

1. Introduction

Database localisation utilises translation table method in localisation for book names, genres and their authors and row localisation for persisting data about the selected language of the user.

2. Database Tables Overview

When querying for genres, authors or book names we get the translated_name and translated_description from their respective tables, if the user has another language than default (English) selected. If no translation is found for the selected language we default to English.

```
CREATE TABLE genre_translations (  
    genre_id INT NOT NULL,  
    language_code VARCHAR(5) NOT NULL,  
    translated_name VARCHAR(50) NOT NULL,  
    translated_description TEXT,  
    PRIMARY KEY (genre_id, language_code),  
    FOREIGN KEY (genre_id) REFERENCES genres (id) ON DELETE CASCADE  
);
```

image shows database table where localised information about genres can be stored

```
CREATE TABLE author_translations (  
    author_id INT NOT NULL,  
    language_code VARCHAR(5) NOT NULL,  
    translated_name VARCHAR(50) NOT NULL,  
    translated_description TEXT,  
    PRIMARY KEY (author_id, language_code),  
    FOREIGN KEY (author_id) REFERENCES authors (id) ON DELETE CASCADE  
);
```

image shows database table where localised information about authors can be stored

```
CREATE TABLE book_translations (  
    book_id INT NOT NULL,  
    language_code VARCHAR(5) NOT NULL,  
    translated_title VARCHAR(255) NOT NULL,  
    translated_description TEXT,  
    PRIMARY KEY (book_id, language_code),  
    FOREIGN KEY (book_id) REFERENCES books (id) ON DELETE CASCADE  
);
```

```
CREATE TABLE users (  
  id          INT PRIMARY KEY AUTO_INCREMENT,  
  username    VARCHAR(50) NOT NULL UNIQUE,  
  email       VARCHAR(100) NOT NULL UNIQUE,  
  password_hash VARCHAR(255) NOT NULL,  
  role        ENUM('user', 'admin') NOT NULL DEFAULT 'user',  
  created_at  TIMESTAMP DEFAULT CURRENT_TIMESTAMP,  
  language_code VARCHAR(5) NOT NULL DEFAULT 'en'  
);|
```

image shows database table for users with the additional "language_code" row added

Information about the user chosen language from the application is registered to the "language_code" row of users table, and on subsequent log-ins by the user their preferred language will be applied automatically to the application.