



BookBazaar — MySQL + MongoDB Edition

Banque Misr Training Program 2025
Back-end Development with Java Spring Boot

Team Information

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1. Project Overview & Goals

Project Overview

BookBazaar is a simple project that combines both **relational** and **document-based** databases to simulate a small library system. It allows users to add, remove, and update book records, as well as track which books are rented, and which user has rented them.

The project demonstrates how **MySQL** (relational) and **MongoDB** (document-based) can be used together to manage structured data (like books and users) and unstructured data (like user Reviews) in a unified system.

Project Goals

- **Practice relational database design** using MySQL, including creating tables for books, users, rentals, and more.
- **Implement CRUD operations** (Create, Read, Update, Delete) in both SQL and MongoDB environments.
- **Store and manage book reviews** using MongoDB's flexible document structure.
- **Compare relational and document database models**, highlighting when to use each.
- **Learn how to use MySQL scripts and MongoDB shell scripts**, including importing data, running commands, and troubleshooting errors.
- **Develop a unified mini-library system** where books, rentals, and reviews can be managed across two different data storage paradigms.

2. Setup Instructions

MySQL Setup

1. Download the installer appropriate for your OS (Windows, macOS, or Linux): <https://dev.mysql.com/downloads/installer/>
2. Install **MySQL Server & MySQL Workbench**
3. Set a **root password** during installation
4. **Login** by writing (MySQL -u root -p) in CMD

MongoDB Setup

1. Download the installer appropriate for your OS (Windows, macOS, or Linux): <https://www.mongodb.com/try/download/community>
2. Install **MongoDB compass & MongoDB shell**
3. Verify **MongoDB shell** is installed using this {mongosh -version}

3. How to run files

Schema. SQL

1. **Open** CMD
2. **Login** using this command { **mysql -u “*your username*” -p** } & enter your password
3. **Use** this command {**SOURCE path/to/schema. SQL;**} having your file path ex: { **SOURCE C:/Users /Desktop/schema. SQL;**}

CRUD_demo. SQL

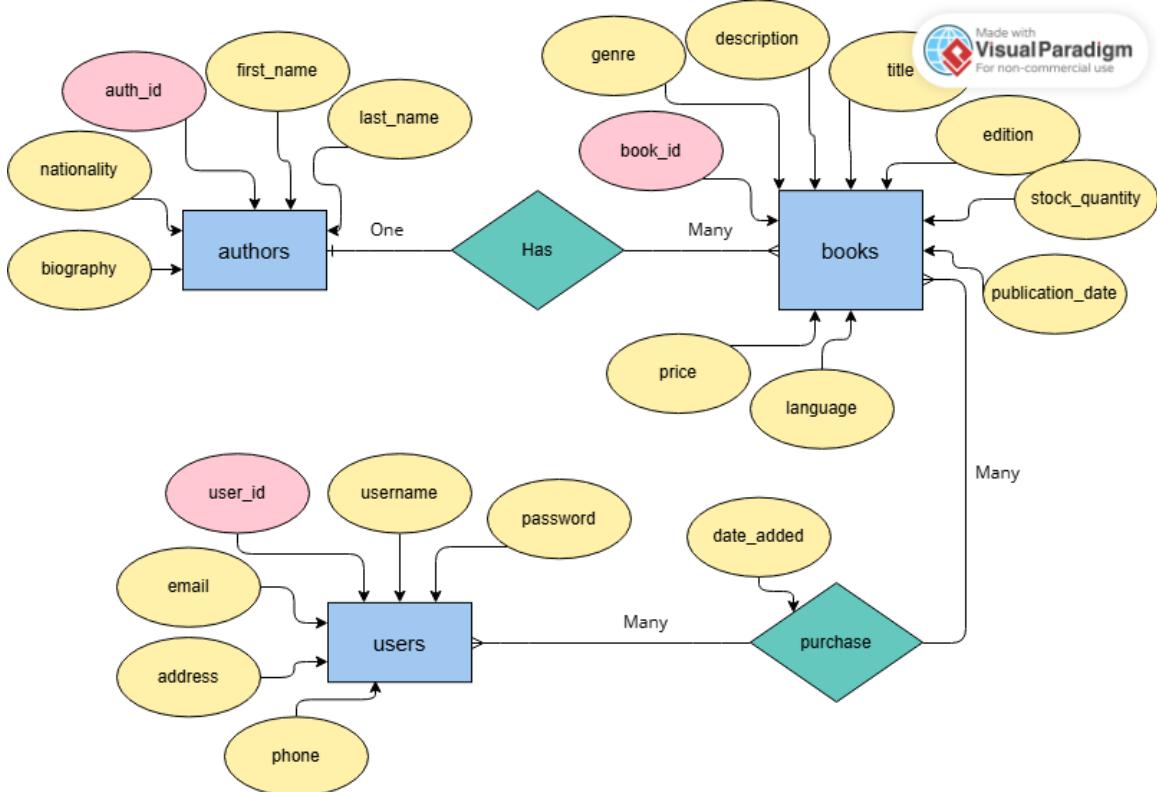
1. **Open** CMD
2. **Login** using this command:
{ **mysql -u “*your username*” -p** } & enter your password
3. **Use** this command: {**SOURCE path/to/CRUD_demo. SQL;**} having your file path
ex: { **SOURCE C:/Users /Desktop/CRUD_demo. SQL;**}

