SIBA CAMPUS

SRI LANKA INTERNATIONAL BUDDHIST ACADEMY
(Higher Educational Institute of Sri Dalada Maligawa)
Pallekele, Kundasale, Sri Lanka

BSc in Information Technology

Supplier Management System Documentation

IT 255 – ADVANCED PROGRAMMING WITH JAVA II

Assignment 02 – 2024(I)

Name -: W.D.J.I. Samaranayaka

Index num -: BSc/WD/22/35/05

Faculty of Information Technology

Sri Lanka International Buddhist Academy

Pallekale, Kundasale

2023

Table of Contents

1. Introduction 3
2. Overview 3
3.Features 3
4. Technologies Used 4
5.Installation 4
6.Usage 5
7.Screenshots 10
8. Security 12
9. Future Enhancements 25
10. Conclusion 25

1. Introduction

In today's dynamic business environment, effective supplier management is crucial for the success and sustainability of organizations across industries. The Supplier Management System is a sophisticated web-based application meticulously crafted using Java EE technologies, including Servlets and JSP, to address the challenges associated with supplier information management.

2. Overview

The Supplier Management System is a web-based application developed using Java EE technologies, specifically Servlets and JSP. This system is designed to streamline the management of supplier information for businesses or organizations. Users can perform CRUD (Create, Read, Update, Delete) operations on supplier data, facilitating efficient management of supplier relationships.

3. Features

1. Supplier CRUD Operations: Users can perform the following operations on supplier data:
- Create: Add new suppliers to the system.
- Read: View detailed information about existing suppliers.
- Update: Modify existing supplier details as needed.
- Delete: Remove suppliers from the system.

2. User Authentication: Secure login functionality ensures that only authorized users can access and manipulate supplier data.

3. Responsive User Interface: The system provides a user-friendly interface that is accessible via web browsers, allowing users to efficiently manage supplier information from any device with internet connectivity.

4. Technologies Used

- Java EE: The core technologies used for backend development.
- Servlets: Handle HTTP requests and generate dynamic web content.
- JSP (JavaServer Pages): Used for rendering dynamic content to the user interface.
- HTML/CSS/JavaScript: Frontend technologies used for designing and enhancing the user interface.
- MySQL/PostgreSQL: Relational databases used for storing and managing supplier data.
- Tomcat/Jetty: Servlet containers for deploying and running the web application.

5. Installation

1. Prerequisites:

- Java Development Kit (JDK)
- Apache Tomcat or any other Servlet container
- MySQL or PostgreSQL database server

2. Setup Steps:

- Clone the Supplier Management System repository from.
- Configure the database connection parameters in the application configuration file.
- Deploy the application on the Servlet container.
- Access the application through a web browser.

6. Usage

1. Login:

- Access the application using the provided URL.
- Enter valid credentials to log in.

2. Supplier Management

Once logged in, users can perform CRUD operations on supplier data through the respective interface. The Supplier Management section provides a comprehensive set of tools to manage supplier information efficiently.

i. Adding a New Supplier

To add a new supplier, follow these steps:

- Navigate to the "Add Supplier" section.
- Provide the required details such as supplier name, contact information, address, etc.
- Submit the form to add the supplier to the system.

ii. Viewing Suppliers

To view existing suppliers, follow these steps:

- Navigate to the "View Suppliers" section.
- Browse through the list of suppliers to find the desired information.
- View detailed supplier information including contact details, address, and any additional data stored in the system.

iii. Updating Supplier Information

To update existing supplier details, follow these steps:

- Navigate to the "Update Supplier" section.
- Select the supplier you wish to update from the list.
- Modify the necessary fields with the updated information.
- Save the changes to update the supplier's data in the system.

iv. Deleting Suppliers

To delete a supplier from the system, follow these steps:

- Navigate to the "Delete Supplier" section.

- Confirm the deletion action.
- Select the supplier you want to remove from the list.

3. User Management

   The User Management section provides tools for managing user accounts and permissions within the system.

   i. Adding a New User

   To add a new user, follow these steps:

   - Navigate to the "Add User" section.
   - Enter the required user details such as username, email, password, etc.
   - Assign appropriate roles and permissions to the user.
   - Save the changes to create the new user account.

   ii. Viewing Users

   To view existing users and their details, follow these steps:

   - Navigate to the "View Users" section.
   - Browse through the list of users to find the desired information.
   - View user details including username, email, roles, and permissions.

   iii. Updating User Information

   To update user details, follow these steps:

   - Navigate to the "Update User" section.
   - Select the user you wish to update from the list.
   - Modify the necessary fields with the updated information.
   - Save the changes to update the user's data in the system.

   iv. Deleting Users

   To delete a user from the system, follow these steps:

   - Navigate to the "Delete User" section.
   - Confirm the deletion action.
   - Select the user you want to remove from the list.
   - The system will remove the selected user account from the database.

4. Purchase Order Management
   The Purchase Order Management section allows users to create, view, update, and delete purchase orders within the system.

   i. Adding a New Purchase Order

   To create a new purchase order, follow these steps:
   - Navigate to the "Create Purchase Order" section.
   - Fill in the required details such as supplier information, order items, quantity, etc.
   - Submit the form to generate the purchase order.

   ii. Viewing Purchase Orders

   To view existing purchase orders, follow these steps:
   - Navigate to the "View Purchase Orders" section.
   - Browse through the list of purchase orders to find the desired information.
   - View detailed information about each purchase order including supplier, order date, items, quantity, etc.

   iii. Deleting Purchase Orders

   To delete a purchase order, follow these steps:
   - Navigate to the "Delete Purchase Order" section.
   - Confirm the deletion action.
   - Select the purchase order you want to remove from the list.
   - The system will remove the selected purchase order from the database.

5. Product Management
   The Product Management section allows users to manage product information within the system.

   i. Adding a New Product

   To add a new product, follow these steps:
   - Navigate to the "Add Product" section.
   - Enter the required product details such as name, description, price, etc.
   - Save the change to add the product to the system.

   ii. Viewing Products

   To view existing products, follow these steps:
   - Navigate to the "View Products" section.
   - Browse through the list of products to find the desired information.

- View detailed information about each product including name, description, price, etc.

iii. Updating Product Information

To update product details, follow these steps:

- Navigate to the "Update Product" section.
- Select the product you wish to update from the list.
- Modify the necessary fields with the updated information.
- Save the changes to update the product's data in the system.

iv. Deleting Products

To delete a product from the system, follow these steps:

- Navigate to the "Delete Product" section.
- Confirm the deletion action.
- Select the product you want to remove from the list.
- The system will remove the selected product from the database.

6. User Audit

   The User Audit section provides a log of user activities and system events for auditing purposes.

   i. Viewing Audit Logs

   To view user audit logs, follow these steps:

   - Navigate to the "Audit Logs" section.
   - Browse through the list of logs to find the desired information.
   - View details of user activities, including login/logout events, CRUD operations, etc.

7. Report Generation

   The Report Generation section allows users to generate various reports based on system data.

   i. Generating Reports

   To generate reports, follow these steps:

   - Navigate to the "Generate Reports" section.
   - Select the type of report you wish to generate (e.g., supplier report, purchase order report, etc.).
   - Configure report parameters such as date range, filters, etc.
   - Generate the report and view/download the generated document.

8. Registration

   To create a new user account and register within the system, follow these steps:

   - Access the application using the provided URL.
   - Navigate to the "Register" or "Create Account".
   - Fill in the required registration details such as username, email address, password, etc.
   - Optionally, provide additional information as prompted by the registration form.
   - After completing the registration form, review the entered information for accuracy.
   - Submit the registration form by clicking the "Register" or "Create Account" button.
   - Upon successful registration and verification, you will receive a confirmation message or notification.
   - You can now proceed to log in to the application using the newly created user credentials.

9. Search

   ✓ Supplier Management: Search for suppliers by name, contact information, or other relevant attributes.
   ✓ Users: Search for users by username, email address, or role.
   ✓ Purchase Orders: Search for purchase orders by order number, supplier name, or order date.
   ✓ Products: Search for products by name, description, or category.
   ✓ User Audit: Search for audit logs by user activity, timestamp, or specific actions.

10. Audit Tables

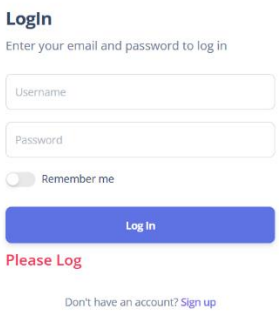
    - User Audit
    - Supplier Audit
    - Product Audit
    - Purchase Order Audit

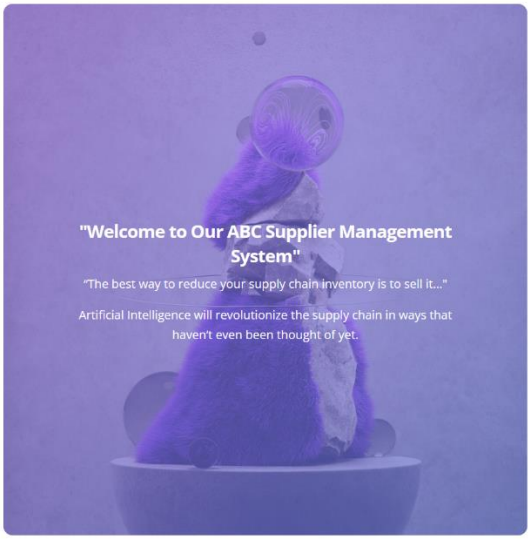
11. Secure
    Password hashing and encryption.

