

# FOOD ORDERING APPLICATION

## INTRODUCTION

Introducing SB Foods, the cutting-edge digital platform poised to revolutionize the way you order food online. With SB Foods, your food ordering experience will reach unparalleled levels of convenience and efficiency.

Our user-friendly web app empowers foodies to effortlessly explore, discover, and order dishes tailored to their unique tastes. Whether you're a seasoned food enthusiast or an occasional diner, finding the perfect meals has never been more straightforward.

Imagine having comprehensive details about each dish at your fingertips. From dish descriptions and customer reviews to pricing and available promotions, you'll have all the information you need to make well-informed choices. No more second-guessing or uncertainty – SB Foods ensures that every aspect of your online food ordering journey is crystal clear.

The ordering process is a breeze. Just provide your name, delivery address, and preferred payment method, along with your desired dishes. Once you place your order, you'll receive an instant confirmation. No more waiting in long queues or dealing with complicated ordering processes – SB Foods streamlines it, making it quick and hassle-free.

Here are the key features of the "Order On The Go" project — a platform designed for users to order food or items conveniently from nearby vendors using a website or mobile app:

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🔑 Key Features of "Order On The Go"

## 1. User Management

User Registration & Login

Secure sign-up and login for customers and vendors.

Profile Management

Users can update their personal details and preferences.

## 2. Browse & Search

Menu/Item Browsing

View items by category (food, beverages, etc.)

Smart Search

Search for items or restaurants by name, type, or location.

Filter & Sort

Filter items by price, rating, popularity, or availability.

### **3. Live Ordering System**

Real-Time Menu Updates

Vendors can update item availability instantly.

Add to Cart & Checkout

Simple cart management and secure checkout process.

### **4. Order Tracking**

Order Status Updates

Track order status (e.g., Preparing → Ready → Picked).

Notifications

Push or SMS updates for order confirmations and progress.

### **5. Payment Integration**

Multiple Payment Options

UPI, Credit/Debit Cards, Cash on Delivery.

Secure Transactions

End-to-end encrypted payments.

### **6. Vendor Dashboard**

Order Management

Vendors receive and manage customer orders in real time.

Inventory Management

Update item listings, prices, stock status.

Sales Reports

View analytics and sales summaries.

### **7. Admin Panel**

User & Vendor Management

Admin can add/block vendors or users.

Platform Monitoring

View reports on overall usage, sales, and feedback.

## **8. Geolocation Support**

Find Nearby Vendors

Detect user location and show closest restaurants or outlets.

Delivery Radius Settings

Vendors can limit delivery to certain areas.

## **9. Ratings & Reviews**

Customer Feedback

Users can rate and review vendors and items.

Vendor Response

Vendors can reply to feedback.

## **10. Responsive UI**

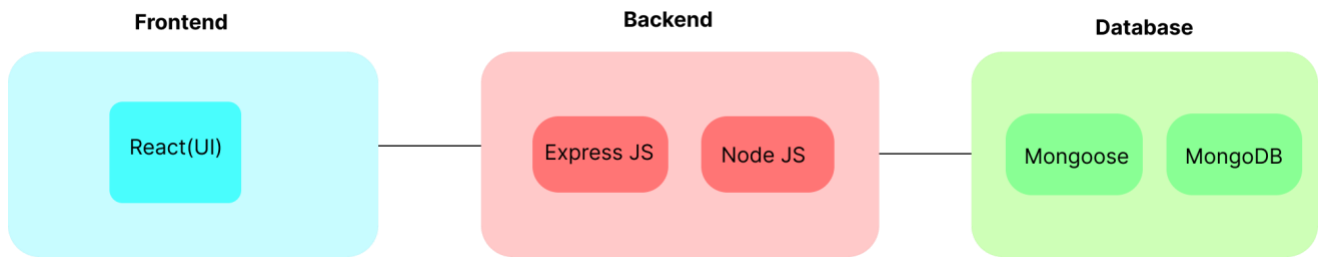
Mobile-Friendly Design

Accessible on both mobile devices and desktop.

Fast & Lightweight

Optimized performance for slow internet connections.

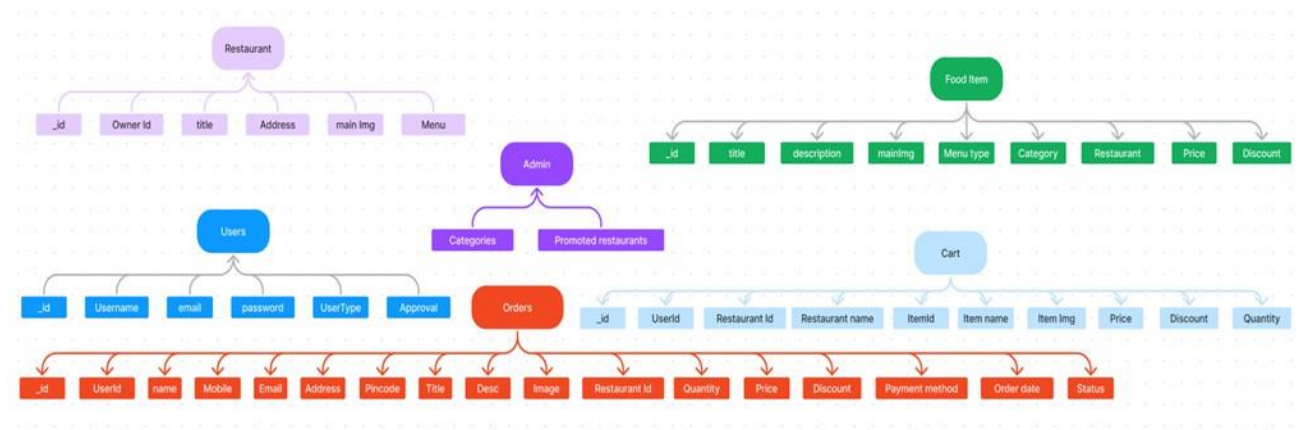
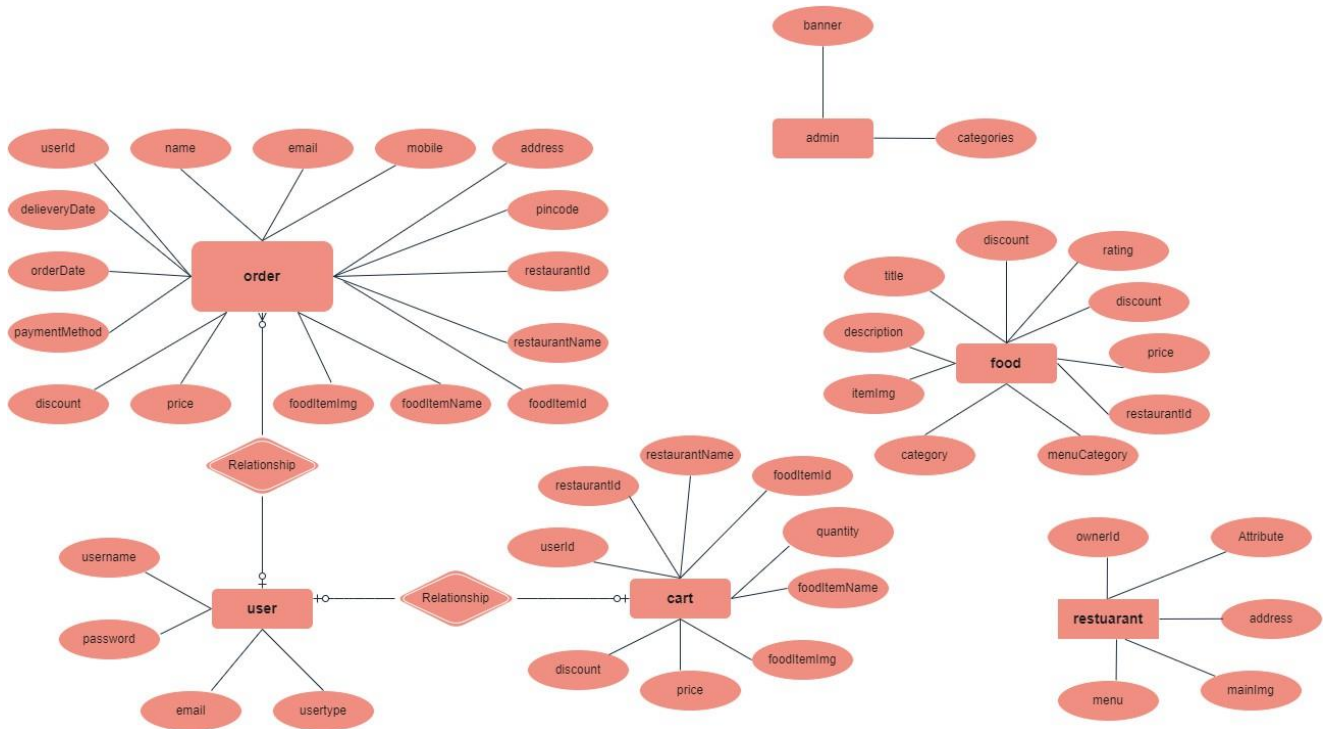
## TECHNICAL ARCHITECTURE:



In this architecture diagram:

- The frontend is represented by the "Frontend" section, including user interface components such as User Authentication, Cart, Products, Profile, Admin dashboard, etc.,
- The backend is represented by the "Backend" section, consisting of API endpoints for Users, Orders, Products, etc., It also includes Admin Authentication and an Admin Dashboard.
- The Database section represents the database that stores collections for Users, Admin, Cart, Orders, and products.

**ER DIAGRAM:**



The SB Foods ER-diagram represents the entities and relationships involved in an food ordering e-commerce system. It illustrates how users, restaurants, products, carts, and orders are interconnected. Here is a breakdown of the entities and their relationships:

**User:** Represents the individuals or entities who are registered in the platform.

**Restaurant:** This represents the collection of details of each restaurant in the platform.

**Admin:** Represents a collection with important details such as promoted restaurants and Categories.

**Products:** Represents a collection of all the food items available in the platform.

**Cart:** This collection stores all the products that are added to the cart by users. Here, the elements in the cart are differentiated by the user Id.

