

WebX CA

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Title: FlashCard for Learning

INTRODUCTION

The *Flashcard for Learning* project is a web-based application designed to enhance the learning experience through interactive digital flashcards. Built using **Flask** for the backend, **MongoDB** for database storage, and **HTML/CSS** for the frontend, the application allows users to create, manage, and review flashcard decks on various topics. This system provides a simple and effective way to memorize information, supporting personalized learning and retention through repetition and engagement. It is especially useful for students preparing for exams or anyone seeking an organized method for self-study.

SYSTEM REQUIREMENTS

1. Hardware Requirements

- **Processor:** Intel Core i3 or higher
- **RAM:** Minimum 4GB (Recommended: 8GB for smoother performance)
- **Storage:** Minimum 2GB free disk space
- **Operating System:** Windows 10/11, macOS, or Linux (Ubuntu)

2. Software Requirements

- **Python** (v3.8 or later) – For building the Flask backend
- **pip** – For managing Python packages (e.g., Flask, pymongo)
- **MongoDB Atlas** – Cloud-based NoSQL database for storing flashcard data
- **VS Code** – IDE for writing and managing project code
- **Git** – For version control (optional but recommended)
- **Postman** – For testing API routes (if using REST APIs)

TECHNOLOGY STACK

1. Frontend

- **HTML**
- **CSS** (for styling)
- **Axios** (for making HTTP requests)

2. Backend

- **Flask** (Python-based micro web framework)
- **Flask-CORS** (To handle cross-origin requests)
- **Flask-PyMongo** (For connecting to MongoDB)

3. Database

- **MongoDB Atlas** (Cloud NoSQL DB for storing user profiles, donations, and requests)

SETUP INSTRUCTIONS

1. Install Node.js and NPM

Download from <https://nodejs.org/>

node -v

npm -v

2. Install Python and Flask

Download from <https://www.python.org/>

python --version

pip --version

3. Install required dependencies

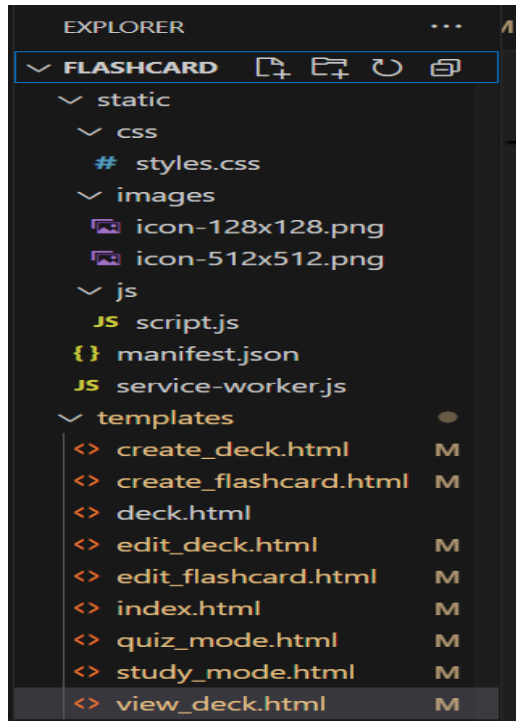
pip install flask flask-cors flask-pymongo

4. Setup MongoDB

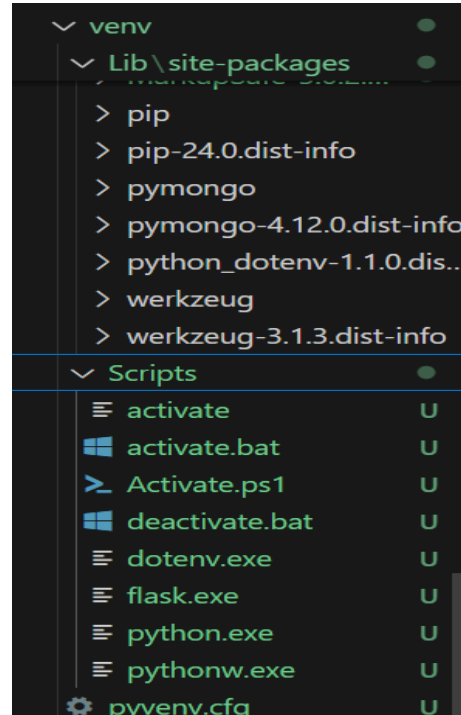
Use **MongoDB Atlas** (recommended) or install MongoDB locally: <https://www.mongodb.com/>

PROJECT STRUCTURE

Frontend



Backend



CONCLUSION

The *Flashcard for Learning* web application successfully provides an interactive and user-friendly platform for efficient self-study and revision. By leveraging **Flask** for backend development and **MongoDB** for scalable data storage, the system ensures smooth performance and secure management of flashcard data. The simple and intuitive **HTML/CSS interface** enhances user experience, making it easy to create, update, and review flashcards. This project demonstrates how web technologies can be effectively used to build educational tools that support personalized learning and knowledge retention.