Project Title: E-Commerce Platform

Project Description:

The **E-Commerce Platform** is a web-based application developed using **JSP (JavaServer Pages)** and **Servlets** to simulate a basic online store. The platform allows users to manage a catalog of products by adding, viewing, and deleting items. This project demonstrates core concepts of Java web development, including request handling, session management, and dynamic content generation, making it an ideal learning tool for beginners in Java-based web technologies.

Key Features:

1. **Add Products:**
   - Users can add new products by entering details such as name, price, and description through an intuitive form.
   - The product information is stored in a relational database (e.g., MySQL).
2. **View Product List:**
   - Displays a list of all available products in a table format.
   - Dynamic content rendering using JSP to fetch data from the database.

3. **Delete Products:**
   ○ Allows users to delete products from the catalog with a single click.
   ○ Updates the database in real-time to reflect changes.
4. **Session Management:**
   ○ Ensures secure and seamless user interactions across multiple requests.
5. **Dynamic Navigation:**
   ○ JSP dynamically generates the user interface to display updated product lists after add or delete operations.

Technology Stack:

- **Frontend:** HTML, CSS, JSP
- **Backend:** Java (Servlets)
- **Database:** MySQL (or any relational database)
- **Server:** Apache Tomcat
- **Development Tools:** Eclipse/IntelliJ IDEA

Flow of the Application:

1. **Home Page:**
   ○ Serves as the landing page with navigation links to add products or view the product list.
2. **Add Product Page:**
   ○ A form-based page where users input product details such as name, price, and description.
   ○ On submission, a POST request is sent to a servlet, which processes the data and updates the database.

3. **Product List Page:**
   - Fetches all product records from the database and displays them in a table using JSP.
   - Each product entry includes a "Delete" button.
4. **Delete Product Functionality:**
   - Clicking the "Delete" button triggers a servlet, which removes the corresponding product from the database.
   - The updated product list is rendered dynamically.

Example Use Case:

1. A user visits the platform and navigates to the **Add Product** page.
2. The user adds a product (e.g., "Smartphone" priced at $500).
3. The product is saved in the database and displayed in the **Product List** page.
4. If the product is no longer needed, the user clicks the "Delete" button next to the product, and it is removed from the database and the list.

Potential Enhancements:

- **Search Functionality:** Add a search bar to filter products by name or category.
- **Edit Feature:** Enable users to update product details.
- **Pagination:** Implement pagination to handle large product catalogs.
- **Authentication:** Add user login functionality for secure product management.

This project showcases foundational skills in **JSP and Servlet-based web development**, including form handling, database integration, and session management. It is a practical and scalable solution for small-scale e-commerce needs.

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