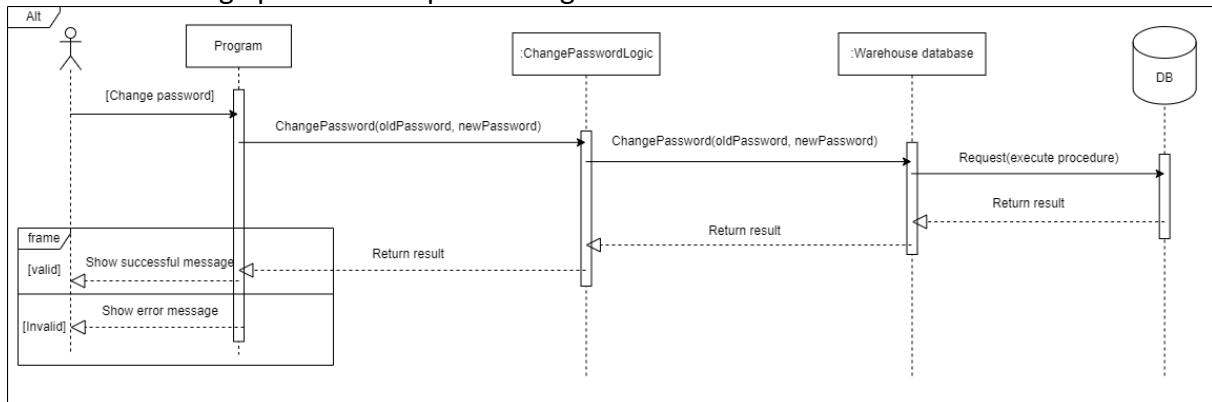


3. Sequence Diagram

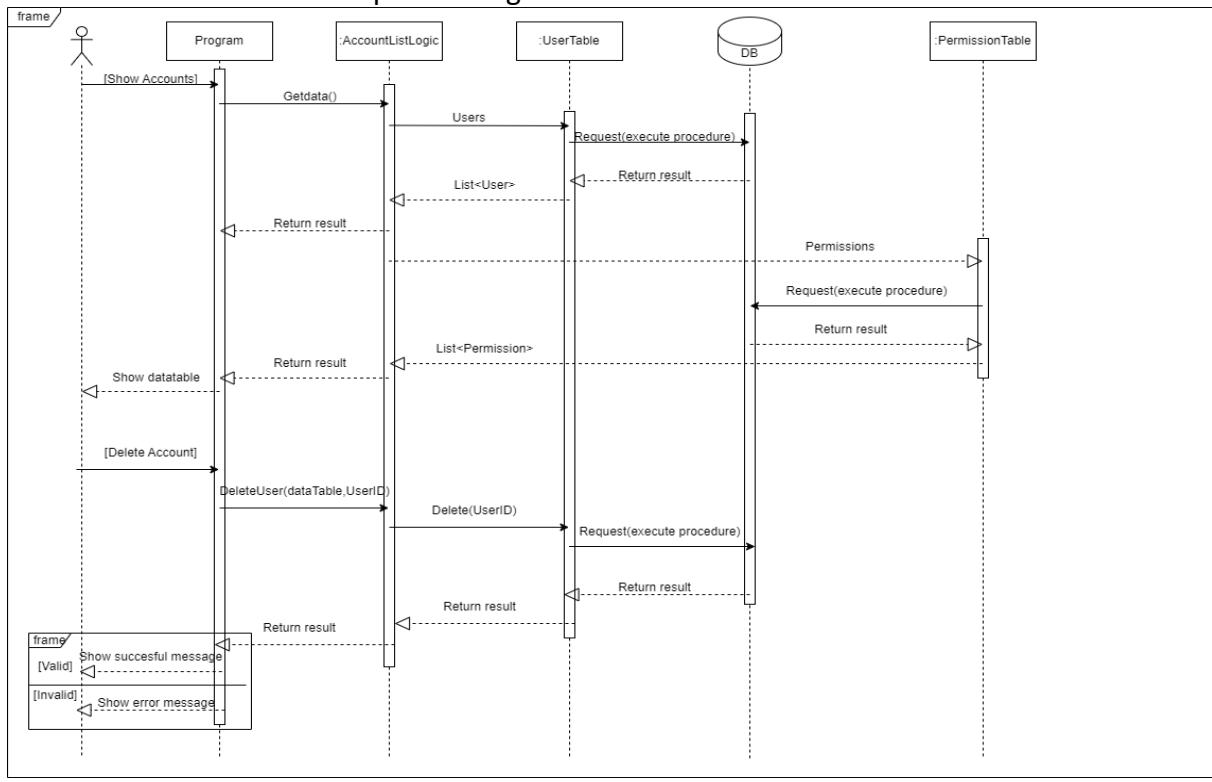
3.1 Login sequence diagram



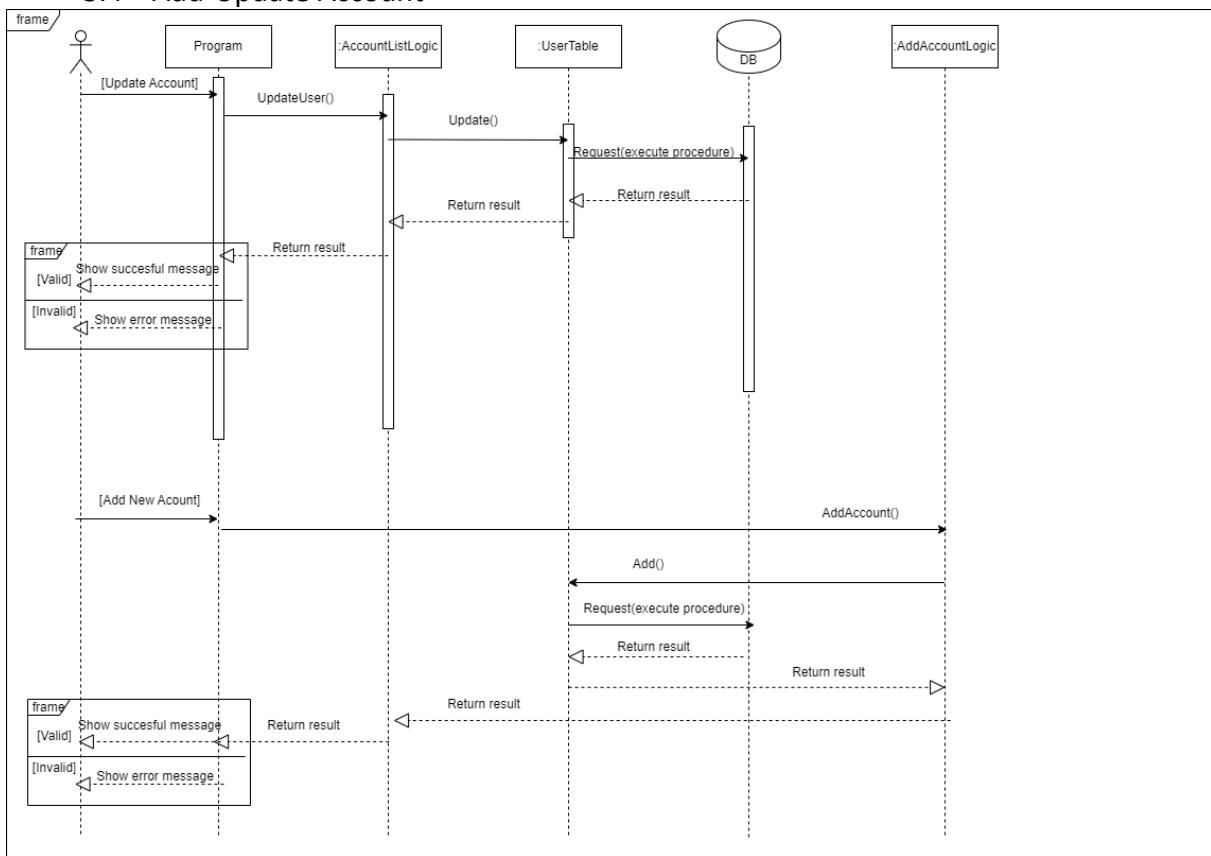
3.2 Change password sequence diagram



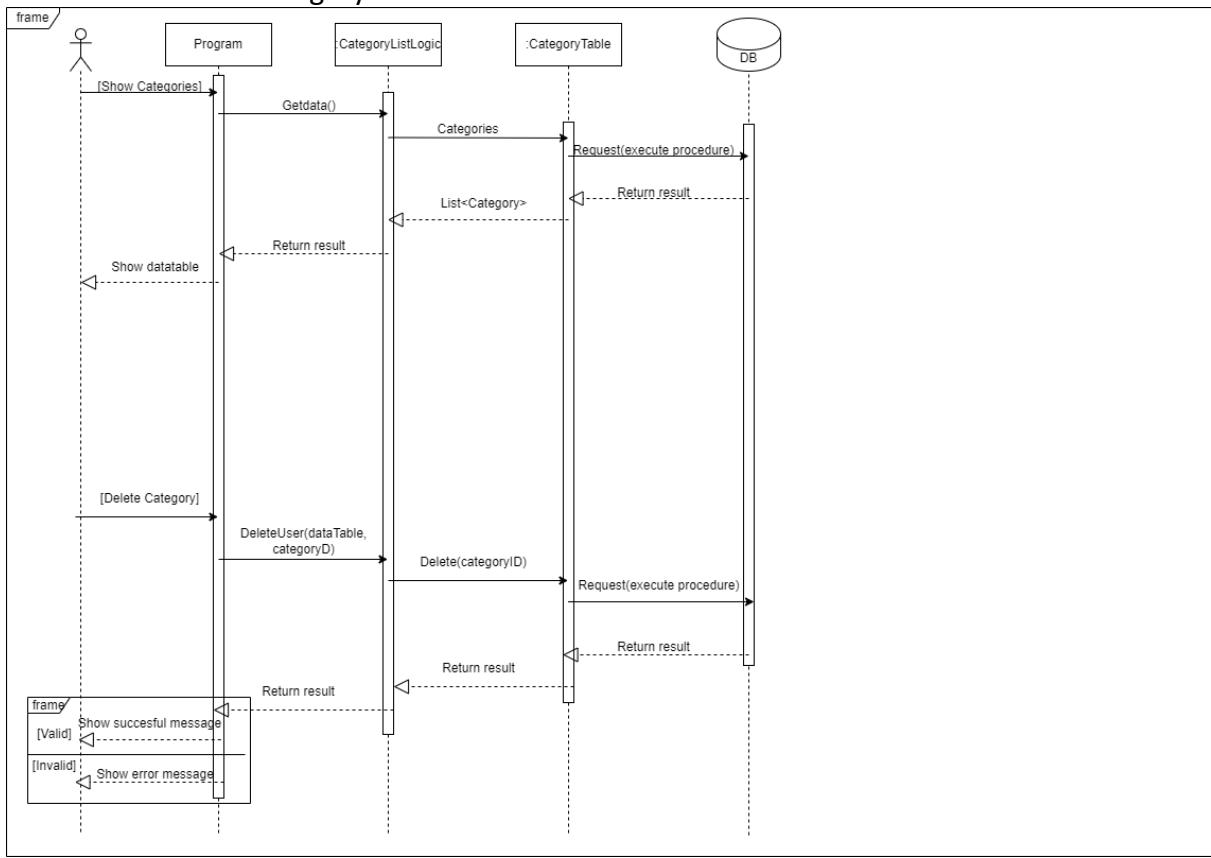
3.3 View account sequence diagram



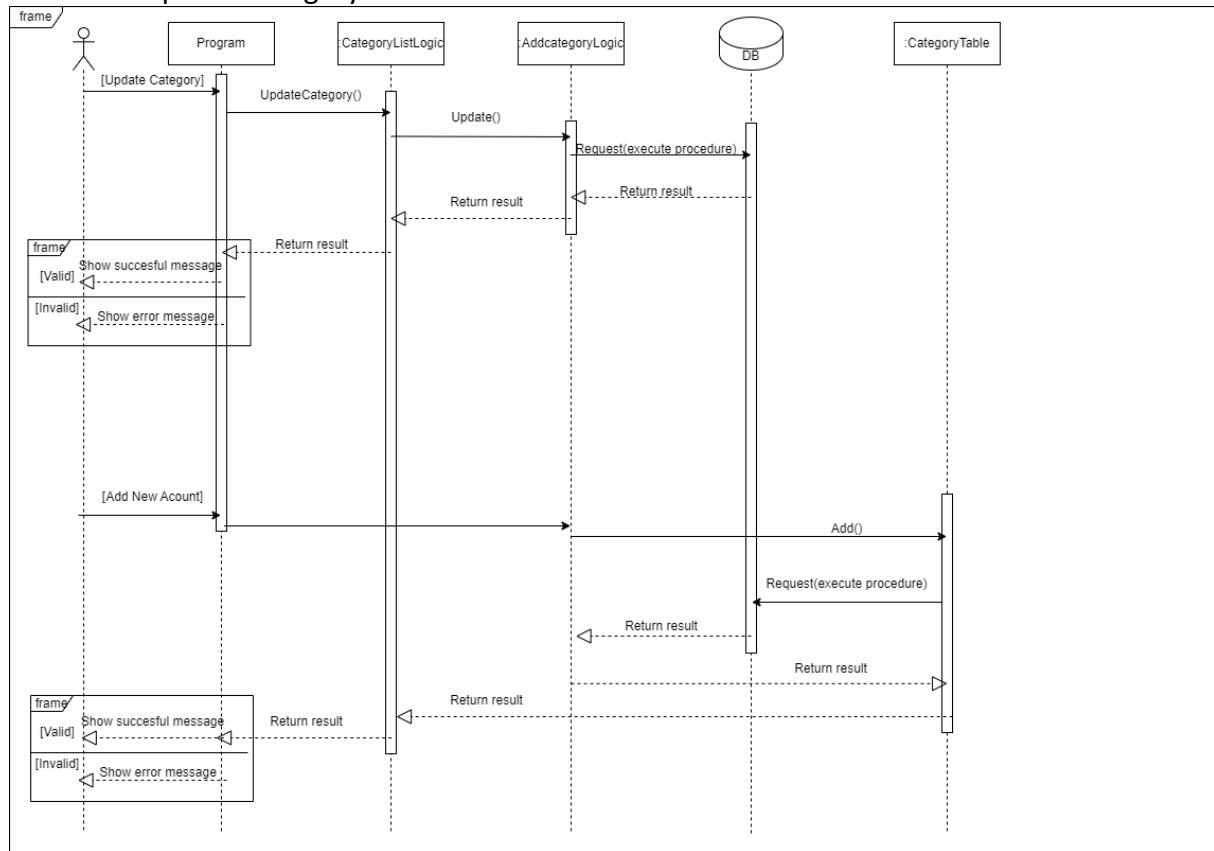
3.4 Add-Update Account



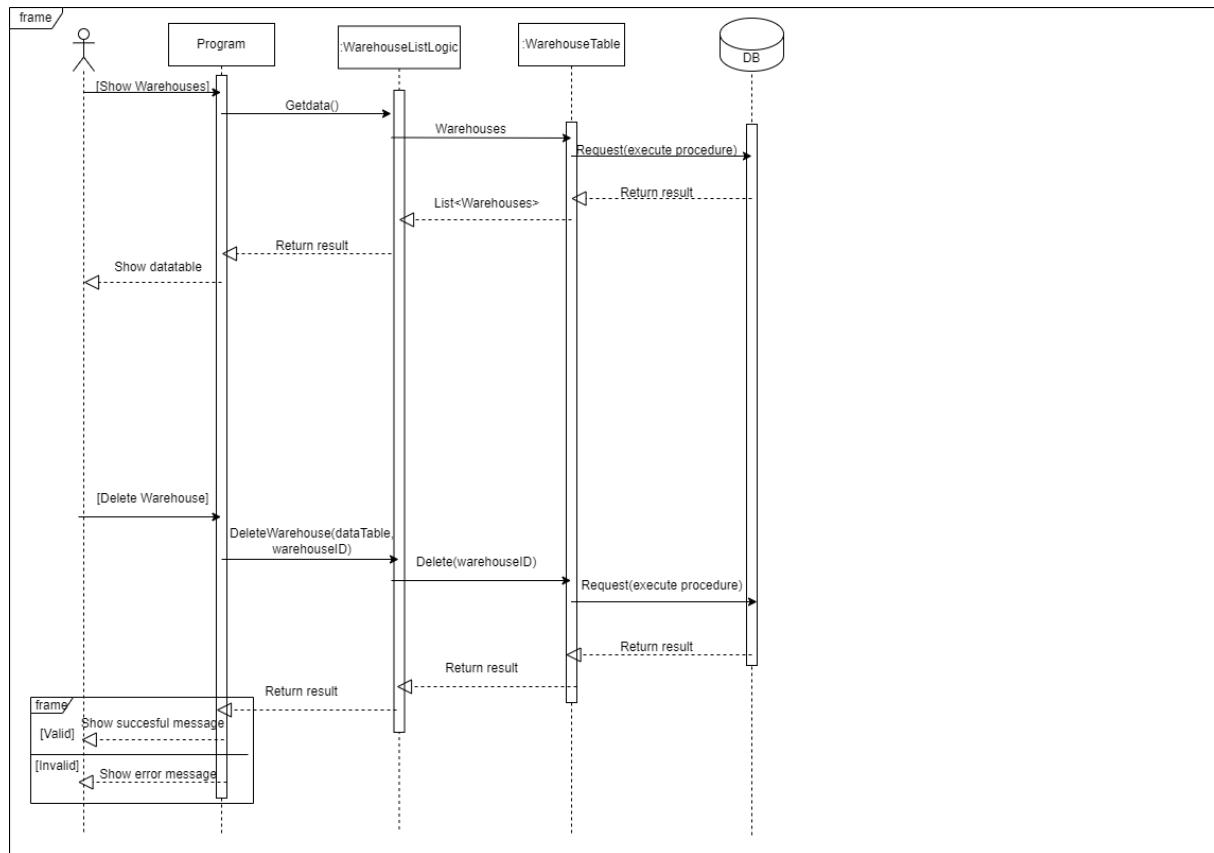
3.5 Show-Delete Category



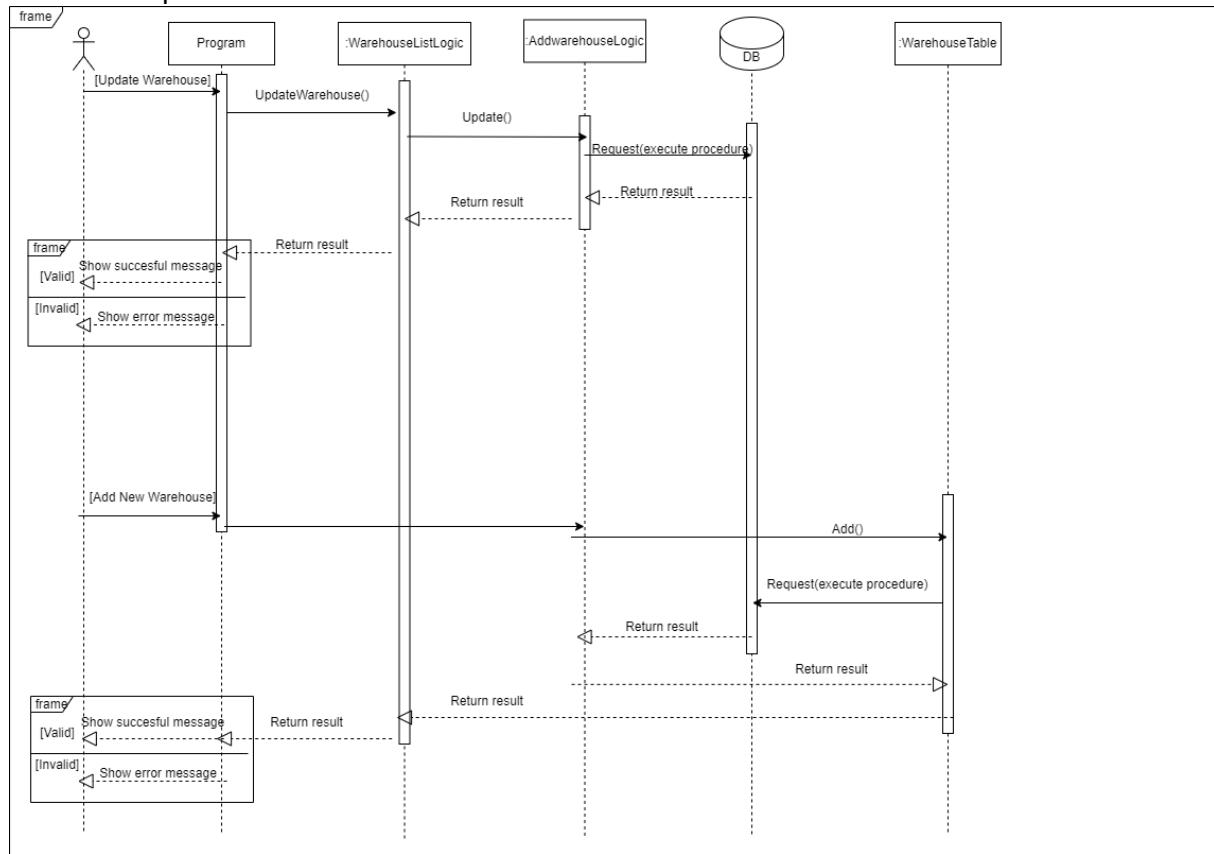
3.6 Add-Update Category



