

MAKE AN E-COMMERCE WEBSITE FOR SPORTY SHOES

Course-end Project 1

Specification Document: Making an E-commerce Website for Sporty Shoes, sportyshoes.com.

Project and Developer Details

Project Name: E-commerce Website for Sporty Shoes.

Developer: Mr Innocent Malwane.

Contact Information:

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Sprints and Task Achievements

Sprint 1: Setting the Foundations

Duration: 2 Weeks

Tasks:

1. Requirement Gathering & Specification Document

- Create a detailed specification document outlining all required features and user interactions.

2. Frontend Setup

- Set up the basic UI structure, including the homepage, product display page, and user authentication interfaces.

3. Backend Skeleton

- Implement basic backend functionality for user authentication and session management.

4. Database Schema Design

- Define the structure of the database, including tables for users, products, categories, and admin details.

5. GitHub Repository Setup

- Create a repository, initialize with basic project structure, and ensure proper version control.

Sprint Goal:

Establish the groundwork for both frontend and backend, with a clear understanding of the requirements and initial setup.

Sprint 2: Functional Development

Duration: 3 Weeks

Tasks:

1. User Authentication & Registration

- Implement secure user sign-up, login, and authentication.

2. Product Management Module

- Enable CRUD operations for adding, updating, and deleting products. Implement product categorization.

3. Admin Dashboard Setup

- Create a separate admin login and develop features for product and user management.

4. User Listing & Search

- Allow admins to view and search through the list of registered users.

Sprint Goal:

Have a functional system that allows users to register, log in, and interact with basic product management features. Provide the admin dashboard for managing products and users.

Sprint 3: Advanced Features & Refinement

Duration: 4 Weeks

Tasks:

1. Enhanced UI/UX

- Refine the frontend design, ensuring a more user-friendly and responsive interface.

2. Purchase Reports

- Develop the functionality for generating purchase reports filtered by date and category.

3. Password Change for Admin

- Allow the admin to change their password securely.

4. Testing & Debugging

- Conduct thorough testing, ensuring all features work smoothly and handling potential bugs or issues.

5. Documentation & Presentation Preparation

- Document the entire process and prepare for the stakeholder presentation.

Sprint Goal:

Complete the application with all basic and advanced features implemented, thoroughly tested, and ready for presentation to stakeholders.

Algorithms and Flowcharts

ALGORITHM FOR CREATING AN E-COMMERCE WEBSITE FOR SPORTY SHOES.

1. Requirement Gathering

- Gather detailed requirements for the e-commerce application, including user stories, features, and functionalities.

2. Specification Document

- Create a comprehensive document outlining the product's capabilities, appearance, and user interactions.

3. Technology Stack Selection

- Choose the technology stack: Frontend (HTML, CSS, JavaScript, possibly React or Angular), Backend (Java with frameworks like Spring), and Database (SQL).

4. Database Design

- Design the database schema to store product information, user details, purchase history, and admin credentials.

5. Setting Up GitHub Repository

- Create a GitHub repository for version control and collaborative development.

6. Frontend Development

- Start with basic UI development: create the homepage, product display pages, and user authentication interfaces.
- Implement responsive design and user-friendly interfaces.

7. Backend Development

- Implement user authentication and registration functionalities.
- Develop product management modules for CRUD operations (Create, Read, Update, Delete) for products and categories.
- Implement an admin dashboard for managing products and user data.
- Ensure secure handling of admin features and password change functionalities.

8. Integration: Frontend and Backend

- Connect frontend interfaces with backend functionalities using APIs or service integration.

9. Advanced Feature Implementation

- Develop purchase report generation functionality based on date and category.
- Enhance security measures and user experiences.

10. Testing and Debugging

- Conduct extensive testing, including unit tests, integration tests, and user acceptance tests.
- Debug and resolve any issues or bugs identified during testing.

11. Documentation

- Document the entire development process, including architecture, technologies used, and how to operate the application.

