Chapter 1 Introduction

Project Description

The main objective of this project is to develop an online Ecommerce Application for the Beauty And Health Products. By using the internet, users can access this system from anywhere. They can use this system to make a request to purchase a new product from the application. With the help of this system, they can search for products, wish list them etc. and can order the item they need. This system has both the admin component and the user component.

There will be two types of users whom will be using this application:

1. Admin and Seller
2. User

Admin – Responsible for managing the products and orders in Shopping portal.

Student – Find items available in application and adds them to the cart. The user also has the option to remove items which were already added to the cart.

Every business, small or huge, mostly faces issues in maintaining the information in their application such as products, Order, Payment, and Confirm Order. We build exclusive solutions to manage that are customized to your managerial requirements because Ecommerce has different features. The main intention is to aid in planning with proper strategy and will help you in making sure that your business has required level of knowledge and understanding which also specifies the goals that needed to focused to have great future.

Company Profile

Capgemini is a French multinational IT services supplier. It is also one of the world's largest outsourcing, consulting and professional services corporation that extends over 40 countries. It also has a management consulting business, Capgemini Consulting. It is headquartered in Paris, France. Capgemini helps companies modernize technology, reimagining processes and transform experiences so they stay ahead in a fast-changing world [1][4].

Management

Since May 20, 2020, Capgemini Group management has been led by Aiman Ezzat, Chief Executive Officer. Ashwin Yardi, CEO of Capgemini India.

Business Model

Capgemini offers a global delivery approach that incorporates outsourcing and offshore software R&D, similar to many other IT services providers. The company has a number of near-shore locations in the US, Europe, and South America as well as offshore development centres abroad. [1].

Business Unit

There are numerous vertical and horizontal divisions within Capgemini. Some of the vertical units that concentrate on particular industries are banking and financial services, insurance, healthcare, manufacturing, and retail. Examples of horizontals that concentrate on particular technological or process areas include analytics, mobile computing, BPO, and testing. The Capgemini Consulting team is made up of business consultants who work in both horizontal and vertical organisations. MBAs that work in business development and business analysis for IT services projects can be found at Capgemini, one of the top employers in the sector. [4].

Cerner Today:

- A €18,160 million increase in revenue (2022).
- A net income 1,157 million euros (2021).
- A total assets of 2,195 crores EUR (2021).
- Number of employees 340,700 (Q12022)

Chapter 2 Literature Survey

Literature Survey

The Ecommerce Application For Beauty And Healthcare Products is an enterprise web application that makes the available products only to view or appreciate to the admin and users. This application illustrates different kind of Beauty And Healthcare Products that are availalble in the application are in physical form. The application has 2 kinds of users: Admin and user. The admin work with information regarding the adding, registering users and products information and viewing the orders; the users access the system with username and password and only view the available Beauty And Healthcare Products in the application. This method was created using a web application for Tablet PCs. The front end was built with ReactJS, JAVA using Spring DataJPA and Spring Boot, and the backend was built with MySQL.

The system considers a user use of a smart device to be given. The user can easily register himself and login to the system and search for the existing Beauty And Healthcare Products. The user can also view the Beauty And Healthcare Products that he has taken and can check the order details if it processing or not. The user can cancel the order accordingly .

The admin of the system checks the products and orders placed by the users. The admin has the permission to add new products and can search the product from the available database and logout from the system .

Existing and Proposed System

Existing system:

Early days Shopping of Beauty And Healthcare Products done manually. It requires a lot of time for physically or for shop visit. The employee who needs to record the details must perform his job very carefully. Even a small mistake would create a huge problem. Security of information is also very less. Generating reports of all the information is very tough task.

Maintaining the Items catalogue and arranging of the products to the catalogue is very complex task. In addition to maintaining of user details, purchased dates and the ordered dates etc. manually is a difficult task.

All the operations must be performed in correct manner for the maintenance of the

Shopping store without any small degradation which may finally result in the entire system failure.

Proposed system:

To solve the inconvenience that is mentioned in the existing system, an Online Ecommerce Application for Beauty And Healthcare Products is proposed. The proposed system contains the following features:

- The users will register them through Online mode
- Individually each user will have his account through which he can access the information of Beauty And Healthcare Products he needs.
- Product details like names, number of items are totally available, current available number of items, wish list of the items. all this information can be made available handy.
- Regarding the users and their orders, the number of products was will be delivered.
- order dates and delivery dates of each users orders is maintained separately .
- Administrator can add, search and update the Beauty And Healthcare Products.
- Time consuming is very low, gives the accurate results, reliability can also be improved with the help of system security

Tools and Technologies

Apache Maven

It is generally used for Java projects to generate POM (Project Object Model) and for a project's documentation, dependencies, and build. It is software project management and comprehension tool [1].

Version: 3.1.1
Features of Apache Maven

- Maven is extensible, with the capability and ability to write and execute different kind of plugins for many scripting languages
- Easy and instant access to all kind of features with configuration
- Dependency management

Spring Boot

Spring Boot makes it simple to construct self-contained, production-ready Spring-based applications that can be “simply run”.

Features of Spring Boot :

- Develop independent Spring applications.
- Directly embed Tomcat, Jetty, or Undertow (no need to deploy WAR files).
- Whenever possible, configure Spring and third-party libraries automatically.

Spring JPA Data

Spring Data JPA, which is part of the larger Spring Data family, makes it simple to set up JPA repositories. This module concentrates on enhancing support for JPA-based data access layers. It makes it easier to create Spring-powered programmes that utilise data access technologies. [1].

Features of Spring Data JPA

- Support for constructing repositories using Spring and JPA.
- Transparent domain class auditing.
- Support for XML based entity mapping.

MySQL

MySQL is a relational database management system that is free and open source. In other words, it helps you save all of your users' information, plugin information, blog post information, and other data for WordPress sites. It is relational because it stores data in many "tables" and links it together using "keys".

Features of MySQL

- Scalable
- Reliable
- Quick data fetch
- Security of data

Eclipse Oxygen 3a

Eclipse Oxygen 3a is a comprehensive suite of tools for programmers who want to construct XML editors, Rich Client Applications, Remote Application Platforms, and Eclipse plug-ins. The Eclipse IDE has a modular architecture and is open-source and free. It is thought to be the most well-known Java IDE and is written in Java. It works with all widely used operating systems, including Linux, Windows, Mac OS, etc. [1].

Features of Eclipse Oxygen 3a

- Enterprise-Based Java Tooling.
- Unified Workspace.
- Private Code Repository.
- Easy Installation.
- Debugging.

- **React JS**

ReactJS is an open-source, component-based front end library responsible only for the view layer of the application. It is maintained by Facebook.

React uses a declarative paradigm that makes it easier to reason about your application and aims to be both efficient and flexible.

ReactJS offers graceful solutions to some of front-end programming's most persistent issues, allowing you to build dynamic and interactive web apps with ease. It's fast, scalable, flexible, powerful, and has a robust developer community that's rapidly growing. There's never been a better time to learn React.

Hardware and Software Requirements

Hardware Requirement

- Processor: core i5
- Display: VGA Color Monitor
- Hard Disk: 256GB SSD
- RAM: 4GB

Software Requirement

- Windows: Window 7 and above.
- IDE/Workbench: Eclipse Oxygen 3a, Tomcat 8.0 Server, MySQL.
- Browser: Chrome, Microsoft edge, Firefox.
- Frontend: Java jdk 1.8 and above, NodeJS
- Backend: MySQL.

Chapter 3 Software Requirement Specifications

FEASIBILITY STUDY

A feasibility study is a study usually done by engineers, that establishes whether conditions are right to implement a particular project. Feasibility studies can be done for many purposes, and are done in IT in order to look at feasibility for new hardware and software setups.Sometimes feasibility study is done as part of a systems development lifecycle, in order for the implementation of technologies. Engineers will look at a few-point model this includes the following components:

- **TECHNICAL:** The best part of this project is it supports the existing technology and no need of any invention. The complete process can be implemented using the existing technology like java language and my sql database which are open source, easy to learn and implement.
- **ECONOMIC:** the proposed system is comes under Ecommerce sectors hence the system will give much benefits and better economic support. The system is just one time investment and implementation.
- **OPERATIONAL:** The system once developed and implemented is easy to maintain and manage, does not require any external things to maintain. The system is durable, user friendly and easy to maintain.

Functional Requirements

As seen in the image , each of the three system parts essentially provides a layerof protection between the end user and the database. There are two reasons for this isolation.To begin with, A rich user interface makes it much easier for the end user to interact with the system, especially for non-technical users who will make up the majority of the system's users.

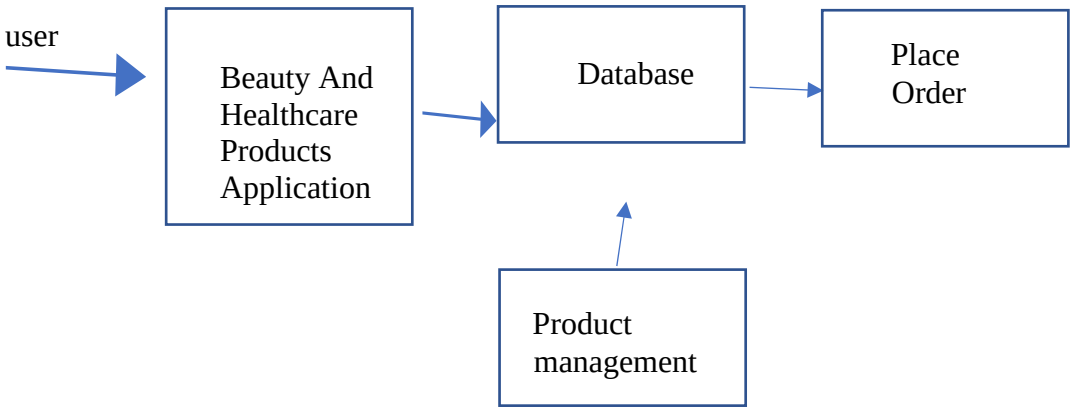


Fig 3.1 Overview of BHPA App

User Interface Specification

Home Page

Both Admin and User can see the list of Beauty And Healthcare Products available. For Admin all permissions are granted to add and update books. For user, only search product and view his wish listed items info and place order

Use Case ID	BHPA001
Use Case Name	Homepage (Admin)
Actor(s)	Admin
Description	Add new product
Pre-condition	Admin should have privilege to add.
Post-Condition	products are listed in the screen. Each product have option to edit and update the info.