**Orders:** This collection stores all the orders that are made by the users in the platform.

## FEATURES:

1. **Comprehensive Product Catalog:** SB Foods boasts an extensive catalog of food items from various restaurants, offering a diverse range of items and options for shoppers. You can effortlessly explore and discover various products, complete with detailed descriptions, customer reviews, pricing, and available discounts, to find the perfect food for your hunger.
2. **Order Details Page:** Upon clicking the "Shop Now" button, you will be directed to an order details page. Here, you can provide relevant information such as your shipping address, preferred payment method, and any specific product requirements.
3. **Secure and Efficient Checkout Process:** SB Foods guarantees a secure and efficient checkout process. Your personal information will be handled with the utmost security, and we strive to make the purchasing process as swift and trouble-free as possible.
4. **Order Confirmation and Details:** After successfully placing an order, you will receive a confirmation notification. Subsequently, you will be directed to an order details page, where you can review all pertinent information about your order, including shipping details, payment method, and any specific product requests you specified.

In addition to these user-centric features, SB Foods provides a robust restaurant dashboard, offering restaurants an array of functionalities to efficiently manage their products and sales. With the restaurant dashboard, restaurants can add and oversee multiple product listings, view order history, monitor customer activity, and access order details for all purchases.

SB Foods is designed to elevate your online food ordering experience by providing a seamless and user-friendly way to discover your desired foods. With our efficient checkout process, comprehensive product catalog, and robust restaurant dashboard, we ensure a convenient and enjoyable online shopping experience for both shoppers and restaurants alike.

## PREREQUISITES:

To develop a full-stack food ordering app using React JS, Node.js, and MongoDB, there are several prerequisites you should consider. Here are the key prerequisites for developing such an application:

**Node.js and npm:** Install Node.js, which includes npm (Node Package Manager), on your development machine. Node.js is required to run JavaScript on the server

side. • Download: <https://nodejs.org/en/download/>

- Installation instructions: <https://nodejs.org/en/download/package-manager/>

**MongoDB:** Set up a MongoDB database to store hotel and booking information. Install MongoDB locally or use a cloud-based MongoDB service.

- Download: <https://www.mongodb.com/try/download/community>
- Installation instructions: <https://docs.mongodb.com/manual/installation/>

**Express.js:** Express.js is a web application framework for Node.js. Install Express.js to handle server-side routing, middleware, and API development.

- Installation: Open your command prompt or terminal and run the following command: **npm install express**

**React.js:** React.js is a popular JavaScript library for building user interfaces. It enables developers to create interactive and reusable UI components, making it easier to build dynamic and responsive web applications. To install React.js, a JavaScript library for building user interfaces, follow the installation guide: <https://reactjs.org/docs/create-a-new-react-app.html>

**HTML, CSS, and JavaScript:** Basic knowledge of HTML for creating the structure of your app, CSS for styling, and JavaScript for client-side interactivity is essential.

**Database Connectivity:** Use a MongoDB driver or an Object-Document Mapping (ODM) library like Mongoose to connect your Node.js server with the MongoDB database and perform CRUD (Create, Read, Update, Delete) operations.

**Front-end Framework:** Utilize Angular to build the user-facing part of the application, including product listings, booking forms, and user interfaces for the admin dashboard.

**Version Control:** Use Git for version control, enabling collaboration and tracking changes throughout the development process. Platforms like GitHub or Bitbucket can host your repository.

- Git: Download and installation instructions can be found at: <https://git-scm.com/downloads>

**Development Environment:** Choose a code editor or Integrated Development Environment (IDE) that suits your preferences, such as Visual Studio Code, Sublime Text, or WebStorm.

- Visual Studio Code: Download from <https://code.visualstudio.com/download>
- Sublime Text: Download from <https://www.sublimetext.com/download>

- WebStorm: Download from <https://www.jetbrains.com/webstorm/download>

**To Connect the Database with Node JS go through the below provided link:**

Link: <https://www.section.io/engineering-education/nodejs-mongoosejs-mongodb/>

**To run the existing SB Foods App project downloaded from github:**

Follow below steps:

**Clone the repository:**

- Open your terminal or command prompt.
- Navigate to the directory where you want to store the e-commerce app.
- Execute the following command to clone the repository:

**Git clone:** <https://github.com/harsha-vardhan-reddy-07/Food-Ordering-App-MERN>

**Install Dependencies:**

- Navigate into the cloned repository directory:  
**cd Food-Ordering-App-MERN**
- Install the required dependencies by running the following command:  
**npm install**

**Start the Development Server:**

- To start the development server, execute the following command:  
**npm run dev or npm run start**
- The e-commerce app will be accessible at <http://localhost:3000> by default. You can change the port configuration in the .env file if needed.

**Access the App:**

- Open your web browser and navigate to <http://localhost:3000>.
- You should see the flight booking app's homepage, indicating that the installation and setup were successful.

You have successfully installed and set up the SB Foods app on your local machine. You can now proceed with further customization, development, and testing as needed.



## **USER & ADMIN FLOW:**

### **1. User Flow:**

- Users start by registering for an account.
- After registration, they can log in with their credentials.
- Once logged in, they can check for the available products in the platform.
- Users can add the products they wish to their carts and order.
- They can then proceed by entering address and payment details.
- After ordering, they can check them in the profile section.

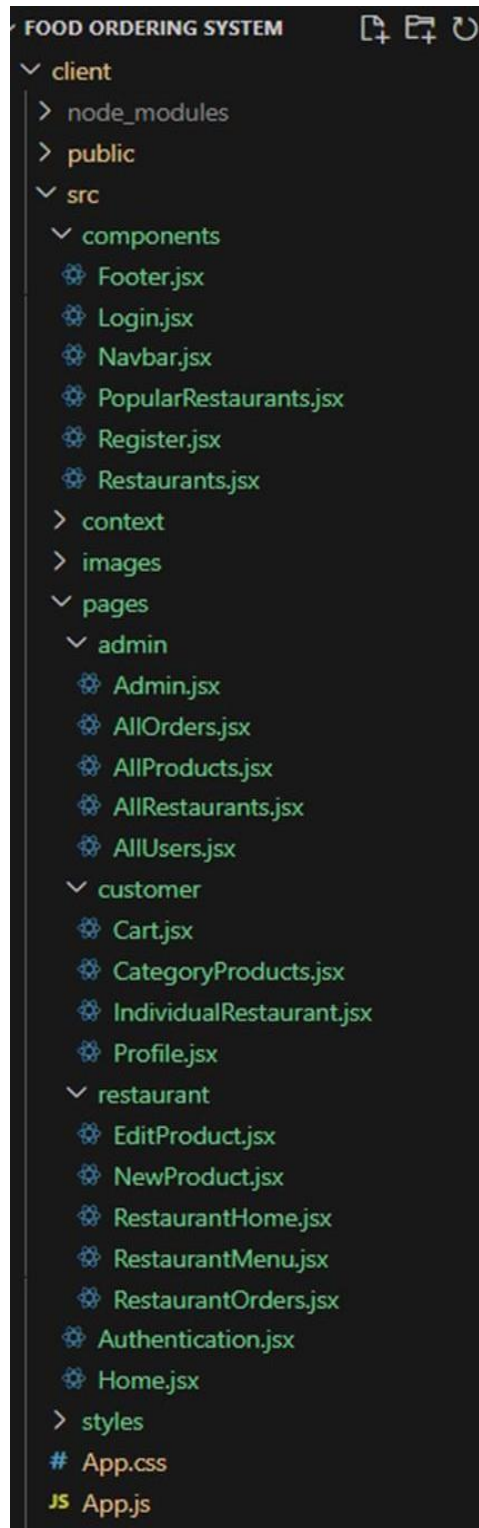
### **2. Restaurant Flow:**

- Restaurants start by authenticating with their credentials.
- They need to get approval from the admin to start listing the products.
- They can add/edit the food items.

### **3. Admin Flow:**

- Admins start by logging in with their credentials.
- Once logged in, they are directed to the Admin Dashboard.
- Admins can access the users list, products, orders, etc.

## PROJECT STRUCTURE





This structure assumes a React app and follows a modular approach. Here's a brief explanation of the main directories and files:

- src/components: Contains components related to the application such as, register, login, home, etc.,
- src/pages has the files for all the pages in the application.

## PROJECT SETUP AND CONFIGURATION:

### Install required tools and software:

- Node.js.

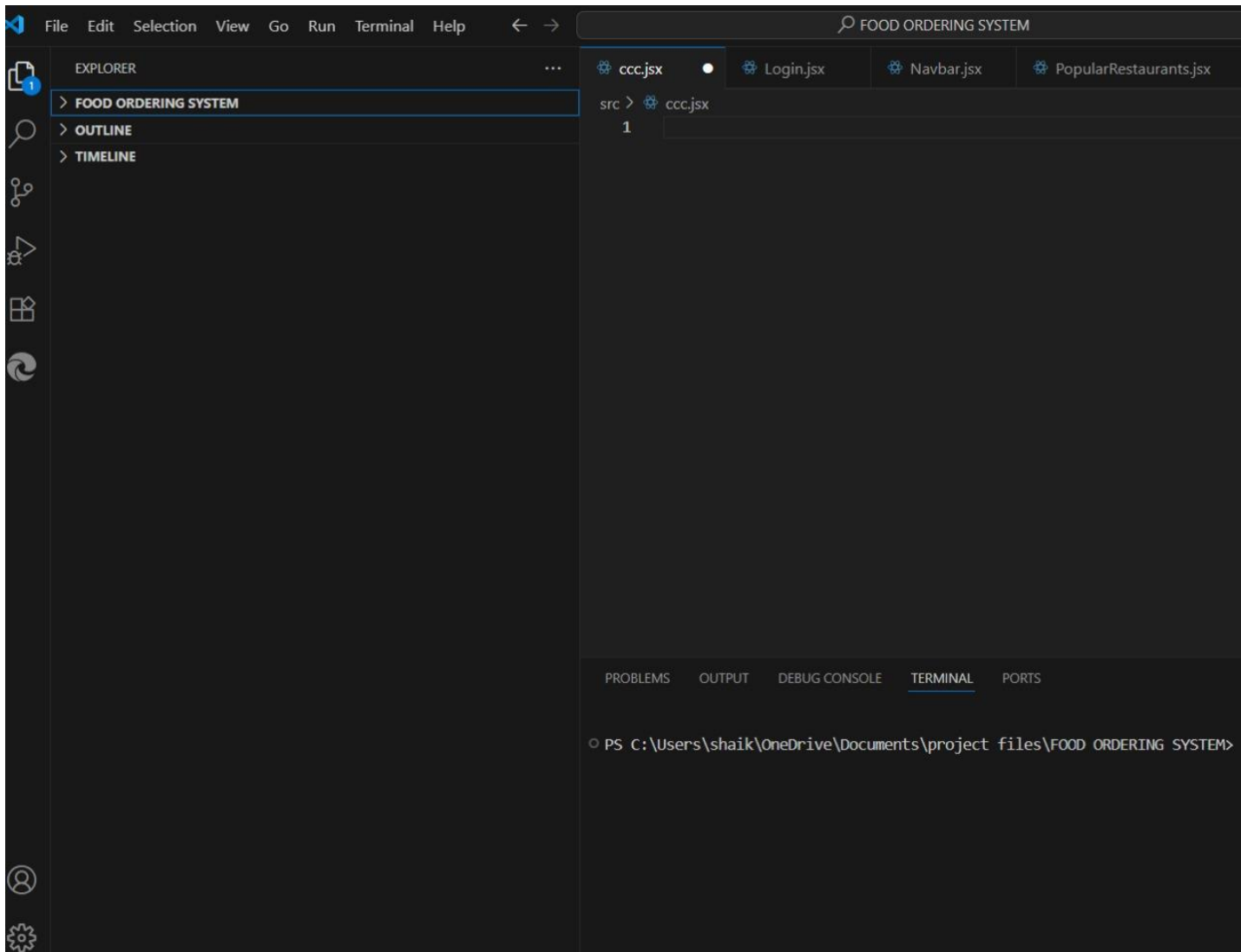
Reference Article: <https://www.geeksforgeeks.org/installation-of-node-js-on-windows/>

- Git.

