Title: Library Management System Proposal

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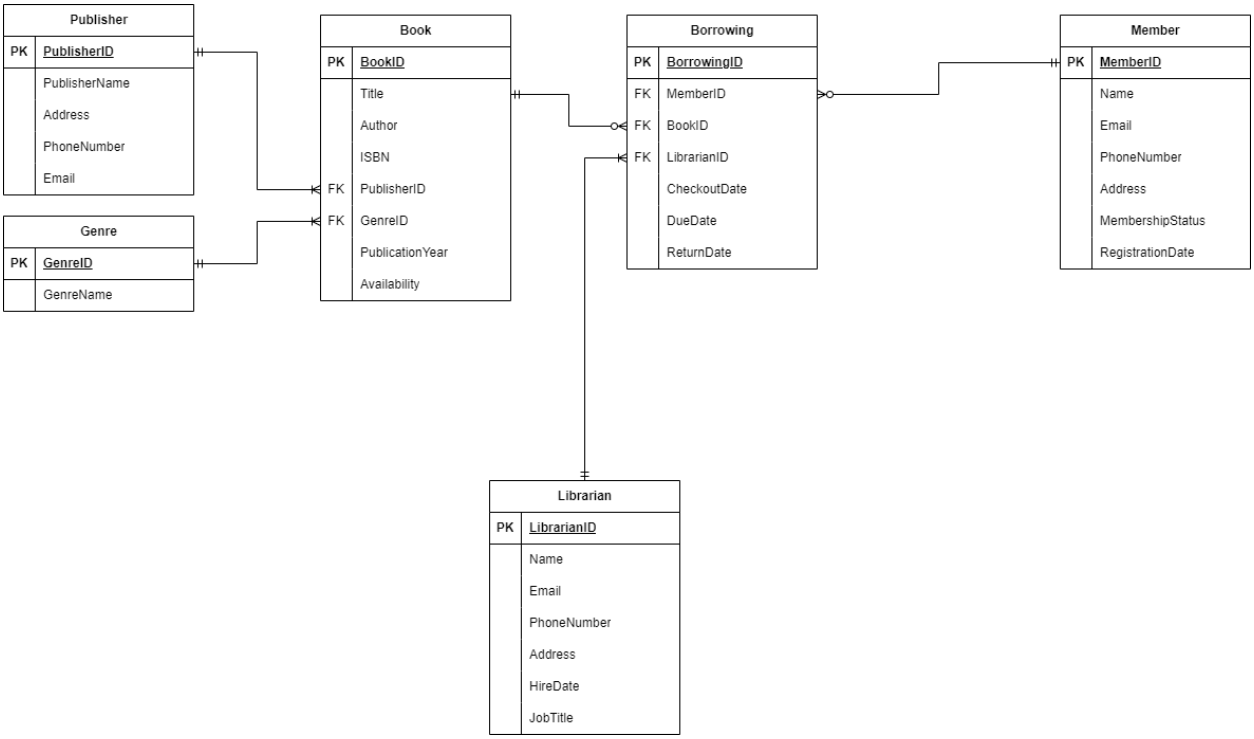
Introduction:

Welcome to the Library Management System project. This system is designed to facilitate the efficient management of library operations, including book management, member registration, borrowing, and librarian administration. With the aim of streamlining library processes and enhancing user experience, this project offers a comprehensive suite of features tailored to meet the needs of both library staff and patrons.

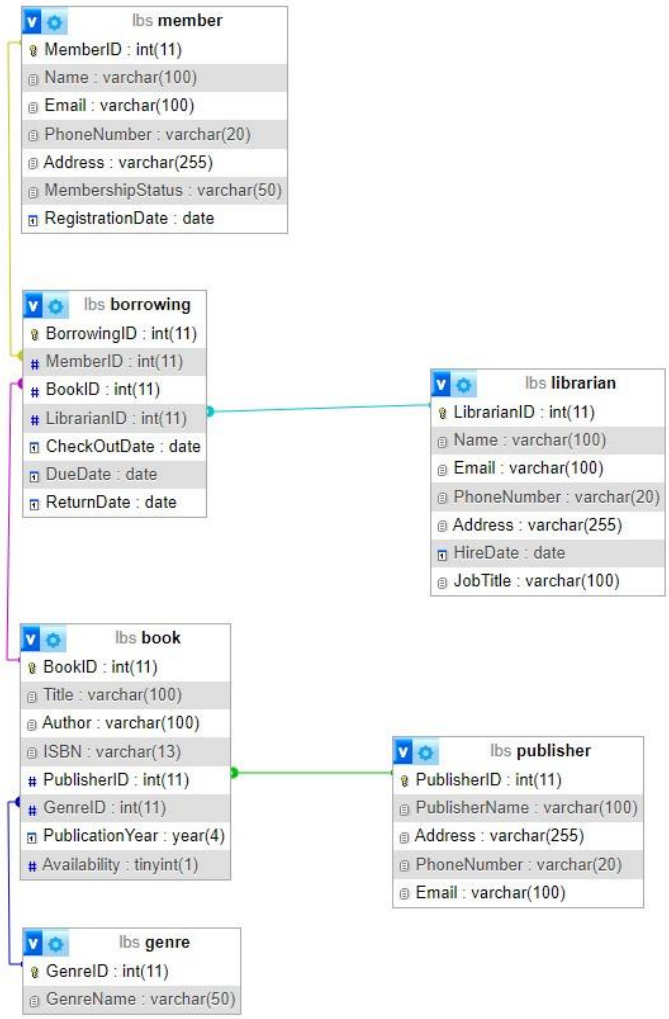
Key Features:

1. **Book Management:** Enables librarians to add, edit, and delete book records, including details such as title, author, ISBN, publisher, genre, publication year, and availability status.
2. **Member Registration:** Provides a user-friendly signup form for new members to create accounts, capturing essential information such as name, email, phone number, address, and password.
3. **Authentication:** Implements a secure login system to authenticate users, ensuring that only registered members and authorized librarians can access the system's functionalities.
4. **Borrowing Management:** Facilitates the borrowing process by allowing members to check out books, with features for librarians to record check-out dates, due dates, and return dates, promoting efficient book circulation and tracking.
5. **Librarian Administration:** Empowers librarians with administrative capabilities, including user management, book inventory management, and borrowing transaction management, enhancing the overall efficiency of library operations.

