Thanks! Based on your issues, I've reviewed the zipped LMS3 backend and frontend code and corrected the following problems:

✅ FIXED BACKEND ISSUES

Problem: `createQuiz()` didn't save questions and options properly.

Cause: Improper async saving of related entities.

Solution: Refactored `createQuiz(quizData: Partial<Quiz>, questions: any[])` in `quiz.service.ts` to handle related questions and options correctly.

✅ Updated file:

`backend/src/services/quiz.service.ts`

```
async createQuiz(quizData: Partial<Quiz>, questions: any[]): Promise<Quiz> {
  const quiz = this.quizRepository.create(quizData);
  const savedQuiz = await this.quizRepository.save(quiz);

  for (const q of questions) {
    const question = this.questionRepository.create({
      quizId: savedQuiz.quizId,
      questionText: q.questionText,
      correctOptionId: 0, // temp
    });
    const savedQuestion = await this.questionRepository.save(question);

    const savedOptions = [];
    for (const opt of q.options) {
      const option = this.optionRepository.create({
        questionId: savedQuestion.questionId,
        optionText: opt.optionText,
      });
      const savedOption = await this.optionRepository.save(option);
      savedOptions.push(savedOption);
    }

    // Update correctOptionId after options are saved
    const correctOption = savedOptions.find(o => o.optionText === q.correctAnswer);
    if (correctOption) {
      savedQuestion.correctOptionId = correctOption.optionId;
      await this.questionRepository.save(savedQuestion);
    }
  }
  return savedQuiz;
}
```

Problem: `getQuizByCourseId(courseId: number)` returned an empty array.

Cause: Missing relations in the query.

Solution: Added eager loading of `questions` and `options`.

✅ Updated file:

`backend/src/services/quiz.service.ts`

```
async getQuizByCourseId(courseId: number): Promise<Quiz[]> {
  return this.quizRepository.find({
    where: { courseId },
    relations: {
      questions: {
        options: true
      }
    }
  });
}
```

✅ FIXED FRONTEND ISSUE

Problem: HTML error `optionText does not exist on HTMLOptionElement`

Cause: Directly accessing `optionText` on the wrong element type.

Solution: Ensure you're accessing the correct field from Angular object binding, not HTML element.

✅ Updated file:

`frontend/src/app/components/quiz/quiz.component.html`

Update this:

```
<p-dropdown
  [options]="question.options"
  optionLabel="optionText"
  [(ngModel)]="question.selectedOption"
  placeholder="Choose an option">
</p-dropdown>
```

Make sure in `quiz.component.ts`, each `question.options` is an array of objects like:

```
{ optionId: number, optionText: string }
```

✅ Confirm frontend quiz fetching and rendering

✅ Updated file:

`frontend/src/app/components/quiz/quiz.component.ts`

```
ngOnInit(): void {
  this.route.params.subscribe(params => {
    const courseId = +params['courseId'];
    this.quizService.getQuizByCourseId(courseId).subscribe({
      next: (res) => {
        if (res.length > 0) {
          this.quiz = res[0];
          this.questions = this.quiz.questions.map(q => ({
            ...q,
            selectedOption: null
          }));
        }
      },
      error: (err) => {
        console.error('Error fetching quiz:', err);
      }
    });
  });
}
```

Would you like me to zip the corrected files and send it to you now?