Reference Article: <https://git-scm.com/book/en/v2/Getting-Started-Installing-Git>

### Create project folders and files:

- Client folders.
- Server folders
- Referral Image



## **DATABASE DEVELOPMENT:**

### **Create database in cloud video link:-**

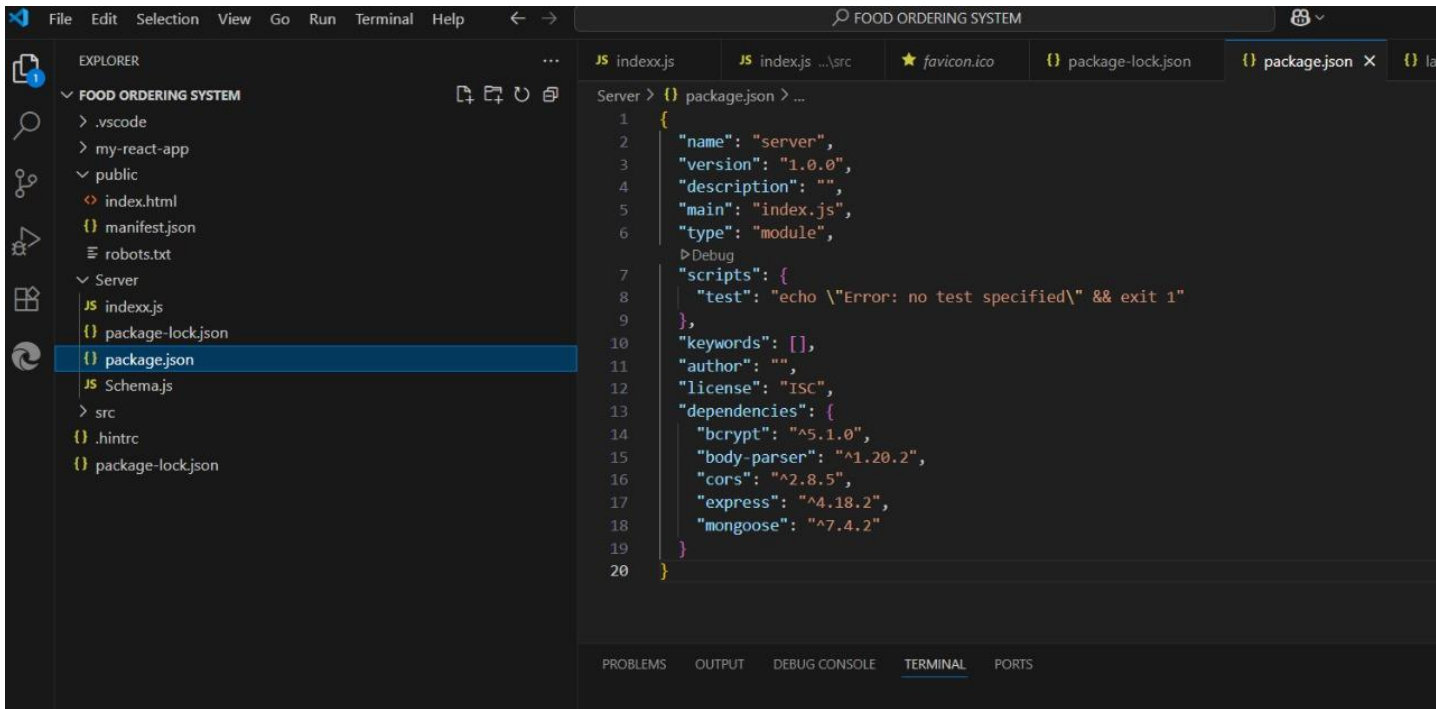
<https://drive.google.com/file/d/1CQil5KzGnPvkVOPWTLp0h-Bu2bXhq7A3/view>

- Install Mongoose.
- Create database connection.

Reference Video of connect node with mongoDB database: <https://drive.google.com/file/d/1cTS3 - EOAAvDctkibG5zVikrTdmoy2Ag/view?usp=sharing>

Reference Article: <https://www.mongodb.com/docs/atlas/tutorial/connect-to-your-cluster/>

Reference Image:



## Schema use-case:

### 1. User Schema:

- Schema: userSchema
- Model: 'User'
- The User schema represents the user data and includes fields such as username, email, and password.

### 2. Product Schema:

- Schema: productSchema
- Model: 'Product'
- The Product schema represents the data of all the products in the platform.

- It is used to store information about the product details, which will later be useful for ordering.

### **3. Orders Schema:**

- Schema: ordersSchema
- Model: 'Orders'
- The Orders schema represents the orders data and includes fields such as  
userId, product Id, product name, quantity, size, order date, etc.,

### **4. Cart Schema:**

- Schema: cartSchema
- Model: 'Cart'
- The Cart schema represents the cart data and includes fields such as userId,  
product Id, product name, quantity, size, order date, etc.,
- The user Id field is a reference to the user who has the product in cart.

### **5. Admin Schema:**

- Schema: adminSchema
- Model: 'Admin'
- The admin schema has essential data such as categories, promoted  
restaurants, etc.,

### **6. Restaurant Schema:**

- Schema: restaurantSchema
- Model: 'Restaurant'
- The restaurant schema has the info about the restaurant and it's menu

**Schemas:** Now let us define the required schemas

JS Schemajs X

server > JS Schemajs > [0] orderSchema

```
1  import mongoose from "mongoose";
2
3  const userSchema = new mongoose.Schema({
4    username: {type: String},
5    password: {type: String},
6    email: {type: String},
7    usertype: {type: String},
8    approval: {type: String}
9  });
10
11 const adminSchema = new mongoose.Schema({
12   categories: {type: Array},
13   promotedRestaurants: []
14 });
15
16 const restaurantSchema = new mongoose.Schema({
17   ownerId: {type: String},
18   title: {type: String},
19   address: {type: String},
20   mainImg: {type: String},
21   menu: {type: Array, default: []}
22 });
23
24 const foodItemSchema = new mongoose.Schema({
25   title: {type: String},
26   description: {type: String},
27   itemImg: {type: String},
28   category: {type: String}, //veg or non-veg or beverage
29   menuCategory: {type: String},
30   restaurantId: {type: String},
31   price: {type: Number},
32   discount: {type: Number},
33   rating: {type: Number}
34 });
35
```



```
JS Schemajs X
server > JS Schemajs > ...
36 const orderSchema = new mongoose.Schema({
37   userId: {type: String},
38   name: {type: String},
39   email: {type: String},
40   mobile: {type: String},
41   address: {type: String},
42   pincode: {type: String},
43   restaurantId: {type: String},
44   restaurantName: {type: String},
45   foodItemId: {type: String},
46   foodItemName: {type: String},
47   foodItemImg: {type: String},
48   quantity: {type: Number},
49   price: {type: Number},
50   discount: {type: Number},
51   paymentMethod: {type: String},
52   orderDate: {type: String},
53   orderStatus: {type: String, default: 'order placed'}
54 })
55
56 const cartSchema = new mongoose.Schema({
57   userId: {type: String},
58   restaurantId: {type: String},
59   restaurantName: {type: String},
60   foodItemId: {type: String},
61   foodItemName: {type: String},
62   foodItemImg: {type: String},
63   quantity: {type: Number},
64   price: {type: Number},
65   discount: {type: Number}
66 })
67
68 export const User = mongoose.model('users', userSchema);
69 export const Admin = mongoose.model('admin', adminSchema);
70 export const Restaurant = mongoose.model('restaurant', restaurantSchema);
71 export const FoodItem = mongoose.model('foodItem', foodItemSchema);
72 export const Orders = mongoose.model('orders', orderSchema);
73 export const Cart = mongoose.model('cart', cartSchema);
74
```

