A REPORT ON CAPSTONE PROJECT ENTITLED

Home Bazaar

AN E-COMMERCE WEB APPLICATION BY USING FULL STACK JAVA

Submitted to

GREAT LEARNING

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Contents

Abstract

In today's generation, most people are using technology for leading their lives and fulfilling their daily needs. In this generation most of us using E-commerce websites for shopping for clothes, groceries, and electronics, home bazaar. We have developed one E-commerce web application by using Full stack java technology as it contains angular framework, spring boot, spring data JPA, micro services, MySQL. This application is fully functional with different views for user and admin. By using this website we can buy different types of décor accessories and we can choose different styles of products based upon customer interests. In this project, we can add different products and can delete them also. We have developed administrative functions for the website such as create a product, creates categories, Admin dashboard, Manage products, Manage categories. For customers, they can quickly add their items to the cart. Based on the items in the cart then the bill gets generate.

- **E-Commerce is process of doing business through computers.**
- **A user can easily access all the facilities of the Internet to buy or sell the products.**
- **Unlike traditional commerce that is carried out physically with effort of a person to go & get products, ecommerce has made it easier for human to reduce physical work and to save time.**
- **User can browse online shops, compare prices and order merchandise sitting at home on their PC.**
- **To achieve this we used Java Full Stack to develop an ecommerce like our existing system SHOP FOR HOME.**
- **We used angular for developing the frontend part and java spring boot for backend and to store the data we used MySQL.**

CHAPTER 1
INTRODUCTION

We all know that technology has become an essential tool for online marketing these days. If we see all over the world most of the people are showing interest to buy things in online. However, we can see that there are many small shops and grocery stores are selling their things offline. With this type of selling most of us will face bad experience. For instance, in some shops seller has the product to sell in the offer but the buyer may not know about it, or the customer may need the product urgently then he will go to the shop, but the product is out of stock, in that case, he will face bad experience. Moreover, in online shopping customers can select a wide range of products based upon their interests and their price also, one can compare prices also from one store to another by using online shopping.

By encountering the all problems and weaknesses of the offline shopping system, creating an E-commerce web application is necessary for searching and shopping in each shop. These days we have seen so many e-commerce websites are created like Flipkart, Amazon, Myntra one can easily buy their necessary products by using these websites. By using these types of websites one can buy their products by staying in their home. Eventually, we can see the difference between the prices of products also as if we see the cost of the product will be slightly high in offline shopping when compared to online shopping.

For creating these types of E-commerce web applications Java full stack will be the best option that can help us for creating most effective and powerful web applications.

CHAPTER 2
PROBLEM STATEMENT

Project Name – Home Bazaar

Shop For Home is a popular Store in the market for shopping the home décor stuff .Due to Covid 19 all the offline shopping stopped. So, the store wants to move to the online platforms and wants their own web application.

There are 2 users on the application: -

1. User
2. Admin

User Stories:

1. As a user I should be able to login, Logout and Register into the application.
2. As a user I should be able to see the products in different categories.
3. As a user I should be able to sort the products.
4. As a user I should be able to add the products into the shopping cart.
5. As a user I should be able to increase or decrease the quantity added in the cart.
6. As a user I should be able to add “n” number of products in the cart.
7. As a user I should be able to get the Wish list option where I can add those products which I wantbut don’t want to order now
8. As a user I should get different discount coupons.

Admin Stories:

1. As an Admin I should be able to login, Logout and Register into the application.
2. As an Admin I should be able to perform CRUD on Users.
3. As an Admin I should be able to Perform CRUD on the products.
4. As an Admin I should be able to get bulk upload option to upload a csv for products details
5. As an Admin I should be able to get the stocks.
6. As an Admin I should be able to mail if any stock is less than 10.
7. As an Admin I should be able to get the sales report of a specific duration.
8. As an Admin I should be able to set the discount coupons for the specific set of users

Instructions –

1. Please use a folder on server to upload the images
2. Please share the database structure in the .sql file.
3. Please create a separate micro service for reports and discount coupons.
4. Please use separate port to deploy the Angular UI and Spring Boot Micro service
5. Please use the UI designing tool like(Bootstrap or Material) to make your UI better
6. Please use Material UI to create the UI.

CHAPTER 3

FEATURES AND TECHNOLOGIES USED

FEATURES

A full-stack Online Shop web application using Spring Boot and Angular.

This is a Single Page Application with client-side rendering. It includes backend and frontend two separate projects on different branches.

The frontend client makes API calls to the backend server when it is running.

Features

- REST API

- JWT authentication

- Cookie based visitors' shopping cart

- Persistent customers' shopping cart

- Cart & order management

- Checkout & Place Order

- Catalogue

- Order management

TECHNOLOGY STACKS

Backend

- Java 11or 13

- Spring Boot

- Spring Security

- JWT Authentication

- Spring Data JPA

- Hibernate

- MySQL

- Maven

Frontend

- Angular 8.5

- Angular CLI

- Bootstrap

Database Schema

Install MySQL -> after installation -> search MySQL workbench 8.0 CE

Open Admin -> give password which you provide at the time of installation.

Create Database with name "projectdb". Then run queries provided in sql_database.sql scriptone by one.

How to Run

Start the backend server before the frontend client.

