Food Delivery Application (MERN Stack) - Full Project Documentation

Technology Stack (MERN)

- MongoDB Atlas (Database)
- Express.js (Backend Framework)
- React.js (Frontend Framework)
- Node.js (Runtime Environment)

Main Use Cases

- Centralized Order Management
- Menu and Promotion Management
- Real-Time Features (GitHub, Render, Vercel)
- Public Deployment for user access

Tools Required

- Node.js (install from official site)
- Visual Studio Code (VS Code) for coding
- GitHub for version control
- Render and Vercel for Deployment

Project Setup Structure

Main Folder: food-delivery-application
- frontend (React app)
- backend (Node + Express app)

Frontend Development (React.js)

1. Open terminal inside the main folder.
2. Commands:

```
Set-ExecutionPolicy RemoteSigned -Scope CurrentUser
npx create-react-app frontend
cd frontend
npm install web-vitals axios react-router-dom
npm start
```

3. Create folders: components/ and pages/

4. App.js is the main landing file.
5. Install ES7 React/Redux Snippets for shortcut (rafce).
6. Upload frontend code to GitHub.

Backend Development (Node.js, Express.js)

1. Create a 'backend' folder.
2. Inside backend:
   - Create server.js
   - npm init -y
   - npm install express mongoose cors dotenv bcryptjs jsonwebtoken nodemon

3. server.js setup:
   - Import packages
   - Set server to listen on a PORT
   - Console log 'Server is running'

4. Create a .env file to store MongoDB URI safely.

MongoDB Atlas Database Setup

1. Create a project: Food Delivery App.
2. Create a cluster.
3. Network Access: Allow 0.0.0.0/0 (all IP addresses).
4. Copy MongoDB connection URI.
5. Place it in the .env file.

API Testing

- Use Postman or Thunder Client extension in VS Code.
- Test Register, Login, Menu Fetch APIs.

Deployment - Going Live

Backend (Render):
- Sign in to Render
- Create New Web Service
- Connect backend GitHub repo

- Set environment variables
- Deploy

Frontend (Vercel):
- Sign in to Vercel
- Connect frontend GitHub repo
- Deploy

Final Application Flow

1. User opens React frontend (hosted on Vercel).
2. Frontend sends API requests to backend (hosted on Render).
3. Backend processes requests and interacts with MongoDB Atlas.
4. Data flows smoothly between user, server, and database.

Importance of the Project

- Learn full-stack development using MERN.
- Gain real-world project experience.
- Understand deployment processes.
- Develop skills in frontend, backend, database management, and API testing.
- Prepare for job opportunities or internships.