WEBX-CA PREREQUISITES

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Sign and Grade	

Title: Upnest

Introduction:

UpNest is a skill enhancement platform that helps users discover and explore relevant skills. It provides personalized skill recommendations based on user profiles and interests.Users can also explore and participate in various hackathons to gain practical exposure. With secure authentication and a smooth interface, learning becomes engaging and effective.

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 dev
- **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)
- **PyJWT** (To encode and decode JWT tokens for secure authentication)
- **python-dotenv** (To manage environment variables securely)
- **Flask-Limiter** (To implement rate limiting and prevent abuse of APIs)
- **flask-login** (To manage user sessions and handle login/logout functionality)

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:
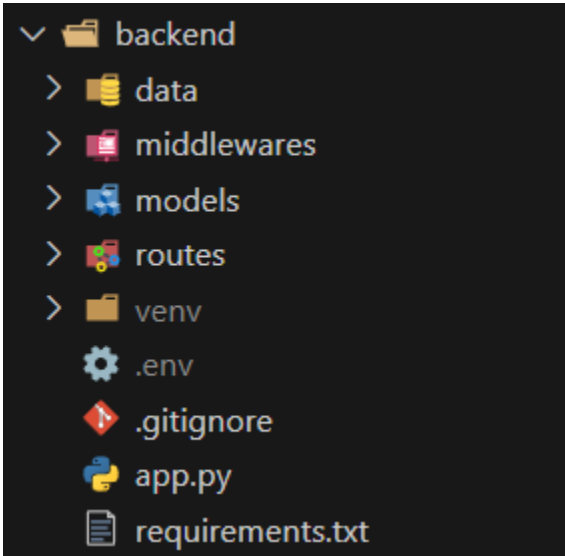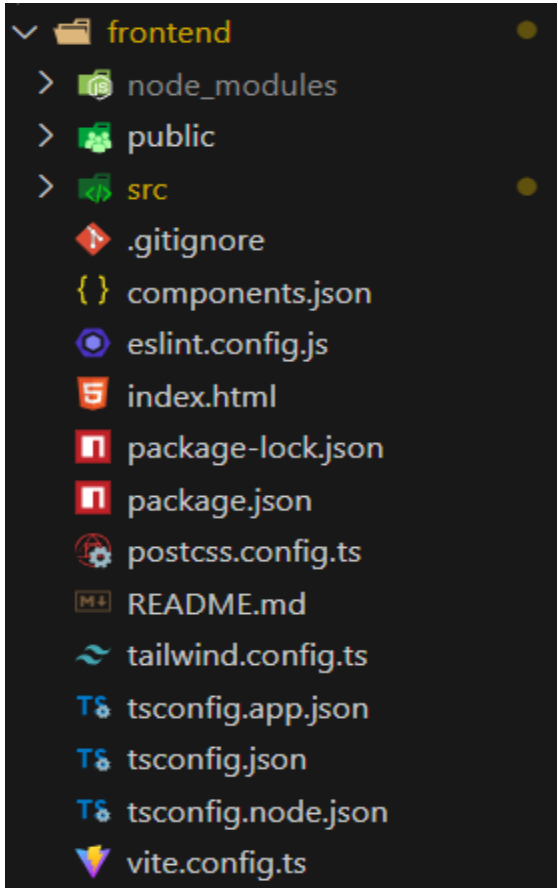pip install flask flask-cors pymongo

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 › 📦 data › 📕 middlewares › 🖼 models › 🗂 routes › 📁 venv ⚙ .env ◆ .gitignore 🐍 app.py 📄 requirements.txt	∨ 📁 frontend › 📦 node_modules › 📗 public › 📁 src ◆ .gitignore { } components.json ◉ eslint.config.js 5 index.html ⬛ package-lock.json ⬛ package.json postcss.config.ts M↓ README.md ∿ tailwind.config.ts T$ tsconfig.app.json T$ tsconfig.json T$ tsconfig.node.json ▼ vite.config.ts

Conclusion:

This document outlines the essential prerequisites for setting up the UpNest Skill Enhancement Platform, including the required hardware and software. Ensuring all dependencies, tools, and configurations are properly installed will enable smooth development and efficient execution of the project.