Backend

1. Install [MySQL]
2. Configure datasource in `application.yml`.
3. `cd Backend Work`.
4. Run `mvn install`.
5. Run `mvn spring-boot:run`.
6. It's a Micro service based project. So you have to run "EurekaServerApp" first in backend
7. Then you can run Discount & Reports.
8. The EurekaServerApp is running on port number 8761 [localhost:8761].
9. The Discount is running on port number 8181 [localhost:8181].
10. The Reports is running on port number 8080 [localhost:8080].

Frontend

1. Install [Node.js and npm](https://www.npmjs.com/get-npm)
2. visit Frontend Work, then cd frontend-C8-G7 [frontend-C8-G7 is the actual file]
3. Run `npm install`.
4. Run `ng serve`

5. The frontend client is running on [localhost:4200]().
6. In Angular open new terminal write command "npm start" to run frontend application.
7. The frontend application is running on port number 4200 [localhost:4200]

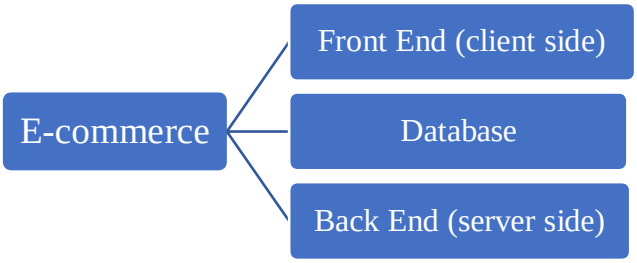
1. Build backend project
```bash
cd backend
mvn package
```
2. Build fontend project
```bash
cd frontend
npm install
alias ng="node_modules/@angular/cli/bin/ng"
ng build --prod


```

Modules:
1.Customer login
- Create Customer from sign up page
2.Admin login
- visit: http://localhost:4200/admin/user
- Add anyone as Admin but you have to register properly.
- You can use Admin email: admin@eshop.com, password: admin

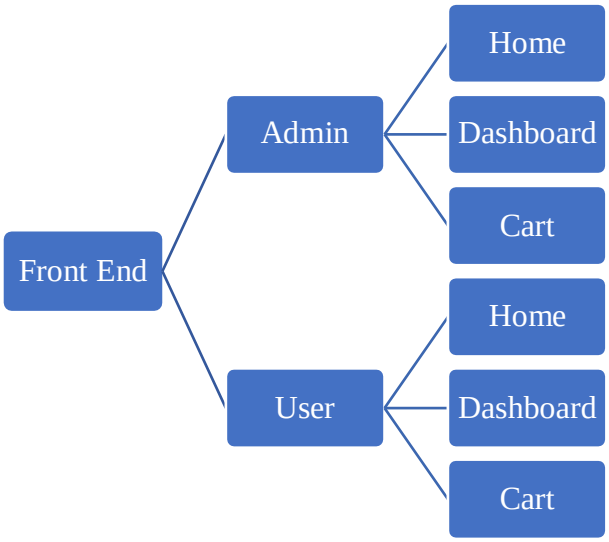
```
```

CHAPTER-4
WEB APPLICATION STRUCTURE



Creation of an E-commerce application includes Front End(client side) operations and Database for storing the Data and Back End (server side) operations.

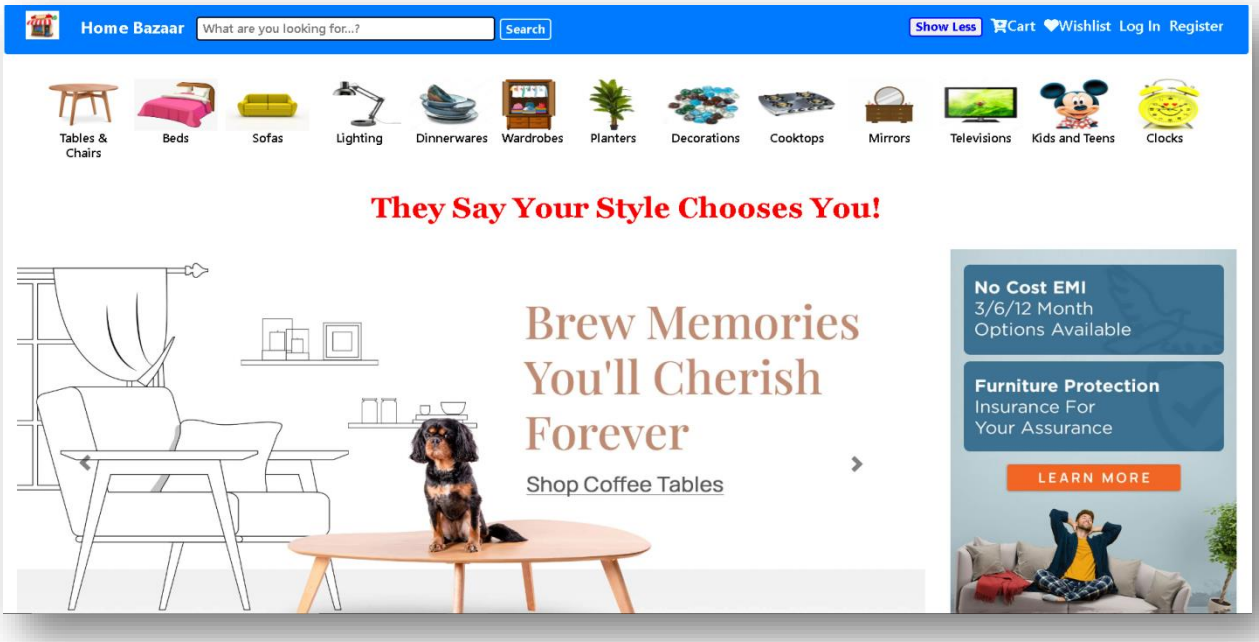
FRONT END (CLIENT SIDE) OPERATIONS:

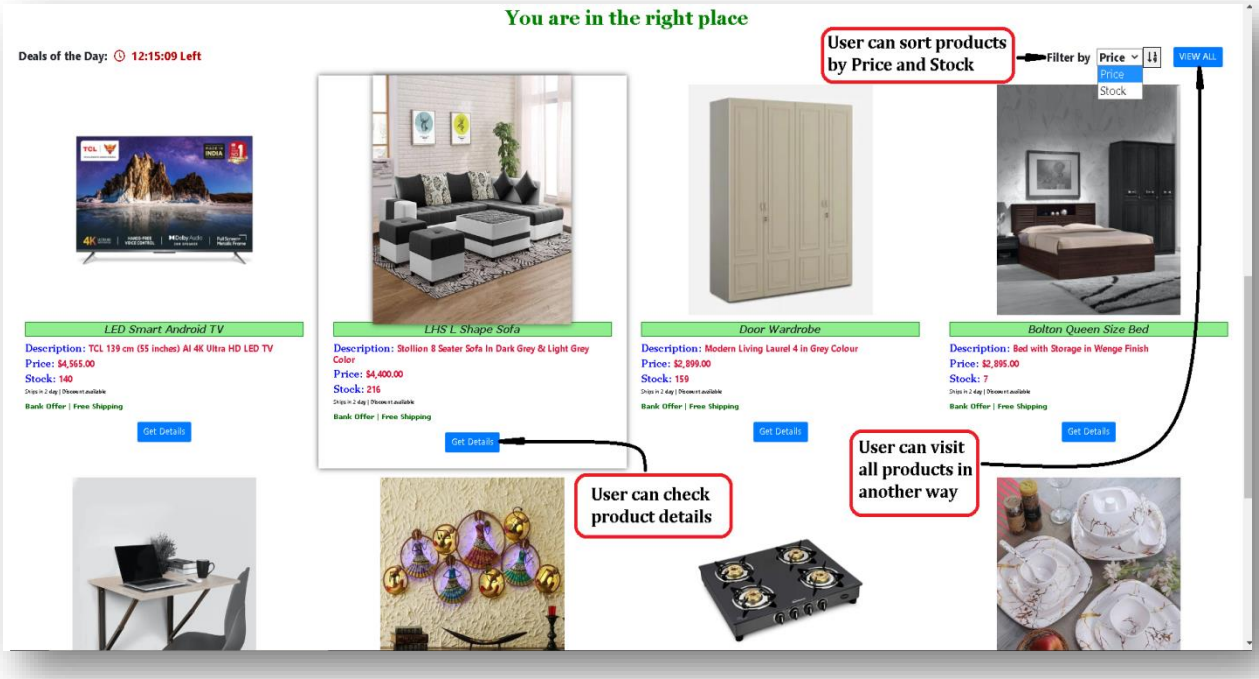


Home Page:

The home page of the web Application mainly contains a list of the products which are saved in the database. And there some options that will be in the menu bar if the user does not sign in/login in yet then "Sign in" and "Sign up" options will be there. The home page will show you all types of products and they will be displayed to customers, for example, this homepage has types of décor items such as sofa, Table lamp, If we want to add another type of product we can simply add a wide range of products, we can give different prices for different products based upon their quality, customers have the facility to add the product to the cart which they like, the customer will have another facility to contact the admin if he has any issues regarding products, prices, and any other

issues all these things have appeared preview image is mentioned below:

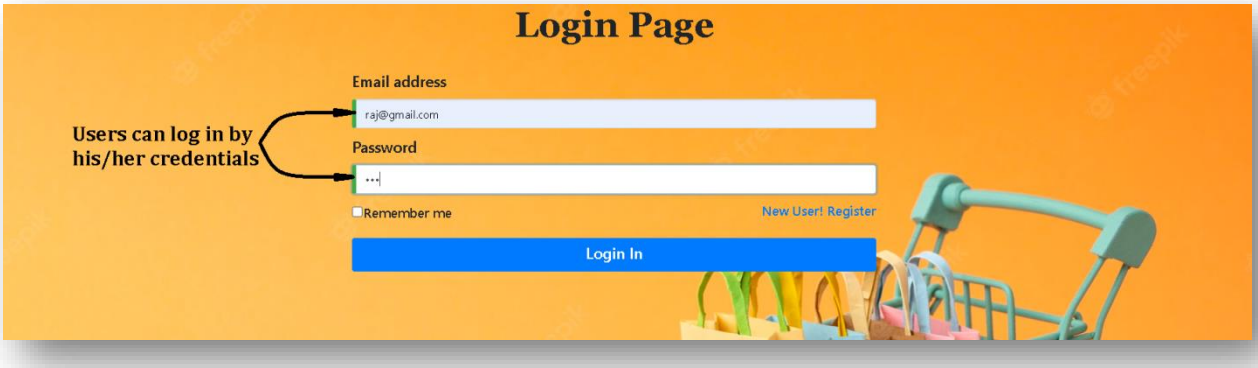


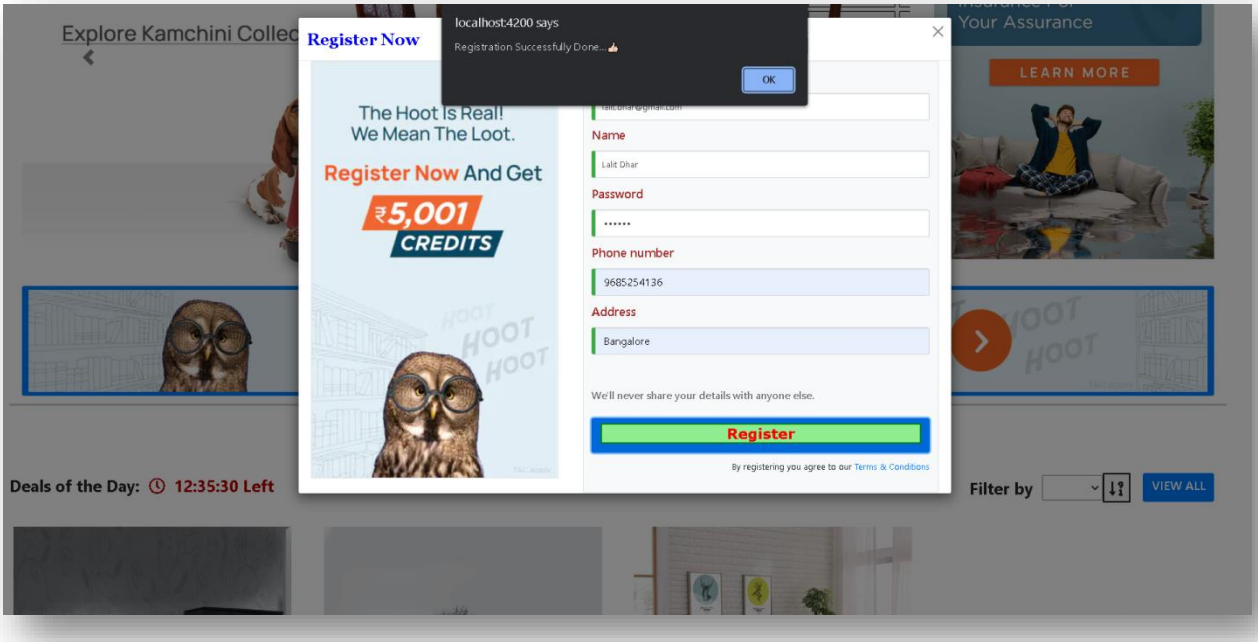


The above shows the layout of Home page.

Sign in and Sign up

These two-option redirect to the page where the user can find a form to fill either to create an account or to sign in to an account.





Dashboard:

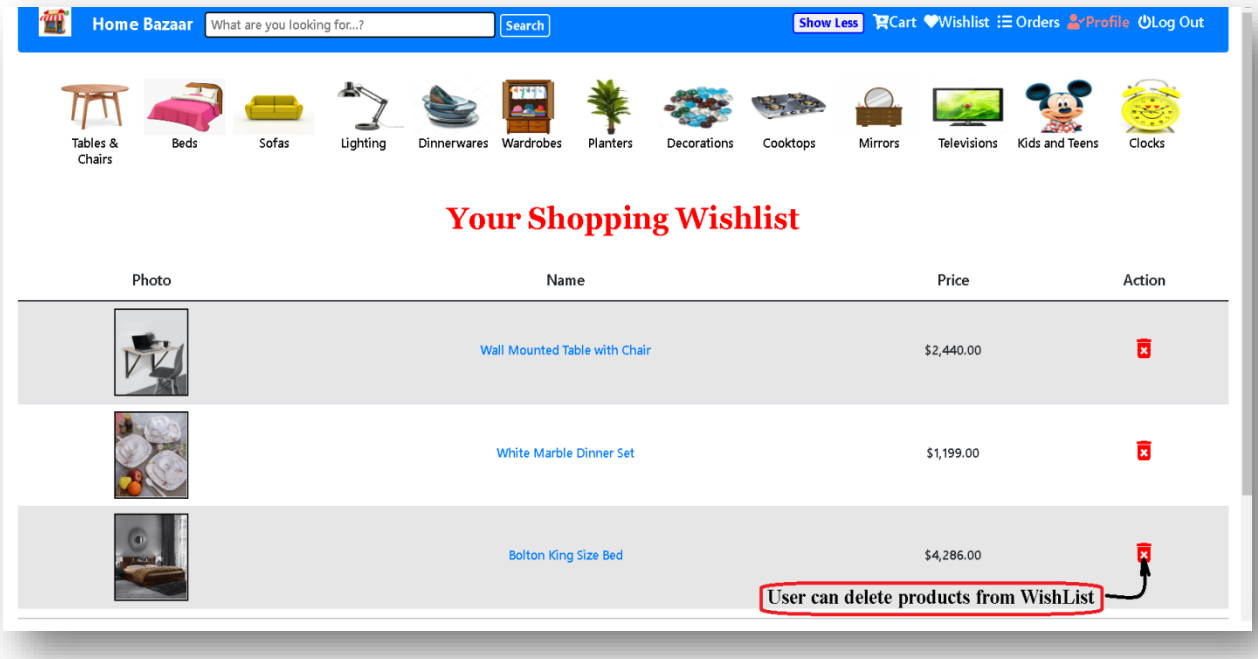
This page will be different for the user. Admin Dashboard will have a chance to create some categories and can add products to those categories, as well as admin can delete products and he can change prices also.

