

The Rookies - Database Design (Prototype)

This document describes the structure of the **TheRookies.mdf** database used for the ASP.NET web application project. It serves as a prototype schema using SQL Server LocalDB. Each table uses a **slug-based primary key** (human-readable unique string) and includes a **soft delete** mechanism (*is_deleted*, *deleted_at*, *deleted_by_slug*) to logically remove data without permanent deletion.

Tables Overview

| Users | Stores user info such as name, email, role, and soft delete fields. |
|-----------------|---|
| Classes | Represents classes created by teachers and joined by students. |
| Enrollments | Links users and classes with role (student/teacher/assistant). |
| Quizzes | Contains quiz details created by teachers (title, mode, published). |
| Questions | Stores questions linked to quizzes with JSON options. |
| QuizAssignments | Assigns quizzes to classes with availability and due dates. |
| Attempts | Tracks user quiz attempts, scores, and hint usage. |
| Leaderboards | Displays XP and badge rankings for students and classes. |
| Badges | Defines badges that can be earned by users. |
| UserBadges | Links users to badges earned. |
| Resources | Stores materials uploaded by teachers for each class. |
| Announcements | Announcements posted by teachers in each class. |
| Notifications | System or user-specific notifications (JSON payloads). |
| XpLedger | Tracks XP changes with reasons and references. |
| AuditLog | Logs user actions for prototype testing and debugging. |
| AppSettings | Stores key-value configuration for the app. |

Soft Delete: Instead of deleting records, the *is_deleted* flag is set to 1. Queries should always include a filter **WHERE is_deleted = 0**. **Slug IDs:** Each record uses a string identifier like user-8fa21bcd to simplify references across the system and improve readability in URLs.

Prototype Mode: This database is designed without foreign key restrictions to allow flexible testing and rapid prototyping within Visual Studio LocalDB.