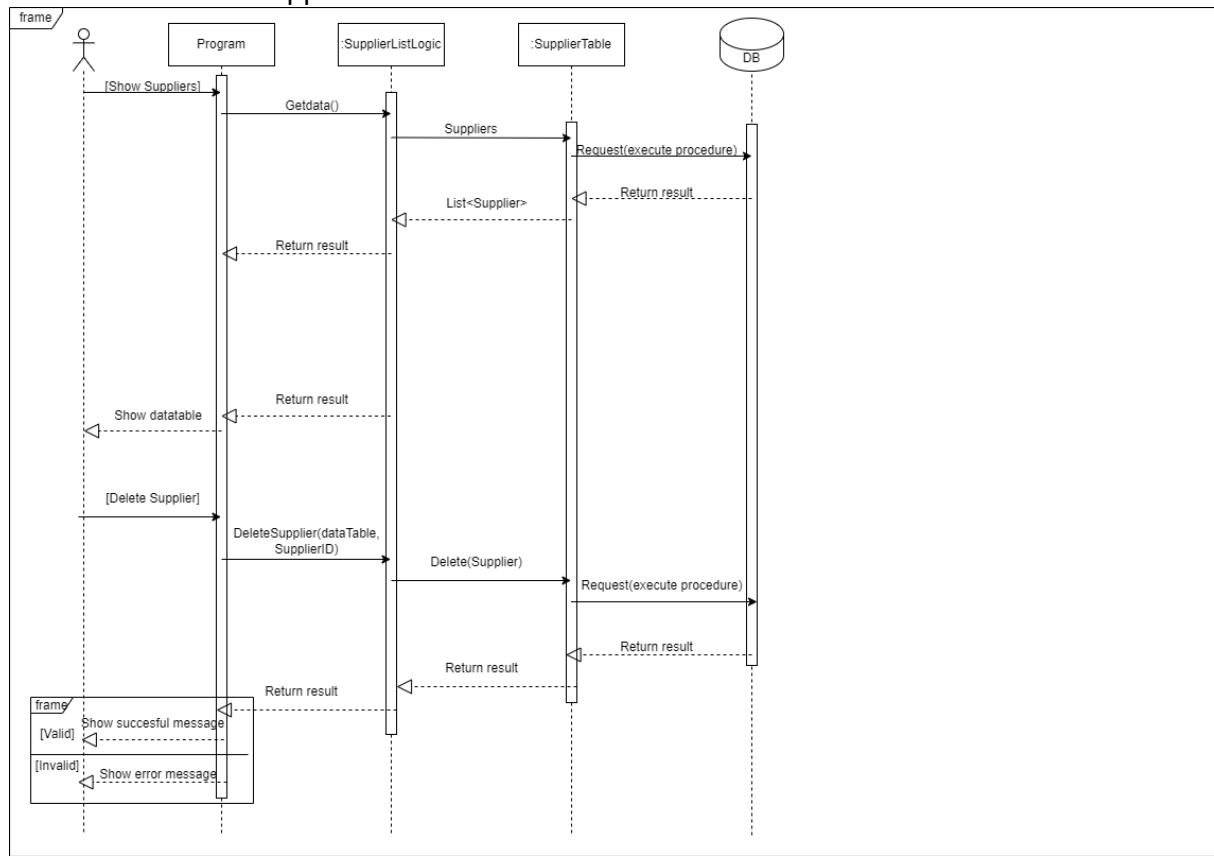
3.7 Show-Delete Warehouse



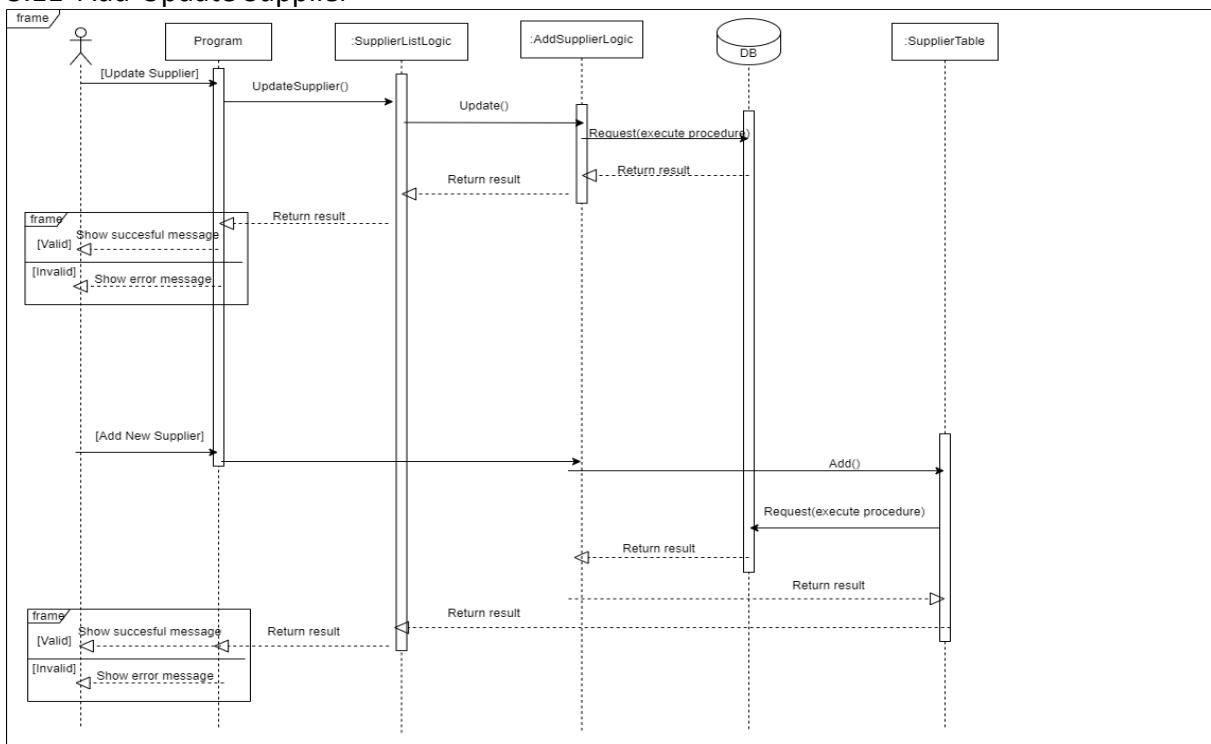
3.8 Add-Update warehouse



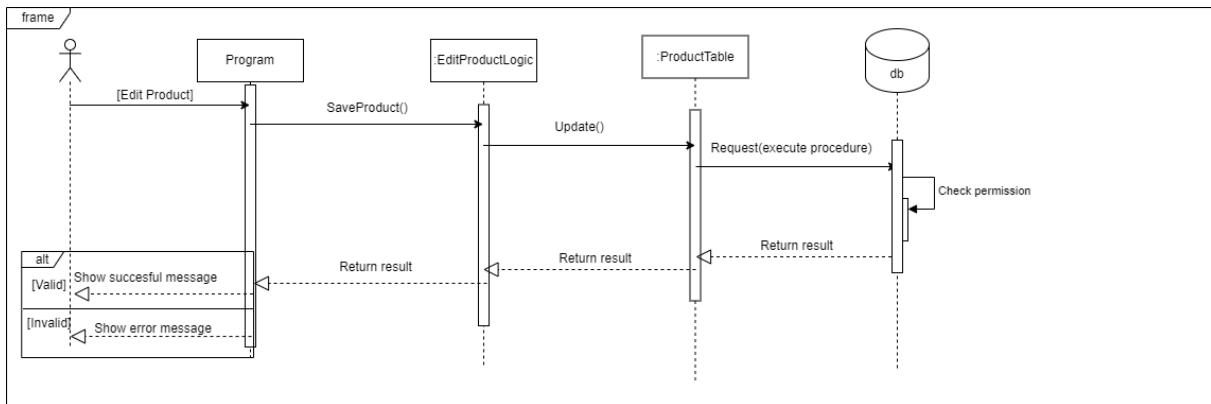
3.10 Show-Delete Supplier



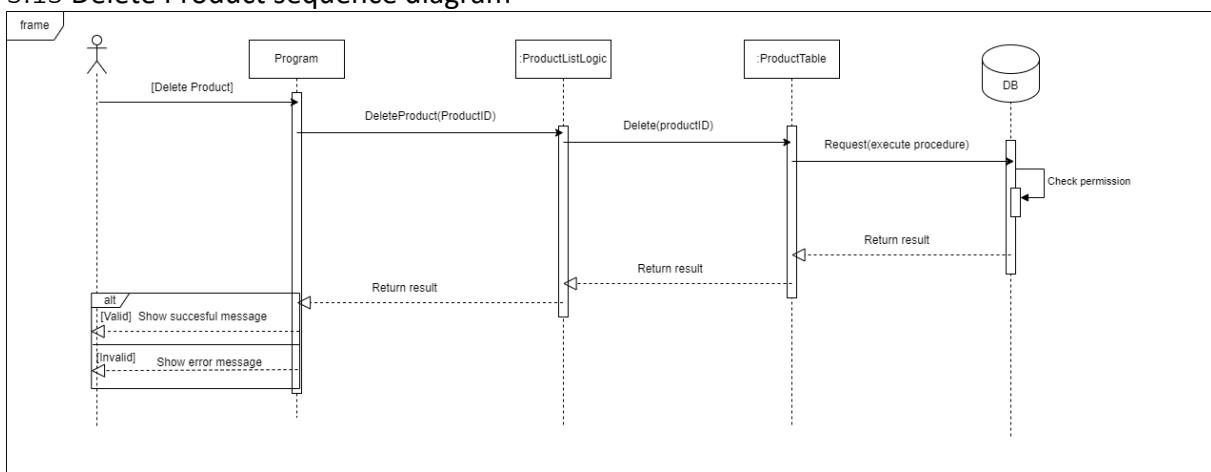
3.11 Add-Update Supplier



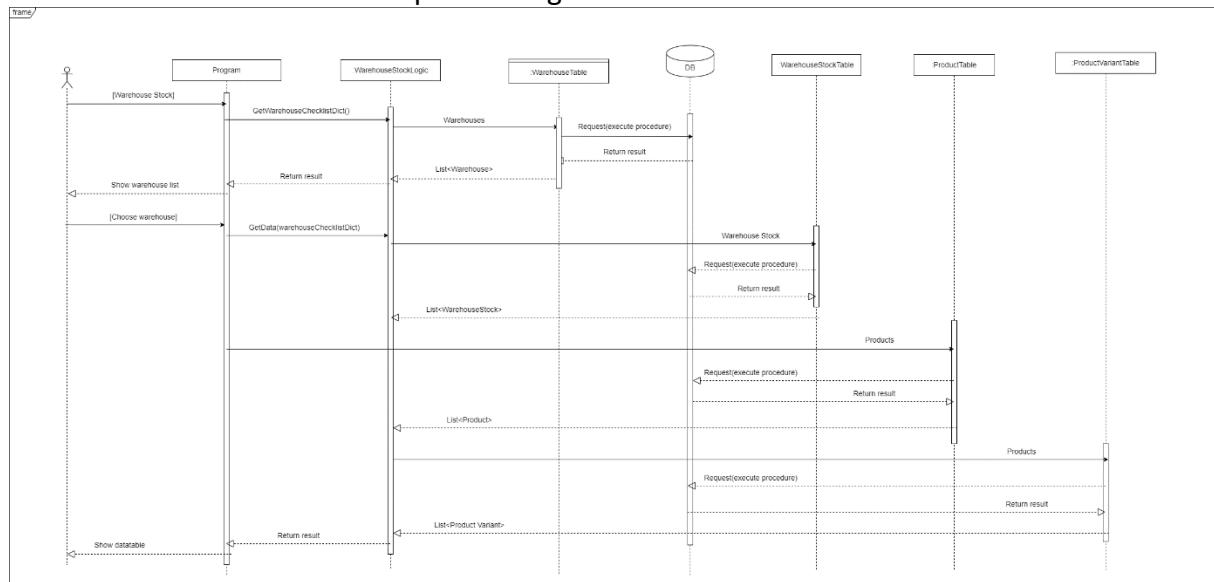
3.12 Update Product sequence diagram



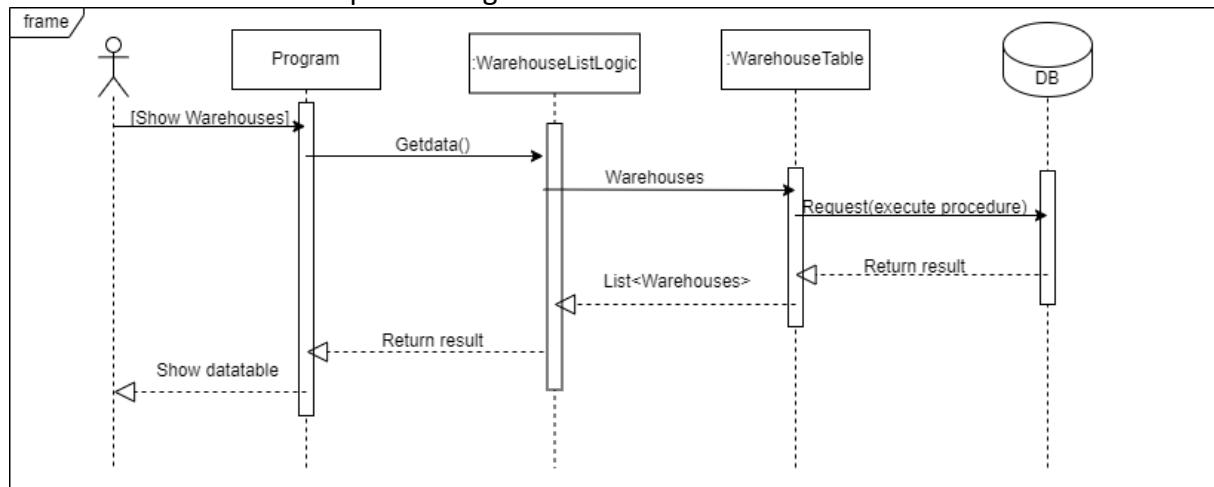
3.13 Delete Product sequence diagram



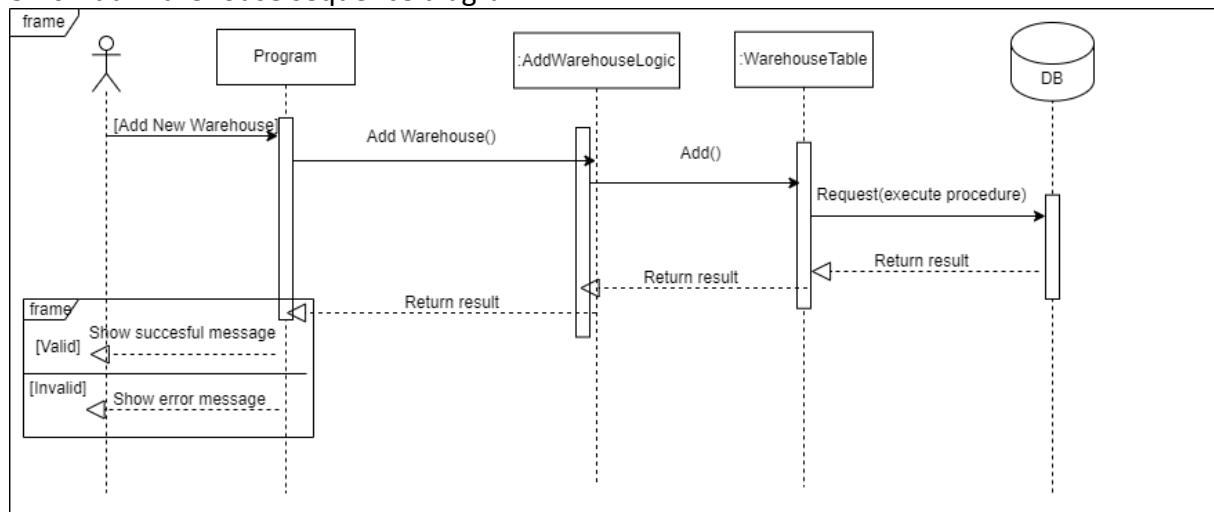
3.14 View Warehouse Stock sequence diagram