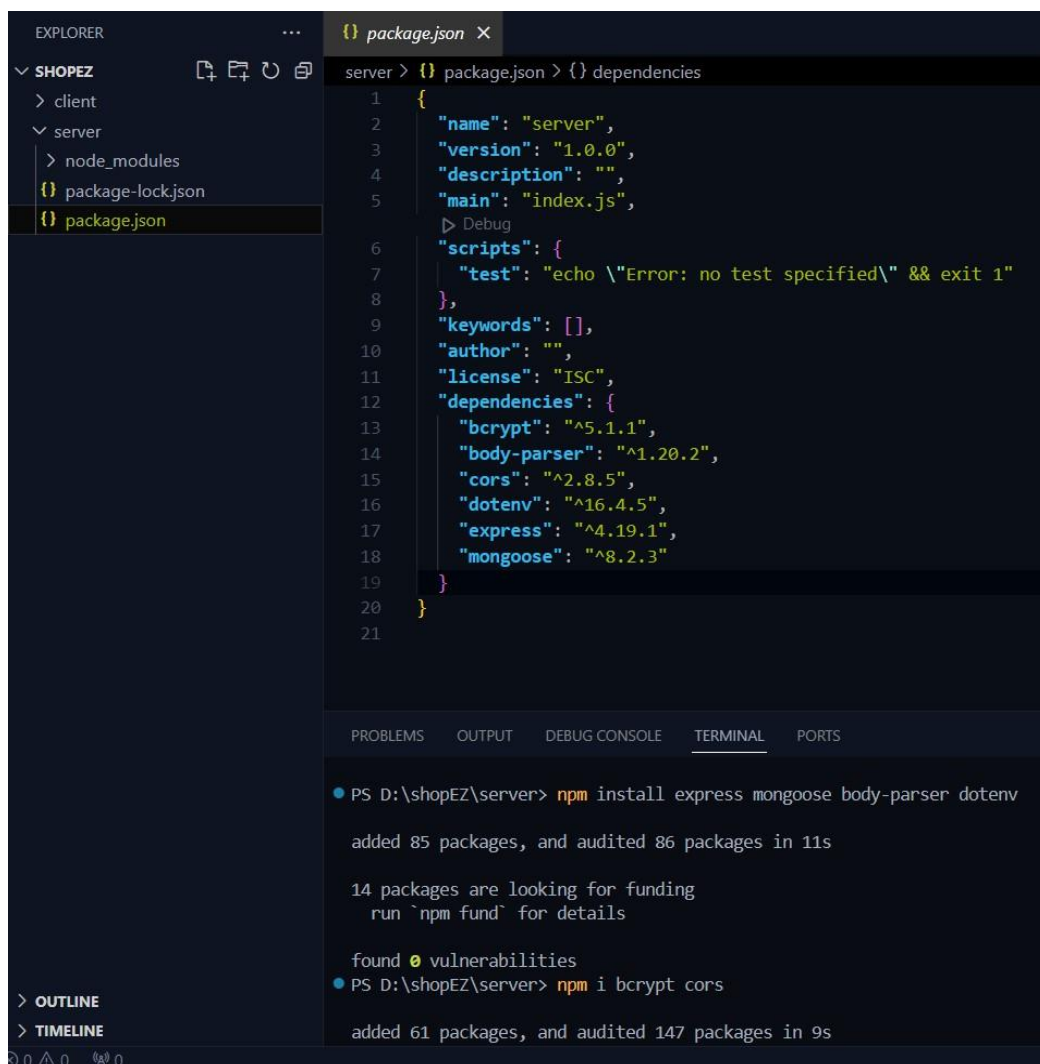
## BACKEND DEVELOPMENT:

### Set Up Project Structure:

- Create a new directory for your project and set up a package.json file using the npm init command.
- Install necessary dependencies such as Express.js, Mongoose, and other required packages.

Reference Video: <https://drive.google.com/file/d/19df7NU-gQK3DO6wr7ooAfJYIQwnemZoF/view?usp=sharing>

Reference Image:



The screenshot shows the Visual Studio Code interface. On the left, the Explorer pane displays a project structure for 'SHOPEZ' with folders 'client' and 'server'. Inside 'server', there are files 'package-lock.json' and 'package.json'. The 'package.json' file is selected and its content is shown in the main editor. The content of 'package.json' is as follows:

```
1 {
2   "name": "server",
3   "version": "1.0.0",
4   "description": "",
5   "main": "index.js",
6   "scripts": {
7     "test": "echo \"Error: no test specified\" && exit 1"
8   },
9   "keywords": [],
10  "author": "",
11  "license": "ISC",
12  "dependencies": {
13    "bcrypt": "^5.1.1",
14    "body-parser": "^1.20.2",
15    "cors": "^2.8.5",
16    "dotenv": "^16.4.5",
17    "express": "^4.19.1",
18    "mongoose": "^8.2.3"
19  }
20 }
```

At the bottom, the Terminal pane shows the output of two npm commands:

```
PS D:\shopEZ\server> npm install express mongoose body-parser dotenv
added 85 packages, and audited 86 packages in 11s

14 packages are looking for funding
  run `npm fund` for details

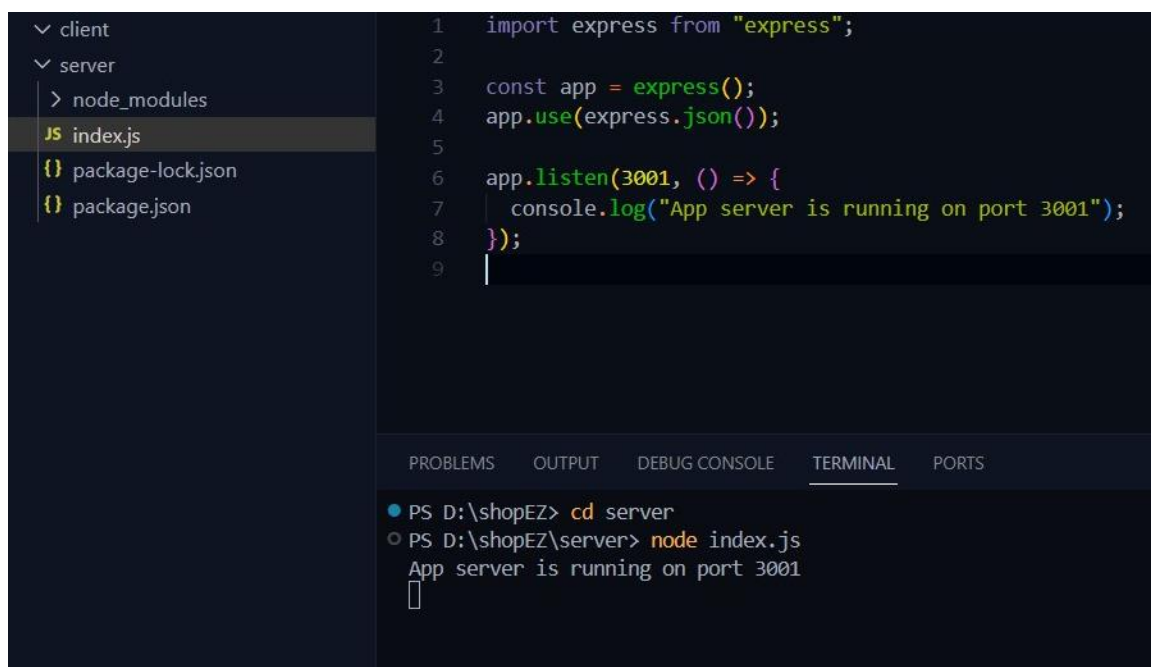
found 0 vulnerabilities
PS D:\shopEZ\server> npm i bcrypt cors
added 61 packages, and audited 147 packages in 9s
```

## 1. Setup express server:

- Create index.js file.
- Create an express server on your desired port number.
- Define API's

Reference Video: [https://drive.google.com/file/d/1-uKMIcrok\\_ROHyZl2vRORggrYRio2qXS/view?usp=sharing](https://drive.google.com/file/d/1-uKMIcrok_ROHyZl2vRORggrYRio2qXS/view?usp=sharing)

Reference Image:



```
1 import express from "express";
2
3 const app = express();
4 app.use(express.json());
5
6 app.listen(3001, () => {
7   console.log("App server is running on port 3001");
8 });
9
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● PS D:\shopEZ> cd server
○ PS D:\shopEZ\server> node index.js
App server is running on port 3001
█
```

## 2. Database Configuration:

- Set up a MongoDB database either locally or using a cloud-based MongoDB service like MongoDB Atlas or use locally with MongoDB compass.
- Create a database and define the necessary collections for admin, users, restaurants, food products, orders, and other relevant data.

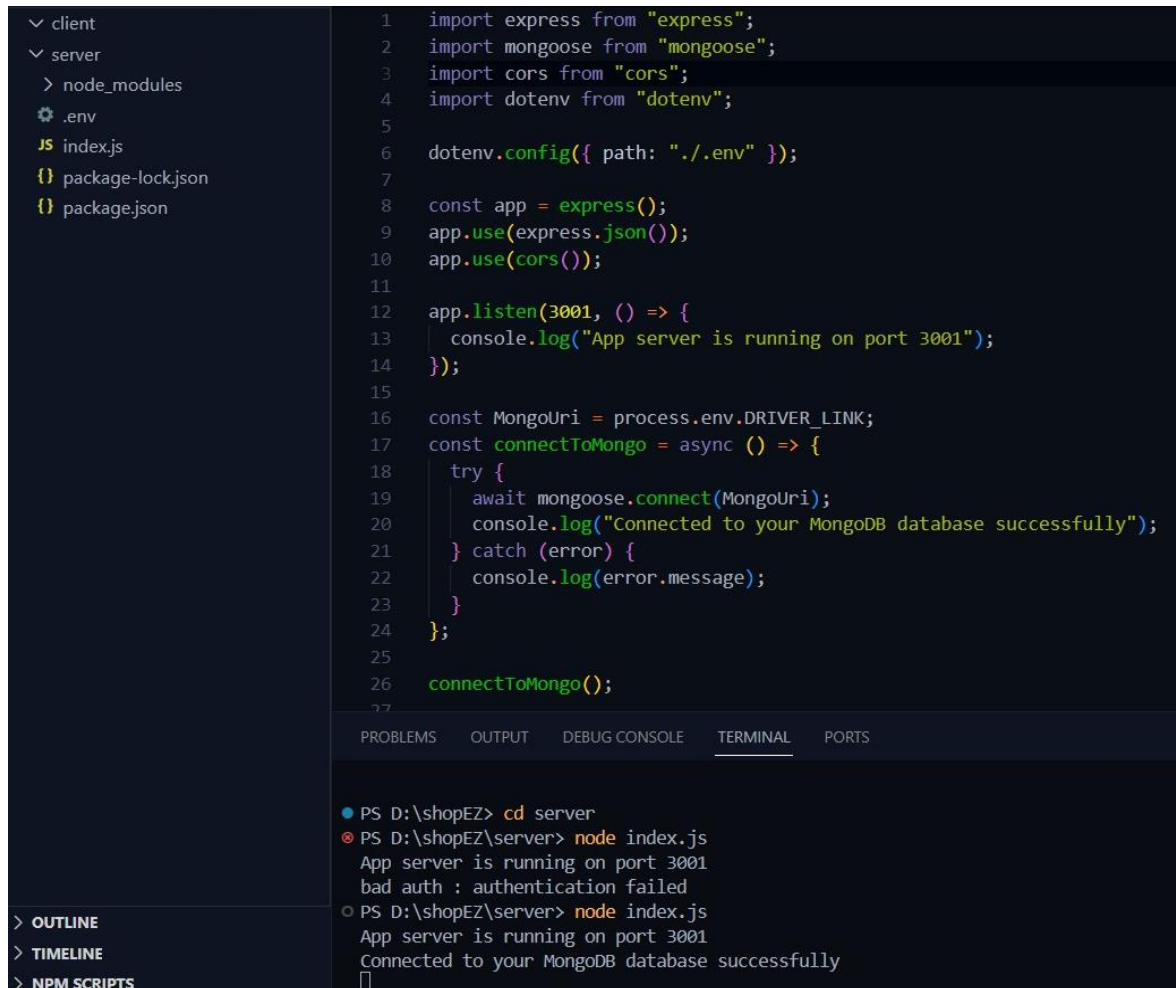
Reference Video of connect node with mongoDB database:

[https://drive.google.com/file/d/1cTS3\\_EOAAvDctkibG5zVikrTdmoy2Ag/view?usp=sharing](https://drive.google.com/file/d/1cTS3_EOAAvDctkibG5zVikrTdmoy2Ag/view?usp=sharing)

Reference Article:

<https://www.mongodb.com/docs/atlas/tutorial/connect-to-your-cluster/>

Reference Image:



```
1 import express from "express";
2 import mongoose from "mongoose";
3 import cors from "cors";
4 import dotenv from "dotenv";
5
6 dotenv.config({ path: "./.env" });
7
8 const app = express();
9 app.use(express.json());
10 app.use(cors());
11
12 app.listen(3001, () => {
13   console.log("App server is running on port 3001");
14 });
15
16 const MongoUri = process.env.DRIVER_LINK;
17 const connectToMongo = async () => {
18   try {
19     await mongoose.connect(MongoUri);
20     console.log("Connected to your MongoDB database successfully");
21   } catch (error) {
22     console.log(error.message);
23   }
24 };
25
26 connectToMongo();
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● PS D:\shopEZ> cd server
● PS D:\shopEZ\server> node index.js
App server is running on port 3001
bad auth : authentication failed
○ PS D:\shopEZ\server> node index.js
App server is running on port 3001
Connected to your MongoDB database successfully
```

> OUTLINE  
> TIMELINE  
> NPM SCRIPTS

### 3. Create Express.js Server:

- Set up an Express.js server to handle HTTP requests and serve API endpoints.
- Configure middleware such as body-parser for parsing request bodies and cors for handling cross-origin requests.

Reference Video: [https://drive.google.com/file/d/1-uKMIcrok\\_ROHyZI2vRORggrYRio2qXS/view?usp=sharing](https://drive.google.com/file/d/1-uKMIcrok_ROHyZI2vRORggrYRio2qXS/view?usp=sharing)

Reference Image:



```
1 import express from "express";
2
3 const app = express();
4 app.use(express.json());
5
6 app.listen(3001, () => {
7   console.log("App server is running on port 3001");
8 });
9
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\shopEZ> cd server
PS D:\shopEZ\server> node index.js
App server is running on port 3001
```

#### 4. Define API Routes:

- Create separate route files for different API functionalities such as users, orders, and authentication.
- Define the necessary routes for listing products, handling user registration and login, managing orders, etc.
- Implement route handlers using Express.js to handle requests and interact with the database.

#### 5. Implement Data Models:

- Define Mongoose schemas for the different data entities like products, users, and orders.
- Create corresponding Mongoose models to interact with the MongoDB database.
- Implement CRUD operations (Create, Read, Update, Delete) for each model to perform database operations.

#### 6. User Authentication:

- Create routes and middleware for user registration, login, and logout.
- Set up authentication middleware to protect routes that require user

authentication.

### **7. Handle new products and Orders:**

- Create routes and controllers to handle new product listings, including fetching products data from the database and sending it as a response.
- Implement ordering(buy) functionality by creating routes and controllers to handle order requests, including validation and database updates.

### **8. Admin Functionality:**

- Implement routes and controllers specific to admin functionalities such as adding products, managing user orders, etc.
- Add necessary authentication and authorization checks to ensure only authorized admins can access these routes.

### **9. Error Handling:**

- Implement error handling middleware to catch and handle any errors that occur during the API requests.
- Return appropriate error responses with relevant error messages and HTTP status codes.

## **FRONTEND DEVELOPMENT:**

### **1. Setup React Application:**

- Create a React app in the client folder.
- Install required libraries
- Create required pages and components and add routes.

### **2. Design UI components:**

- Create Components.
- Implement layout and styling.
- Add navigation.

### **3. Implement frontend logic:**

- Integration with API endpoints.
- Implement data binding.

Reference Image:

```
src > JS App.js > ...
1  import { Route, Routes } from 'react-router-dom';
2  import './App.css';
3  import Navbar from './components/Navbar';
4  import Home from './pages/Home';
5  import Authentication from './pages/Authentication';
6
7  import Cart from './pages/customer/Cart';
8  import Profile from './pages/customer/Profile';
9  import CategoryProducts from './pages/customer/CategoryProducts';
10 import IndividualRestaurant from './pages/customer/IndividualRestaurant';
11
12 import Admin from './pages/admin/Admin';
13 import AllUsers from './pages/admin/AllUsers';
14 import AllOrders from './pages/admin/AllOrders';
15 import AllRestaurants from './pages/admin/AllRestaurants';
16
17 import RestaurantHome from './pages/restaurant/RestaurantHome';
18 import RestaurantOrders from './pages/restaurant/RestaurantOrders';
19 import RestaurantMenu from './pages/restaurant/RestaurantMenu';
20 import NewProduct from './pages/restaurant/NewProduct';
21 import EditProduct from './pages/restaurant/EditProduct';
22
23 function App() {
24   return (
25     <div className="App">
26
27       <Navbar />
28
29       <Routes>
30
31         <Route path="/auth" element={ <Authentication /> } />
32
33         <Route exact path="/" element={ <Home /> } />
34         <Route path="/cart" element={ <Cart /> } />
35         <Route path="/restaurant/:id" element={ <IndividualRestaurant /> } />
36         <Route path="/category/:category" element={ <CategoryProducts /> } />
37         <Route path="/profile" element={ <Profile /> } />
```

## CODE EXPLANATION

Server setup:

Let us import all the required tools/libraries and connect the database.



```

JS index.js X
server > JS index.js > ...
1  import express from 'express'
2  import bodyParser from 'body-parser';
3  import mongoose from 'mongoose';
4  import cors from 'cors';
5  import bcrypt from 'bcrypt';
6  import {Admin, Cart, FoodItem, Orders, Restaurant, User } from './Schema.js'
7
8
9  const app = express();
10
11  app.use(express.json());
12  app.use(bodyParser.json({limit: "30mb", extended: true}))
13  app.use(bodyParser.urlencoded({limit: "30mb", extended: true}));
14  app.use(cors());
15
16  const PORT = 6001;
17
18  mongoose.connect('mongodb://localhost:27017/foodDelivery',{
19      useNewUrlParser: true,
20      useUnifiedTopology: true
21  }).then(()=>{
22

```

## User Authentication:

### Backend

Now, here we define the functions to handle http requests from the client for authentication.

```

JS index.js X
server > JS index.js > then() callback
56  app.post('/login', async (req, res) => {
57      const { email, password } = req.body;
58      try {
59          const user = await User.findOne({ email });
60
61          if (!user) {
62              return res.status(401).json({ message: 'Invalid email or password' });
63          }
64          const isMatch = await bcrypt.compare(password, user.password);
65          if (!isMatch) {
66              return res.status(401).json({ message: 'Invalid email or password' });
67          } else{
68              return res.json(user);
69          }
70      } catch (error) {
71          console.log(error);
72          return res.status(500).json({ message: 'Server Error' });
73      }
74  });
75

```

```

JS index.js X
server > JS index.js > then() callback > app.post('/login') callback
23 app.post('/register', async (req, res) => {
24   const { username, email, usertype, password, restaurantAddress, restaurantImage } = req.body;
25   try {
26     const existingUser = await User.findOne({ email });
27     if (existingUser) {
28       return res.status(400).json({ message: 'User already exists' });
29     }
30     const hashedPassword = await bcrypt.hash(password, 10);
31     if(usertype === 'restaurant'){
32       const newUser = new User({
33         username, email, usertype, password: hashedPassword, approval: 'pending'
34       });
35       const user = await newUser.save();
36       console.log(user._id);
37       const restaurant = new Restaurant({ownerId: user._id, title: username,
38         address: restaurantAddress, mainImg: restaurantImage, menu: []});
39       await restaurant.save();
40       return res.status(201).json(user);
41     } else{
42       const newUser = new User({
43         username, email, usertype, password: hashedPassword, approval: 'approved'
44       });
45       const userCreated = await newUser.save();
46       return res.status(201).json(userCreated);
47     }
48   } catch (error) {
49     console.log(error);
50     return res.status(500).json({ message: 'Server Error' });
51   }
52 });
53

```

## Frontend

Login:

```

JS GeneralContext.js U X
client > src > context > JS GeneralContext.js > GeneralContextProvider > register > then() callback
46 const login = async () =>{
47   try{
48     const loginInputs = {email, password}
49     await axios.post('http://localhost:6001/login', loginInputs)
50     .then( async (res)=>{
51       localStorage.setItem('userId', res.data._id);
52       localStorage.setItem('userType', res.data.usertype);
53       localStorage.setItem('username', res.data.username);
54       localStorage.setItem('email', res.data.email);
55       if(res.data.usertype === 'customer'){
56         navigate('/');
57       } else if(res.data.usertype === 'admin'){
58         navigate('/admin');
59       }
60     })
61   }.catch((err) =>{
62     alert("login failed!!");
63     console.log(err);
64   });
65 }catch(err){
66   console.log(err);
67 }
68 }
69

```

Logout:

```
GeneralContext.jsx U X
client > src > context > GeneralContext.jsx > GeneralContextProvider > login >
72
73   const logout = async () =>{
74
75     localStorage.clear();
76     for (let key in localStorage) {
77       if (localStorage.hasOwnProperty(key)) {
78         localStorage.removeItem(key);
79       }
80     }
81
82     navigate('/');
83   }
84
85
```

Register:

```
JS GeneralContext.js U X
client > src > context > JS GeneralContext.js > GeneralContextProvider > login > logout
75
76   const inputs = {username, email, usertype, password, restaurantAddress, restaurantImage};
77
78   const register = async () =>{
79     try{
80       await axios.post('http://localhost:6001/register', inputs)
81       .then( async (res)=>{
82         localStorage.setItem('userId', res.data._id);
83         localStorage.setItem('usertype', res.data.usertype);
84         localStorage.setItem('username', res.data.username);
85         localStorage.setItem('email', res.data.email);
86
87         if(res.data.usertype === 'customer'){
88           navigate('/');
89         } else if(res.data.usertype === 'admin'){
90           navigate('/admin');
91         } else if(res.data.usertype === 'restaurant'){
92           navigate('/restaurant');
93         }
94       }).catch((err) =>{
95         alert("registration failed!!");
96         console.log(err);
97       });
98     }catch(err){
99       console.log(err);
100     }
101   }
102
```

## All Products (User):

- Frontend

In the home page, we'll fetch all the products available in the platform along with the filters.

