# User Documentation

Explanation of the Application

This application is for SpinTop Records, which is a Java console-based E-Commerce platform. This program simulates an online marketplace where users can register as buyers, sellers, or admins. Buyers can browse and search for vinyl records, sellers can list and manage their vinyl records, and admins can manage users and oversee the entire platform. The application uses a PostgreSQL database to store and manage user and product information securely.

Explanation of all the Classes and their Working

1. User

- Description: This is the base class for all types of users (buyers, sellers, and admins).

- Attributes: username, password, email, role

- Methods:

- register (): Registers a new user.

- login (): Verify a user based on username and password.

2. Buyer (inherits from User)

- Description: Is a buyer.

- Methods:

- browseProducts (): Allows buyers to browse the database.

- searchProduct (): Allows buyers to search in the database.

- viewProductDetails (): Allows sellers to view their listed products.

3. Seller (inherits from User)

- Description: Is a seller.

- Attributes: products

- Methods:

- addProduct (): Allows sellers to add a new product.

- updateProduct (): Allows sellers to update an existing product.

- deleteProduct (): Allows sellers to delete a product.

- listProducts (): Allows sellers to view their listed products.

4. Admin (inherits from User)

- Description: Is an admin.

- Methods:

- viewAllUsers (): Allows admins to view all registered users.

- deleteUser (): Allows admins to delete a user.

- viewAllProducts (): Allows admins to view all products in the system.

5. UserDAO

- Description: Data Access Object used to handle CRUD operations for users.

- Methods:

- registerUser (): Inserts a new user into the database.

- authenticateUser (): Verifies the user from the database.

- getAllUsers (): Retrieves all users from the database

- deleteUser (): Deletes a user from the database.

6. UserService

- Description: Provides services for user registration and authentication.

- Methods:

- registerUser (): Handles user registration.

- authenticateUser (): Handles user authentication.

- getAllUsers (): Retrieves all users from the database

- deleteUser(): Deletes a user from the database.

7. Product

- Description: Represents a product in the database.

- Attributes: product, name, price, quantity, sellerId

- Methods:

- updateDetails (): Updates product information.

8. ProductDAO

- Description: Data Access Object used to handle CRUD operations for users.

- Methods:

- createProduct (): Inserts a new product into the database.

- getProduct (): Gets a product from the database.

- getProductBySeller (): Gets a product by the sellerId.

- getAllProducts (): Gets all products.

- updateProduct (): Updates an existing product in the database.

- deleteProduct (): Deletes a product from the database.

9. ProductService

- Description: Provides services for product management.

- Methods:

- addProduct (): Adds a new product.

- viewProduct (): Views product information

- listSellerProducts (): Lists products by seller.

- listAllProducts (): Lists all products.

- modifyProduct (): Updates an existing product.

- deleteProduct (): Deleting a product.

Steps to Start the Application

* Click to the Repository:  You can find the repository on GitHub.com.
* Copy the Repository URL: Look for the "Clone" button on the repository page. Click on it to reveal the repository's URL.
* Clone the Repository: Use the git clone command followed by the URL you copied earlier.
* Set Up the Database: Run the provided SQL scripts in the “database” folder to create and populate the necessary tables.
* Compile the Project:
* In VSC, we built the project to compile the source code.
* Run the Application: Locate the main class (e.g. Main.java) and run the main class to start the application.
* Interact with the Application: The application will start in the console. Follow the on-screen prompts to register, log in, and perform various actions based on your role (buyer, seller, or admin).