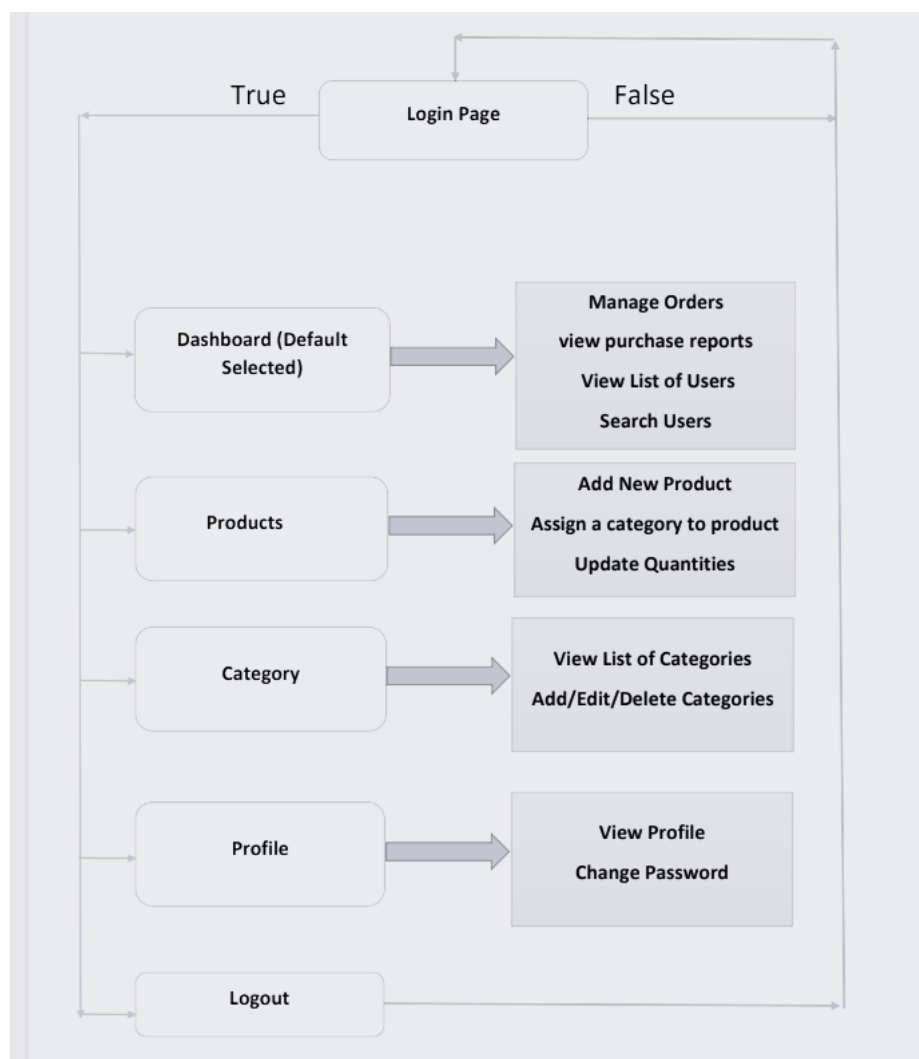
12. Stakeholder Presentation Preparation

- Prepare for the presentation by organizing documentation and showcasing the working application or prototype.

13. Deployment

- Deploy the application on a server or a hosting platform for users to access.

Flowchart of the Application



Core Concepts Used

User Authentication and Authorization:

- User Registration/Login: Allowing users to sign up and log in securely to access personalized features and make purchases.
- Session Management: Managing user sessions for security and user convenience.

Product Management:

- CRUD Operations: Creating, reading, updating, and deleting products in the inventory.
- Categorization: Grouping products into categories for easier browsing.

Admin Functionality:

- Admin Dashboard: A separate interface for administrators to manage products, user data, and view reports.
- Privileged Access: Different levels of access control, allowing admins to perform specific tasks.