Fetching food items:

```
IndividualRestaurant.jsx 4, U X
client > src > pages > customer > IndividualRestaurant.jsx > IndividualRestaurant > handleCategoryCheckBox
33 const fetchRestaurants = async () =>{
34   await axios.get(`http://localhost:6001/fetch-restaurant/${id}`).then(
35     (response)=>{
36       setRestaurant(response.data);
37       console.log(response.data)
38     }
39   ).catch((err)=>{
40     console.log(err);
41   })
42 }
43
44 const fetchCategories = async () =>{
45   await axios.get('http://localhost:6001/fetch-categories').then(
46     (response)=>{
47       setAvailableCategories(response.data);
48     }
49   )
50 }
51
52 const fetchItems = async () =>{
53   await axios.get('http://localhost:6001/fetch-items').then(
54     (response)=>{
55       setItems(response.data);
56       setVisibleItems(response.data);
57     }
58   )
59 }
60
```

Filtering products:

```
Products.jsx 2, U X
client > src > components > Products.jsx > Products > useEffect() callback
38 const [sortFilter, setSortFilter] = useState('popularity');
39 const [categoryFilter, setCategoryFilter] = useState([]);
40 const [genderFilter, setGenderFilter] = useState([]);
41
42 const handleCategoryCheckBox = (e) =>{
43   const value = e.target.value;
44   if(e.target.checked){
45     setCategoryFilter([...categoryFilter, value]);
46   }else{
47     setCategoryFilter(categoryFilter.filter(size=> size !== value));
48   }
49 }
50
51 const handleGenderCheckBox = (e) =>{
52   const value = e.target.value;
53   if(e.target.checked){
54     setGenderFilter([...genderFilter, value]);
55   }else{
56     setGenderFilter(genderFilter.filter(size=> size !== value));
57   }
58 }
59
60 const handleSortFilterChange = (e) =>{
61   const value = e.target.value;
62   setSortFilter(value);
63   if(value === 'low-price'){
64     setVisibleProducts(visibleProducts.sort((a,b)=> a.price - b.price))
65   } else if (value === 'high-price'){
66     setVisibleProducts(visibleProducts.sort((a,b)=> b.price - a.price))
67   }else if (value === 'discount'){
68     setVisibleProducts(visibleProducts.sort((a,b)=> b.discount - a.discount))
69   }
70 }
71
72 useEffect(()=>{
73
74   if (categoryFilter.length > 0 && genderFilter.length > 0){
75     setVisibleProducts(products.filter(product=> categoryFilter.includes(product.category) && genderFilter.includes(product.gender) ));
76   }else if(categoryFilter.length === 0 && genderFilter.length > 0){
77     setVisibleProducts(products.filter(product=> genderFilter.includes(product.gender) ));
78   } else if(categoryFilter.length > 0 && genderFilter.length === 0){
79     setVisibleProducts(products.filter(product=> categoryFilter.includes(product.category)));
80   }else{
81     setVisibleProducts(products);
82   }
83
84   [categoryFilter, genderFilter]
85
86
```

## Backend

In the backend, we fetch all the products and then filter them on the client side.



```

JS index.js X
server > JS index.js > then() callback > app.get('/fetch-banner') callback
100
101 // fetch products
102
103 app.get('/fetch-products', async(req, res)=>{
104   try{
105     const products = await Product.find();
106     res.json(products);
107   }catch(err){
108     res.status(500).json({ message: 'Error occurred' });
109   }
110 }
111 })

```

## Add product to cart:

- **Frontend**

Here, we can add the product to the cart and later can buy them.

```

IndividualRestaurant.jsx U X
client > src > pages > customer > IndividualRestaurant.jsx > IndividualRestaurant
114 const handleAddToCart = async(foodItemId, foodItemName, restaurantId,
115                                foodItemImage, price, discount) =>{
116   await axios.post('http://localhost:6001/add-to-cart', {userId, foodItemId,
117                                foodItemName, restaurantId, foodItemImage,
118                                price, discount, quantity}).then(
119     (response)=>{
120       alert("product added to cart!!");
121       setCartItem('');
122       setQuantity(0);
123       fetchCartCount();
124     }
125   ).catch((err)=>{
126     alert("Operation failed!!");
127   })
128 }
129

```

- **Backend**

Add product to cart:

```
JS index.js X
server > JS index.js > then() callback > app.put('/remove-item') callback
402 // add cart item
403
404 app.post('/add-to-cart', async(req, res)=>{
405     const {userId, foodItemId, foodItemName, restaurantId,
406           foodItemImg, price, discount, quantity} = req.body
407     try{
408         const restaurant = await Restaurant.findById(restaurantId);
409         const item = new Cart({userId, foodItemId, foodItemName,
410                                restaurantId, restaurantName: restaurant.title,
411                                foodItemImg, price, discount, quantity});
412         await item.save();
413         res.json({message: 'Added to cart'});
414     }catch(err){
415         res.status(500).json({message: "Error occured"});
416     }
417 })
418
```

## Order products:

Now, from the cart, let's place the order

- Frontend

```
Cart.jsx 2, U X
client > src > pages > customer > Cart.jsx > Cart
72 const placeOrder = async() =>{
73     if(cart.length > 0){
74         await axios.post('http://localhost:6001/place-cart-order', {userId, name,
75                                mobile, email, address, pincode, paymentMethod,
76                                orderDate: new Date()}).then(
77             (response)=>{
78                 alert('Order placed!!');
79                 setName('');
80                 setMobile('');
81                 setEmail('');
82                 setAddress('');
83                 setPincode('');
84                 setPaymentMethod('');
85                 navigate('/profile');
86             }
87         )
88     }
89 }
```

- Backend

In the backend, on receiving the request from the client, we then place the order for the products in the cart with the specific user Id.

```
JS index.js X
server > JS index.js > then() callback > app.listen() callback

435 // Order from cart
436
437 app.post('/place-cart-order', async(req, res)=>{
438   const {userId, name, mobile, email, address, pincode,
439         paymentMethod, orderDate} = req.body;
440   try{
441     const cartItems = await Cart.find({userId});
442     cartItems.map(async (item)=>{
443       const newOrder = new Orders({userId, name, email,
444                                   mobile, address, pincode, paymentMethod,
445                                   orderDate, restaurantId: item.restaurantId,
446                                   restaurantName: item.restaurantName,
447                                   foodItemId: item.foodItemId, foodItemName: item.foodItemName,
448                                   foodItemImg: item.foodItemImg, quantity: item.quantity,
449                                   price: item.price, discount: item.discount});
450       await newOrder.save();
451       await Cart.deleteOne({_id: item._id})
452     })
453     res.json({message: 'Order placed'});
454   }catch(err){
455     res.status(500).json({message: "Error occurred"});
456   }
457 })
458
```

## Add new product:

Here, in the admin dashboard, we will add a new product.

- Frontend:

```
NewProduct.jsx 1, U X
client > src > pages > restaurant > NewProduct.jsx > NewProduct

46 const handleNewProduct = async() =>{
47   await axios.post('http://localhost:6001/add-new-product', {restaurantId: restaurant._id,
48   productMainImg, productMenuCategory,
49   productNewCategory, productPrice, productDiscount}).then(
50     (response)=>{
51       alert("product added");
52       setProductName('');
53       setProductDescription('');
54       setProductMainImg('');
55       setProductCategory('');
56       setProductMenuCategory('');
57       setProductNewCategory('');
58       setProductPrice(0);
59       setProductDiscount(0);
60       navigate('/restaurant-menu');
61     }
62   )
63 }
64
```

- Backend:



```

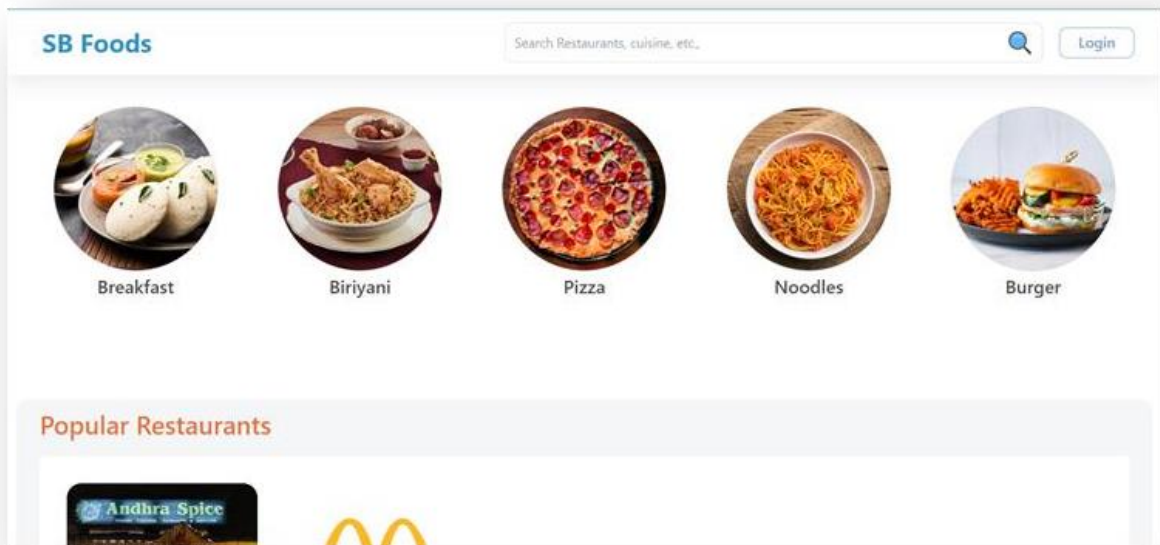
JS index.js x
server > JS index.js > then() callback
285 // Add new product
286 app.post('/add-new-product', async(req, res)=>{
287     const {restaurantId, productName, productDescription,
288           productMainImg, productCategory, productMenuCategory,
289           productNewCategory, productPrice, productDiscount} = req.body;
290     try{
291         if(productMenuCategory === 'new category'){
292             const admin = await Admin.findOne();
293             admin.categories.push(productNewCategory);
294             await admin.save();
295             const newProduct = new FoodItem({restaurantId, title: productName,
296                   description: productDescription, itemImg: productMainImg,
297                   category: productCategory, menuCategory: productNewCategory,
298                   price: productPrice, discount: productDiscount, rating: 0});
299             await newProduct.save();
300             const restaurant = await Restaurant.findById(restaurantId);
301             restaurant.menu.push(productNewCategory);
302             await restaurant.save();
303         } else{
304             const newProduct = new FoodItem({restaurantId, title: productName,
305                   description: productDescription, itemImg: productMainImg,
306                   category: productCategory, menuCategory: productMenuCategory,
307                   price: productPrice, discount: productDiscount, rating: 0});
308             await newProduct.save();
309         }
310         res.json({message: "product added!!"});
311     }catch(err){
312         res.status(500).json({message: "Error occured"});
313     }
314 })
315

