<u>CA -</u> **Prerequisites Document**

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D.O.P.	20/03/2025
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TITLE : AutoMarket

INTRODUCTION

The **AutoMarket** project is a **full-stack e-commerce 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
   ```
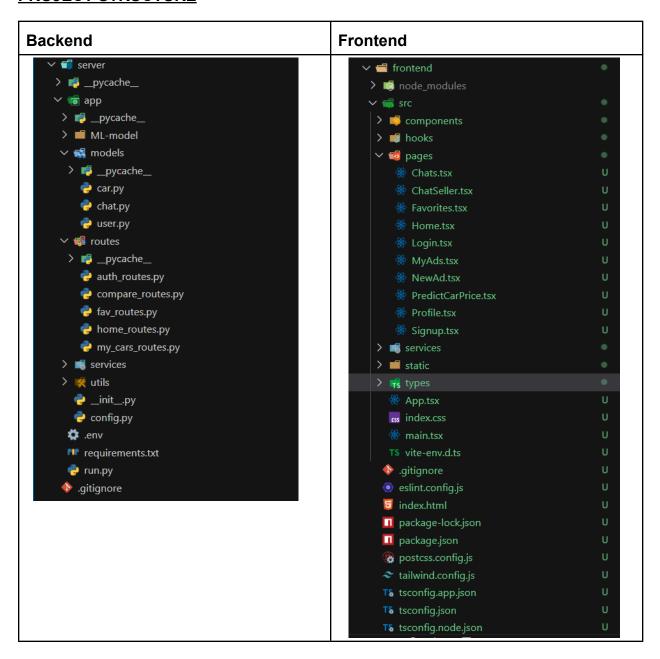
3. **Setup MongoDB**
   Use **MongoDB Atlas** for cloud storage or install **MongoDB locally** from [MongoDB Official Website](#).
   If using a local setup, start MongoDB using:
   ```
   mongod --dbpath /path/to/data
   ```

PROJECT STRUCTURE

Backend	Frontend
∨ 🗔 server > 📁 __pycache__ ∨ 📁 app > 📁 __pycache__ > 📁 ML-model ∨ 📁 models > 📁 __pycache__ 🐍 car.py 🐍 chat.py 🐍 user.py ∨ 📁 routes > 📁 __pycache__ 🐍 auth_routes.py 🐍 compare_routes.py 🐍 fav_routes.py 🐍 home_routes.py 🐍 my_cars_routes.py > 📁 services > 📁 utils 🐍 __init__.py 🐍 config.py ⚙️ .env 📄 requirements.txt 🐍 run.py ◈ .gitignore	∨ 📁 frontend ● > 📁 node_modules ∨ 📁 src ● > 📁 components ● > 📁 hooks ● ∨ 📁 pages ● ⚛️ Chats.tsx U ⚛️ ChatSeller.tsx U ⚛️ Favorites.tsx U ⚛️ Home.tsx U ⚛️ Login.tsx U ⚛️ MyAds.tsx U ⚛️ NewAd.tsx U ⚛️ PredictCarPrice.tsx U ⚛️ Profile.tsx U ⚛️ Signup.tsx U > 📁 services ● > 📁 static ● > 📁 types ● ⚛️ App.tsx U 🎨 index.css U ⚛️ main.tsx U - TS vite-env.d.ts U ◈ .gitignore U ◉ eslint.config.js U 5️⃣ index.html U 📦 package-lock.json U 📦 package.json U ⚙️ postcss.config.js U 🌀 tailwind.config.js U - TS tsconfig.app.json U - TS tsconfig.json U - TS tsconfig.node.json U

CONCLUSION

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