Cart:

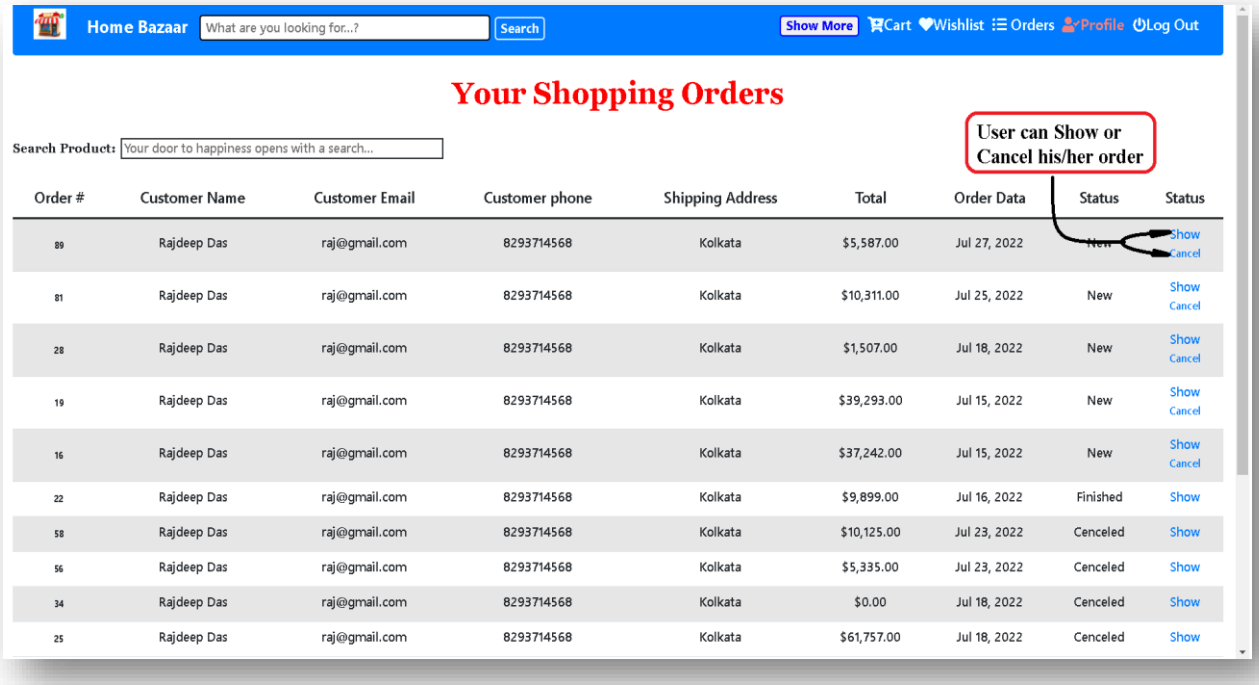
After selecting any product users can see their product on this page and here the payment will be carried on. Stripe Payment is included for the cart which was a third-party tool that helps users to done payment by some debit cards, credit cards, UPI's.


Home Bazaar
What are you looking for...?
Search
Show More
Cart
Wishlist
Orders
Profile
Log Out
Your Shopping Cart
Photo
Name
Price
Quantity
Total
Action
Kwan Beige Fabric Lamp
$1,022.00
$1,022.00
LED Smart Android TV
$4,565.00
$4,565.00
Final Price: Rs. 5587
Add more products of price above Rs. 4413. Get upto 10% off.
You are eligible for 5% off.
Apply CODE: NEW05
Redeem now
The user is eligible for 5% discount
By clicking the Redeem now button & apply the correct code he/she will get the new final price
User can increase or decrease quantity
User can delete the product from the Cart
PLACE ORDER
User can Place Order
Safe and Secure Payments.Easy returns.100% Authentic products
We Accept
G Pay
paytm
MasterCard
PayPal
VISA

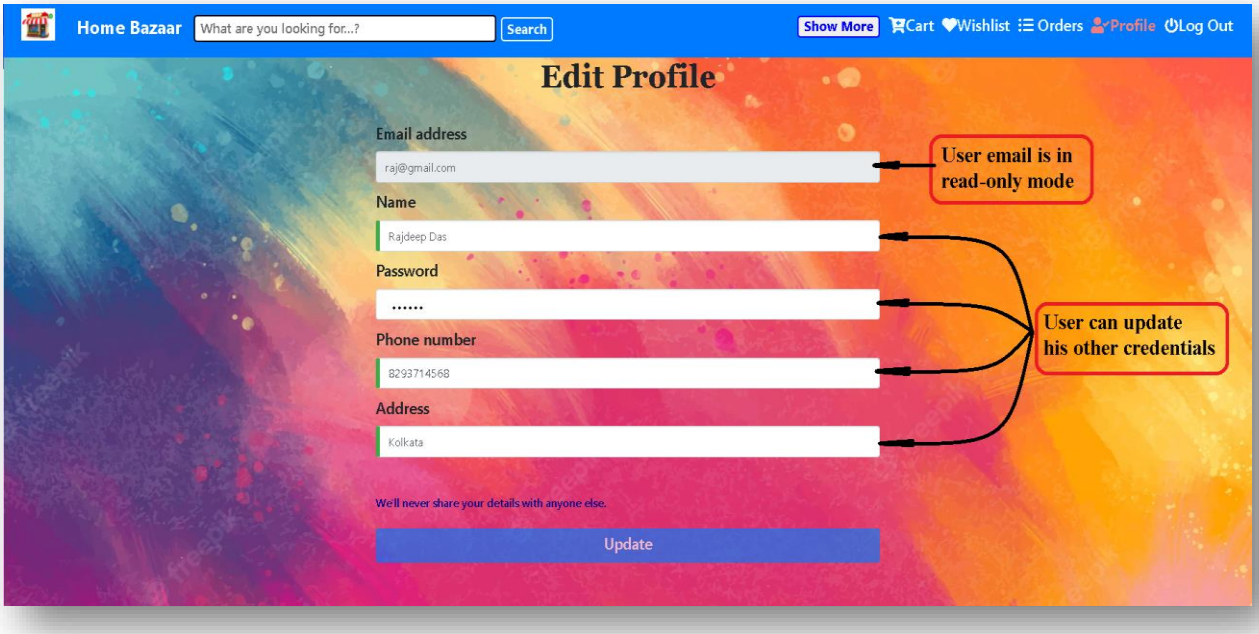
Wish list:


Home Bazaar
What are you looking for...?
Search
Show Less
Cart
Wishlist
Orders
Profile
Log Out
Tables & Chairs
Beds
Sofas
Lighting
Dinnerwares
Wardrobes
Planters
Decorations
Cooktops
Mirrors
Televisions
Kids and Teens
Clocks
Your Shopping Wishlist
Photo
Name
Price
Action
Wall Mounted Table with Chair
$2,440.00
White Marble Dinner Set
$1,199.00
Bolton King Size Bed
$4,286.00
User can delete products from WishList

User's Order:

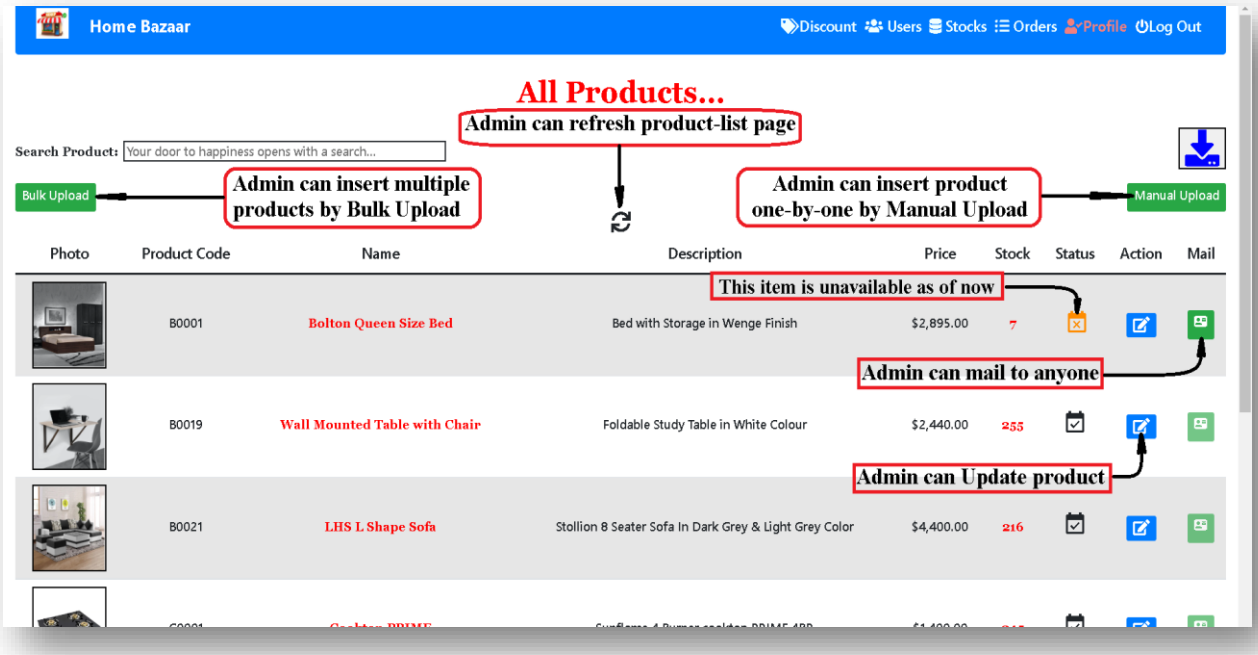


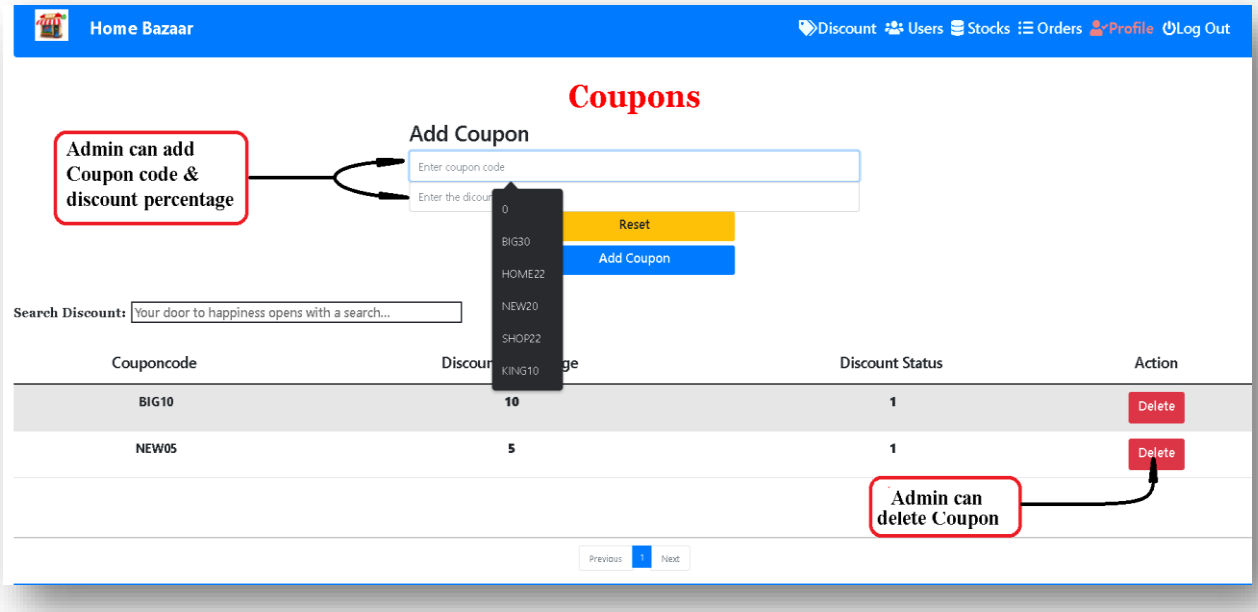
The above image shows the details of orders by user harsh which includes order Id, total cost hepurchased, order date along with action and status



