# A REPORT ON CAPSTONE PROJECT ENTITLED SHOP FOR HOME

## AN E-COMMERCE WEB APPLICATION BY USING JAVA-GCP

Submitted to

## **GREAT LEARNING**



**Submitted by** 

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## **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. We have developed one E- commerce web application by using Full stack java technology as it contains HTML, CSS, Angular, Java Script, Spring Boot, Node.JS platform. This application is fully functional with different views for user and admin and it also has integrated with payment gateway for checkout. 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, create 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.

## 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 the most effective and powerful web applications.

## **CHAPTER 2**

#### PROBLEM STATEMENT

Project Name – Shop For Home

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 Wishlist option where I can add those products which I want but 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

1.	Please use a folder on server to upload the images
	Please share the database structure in the .SQL file.
	Please create a separate microservice for reports and discount coupons.
4.	Please use separate port to deploy the Angular UI and Spring Boot Microservice 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 2 and Angular 7.

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
- Catalogue
- Order management

#### TECHNOLOGY STACKS

#### **Backend**

- Java 11
- Spring Boot 2.2
- Spring Security
- JWT Authentication
- Spring Data JPA
- Hibernate

- PostgreSQL - Maven Frontend - Angular 7 - Angular CLI - Bootstrap **Database Schema** Install Postgressql -> after installation -> search PGAdmin Open Admin -> give password which you provide at the time of installation. Create Database with name "ecommerce". Then run queries provided in eshop.sql script one by one. How to Run Start the backend server before the frontend client. \*Backend\* 1. Install [Eclipse](https://www.Eclipse.org/download/) 2. Configure data source in `application.yml`. 3. 'cd backend'. 4. Run 'java install'. 5. Run `mvn spring-boot:run`. 6. Spring Boot will import mock data into database by executing `import.sql` automatically.
- \*Frontend\*
- 1. Install [Node.js and npm](https://www.npmjs.com/get-npm)

7. The backend server is running on [localhost:4200]().

- 2. `cd frontend`.
- 3. Run `npm install`.

- 4. Run 'ng serve'
- 5. The frontend client is running on [localhost:4200]()

Note: The backend API url is configured in `src/environments/environment.ts` of the frontend project. It is `localhost:8080/api` by default.

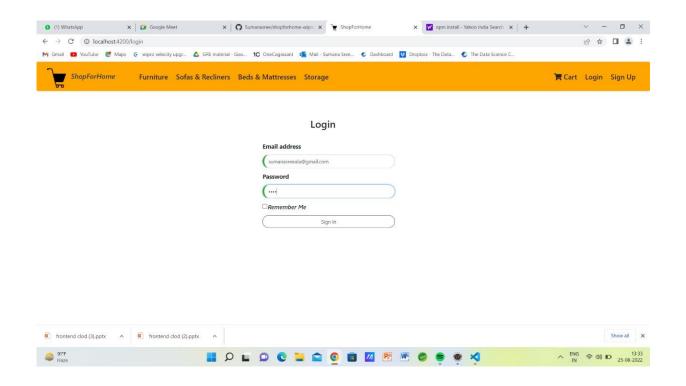
- Build backend project bash
  cd backend mvn package
- 2. Build fontend project bash cd frontend npm install alias ng="node\_modules/@angular/cli/b in/ng" ng build---prod.

## 1. User login

## **Default log in details:**

User Name: <a href="mailto:sumanasreeala@gmail.com">sumanasreeala@gmail.com</a>

Password: suma

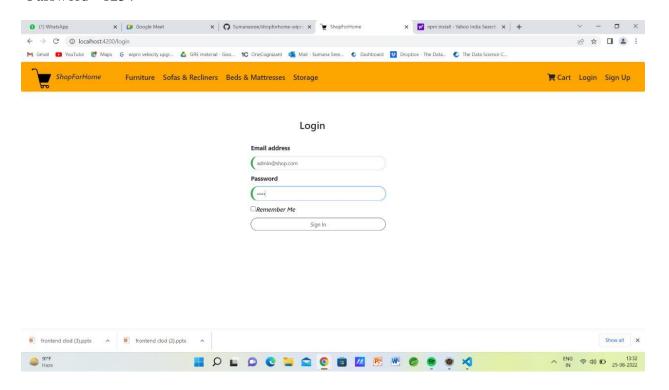


## 2. Admin login

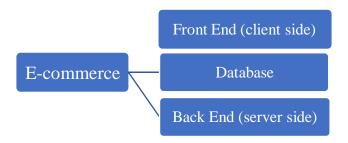
- Default Admin Login

User Name : admin@shop.com

#### Password - 1234

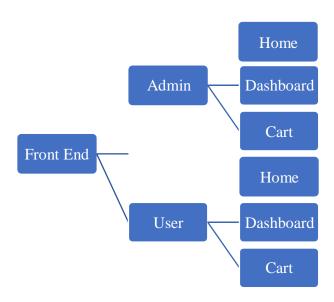


## **CHAPTER-4 WEB APPLICATION STRUCTURE**



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:

#### 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.

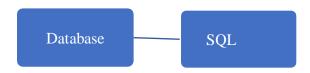
#### Dashboard:

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

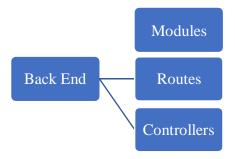
After selecting any product users can see their product on this page and here the payment will be carried on. Stripe Payment is included for the cart which was a third-party tool that helps users to done payment by some debit cards, credit cards, UPI's.

#### **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 MongoDB as a database. Using the mongoose library, we can connect to SQL. There are so many methods in this library to create schema and also to save the datail the database.

#### **BACK-END:**



#### **Models:**

Here we define the structure of the data that should in the database. By using some models which help to store the data in the database like mongoose, it is one of the famous libraries in NodeJS. Creating the schemas by database Schema with Connecting the names and type

#### **Routers:**

All the work related to the routing of the pages was done here. Angular ,JS is a popular library form routing. CURD operations and routing-related code are saved in this folder.

#### **Controllers:**

In controllers, the definitions of the functions which are declared in the routing will be stored and also the codes of the middleware are stored in this folder.

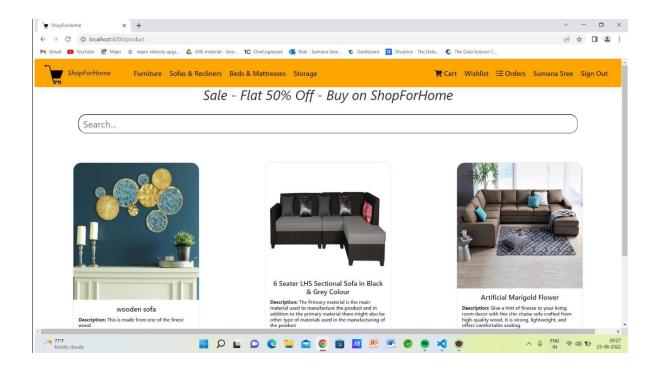
In the controller phase, the function definitions of the function which are declared in the Routers will be done. We are having some middleware also defined here.

#### 5. ONLINE SHOPPING APPLICATION:

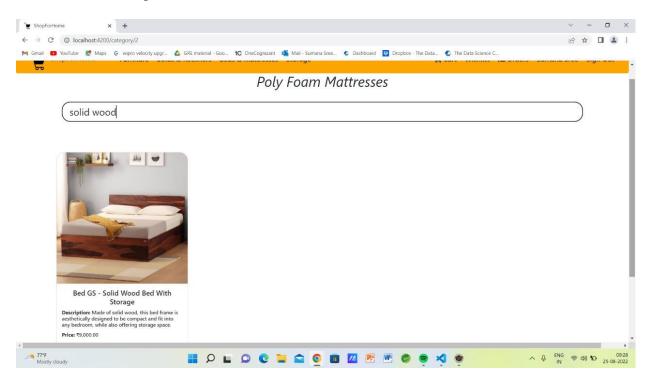
Anyone can view Online Shopping portal and available products, but every user must login by his/her Username and password in order to purchase or order products. Unregistered members can register by navigating to registration page. Only Admin will have access to modify roles, by default developer can only be an 'Admin'. Once user register site, his default role will be 'User'.

#### **HOMEPAGE:**

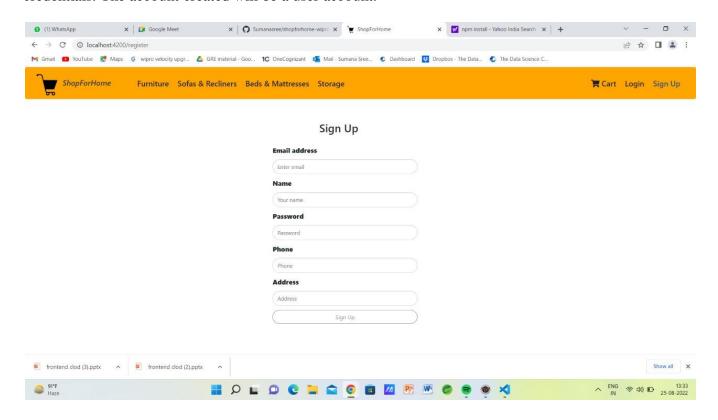
The Home Screen will consist of screen were one can Login Into the application.