Database Interaction:

- Database Connectivity: Using JDBC or an ORM (Object-Relational Mapping) to interact with the database to store and retrieve product details, user information, and purchase history.

Security Measures:

- Password Management: Secure handling of user and admin passwords, including password hashing and encryption.
- Secure Transactions: Ensuring secure and encrypted transactions for user purchases.

Reporting and Analytics:

- Purchase Reports: Generating reports based on purchase history, filtered by date and product categories.
- Analytics for Admins: Providing insights into user behavior and sales data.

Frontend and UI/UX:

- Responsive Design: Creating a user-friendly interface that works well across devices.
- User Interactions: Implementing intuitive interfaces for easy navigation and efficient browsing.

Version Control and Collaboration:

- Git and GitHub: Using version control to track changes, collaborate with team members, and maintain the codebase.

Documentation and Presentation:

- Documentation: Keeping track of the development process, architecture, and technologies used.
- Stakeholder Presentation: Preparing a clear demonstration for stakeholders to understand the application's capabilities.

GitHub Repository

You can verify the project completion by visiting the GitHub repository:

[GitHub Repository] [<https://github.com/Dodge4k/Ecommerce-Website---project-3.git>]

Application Source Code

All Source code files are in the GitHub Repo. Inclusion of the files will make this Specification Doc too long

Start of code (Login Page)

```
package com.project.sportyshoes;
```

```
import org.springframework.boot.SpringApplication;
```

```
import org.springframework.boot.autoconfigure.SpringBootApplication;
```

@SpringBootApplication

```
public class SportyshoesApplication {
```

```
    public static void main(String[] args) {
```

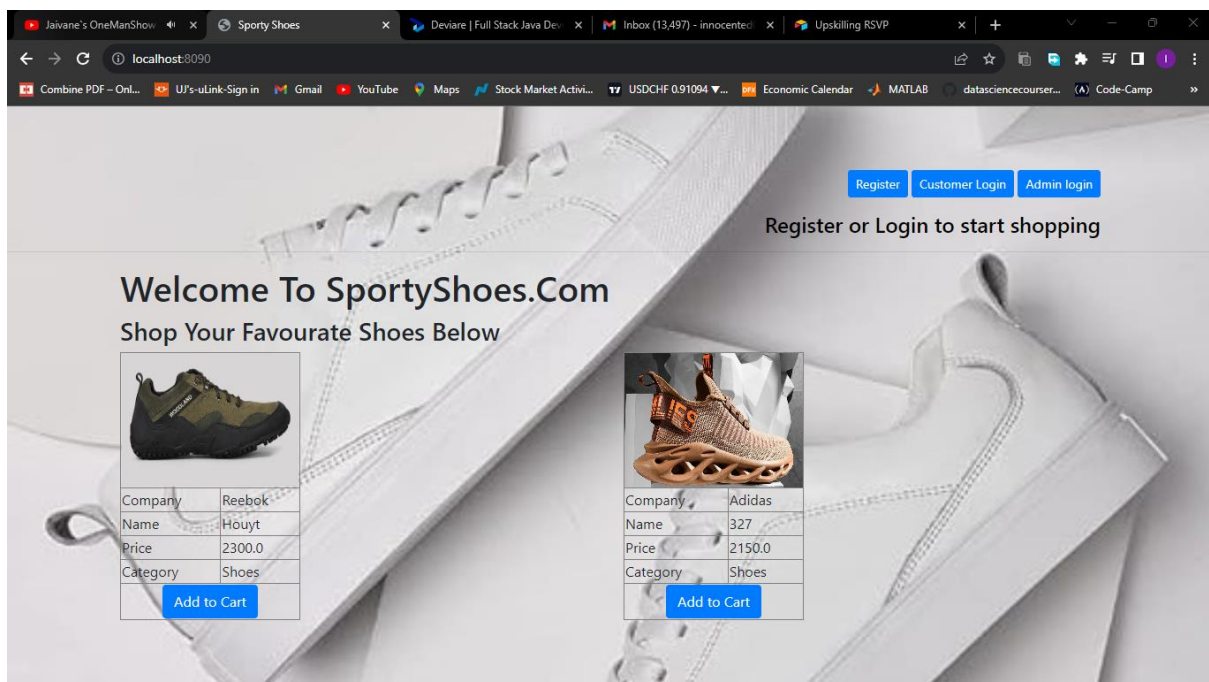
```
        SpringApplication.run(SportyshoesApplication.class, args);
```