Basic Path	1. Admin logs in to the system 2. BHPA application fetches the list from the database 3. The following functionalities are available to the admin a. Search product b. Add product c. Edit or Update the product d. View the product info

Table 3.1.1(A) Admin home (Admin)

Use Case ID	BHPA002
Use Case Name	Homepage (user)
Actor(s)	user
Description	View the list of products, place order , return or cancel orders.
Pre-condition	Users should have privilege to do perform tasks.
Post-Condition	Beauty And Healthcare Products are listed in a screen to the user. The user will be redirected to homepage.
Basic Path	1. User can view the products available 2. BHPA application fetches the items list from the database 3. User can search for the specific product he needs 4. User can place order by selecting the product name and price. 5. User can cancel the order

Table 3.1.2 Homepage (User)

WishList / Add to Cart

User uses this option to add new product with details

Use Case ID	BHPA003
Use Case Name	WishList / Add to Cart
Actor(s)	User
Description	User is allowed to add and edit items to Wishlist /cart
Pre-condition	User should have add product privilege
Post-Condition	Modified product details are saved in thedatabase
Basic Path	1. User uses the Add/ Update option on a menu 2. Fetched menu book details from database andpopulate a form with following fields: a. Product_id b. Product_name c. Product_type d. Price 3. User updates the values in the respective form fields and clicks Save 4. Changes for the specific product is updated In the database

Table 3.1.3 Wishlist / Add to cart

Place Order

Place order makes the student to select the product he needs and place order for the same.

Use Case ID	BHPA004
Use Case Name	Place order

Actor(s)	User / Customer
Description	User selects product for placing order

	By searching items and selecting from the list
Pre-condition	User should have place order privilege
Post-Condition	The order is placed and the admin can view the orders info
Basic Path	1. The User should use place order option and select the product he needs from the cart 2. The list of product names will be suggested 3. Confirmation message displayed to the user after placing order and expected delivery date will be shown

Table 3.1.4 Place order

Search Product

A user search and views the list of products available and price and specifications of the product in detail

Use Case ID	BHPA005
Use Case Name	Search
Actor(s)	User
Description	User will search the product according to his need.
Pre-condition	User should have search privilege
Post-Condition	User sees the list of products that are similar to what he has searched.
Basic Path	1. User selects the search products option 2. BHPA application fetches the list of available products according to his search 3. The User can view the books names 4. The product details and price will be shown 5. Then he can add the needed item to either to his wish list or to the cart.

Table 3.1.5 Search Product

Payment ,Billing And Shipping

Use Case ID	BHPA006
Use Case Name	Payment ,Billing and shipping of the product
Actor(s)	User
Description	User should have Payment privilege
Pre-condition	The student should have privilege to pay the amount for the purchased product
Post-Condition	The product is paid, billed and shipped successfully
Basic Path	1. User views the order placed product info 2. User enters his details and address where the item should be delivered or to be shipped. 3. BHPA app provides both cash on delivery and onsite payment option for the user 4. Through the payment gateway user can pay the amount and after the successful payment the product will be billed with the details and ready to be shipped

Table 3.1.6 Payment, Billing And Shipping

Non-Functional Requirements

Reality: It is very user-friendly software application and new users can easily know about the software.Project can be easily upgraded as per the requirements.

Code- reliability: In this system, the reliability of the code is easy and it is understandable to the end user.

Availability: This system which handles the data is relatively less busy. This increases the probability of the system being available continuously at any given time of interval.

Design Constraints

Hardware Limitations:

128 MB of RAM and a 60 MB hard drive are the system's minimal hardware requirements. Others: It should be possible to view the application initially through the Eclipse IDE and thereafter published on a server. The application should be created using Java and JavaScript embedded in HTML.

Design Standard:

The project follows multiple sets of rules and regulations so that there won’t be any data leakage and thefts. It follows the standard compliances set by many countries so that the project is reliable. The Capgemini has its own compliances which is adopted in the project.

Chapter 4 Detailed Design

In system design, the process of characterizing the aspects of the product is established in order to determine the desired model of the interface, segments, data, and architecture to meet the pre-defined requirements. This is the method of developing the app in a systematic manner.

System Perspective

The system perspective design is a method of showing the flow of process in the system in form of a diagram.

The project consists of 6 modules:

- Admin Module
- User Module
- Add to Cart
- Place order
- Payment, Billing and Shipping

Data Flow Diagram

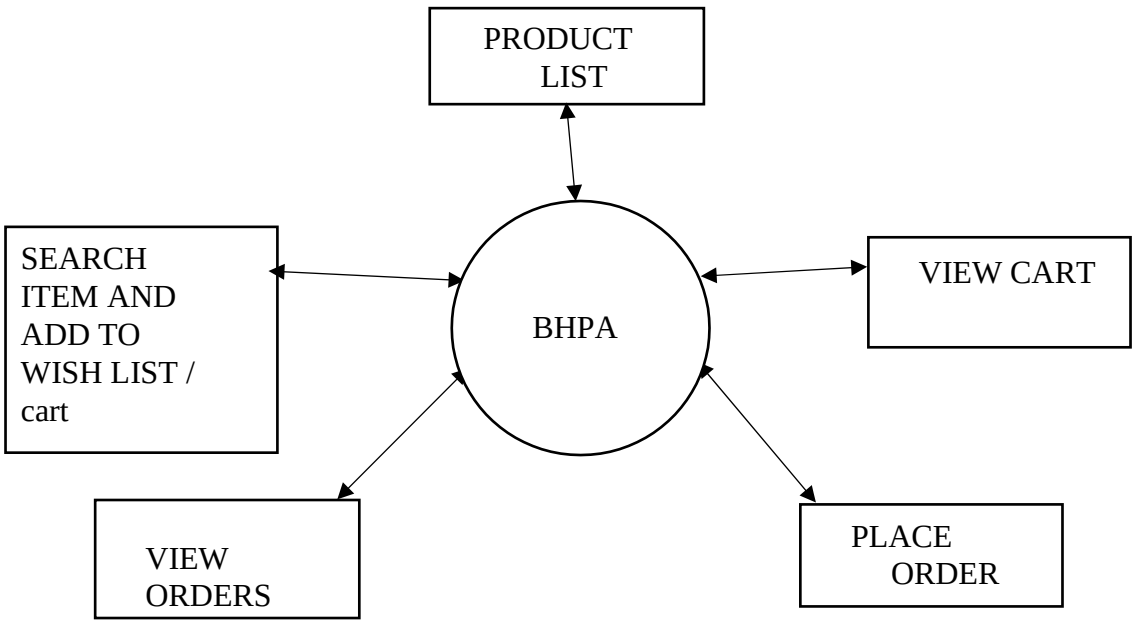
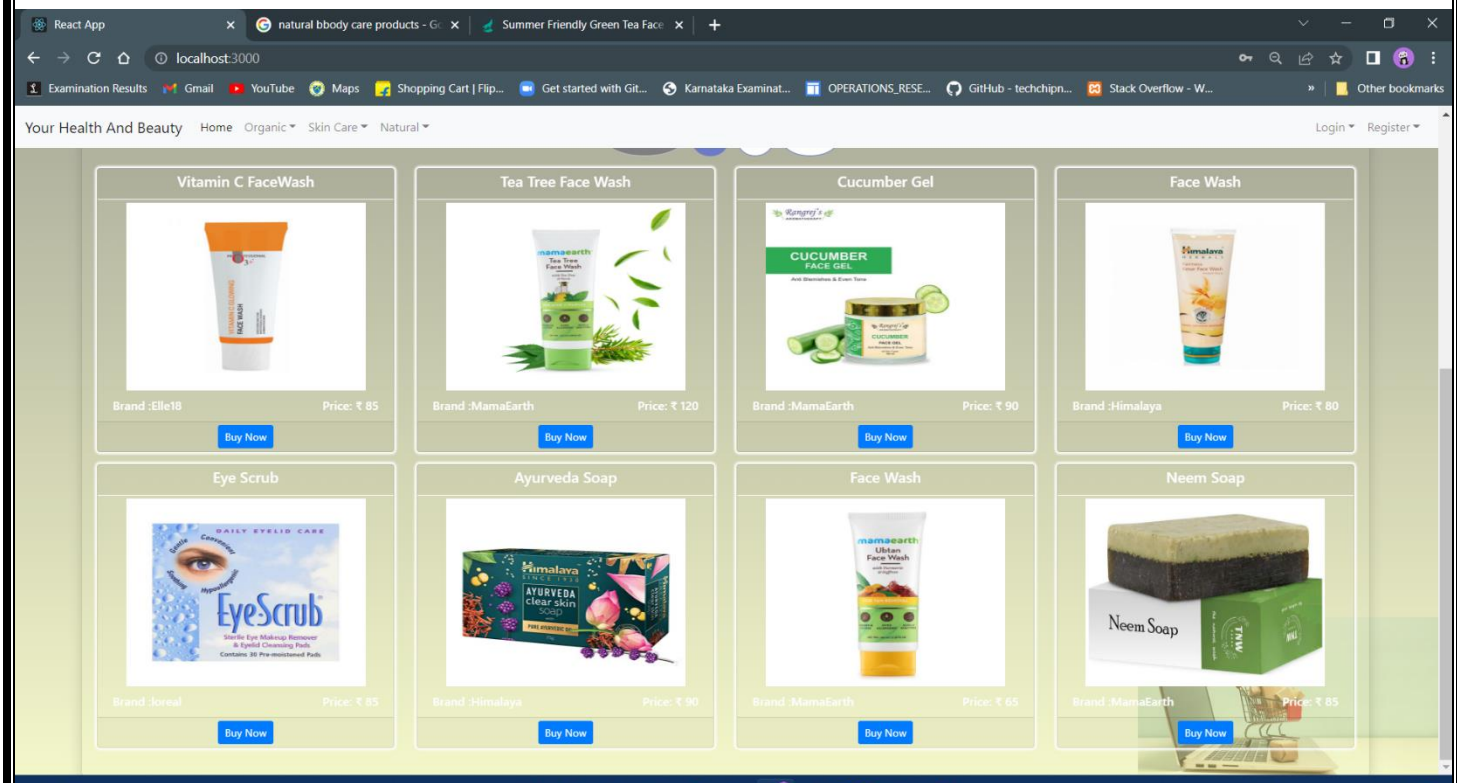
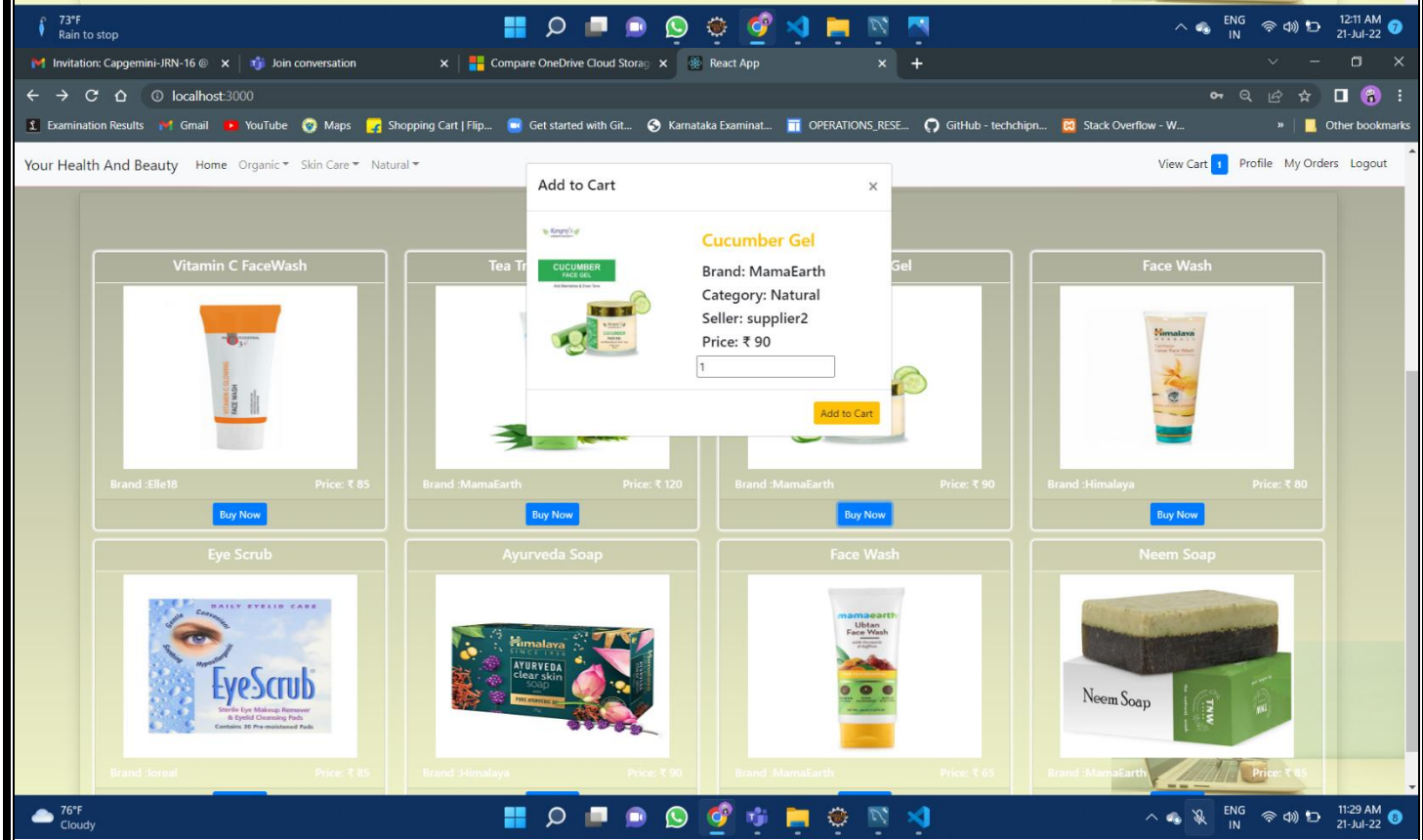