ERD (Entity Relationship Diagram)



Relational Schema



Scripts to create table with sample data to insert in the tables

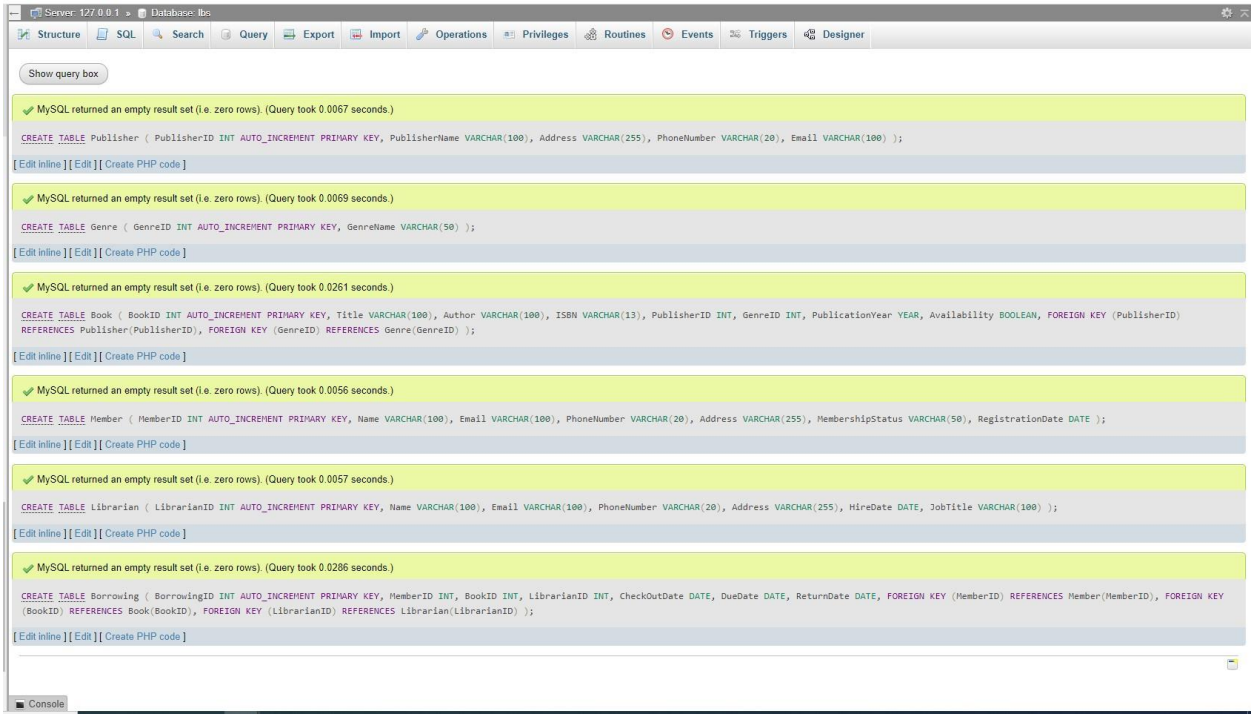
```
CREATE TABLE Publisher (
    PublisherID INT AUTO_INCREMENT PRIMARY KEY,
    PublisherName VARCHAR(100),
    Address VARCHAR(255),
    PhoneNumber VARCHAR(20),
    Email VARCHAR(100)
```

```
);
CREATE TABLE Genre (
    GenreID INT AUTO_INCREMENT PRIMARY KEY,
    GenreName VARCHAR(50)
);
CREATE TABLE Book (
    BookID INT AUTO_INCREMENT PRIMARY KEY,
    Title VARCHAR(100),
    Author VARCHAR(100),
    ISBN VARCHAR(13),
    PublisherID INT,
    GenreID INT,
    PublicationYear YEAR,
    Availability BOOLEAN,
    FOREIGN KEY (PublisherID) REFERENCES Publisher(PublisherID),
    FOREIGN KEY (GenreID) REFERENCES Genre(GenreID)
);
CREATE TABLE Member (
    MemberID INT AUTO_INCREMENT PRIMARY KEY,
    Name VARCHAR(100),
    Email VARCHAR(100),
    PhoneNumber VARCHAR(20),
    Address VARCHAR(255),
```

```
    MembershipStatus VARCHAR(50),
    RegistrationDate DATE
);
CREATE TABLE Librarian (
    LibrarianID INT AUTO_INCREMENT PRIMARY KEY,
    Name VARCHAR(100),
    Email VARCHAR(100),
    PhoneNumber VARCHAR(20),
    Address VARCHAR(255),
    HireDate DATE,
    JobTitle VARCHAR(100)
);
CREATE TABLE Borrowing (
    BorrowingID INT AUTO_INCREMENT PRIMARY KEY,
    MemberID INT,
    BookID INT,
    LibrarianID INT,
    CheckOutDate DATE,
    DueDate DATE,
    ReturnDate DATE,
    FOREIGN KEY (MemberID) REFERENCES Member(MemberID),
    FOREIGN KEY (BookID) REFERENCES Book(BookID),
    FOREIGN KEY (LibrarianID) REFERENCES Librarian(LibrarianID)
```

);

Evidence of Tables Creation



INSERT INTO Publisher (PublisherName, Address, PhoneNumber, Email)

VALUES ('Penguin Random House', '1745 Broadway, New York, NY 10019', '+1 (212) 782-9000', 'info@penguinrandomhouse.com');

INSERT INTO Publisher (PublisherName, Address, PhoneNumber, Email)

VALUES ('HarperCollins Publishers', '195 Broadway, New York, NY 10007', '+1 (212) 2077000', 'info@harpercollins.com');

INSERT INTO Publisher (PublisherName, Address, PhoneNumber, Email)

VALUES ('Simon & Schuster', '1230 Avenue of the Americas, New York, NY 10020', '+1 (212) 698-7000', 'info@simonandschuster.com');

INSERT INTO Publisher (PublisherName, Address, PhoneNumber, Email)

VALUES ('Macmillan Publishers', '120 Broadway, New York, NY 10271', '+1 (212) 226-7521', 'info@macmillan.com');

INSERT INTO Publisher (PublisherName, Address, PhoneNumber, Email)

VALUES ('Hachette Book Group', '1290 Avenue of the Americas, New York, NY 10104', '+1

(212) 364-1100', 'info@hachettebookgroup.com');

INSERT INTO Genre (GenreName)

VALUES ('Fiction');

INSERT INTO Genre (GenreName)

VALUES ('Non-Fiction');

INSERT INTO Genre (GenreName)

VALUES ('Mystery');

INSERT INTO Genre (GenreName)

VALUES ('Science Fiction');

INSERT INTO Genre (GenreName)

VALUES ('Thriller');

INSERT INTO Librarian (Name, Email, PhoneNumber, Address, HireDate, JobTitle)

VALUES ('John Smith', 'john@example.com', '123-456-7890', '123 Main St, Cityville', '2022-0115', 'Head Librarian');

INSERT INTO Librarian (Name, Email, PhoneNumber, Address, HireDate, JobTitle)