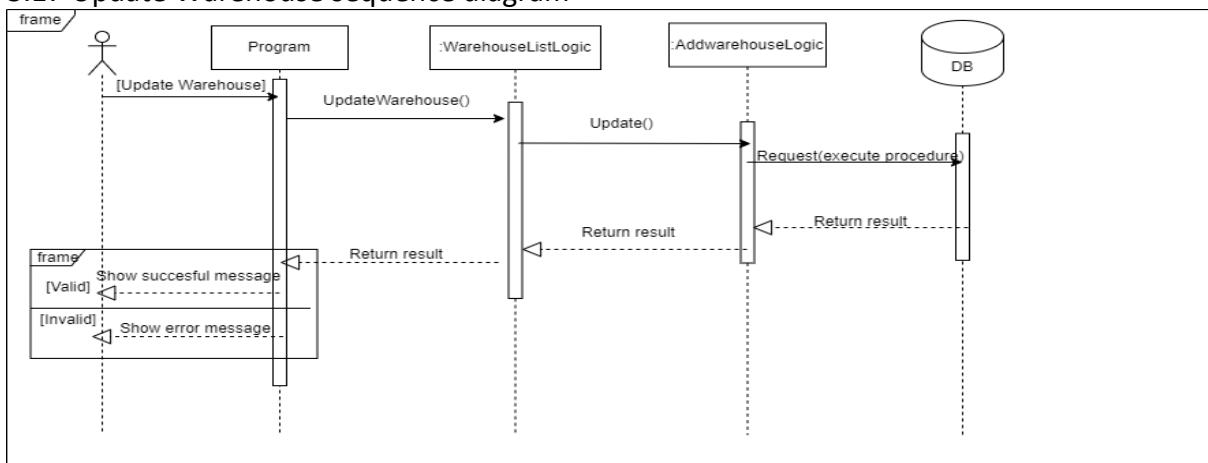
3.15 View Warehouses sequence diagram



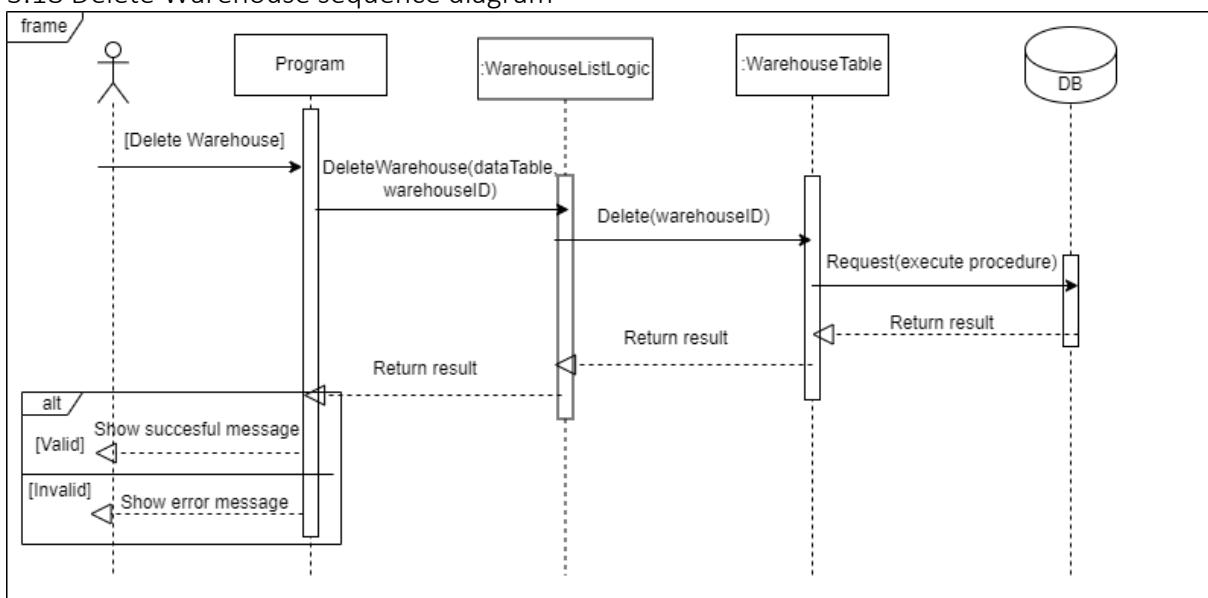
3.16 Add Warehouse sequence diagram



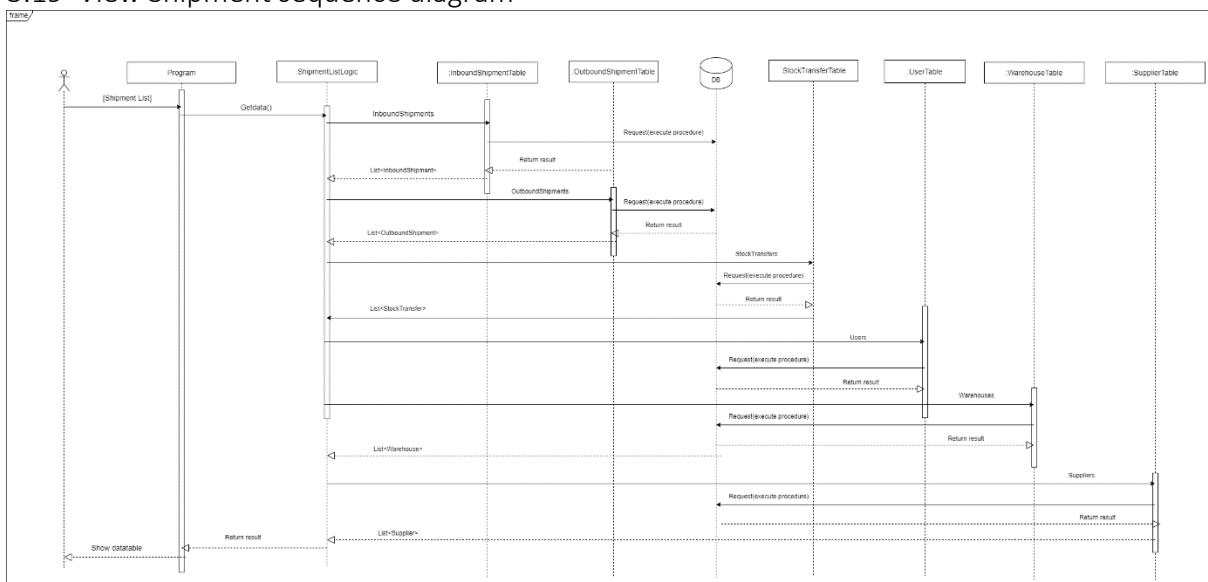
3.17 Update Warehouse sequence diagram



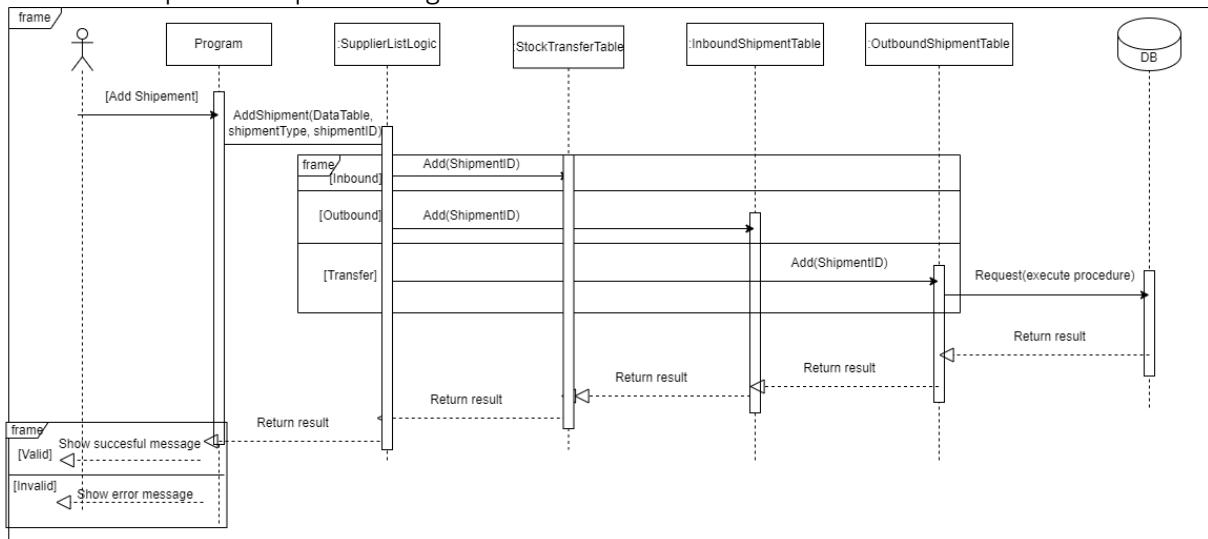
3.18 Delete Warehouse sequence diagram



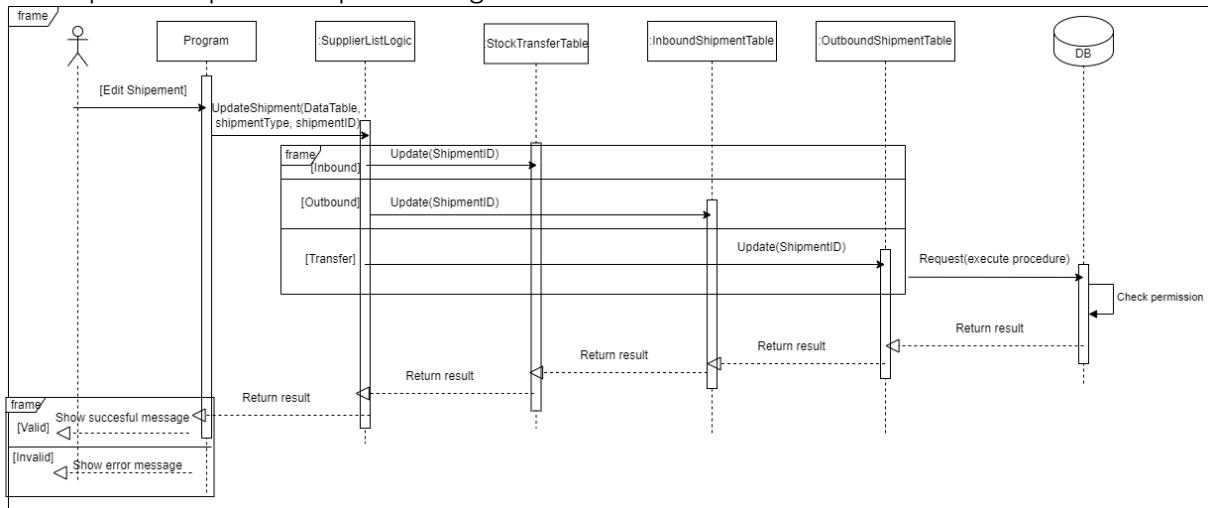
3.19 View Shipment sequence diagram



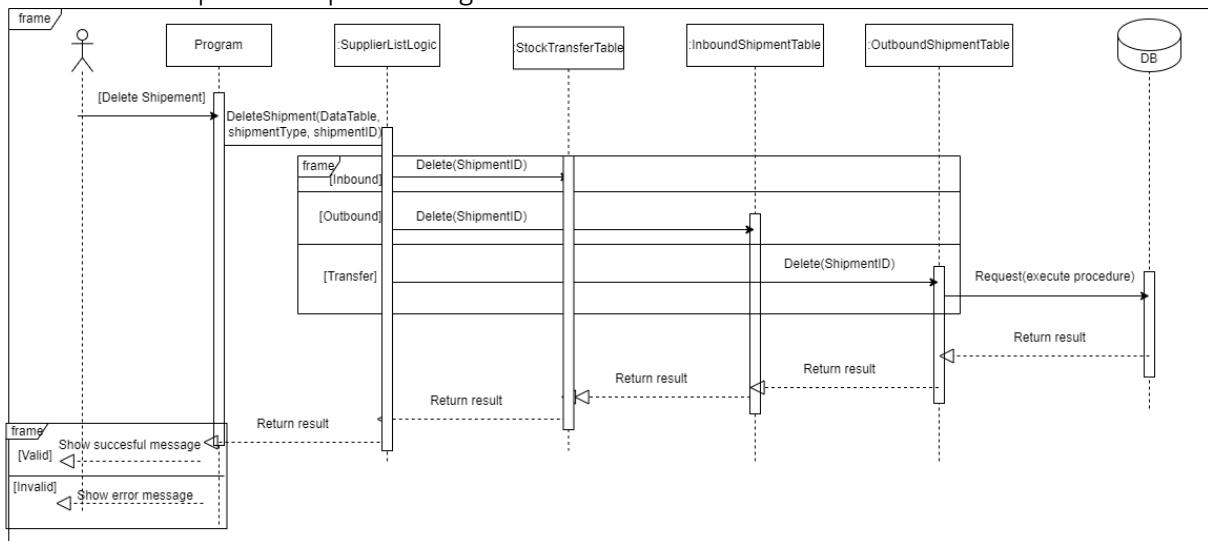
3.20 Add Shipment sequence diagram



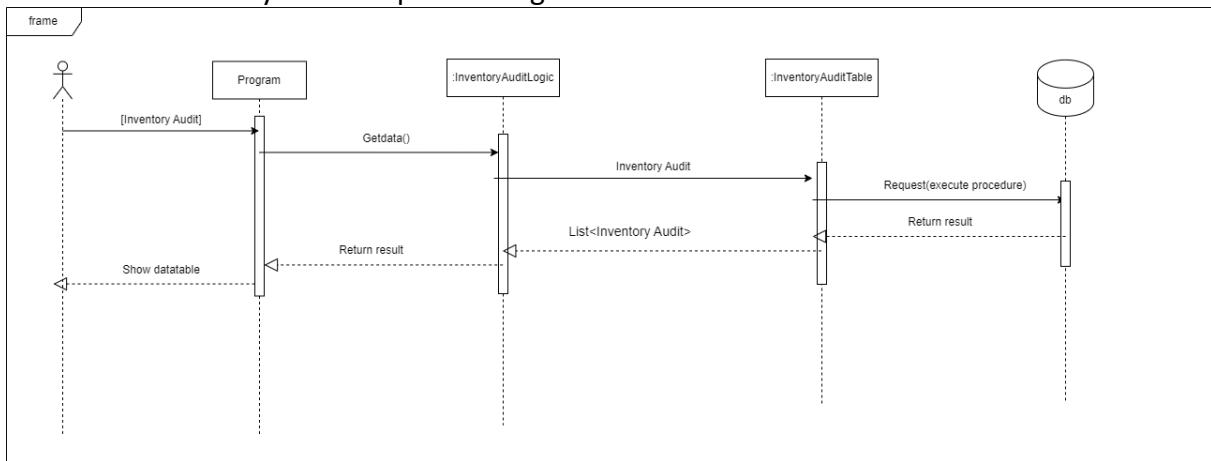
3.21 Update Shipment sequence diagram



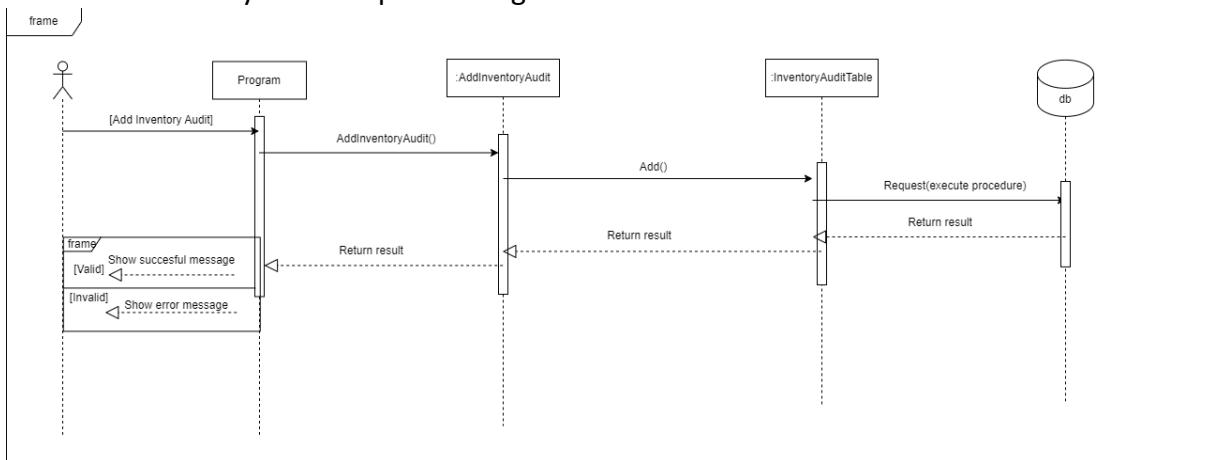
3.22 Delete Shipment sequence diagram



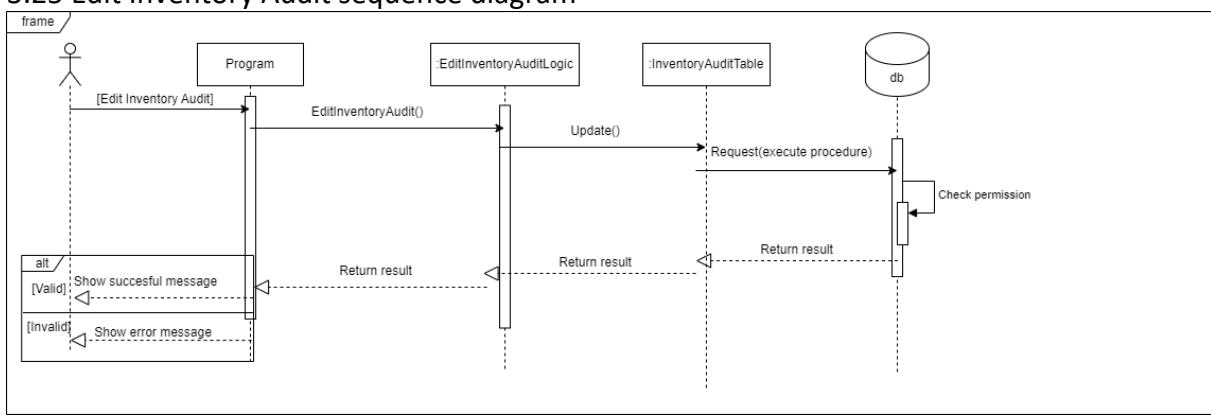
3.23 Show Inventory Audit sequence diagram



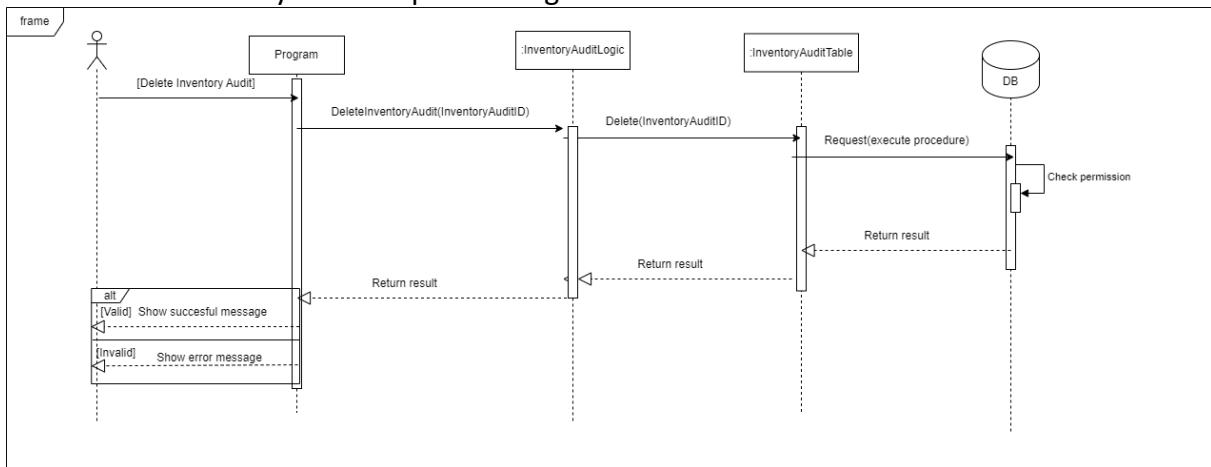
3.24 Add Inventory Audit sequence diagram



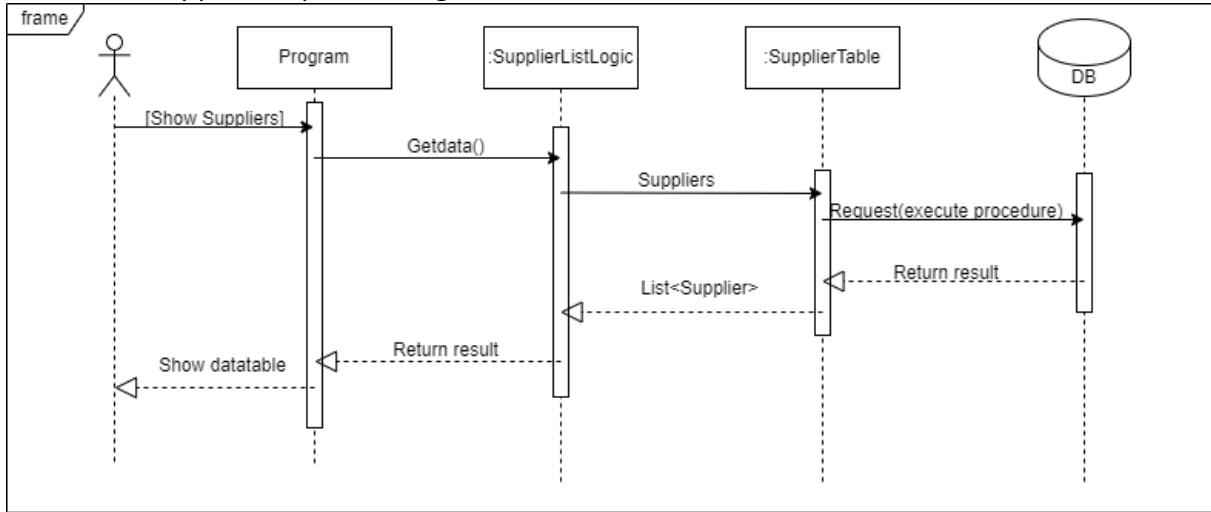
3.25 Edit Inventory Audit sequence diagram



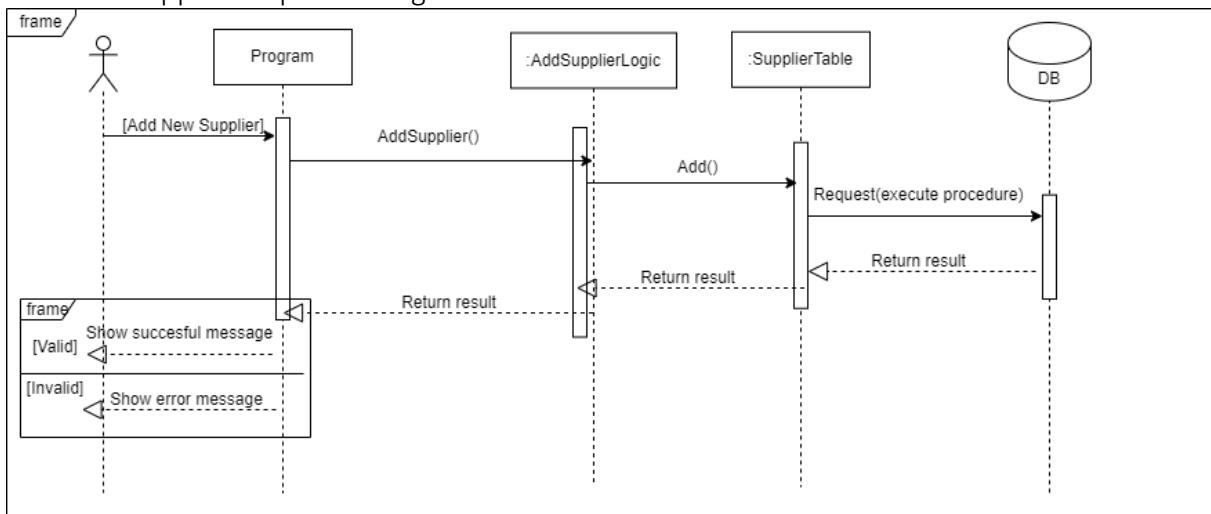
3.26 Delete Inventory Audit sequence diagram