CRUD_reviews. js

1. **Open** CMD
2. **Navigate** to where **crud_reviews.js** is saved:
{ **cd C:/Users/YourName/Desktop** }
3. **Run** the file: { **mongosh < crud_reviews.js** }

4.ERD & Reviews

ER diagram



In the **BookBazaar** project, the relationship between **authors** and **books** is modeled as **one-to-many** — meaning that each book has one author, and each author can have many books.

This design choice simplifies the database structure and works well for the scope of this training project. While in real-world applications a book might have multiple authors (a many-to-many relationship), we assumed a one-to-many model here to keep things straightforward and easier to implement.

Reviews Collection

Field	Type	Required	Description
_id	ObjectId	Yes	Automatically generated unique ID
book_id	Integer	Yes	ID of the book being reviewed
reviewer	String	Yes	Name of the person reviewing
rating	Integer	Yes	Rating score from 1 to 5
comment	String	No	Optional review text
created_at	ISODate	Yes	Date and time the review was created

```
_id: ObjectId('688240fc0fce19f24021123f')
book_id : 1
reviewer : "Alice"
rating : 5
comment : "Excellent read, highly recommend!"
created_at : 2025-07-24T00:52:24.000+00:00
```

```
_id: ObjectId('688241d30fce19f240211240')
book_id : 2
reviewer : "Bob"
rating : 4
comment : "Great book with some slow parts"
created_at : 2025-05-15T03:20:21.000+00:00
```

```
_id: ObjectId('688242610fce19f240211241')
book_id : 3
reviewer : "Anna"
rating : 5
comment : "Loved it! Great characters"
created_at : 2024-08-02T04:43:12.000+00:00
```

5.Troubleshooting

MySQL Issues

Issue	Cause	Solution
 Access denied for user	Wrong username or password	Use correct login format: <code>mysql -u xx -p</code> and enter the password (1234) correctly. If the issue persists, reset the password using <code>root</code> or ask the admin.

Issue	Cause	Solution
 Unknown database	Trying to use a DB that hasn't been created yet	Make sure to run <code>schema.sql</code> first to create the database, then use: <code>USE your_database_name;</code>
 SQL syntax error near...	Typo or missing semicolon in <code>.sql</code> file	Double-check that all SQL statements end with ; and follow proper SQL syntax.

MongoDB Issues

Issue	Cause	Solution
 Cannot find .js or .json file	File path is incorrect or not found	Use the full file path when running scripts, e.g.: <code>mongosh < "C:/Users/Desktop/crud_reviews.js"</code> Or navigate to the folder first using <code>cd</code> in terminal.