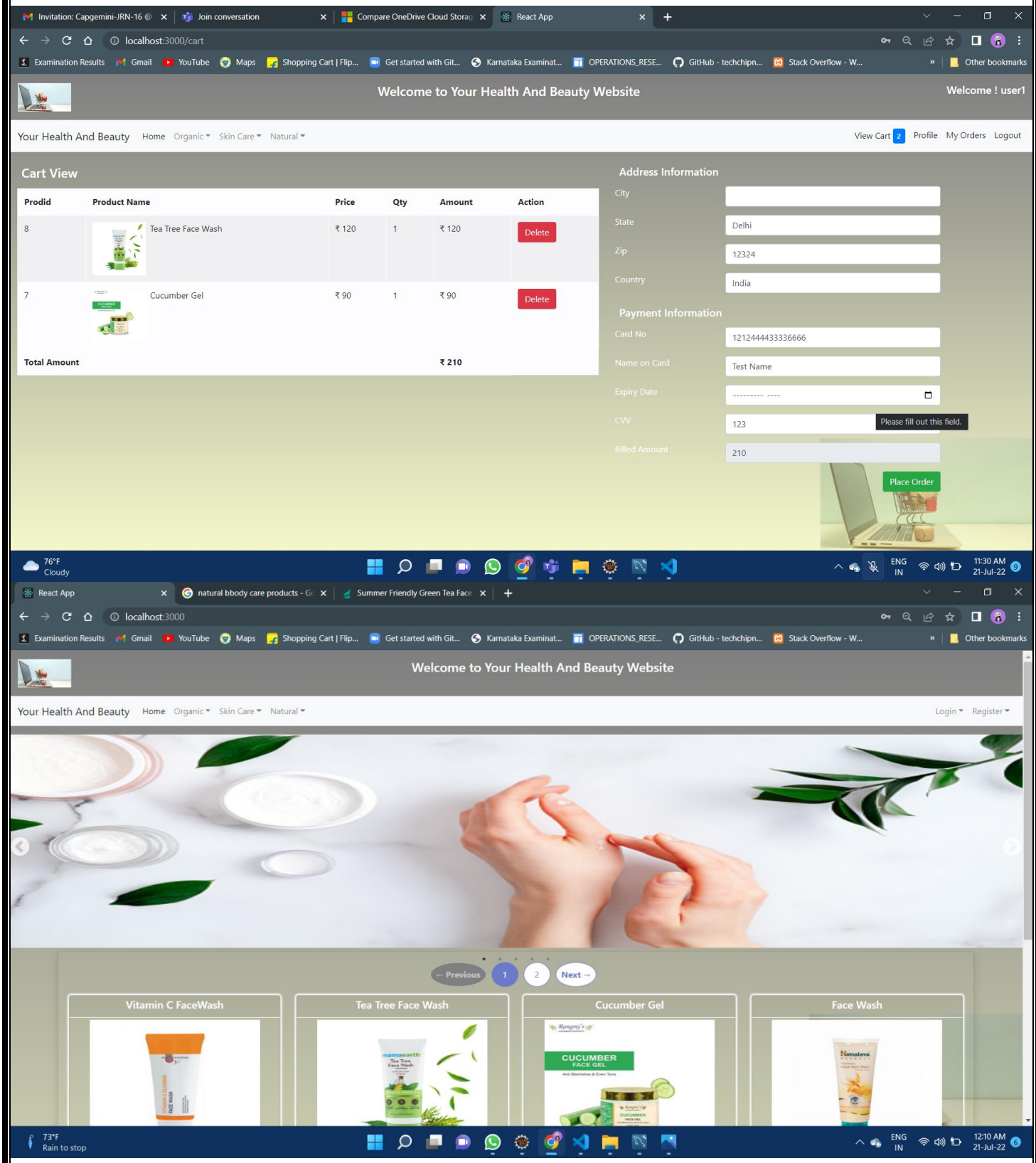
Fig 4.2 Zero Level DFD

Implementation

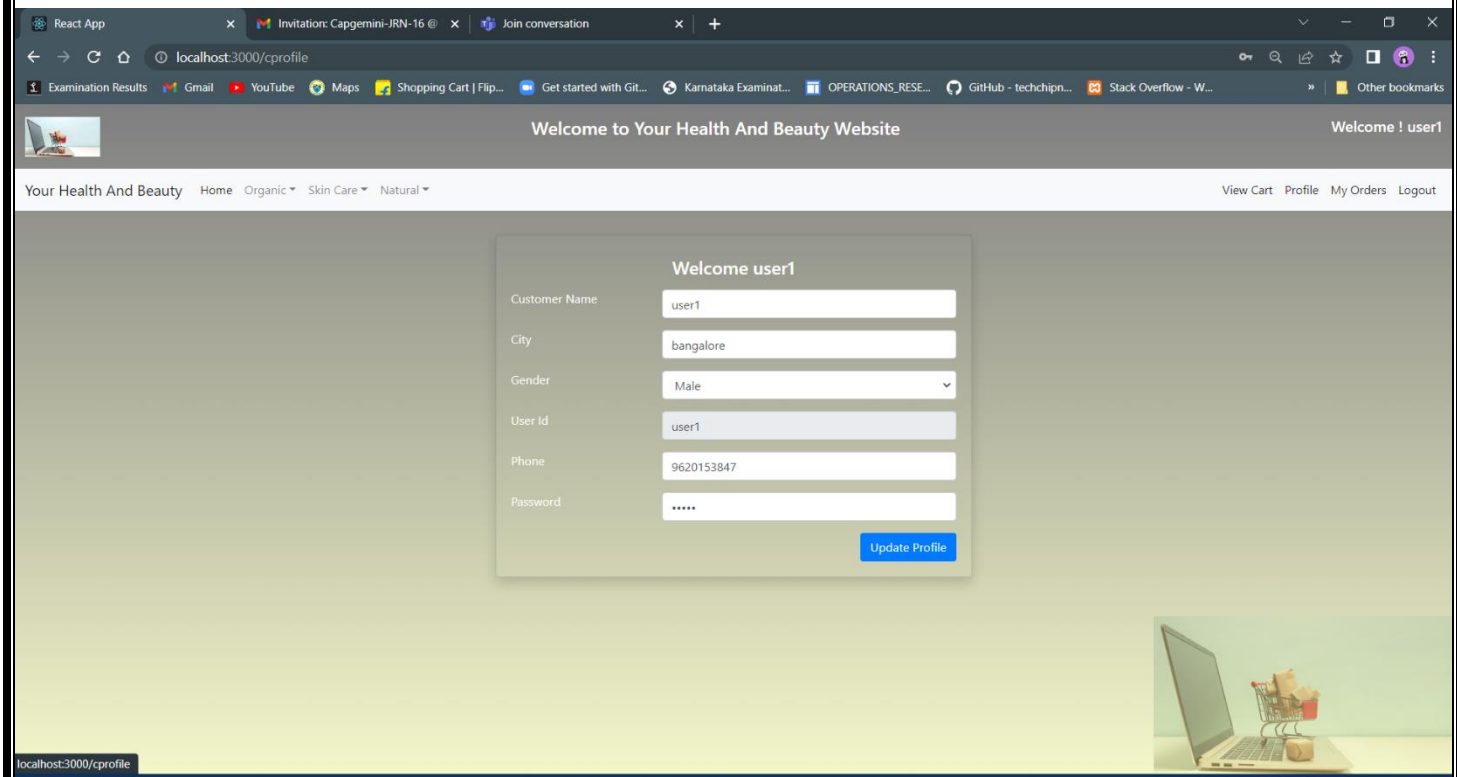
User Interface

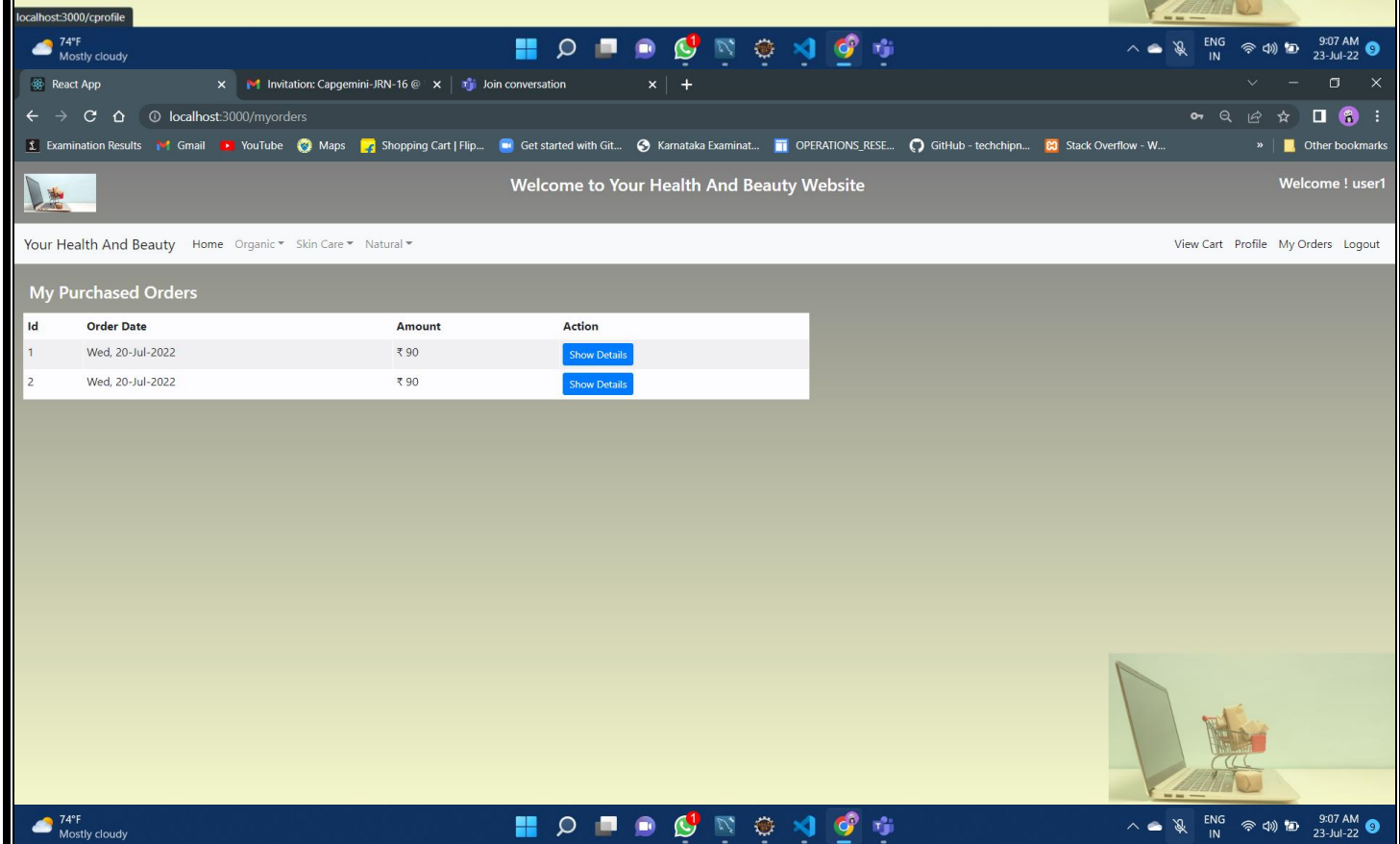


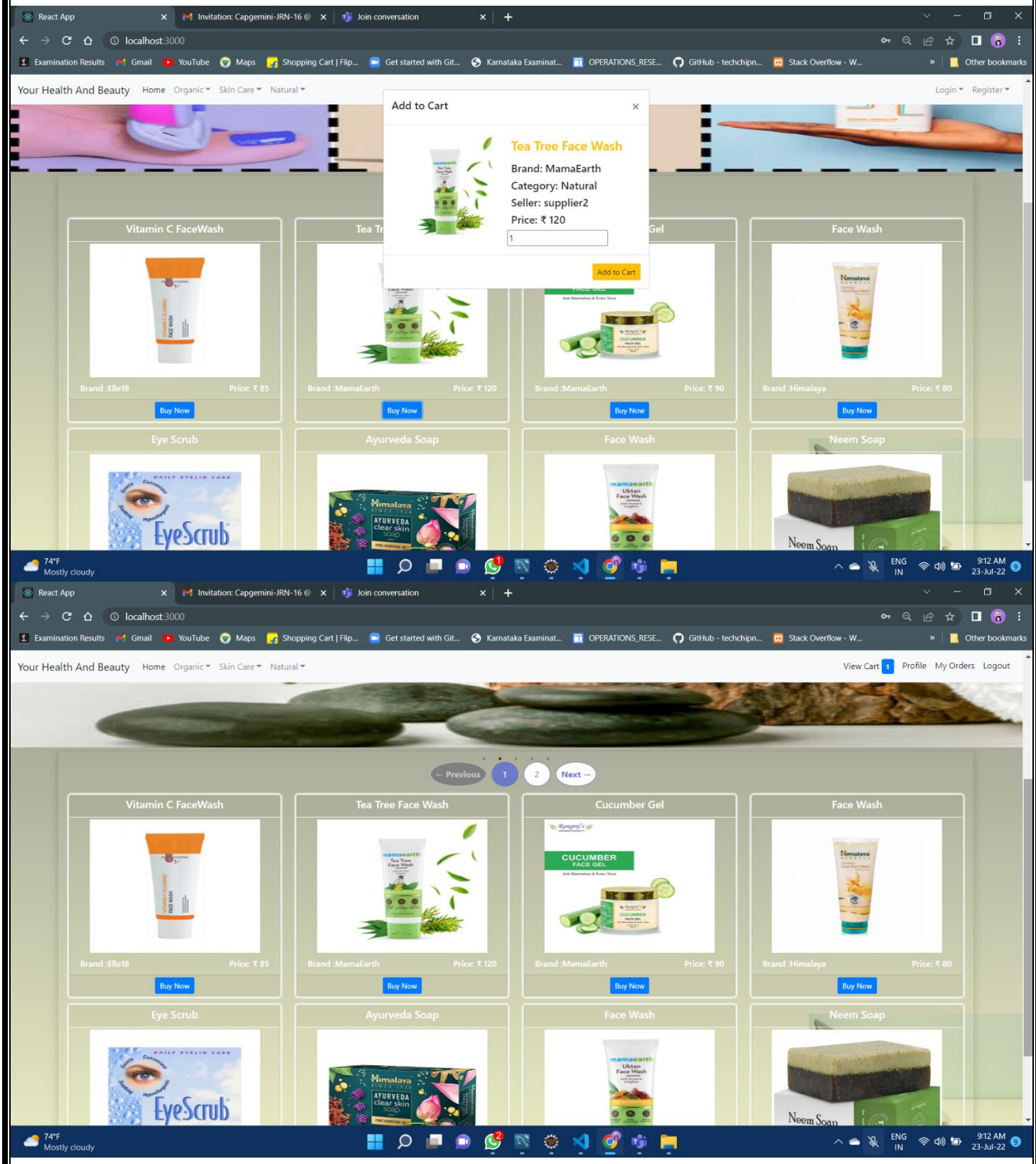


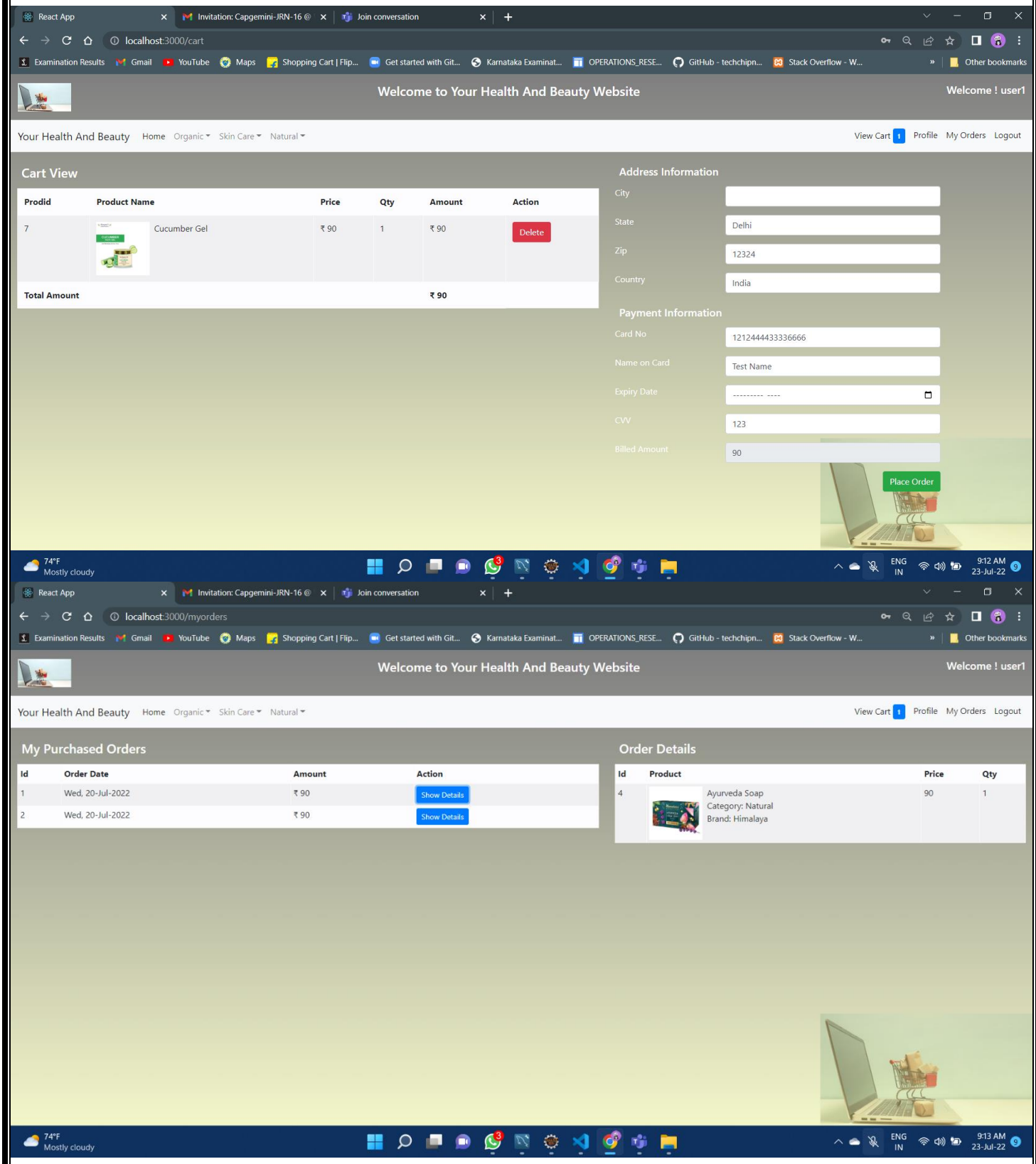

Welcome to Your Health And Beauty Website
Welcome ! user1
Your Health And Beauty
Home
Organic
Skin Care
Natural
View Cart 2
Profile
My Orders
Logout
Cart View
Prodid
Product Name
Price
Qty
Amount
Action
8
Tea Tree Face Wash
₹ 120
1
₹ 120
Delete
7
Cucumber Gel
₹ 90
1
₹ 90
Delete
Total Amount
₹ 210
Address Information
City
State
Delhi
Zip
12324
Country
India
Payment Information
Card No
1212444433336666
Name on Card
Test Name
Expiry Date
CVV
123
Please fill out this field.
Billed Amount
210
Place Order

Welcome to Your Health And Beauty Website