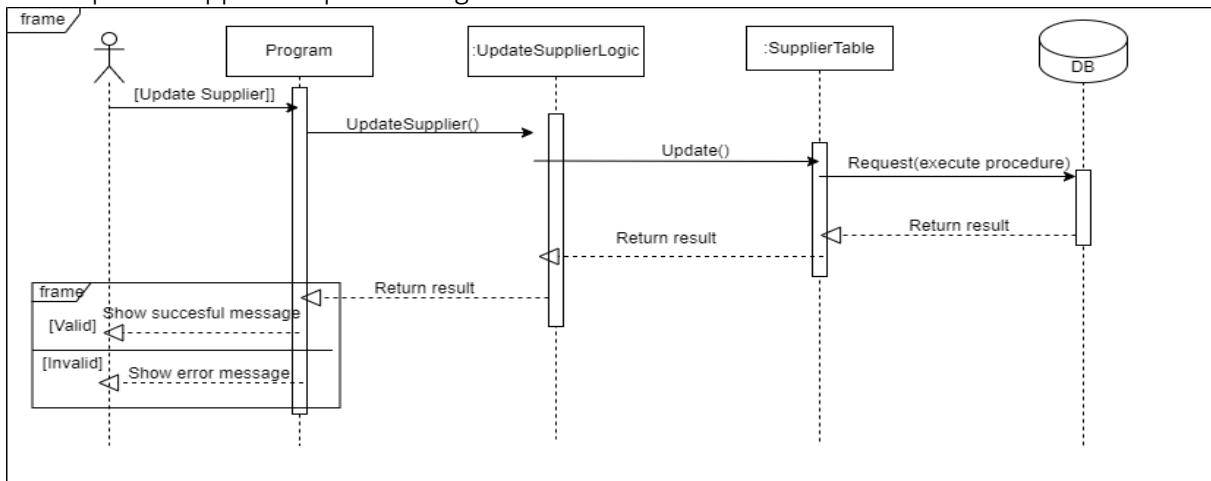
3.27 Show Supplier sequence diagram



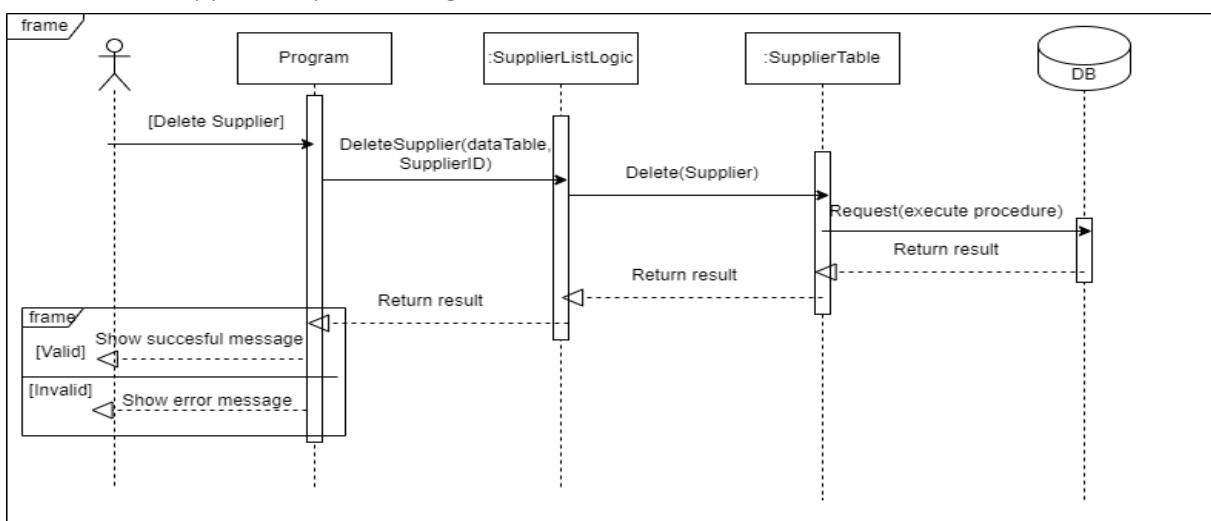
3.28 Add Supplier sequence diagram



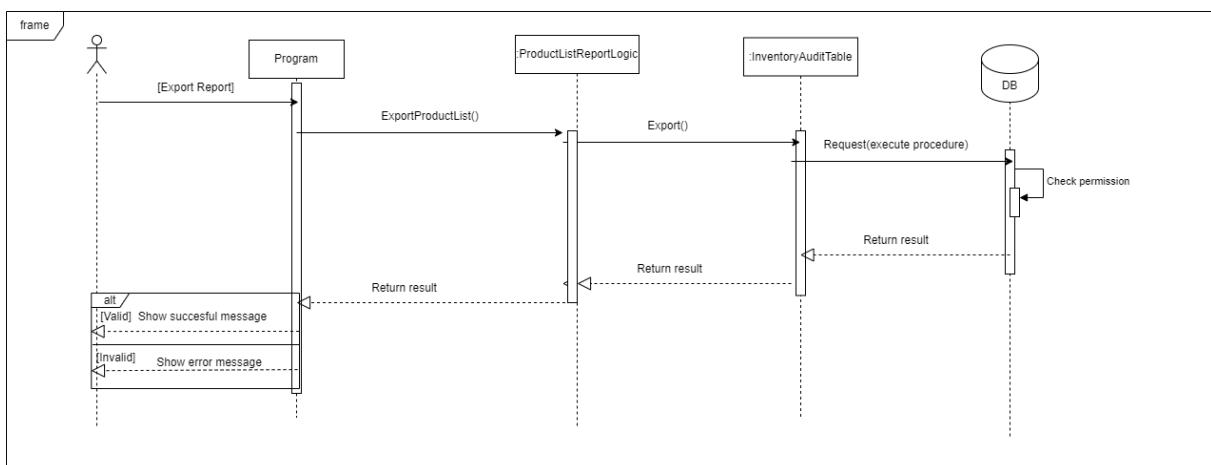
3.29 Update Supplier sequence diagram



3.30 Delete Supplier sequence diagram

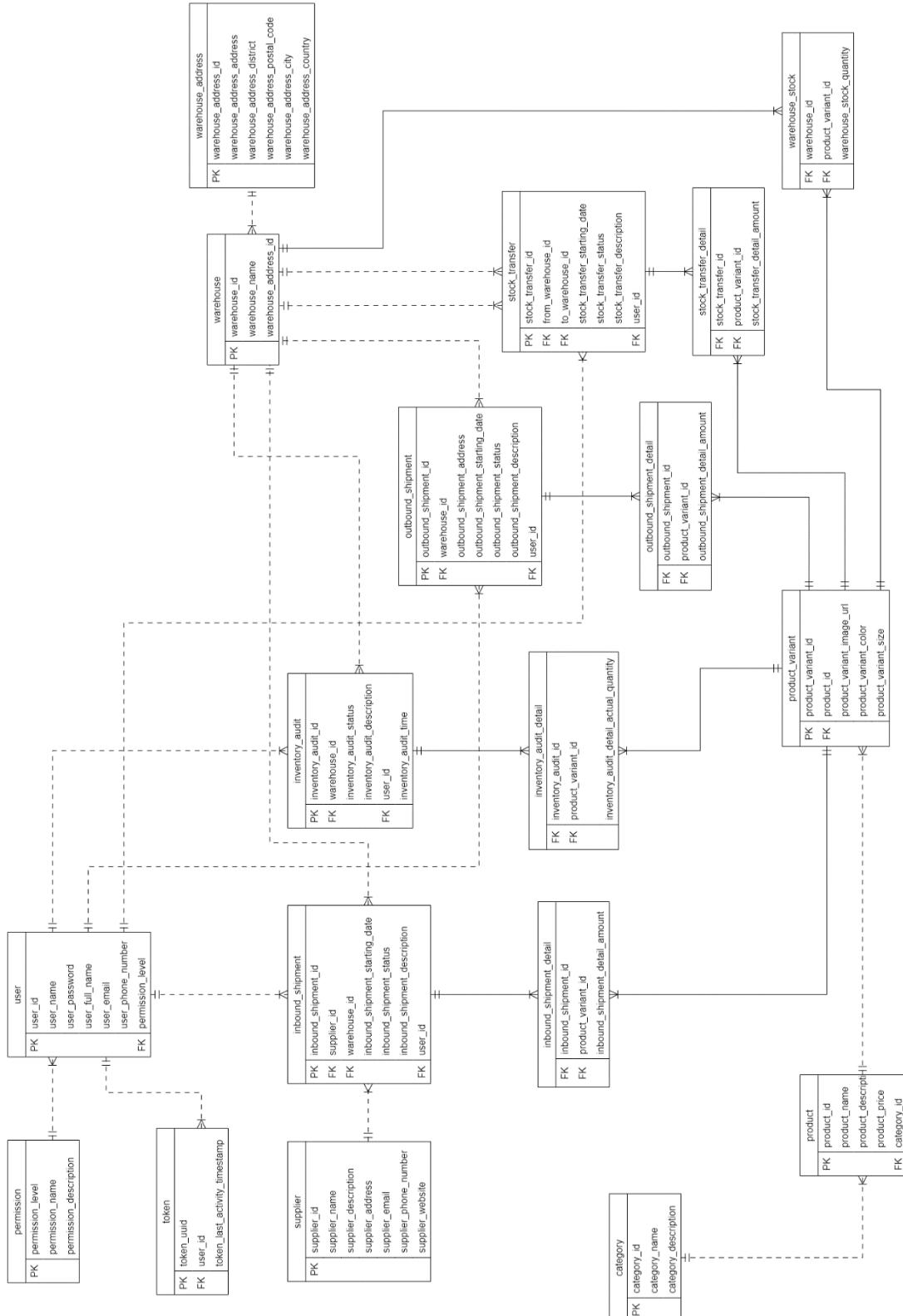


3.31 Export report(product list) sequence diagram

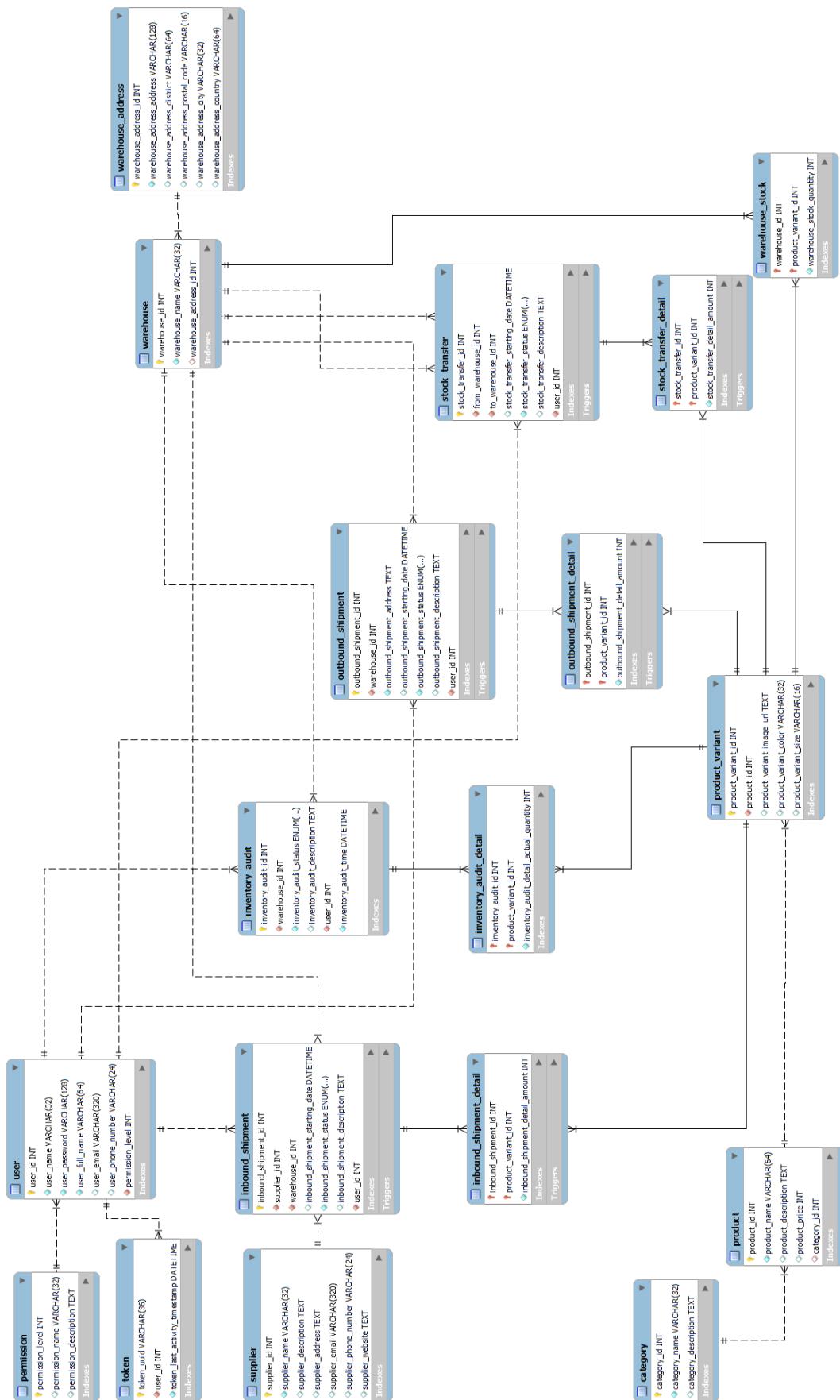


4. Database Design

4.1 Entity Relationship Diagram



4.2 Database Design Details



permission			
Column Name	Data Type	Constraints	Description
permission_level	int	Primary Key	
permission_name	varchar(32)		
permission_description	text		

user			
Column Name	Data Type	Constraints	Description
user_id	int	Primary Key Auto Increment	
user_name	varchar(32)	Not Null Unique	
user_password	varchar(128)	Not Null	
user_full_name	varchar(64)	Not Null	
user_email	varchar(320)	Unique	
user_phone_number	varchar(24)	Unique	
permission_level	int	Foreign Key Not Null	

token			
Column Name	Data Type	Constraints	Description
token_uuid	varchar(36)	Primary Key	
user_id	int	Foreign Key Not Null	
token_last_activity_timestamp	datetime	Not Null Default Current_Timestamp	

supplier			
Column Name	Data Type	Constraints	Description
supplier_id	int	Primary Key Auto Increment	
supplier_name	varchar(32)	Not Null	
supplier_description	text		
supplier_address	text		
supplier_email	varchar(320)		
supplier_phone_number	varchar(24)		
supplier_website	text		

category			
Column Name	Data Type	Constraints	Description
category_id	int	Primary Key Auto Increment	
category_name	varchar(32)	Not Null Unique	
category_description	text		

product			
Column Name	Data Type	Constraints	Description
product_id	int	Primary Key Auto Increment	
product_name	varchar(64)	Not Null Unique	
product_description	text		
product_price	int	Default 0	
category_id	int	Foreign Key	

product_variant			
Column Name	Data Type	Constraints	Description
product_variant_id	int	Primary Key Auto Increment	
product_id	int	Foreign Key Not Null	
product_variant_image_url	text		
product_variant_color	varchar(32)		
product_variant_size	varchar(16)		

warehouse_address			
Column Name	Data Type	Constraints	Description
warehouse_address_id	int	Primary Key Auto Increment	
warehouse_address_address	varchar(128)	Not Null	
warehouse_address_district	varchar(64)		
warehouse_address_postal_code	varchar(16)		
warehouse_address_city	varchar(32)		
warehouse_address_country	varchar(64)		

warehouse			
Column Name	Data Type	Constraints	Description
warehouse_id	int	Primary Key Auto Increment	
warehouse_name	varchar(32)	Not Null Unique	
warehouse_address_id	int	Foreign Key	

warehouse_stock			
Column Name	Data Type	Constraints	Description
warehouse_id	int	Primary Key Foreign Key	
product_variant_id	int	Primary Key Foreign Key	
warehouse_stock_quantity	int	Not Null Default 0	

inventory_audit			
Column Name	Data Type	Constraints	Description
inventory_audit_id	int	Primary Key Auto Increment	
warehouse_id	int	Foreign Key Not Null	
inventory_audit_status	enum	Not Null Default 'Processing'	
inventory_audit_description	text		
user_id	int	Foreign key Not Null	
inventory_audit_time	datetime	Not Null Default Current_Timestamp	

inventory_audit_detail			
Column Name	Data Type	Constraints	Description
inventory_audit_id	int	Primary Key Foreign Key	
product_variant_id	int	Primary Key Foreign Key	
inventory_audit_detail_actual_quantity	int	Not Null Default 0	
inventory_audit_detail_stock_quantity	int	Not Null Default 0	

inbound_shipment			
Column Name	Data Type	Constraints	Description
inbound_shipment_id	int	Primary Key Auto Increment	
supplier_id	int	Foreign Key Not Null	
warehouse_id	int	Foreign Key Not Null	
inbound_shipment_starting_date	datetime	Default Current_Timestamp	
inbound_shipment_status	enum	Not Null Default 'Processing'	
inbound_shipment_description	text		
user_id	int	Foreign Key Not Null	

inbound_shipment_detail			
Column Name	Data Type	Constraints	Description
inbound_shipment_id	int	Primary Key Foreign Key	
product_variant_id	int	Primary Key Foreign Key	
inbound_shipment_detail_amount	int	Not Null Default 1	

outbound_shipment			
Column Name	Data Type	Constraints	Description
outbound_shipment_id	int	Primary Key	
warehouse_id	int	Foreign Key	
outbound_shipment_address	text	Not Null	
outbound_shipment_starting_date	datetime	Default Current_Timestamp	
outbound_shipment_status	enum	Not Null Default 'Processing'	
outbound_shipment_description	text		
user_id	int	Foreign Key	

outbound_shipment_detail			
Column Name	Data Type	Constraints	Description
outbound_shipment_id	int	Primary Key Foreign Key	
product_variant_id	int	Primary Key Foreign Key	
outbound_shipment_detail_amount	int	Not Null Default 1	

stock_transfer			
Column Name	Data Type	Constraints	Description
stock_transfer_id	int	Primary Key Auto Increment	
from_warehouse_id	int	Foreign Key Not Null	
to_warehouse_id	int	Foreign Key Not Null	
stock_transfer_starting_date	datetime	Default Current_Timestamp	
stock_transfer_status	enum	Not Null Default 'Processing'	
stock_transfer_description	text		
user_id	int	Foreign Key Not Null	

stock_transfer_detail			
Column Name	Data Type	Constraints	Description
stock_transfer_id	int	Primary Key Foreign Key	
product_variant_id	int	Primary Key Foreign Key	
stock_transfer_detail_amount	int	Not Null Default 1	

IV. Test

1. Login test

Test Case Number	1.1
Test Case Name	Login with valid information
Test Case Description	This test case verifies the functionality of the user login process, ensuring that users can log in with valid credentials and are denied access with invalid credentials.
Preconditions	The application is accessible. The user has a account with valid credentials. The login page is accessible.
Test Case Input	Username: admin Password: 1234
Test Case Expected Output	The user is successfully logged in and redirected to the homepage or dashboard.
Test Case Steps	Open the application. Navigate to the login page. Enter the valid username (admin) in the username field. Enter the valid password (1234) in the password field. Click the "Login" button. Verify that the user is redirected to the homepage or dashboard.
Default Value Preverving	Username: admin Password: 1234

Test Case Number	1.2
