PolyShop

USER GUIDE REPORT

Command-Line OSS

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1. Introduction

Welcome to the Online Shopping System (OSS), an innovative e-commerce platform that simplifies the online shopping experience for both users and administrators. With OSS, customers can enjoy the convenience of a user-friendly platform, making online shopping easy and enjoyable. Users have the flexibility to explore, search, and purchase a diverse range of products effortlessly through this modern system. OSS is designed to streamline the shopping process, ensuring a hassle-free and fun online experience for all users.

In OSS, the shopping journey is as intuitive as it is efficient. Users can easily navigate through the platform, search for products, and make purchases with ease. The system is crafted to offer a seamless experience. Whether you're looking for the latest trends or everyday essentials, OSS caters to a variety of needs, making the online shopping experience both convenient and enjoyable.

OSS provides a comprehensive product catalog with a variety of items. Users can explore products, the fundamental units of their shopping needs, or, collections of various products. OSS allows users to filter their searches based on specific conditions, ensuring a tailored and efficient shopping experience.

This user guide will walk you through the features of OSS, providing guidance on how to explore, search, and make the most of the platform as a user. Additionally, administrators will find valuable information on managing the system effectively. OSS empowers users and administrators alike to navigate, customize, and optimize the online shopping experience. Happy shopping with OSS!

2. Getting Started

Integrated Development Environment (IDE): IntelliJ Community Edition 2023.2.5
Java Development Kit (JDK): JDK17.0.4 version

Before starting with OSS, it's important to have the IntelliJ IDE installed on your computer, as OSS runs in this environment. If you haven't already installed IntelliJ, please follow the steps below:

1. Visit the official JetBrains website at https://www.jetbrains.com/idea/download/.
2. Choose the version suitable for your operating system (Windows, macOS, or Linux).
3. Download either the Ultimate (paid, with a free trial) or the Community (free) version, depending on your needs.
4. Once the download is complete, install IntelliJ IDEA by following the on-screen instructions.

After you have successfully installed IntelliJ, you'll be ready to start using OSS.

Extracting the OSS Project
1. Locate the downloaded OSS project zip file on your computer.
2. Right-click on the zip file and select "Extract All..." (Windows) or double-click the zip file (macOS/Linux).
3. Choose a location on your computer where you want to extract the OSS project folder. Make sure it's a location that you can easily access, such as your Desktop or Documents folder.

Opening the OSS Project in IntelliJ
1. Open IntelliJ IDEA.

2. On the IntelliJ welcome screen, click on "Open".

3. Navigate to the location where you extracted the OSS project folder.

4. Select the OSS project folder and click "OK". IntelliJ IDEA will now load the OSS project.

Navigating to the "Source Code" Directory

1. In IntelliJ IDEA, with the OSS project open, you'll see the project explorer on the left side. This displays a tree structure of the project files and directories.

