

### 1. User

- User\_id (int) **Primary Key**
- Name (String)
- Email (String) **Unique**
- Password (String)
- Role (String: Admin | Educator | Student )
- Created\_at (Timestamp)

Notes: Role determines permission for specific actions within a platform. It's worth mentioning that although password attribute data type will be of type string, it will be presented in hash value for security reasons. This logic applies to all password related attributes.

### 2. Quiz

- quiz\_id (int) **Primary Key**
- creator\_id (int) **Foreign Key**
- title (String)
- quiz type (String)
- tag (array)
- topic (array)
- difficulty (String)
- password (String)
- duration (num)
- access\_Type (String: Time-Limited or Open)
- groups (Array)
- attempts (int. Optional)
- question\_ids (array)
- instruction (String)
- status (String)
- Randomize (boolean)
- created\_at (Timestamp)
- Start\_time (Timestamp)
- updated\_at (Timestamp)

Note: Quiz Type attribute determines if quiz is summative or formative. And question\_ids is an array of references to the Question Table. Creator\_id is a reference to a User.

### 3. Question

- QuestionID (int)      **Primary Key**
- Educator\_id (int)      **Foreign Key**
- Text (String)
- Type (String)
- Options (array)
- Correct\_answer (array)
- Media\_url (String)
- Explanation (String)
- Tags[] (Array of strings)
- Difficulty (String)
- Created\_at (Timestamp)

Note: Tags attribute responsible for categorizing questions by topics, difficulty level, or other parameters. Options represent multiple choices for MCQ, stored as an array of strings, as well as Correct\_answer attribute, as there can be multiple correct answers.

#### 4. Attempts

- Attempt\_id (int)      **Primary Key**
- Quiz\_id (int)      **Foreign Key**
- Student\_id (int)      **Foreign Key**
- Answer (map)
- Start\_time (timestamp)
- End\_time (timestamp)
- Score (number)
- Status (String)
- Time\_taken (number)

Note: Status is responsible for showing the quiz is either submitted or auto-submitted. Student\_id references to User table. Answer attribute maps the question\_id

#### 5. Groups

- Group\_id (int)      **Primary Key**
- Name (string)
- Educator\_id (int)      **Foreign Key**
- Student\_ids (array)

Note: Educator\_id references User Table. And Student\_id is an array of references to students (User).

#### 6. Logs

- Log\_id (int) **Primary Key**
- User\_id (int) **Foreign Key**
- ActionType (string)
- Timestamp (timestamp)
- Details (map)

Note: ActionType attribute represents the type of action made, e.g: "Create Quiz", "Edit Question", and etc. While Details attribute is designed to store additional context for action type made.