VALUES ('Emily Brown', 'emily@example.com', '987-654-3210', '456 Elm St, Townsville', '2022-02-20', 'Assistant Librarian');

INSERT INTO Librarian (Name, Email, PhoneNumber, Address, HireDate, JobTitle)

VALUES ('Michael Johnson', 'michael@example.com', '111-222-3333', '789 Oak St,

Villagetown', '2022-03-10', 'Library Clerk');

INSERT INTO Librarian (Name, Email, PhoneNumber, Address, HireDate, JobTitle)

VALUES ('Sarah Wilson', 'sarah@example.com', '444-555-6666', '321 Pine St, Hamletville',

'2022-04-05', 'Library Assistant');

INSERT INTO Librarian (Name, Email, PhoneNumber, Address, HireDate, JobTitle)

VALUES ('David Lee', 'david@example.com', '777-888-9999', '567 Maple St, Metropolis', '202205-15', 'Library Technician');

INSERT INTO Member (Name, Email, PhoneNumber, Address, MembershipStatus,

RegistrationDate)

VALUES ('Alice Johnson', 'alice@example.com', '123-456-7890', '123 Main St, Cityville', 'Active', '2022-01-15');

INSERT INTO Member (Name, Email, PhoneNumber, Address, MembershipStatus,

RegistrationDate)

VALUES ('Bob Smith', 'bob@example.com', '987-654-3210', '456 Elm St, Townsville', 'Active', '2022-02-20');

INSERT INTO Member (Name, Email, PhoneNumber, Address, MembershipStatus,

RegistrationDate)

VALUES ('Emma Davis', 'emma@example.com', '111-222-3333', '789 Oak St, Villagetown', 'Active', '2022-03-10');

INSERT INTO Member (Name, Email, PhoneNumber, Address, MembershipStatus,

RegistrationDate)

VALUES ('Grace Wilson', 'grace@example.com', '444-555-6666', '321 Pine St, Hamletville', 'Active', '2022-04-05');

INSERT INTO Member (Name, Email, PhoneNumber, Address, MembershipStatus,

RegistrationDate)

VALUES ('James Brown', 'james@example.com', '777-888-9999', '567 Maple St, Metropolis', 'Active', '2022-05-15');

INSERT INTO Book (Title, Author, ISBN, PublisherID, GenreID, PublicationYear, Availability)

VALUES ('To Kill a Mockingbird', 'Harper Lee', '9780061120084', 2, 1, 1960, true);

INSERT INTO Book (Title, Author, ISBN, PublisherID, GenreID, PublicationYear, Availability)
VALUES ('1984', 'George Orwell', '9780451524935', 4, 1, 1949, true);

INSERT INTO Book (Title, Author, ISBN, PublisherID, GenreID, PublicationYear, Availability)

VALUES ('The Great Gatsby', 'F. Scott Fitzgerald', '9780743273565', 5, 1, 1925, true);

INSERT INTO Book (Title, Author, ISBN, PublisherID, GenreID, PublicationYear, Availability)

VALUES ('Pride and Prejudice', 'Jane Austen', '9780486284736', 3, 1, 1813, true);

INSERT INTO Book (Title, Author, ISBN, PublisherID, GenreID, PublicationYear, Availability)

VALUES ('Harry Potter and the Sorcerer''s Stone', 'J.K. Rowling', '9780590353427', 1, 2, 1997, true);

INSERT INTO Borrowing (MemberID, BookID, LibrarianID, CheckOutDate, DueDate, ReturnDate)

VALUES (1, 1, 1, '2023-01-10', '2023-01-24', NULL);

INSERT INTO Borrowing (MemberID, BookID, LibrarianID, CheckOutDate, DueDate, ReturnDate)

VALUES (2, 2, 2, '2023-02-15', '2023-03-01', NULL);

INSERT INTO Borrowing (MemberID, BookID, LibrarianID, CheckOutDate, DueDate, ReturnDate)

VALUES (3, 3, 3, '2023-03-20', '2023-04-03', NULL);

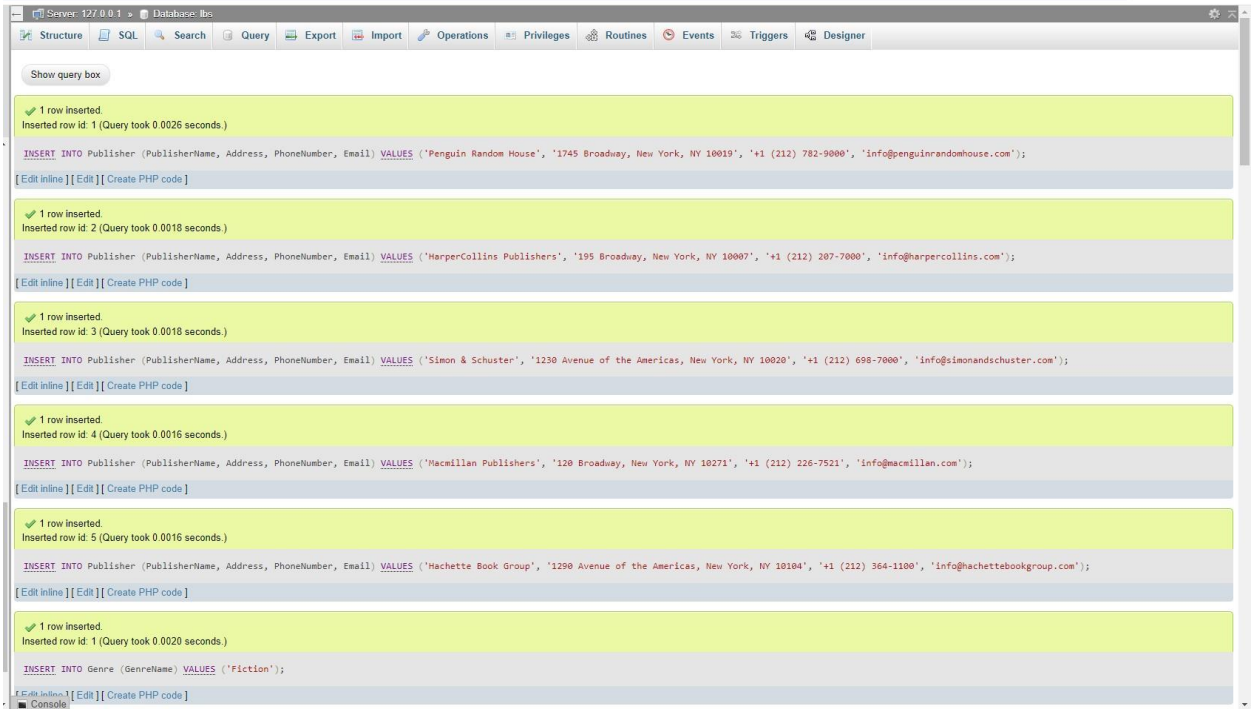
INSERT INTO Borrowing (MemberID, BookID, LibrarianID, CheckOutDate, DueDate, ReturnDate)