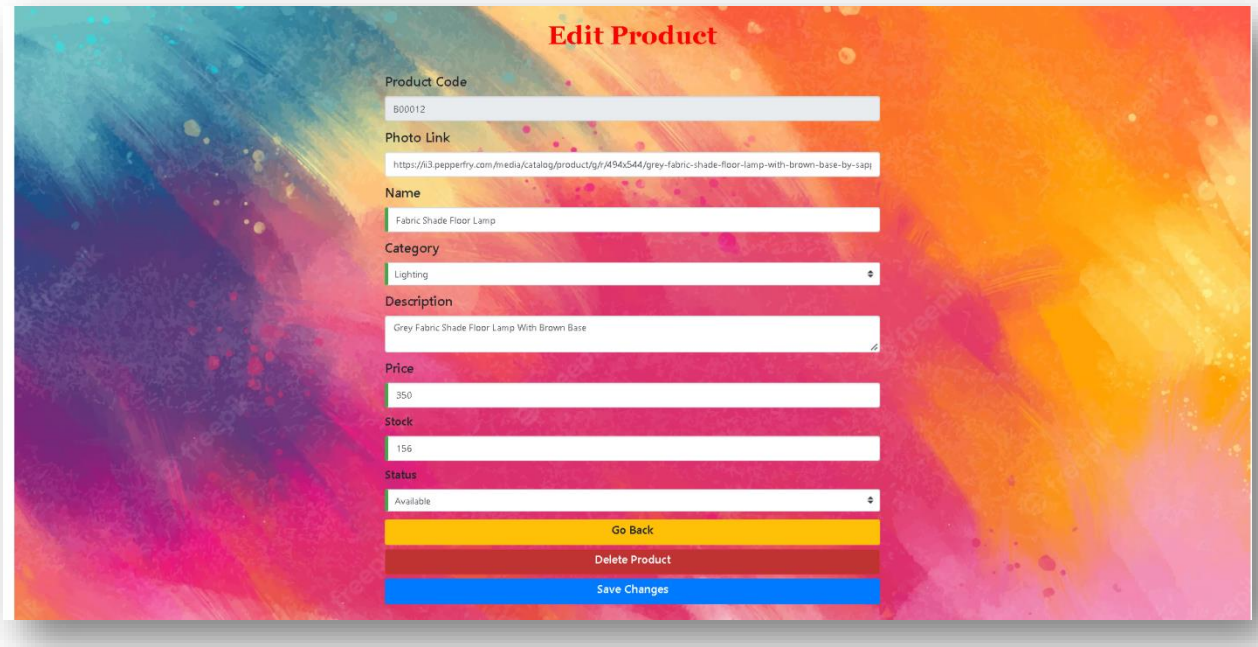
Edit profiles can be managed by both user and admin which includes details like user Email address, name, password, phone number, address and an update button to update the information entered.

It shows the list of products added by admin.

