API Documentation - Quizzes & Flashcards

Overview

Complete documentation for the Quizzes and Flashcards REST API endpoints in StudyBuddy Phase 3.

Quick Start

Base URL

```
http://localhost:8001
```

Authentication

Most endpoints require a user session. Login first using the Auth API.

Authentication API

Register New User

```
POST /auth/register
```

Login User

```
POST /auth/login
```

Logout

```
POST /auth/logout
```

Quiz Endpoints

1. Create Quiz (with ACID Transaction)

Endpoint: POST /quiz/create

Requires: Session authentication

Purpose: Create a quiz with questions and answers atomically (all-or-nothing)

Request:

```
{
```

Response (201):

```
{
```

Key Feature: If ANY part fails (question insert, answer insert, etc.), EVERYTHING rolls back. No partial quizzes.

2. List All Quizzes (with Pagination)

Endpoint: GET /quiz/quizzes

Purpose: Get paginated list of all quizzes

Examples:

Get first 20 quizzes:

```
GET /quiz/quizzes
```

Get next page:

```
GET /quiz/quizzes?page=2&limit=20
```

Get 50 per page:

```
GET /quiz/quizzes?page=1&limit=50
```

Response (200):

```
{
```

3. Get Quiz Details (Optimized)

Endpoint: GET /quiz/<quiz_id>

Purpose: Get full quiz with questions and answers (uses optimized batch query)

Example:

```
GET /quiz/42
```

Response (200):

```
{
```

Performance Note: Uses optimized batch query for answers (1 query for all answers, not 1 per question)

4. Submit Quiz (with ACID Transaction)

Endpoint: POST /quiz/submit

Requires: Session authentication

Purpose: Submit quiz answers, calculate score, and save attempt atomically

Request:

```
{
```

Response (200):

```
{
```

Means: Student got 3 points out of 3 possible points (100%)

Key Feature: Score calculation and save happen atomically. Either both succeed or both fail.

Flashcard Endpoints

1. Create Flashcard Set (with ACID Transaction)

Endpoint: POST /flashcards/create

Requires: Session authentication

Purpose: Create flashcard set with all cards atomically

Request:

```
{
```

Response (201):

```
{
```

Key Feature: If any card fails to insert, entire set creation rolls back. No partial sets.

2. List Flashcard Sets (with Pagination)

Endpoint: GET /flashcards/sets

Purpose: Get paginated list of flashcard sets

Examples:

```
GET /flashcards/sets
```

Response (200):

```
{
```

3. Get Flashcard Set

Endpoint: GET /flashcards/sets/<set_id>

Purpose: Get all cards in a flashcard set

Example:

```
GET /flashcards/sets/15
```

Response (200):

```
{
```

4. Update Flashcard Set

Endpoint: PUT /flashcards/sets/<set_id>

Requires: Session authentication (must be creator)

Purpose: Update set title/description

Request:

```
{
```

Response (200):

```
{
```

5. Delete Flashcard Set

Endpoint: DELETE /flashcards/sets/<set_id>

Requires: Session authentication (must be creator)

Purpose: Delete entire flashcard set and all cards

Response (200):

```
{
```

Error Handling

Standard Error Response

```
{
```

Common HTTP Status Codes

- 200 - Success (GET, PUT)

- 201 - Created (POST)

- 400 - Bad request (invalid data)

- 401 - Not authenticated (need to login)

- 403 - Not authorized (don't have permission)

- 404 - Not found (resource doesn't exist)

- 500 - Server error (database issue)

Authentication Flow

```
1. User goes to login page
```

Testing Guide

Test Quiz Creation

```
# 1. Login first
```

Summary

All endpoints return JSON and use proper HTTP status codes. Error responses include descriptive messages.