2. Click the arrow next to the OSS project name to expand the project directories.

3. Navigate through the directories by clicking the arrows beside each directory name. Follow the path to the "Source Code" directory.
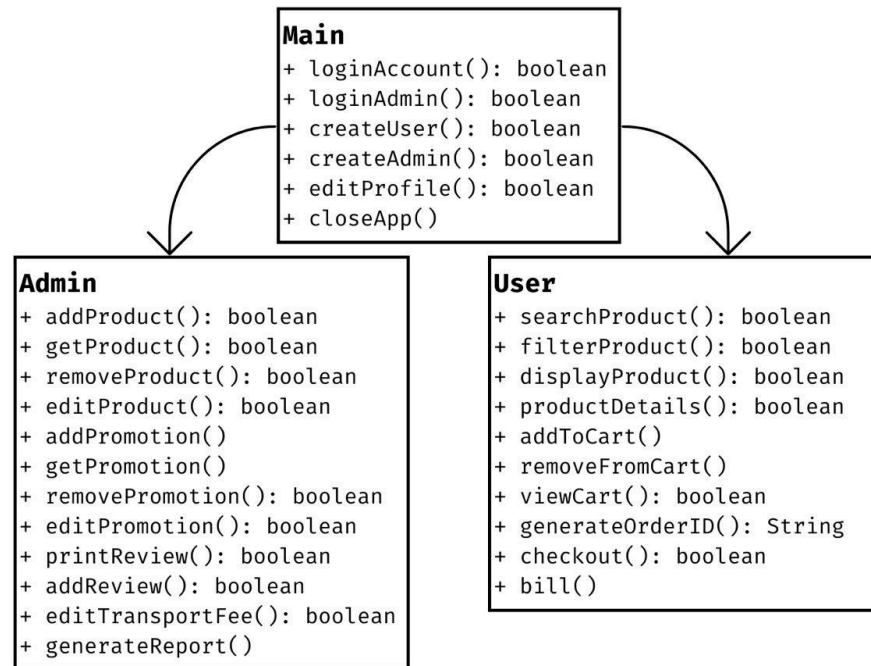
Running the Application Java File

1. Inside the "Source Code" directory, locate the Application.java file. This is the main entry point for your OSS application.

2. Click on the Application.java file to open it in the editor.

3. Look towards the top right of the IntelliJ IDEA interface, and you'll see a green "Run" button (represented by a green play icon). Click on this button.

4. IntelliJ IDEA will then compile and run the application.

IntelliJ IDEA will open a Run window at the bottom of the IDE, displaying the output of the program. If the application starts successfully, you will see a message indicating that the application is running.

3. System Design

```
Main
+ loginAccount(): boolean
+ loginAdmin(): boolean
+ createUser(): boolean
+ createAdmin(): boolean
+ editProfile(): boolean
+ closeApp()
```

```
Admin
+ addProduct(): boolean
+ getProduct(): boolean
+ removeProduct(): boolean
+ editProduct(): boolean
+ addPromotion()
+ getPromotion()
+ removePromotion(): boolean
+ editPromotion(): boolean
+ printReview(): boolean
+ addReview(): boolean
+ editTransportFee(): boolean
+ generateReport()
```

```
User
+ searchProduct(): boolean
+ filterProduct(): boolean
+ displayProduct(): boolean
+ productDetails(): boolean
+ addToCart()
+ removeFromCart()
+ viewCart(): boolean
+ generateOrderID(): String
+ checkout(): boolean
+ bill()
```

The picture above illustrates the diagram of our online shopping system. We have three components as the main structure of our project:

1. **Main**
   The Main represents a section with methods to enter the system. It is the checkpoint for users to perform operations in the system. It has the following:
   - public boolean loginUser() → performs login operation for user(s)
   - public boolean loginAdmin() → performs login operation for admin(s)
   - public boolean createUser() → creates a new account for user(s)
   - public boolean createAdmin() → creates a new account for admin(s)
   - Public boolean editProfile() → edits a profile of an existing account

2. **User**
   The User represents a section with methods to handle products. It is the starting front page for users to perform operations in the system. It has the following:
   - public boolean searchProduct() → searches product(s) using a keyword
   - public boolean filterProduct() → fitlers product(s) based on some criteria
   - public boolean displayProduct() → displays all existing product(s)
   - public void addToCart() → adds product(s) to the cart
   - public void removeFromCart() → removes product(s) from the cart

- public boolean viewCart() → displays all existing product(s) in the cart
- public String generateOrderID() → generates a unique orderID
- public String checkout() → checks out the current product(s) in the cart
- public void bill() → generates the product(s) purchased