12. Reports
    - Generation of various reports for analysis.
    - Insights into supplier, product, and purchase data.

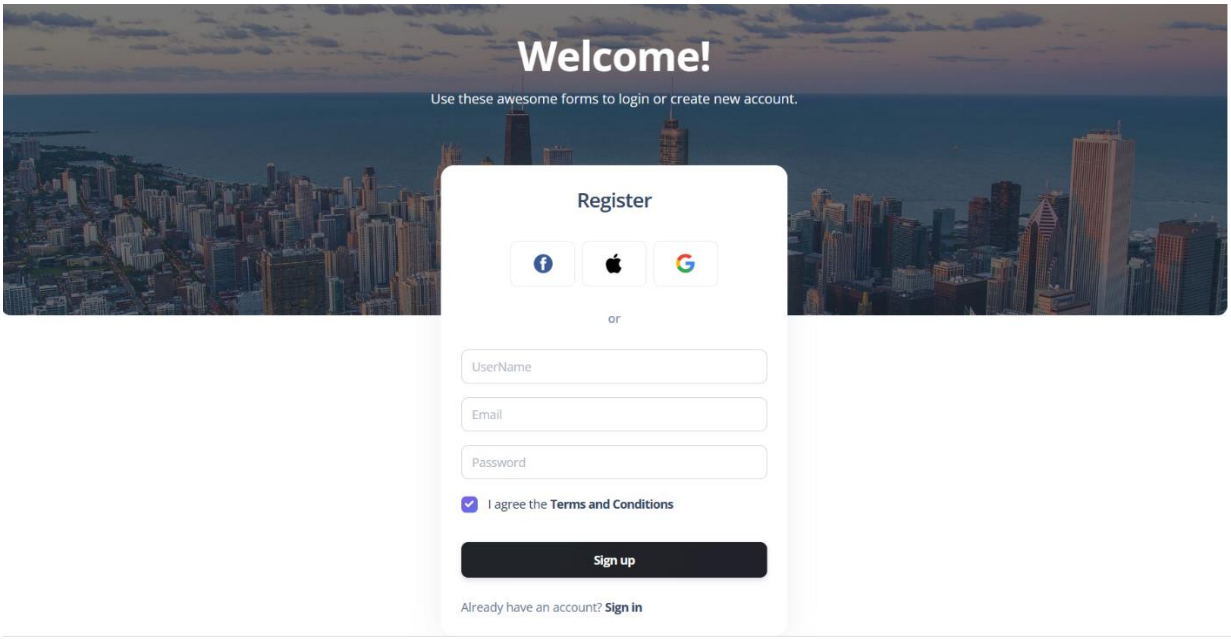
7. Screenshots

Login

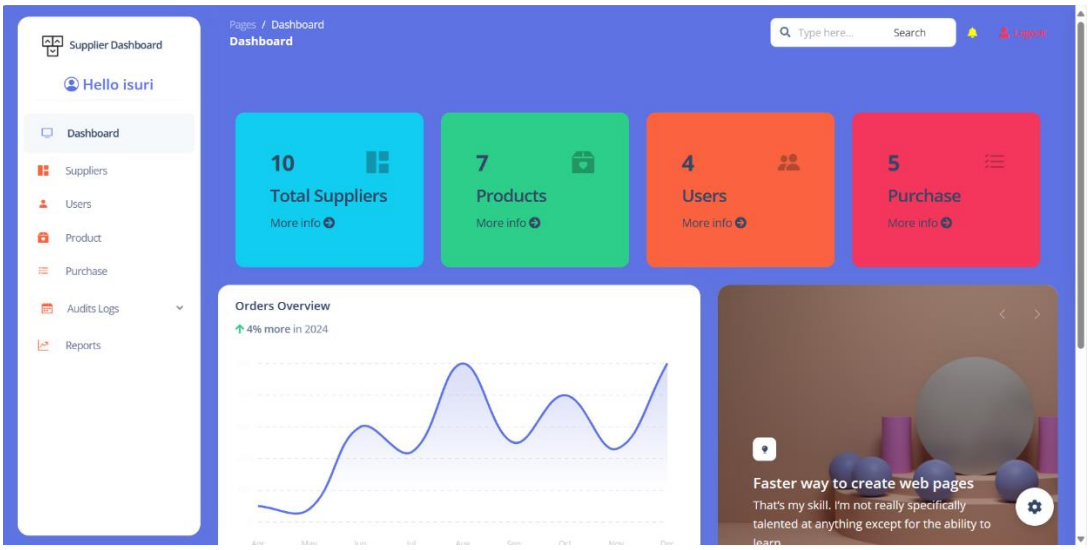




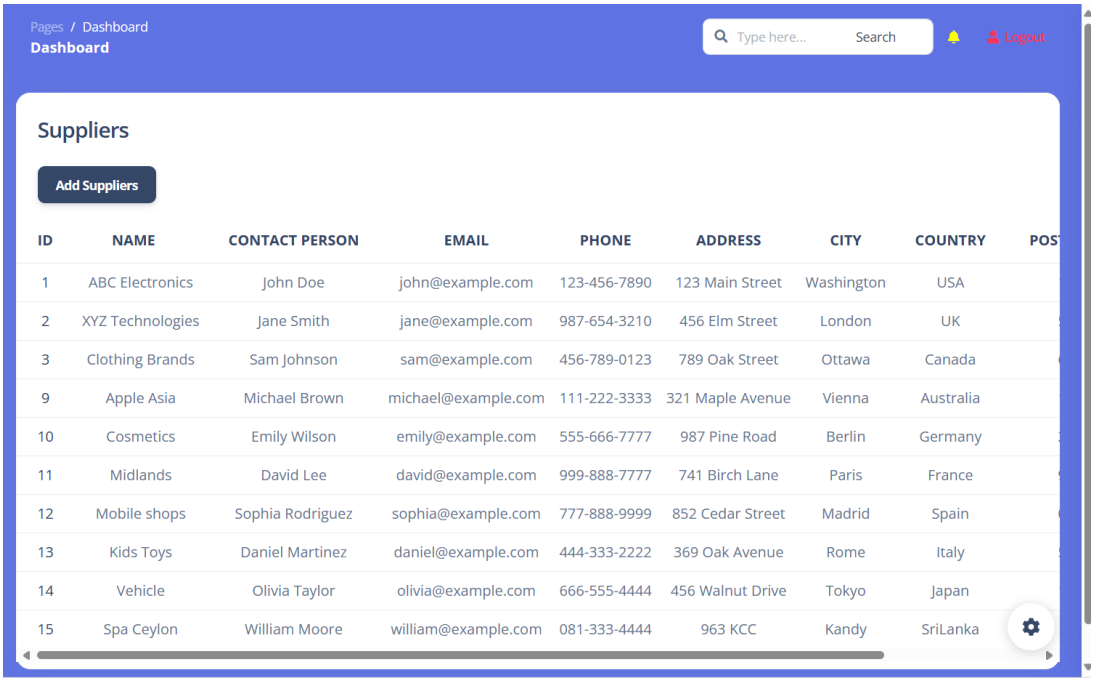
Register

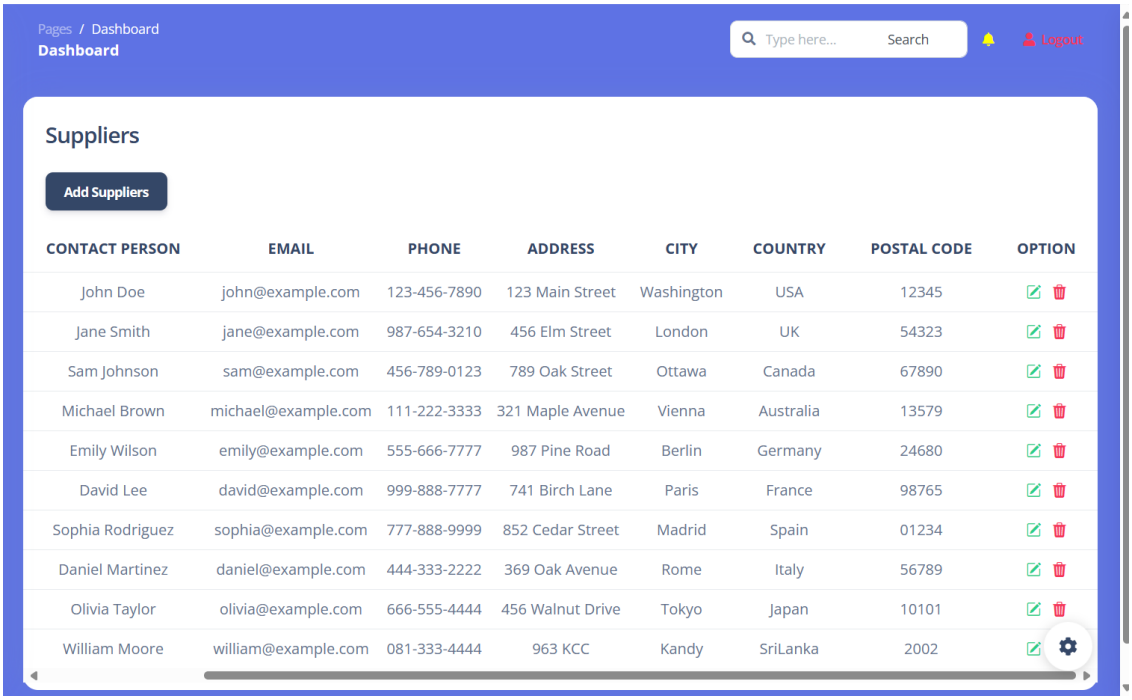


Dashboard

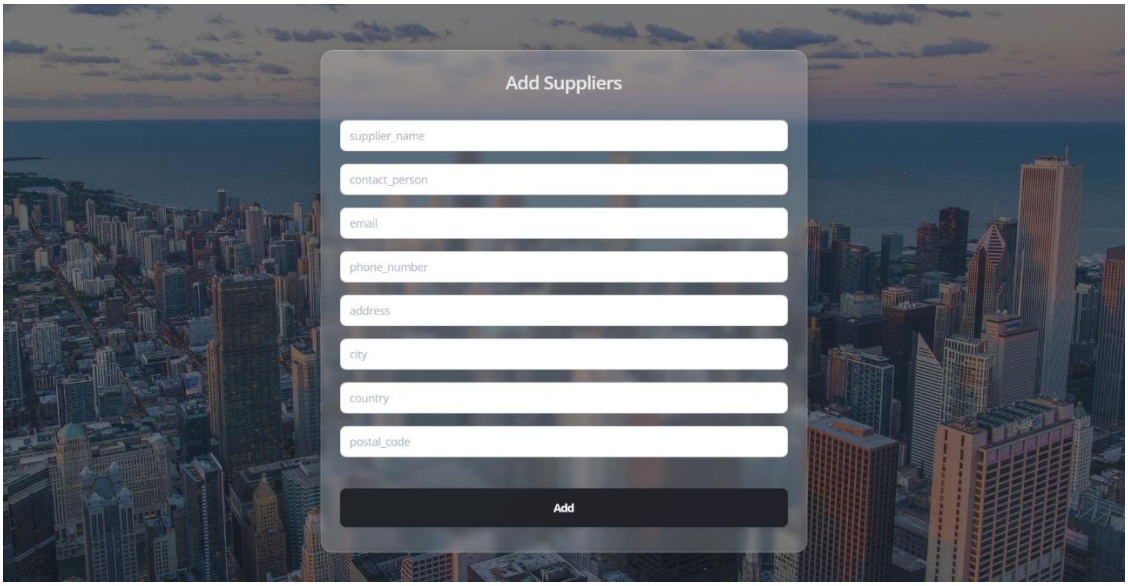


Supplier Table

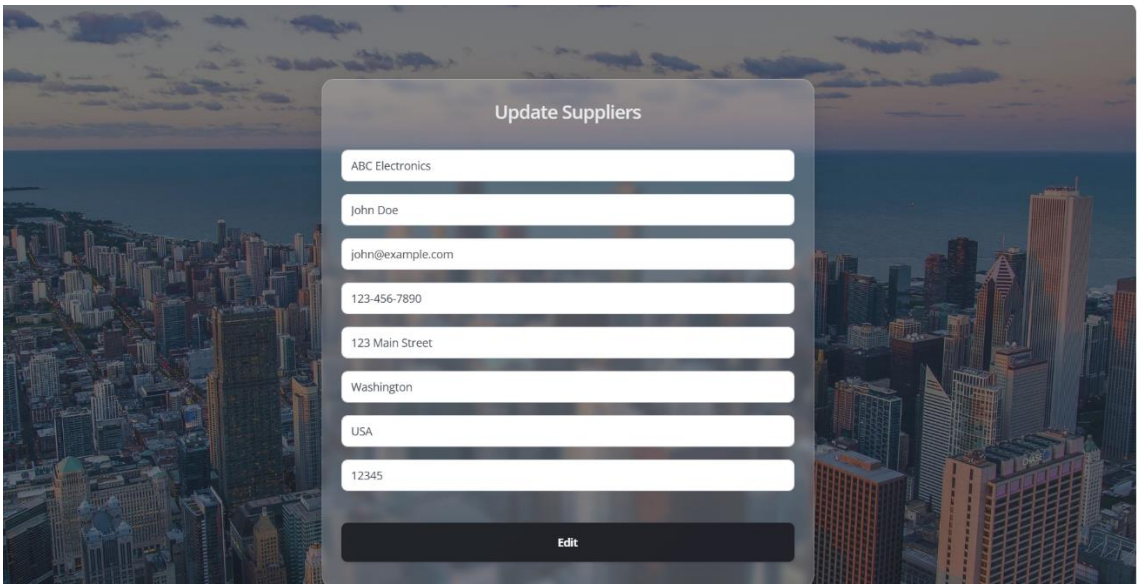




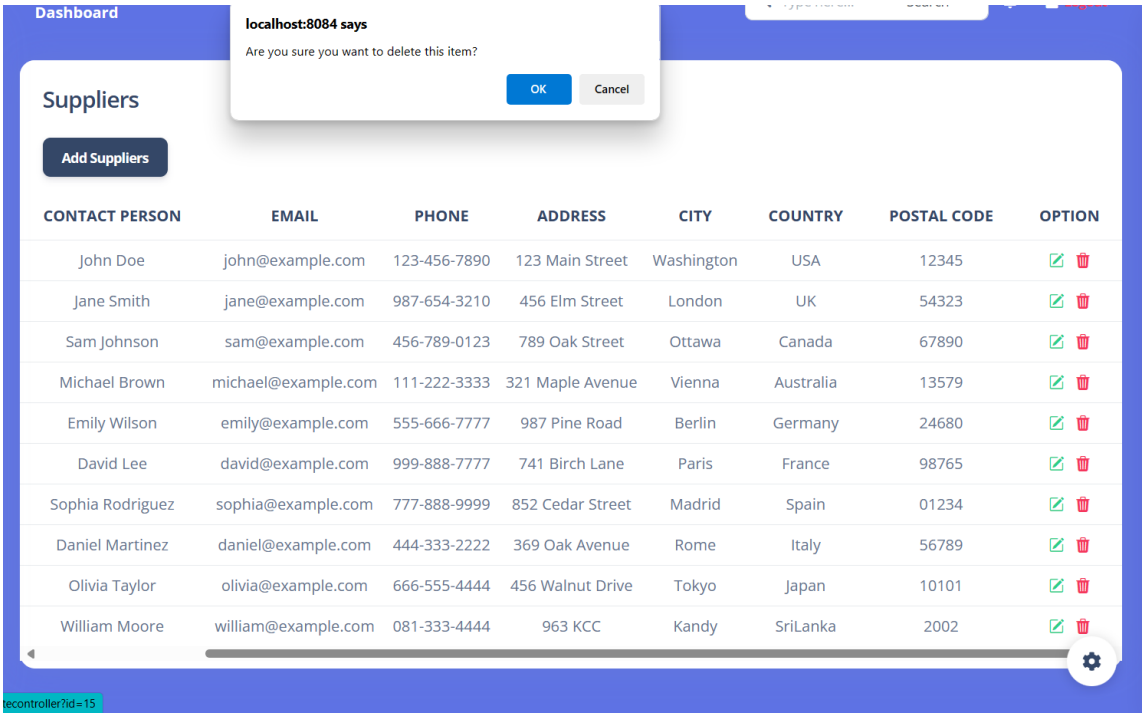
Add Supplier



