## **Quiz Backend Update Summary**

## **Summary of Completed Tasks:**

- 1. Updated MongoDB Schema:
  - Added new fields to the quiz schema:
    - difficulty (e.g., easy, medium, hard)
    - topicTags (array of strings to categorize quiz topics)
    - timeTaken (numeric or duration value representing how long the quiz took)

## 2. Modified API Endpoints:

- Updated quiz-related API routes to accept and send the new quiz metadata fields.
- Ensured that when quiz data is fetched, the frontend receives the updated metadata (difficulty, topicTags, timeTaken).
- 3. Tested API with Postman:
  - Used Postman to test creating quizzes with new metadata included.
  - Verified retrieving quizzes returns the new metadata correctly.
  - Confirmed error handling when invalid metadata is sent.
- 4. Implemented Backend Validation:
  - Added validation to ensure difficulty is valid (easy, medium, hard).
  - Validated topicTags is an array of strings.
  - Confirmed timeTaken is a non-negative number.
  - Returned errors if validation fails to prevent bad data.

This update improves quiz management by enriching metadata, enhancing API communication, and securing data integrity.