/\* Express.js Backend with MongoDB \*/

const express = require("express");

const mongoose = require("mongoose");

const cors = require("cors");

const app = express();

app.use(express.json());

app.use(cors());

mongoose.connect("mongodb://localhost:27017/flashcards", {

useNewUrlParser: true,

useUnifiedTopology: true,

});

const FlashcardSchema = new mongoose.Schema({

question: String,

answer: String,

});

const Flashcard = mongoose.model("Flashcard", FlashcardSchema);

app.post("/flashcards", async (req, res) => {

const { question, answer } = req.body;

const newFlashcard = new Flashcard({ question, answer });

await newFlashcard.save();

res.json({ message: "Flashcard added" });

});

app.get("/flashcards", async (req, res) => {

const flashcards = await Flashcard.find();

res.json(flashcards);

});

app.listen(5000, () => console.log("Server running on port 5000"));

/\* Frontend - HTML, CSS, JavaScript \*/

const frontendHTML = `

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Flashcard Quiz App</title>

<style>

body { font-family: Arial, sans-serif; text-align: center; }

.flashcard { border: 1px solid #ccc; padding: 20px; margin: 20px auto; width: 300px; cursor: pointer; }

</style>

</head>

<body>

<h1>Flashcard Quiz</h1>

<input type="text" id="question" placeholder="Question">

<input type="text" id="answer" placeholder="Answer">

<button onclick="addFlashcard()">Add Flashcard</button>

<div id="flashcards"></div>

<h2>Quiz Mode</h2>

<div id="quiz"></div>

<p>Score: <span id="score">0</span></p>

<button onclick="startQuiz()">Start Quiz</button>

<script>

let flashcards = [];

let score = 0;

let currentQuestion = 0;

async function fetchFlashcards() {

const res = await fetch("http://localhost:5000/flashcards");

flashcards = await res.json();

renderFlashcards();

}

function renderFlashcards() {

const container = document.getElementById("flashcards");

container.innerHTML = "";

flashcards.forEach(card => {

const div = document.createElement("div");

div.classList.add("flashcard");

div.innerHTML = `<p>${card.question}</p>`;

div.onclick = () => div.innerHTML = `<p>${card.answer}</p>`;

container.appendChild(div);

});

}

async function addFlashcard() {

const question = document.getElementById("question").value;

const answer = document.getElementById("answer").value;

await fetch("http://localhost:5000/flashcards", {

method: "POST",

headers: { "Content-Type": "application/json" },

body: JSON.stringify({ question, answer })

});

fetchFlashcards();

}

function startQuiz() {

if (flashcards.length === 0) {

alert("No flashcards available. Add some first.");

return;

}

score = 0;

currentQuestion = 0;

askQuestion();

}

function askQuestion() {

if (currentQuestion >= flashcards.length) {

alert("Quiz complete! Your final score: " + score);

return;

}

const quizContainer = document.getElementById("quiz");

quizContainer.innerHTML = `

<p>${flashcards[currentQuestion].question}</p>

<input type="text" id="userAnswer" placeholder="Your answer">

<button onclick="checkAnswer()">Submit</button>

`;

}

function checkAnswer() {

const userAnswer = document.getElementById("userAnswer").value.trim().toLowerCase();

const correctAnswer = flashcards[currentQuestion].answer.trim().toLowerCase();

if (userAnswer === correctAnswer) {

score++;

document.getElementById("score").innerText = score;

alert("Correct!");

} else {

alert("Wrong! The correct answer was: " + flashcards[currentQuestion].answer);

}

currentQuestion++;

askQuestion();

}

fetchFlashcards();

</script>

</body>

</html>`;

const fs = require("fs");

fs.writeFileSync("frontend.html", frontendHTML);

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