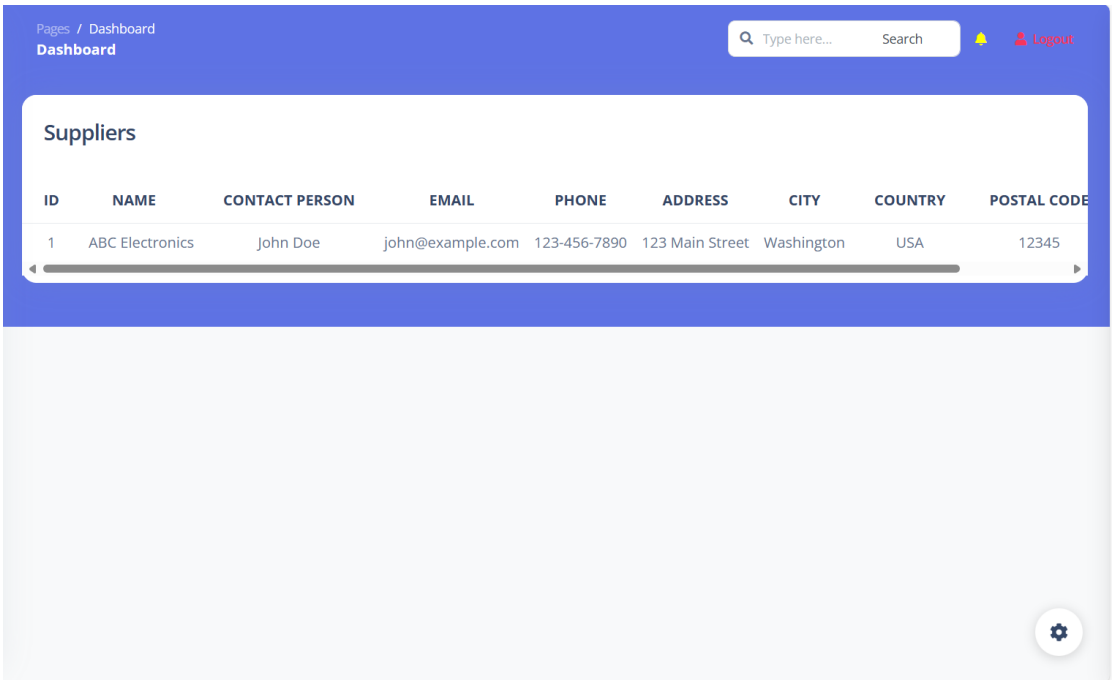
Update Supplier



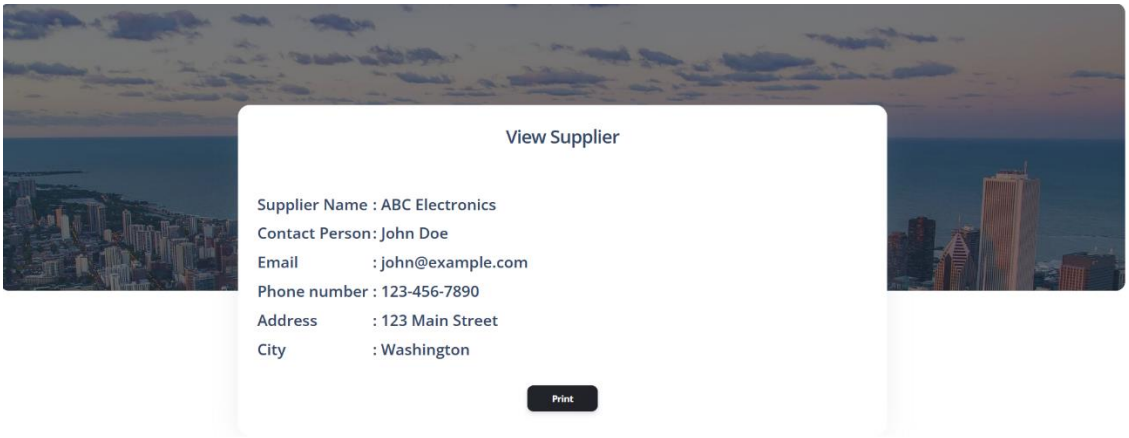
Delete Supplier



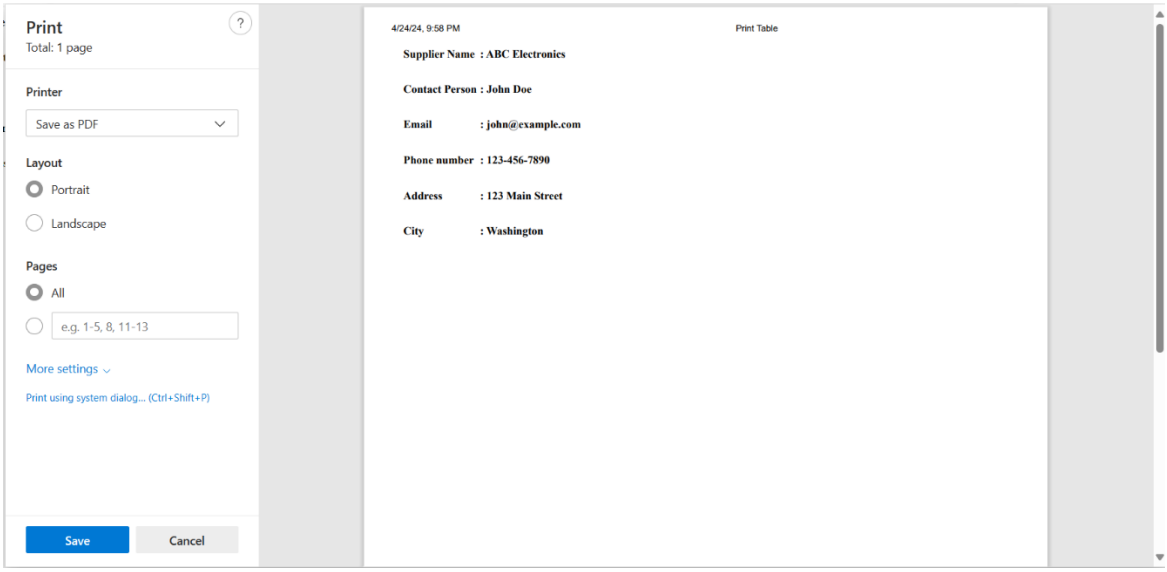
Search Suppliers



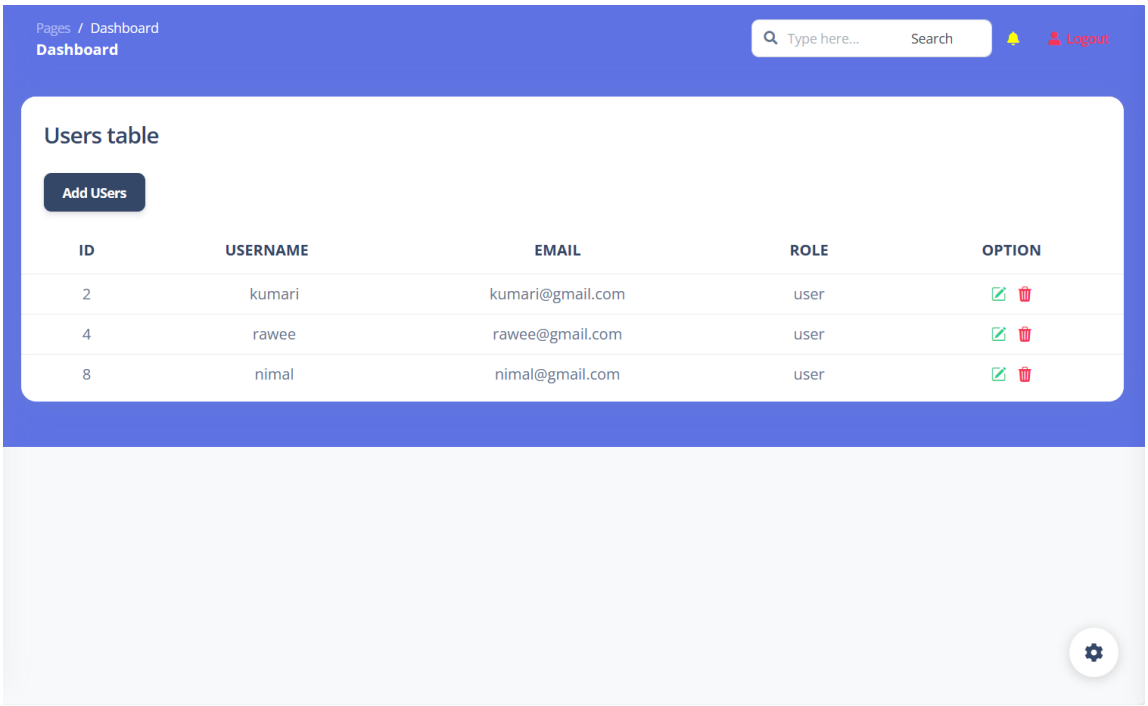
View Suppliers



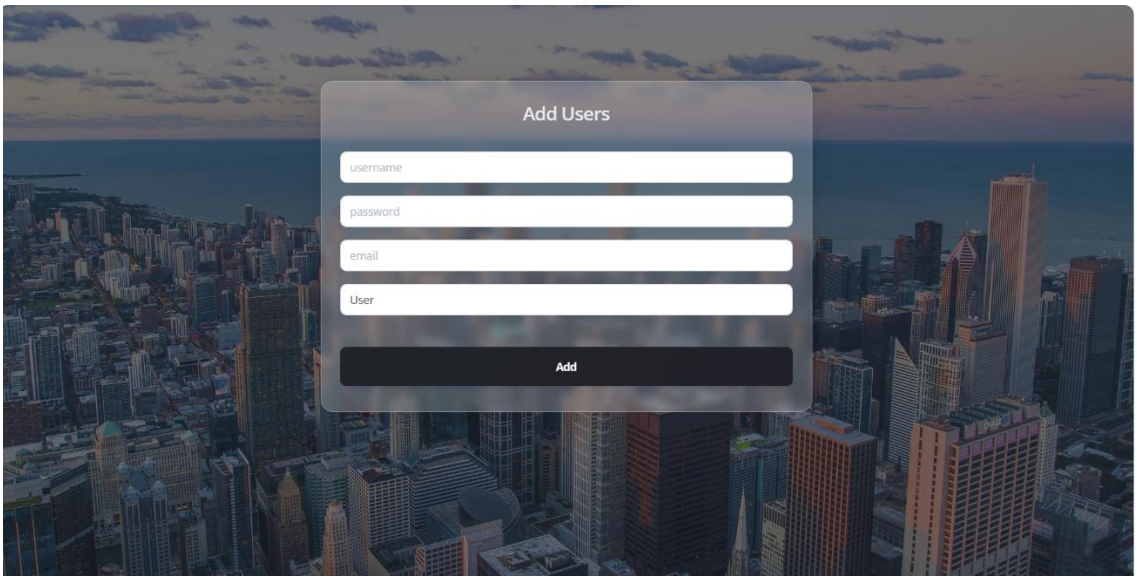
Print View Suppliers



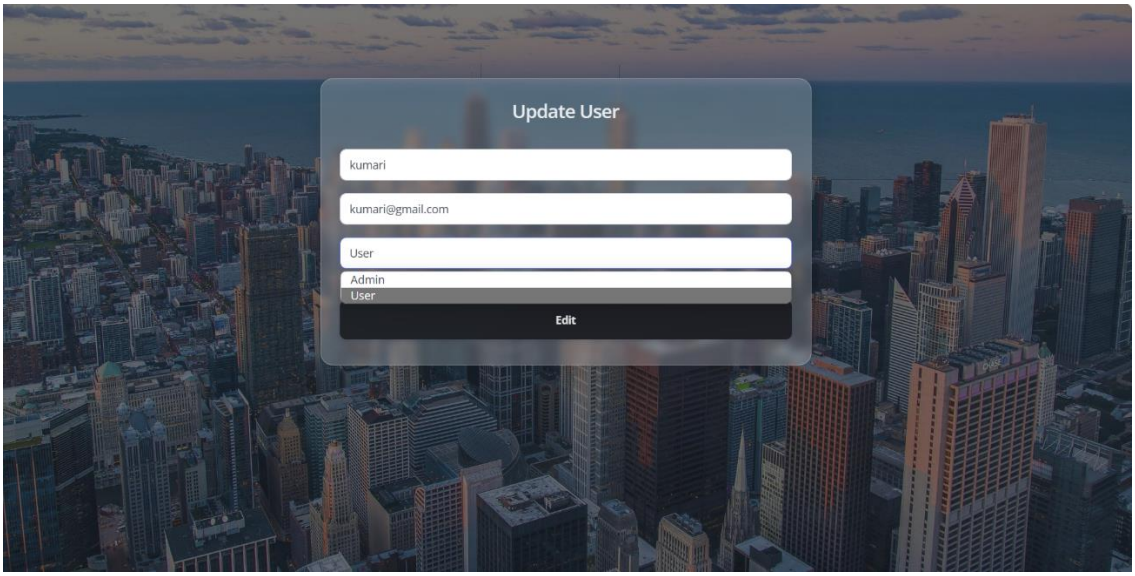
Users Table



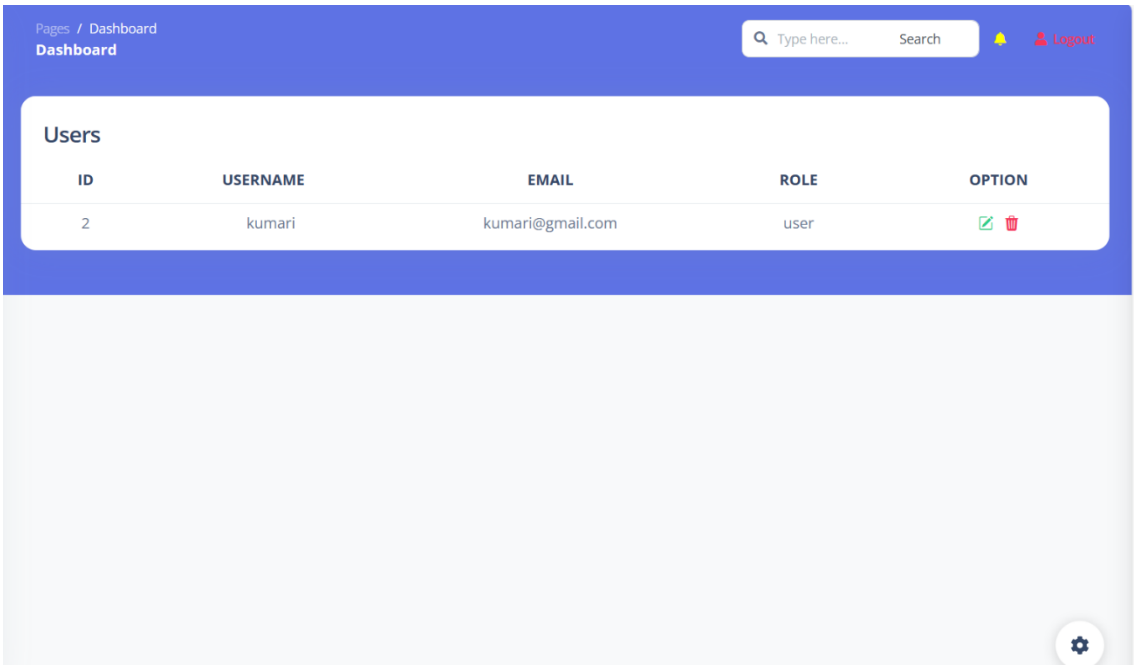
Add users



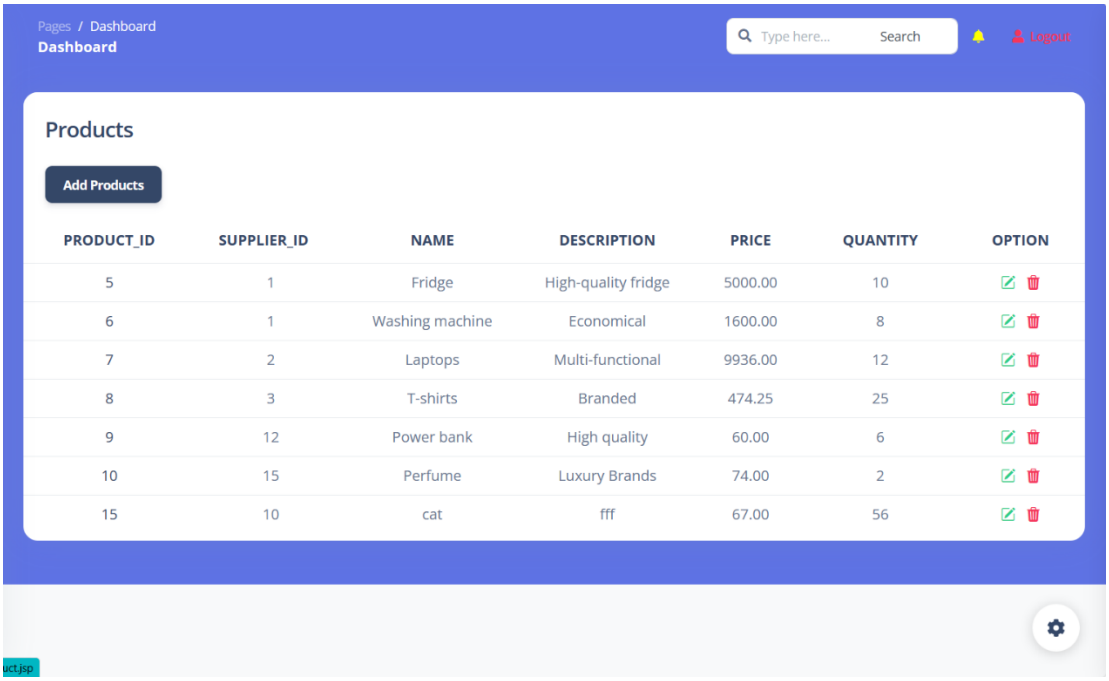
Update User



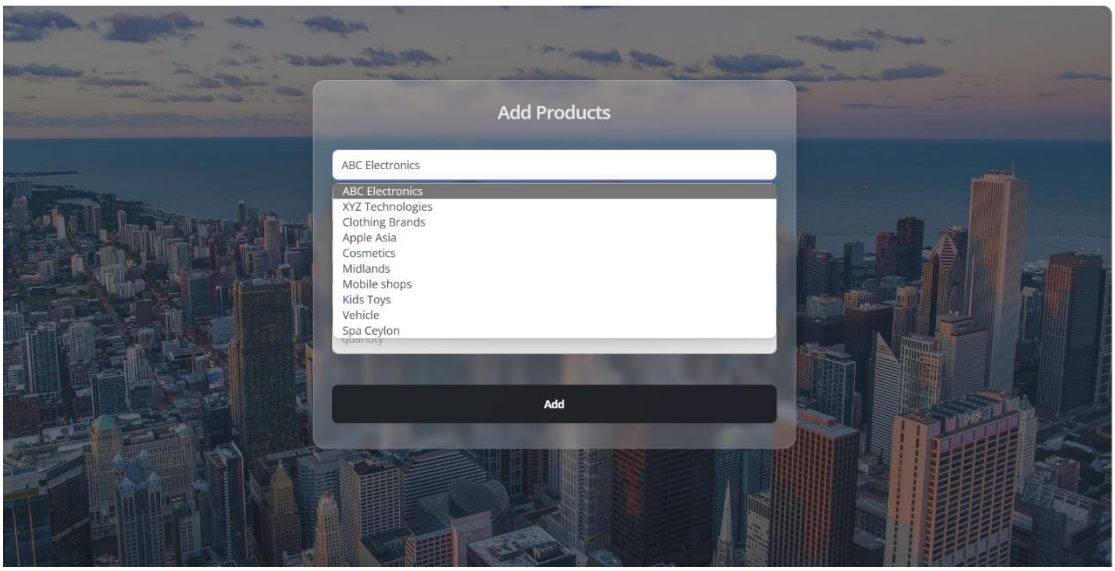