3. **Admin**

   The Admin represents a section with methods to handle products. It is the starting front page for admins to perform operations in the system. It has the following:
   - public boolean addProduct() → adds new product(s) to OSS.
   - public boolean getProduct() → retrieves information about product(s) from OSS.
   - public boolean removeProduct() → removes product(s) from OSS.
   - public boolean editProduct() → modifies details of existing product(s) in OSS.
   - public void addPromotion() → introduces promotional offers or discounts for product(s)
   - public void getPromotion() → retrieves information about existing promotions in OSS.
   - public boolean removePromotion → removes promotional offers or discounts from OSS.
   - public boolean editPromotion → modifies details of existing promotions in OSS.
   - public boolean printReview() → displays reviews for product(s) in OSS.
   - public boolean addReview() → allows the addition of reviews for products in OSS.
   - public boolean editTransportFee() → modifies product delivery fees.
   - public void generateReport() → generates reports on product sales and promotions.

4. Commands

This guide provides detailed instructions on how to use each command, including its purpose, syntax, parameters, and examples. If you wish to test the PolyShop, you can input the examples provided for each command into the designated black box.

Welcome Page Options

1. Login (Option 1)

Users are prompted to choose between creating a user (u) or an admin (a) account. Following their selection, individuals are required to input valid credentials. Upon a successful login, the system designates the user type accordingly (u for user, a for admin). Both users and admins are granted a maximum of three login attempts. If three unsuccessful attempts occur, the application executes a termination process. Users are provided with pertinent feedback after each login attempt, aiding in the interaction and ensuring a smooth authentication process.

Step-by-step instructions

1.1 User Login
- Choose option 1.
- Enter "u" for a regular user
- Provide valid credentials (User-Name and Password) to log in.
- Once logged in the application will show a message "Welcome to PolyShop, an online-friendly shopping system".

1.2 Admin Login
- Choose option 1.
- Enter "a" for an admin.
- Provide valid admin credentials (User-Name and Password) to log in.
- Once logged in the application will show a message "Successfully logged into PolyShop Adminstrator System".

2. Create Account (Option 2)

Individuals are prompted to select the account type they wish to create—either a user (u) or an admin (a) account. Upon making their choice, the system guides users through the collection of necessary information to set up the account. Required details include First Name, Last Name, Date of Birth (formatted as YYYY-MM-DD), Email, Address, Phone Number, and Password. This thorough set of information ensures the accurate and secure creation of the account, tailoring the process to meet the specific needs of users and administrators alike.

3. Close App (Option 0)

This command is used to terminate the current execution of the Online Shopping System (OSS).

Main Menu Options for Administrator

1. Product Management (Option 1)

Administrators have the capability to perform various operations related to product management, including adding, removing, or editing products. The system ensures users receive feedback on the success or failure of each operation.

Sub-menu for product-related with step-by-step instructions:

1.1 Add a Product (Option 1)

- Introduces a new product to the system. It takes product name, brand, description, category, price, weight, dimension, and quantity

1.2 Remove a Product (Option 2)

1.2.1 Enter Product Name:

- To begin the removal process, users input the name of the product they wish to Remove.

1.2.2 Display Product Details:

- The program then prints out a detailed list containing essential information such as brand, description, category, price, weight, dimension, and quantity for the specified product.

1.2.3 Confirmation Prompt:

- Users are then prompted to re-enter the product name to confirm the deletion.

1.3 Edit a Product (Option 3)

1.3.1 Enter Product Name:

- Users initiate the editing process by entering the name of the product they intend to modify.

1.3.2 Selection Criterion Number:

- Users must choose the specific criterion they wish to edit by selecting a number from the following options:
- ProductID, PromotionID, Name, Brand, Category, Description, Price, DiscountPrice, Weight, Dimension, Stock_Qty, Units_Sold, Cancel

1.3.3 Confirmation Prompt:

- Users receive a prompt to re-enter the product name, providing an additional layer of confirmation.

1.3.4 Enter New Value:

- Users input the new value for the specified criterion.

1.3.5 Successful Task Message:

- Upon successful completion of the editing task, a message is delivered, indicating "Successfully edited product.