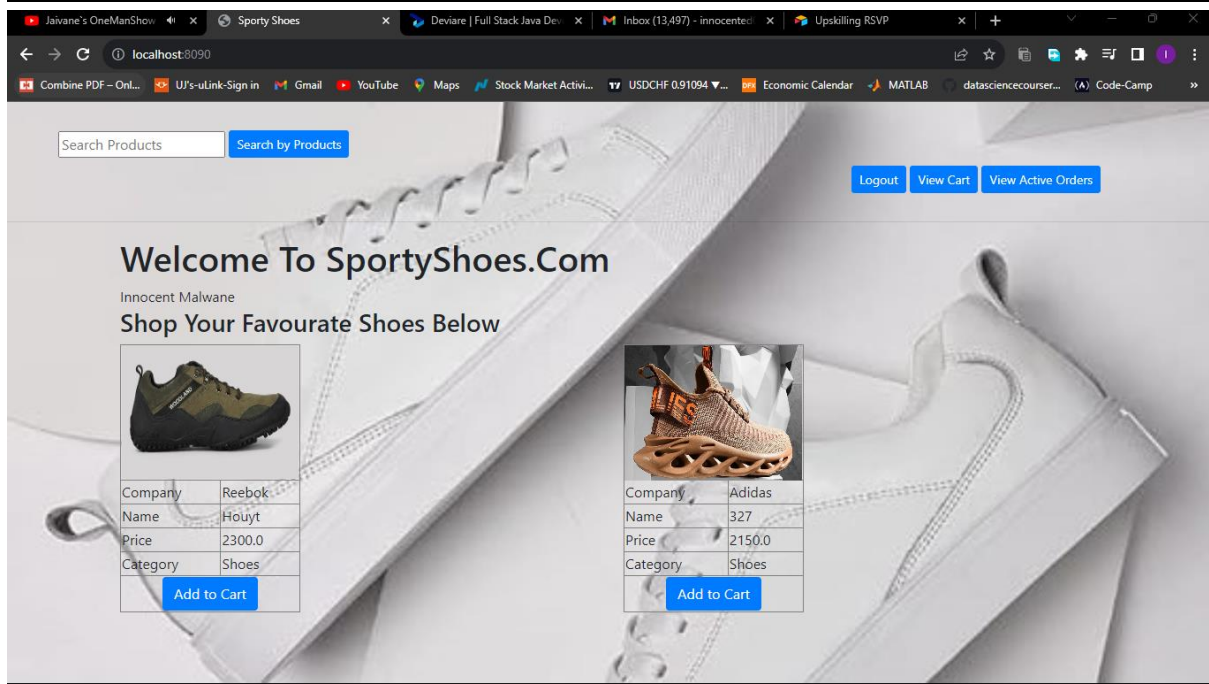
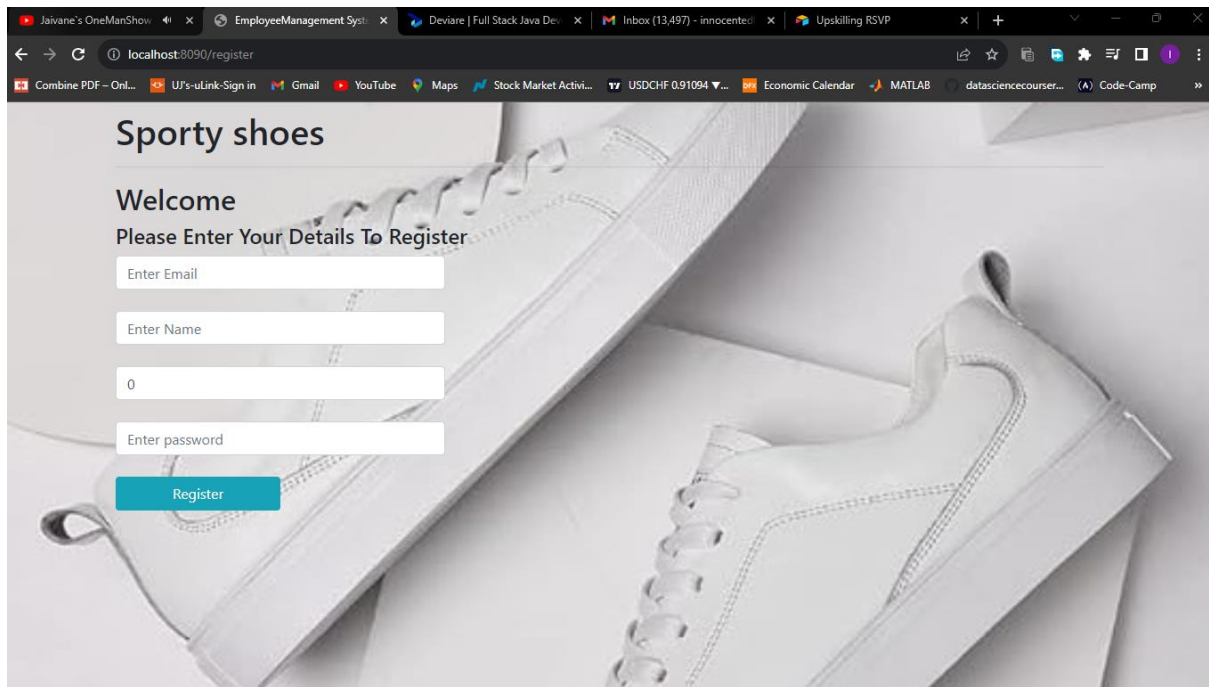
```
    }
```