VALUES (4, 4, 4, '2023-04-25', '2023-05-09', NULL);

INSERT INTO Borrowing (MemberID, BookID, LibrarianID, CheckOutDate, DueDate, ReturnDate)

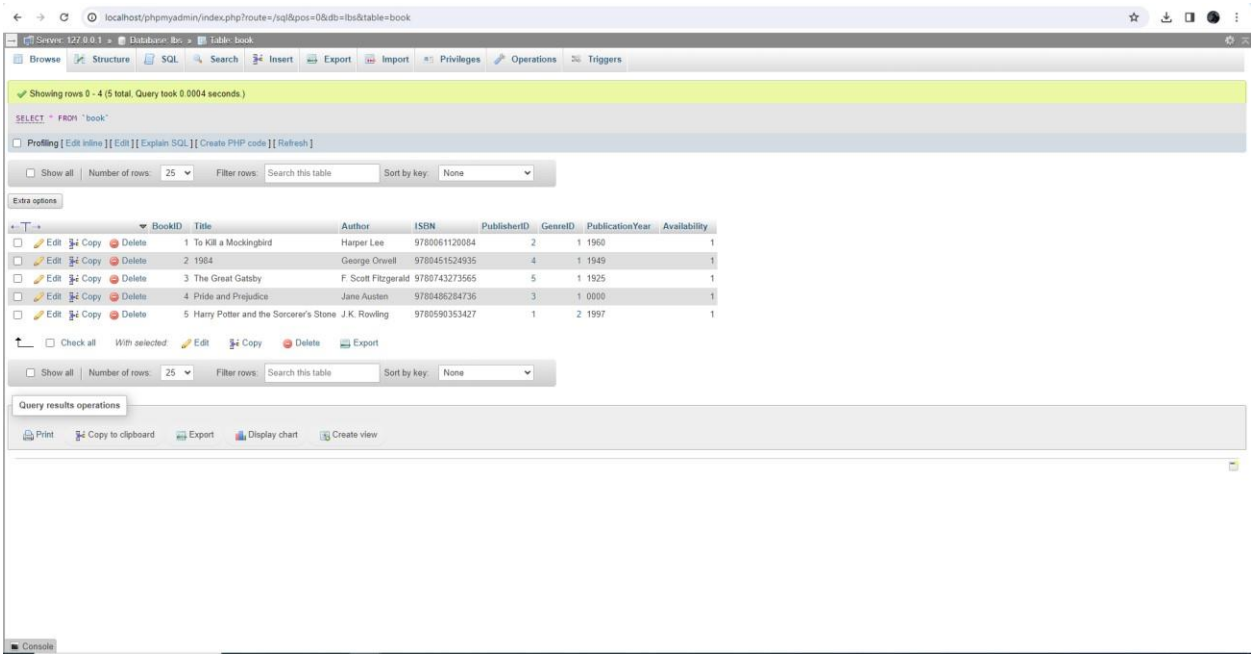
VALUES (5, 5, 5, '2023-05-30', '2023-06-13', NULL);