1.4 Display All Products (Option 4)

Generates a comprehensive list of all products within PolyShop, providing administrators with an overview of available items and their details. This feature allows for efficient product management.

Sub-menu for Display All Products with Step-by-Step Instructions:

1.4.1 Product Details (Option 1):

- Input the product number to retrieve detailed information, including Product Name, Price, Stock, Description, Dimensions, Brand, and Category.

1.4.2 Add to Cart (Option 1):

- Administrators can access a comprehensive product list, facilitating a review of product details and the ability to manage quantities in the shopping cart.
- Upon successful addition, the system generates an automated confirmation message: "The product 'Product name' has been successfully added to the cart."

1.4.3 Check Reviews (Option 2):
- Admins can view User ID, Comments, and ratings provided by users for various products.

1.4.4 Add a Review (Option 3):
- Enables administrators to submit reviews for products in PolyShop.
- Admins can provide comments and ratings, contributing to the feedback system.

1.4.5 Back (Option 0):
- Returns administrators to the main menu for seamless navigation.

1.5 Filter Products (Option 5)

PolyShop elevates the administrative experience by incorporating a robust filtering feature, enabling administrators to efficiently manage and organize products. Administrators can utilize specific filters, such as category, brand, and price range, to streamline their search for products within the system. The system provides dedicated prompts for each filtering criterion, empowering administrators to precisely define their preferences. Whether searching by category, brand, or a specified price range (min-max), administrators can effortlessly tailor their search criteria to oversee and optimize product management. Following their selections, the system generates a curated list based on the applied filters, enhancing the efficiency of administrative tasks related to product oversight and organization.

1.6 Search Products (Option 6)

PolyShop optimizes the product search process for administrators by prompting them to input keywords for specific items. Once the keywords are provided, the system efficiently scans its database to identify the closest matches. Subsequently, it compiles and presents a list of the most relevant products, streamlining the administrator's ability

to find specific items with ease. This keyword-based search mechanism ensures a rapid and precise product discovery experience within the PolyShop system, enhancing the efficiency of administrative tasks related to product management and oversight.

1.7 Back (Option 0)

Returns users to the main menu.

2. Report Management (Option 2)

Administrators possess the capability to generate reports within the PolyShop system. These reports provide comprehensive insights and information related to the products in terms of the PolyShop platform.

Sub-menu for report-related with step-by-step instructions:

2.1 Sales Report (Option 1)

1. Descending order by view times
2. Ascending order by view times
3. Descending order by sales volume
4. Ascending order by sales volume

- Displays a detailed sales report based on the purchase history, allowing you to choose the order of presentation.

2.2 Promotion Report (Option 2)

- Prints out a comprehensive promotion history report generated in the OSS (Online Shopping System).

2.3 Cancel (Option 0)

- Returns users to the main menu.

3. Promotion Management (Option 3)

Administrators can perform various actions related to promotions, including adding, removing, editing, or searching for promotions.

Sub-menu for promotion-related with step-by-step instructions:

3.1 Add a Promotion (Option 1)

- Introduces a new product to the system. It takes promotion ID, Discount rate, Start date, and End date.

3.2 Remove a Product (Option 2)

3.2.1 Enter Promotion ID:

- To begin the removal process, users input the promotion ID they wish to Remove.

3.2.2 Display Promotion Details:

- The program then prints out a detailed list containing essential information such as promotion ID, Discount rate, Start date, and End date specified promotion.

3.2.3 Confirmation Prompt:

- Users are then prompted to re-enter the promotion ID to confirm the deletion.

3.3 Edit a Promotion (Option 3)

3.3.1 Enter Promotion Name:

- Users initiate the editing process by entering the ID of the promotion they intend to modify.

3.3.2 Selection Criterion Number:

- Users must choose the specific criterion they wish to edit by selecting a number from the following options:
- DiscountRate, StartDate,EndDate,Cancel

3.3.3 Confirmation Prompt:

- Users receive a prompt to re-enter the promotion ID, providing an additional layer of confirmation.

