# Project Documentation

**CookBook**

## 1. Introduction

• Project Title: cookbook

**Team ID** : NM2025TMID42567

**Team Size** : 4

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## 2. Project Overview:

The primary purpose of CookBookDB is to serve as a comprehensive, digital recipe management system. It aims to connect users with a vast collection of recipes and provide them with the tools to organize, discover, and interact with culinary content

### Project Objective:

The primary goal of the MongoDB Cookbook project is to build a flexible, scalable, and efficient recipe management system where users can store, retrieve, update, and search for cooking recipes. By leveraging MongoDB's NoSQL document-based structure, the system can handle diverse and nested data formats that are typical in recipe storage (e.g., ingredients, steps, categories, user ratings).

**Flexible Schema:** Recipes may have varying numbers of ingredients, steps, or tags — MongoDB's document model handles this naturally.

**Embedded Documents**: Ingredients and instructions can be stored within the main recipe document, making it easier and faster to retrieve the entire recipe.

**Scalability**: As the number of recipes and users grows, MongoDB can scale horizontally to handle large volumes of data efficiently.

**Indexing & Search**: MongoDB supports text indexes and compound indexes, making it ideal for building fast

## 3. Architecture

• Frontend: React.js with Bootstrap and Material UI

• Backend: Node.js and Express.js managing server logic and API endpoints

• Database: MongoDB stores user data, project information, applications, and chat messages

## 4. Setup Instructions

**• Prerequisites:** – Node.js – MongoDB

– Git – React.js – Express.js – Mongoose – Visual Studio Code . Install Node.js

Node.js is required to run JavaScript outside the browser and to use npm (Node Package Manager).

**Steps:**

**Download Node.js:**

Go to https://nodejs.org

Choose the LTS (Recommended) version (Long-Term Support – stable version).

**Run the Installer:**

Open the downloaded file.

**Follow the installation steps:**

Accept the license agreement

Choose installation location (keep default)

Check the option "Automatically install the necessary tools" if prompted

Click Install.

**Verify Installation:**

Open Command Prompt (CMD) or Terminal.

Type:

node -v

You should see a version number (e.g., v20.x.x).

**Check npm (Node Package Manager)**:

npm -v

You should see a version number too (e.g., 10.x.x).

✅ Node.js and npm are now installed.

**2. Install Visual Studio Code (VS Code)**

VS Code is a code editor used to write, debug, and run JavaScript/Node.js programs.

## Steps:

**Download VS Code:**

Go to https://code.visualstudio.com

Download for your OS (Windows, macOS, Linux).

**Install VS Code:**

Run the installer.

Select options like "Add to PATH" and "Open with Code" during installation (recommended).

Finish installation.

**Open VS Code:**

Launch the app.

You'll see a welcome screen.

**3. Setup VS Code for Node.js**

To make coding easier, install some useful extensions:

JavaScript (ES6) Snippets – for faster JS coding.

Node.js Extension Pack – for debugging and running Node apps.

Prettier - Code Formatter – to keep code clean and well-formatted.

**How to Install Extensions:**

Open VS Code → Go to Extensions (left sidebar icon or Ctrl+Shift+X).

Search for the extensions above and click Install.

### 4. Test Setup

**Create a Folder:**

Create a new folder, e.g., node-test.

**Open in VS Code:**

Open VS Code → File → Open Folder → select node-test.

**Create a File:**

Create a file called app.js.

**Add this code:**

```
console.log("Node.js is working!");
```

**Run the File:**

Open VS Code Terminal (Ctrl + ~).

