# CA - Prerequisites Document

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**TITLE :Blinkit**

## INTRODUCTION
The Blinkit Clone 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:
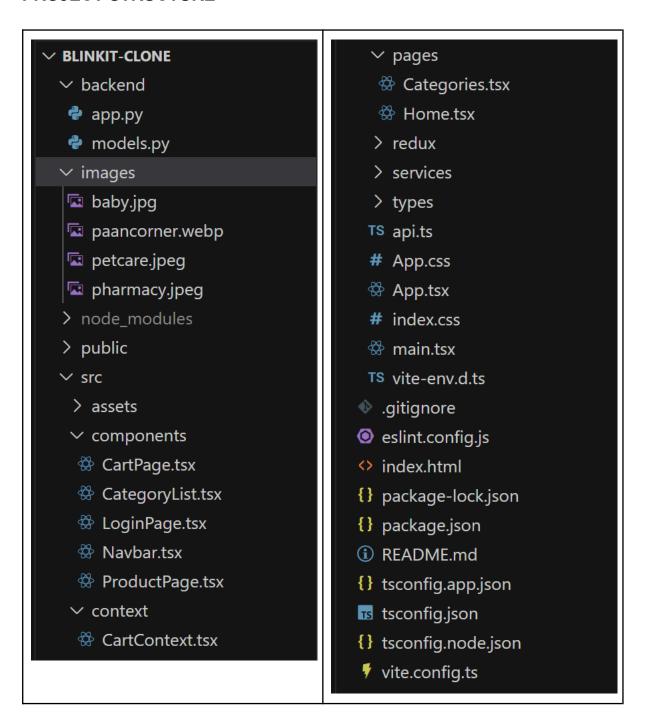pip install flask flask-cors pymongo
### 3. Setup MongoDB
Use MongoDB Atlas for cloud storage or install MongoDB locally from MongoDB Official Website.
If using a local setup, start MongoDB using:
mongod --dbpath /path/to/data

**PROJECT STRUCTURE**

```
∨ BLINKIT-CLONE                    ∨ pages
  ∨ backend                          ⚛ Categories.tsx
    🐍 app.py                        ⚛ Home.tsx
    🐍 models.py                   > redux
  ∨ images                         > services
    🖼 baby.jpg                     > types
    🖼 paancorner.webp             TS api.ts
    🖼 petcare.jpeg                # App.css
    🖼 pharmacy.jpeg               ⚛ App.tsx
  > node_modules                   # index.css
  > public                         ⚛ main.tsx
  ∨ src                            TS vite-env.d.ts
    > assets                       ◈ .gitignore
    ∨ components                   ◉ eslint.config.js
      ⚛ CartPage.tsx               <> index.html
      ⚛ CategoryList.tsx           {} package-lock.json
      ⚛ LoginPage.tsx              {} package.json
      ⚛ Navbar.tsx                 ⓘ README.md
      ⚛ ProductPage.tsx            {} tsconfig.app.json
    ∨ context                      TS tsconfig.json
      ⚛ CartContext.tsx            {} tsconfig.node.json
                                   ⚡ vite.config.ts
```

**CONCLUSION:**

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