Search users



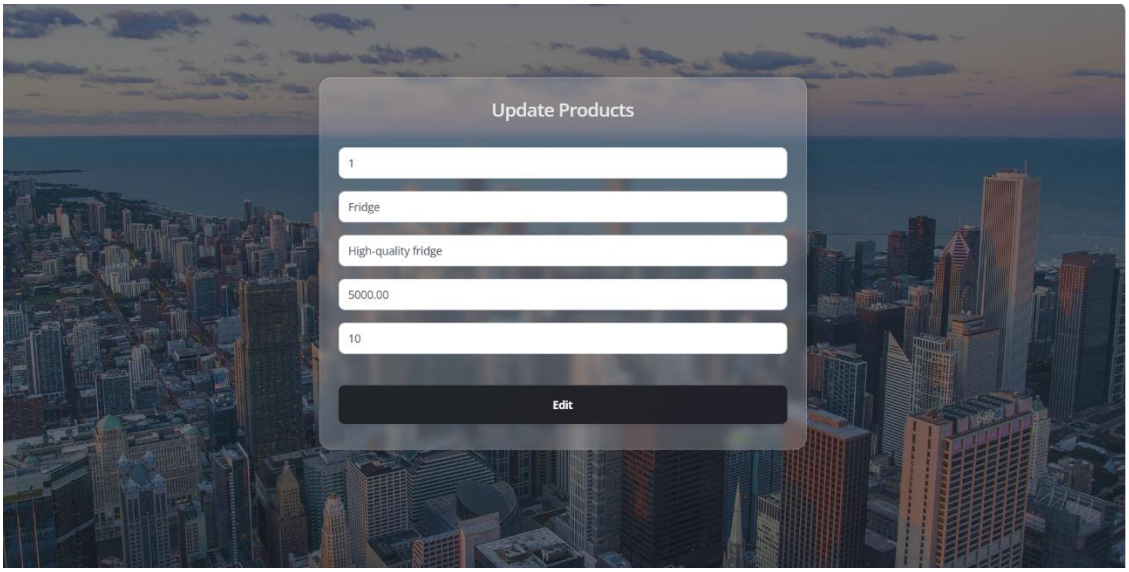
Product Table



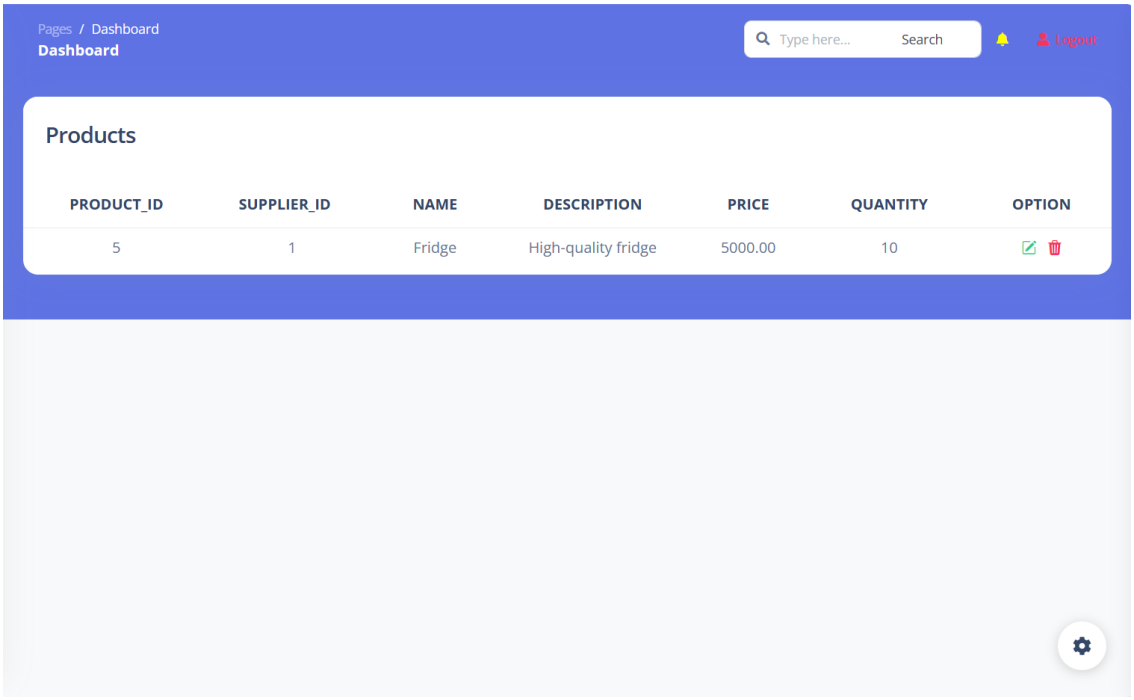
Add Products



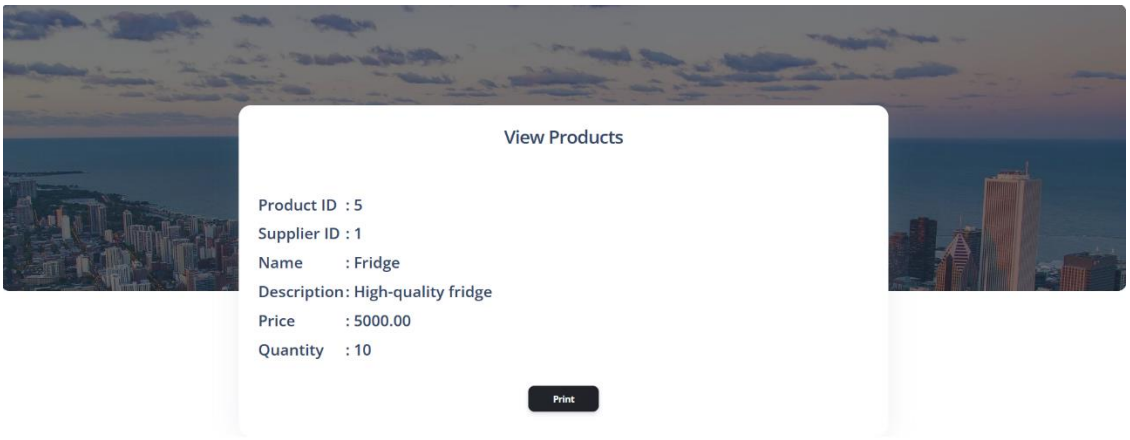
Update Products



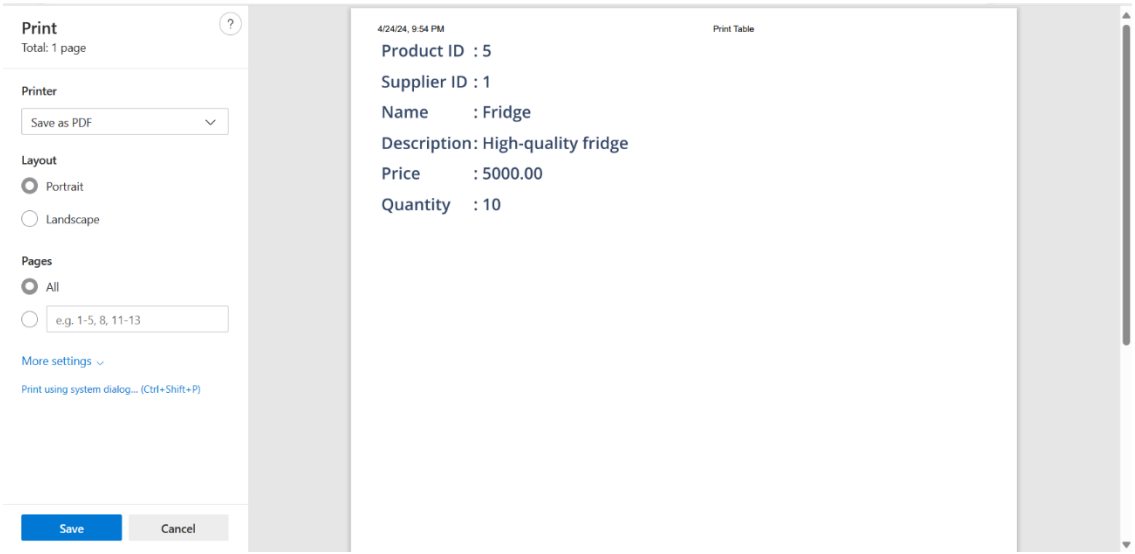
Search Product



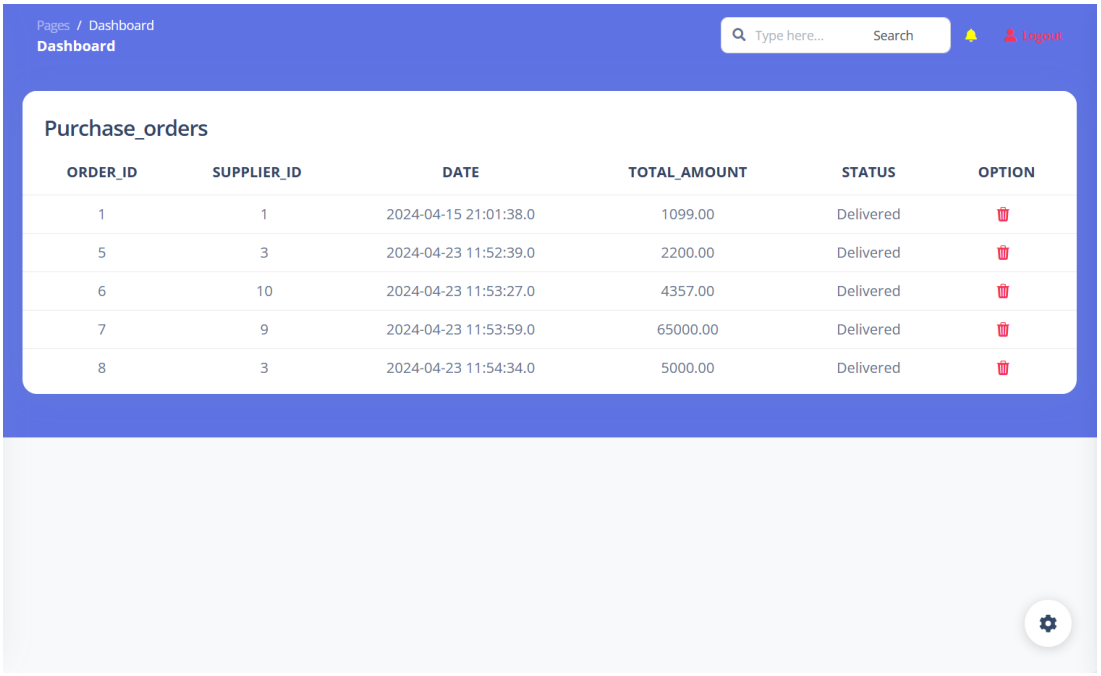
View Products



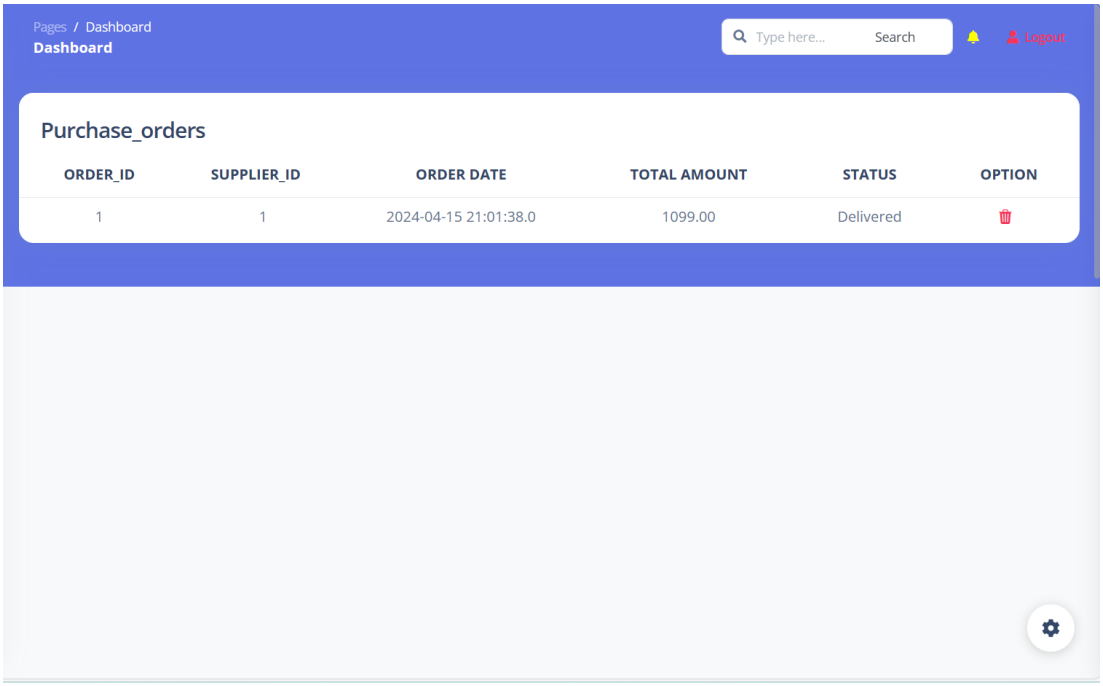
Print View Products



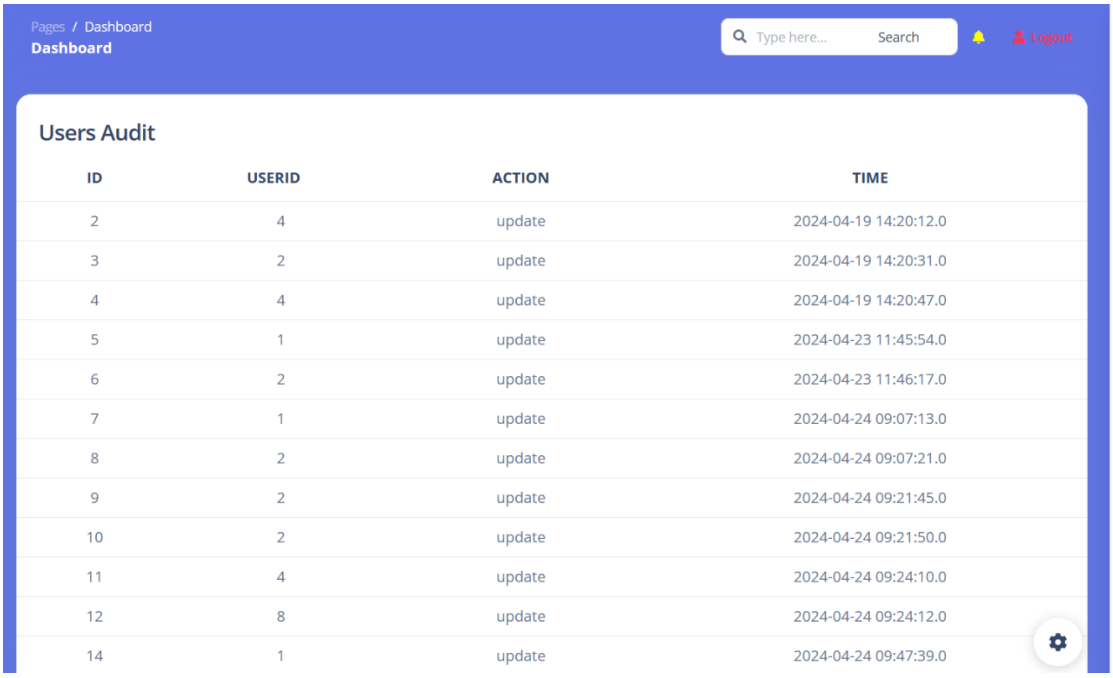
Purchase Orders Table



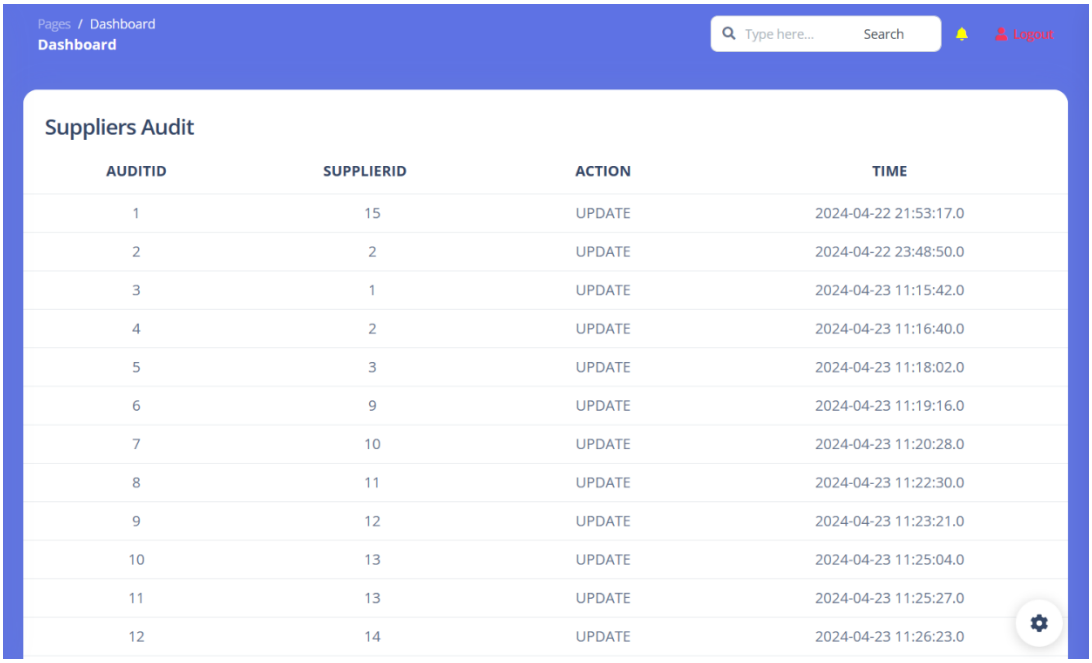