Test Case Name	Login with invalid information (wrong password or wrong username, special characters)
Test Case Description	Verify that a user cannot log in with invalid credentials, such as a wrong username, wrong password, or special characters.
Preconditions	<p>The application is accessible.</p> <p>The user has a account with valid credentials.</p> <p>The login page is accessible.</p>
Test Case Input	<p>Username: admin, Password: wrongPassword</p> <p>Username: wrongUser, Password: 1234</p> <p>Username: !@#\$%^&*(), Password: 1234</p> <p>Username: admin, Password: !@#\$%^&*()</p>
Test Case Expected Output	The user is not logged in, and an appropriate error message is displayed indicating invalid credentials.
Test Case Steps	<p>Test Scenario 1: Wrong Password</p> <p>Enter the valid username (admin) in the username field.</p> <p>Enter the wrong password (wrongPassword) in the password field.</p> <p>Click the "Login" button.</p> <p>Verify that an error message is displayed indicating invalid credentials and that the user is not logged in.</p> <p>Test Scenario 2: Wrong Username</p> <p>Enter the wrong username (wrongUser) in the username field.</p> <p>Enter the valid password (1234) in the password field.</p> <p>Click the "Login" button.</p> <p>Verify that an error message is displayed indicating invalid credentials and that the user is not logged in.</p> <p>Test Scenario 3: Special Characters in Username</p> <p>Enter special characters (!@#\$%^&*()) in the username field.</p> <p>Enter the valid password (1234) in the password field.</p> <p>Click the "Login" button.</p> <p>Verify that an error message is displayed indicating invalid credentials and that the user is not logged in.</p>

	<p>Test Scenario 4: Special Characters in Password</p> <p>Enter the valid username (admin) in the username field.</p> <p>Enter special characters (!@#\$%^&*()) in the password field.</p> <p>Click the "Login" button.</p> <p>Verify that an error message is displayed indicating invalid credentials and that the user is not logged in.</p>
Default Value Preverving	Username: admin Password: 1234

Test Case Number	1.3
Test Case Name	Login with blank information
Test Case Description	Verify that a user cannot log in with blank credentials (empty username and/or password fields).
Preconditions	The application is accessible. The login page is accessible.
Test Case Input	<p>Username: (blank), Password: (blank)</p> <p>Username: admin, Password: (blank)</p> <p>Username: (blank), Password: 1234</p>
Test Case Expected Output	The user is not logged in, and appropriate error messages are displayed indicating that the username and/or password fields cannot be blank.
Test Case Steps	<p>Test Scenario 1: Both Username and Password Blank</p> <p>Leave the username field blank.</p> <p>Leave the password field blank.</p> <p>Click the "Login" button.</p> <p>Verify that an error message is displayed indicating that the username and password fields cannot be blank and that the user is not logged in.</p> <p>Test Scenario 2: Password Blank</p> <p>Enter the valid username (admin) in the username field.</p> <p>Leave the password field blank.</p> <p>Click the "Login" button.</p> <p>Verify that an error message is displayed indicating that the password field cannot be blank and that the user is not logged in.</p> <p>Test Scenario 3: Username Blank</p> <p>Leave the username field blank.</p> <p>Enter the valid password (1234) in the password field.</p> <p>Click the "Login" button.</p> <p>Verify that an error message is displayed indicating that the username field cannot be blank and that the user is not logged in.</p>
Default Value Preverving	<p>Username: admin</p> <p>Password: 1234</p>

2. Change password test

Test Case Number	2.1
Test Case Name	Change password with valid information
Test Case Description	Verify that a user can successfully change their password with valid current and new passwords.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in.</p> <p>The change password page is accessible.</p> <p>The user knows their current password.</p>
Test Case Input	<p>Current Password: 1234</p> <p>New Password: fgh123</p> <p>Confirm New Password: fgh123</p>
Test Case Expected Output	The user's password is successfully changed, and a confirmation message is displayed.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the change password page.</p> <p>Enter the current password (1234) in the current password field.</p> <p>Enter the new password (fgh123) in the new password field.</p> <p>Confirm the new password (fgh123) in the confirm new password field.</p> <p>Click the "Change Password" button.</p> <p>Verify that a confirmation message is displayed indicating that the password has been successfully changed.</p> <p>Log out.</p> <p>Log in with the new password to verify that the password change was successful.</p>
Default Value Preverving	<p>Username is current user name</p> <p>Current Password field is empty.</p> <p>New Password field is empty.</p> <p>Confirm New Password field is empty.</p>

Test Case Number	2.2
Test Case Name	Change password with current password invalid
Test Case Description	Verify that a user cannot change their password if the current password provided is incorrect.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in.</p> <p>The change password page is accessible.</p> <p>The user knows their valid current password.</p>
Test Case Input	<p>Current Password: 1234</p> <p>New Password: npss</p> <p>Confirm New Password: npss</p>
Test Case Expected Output	The user's password is not changed, and an appropriate error message is displayed indicating that the current password is incorrect.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the change password page.</p> <p>Enter an invalid current password (1234) in the current password field.</p> <p>Enter the new password (npss) in the new password field.</p> <p>Confirm the new password (npss) in the confirm new password field.</p> <p>Click the "Change Password" button.</p> <p>Verify that an error message is displayed indicating that the current password is incorrect and that the password is not changed.</p>
Default Value Preverving	<p>Username is current user name</p> <p>Current Password field is empty.</p> <p>New Password field is empty.</p> <p>Confirm New Password field is empty.</p>