### Run:

```
node app.js
```

## 5. Folder Structure

SB-Works/

|-- client/

|__components/

L__ pages/

|__ server/

|__routes/

|__ models/

|__ controllers/

# React frontend

# Node.js backend Windows (using the MSI installer):

**Installation Directory**: C:\Program Files\MongoDB\Server\<version>\

**Data Directory**: C:\Program Files\MongoDB\Server\<version>\data\ (often a custom path is chosen during installation)

Log Directory: C:\Program Files\MongoDB\Server\<version>\log\

## 6. Running the Application

### Frontend:

cd

client

npm start

### Backend:

cd server npm

start

**<u>Access:</u>** Visit http://localhost:3000

## 7. API Documentation

• User: – /api/user/register – /api/user/login

• Projects:

– /api/projects/create – /api/projects/:id • Applications: /api/apply

• Chats: – /api/chat/send – /api/chat/:userId

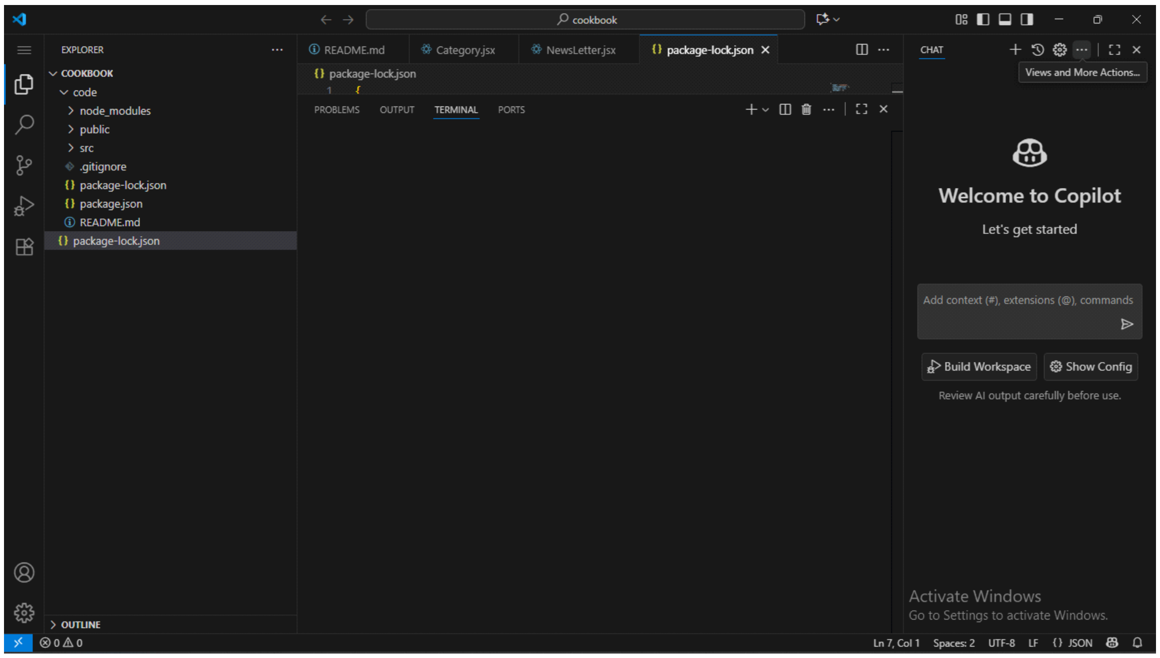
## 8. Authentication

• JWT-based authentication for secure login

• Middleware protects private routes

## 9. User Interface

• Landing Page :vs code



Welcome to Copilot

Let's get started

Add context (#), extensions (@), commands

Review AI output carefully before use.