Your Health And Beauty
Home
Organic
Skin Care
Natural
Login
Register
← Previous
1
2
Next →
Vitamin C FaceWash
Tea Tree Face Wash
Cucumber Gel
Face Wash

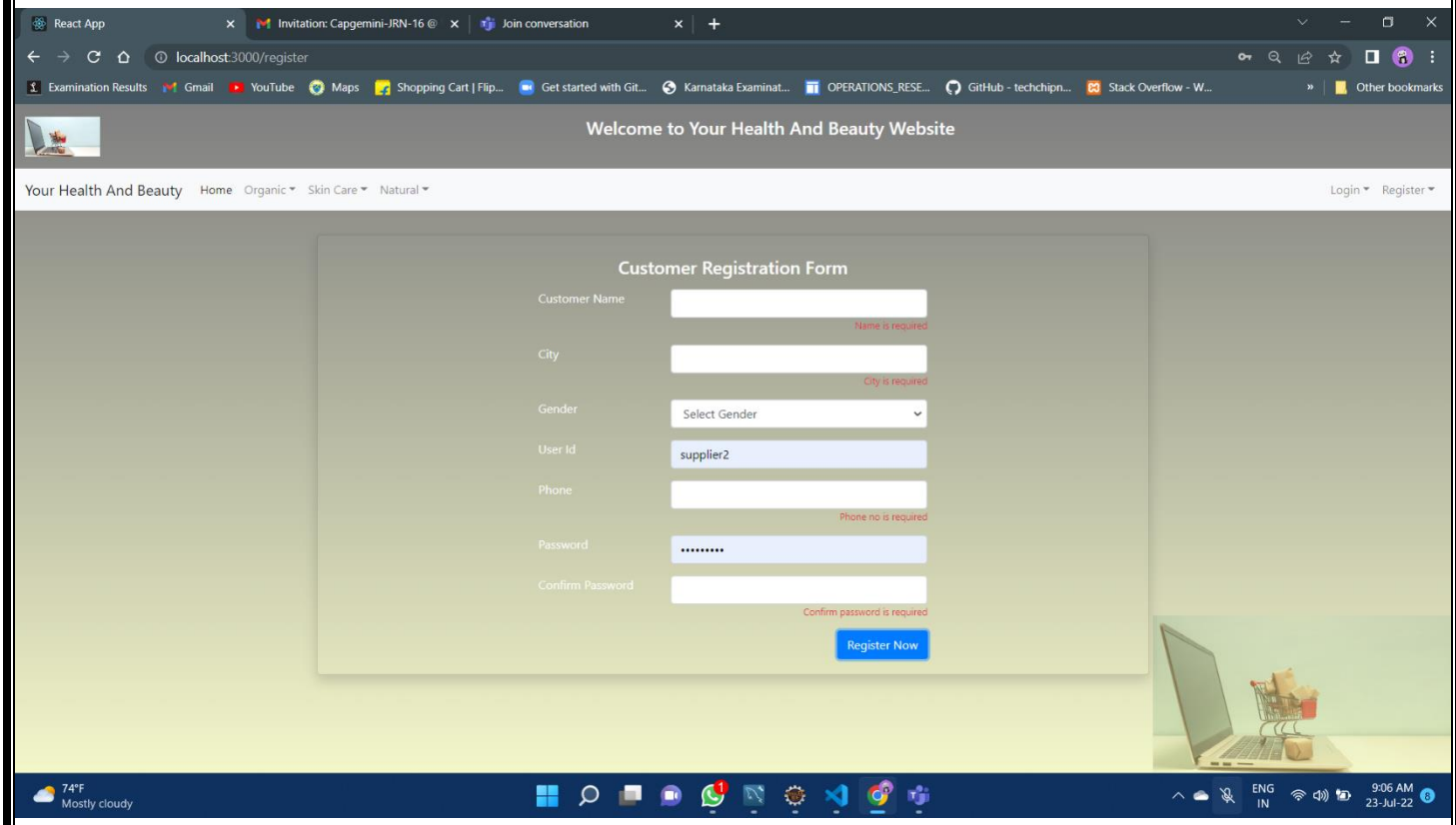

React App
Invitation: Capgemini-JRN-16 @
Join conversation
localhost:3000/cprofile
Welcome to Your Health And Beauty Website
Welcome ! user1
Your Health And Beauty
Home
Organic
Skin Care
Natural
View Cart
Profile
My Orders
Logout
Welcome user1
Customer Name
user1
City
bangalore
Gender
Male
User Id
user1
Phone
9620153847
Password
Update Profile


localhost:3000/cprofile
React App
Invitation: Capgemini-JRN-16 @
Join conversation
localhost:3000/myorders
Welcome to Your Health And Beauty Website
Welcome ! user1
Your Health And Beauty
Home
Organic
Skin Care
Natural
View Cart
