CA - Prerequisites Document

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TITLE : Blog Web Application using Flask and MongoDB

INTRODUCTION

This project is a **Blog Web Application** developed using **Flask** (a lightweight Python web framework) and **MongoDB** (a NoSQL database).

The primary goal of this project is to enable users to view, create, update, and delete blog posts through a web-based interface.

It also includes **user authentication**, allowing admin users to log in and manage content through an admin dashboard.

This application follows the **MVC (Model-View-Controller)** design pattern, making it modular and maintainable. The project serves as a practical demonstration of full-stack development using Python and MongoDB and is suitable for deployment or further extension into a complete content management system.

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SYSTEM REQUIREMENTS

1. **Hardware Requirements**
   - **Processor:** Intel Core i3 or higher
   - **RAM:** 4 GB minimum
   - **Storage:** At least 500 MB free disk space
   - **Operating System:** Windows 10/11, macOS, or Linux

2. **Software Requirements**
   - **Node.js** v18.16.1 or later (for testing or optional frontend packages)
   - **npm** v9.5.1 or later
   - **Python** v3.11.9 or later
   - **Local MongoDB Server**
   - **VS Code** – Recommended IDE for both frontend and backend development
   - **Postman** – For API testing

TECHNOLOGY STACK :

Layer	Technology Used
Frontend	HTML, CSS (via main.css), Jinja2 (Flask Templating)
Backend	Python, Flask
Database	Local MongoDB Server
Tools	VS Code, Postman
Server	Flask Development Server
Version Control	Git and GitHub

SETUP INSTRUCTIONS :

Follow these steps to set up and run the project on your local machine:

Clone the Repository

Github Link

Create a Virtual Environment (optional but recommended)

```
python -m venv venv
venv\Scripts\activate   # For Windows
source venv/bin/activate  # For Linux/macOS
```

Install Required Packages

```
pip install -r requirements.txt
```

MongoDB Setup

If you're using **local MongoDB**, make sure it's running at:
```
mongodb://127.0.0.1:27017 (already set in credentials.py)
```
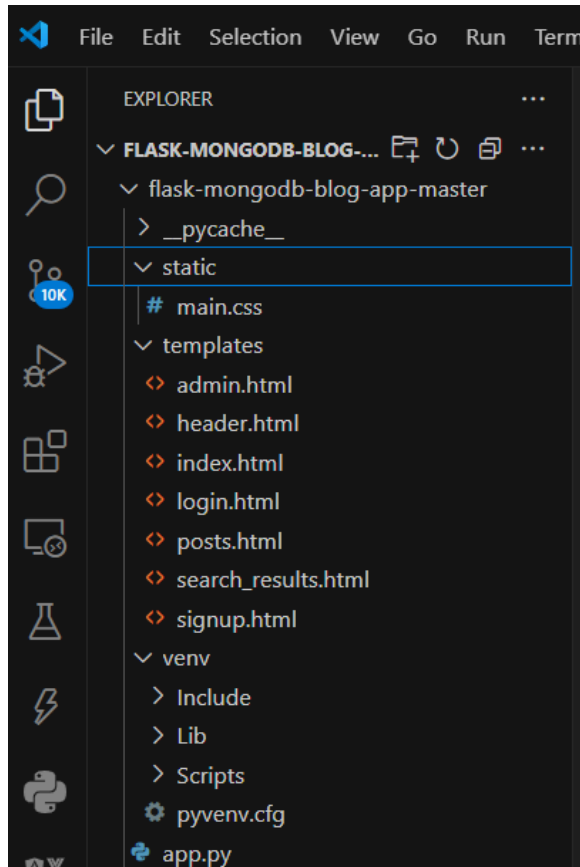
Run the Flask Application

```
python app.py
```

Access the App
Open your browser and go to:
```
http://127.0.0.1:5000/
```

Project Structure :

<u>CONCLUSION</u>

This document provides the required prerequisites and detailed structure for setting up the **Flask MongoDB Blog Application**. It helps understand the project's flow and ensures proper environment setup for successful execution. The project demonstrates core web development concepts such as routing, templates, database operations (CRUD), and user authentication in a simple yet effective way.