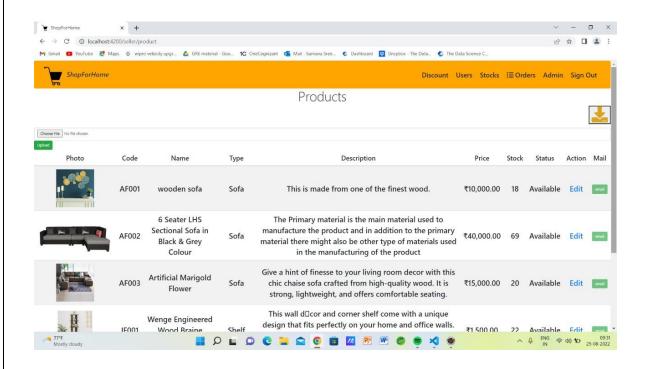
**Search Page**: Here visitors can go through the toys available in the store. And even search in the search bar for a specific item.



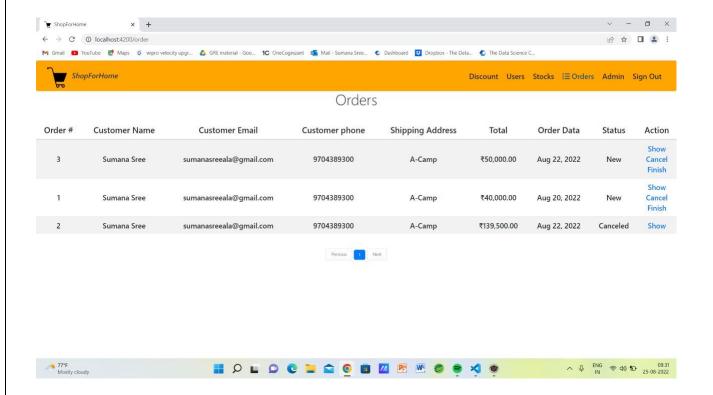
**Sign Up Page**: If the user does not have a account he can create a account by providing his/her credentials. The account created will be a user account.



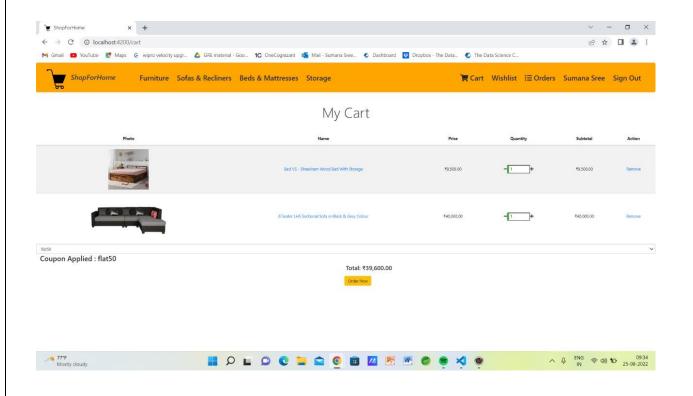
**Product Page:** In this a admin can add update and delete the products.



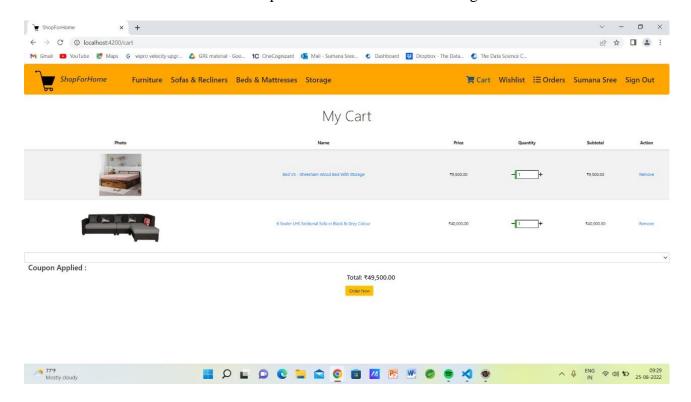
#### **Sales Or Orders:**



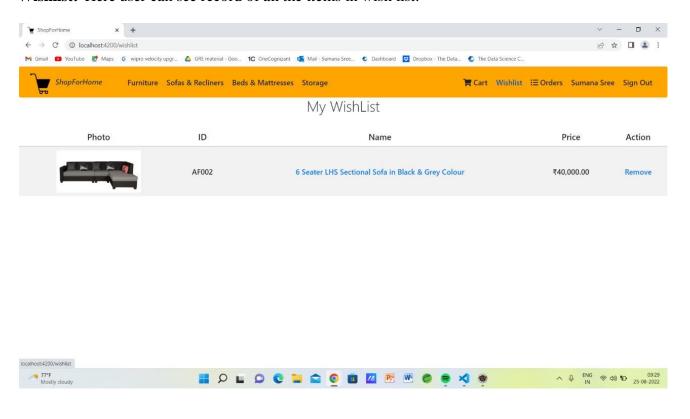
**Discounts:** Here Discounts Feature also added are available to buy product from Shop for Home.