Profile
My Orders
Logout
My Purchased Orders
Id
Order Date
Amount
Action
1
Wed, 20-Jul-2022
₹ 90
Show Details
2
Wed, 20-Jul-2022
₹ 90
Show Details

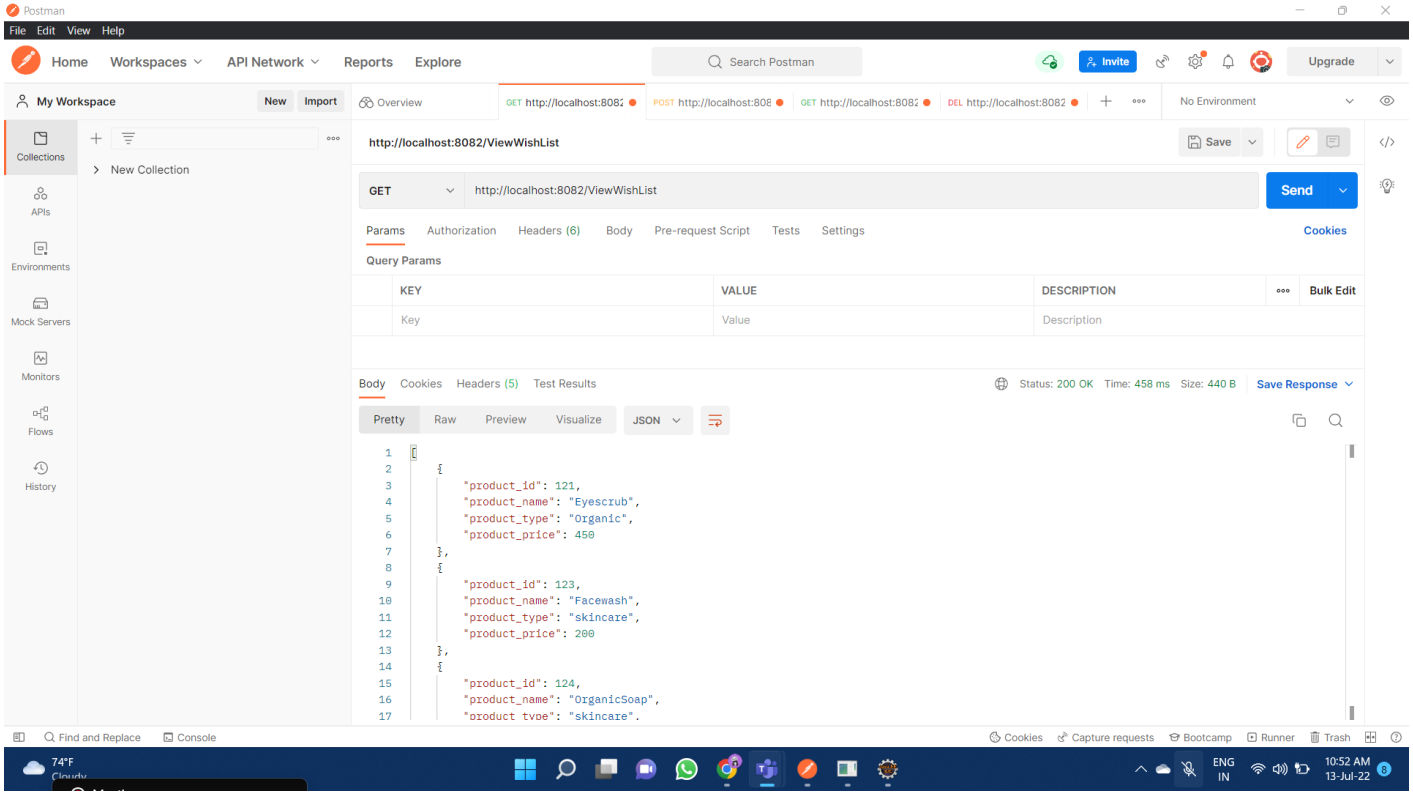

React App
Invitation: Capgemini-JRN-16 @
Join conversation
localhost:3000
Your Health And Beauty
Home
Organic
Skin Care
Natural
Login
Register
Add to Cart
Tea Tree Face Wash
Brand: MamaEarth
Category: Natural
Seller: supplier2
Price: ₹ 120
1
Add to Cart
Vitamin C FaceWash
Brand :Elle18
Price: ₹ 85
Buy Now
Tea Tree Face Wash
Brand :MamaEarth
Price: ₹ 120
Buy Now
Cucumber Gel
Brand :MamaEarth
Price: ₹ 90
Buy Now
Face Wash
Brand :Himalaya
Price: ₹ 80
Buy Now
Eye Scrub
Ayurveda Soap
Face Wash
Neem Soap
74°F
Mostly cloudy
ENG
IN
9:12 AM
23-Jul-22
View Cart
1
Profile
My Orders
Logout
← Previous
1
2
Next →