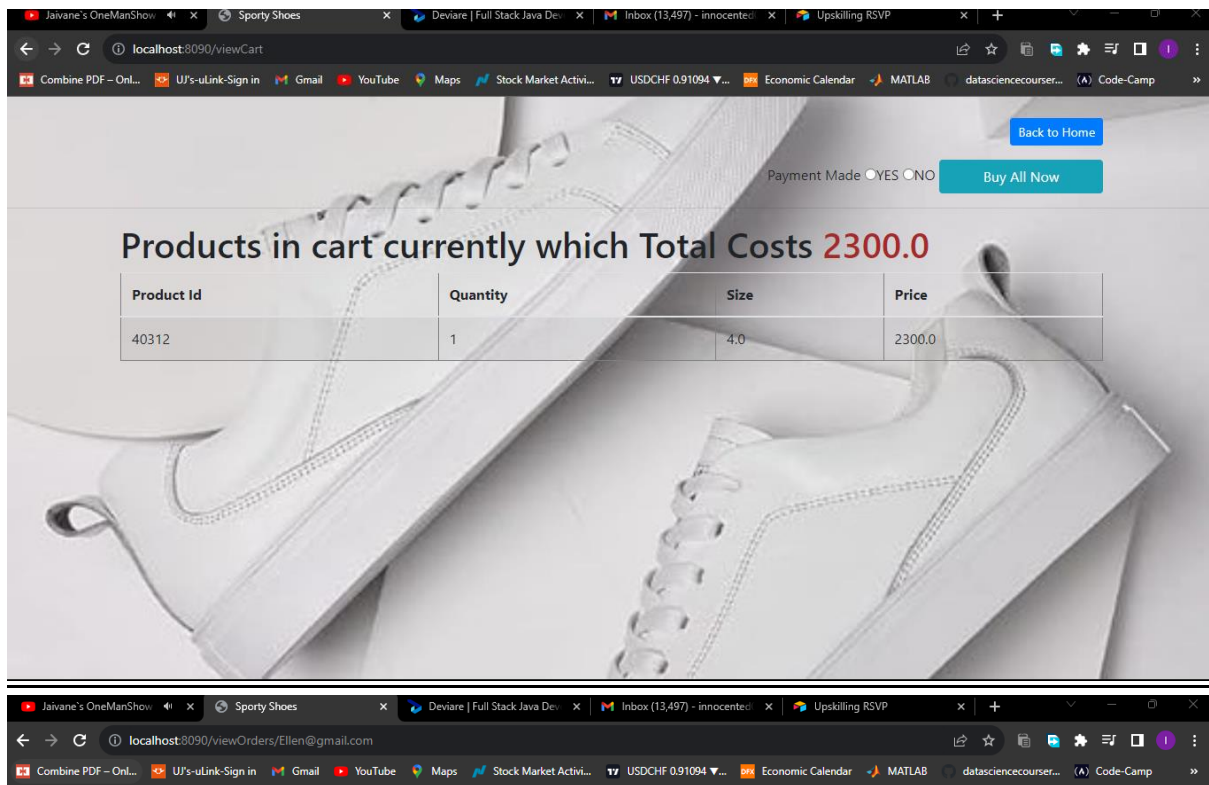
```
}
```

End of code

Screenshots of the application in action

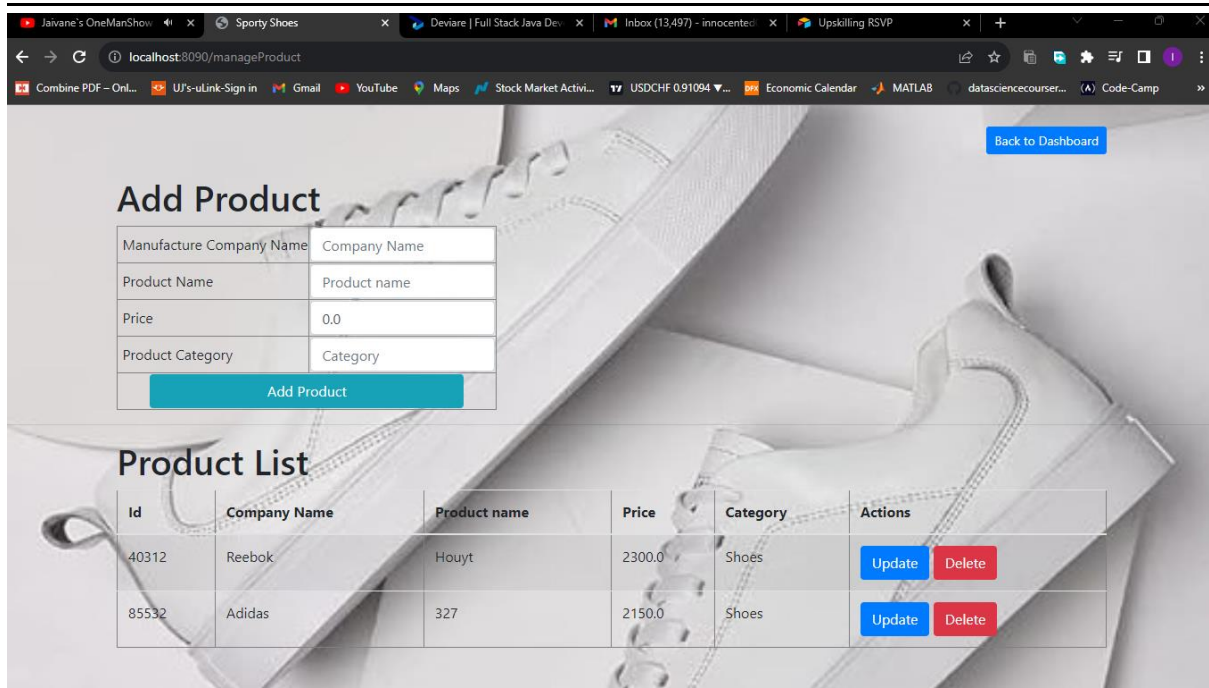
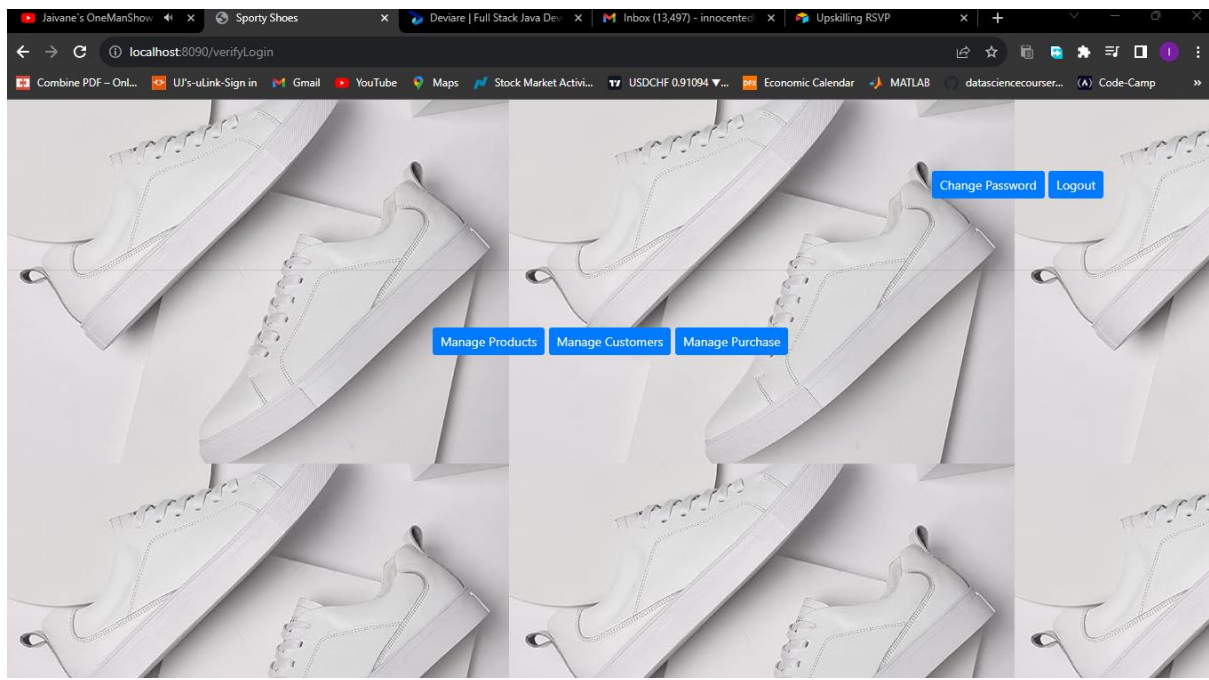






Currently Active Orders

Id	Product Id	Purchase Date	Size	Quantity	Total Cost	Ordered By	Customer Name
158496	85532	2023-11-08	0.0	1	2150.0	Ellen@gmail.com	Ellen
475544	51776	2023-11-08	0.0	1	2500.0	Ellen@gmail.com	Ellen
650452	61568	2023-11-08	0.0	5	26275.0	Ellen@gmail.com	Ellen



Search customer

Customer List

Email	Name	Contact	Actions	
Ellen@gmail.com	Ellen	781524273	<input type="button" value="Delete"/>	<input type="button" value="View Customer orders"/>
Innocented00@gmail.com	Innocent Malwane	817579190	<input type="button" value="Delete"/>	<input type="button" value="View Customer orders"/>
testing12@gmail.com	Boigantso	0	<input type="button" value="Delete"/>	<input type="button" value="View Customer orders"/>