```

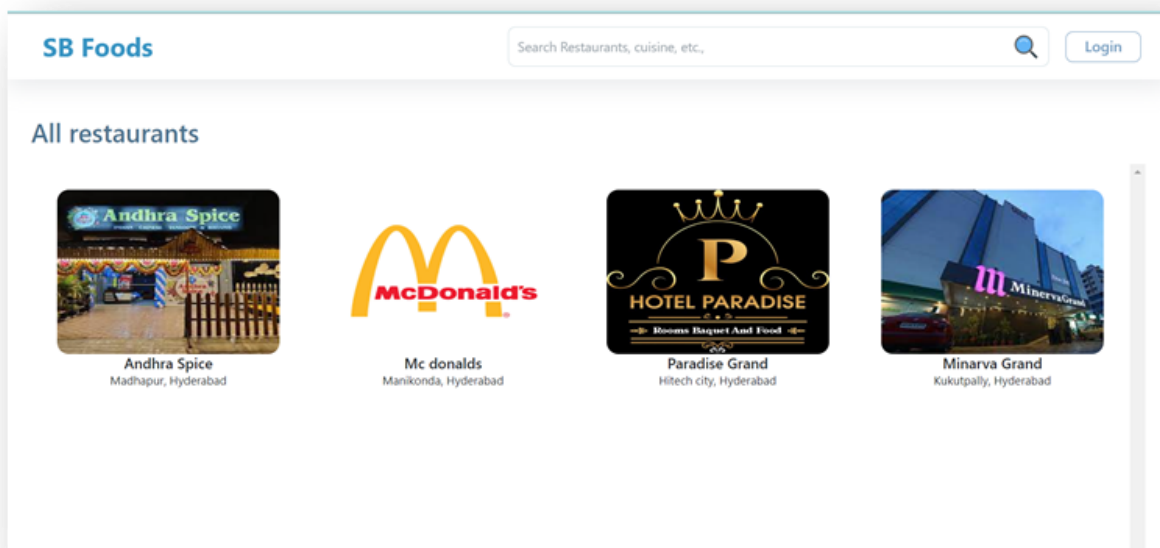
Along with this, implement additional features to view all orders, products, etc., in the admin dashboard.