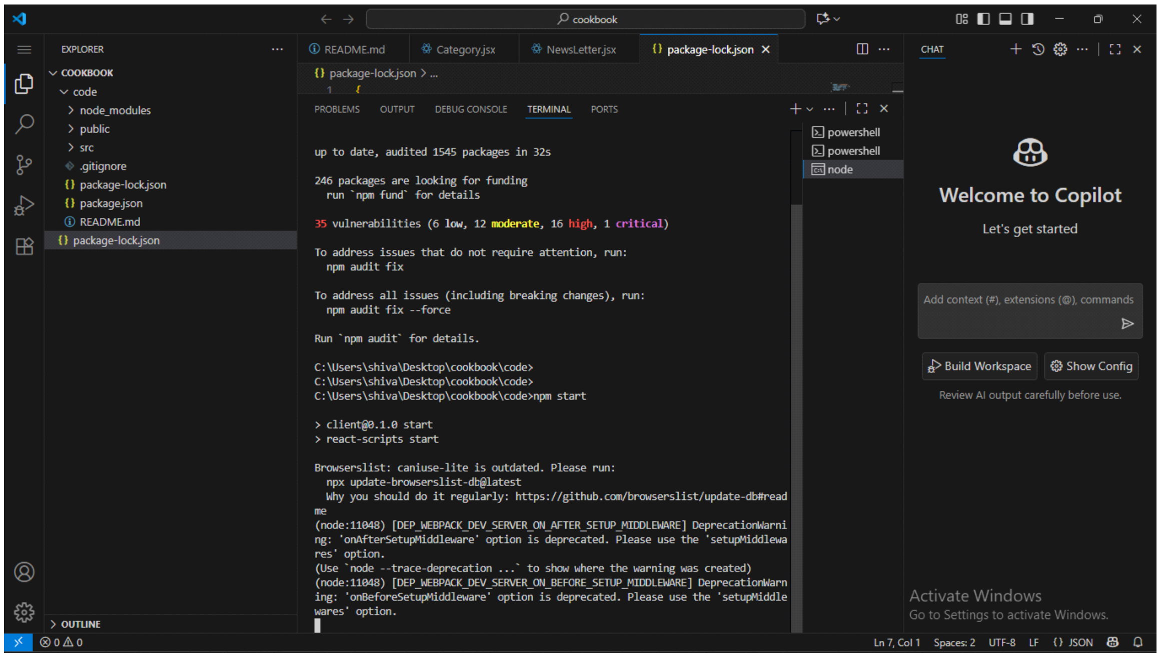
Activate Windows

Go to Settings to activate Windows.

• Freelancer Dashboard

• Admin Panel

• Project Details Page



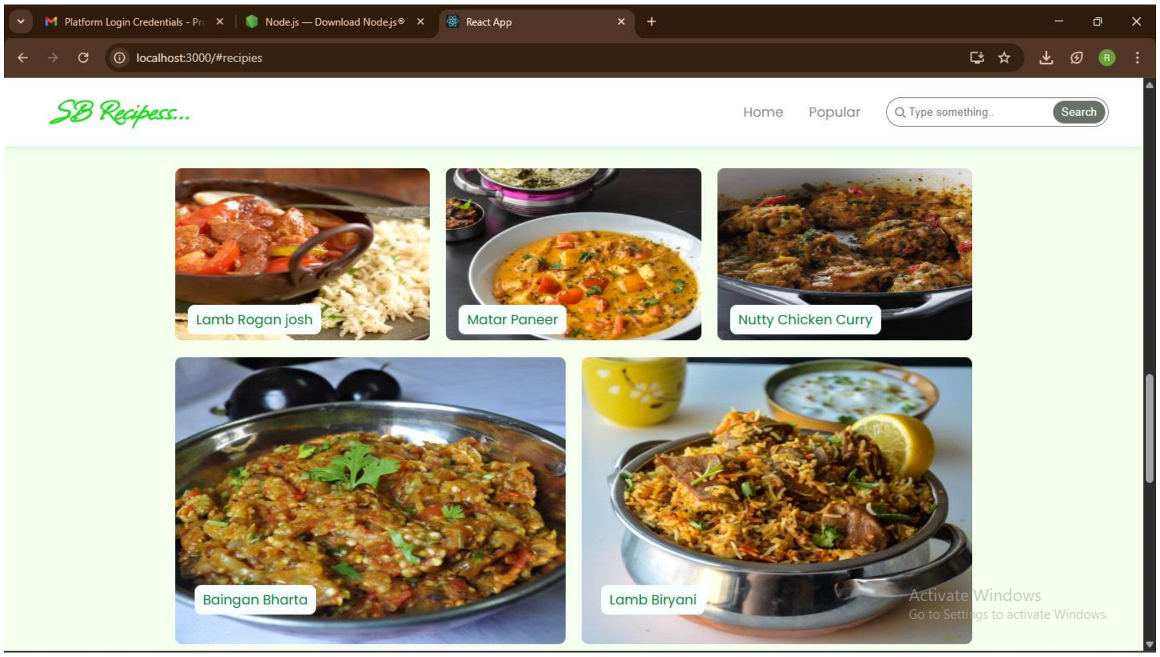
```
up to date, audited 1545 packages in 32s

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

35 vulnerabilities (6 low, 12 moderate, 16 high, 1 critical)

To address issues that do not require attention, run:
  npm audit fix

To address all issues (including breaking changes), run:
  npm audit fix --force

Run `npm audit` for details.

C:\Users\shiva\Desktop\cookbook\code>
C:\Users\shiva\Desktop\cookbook\code>
C:\Users\shiva\Desktop\cookbook\code>npm start

> client@0.1.0 start
> react-scripts start

Browserslist: caniuse-lite is outdated. Please run:
  npx update-browserslist-db@latest
  Why you should do it regularly: https://github.com/browserslist/update-db#read
me
(node:11048) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarni
ng: 'onAfterSetupMiddleware' option is deprecated. Please use the 'setupMiddlewa
res' option.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:11048) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarn
ing: 'onBeforeSetupMiddleware' option is deprecated. Please use the 'setupMiddle
wares' option.
```