3.3.4 Enter New Value:

- Users input the new value for the specified criterion.

3.4 Search Promotion (Option 4)

- Initiates a search for a specific promotion by prompting the user to input the promotion ID. Once provided, the program prints out the promotion details, including Promotion ID, Discount Rate, Start Date, and End Date.

3.5 Back (Option 0)

- Returns users to the main menu.

4. Transportation Management (Option 4)

This module is dedicated to overseeing transportation fees, providing choices for both basic and express services. To update the fee amount, enter the new value, and the system will generate an automated response confirming, "Fee update successful."

5. Log Out (Option 0)

Choosing this option logs you out, exiting from the current menu and directing you back to the welcome page of the system (OSS).

Main Menu Options for User

1. Display All Products (Option 1)

Prints out a comprehensive list of all products available in PolyShop, allowing users to review the product details and seamlessly add them to their shopping cart for checkout.

Sub-menu for Display all product with step-by-step instructions:

1.1 Product Details (Option 1)

- Input the product number and the program will print out the details regarding the product in terms of Product name, Price, Stock, Description, Dimensions, Brand, and Category.

Sub-menu for Product Details with step-by-step instructions:

1.1.1 Add to Cart (Option 1):

- Displays a comprehensive list of all products available in PolyShop, enabling users to review product details.

- Users can effortlessly add desired quantities of chosen products to their shopping cart.
- Upon successful addition, the system generates an automated message confirming, "The product 'Product name' has been successfully added to the cart."

1.1.2 Check Review (Option 2):
- Prints out User ID, Comments, and ratings given to products by users.

1.1.3 Add a Review (Option 3):
- Allows users to submit reviews for available products in PolyShop.
- Requires users to provide comments and ratings related to the product.

1.1.4 Back (Option 0):
- Returns users to the main menu.

1.2 Checkout Cart (Option 2)
- PolyShop provides a user-friendly approach to finalize purchases.The system initially displays the items in the cart for users to review.
- Users have the option to choose between basic or express delivery.
- Users can specify their preferred payment method, selecting from options such as credit card or cash on delivery.
- After the payment method is selected, users are prompted to input their address by choosing the corresponding number from the available records.
- This integrated process ensures a smooth and efficient checkout experience in PolyShop.

1.2.1 Back (Option 0):
- Returns users to the main menu.

2. Filter Products (Option 2)

PolyShop facilitates an enhanced user experience by offering a filtering feature, allowing users to locate specific products with precision. Users can employ distinct filters such as category, brand, and price range to refine their search. The system presents separate

prompts for each filtering criterion, enabling users to specify preferences. Whether by category, brand, or a defined price range (min-max), users can effortlessly tailor their search criteria. Following the user's selections, the system generates a curated list based on the applied filters, streamlining the product discovery process.

3. Search Products (Option 3)

PolyShop streamlines the product search process by prompting users to input keywords for the desired items. Once the keywords are provided, the system efficiently scans its database to identify the closest matches. Subsequently, it compiles and presents a list of the most relevant products, enhancing the user's ability to find specific items with ease. This keyword-based search mechanism ensures a quick and accurate product discovery experience within the PolyShop system.

4. View Cart (Option 4)

PolyShop empowers users by providing a convenient option to review the contents of their shopping carts. Users can easily access a detailed product list within their carts, featuring essential information such as Product ID, Product name, Quantity, Price, and Total price for each item. After perusing the cart details, PolyShop prompts users with the option to proceed to checkout. This user-centric approach ensures transparency and facilitates a seamless shopping experience, allowing users to manage their selections and initiate the checkout process with ease.

5. Edit Profile (Option 5)

PolyShop empowers users with the ability to seamlessly customize their profiles. This versatile feature encompasses options to modify the email address, update the password, and conveniently add new addresses. Users can effortlessly tailor their account details to suit their preferences and ensure an enhanced and personalized shopping experience within the PolyShop platform.