## Demo UI images:

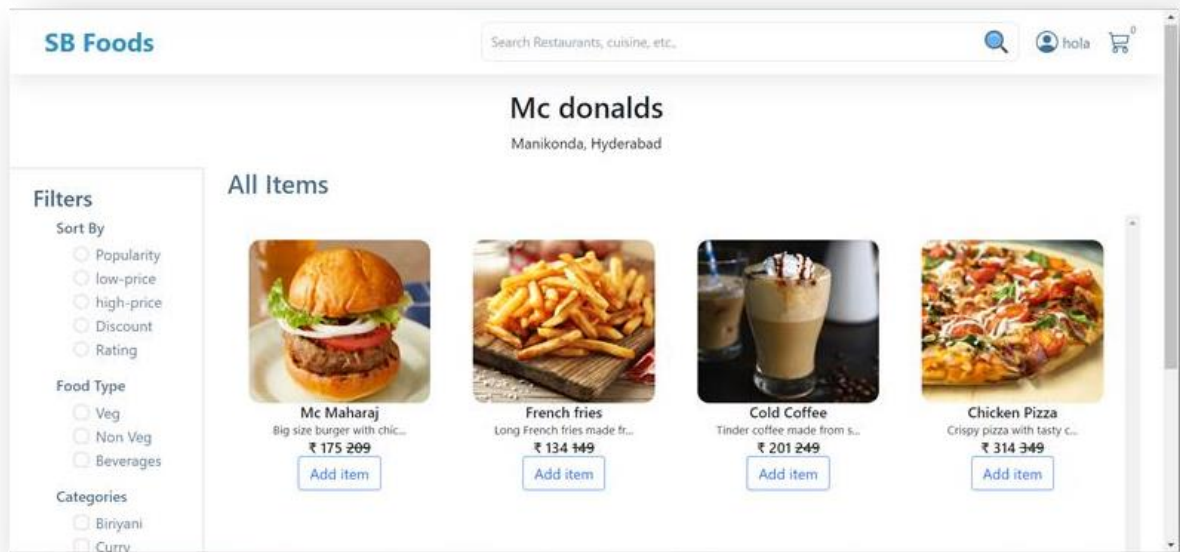
- Landing page



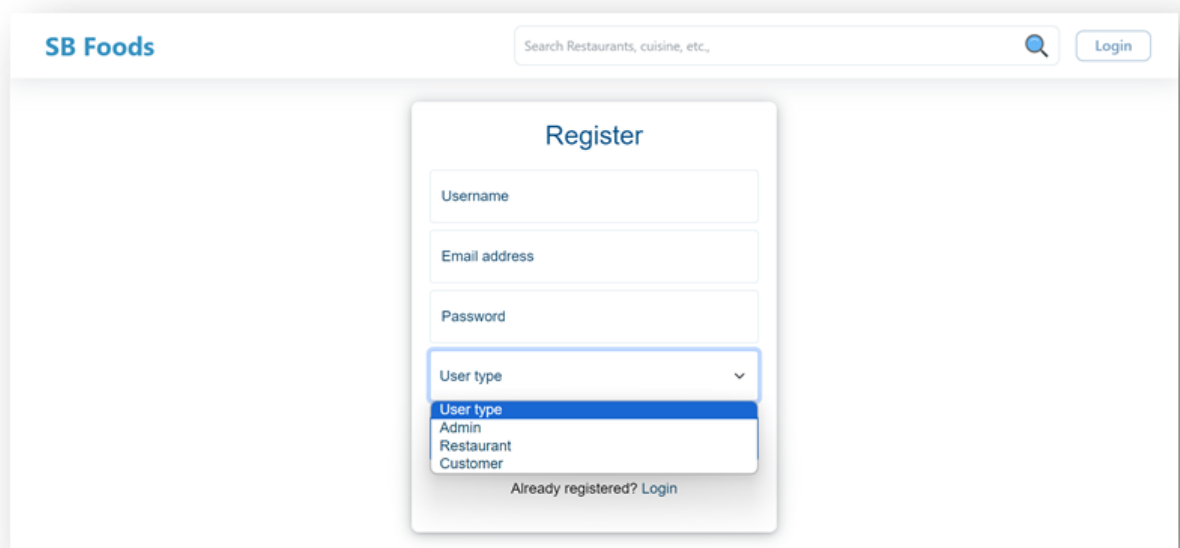
- **Restaurants**



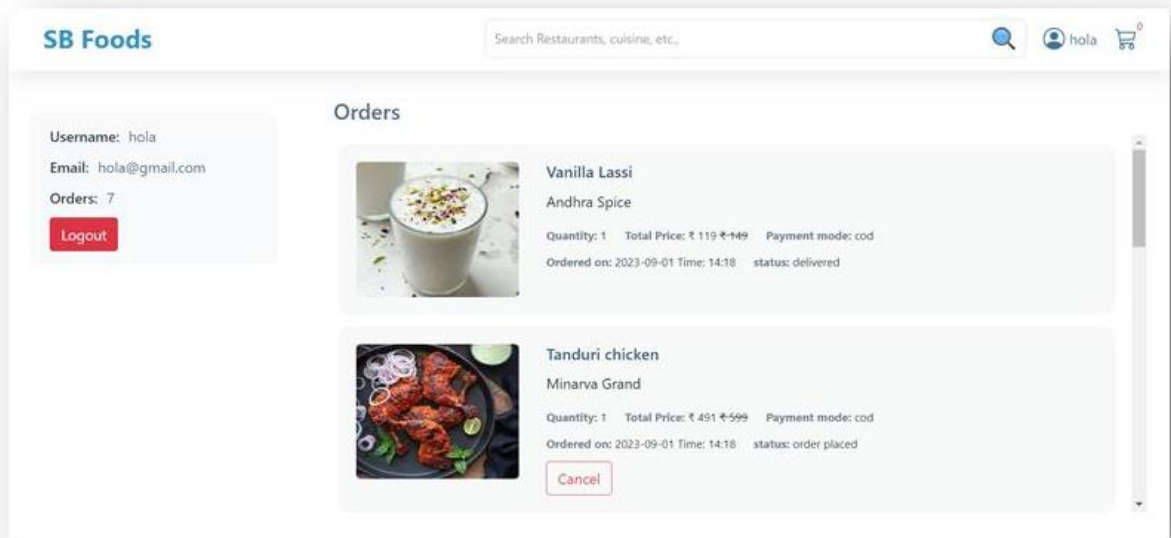
- **Restaurant Menu**



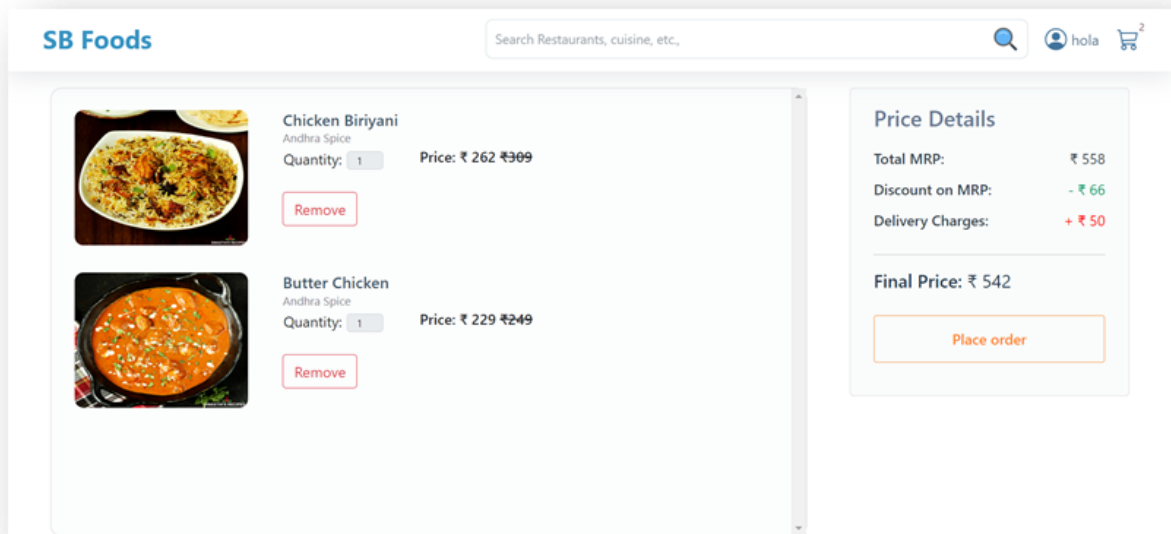
- **Authentication**



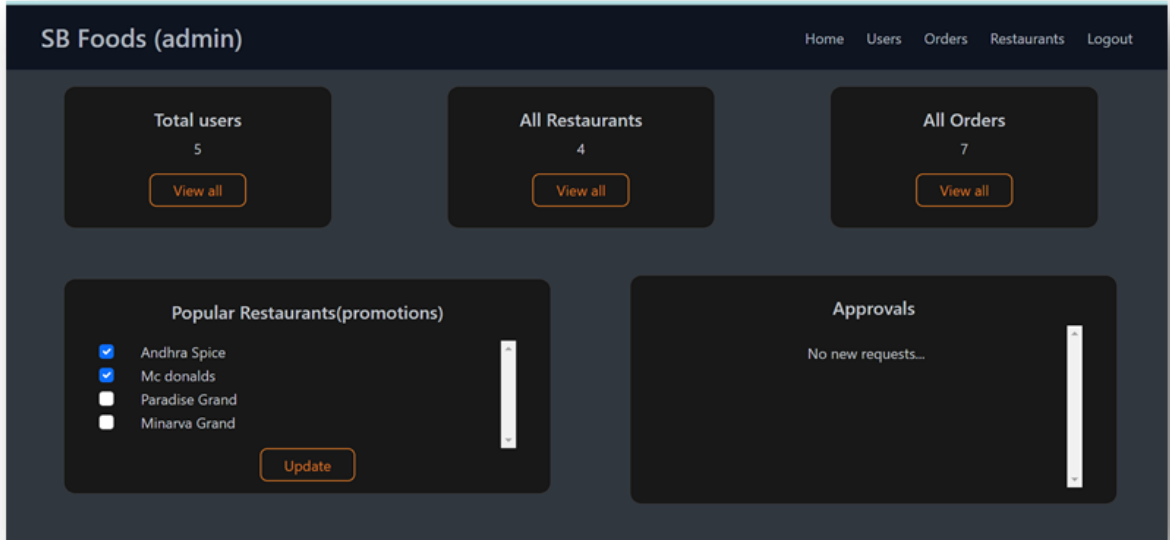
- **User Profile**



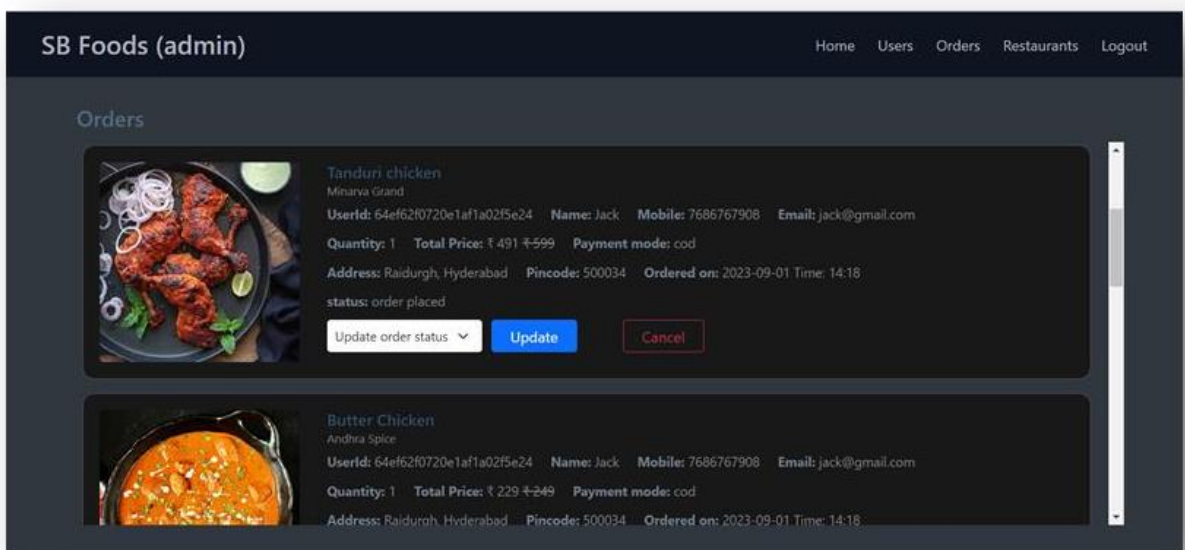
- **Cart**



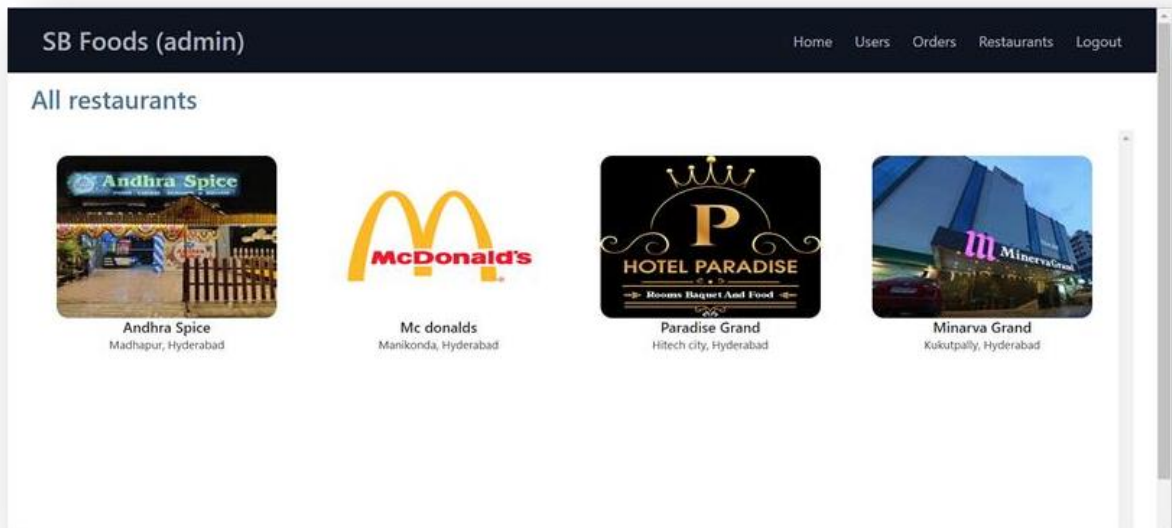
- **Admin dashboard**



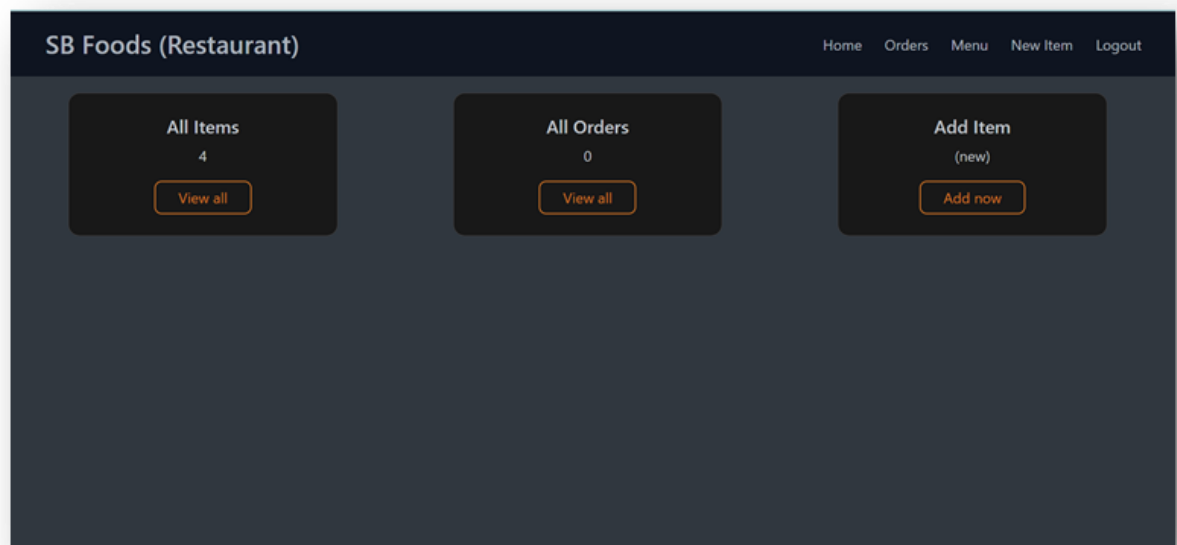
- **All Orders**



- **All restaurants**



- **Restaurant Dashboard**



- **New Item**

The screenshot shows a web application interface for 'SB Foods (Restaurant)'. At the top, there is a navigation bar with links: Home, Orders, Menu, New Item, and Logout. The main content area features a 'New Product' form. The form has the following fields and controls:

- Product name**: A text input field.
- Product Description**: A text input field.
- Thumbnail img url**: A text input field.
- Type**: A section with three radio buttons: ☐ Veg, ☐ Non Veg, and ☐ Beverages.
- Category**: A dropdown menu labeled 'Choose Product cat'.
- Price**: A text input field with the value '0'.
- Discount (in %)**: A text input field with the value '0'.
- Add product**: A blue button at the bottom of the form.

## Conclusion

The Order On The Go project successfully demonstrates the development of a robust full-stack e-commerce web application using the MERN stack (MongoDB, Express.js, React.js, and Node.js). It effectively showcases the capabilities of modern web development technologies in delivering a seamless, scalable, and responsive online ordering experience.

The platform is designed to provide users with a personalized and intuitive interface, allowing them to browse menus or products, place orders, make secure payments, and track their order status in real-time. Meanwhile, vendors are equipped with powerful tools to manage menus, process orders, and monitor performance through a dedicated vendor dashboard.

With well-structured APIs, efficient state management, and real-time data handling, Order On The Go ensures high performance and user satisfaction. It stands as a practical example of how the MERN stack can be used to build a feature-rich, user-centric, and maintainable ordering platform that meets the needs of both customers and vendors.

In summary, Order On The Go lays a strong foundation for transforming traditional ordering systems into modern, digital-first solutions — making it an excellent model for future enhancements or commercial deployment.