Test Case Number	2.3
Test Case Name	Change password with new password confirmation does not match
Test Case Description	Verify that a user cannot change their password if the new password and confirm new password fields do not match.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in.</p> <p>The change password page is accessible.</p> <p>The user knows their current password.</p>
Test Case Input	<p>Current Password: 1234</p> <p>New Password: newPassword456</p> <p>Confirm New Password: newPassword789</p>
Test Case Expected Output	The user's password is not changed, and an appropriate error message is displayed indicating that the new password and confirm new password fields do not match.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the change password page.</p> <p>Enter the current password (1234) in the current password field.</p> <p>Enter the new password (newPassword456) in the new password field.</p> <p>Enter a different password (newPassword789) in the confirm new password field.</p> <p>Click the "Change Password" button.</p> <p>Verify that an error message is displayed indicating that the new password and confirm new password fields do not match and that the password is not changed.</p>
Default Value Preverving	<p>Username is current user name</p> <p>Current Password field is empty.</p> <p>New Password field is empty.</p> <p>Confirm New Password field is empty.</p>

Test Case Number	2.4
Test Case Name	Change password with new password that matches current password
Test Case Description	Verify that a user can change their password to a new password that is the same as the current password
Preconditions	<p>The application is accessible.</p> <p>The user is logged in.</p> <p>The change password page is accessible.</p> <p>The user knows their current password.</p> <p>The system allows the new password to match the current password.</p>
Test Case Input	<p>Current Password: 1234</p> <p>New Password: 1234</p> <p>Confirm New Password: 1234</p>
Test Case Expected Output	The user's password is successfully changed to the same password, and a confirmation message is displayed.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the change password page.</p> <p>Enter the current password (1234) in the current password field.</p> <p>Enter the same password (1234) in the new password field.</p> <p>Confirm the same password (1234) in the confirm new password field.</p> <p>Click the "Change Password" button.</p> <p>Verify that a confirmation message is displayed indicating that the password has been successfully changed.</p>
Default Value Preverving	<p>Username is current user name</p> <p>Current Password field is empty.</p> <p>New Password field is empty.</p> <p>Confirm New Password field is empty.</p>

Test Case Number	2.5
Test Case Name	Change password with new password is blank
Test Case Description	Verify that a user can change their password to a new password that is blank
Preconditions	<p>The application is accessible.</p> <p>The user is logged in.</p> <p>The change password page is accessible.</p> <p>The user knows their current password.</p> <p>The system allows the new password to be blank.</p>
Test Case Input	<p>Current Password: 1234</p> <p>New Password: (blank)</p> <p>Confirm New Password: (blank)</p>
Test Case Expected Output	The user's password is successfully changed to a blank password, and a confirmation message is displayed.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the change password page.</p> <p>Enter the current password (currentPassword123) in the current password field.</p> <p>Leave the new password field blank.</p> <p>Leave the confirm new password field blank.</p> <p>Click the "Change Password" button.</p> <p>Verify that a confirmation message is displayed indicating that the password has been successfully changed.</p>
Default Value Preverving	<p>Username is current user name</p> <p>Current Password field is empty.</p> <p>New Password field is empty.</p> <p>Confirm New Password field is empty.</p>

3. Create new user test

Test Case Number	3.1
Test Case Name	Create new user with valid information
Test Case Description	Verify that a new user can be successfully created with valid information.
Preconditions	The application is installed and accessible. The registration page is accessible.
Test Case Input	Username: newUser123 Password: newPassword456 Permission: Warehouse Worker Full Name: John Doe Email: newuser123@example.com Phone Number: 04245354112
Test Case Expected Output	The new user is successfully created, and a confirmation message is displayed indicating successful registration.
Test Case Steps	Open the application. Navigate to the registration page. Enter newUser123 in the username field. Enter newPassword456 in the password field. Enter John Doe in the Full Name field. Enter newuser123@example.com in the email field. Enter 04245354112 in the Phone number field Click the "Register" button. Verify that a confirmation message is displayed indicating successful registration. Verify that the new user can log in with the registered credentials.
Default Value Preverving	All fields are empty by default except permission

Test Case Number	3.2
Test Case Name	Create new user with existing login
Test Case Description	Verify that the system prevents creating a new user with a login (username) that already exists.
Preconditions	The application is accessible. The registration page is accessible. The username "eu12" is already registered in the system.
Test Case Input	Username: eu12 Password: eu2531 Permission: Warehouse Worker Full Name: Elect home Email: Elect152@example.com Phone Number: 04245454112
Test Case Expected Output	The user creation process is halted, and an error message is displayed indicating that the username already exists.
Test Case Steps	Open the application. Navigate to the registration page. Enter eu12 in the username field. Enter eu2531 in the password field. Enter Elect home in the Full Name field. Enter Elect152@example.com in the email field. Enter 04245454112 in the Phone number field Click the "Register" button. Verify that an error message is displayed indicating that the username already exists and the user is not created.
Default Value Preverving	All fields are empty by default except permission

Test Case Number	3.3
Test Case Name	Create new user with existing email
Test Case Description	Verify that the system prevents creating a new user with an email that is already registered in the system.
Preconditions	<p>The application is accessible.</p> <p>The registration page is accessible.</p> <p>The email existinguser123@example.com is already registered in the system.</p>
Test Case Input	<p>Username: newUser789</p> <p>Password: newPassword123</p> <p>Permission: Warehouse Worker</p> <p>Full Name: Alice Brown</p> <p>Email: existinguser123@example.com</p> <p>Phone Number: 1234567890</p>
Test Case Expected Output	The user creation process is halted, and an error message is displayed indicating that the email already exists.
Test Case Steps	<p>Open the application.</p> <p>Navigate to the registration page.</p> <p>Enter newUser789 in the username field.</p> <p>Enter newPassword123 in the password field.</p> <p>Select Warehouse Worker in the permission dropdown.</p> <p>Enter Alice Brown in the full name field.</p> <p>Enter existinguser123@example.com in the email field.</p> <p>Enter 123-456-7890 in the phone number field.</p> <p>Click the "Register" button.</p> <p>Verify that an error message is displayed indicating that the email already exists and the user is not created.</p>
Default Value Preverving	All fields are empty by default except permission

Test Case Number	3.4
Test Case Name	Create new user with username containing special characters
Test Case Description	Verify that the system allows creating a new user with a username containing special characters.
Preconditions	The application is accessible. The registration page is accessible.
Test Case Input	Username: newUser!@# Password: newPassword123 Permission: Warehouse Worker Full Name: Alice Brown Email: alice.brown@example.com Phone Number: 1234567890
Test Case Expected Output	The user is successfully created with a username containing special characters, and a confirmation message is displayed indicating successful registration.
Test Case Steps	Open the application. Navigate to the registration page. Enter newUser!@# in the username field. Enter newPassword123 in the password field. Select Warehouse Worker in the permission dropdown. Enter Alice Brown in the full name field. Enter alice.brown@example.com in the email field. Enter 1234567890 in the phone number field. Click the "Register" button. Verify that a confirmation message is displayed indicating successful registration. Verify that the new user can log in with the registered credentials.
Default Value Preverving	All fields are empty by default except permission

4. Edit user information test

Test Case Number	4.1
Test Case Name	Edit user information with valid information
Test Case Description	Verify that a user can successfully edit their information with valid details.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in.</p> <p>The edit user information page is accessible.</p>
Test Case Input	<p>New Permission: Warehouse Manager</p> <p>New Full Name: John Urrsad</p> <p>New Email: john.Urrsad@example.com</p> <p>New Phone Number: 9876543210</p>
Test Case Expected Output	The user's information is successfully updated, and a confirmation message is displayed indicating successful update.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials of the existing user (John3423).</p> <p>Navigate to the edit user information page.</p> <p>Enter Warehouse Manager in the permission field.</p> <p>Enter John Urrsad in the full name field.</p> <p>Enter john.Urrsad@example.com in the email field.</p> <p>Enter 9876543210 in the phone number field.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating successful update.</p> <p>Log out and log back in with the updated credentials.</p> <p>Verify that the updated user information is correctly reflected.</p>
Default Value Preverving	All fields are pre-filled with the current user's information.

Test Case Number	4.2
Test Case Name	Edit user information with special characters
Test Case Description	Verify that a user can successfully edit their information to include special characters.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in.</p> <p>The edit user information page is accessible.</p> <p>The user xhaysew exists with valid initial details</p>
Test Case Input	<p>New Permission: Warehouse Manager</p> <p>New Full Name: @##@#</p> <p>New Email: john.#@#@example.com</p> <p>New Phone Number: 9876543210</p>
Test Case Expected Output	The user's information is successfully updated with special characters, and a confirmation message is displayed indicating successful update.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials of the existing user (xhaysew42).</p> <p>Navigate to the edit user information page.</p> <p>Enter Warehouse Manager in the permission field.</p> <p>Enter @##@# in the full name field.</p> <p>Enter john.updated@example.com in the email field.</p> <p>Enter 9876543210 in the phone number field.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating successful update.</p> <p>Log out and log back in with the updated credentials.</p> <p>Verify that the updated user information is correctly reflected.</p>
Default Value Preverving	All fields are pre-filled with the current user's information.

Test Case Number	4.3
Test Case Name	Edit user information with existing email
Test Case Description	Verify that the system prevents updating user information with an email that is already registered in the system.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in.</p> <p>The edit user information page is accessible.</p> <p>The email exse2125453@mail.com is already registered in the system.</p>
Test Case Input	<p>Username: mbarker</p> <p>Password: 43232</p> <p>Permission: Warehouse Worker</p> <p>Full Name: Current User</p> <p>Email: exse2125453@mail.com (email already in use by another user)</p> <p>Phone Number: 12345545432890</p>
Test Case Expected Output	The user information update process is halted, and an error message is displayed indicating that the email already exists.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials of the existing user (mbarker).</p> <p>Navigate to the edit user information page.</p> <p>Verify that the current user information is pre-filled in the respective fields.</p> <p>Enter : exse2125453@mail.com in the email field (this email is already registered).</p> <p>Click the "Save" button.</p> <p>Verify that an error message is displayed indicating that the email already exists and the user information is not updated.</p>
Default Value Preverving	All fields are pre-filled with the current user's information.

5. Add product test

Test Case Number	5.1
Test Case Name	Add product with valid information
Test Case Description	Verify that a new product can be successfully added with valid information, including optional variants.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to add a product.</p> <p>The add product page is accessible.</p>
Test Case Input	<p>Product Name: Product123 --- Price: 299.99</p> <p>Category: Electronics</p> <p>Description: High-quality electronic product</p> <p>Variant : Null --- Image URL: http://example.com/image1.jpg</p> <p>Color: Red --- Size: Medium</p>
Test Case Expected Output	The product is successfully added, and a confirmation message is displayed indicating successful addition. If variants are included, they are also added correctly.
Test Case Steps	<p>Open the application and log in with valid credentials.</p> <p>Navigate to the add product page.</p> <p>Enter Product123 in the product name field.</p> <p>Enter 299.99 in the price field.</p> <p>Enter High-quality electronic product in the description field.</p> <p>(Optional) Enter http://example.com/image1.jpg in the image URL field for Variant 1.</p> <p>(Optional) Enter Red in the color field for Variant 1.</p> <p>(Optional) Enter Medium in the size field for Variant 1.</p> <p>Click the "Add Product" button.</p> <p>Verify that a confirmation message is displayed indicating successful addition.</p> <p>Verify that the new product appears in the product list with the correct information and variants (if included).</p>
Default Value Preverving	All fields are empty by default.

Test Case Number	5.2
Test Case Name	Add product with special characters
Test Case Description	Verify that a new product can be successfully added with special characters in the product name, description, and variant fields.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to add a product.</p> <p>The add product page is accessible.</p>
Test Case Input	<p>Product Name: Product!@#123</p> <p>Price: 299.99</p> <p>Category: Electronics</p> <p>Description: High-quality electronic product with special characters !@#\$%^&*()</p>
Test Case Expected Output	<p>Variant: Null --- Image URL: http://example.com/image1.jpg</p> <p>Color: Red!@# --- Size: Medium!@#</p>
Test Case Steps	<p>The product is successfully added, and a confirmation message is displayed indicating successful addition. If variants are included, they are also added correctly.</p>
Default Value Preverving	<p>Open the application and log in with valid credentials.</p> <p>Navigate to the add product page.</p> <p>Enter Product!@#123 in the product name field.</p> <p>Enter 299.99 in the price field.</p> <p>Enter High-quality electronic product with special characters !@#\$%^&*() in the description field.</p> <p>Enter http://example.com/image1.jpg in the image URL field for Variant 1.</p> <p>Enter Red!@# in the color field for Variant 1.</p> <p>Enter Medium!@# in the size field for Variant 1.</p> <p>Click the "Add Product" button.</p> <p>Verify that a confirmation message is displayed indicating successful addition.</p> <p>Verify that the new product appears in the product list with the correct information and variants (if included).</p>

Test Case Number	5.3
Test Case Name	Add product with existing product name
Test Case Description	Verify that the system prevents adding a new product with a name that already exists in the database.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to add a product.</p> <p>The add product page is accessible.</p> <p>A product with the name ExistingProduct123 already exists in the database.</p>
Test Case Input	<p>Product Name: ExistingProduct123</p> <p>Price: 299.99</p> <p>Category: Electronics</p> <p>Description: Duplicate product test</p>
Test Case Expected Output	The product addition process is halted, and an error message is displayed indicating that the product name already exists.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the add product page.</p> <p>Enter ExistingProduct123 in the product name field.</p> <p>Enter 299.99 in the price field.</p> <p>Enter Duplicate product test in the description field.</p> <p>Click the "Add Product" button.</p> <p>Verify that an error message is displayed indicating that the product name already exists and the product is not added.</p>
Default Value Preverving	All fields are empty by default.

6. Edit product test

Test Case Number	6.1
Test Case Name	Edit product with valid information
Test Case Description	Verify that a product's information can be successfully edited with valid data.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a product.</p> <p>The product to be edited exists in the database (e.g., Martin inc).</p>
Test Case Input	<p>Original Product Name: Martin inc</p> <p>New Product Name: UpdatedProduct123</p> <p>New Price: 349.99</p> <p>New Description: Updated high-quality product</p>
Test Case Expected Output	The product information is successfully updated, and a confirmation message is displayed. The product list shows the updated product information.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the product list page.</p> <p>Search for Martin inc in the product list.</p> <p>Click the "Edit" button for Martin inc.</p> <p>Update the product name to UpdatedProduct123.</p> <p>Update the price to 349.99.</p>
Default Value Preverving	<p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating successful update.</p> <p>Verify that the product list shows the updated product information.</p>

Test Case Number	6.2
Test Case Name	Edit product with special characters
Test Case Description	Verify that the system allows editing a product's information with special characters.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a product.</p> <p>The product to be edited exists in the database (e.g., Mays Ltd).</p>
Test Case Input	<p>Original Product Name: Mays Ltd</p> <p>New Product Name: Updated!@#\$%^&*Product123</p> <p>New Price: 299.99</p> <p>New Description: Updated product with special characters in the name</p>
Test Case Expected Output	The product information is successfully updated, and a confirmation message is displayed. The product list shows the updated product information with special characters.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the product list page.</p> <p>Search for Mays Ltd in the product list.</p> <p>Click the "Edit" button for Mays Ltd</p> <p>Update the product name to Updated!@#\$%^&*Product123.</p> <p>Update the price to 299.99.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating successful update.</p> <p>Verify that the product list shows the updated product information with special characters.</p>
Default Value Preverving	All fields are pre-populated with the current product information.

Test Case Number	6.3
Test Case Name	Edit product with existing product name
Test Case Description	Verify that the system prevents updating a product's name to an existing product name in the database.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a product.</p> <p>The product to be edited exists in the database (e.g., Davis inc).</p> <p>Another product with the name Meadows inc already exists in the database.</p>
Test Case Input	<p>Original Product Name: Davis inc</p> <p>New Product Name: Meadows inc</p> <p>Price: 299.99</p> <p>Description: Attempt to update product name to an existing name</p>
Test Case Expected Output	The product update process is halted, and an error message is displayed indicating that the product name already exists.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the product list page.</p> <p>Search for Davis inc in the product list.</p> <p>Click the "Edit" button for Davis inc.</p> <p>Update the product name to Meadows inc</p> <p>Update the description to Attempt to update product name to an existing name.</p>
Default Value Preverving	All fields are pre-populated with the current product information.

