CA - Prerequisites Document

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TITLE : **PrepWise(Exam Preparation)**

INTRODUCTION

The **PrepWise** project is a **full-stack ed-tech web application** built using **React (TypeScript) for the frontend**, **Flask for the backend**, and **MongoDB as the database**. This document outlines the prerequisites required before setting up and running the project successfully.

SYSTEM REQUIREMENTS

1. **Hardware Requirements**
   - **Processor:** Intel Core i5 or higher
   - **RAM:** Minimum 8GB (Recommended: 16GB for smooth performance)
   - **Storage:** At least 10GB free disk space
   - **Operating System:** Windows 10/11, macOS, or Linux

2. **Software Requirements**
   - **Node.js** (v18.16.1 or later) – Required for running the React frontend
   - **npm** (v9.5.1 or later) – For managing frontend dependencies
   - **Python** (3.11.9 or later) – Required for Flask backend
   - **MongoDB Atlas** – Cloud-based NoSQL database
   - **VS Code** – Recommended IDE for both frontend and backend development
   - **Postman** – For API testing

TECHNOLOGY STACK

1. **Frontend**
   - **React.js** (JavaScript library for building UI)
   - **TypeScript** (Strongly typed JavaScript)
   - **Tailwind CSS** (Utility-first CSS framework for styling)

2. **Backend**
   - **Flask** (Python-based web framework)
   - **Flask-CORS** (To handle cross-origin requests)
   - **PyMongo** (For MongoDB connection)

3. **Database**
   - **MongoDB Atlas** (Cloud-based NoSQL database for storing product details)

SETUP INSTRUCTIONS

1. **Install Node.js and NPM**
   Download and install Node.js from [Node.js Official Website](#).
   Verify installation:

   ```
   node -v
   npm -v
   ```

2. **Install Python and Flask**
   Download and install Python from the [Python Official Website](#).
   Verify installation:

   ```
   python --version
   pip --version
   ```

   Install Flask and required dependencies:
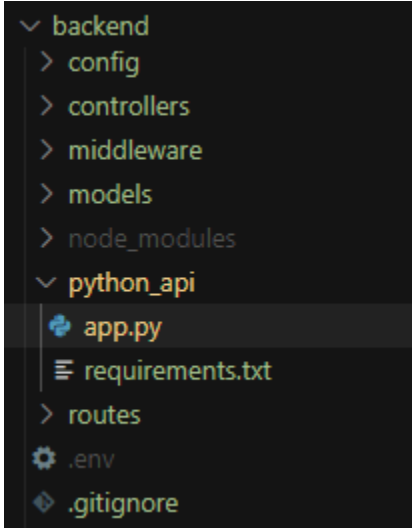
   ```
   pip install flask flask-cors pymongo
   ```
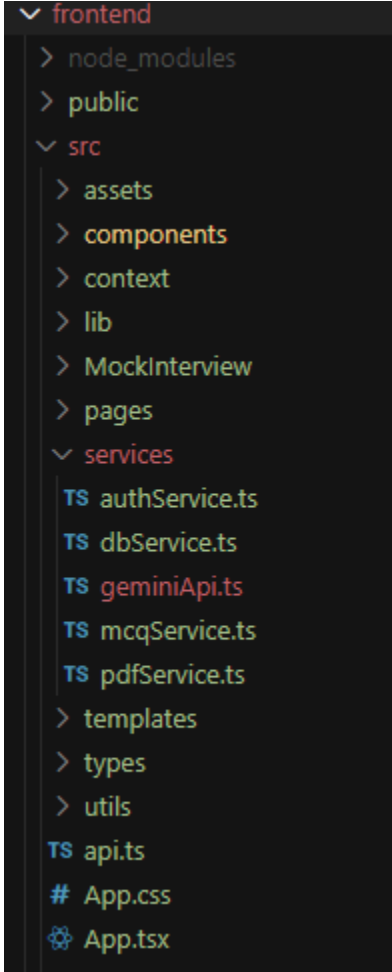
3. **Setup MongoDB**
   Use **MongoDB Atlas** for cloud storage or install **MongoDB locally** from [MongoDB Official Website](#).
   If using a local setup, start MongoDB using:

   ```
   mongod --dbpath /path/to/data
   ```

PROJECT STRUCTURE

Backend	Frontend
∨ backend 　〉config 　〉controllers 　〉middleware 　〉models 　〉node_modules 　∨ python_api 　　🐍 app.py 　　☰ requirements.txt 　〉routes 　⚙ .env 　◆ .gitignore	∨ frontend 　〉node_modules 　〉public 　∨ src 　　〉assets 　　〉components 　　〉context 　　〉lib 　　〉MockInterview 　　〉pages 　　∨ services 　　　TS authService.ts 　　　TS dbService.ts 　　　TS geminiApi.ts 　　　TS mcqService.ts 　　　TS pdfService.ts 　　〉templates 　　〉types 　　〉utils 　　TS api.ts 　　# App.css 　　⚛ App.tsx

CONCLUSION

This document provides the necessary prerequisites for setting up the **PrepWise** project, including hardware/software requirements. Ensuring all dependencies and configurations are correctly set up will help in running the project efficiently.