Evidence of Record Insertion

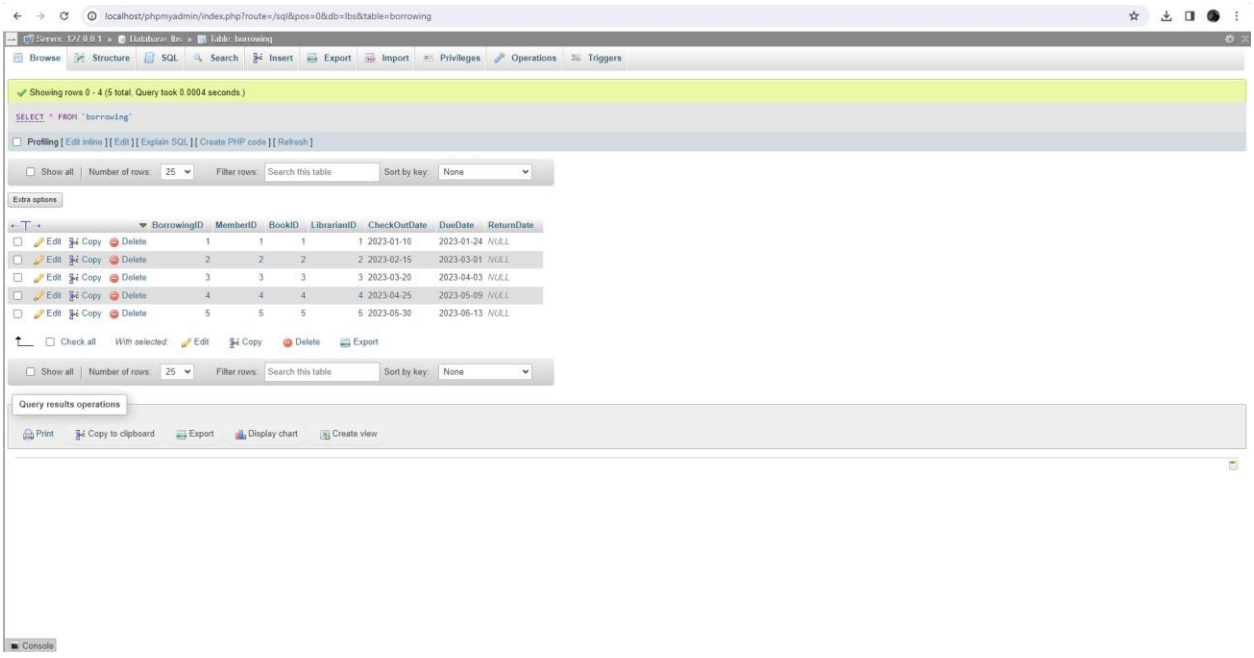


Evidence of Data in the Tables

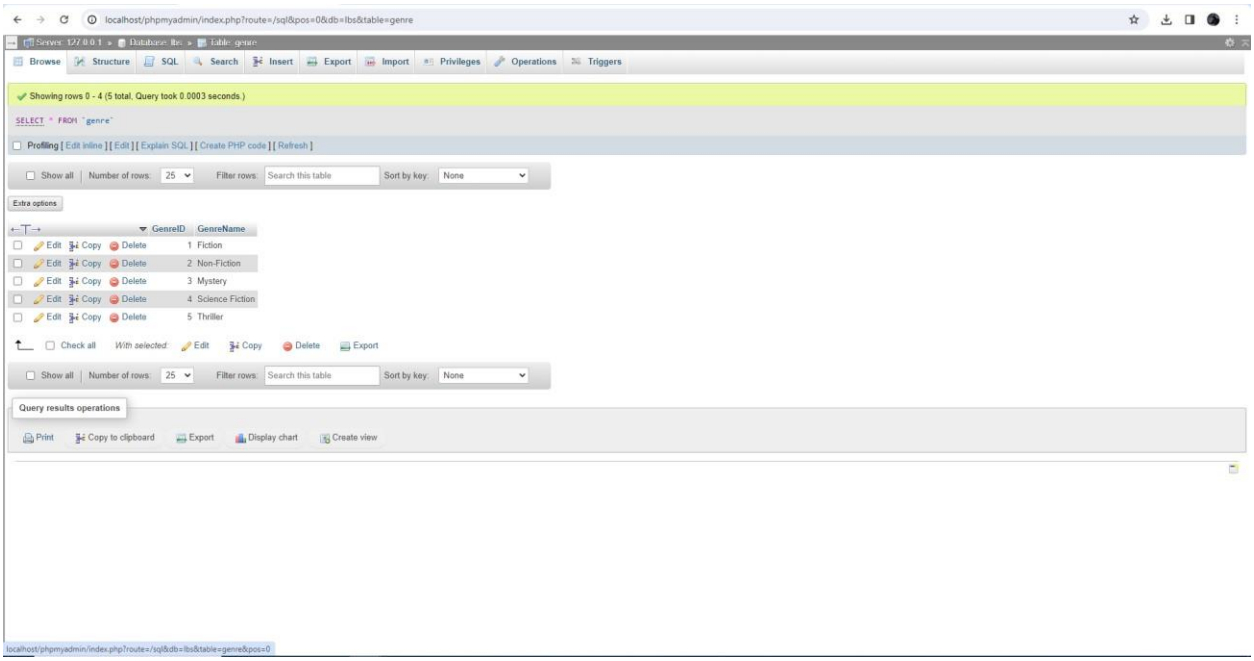
Book