7. Create new category test

Test Case Number	7.1
Test Case Name	Create category with valid information
Test Case Description	Verify that a new category can be successfully created with valid information.
Preconditions	The application is accessible. The user is logged in with sufficient permissions to create a category.
Test Case Input	Category Name: Electronics Description: Category for electronic products including gadgets and devices.
Test Case Expected Output	The new category is successfully created, and a confirmation message is displayed. The category list shows the newly created category.
Test Case Steps	Open the application. Log in with valid credentials. Navigate to the category management page. Click the "Add Category" button. Enter the category name Electronics. Enter the description Category for electronic products including gadgets and devices.. Click the "Save" button. Verify that a confirmation message is displayed indicating successful creation of the category. Verify that the category list shows the newly created category Electronics.
Default Value Preverving	All fields are empty by default

Test Case Number	7.2
Test Case Name	Create category with special characters
Test Case Description	Verify that a new category can be successfully created with special characters in the name and description.
Preconditions	The application is accessible. The user is logged in with sufficient permissions to create a category.
Test Case Input	Category Name: Electronics!@#\$%^&*() Description: Category for electronic products including gadgets and devices!@#\$%^&*().
Test Case Expected Output	The new category is successfully created, and a confirmation message is displayed. The category list shows the newly created category with special characters.
Test Case Steps	Open the application. Log in with valid credentials. Navigate to the category management page. Click the "Add Category" button. Enter the category name Electronics!@#\$%^&*(). Enter the description Category for electronic products including gadgets and devices!@#\$%^&*(). Click the "Save" button. Verify that a confirmation message is displayed indicating successful creation of the category. Verify that the category list shows the newly created category Electronics!@#\$%^&*().
Default Value Preverving	All fields are empty by default

Test Case Number	7.3
Test Case Name	Create category with existing category name
Test Case Description	Verify that the system prevents the creation of a new category with a name that already exists in the database.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to create a category.</p> <p>A category with the name ExistingCategory already exists in the database.</p>
Test Case Input	<p>Category Name: ExistingCategory</p> <p>Description: Attempt to create a new category with an existing name.</p>
Test Case Expected Output	The category creation process is halted, and an error message is displayed indicating that the category name already exists.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the category management page.</p> <p>Click the "Add Category" button.</p> <p>Enter the category name ExistingCategory.</p> <p>Enter the description Attempt to create a new category with an existing name..</p> <p>Click the "Save" button.</p> <p>Verify that an error message is displayed indicating that the category name already exists and the category is not created.</p>
Default Value Preverving	All fields are empty by default

8. Edit category test

Test Case Number	8.1
Test Case Name	Edit category with valid information
Test Case Description	Verify that an existing category can be successfully edited with valid information.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a category.</p> <p>The category to be edited exists in the database (e.g., OldCategoryName).</p>
Test Case Input	<p>Original Category Name: Phelps inc</p> <p>New Category Name: UpdatedCategoryName</p> <p>New Description: Updated description for the category.</p>
Test Case Expected Output	The category information is successfully updated, and a confirmation message is displayed. The category list shows the updated category information.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the category management page.</p> <p>Search for Phelps inc in the category list.</p> <p>Click the "Edit" button for Phelps inc.</p> <p>Update the category name to UpdatedCategoryName.</p> <p>Update the description to Updated description for the category.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating successful update of the category.</p> <p>Verify that the category list shows the updated category UpdatedCategoryName.</p>
Default Value Preverving	All fields are pre-populated with the current category information.

Test Case Number	8.2
Test Case Name	Edit category with special characters
Test Case Description	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a category.</p> <p>The category to be edited exists in the database (e.g., Mullen inc).</p>
Preconditions	<p>Original Category Name: Mullen inc</p> <p>New Category Name: UpdatedCategory!@#\$%^&*()</p> <p>New Description: Description with special characters!@#\$%^&*().</p>
Test Case Input	The category information is successfully updated, and a confirmation message is displayed. The category list shows the updated category with special characters.
Test Case Expected Output	The category information is successfully updated, and a confirmation message is displayed. The category list shows the updated category with special characters.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the category management page.</p> <p>Search for Mullen inc in the category list.</p> <p>Click the "Edit" button for Mullen inc.</p> <p>Update the category name to UpdatedCategory!@#\$%^&*().</p> <p>Update the description to Description with special characters!@#\$%^&*().</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating successful update of the category.</p> <p>Verify that the category list shows the updated category UpdatedCategory!@#\$%^&*().</p>
Default Value Preverving	All fields are pre-populated with the current category information.

Test Case Number	8.3
Test Case Name	Edit category with existing category name
Test Case Description	Verify that the system prevents updating a category with a name that already exists in the database.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a category.</p> <p>The category to be edited exists in the database (e.g., Lamp pnc).</p> <p>Another category with the name ExistingCategory already exists in the database.</p>
Test Case Input	<p>Original Category Name: Lamp pnc</p> <p>New Category Name: Dillon inc (an existing category name)</p> <p>New Description: Attempt to update with an existing category name.</p>
Test Case Expected Output	The category update process is halted, and an error message is displayed indicating that the new category name already exists.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the category management page.</p> <p>Search for Lamp pnc in the category list.</p> <p>Click the "Edit" button for Lamp pnc.</p> <p>Update the category name to Dillon inc.</p> <p>Update the description to Attempt to update with an existing category name.</p> <p>Click the "Save" button.</p> <p>Verify that an error message is displayed indicating that the category name already exists and the category is not updated.</p>
Default Value Preverving	All fields are pre-populated with the current category information.

9. Create new warehouse test

Test Case Number	9.1
Test Case Name	Create warehouse with valid information
Test Case Description	Verify that a new warehouse can be successfully created with valid information
Preconditions	The application is accessible. The user is logged in with sufficient permissions to create a warehouse.
Test Case Input	Warehouse Name: Central Depot Warehouse Address: 456 Depot Lane District: North District City: Metropolis Country: Countryland Postal Code: 67890
Test Case Expected Output	The new warehouse is successfully created, and a confirmation message is displayed. The warehouse list shows the newly created warehouse.
Test Case Steps	Open the application. Log in with valid credentials. Navigate to the warehouse management page. Click the "Add Warehouse" button. Enter the warehouse name Central Depot. Enter the warehouse address 456 Depot Lane. Enter the district North District. Enter the city Metropolis. Enter the country Countryland. Enter the postal code 67890. Click the "Save" button. Verify that a confirmation message is displayed indicating successful creation of the warehouse. Verify that the warehouse list shows the newly created warehouse Main Warehouse.
Default Value Preverving	All fields are empty by default

Test Case Number	9.2
Test Case Name	Create warehouse with special characters
Test Case Description	Verify that a new warehouse can be successfully created with special characters
Preconditions	The application is accessible. The user is logged in with sufficient permissions to create a warehouse.
Test Case Input	Warehouse Name: Warehouse!@#2024 Warehouse Address: 789 Special Blvd, Apt #12 District: West-End!@# City: Capital-City Country: Land&%\$ Postal Code: 1234!@
Test Case Expected Output	The new warehouse is successfully created, and a confirmation message is displayed. The warehouse list shows the newly created warehouse with all provided details, including special characters.
Test Case Steps	Open the application and log in with valid credentials. Navigate to the warehouse management page. Click the "Add Warehouse" button. Enter the warehouse name Warehouse!@#2024. Enter the warehouse address 789 Special Blvd, Apt #12. Enter the district West-End!@#. Enter the city Capital-City. Enter the country Land&%\$. Enter the postal code 1234!@ and then click the "Save" button. Verify that a confirmation message is displayed indicating successful creation of the warehouse. Verify that the warehouse list shows the newly created warehouse Warehouse!@#2024 with the correct address, district, city, country, and postal code, including special characters.
Default Value Preverving	All fields are empty by default

Test Case Number	9.3
Test Case Name	Create warehouse with existing warehouse name
Test Case Description	Verify that the system prevents the creation of a new warehouse with a name that already exists in the database.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to create a warehouse.</p> <p>A warehouse with the name Ramos inc already exists in the database.</p>
Test Case Input	<p>Warehouse Name: Ramos</p> <p>Warehouse Address: 123 Existing St</p> <p>District: Central District</p> <p>City: Newtown</p> <p>Country: Countryland</p> <p>Postal Code: 54321</p>
Test Case Expected Output	The warehouse creation process is halted, and an error message is displayed indicating that the warehouse name already exists.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the warehouse management page.</p> <p>Click the "Add Warehouse" button.</p> <p>Enter the warehouse name Ramos.</p> <p>Enter the warehouse address 123 Existing St.</p> <p>Enter the district Central District.</p> <p>Enter the city Newtown.</p> <p>Enter the country Countryland.</p> <p>Enter the postal code 54321.</p> <p>Click the "Save" button.</p> <p>Verify that an error message is displayed indicating that the warehouse name already exists and the warehouse is not created.</p>
Default Value Preverving	All fields are empty by default.

10. Edit warehouse test

Test Case Number	10.1
Test Case Name	Edit warehouse with valid information
Test Case Description	Verify that the system allows editing of a warehouse with valid information and updates the warehouse details successfully.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a warehouse.</p> <p>A warehouse with the name Pulm pnc already exists in the database.</p>
Test Case Input	<p>Original Warehouse Name: Pulm pnc</p> <p>New Warehouse Name: UpdatedWarehouse</p> <p>New Warehouse Address: 321 Updated Ave</p> <p>New District: South District</p> <p>New City: Newville</p> <p>New Country: Newland</p> <p>New Postal Code: 67890</p>
Test Case Expected Output	The warehouse is successfully updated with the new details, and a confirmation message is displayed. The warehouse list shows the updated warehouse with the new information.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the warehouse management page.</p> <p>Search for Pulm pnc in the warehouse list.</p> <p>Click the "Edit" button for Pulm pnc.</p> <p>Update the warehouse name to UpdatedWarehouse.</p> <p>Update the warehouse address to 321 Updated Ave.</p> <p>Update the district to South District.</p> <p>Update the city to Newville.</p> <p>Update the country to Newland.</p> <p>Update the postal code to 67890.</p> <p>Click the "Save" button.</p>

	<p>Verify that a confirmation message is displayed indicating successful update of the warehouse.</p> <p>Verify that the warehouse list shows the updated</p>
Default Value Preverving	All fields are pre-populated with the current warehouse information.

Test Case Number	10.2
Test Case Name	Edit warehouse with special characters
Test Case Description	Verify that the system allows editing of a warehouse with special characters in the warehouse details and updates the warehouse information successfully.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a warehouse.</p> <p>A warehouse with the name Cook-banks already exists in the database.</p>
Test Case Input	<p>Original Warehouse Name: Cook-banks</p> <p>New Warehouse Name: Warehouse!@#2024</p> <p>New Warehouse Address: 123 Special Blvd, Apt #45</p> <p>New District: East-End!@#</p> <p>New City: Metro-City</p> <p>New Country: Land&%\$</p> <p>New Postal Code: 9876!@</p>
Test Case Expected Output	The warehouse is successfully updated with the new details, including special characters, and a confirmation message is displayed. The warehouse list shows the updated warehouse with all provided details, including special characters.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the warehouse management page.</p> <p>Search for Cook-banks in the warehouse list.</p> <p>Click the "Edit" button for Cook-banks</p> <p>Update the warehouse name to Warehouse!@#2024.</p>

	<p>Update the warehouse address to 123 Special Blvd, Apt #45.</p> <p>Update the district to East-End!@#.</p> <p>Update the city to Metro-City.</p> <p>Update the country to Land&%\$.</p> <p>Update the postal code to 9876!@.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating successful update of the warehouse.</p> <p>Verify that the warehouse list shows the updated</p>
Default Value Preverving	All fields are pre-populated with the current warehouse information.

Test Case Number	10.3
Test Case Name	Edit warehouse with existing warehouse name
Test Case Description	Verify that the system prevents updating a warehouse to a name that already exists in the database.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a warehouse.</p> <p>A warehouse with the name Ward already exists in the database.</p> <p>A warehouse with the name Sons also exists in the database.</p>
Test Case Input	<p>Original Warehouse Name: Ward</p> <p>New Warehouse Name: Sons (which already exists)</p> <p>New Warehouse Address: 456 Updated St</p> <p>New District: North District</p> <p>New City: Oldtown</p> <p>New Country: Oldland</p> <p>New Postal Code: 12345</p>
Test Case Expected Output	The system should prevent the update due to the duplicate warehouse name and display an appropriate error message indicating that the new warehouse name already exists.
Test Case Steps	Open the application.

	<p>Log in with valid credentials.</p> <p>Navigate to the warehouse management page.</p> <p>Search for Ward in the warehouse list.</p> <p>Click the "Edit" button for Ward.</p> <p>Update the warehouse name to Sons.</p> <p>Update the warehouse address to 456 Updated St.</p> <p>Update the district to North District.</p> <p>Update the city to Oldtown.</p> <p>Update the country to Oldland.</p> <p>Update the postal code to 12345.</p> <p>Click the "Save" button.</p> <p>Verify that an error message is displayed indicating that the warehouse name WarehouseB already exists and the warehouse is not updated.</p> <p>Verify that the warehouse list still shows WarehouseA with its original details.</p>
Default Value Preverving	All fields are pre-populated with the current warehouse information.

11. Create new shipment test

Test Case Number	11.1
Test Case Name	Create shipment with valid information
Test Case Description	Verify that the system allows the creation of a shipment with valid information and successfully processes the shipment.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to create a shipment.</p> <p>Valid data for all required fields is available.</p>
Test Case Input	<p>Warehouse: Jounsh</p> <p>From: Main Storage</p> <p>To: Vnw</p> <p>Status: Processing</p> <p>Username: Current username</p> <p>Description: Shipment of 100 units of ProductY to CustomerLocation.</p> <p>Supplier Name: Lpoex</p>
Test Case Expected Output	The shipment is successfully created with the provided details, and a confirmation message is displayed. The shipment list shows the new shipment with all the provided details.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the shipment management page.</p> <p>Click the "Create Shipment" button.</p> <p>Select the warehouse Jounsh from the dropdown.</p> <p>Select the status as Processing.</p> <p>Ensure the username is automatically populated with the current username.</p> <p>Enter the description as Shipment of 100 units of ProductY to CustomerLocation.</p> <p>Select the supplier name Lpoex from the dropdown.</p> <p>Click the "Save" button.</p>

	<p>Verify that a confirmation message is displayed indicating successful creation of the shipment.</p> <p>Verify that the shipment list shows the new shipment with the correct details.</p>
Default Value Preverving	All fields are empty by default except username and date

Test Case Number	11.2
Test Case Name	Create shipment with invalid information
Test Case Description	Verify that the system correctly handles the creation of a shipment when invalid information is provided and displays appropriate error messages.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to create a shipment.</p>
Test Case Input	<p>Warehouse: InvalidWarehouse (does not exist)</p> <p>Date: Current date (automatically populated)</p> <p>Status: UnknownStatus (not a valid status)</p> <p>Username: Current username (automatically populated)</p> <p>Description: Shipment of negative quantity units of ProductZ.</p> <p>Supplier Name: NonExistentSupplier (does not exist)</p>
Test Case Expected Output	The system should display error messages for each invalid input, indicating what needs to be corrected. The shipment should not be created.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the shipment management page.</p> <p>Click the "Create Inbound Shipment" button.</p> <p>Click the "Save" button.</p> <p>Verify that the shipment is not created and the user remains on the create shipment page.</p>
Default Value Preverving	All fields are empty by default except username and date

12. Edit shipment test

Test Case Number	12.1
Test Case Name	Edit shipment with valid information
Test Case Description	Verify that the system allows the editing of a shipment with valid information and successfully updates the shipment details.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a shipment.</p> <p>A shipment with the ID 5 already exists in the database.</p>
Test Case Input	<p>Warehouse: Cook_shiva</p> <p>Date: Current date (automatically populated)</p> <p>Status: Completed</p> <p>Username: Current username (automatically populated)</p> <p>Description: Updated shipment of 100 units of ProductZ to NewCustomerLocation.</p> <p>Supplier Name: Sharp</p>
Test Case Expected Output	The shipment is successfully updated with the provided details, and a confirmation message is displayed. The shipment list shows the updated shipment with all the provided details.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the shipment management page.</p> <p>Search for the shipment with ID 5.</p> <p>Click the "Edit" button for the shipment with ID 5.</p> <p>Select the warehouse Cook-Shiva from the dropdown.</p> <p>Select the status as Completed.</p> <p>Verify that the username is automatically populated with the current username.</p> <p>Enter the description as Updated shipment of 100 units of ProductZ to NewCustomerLocation.</p> <p>Select the supplier name Sharp from the dropdown.</p> <p>Click the "Save" button.</p>

	<p>Verify that a confirmation message is displayed indicating successful update of the shipment.</p> <p>Verify that the shipment list shows the updated shipment with the new details.</p>
Default Value Preverving	All fields are empty by default except username and date

Test Case Number	12.2
Test Case Name	Edit shipment with invalid information
Test Case Description	Verify that the system properly handles the editing of a shipment with invalid information and displays appropriate error messages.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit a shipment.</p> <p>A shipment with the ID 125 already exists in the database.</p>
Test Case Input	<p>Warehouse: Blank</p> <p>Date: Current date</p> <p>Status: Blank</p> <p>Username: Current username</p> <p>Description: Current Description</p> <p>Supplier Name: Current Supplier Name</p>
Test Case Expected Output	The system should validate the input, reject the blank data, and display appropriate error messages indicating that all required fields must be filled.
Test Case Steps	<p>Open the application and log in with valid credentials.</p> <p>Navigate to the shipment management page.</p> <p>Search for the shipment with ID 5.</p> <p>Click the "Edit" button for the shipment with ID 5.</p> <p>Leave the status blank and click the "Save" button.</p> <p>Verify that the shipment is not updated and the user remains on the edit shipment page..</p>
Default Value Preverving	All fields are empty by default except username and date

13. Create new inventory audit test

Test Case Number	13.1
Test Case Name	Create inventory audit with valid information
Test Case Description	Verify that the system allows the creation of an inventory audit with valid information and successfully adds the audit details to the inventory audit list.
Preconditions	The application is accessible and the user is logged in with sufficient permissions to create an inventory audit. A valid warehouse exists in the database.
Test Case Input	Warehouse: TestWaer Date: 2024-08-01 q Description: Audit of all electronic items. User: Admn Status: Processing
Test Case Expected Output	The inventory audit is successfully created with the provided details, and a confirmation message is displayed. The audit list shows the new audit with all the provided details.
Test Case Steps	Open the application and log in with valid credentials. Navigate to the inventory audit management page. Click the "Create Inventory Audit" button. Select the warehouse TestWaer from the dropdown. Enter the date as 2024-08-01. Enter the description as Audit of all electronic items. Verify that the username is automatically populated with the current username. Select the status as Processing Click the "Save" button. Verify that a confirmation message is displayed indicating the successful creation of the inventory audit. Verify that the inventory audit list shows the new audit with the correct details.
Default Value Preverving	All fields are empty by default

Test Case Number	13.2
Test Case Name	Create inventory audit with invalid information
Test Case Description	Verify that the system properly handles the creation of an inventory audit with invalid information and displays appropriate error messages.
Preconditions	The application is accessible. The user is logged in with sufficient permissions to create an inventory audit.
Test Case Input	Warehouse: !@#\$%^&*() Date: (blank) Description: (blank) User: #@#@# Status: (blank)
Test Case Expected Output	The system should validate the input, reject the invalid data, and display appropriate error messages indicating that all required fields must be filled with valid information.
Test Case Steps	Open the application. Log in with valid credentials. Navigate to the inventory audit management page. Click the "Create Inventory Audit" button. Enter invalid special characters !@#\$%^&*() in the warehouse field. Leave the date field blank. Leave the description field blank. Enter invalid special characters !@#\$%^&*() in the user field Leave the status field blank. Click the "Save" button. Verify that the inventory audit is not created and the user remains on the create inventory audit page.
Default Value Preverving	All fields are empty by default

14. Edit inventory audit test

Test Case Number	15.1
Test Case Name	Edit inventory audit with valid information
Test Case Description	Verify that the system allows editing an existing inventory audit record with valid information.
Preconditions	The application is accessible and the user is logged in with sufficient permissions to edit inventory audit records. An existing inventory audit record is available in the system.
Test Case Input	Warehouse: Moss Date: Current date Description: Updated audit description for accuracy check. User: Rachel Status: Processing
Test Case Expected Output	The system should successfully update the inventory audit record with the provided information, and a confirmation message should be displayed. The inventory audit list should reflect the updated details.
Test Case Steps	Open the application and log in with valid credentials. Navigate to the inventory audit management page. Locate the existing inventory audit record to be edited. Click the "Edit" button for the selected inventory audit. Update the warehouse to Moss. Update the description to Updated audit description for accuracy check. Update the status to Processing. Click the "Save" button. Verify that a confirmation message is displayed indicating the successful update of the inventory audit. Verify that the inventory audit list shows the updated details for the edited record.
Default Value Preverving	All fields are empty by default except Warehouse,date,user.