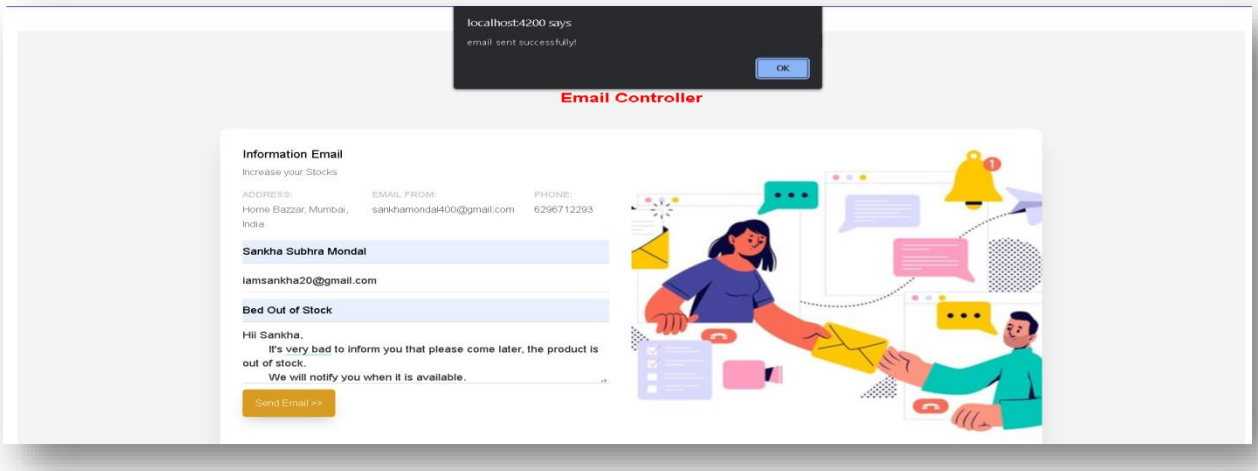




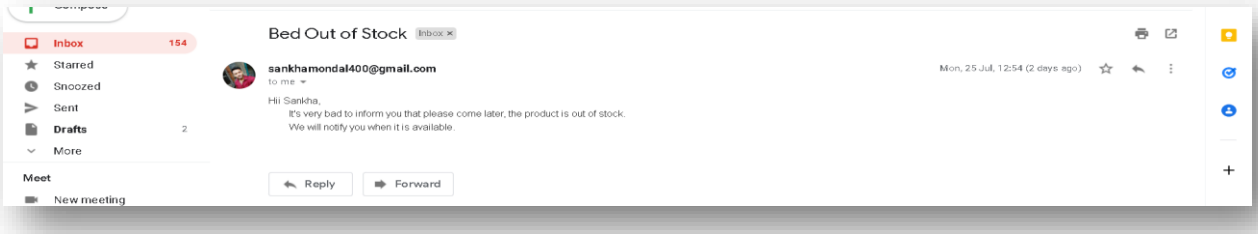
The above picture shows the Add coupon option which was set by admin.



The above picture shows Admin can edit products.

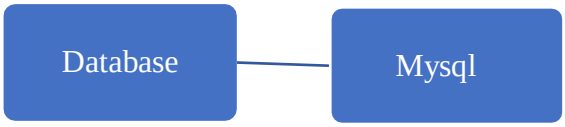


The above picture shows admin can send Email to users.



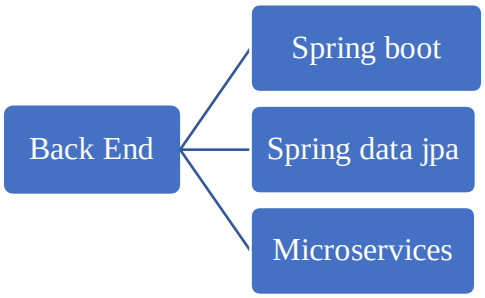
The above picture shows mail has sent to user.

DATABASE:



Data that is entered by the users will be stored in the database. There are so many databases are been used nowadays. In this project, we have Mysql as a database. Using the Mysql library, we can connect to Mysql. There are so many methods in this library to create schema and also to save the data in the database.

BACK-END:



Spring Boot

Spring Boot is a project that is built on the top of the Spring Framework. It provides an easier and faster way to set up, configure, and run both simple and web-based applications.

Spring data JPA

Spring Data JPA provides an out-of-the-box implementation for all the required CRUD operations for the JPA entity so we don't have to write the same boilerplate code again and again.
Spring Data JPA provides repositories so we just need to extend them to get full the out-of-the-box implementation for CRUD operations for an entity.

Micro services

Micro services - also known as the micro service architecture - is an architectural style that structures an application as a collection of services that are

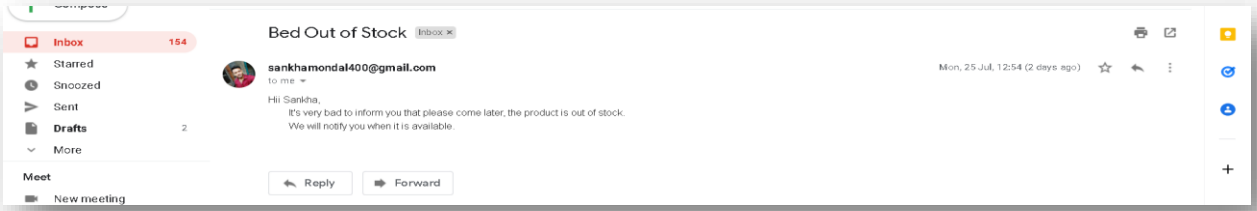
- Highly maintainable and testable
- Loosely coupled
- Independently deployable
- Organized around business capabilities
- Owned by a small team

The micro service architecture enables the rapid, frequent and reliable delivery of large, complex applications. It also enables an organization to evolve its technology stack.

CHAPTER – 5

Result & Conclusion

RESULTS



The above image shows the email sent to the vendor when the stock is less than 10.

CONCLUSION

The main them is to build an e-commerce décor products selling web application withall three i.e., Frontend, back end, and database. This web application is a fully pledged working web application right from the login authentication, admin authorization, add items to cart, using payment gateway. It can be used by any industry on either a small scale or a larger scale. The web application is easy for them to access and without any effort categories can be created and products can be added by them. It will be very attractive for the customer to see the products by sitting at home or office. It will be very helpful for the small-scale industries without selling to wholesales, large retails mediators they can directly sell to the customer by saving money for both.

5.2REFERENCES:

1. https://jsonworld.com/demo/how-to-export-data-to-excel-file-in-angular-application
2. https://www.geeksforgeeks.org/spring-boot-sending-email-via-smtp/amp/
3. https://www.bezkoder.com/spring-boot-upload-csv-file/