## 10. Testing

• Manual testing during milestones

• Tools: Postman, Chrome Dev Tools

## 11. Screenshots or Demo



## 12. Known Issues :

### 1. MongoDB Connection Issues

**Symptoms:**

MongoServerError: bad auth : Authentication failed

**MongoNetworkError:** connect ECONNREFUSED orTIMEDOUT

**Causes & Fixes:** Wrong connection string – Make sure your MONGODB_URI is correct.

Example:mongodb+srv://<username>:<password>@cluster0.mongodb.net/<dbname>?retryWrites=true&w=majority

Unwhitelisted IP address – Go to MongoDB Atlas → Network Access → Add your current IP (0.0.0.0/0 for public access in dev).

**Wrong database name – Use the exact database name you created (case-sensitive).**

**– URL encode passwords with special characters (@, #, !, etc.).✅ Password special characters**

### 2. Node.js Driver Version Mismatch

**Symptoms:**

DeprecationWarning: current Server Discovery and Monitoring engine is deprecatedDriver fails to connect or throws unexpected errors.

**Fixes:**

**Upgrade to latest driver:**

npm install mongodb@latest

If using Mongoose:

npm install mongoose@latest

### 3. VS Code Environment Issues

**Symptoms:**

Environment variables not loading in process.env

Code works in terminal but not in VS Code debugger.

**Fixes:**

Create a .env file and load it with dotenv:

npm install dotenv

require('dotenv').config();

Check VS Code launch configuration (.vscode/launch.json) to include "envFile": "${workspaceFolder}/.env".

# 13. Future Enhancement

## 1. Real-Time Collaboration and Notifications

Enhance the platform by introducing real-time features.

**Live Updates**: Implement WebSocket technology (e.g., Socket.IO) to push real-time updates to the

UI. When a freelancer marks a task as complete, the client's dashboard would update instantly without a page refresh.

**App Messaging:** Add a chat feature within the Project Details page to facilitate instant communication between clients and freelancers. This would likely involve a separate `messages` collection in MongoDB, possibly using a capped collection for performance with a high volume of message Set up a system to send push notifications for key events, such as new messages, project invites, or payment confirmations.

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