Test Case Number	15.2
Test Case Name	Edit inventory audit with invalid information
Test Case Description	Verify that the system handles invalid information appropriately when editing an existing inventory audit record.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit inventory audit records.</p> <p>An existing inventory audit record is available in the system.</p>
Test Case Input	<p>Warehouse: Zhang group</p> <p>Date: Current date</p> <p>Description: (blank)</p> <p>User: (blank)</p> <p>Status: unknown (invalid status)</p>
Test Case Expected Output	The system should display error messages for each invalid input and prevent the inventory audit record from being updated. The original details should remain unchanged.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the inventory audit management page.</p> <p>Locate the existing inventory audit record to be edited.</p> <p>Click the "Edit" button for the selected inventory audit.</p> <p>Update the status to blank value.</p> <p>Click the "Save" button.</p> <p>Verify that error messages are displayed for each invalid input.</p> <p>Verify that the inventory audit record is not updated and the original details remain unchanged.</p>
Default Value Preverving	All fields are empty by default except Warehouse,date,user.

15. Create new suppliers test

Test Case Number	16.1
Test Case Name	Create supplier with valid information
Test Case Description	Verify that the system allows the creation of a new supplier with valid information and successfully saves the supplier details.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to create a new supplier.</p>
Test Case Input	<p>Supplier Name: SupplierTesq</p> <p>Address: 123 Main Street, City, Country</p> <p>Website: www.suppliert.com</p> <p>Email: contact@suppliert.com</p> <p>Phone Number: 1234567890</p> <p>Description: Leading supplier of electronic components.</p>
Test Case Expected Output	The supplier is successfully created with the provided details, and a confirmation message is displayed. The supplier list shows the new supplier with all the provided details.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the supplier management page.</p> <p>Click the "Create New Supplier" button.</p> <p>Enter SupplierTesq in the supplier name field.</p> <p>Enter 123 Main Street, City, Country in the address field.</p> <p>Enter www. suppliert.com in the website field.</p> <p>Enter contact@ suppliert.com in the email field.</p> <p>Enter 1234567890 in the phone number field.</p> <p>Enter Leading supplier of electronic components. in the description field.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating the successful creation of the supplier.</p>

	Verify that the supplier list shows the new supplier with the correct details.
Default Value Preverving	All fields are empty by default

Test Case Number	16.2
Test Case Name	Create supplier with existing supplier name
Test Case Description	Verify that the system allows the creation of a new supplier with an existing supplier name
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to create a new supplier.</p> <p>A supplier with the name SupplierX already exists in the database.</p>
Test Case Input	Supplier Name: SupplierX Address: 456 Another Street, City, Country Website: www.newsupplier.com Email: info@newsupplier.com Phone Number: 0987654321 Description: New supplier of office supplies.
Test Case Expected Output	The system should allow the creation of a new supplier with the same
Test Case Steps	Open the application. Log in with valid credentials. Navigate to the supplier management page. Click the "Create New Supplier" button. Enter SupplierX in the supplier name field (same as an existing supplier). Enter 456 Another Street, City, Country in the address field. Enter www.newsupplier.com in the website field. Enter info@newsupplier.com in the email field. Enter 0987654321 in the phone number field.

	<p>Enter New supplier of office supplies. in the description field.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating the successful creation of the supplier.</p> <p>Verify that the supplier list shows the new supplier with the correct details.</p>
Default Value Preverving	All fields are empty by default

Test Case Number	16.3
Test Case Name	Create supplier with special characters
Test Case Description	Verify that the system allows the creation of a new supplier with special characters in the supplier name and other fields, and that it handles the data correctly.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to create a new supplier.</p>
Test Case Input	<p>Supplier Name: !@#SpecialSupplier\$%^</p> <p>Address: 789 Special Blvd, City, Country</p> <p>Website: www.specialsupplier.com</p> <p>Email: info@specialsupplier.com</p> <p>Phone Number: 9876543210</p> <p>Description: Supplier with special characters in name.</p>
Test Case Expected Output	The system should allow the creation of a supplier with special characters in the fields and handle the data correctly. A confirmation message should be displayed, and the supplier list should show the new supplier with the correct details.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the supplier management page.</p> <p>Click the "Create New Supplier" button.</p> <p>Enter !@#SpecialSupplier\$%^ in the supplier name field.</p>

	<p>Enter 789 Special Blvd, City, Country in the address field.</p> <p>Enter www.specialsupplier.com in the website field.</p> <p>Enter info@specialsupplier.com in the email field.</p> <p>Enter 9876543210 in the phone number field.</p> <p>Enter Supplier with special characters in name. in the description field.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating the successful creation of the supplier.</p> <p>Verify that the supplier list shows the new supplier with the correct details.</p>
Default Value Preverving	All fields are empty by default

16. Edit supplier test

Test Case Number	17.1
Test Case Name	Edit supplier with valid information
Test Case Description	Verify that the system allows the editing of an existing supplier with valid information.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit supplier details.</p> <p>An existing supplier (e.g., SupplierX) is available in the system.</p>
Test Case Input	<p>Supplier Name: SupplierY</p> <p>Address: 456 New Street, New City, New Country</p> <p>Description: Updated description for SupplierY.</p>
Test Case Expected Output	The system should successfully update the supplier details with the provided information, and a confirmation message should be displayed. The supplier list should reflect the updated details.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the supplier management page.</p> <p>Locate the existing supplier (e.g., SupplierX) in the supplier list.</p> <p>Click the "Edit" button for the supplier.</p> <p>Update the supplier name to SupplierY.</p> <p>Update the address to 456 New Street, New City, New Country.</p> <p>Update the description to Updated description for SupplierY.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating the successful update of the supplier.</p> <p>Verify that the supplier list shows the updated details for SupplierY.</p>
Default Value Preverving	All fields are pre-populated with the current supplier information.

Test Case Number	17.2
Test Case Name	Edit supplier with existing supplier name
Test Case Description	Verify that the system allows editing an existing supplier's details.
Preconditions	<p>The application is accessible.</p> <p>The user is logged in with sufficient permissions to edit supplier details.</p> <p>At least two suppliers exist in the system, with one of them having the name that will be reused.</p>
Test Case Input	<p>Existing Supplier Name: Lewis</p> <p>New Supplier Name: Lee inc (same as another existing supplier)</p>
Test Case Expected Output	The system should allow the update of the supplier's name to an existing supplier name, either by allowing the duplicate name or handling it in a way specified by the system. A confirmation message should be displayed, and the supplier list should reflect the updated details.
Test Case Steps	<p>Open the application.</p> <p>Log in with valid credentials.</p> <p>Navigate to the supplier management page.</p> <p>Locate the existing supplier with the name Lewis in the supplier list.</p> <p>Click the "Edit" button for Lewis.</p> <p>Update the supplier name to Lee inc (same as another existing supplier).</p> <p>Update the address to 123 Updated Address, New City, New Country.</p> <p>Update the description to Updated description for Lee inc.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating the successful update of the supplier.</p> <p>Verify that the supplier list shows the updated details for Lewis, and ensure the system handles the duplicate name as specified.</p>
Default Value Preverving	All fields are pre-filled with the current user's information.

Test Case Number	17.3
Test Case Name	Edit supplier with special characters
Test Case Description	Verify that the system allows editing an existing supplier's details.
Preconditions	The application is accessible and the user is logged in with sufficient permissions to edit supplier details. An existing supplier record is available in the system.
Test Case Input	<p>Existing Supplier Name: Martin</p> <p>New Supplier Name: Supplier@#%&*!</p> <p>Address: 123 Main St., Suite #&*!@</p> <p>Description: Updated description with special characters @#%&*!.</p>
Test Case Expected Output	The system should successfully update the supplier details with special characters, and a confirmation message should be displayed. The supplier list should reflect the updated details.
Test Case Steps	<p>Open the application and log in with valid credentials.</p> <p>Navigate to the supplier management page.</p> <p>Locate the existing supplier with the name SupplierA in the supplier list. Click the "Edit" button for Martin.</p> <p>Update the supplier name to Supplier@#%&*!.</p> <p>Update the address to 123 Main St., Suite #&*!@.</p> <p>Update the description to Updated description with special characters @#%&*!.</p> <p>Click the "Save" button.</p> <p>Verify that a confirmation message is displayed indicating the successful update of the supplier.</p> <p>Verify that the supplier list shows the updated details with special characters.</p>
Default Value Preverving	All fields are pre-populated with the current Suppliers information

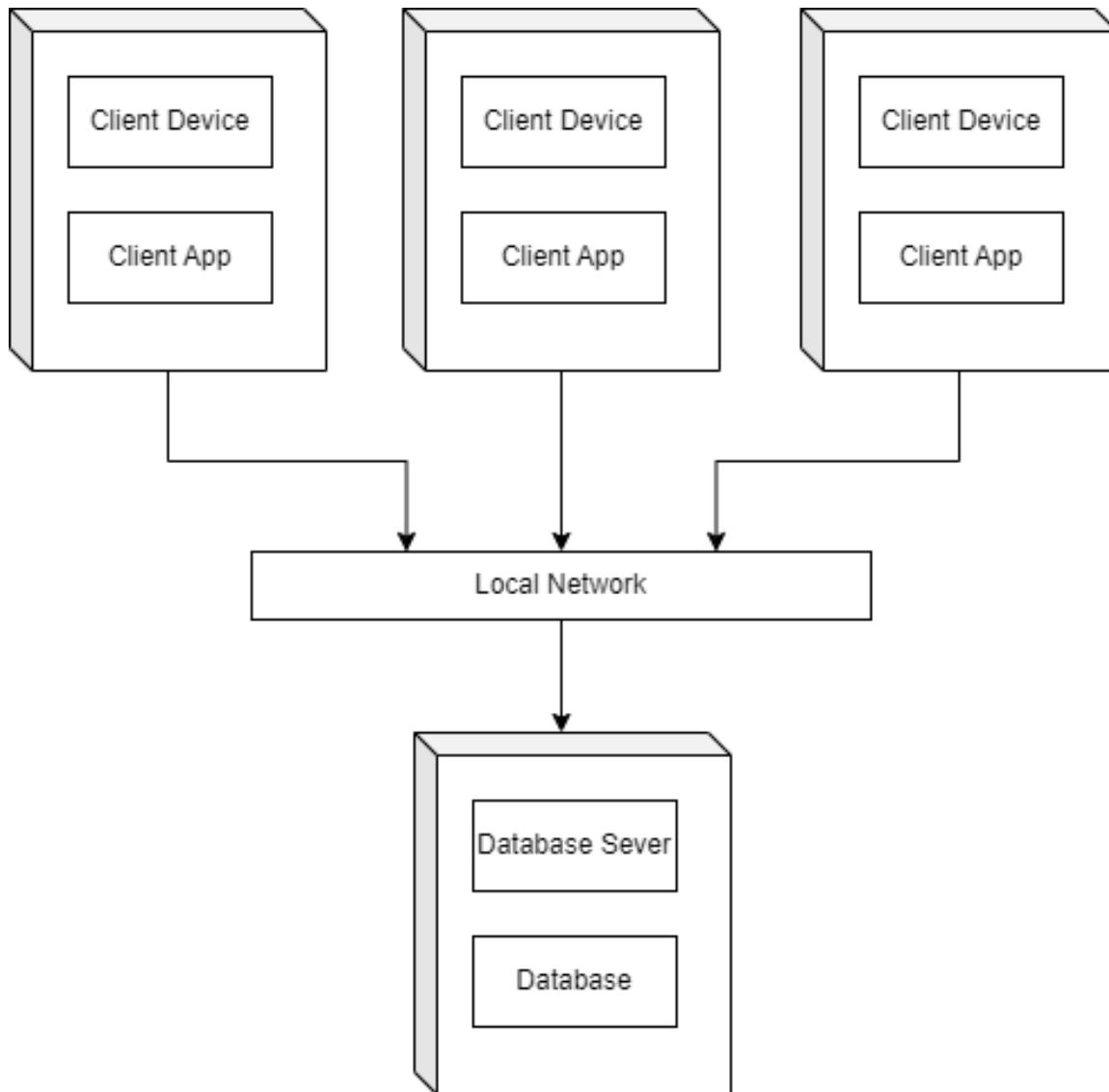
V. Task Assign (to each team member)

Group - Vu Minh Long	Warehouse Management Project					
No	Task name	Description	Start Date	End Date	Member	Self assessment
1	Analysis - Design	List the main functions of the software	01-Jun	04-Jun	Vu Quang Minh	
2	Development	Create database and tables, properties according to program requirements	05-Jun	08-Jun	Phan Canh Long Vu	
3	Development	Write read procedures for all tables in the database	09-Jun	12-Jun	Phan Canh Long Vu	
4	Development	Write add and update procedures for all tables in the database	09-Jun	12-Jun	Vu Quang Minh	
5	Development	Write delete procedures for all tables in the database	09-Jun	12-Jun	Nguyen Gia Long	
6	Development	Write entities, read, add, edit, delete methods corresponding to the procedures created for the functions (User, Supplier)	13-Jun	16-Jun	Nguyen Gia Long	
7	Development	Write entities, read, add, edit, delete methods corresponding to the procedures created for the functions (Product)	13-Jun	16-Jun	Phan Canh Long Vu	
8	Development	Write entities, read, add, edit, delete methods corresponding to the procedures created for the functions (Warehouse, Shipment)	13-Jun	16-Jun	Vu Quang Minh	
9	Design	Design the interface for the program	17-Jun	19-Jun	Vu Quang Minh	
10	Development	Write display functions for Warehouse and Shipment interfaces	20-Jun	24-Jun	Vu Quang Minh	

11	Development	Write display functions for Product and Report interfaces	20-Jun	24-Jun	Phan Canh Long Vu	
12	Development	Write display functions for User and Supplier interfaces	20-Jun	24-Jun	Nguyen Gia Long	
13	Development	Write methods for functions in the program (Product, Report)	25-Jun	07-Jul	Phan Canh Long Vu	
14	Development	Write methods for functions in the program (User, Supplier)	25-Jun	07-Jul	Nguyen Gia Long	
15	Development	Write methods for functions in the program (Warehouse, Shipment)	25-Jun	07-Jul	Vu Quang Minh	
16	Testing	Test the program's functions	08-Jul	15-Jul	Nguyen Gia Long	
17	Maintenance	Fix bugs and improve software functionality	15-Jul	01-Aug	Phan Canh Long Vu	
19	Documentation	Prepare detailed project reports and related technical information	15-Jul	04-Aug	Vu Quang Minh - Nguyen Gia Long	

VI. Installation Instructions

1. Deployment Diagram



2. Installation steps

* **Database Install (MySQL):**

- Download and install MySQL on the Database Server.
- Create a database and configure network access.

* **Server Install:**

- Set up network configuration and required software.

* **Application Install:**

- Install the application on client devices.
- Configure the application to connect to the MySQL database server.
- Test and verify the application.