Sub-menu for Edit Profile with step-by-step instructions:

5.1 Change Email Address (Option 1):

- Displays the current email associated with the user account and prompts the user to confirm whether they want to make changes.
- If yes, the system requests the user to input the new email address twice for confirmation within the database system.
- If no, the system seamlessly returns to the main menu.

5.2 Change Password (Option 2):

- Initiates the process by displaying a warning message emphasizing the irreversibility of password changes. Subsequently, it asks the user if they want to change the password.
- If yes, the system requests the current password followed by the entry of the new password twice for secure validation and storage in the database.
- If no, the system seamlessly returns to the main menu.

5.3 Add Address (Option 3):

- Exhibits a comprehensive list of previous addresses linked to the user's ID and asks the user if they want to add more addresses.
- If yes, the system guides the user through the input of the new address twice for secure storage in the database.
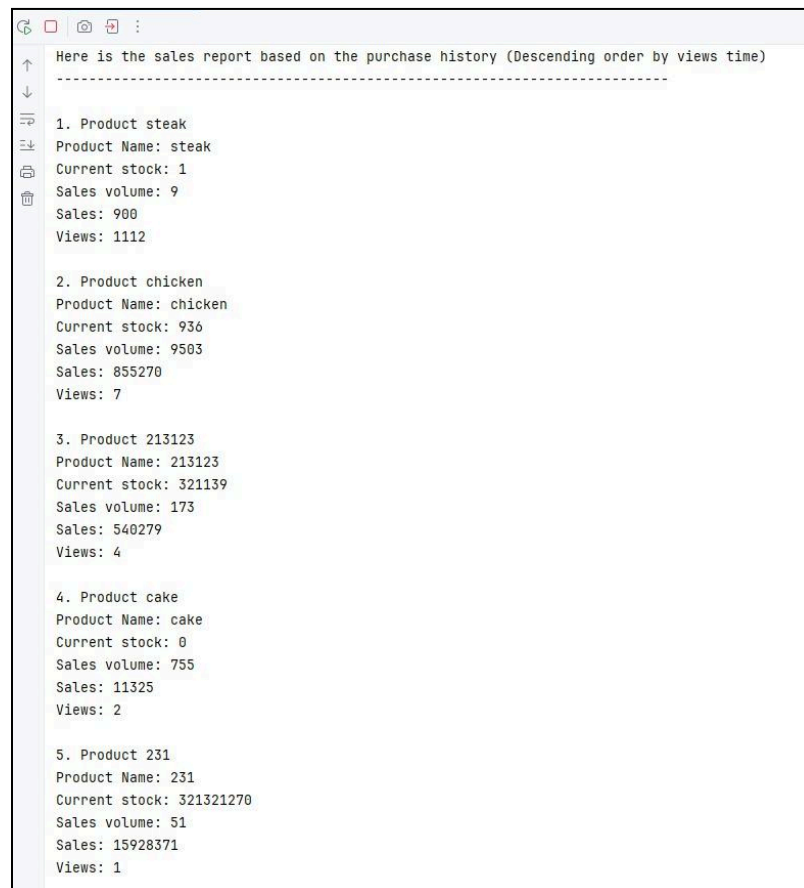- If no, the system seamlessly returns to the main menu.

5.4 Back (Option 0):

- Returns users to the main menu.