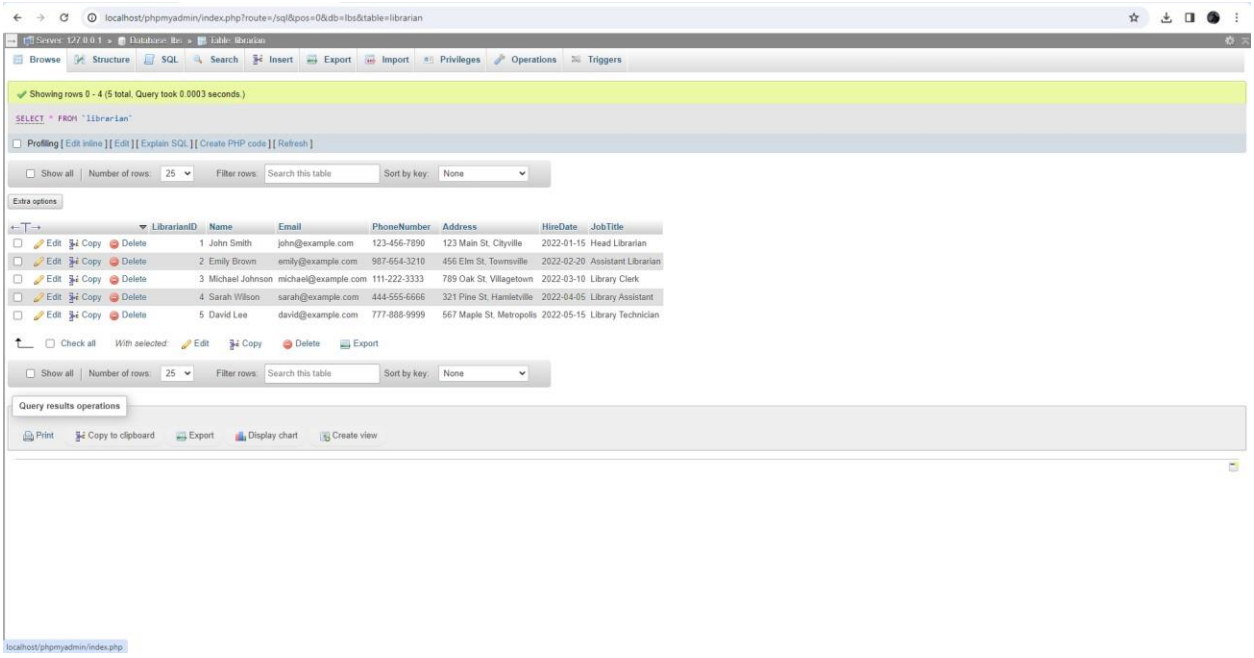
Borrowing



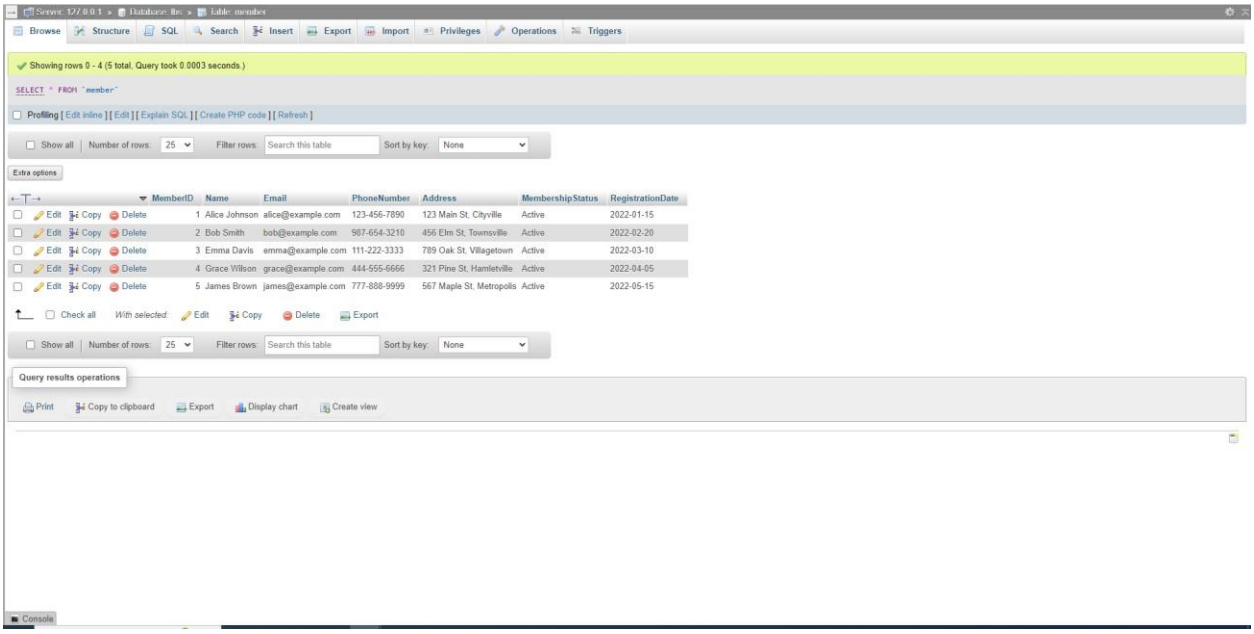
Genre



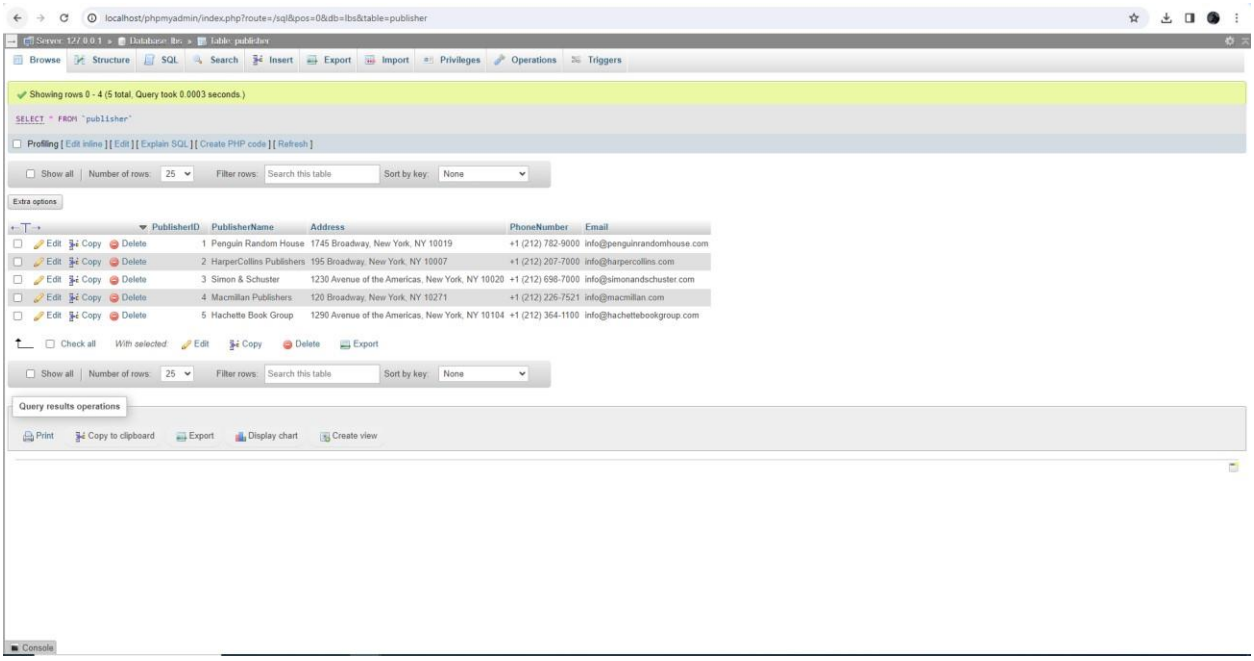
Librarian



Member