Search Purchase Orders



Users Audit Table

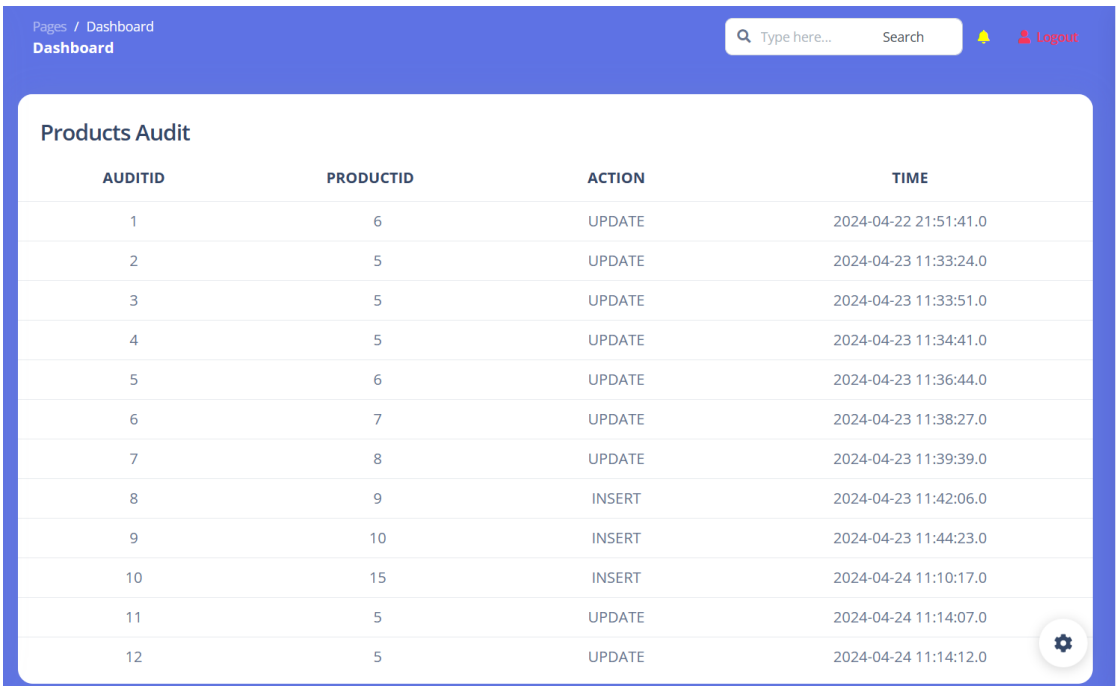


Suppliers Audit Table



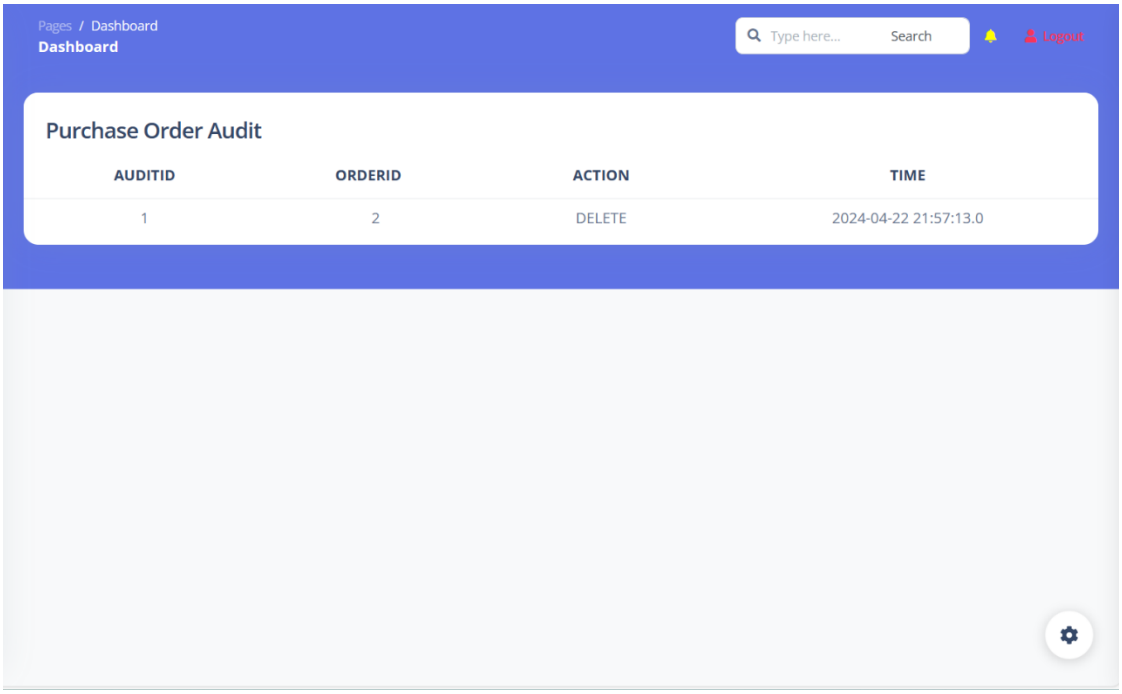
AUDITID	SUPPLIERID	ACTION	TIME
1	15	UPDATE	2024-04-22 21:53:17.0
2	2	UPDATE	2024-04-22 23:48:50.0
3	1	UPDATE	2024-04-23 11:15:42.0
4	2	UPDATE	2024-04-23 11:16:40.0
5	3	UPDATE	2024-04-23 11:18:02.0
6	9	UPDATE	2024-04-23 11:19:16.0
7	10	UPDATE	2024-04-23 11:20:28.0
8	11	UPDATE	2024-04-23 11:22:30.0
9	12	UPDATE	2024-04-23 11:23:21.0