6. Log Out (Option 0)

Choosing this option logs you out, exiting from the current menu and directing you back to the welcome page of the system (OSS)

5. Analysis Report

In the context of PolyShop OSS, we integrated an Analysis Report feature that not only timestamps the report creation but also conducts an in-depth analysis. This includes an overview of the total number of products, the overall sales volume, and identification of the most and least popular products based on various sorting criteria. The aim is to highlight popular items and those that may require special attention due to being less popular, using different sorting methods. Additionally, our system allows for the identification of the most rented product, associating it with its unique product ID. This information aids in assessing potential revenue loss and guides Admins in prioritizing inventory management. *(Can refer to Main menu options for administrator (2. Report management))*

```
Here is the sales report based on the purchase history (Descending order by views time)
--------------------------------------------------------------------

1. Product steak
Product Name: steak
Current stock: 1
Sales volume: 9
Sales: 900
Views: 1112

2. Product chicken
Product Name: chicken
Current stock: 936
Sales volume: 9503
Sales: 855270
Views: 7

3. Product 213123
Product Name: 213123
Current stock: 321139
Sales volume: 173
Sales: 540279
Views: 4

4. Product cake
Product Name: cake
Current stock: 0
Sales volume: 755
Sales: 11325
Views: 2

5. Product 231
Product Name: 231
Current stock: 321321270
Sales volume: 51
Sales: 15928371
Views: 1
```

Sales Report Based On Purchase History

The PolyShop-generated Analysis Report offers a detailed sales analysis derived from purchase history, arranged in descending order of viewing time. It provides vital information, including product details, names, current availability, sales volume, total sales, and view counts for each product. This data empowers administrators to make well-informed decisions, enabling them to adjust stock levels based on products with higher views and sales. This, in turn, optimizes resource allocation strategies for enhanced operational efficiency.

```
Promotion history report
========================================================

PromotionID: 000001a
Promoted Product Name: chicken
Discount rate: 20.0%
StartDate: 2023-12-01 00:00:00
EndDate: 2023-12-03 00:00:00
Current stock of the promoted product: 936
Quantity sold of that promoted product: 9503
```

Promotion History Report

PolyShop Analysis Report provides a comprehensive overview of promotion history, delivering key details such as Promotion ID, Promoted Product Name, Discount Rate, Start Date, End Date, Current stock of the promoted product, and the quantity sold during the promotional period. By illuminating the relationship between products and promotions and assessing the success of promotions in driving sales, this report empowers administrators with valuable insights for strategic decision-making. It enables administrators to evaluate the effectiveness of individual promotions, comprehend their impact on product sales, and facilitates the optimization of future promotional strategies

6. Troubleshooting

1. Invalid User Input:

Ensure that users are providing valid input when interacting with the system. Check for proper validation and error handling mechanisms to guide users in case of incorrect inputs.

2. Database Connection Issues:

PolyShop relies on a database, check the connection parameters, credentials, and database status. Connection errors may lead to issues in retrieving or storing data.

3. Product Availability and Pricing:

Verify that products are correctly listed in the database with accurate pricing information. Ensure that changes in product details are reflected accurately in the system.

4. Shopping Cart Problems:

Investigate any issues related to the shopping cart, such as incorrect calculations, missing items, or difficulties in adding/removing products. Check the cart's data management and synchronization with the database.

5. Promotion Application:

If promotions are part of the system, confirm that they are applied correctly during the checkout process. Ensure that promotion details are accurate and up-to-date.

6. Order Processing and Payment:

Verify the order processing and payment functionalities. Check for proper integration with payment gateways and confirm that orders are recorded accurately in the system.

7. Security Concerns:

Assess the system for potential security vulnerabilities. Ensure that user data, especially sensitive information like payment details, is handled securely and that the system is protected against common security threats.

8. User Authentication and Authorization:

Confirm that user authentication and authorization mechanisms are functioning correctly. Users should only have access to functionalities they are authorized to use.

7. Additional

Documentation & References

Java Documentation → Comprehensive resource for all things Java. You can find detailed explanations and usage examples for most classes and methods. Visit Java Documentation

Stack Overflow → A community-driven platform where developers can ask questions and share their programming knowledge. Use the search function to find previous questions and solutions about Java. Visit Stack Overflow

FAQs & Support

For specific issues related to the Online Shopping System, you can reach out to our technical support team.

Call us at or email us at:

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