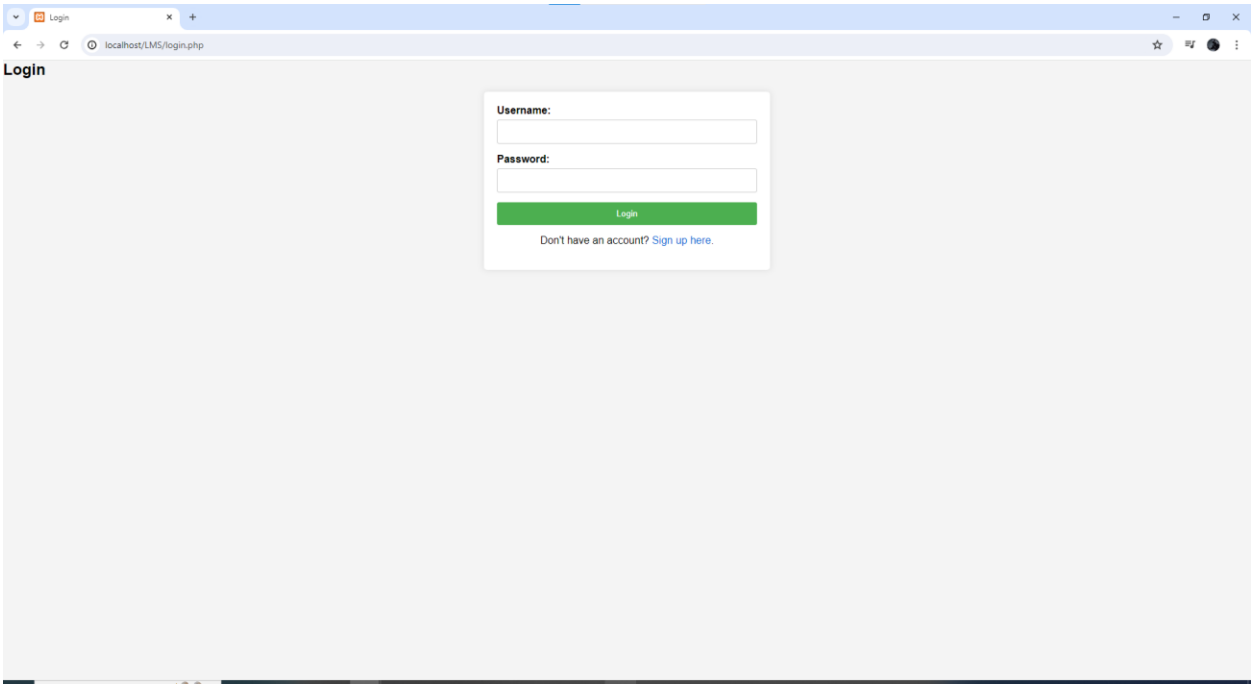


Publisher

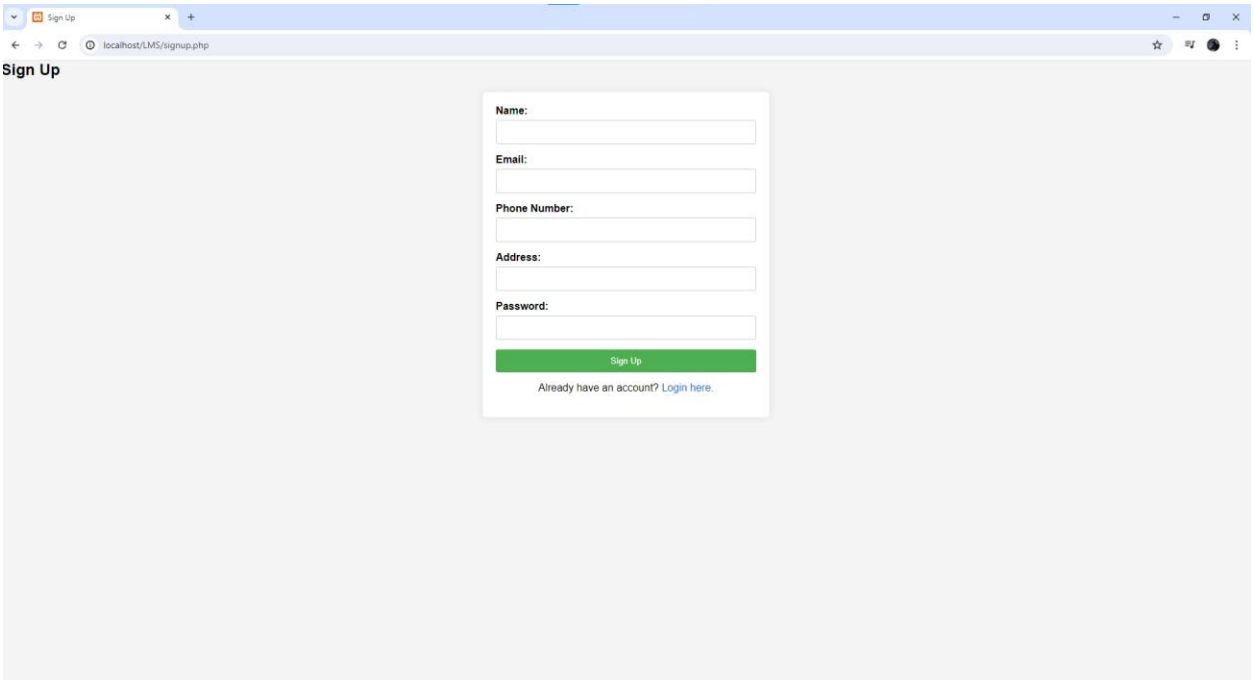


Screenshots for the System

Login Form

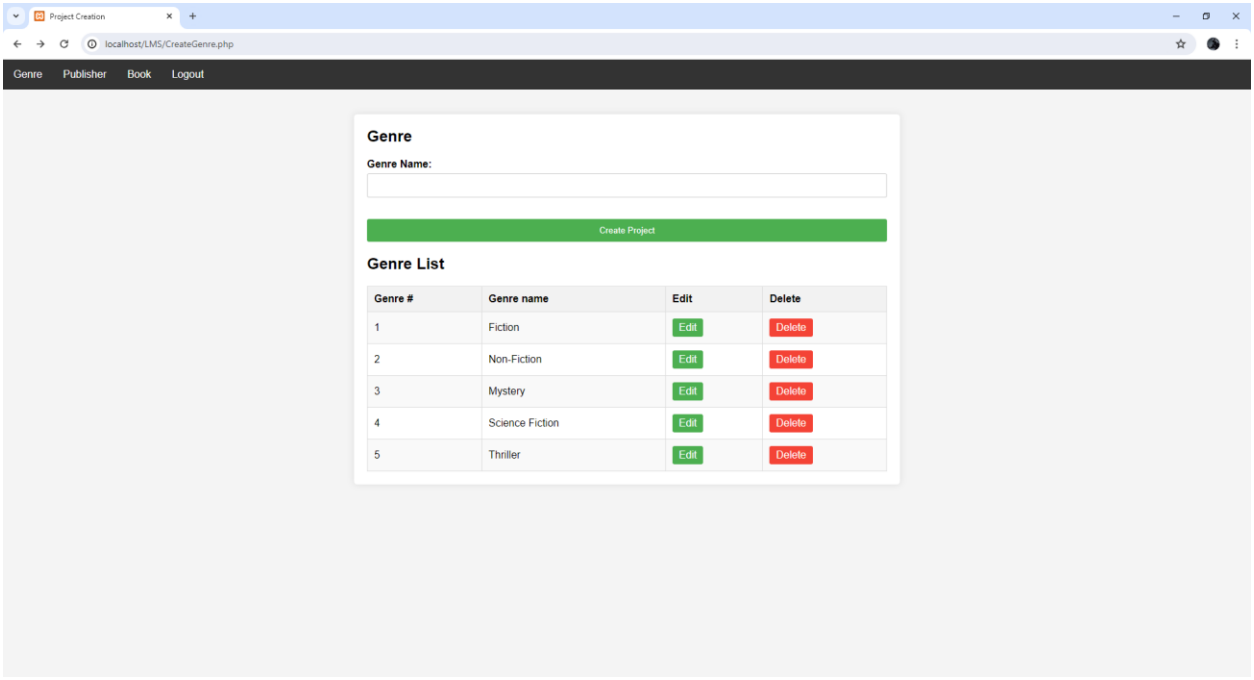