10	13	UPDATE	2024-04-23 11:25:04.0
11	13	UPDATE	2024-04-23 11:25:27.0
12	14	UPDATE	2024-04-23 11:26:23.0

Products Audit Table



AUDITID	PRODUCTID	ACTION	TIME
1	6	UPDATE	2024-04-22 21:51:41.0
2	5	UPDATE	2024-04-23 11:33:24.0
3	5	UPDATE	2024-04-23 11:33:51.0
4	5	UPDATE	2024-04-23 11:34:41.0
5	6	UPDATE	2024-04-23 11:36:44.0
6	7	UPDATE	2024-04-23 11:38:27.0
7	8	UPDATE	2024-04-23 11:39:39.0
8	9	INSERT	2024-04-23 11:42:06.0
9	10	INSERT	2024-04-23 11:44:23.0
10	15	INSERT	2024-04-24 11:10:17.0
11	5	UPDATE	2024-04-24 11:14:07.0
12	5	UPDATE	2024-04-24 11:14:12.0

Purchase Order Audit Table



Reports

8. Security

- The system implements user authentication to ensure that only authorized users can access and manipulate supplier data.
- Passwords are securely stored using encryption techniques to protect user accounts from unauthorized access.

9. Future Enhancements

- Integration with third-party APIs for automatic supplier data retrieval.
- Advanced search and filtering options for efficiently managing large sets of supplier data.
- Role-based access control to provide different levels of access to users based on their roles within the organization.
- Notification

10. Conclusion

The Supplier Management System offers a robust solution for businesses or organizations to efficiently manage supplier information. With its user-friendly interface and comprehensive features, it simplifies the process of supplier management, contributing to improved productivity and decision-making.