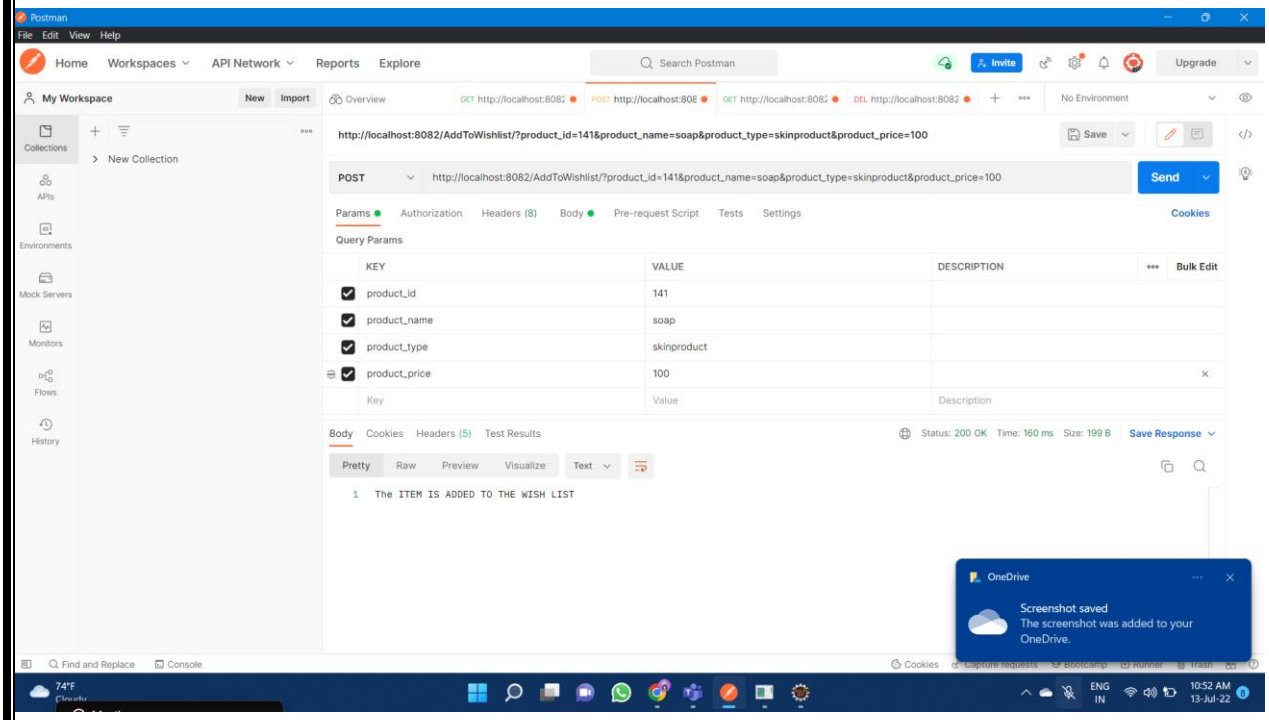

React App
Invitation: Capgemini-JRN-16 @
Join conversation
localhost:3000/cart
Welcome to Your Health And Beauty Website
Welcome ! user1
Your Health And Beauty
Home
Organic
Skin Care
Natural
View Cart 1
Profile
My Orders
Logout
Cart View
Prodid
Product Name
Price
Qty
Amount
Action
7
Cucumber Gel
₹ 90
1
₹ 90
Delete
Total Amount
₹ 90
Address Information
City
State
Delhi
Zip
12324
Country
India
Payment Information
Card No
1212444433336666
Name on Card
Test Name
Expiry Date
CVV
123
Billed Amount
90
Place Order
74°F
Mostly cloudy
ENG
IN
9:12 AM
23-Jul-22

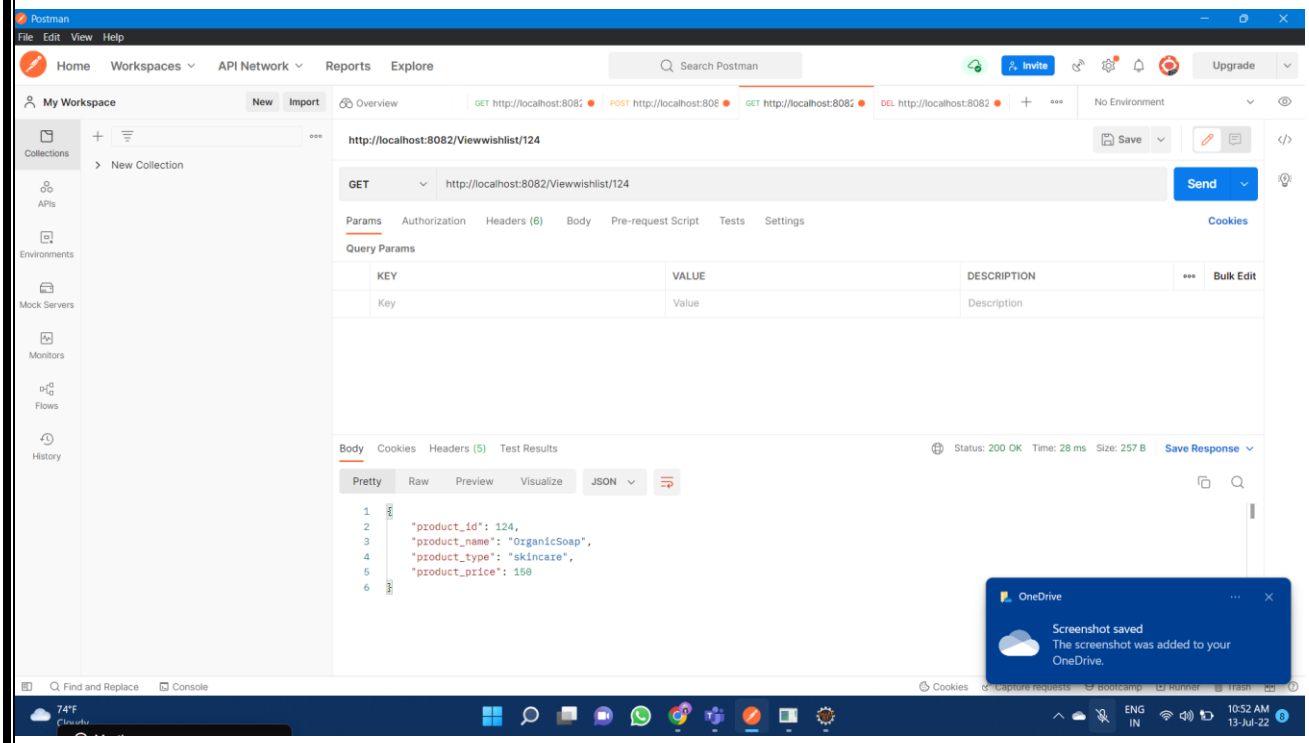
React App
Invitation: Capgemini-JRN-16 @
Join conversation
localhost:3000/myorders
Welcome to Your Health And Beauty Website
Welcome ! user1
Your Health And Beauty
Home
Organic
Skin Care
Natural
View Cart 1
Profile
My Orders
Logout
My Purchased Orders
Id
Order Date
Amount
Action
1
Wed, 20-Jul-2022
₹ 90
Show Details
2
Wed, 20-Jul-2022
₹ 90
Show Details
Order Details
Id
Product
Price
Qty
4
Ayurveda Soap
Category: Natural
Brand: Himalaya
90
1
74°F
Mostly cloudy
ENG
IN
9:13 AM
23-Jul-22