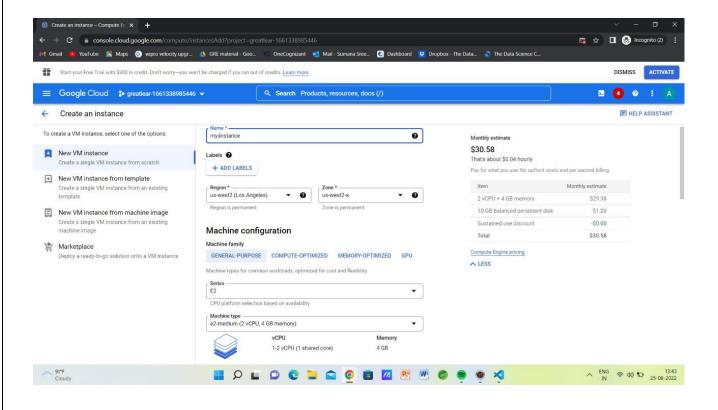
Cart Services: Here User can add the products in Cart As shown in figure Below.

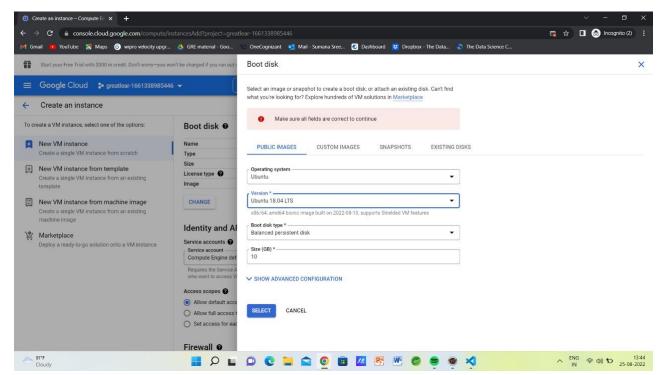


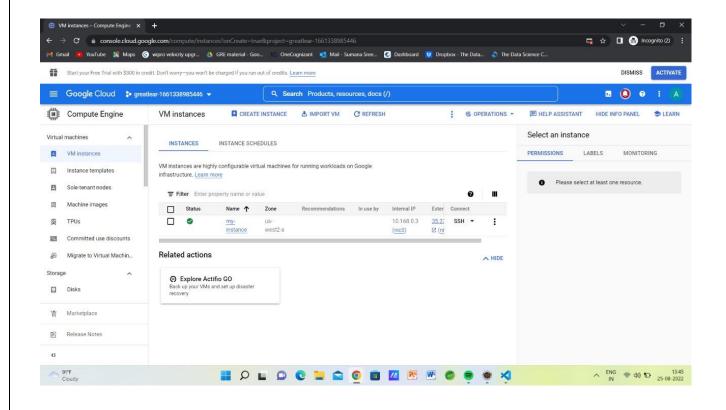
**Wishlist:** Here user can see record of all the items in wish list.

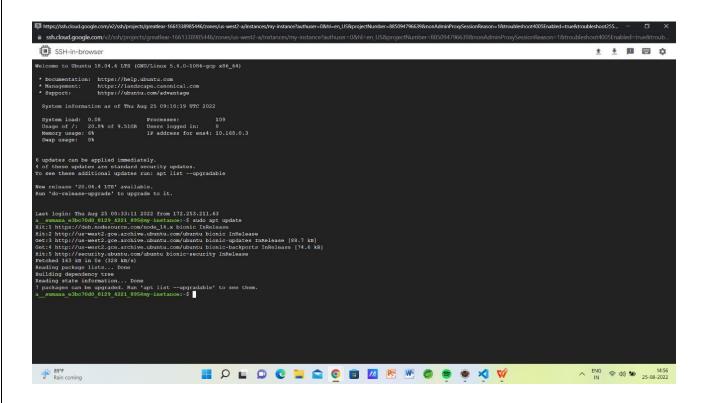


#### **Deploying in to GCP:**









## Actional google common/o/solytographets/granellean-1661389855-64/roomedus-west-a\_finitan-root/map-instance

https://ssh.cloud.google.com/v2/ssh/projects/greatlear-1661338985446/zones/us-west2-a/instances/my-instance?authuser=08hl=en\_US&projectNumber=885094796639&nonAdminProxySessionReason=18troubleshoot/005Enabled=true&troubleshoot/255.

