

Library Management System Assignment (MongoDB)

Scenario:

A library maintains records of books, members, and book loans. You are tasked with creating a database to manage the library and performing various queries on it.

Schema

Collections to Create:

1. **Books Collection:**
 - Fields: BookID (int), Title (string), Author (string), ISBN (string), PublishedYear (int), CopiesAvailable (int)
 2. **Members Collection:**
 - Fields: MemberID (int), FirstName (string), LastName (string), MembershipDate (date)
 3. **Loans Collection:**
 - Fields: LoanID (int), MemberID (int, foreign key from Members), BookID (int, foreign key from Books), LoanDate (date), ReturnDate (date)
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Assignment Tasks

Part 1: Creating the Database and Collections

1. Write the MongoDB command to create a database named LibraryDB.
 2. Create the Books collection with the fields and constraints mentioned in the schema.
 3. Create the Members collection with the fields and constraints mentioned in the schema.
 4. Create the Loans collection with the fields and constraints mentioned in the schema.
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Part 2: Inserting Data

5. Insert at least 5 records into the Books collection.
 6. Add at least 3 members to the Members collection.
 7. Insert at least 2 records into the Loans collection to track book loans.
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Part 3: Basic Queries

8. Write a query to list all books in the library.
 9. Write a query to list all members who joined after a specific date.
 10. Retrieve details of books that have more than 5 copies available.
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Deliverables

1. MongoDB commands for creating databases, collections, and inserting data.
2. MongoDB queries for all tasks in this assignment.
3. The 2 Labs will be delivered by mail after creating the 2 open repos for each lab in Github and give me the link of the repo with your name and with Subject: Name-Day1_1 MySQL/MongoDB.