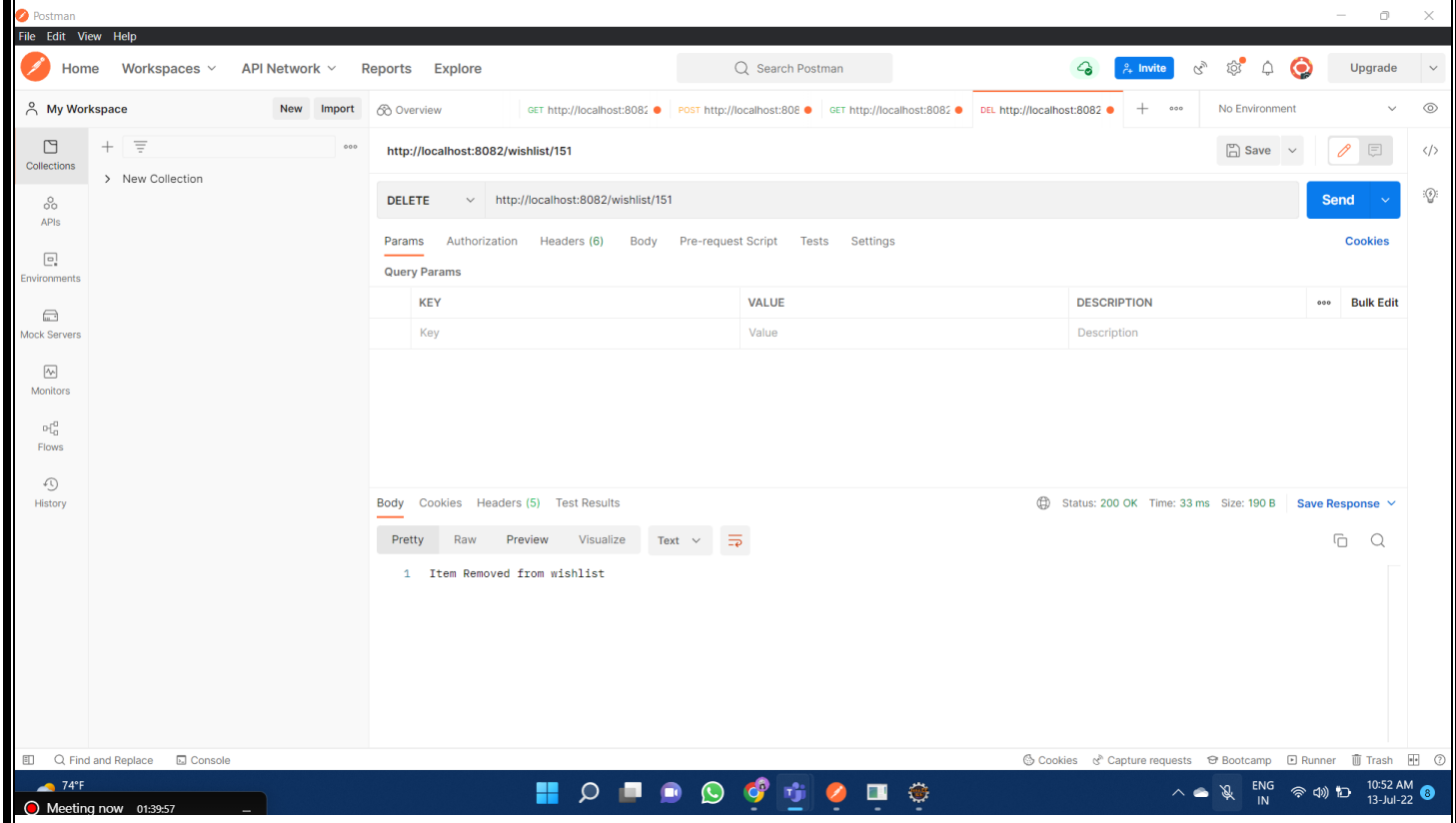
Post Man Server Connection Screen Shots



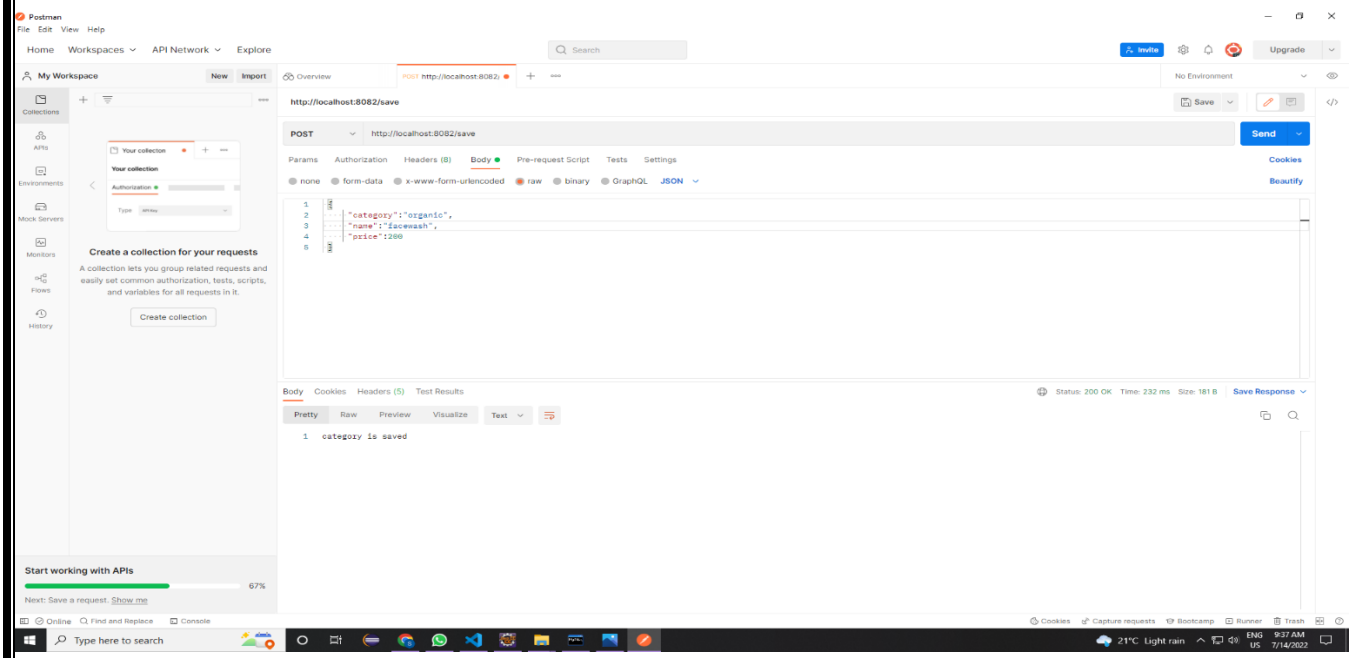

Postman
File Edit View Help
Home Workspaces API Network Reports Explore
Search Postman
Invite
Upgrade
My Workspace
New Import
Collections
APIs
Environments
Mock Servers
Monitors
Flows
History
New Collection
Overview
No Environment
http://localhost:8082/AddToWishlist/?product_id=141&product_name=soap&product_type=skinproduct&product_price=100
Save
POST
http://localhost:8082/AddToWishlist/?product_id=141&product_name=soap&product_type=skinproduct&product_price=100
Send
Params Authorization Headers (8) Body Pre-request Script Tests Settings
Cookies
Query Params
KEY
VALUE
DESCRIPTION
Bulk Edit
product_id
141
product_name
soap
product_type
skinproduct
product_price
100
Key
Value
Description
Body Cookies Headers (5) Test Results
Status: 200 OK Time: 160 ms Size: 199 B
Save Response
Pretty Raw Preview Visualize Text
1 The ITEM IS ADDED TO THE WISH LIST
OneDrive
Screenshot saved
The screenshot was added to your OneDrive.
Find and Replace
Console
Cookies
74°F
ENG IN
10:52 AM
13-Jul-22

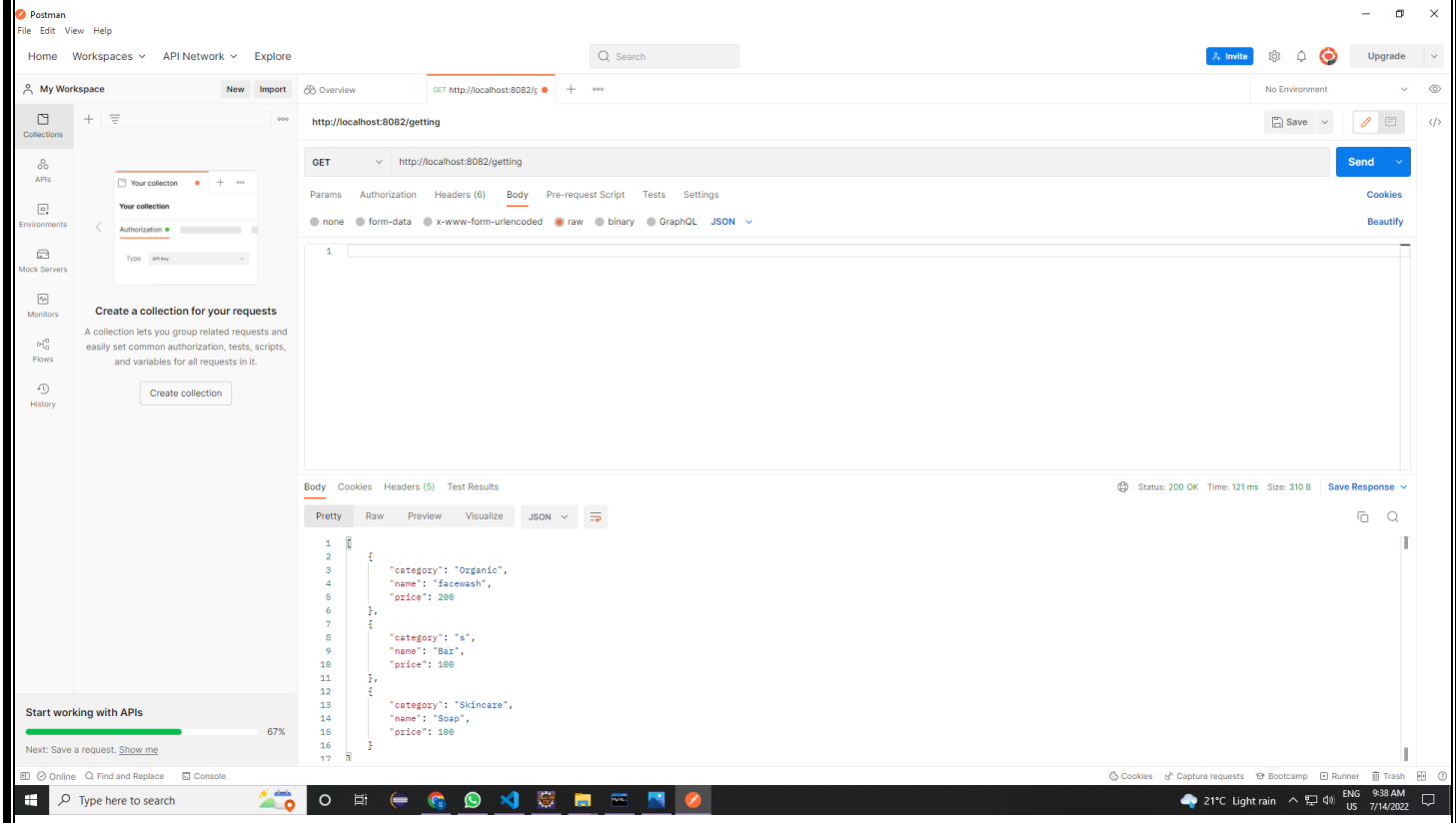

Postman
File Edit View Help
Home Workspaces API Network Reports Explore
Search Postman
Invite
Upgrade
My Workspace
New Import
Collections
APIs
Environments
Mock Servers
Monitors
Flows
History
New Collection
Overview
No Environment
http://localhost:8082/Viewwishlist/124
Save
GET
http://localhost:8082/Viewwishlist/124
Send
Params Authorization Headers (6) Body Pre-request Script Tests Settings
Cookies
Query Params
KEY
VALUE
DESCRIPTION
Bulk Edit
Key
Value
Description
Body Cookies Headers (5) Test Results
Status: 200 OK Time: 28 ms Size: 257 B
Save Response
Pretty Raw Preview Visualize JSON
1 {
2 "product_id": 124,
3 "product_name": "OrganicSoap",
4 "product_type": "skincare",
5 "product_price": 150
6 }
OneDrive
Screenshot saved
The screenshot was added to your OneDrive.
Find and Replace
Console
Cookies
74°F
ENG IN
10:52 AM
13-Jul-22