Purchase List

Id	Product Id	Purchase Date	Size	Quantity	Total Cost	Ordered By	Customer Name	Actions
158496	85532	2023-11-08	0.0	1	2150.0	Ellen@gmail.com	Ellen	<input type="button" value="Delete"/>
475544	51776	2023-11-08	0.0	1	2500.0	Ellen@gmail.com	Ellen	<input type="button" value="Delete"/>
650452	61568	2023-11-08	0.0	5	26275.0	Ellen@gmail.com	Ellen	<input type="button" value="Delete"/>

MySQL Workbench

MySQL Workbench

ss - Warning - not supported

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

ss

Tables

Columns

Indexes

Foreign Keys

Triggers

Administration

Schemas

Information

Schema: ss

Info Tables Columns Indexes Triggers Views Stored Procedures Functions Grants Events

Table	Column	Type	Default Value	Nullable	Character Set	Collation	Privileges
admin	username	varchar(255)		NO	utf8mb4	utf8mb4_0900...	select,insert,updat
admin	password	varchar(255)		YES	utf8mb4	utf8mb4_0900...	select,insert,updat
cart	id	int		NO	utf8mb4	utf8mb4_0900...	select,insert,updat
cart	price	float		NO			select,insert,updat
cart	product_id	int		NO			select,insert,updat
cart	quantity	int		NO			select,insert,updat
cart	size	float		NO	utf8mb4	utf8mb4_0900...	select,insert,updat
customer	email	varchar(255)		NO	utf8mb4	utf8mb4_0900...	select,insert,updat
customer	contact	bigint		NO			select,insert,updat
customer	name	varchar(255)		YES	utf8mb4	utf8mb4_0900...	select,insert,updat
customer	password	varchar(255)		YES	utf8mb4	utf8mb4_0900...	select,insert,updat
product	id	int		NO			select,insert,updat
product	category	varchar(255)		YES	utf8mb4	utf8mb4_0900...	select,insert,updat
product	company	varchar(255)		YES	utf8mb4	utf8mb4_0900...	select,insert,updat
product	name	varchar(255)		YES	utf8mb4	utf8mb4_0900...	select,insert,updat
product	price	float		NO			select,insert,updat
purchase	id	int		NO			select,insert,updat
purchase	dob	date		YES			select,insert,updat
purchase	productid	int		NO			select,insert,updat
purchase	quantity	int		NO			select,insert,updat

Count: 23 Refresh

Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
2	12:28:57	SELECT * FROM ss.admin LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
3	12:29:01	SELECT * FROM ss.cart LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
4	12:33:41	INSERT INTO Admin values ("admin","password")	1 row(s) affected	0.016 sec
5	12:33:52	SELECT * FROM ss.admin LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
6	13:07:43	SELECT * FROM ss.admin LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
7	14:24:05	SELECT * FROM ss.admin LIMIT 0, 1000	1 row(s) returned	0.047 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench

ss - Warning - not supported

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

ss

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Schema: ss

Info Tables Columns Indexes Triggers Views Stored Procedures Functions Grants Events

Name	Engine	Version	Row Format	Rows	Avg Row Length	Data Length	Max Data Length	Index Length	Data Length
admin	InnoDB	10	Dynamic	1	16384	16.0 KB	0.0 bytes	0.0 bytes	0.0 bytes
cart	InnoDB	10	Dynamic	0	0	16.0 KB	0.0 bytes	0.0 bytes	0.0 bytes
customer	InnoDB	10	Dynamic	3	5461	16.0 KB	0.0 bytes	0.0 bytes	0.0 bytes
product	InnoDB	10	Dynamic	2	8192	16.0 KB	0.0 bytes	0.0 bytes	0.0 bytes
purchase	InnoDB	10	Dynamic	3	5461	16.0 KB	0.0 bytes	16.0 KB	16.0 KB

Count: 5 Maintenance > Inspect Table Refresh

Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
2	12:28:57	SELECT * FROM ss.admin LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
3	12:29:01	SELECT * FROM ss.cart LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
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