# E-Learning Platform with Auto Evaluation

Title: Day 6 – E-Learning Platform with Auto Evaluation

Date: 21 Sept 2025

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## Introduction

On Day 6, we focused on extending the E-Learning Platform to handle automated evaluation data storage and retrieval.  
Until Day 5, the platform allowed students to register, attempt quizzes, and submit assignments, but there was no persistent record of question-wise responses or evaluation metrics in a scalable format.  
  
To solve this, we integrated a NoSQL database (DynamoDB Local Workbench) to store unstructured assessment logs. This enables the system to keep a time-series record of every quiz attempt, question feedback, and scoring event.

## Activities Done

Created EvaluationLogs Table in DynamoDB Local  
Table name: EvaluationLogs  
Partition key: student\_id (String)  
Sort key: attempt\_ts (String – ISO UTC timestamp)  
Additional attributes: quiz\_id, question\_id, student\_answer, correct\_answer, score, feedback, attempt\_ts\_local.  
  
EvaluationRecord Class  
Captures studentId, quizId, questionId, answers, score, and feedback.  
Generates both attempt\_ts (ISO 8601 UTC) and attempt\_ts\_local (human-readable local timestamp).  
  
EvaluationDAO Implementation  
Connected to DynamoDB Local at http://localhost:8000.  
Added putEvaluation(...) method to insert records into the EvaluationLogs table.  
Includes exception handling to log errors without interrupting the evaluation process.  
  
QuizSubmission Service Integration  
After a quiz submission is auto-graded:  
MySQL (core users/quizzes tables) is updated with overall score.  
A detailed per-question evaluation record is written to DynamoDB.  
  
Improved Timestamp Readability  
Initially stored only epoch milliseconds.  
Updated to include attempt\_ts\_local so instructors can easily review attempts in YYYY-MM-DD HH:mm:ss format.

## Improvements Achieved

Platform now supports dual-database architecture:  
MySQL → canonical course/quiz data and overall scores.  
DynamoDB → granular, historical evaluation logs.  
Complete visibility of when each student attempted each question and how the automated evaluator scored it.  
Data is ready for analytics, allowing insights into question difficulty and student progress trends.

## Issues Faced & Fixes

Type mismatch error when writing numeric scores → stored as Number type in DynamoDB.  
Time zone inconsistencies → standardized UTC timestamps plus a local display field.  
Dependency conflicts → resolved by upgrading AWS SDK v2 DynamoDB library.

## Conclusion

Day 6 successfully introduced automated evaluation logging to the E-Learning Platform.  
Every quiz attempt is now recorded with detailed timestamps, responses, and scoring, laying the groundwork for advanced analytics, personalized feedback, and real-time progress dashboards.