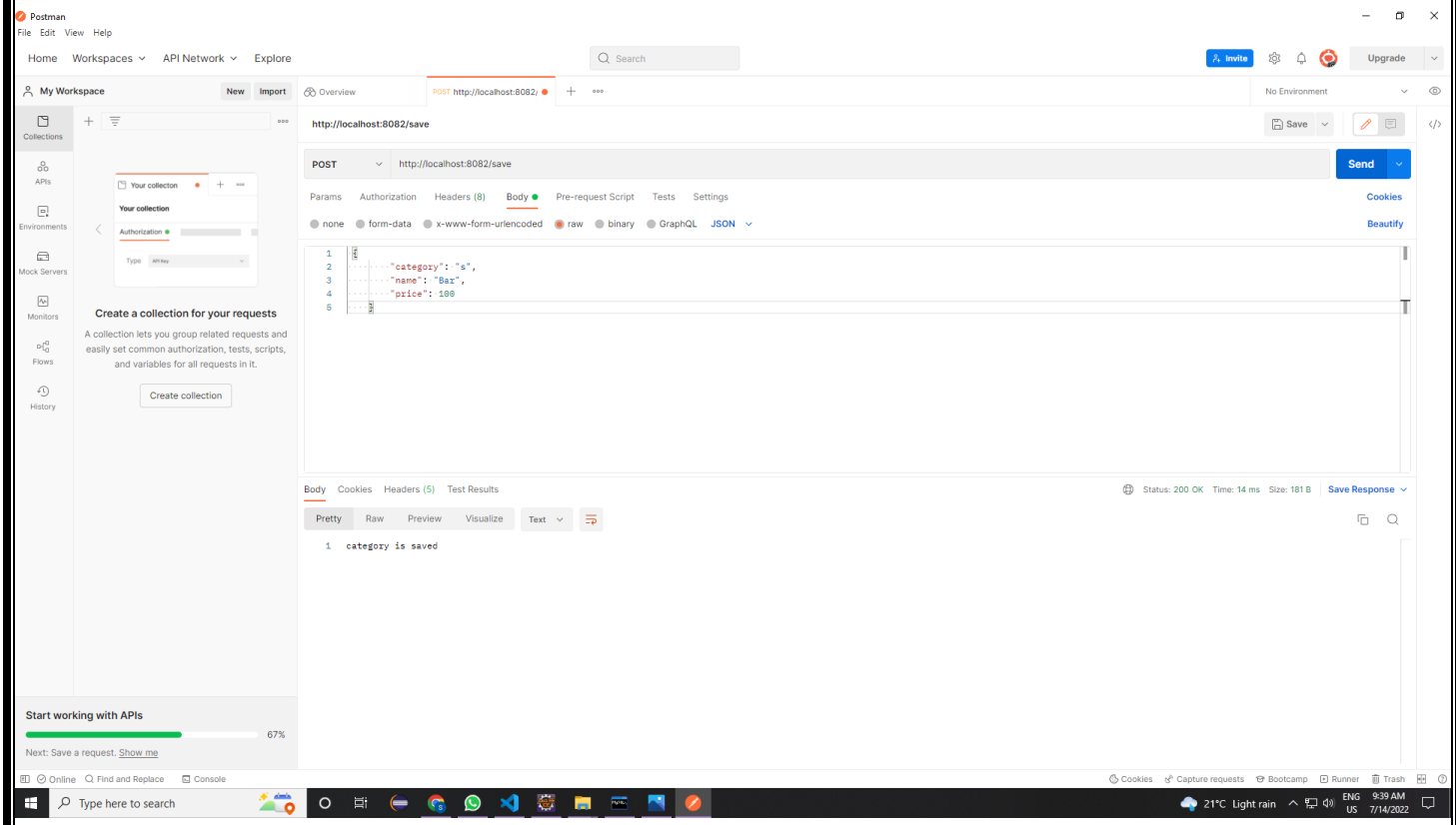
Delete an item .

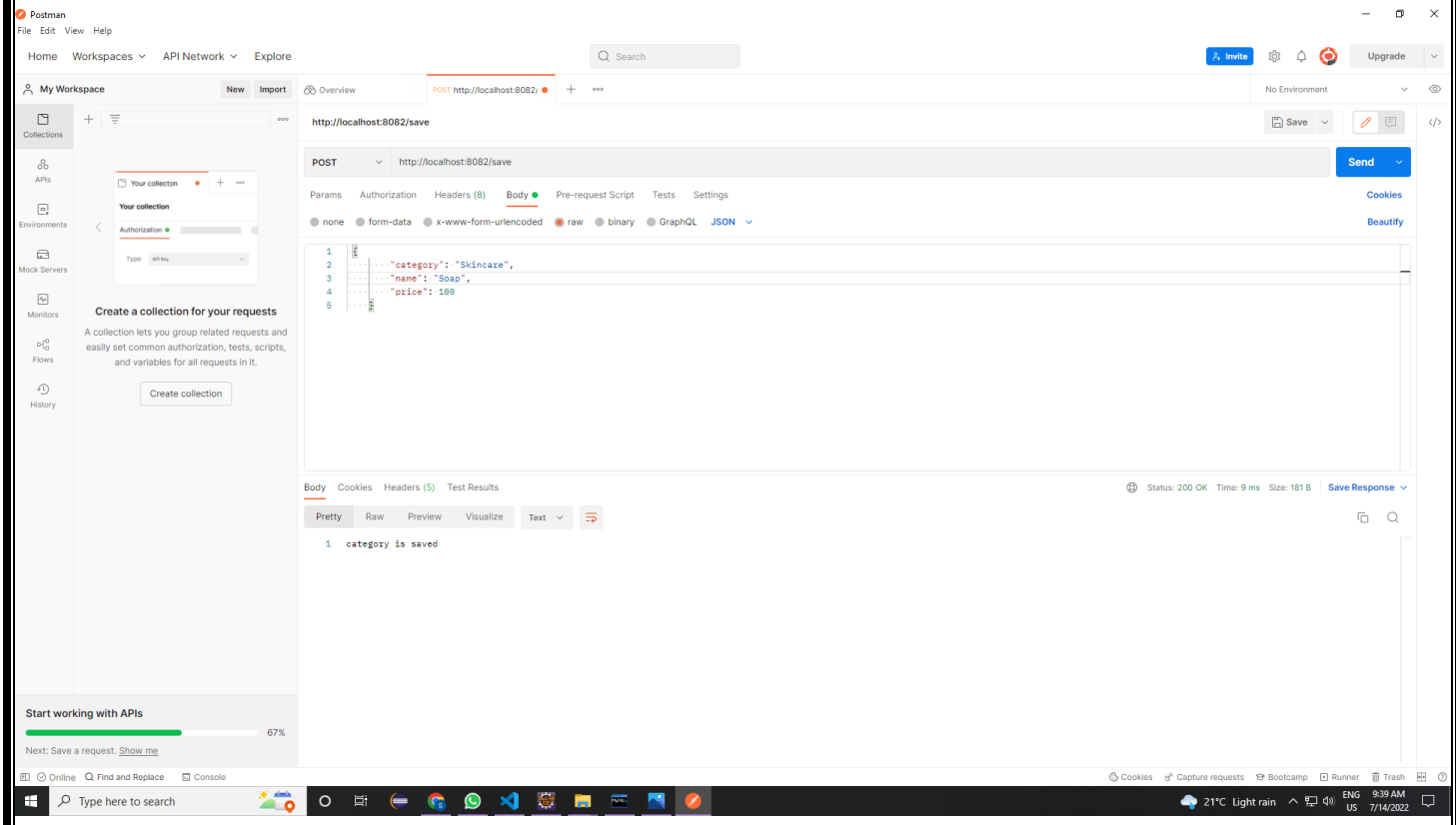


Search an item.




Postman
File Edit View Help
Home Workspaces API Network Explore
Search
Invite
Upgrade
My Workspace
New Import
Collections
APIs
Environments
Mock Servers
Monitors
Flows
History
Create a collection for your requests
A collection lets you group related requests and easily set common authorization, tests, scripts, and variables for all requests in it.
Create collection
Start working with APIs
67%
Next: Save a request. Show me
Overview
GET http://localhost:8082/g
No Environment
http://localhost:8082/getting
Save
GET
http://localhost:8082/getting
Send
Params Authorization Headers (6) Body Pre-request Script Tests Settings
Cookies
none form-data x-www-form-urlencoded raw binary GraphQL JSON
Beautify
Body Cookies Headers (5) Test Results
Status: 200 OK Time: 121 ms Size: 310 B
Save Response
Pretty Raw Preview Visualize JSON
[
{
"category": "Organic",
"name": "facewash",
"price": 200
},
{
"category": "s",
"name": "Bar",
"price": 100
},
{
"category": "Skincare",
"name": "Soap",
"price": 100
}
]
Online Find and Replace Console
Cookies Capture requests Bootcamp Runner Trash
Type here to search
21°C Light rain
ENG US
9:38 AM
7/14/2022


Postman
File Edit View Help
Home Workspaces API Network Explore
Search
Invite
Upgrade
My Workspace
New Import
Overview
POST http://localhost:8082/
No Environment
http://localhost:8082/save
Save
POST
http://localhost:8082/save
Send
Params Authorization Headers (8) Body Pre-request Script Tests Settings
Cookies
none form-data x-www-form-urlencoded raw binary GraphQL JSON
Beautify
{
"category": "s",
"name": "Bar",
"price": 100
}
Collections
APIs
Environments
Mock Servers
Monitors
Flows
History
Create a collection for your requests
A collection lets you group related requests and easily set common authorization, tests, scripts, and variables for all requests in it.
Create collection
Body Cookies Headers (5) Test Results
Status: 200 OK Time: 14 ms Size: 181 B
Save Response
Pretty Raw Preview Visualize Text
1 category is saved
Start working with APIs
67%
Next: Save a request. Show me
Online Find and Replace Console
Cookies Capture requests Bootcamp Runner Trash
Type here to search
21°C Light rain
ENG US
9:39 AM 7/14/2022


Postman
File Edit View Help
Home Workspaces API Network Explore
Search
Invite
Upgrade
My Workspace
New Import
Overview
POST http://localhost:8082/
No Environment
http://localhost:8082/save
Save
POST
http://localhost:8082/save
Send
Params Authorization Headers (8) Body Pre-request Script Tests Settings
Cookies
none form-data x-www-form-urlencoded raw binary GraphQL JSON
Beautify
{
"category": "Skincare",
"name": "Soap",
"price": 100
}
Collections
APIs
Environments
Mock Servers
Monitors
Flows
History
Create a collection for your requests
A collection lets you group related requests and easily set common authorization, tests, scripts, and variables for all requests in it.
Create collection
Body Cookies Headers (5) Test Results
Status: 200 OK Time: 9 ms Size: 181 B
Save Response
Pretty Raw Preview Visualize Text
1 category is saved
Start working with APIs
67%
Next: Save a request. Show me
Online Find and Replace Console
Cookies Capture requests Bootcamp Runner Trash
Type here to search
21°C Light rain
ENG US
9:39 AM 7/14/2022