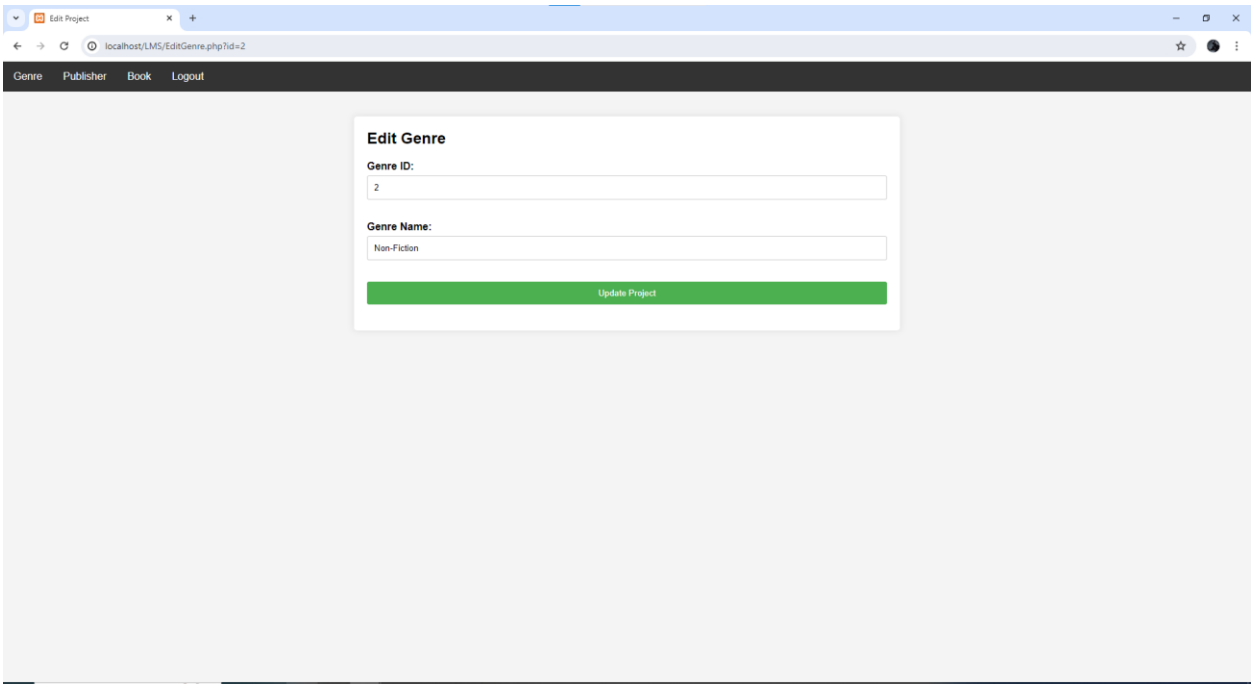
Sign Up Form



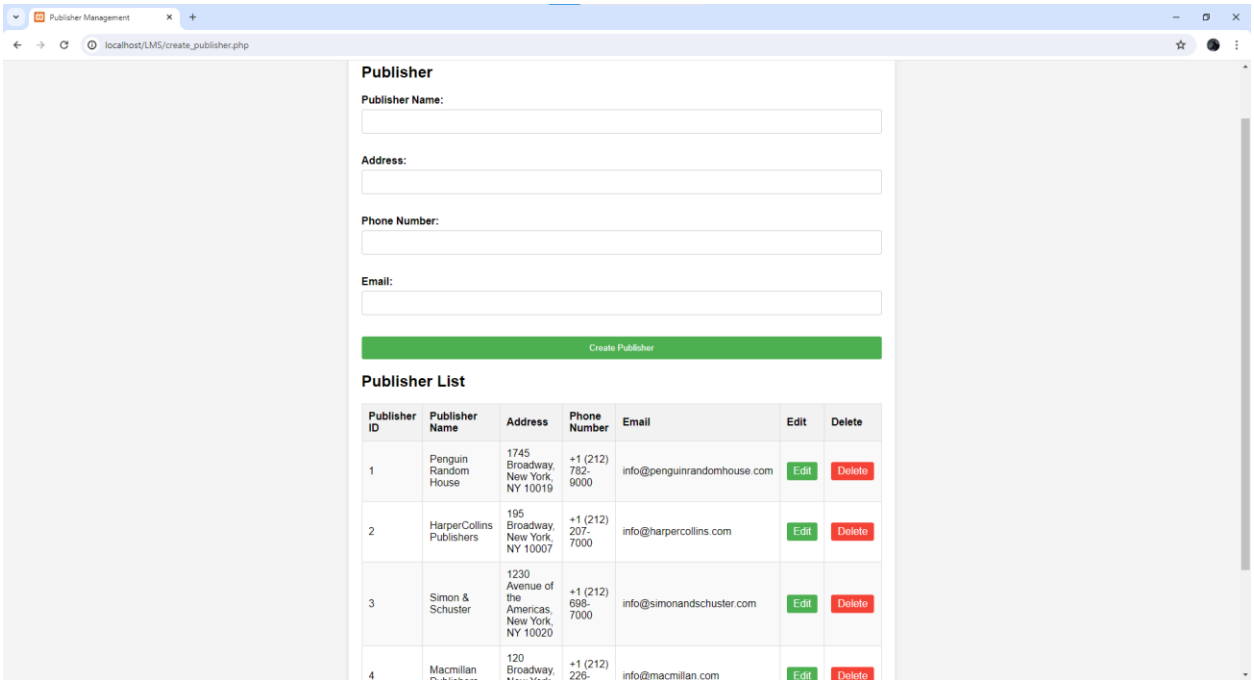
After Admin Login

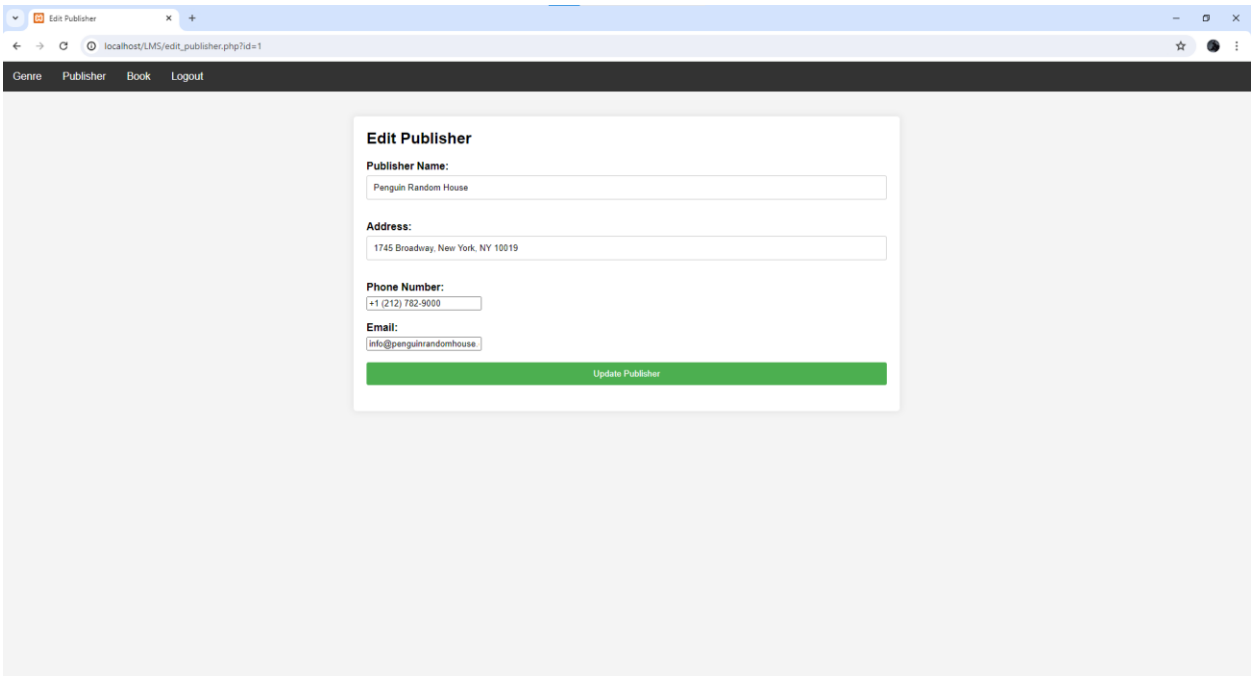
Genre



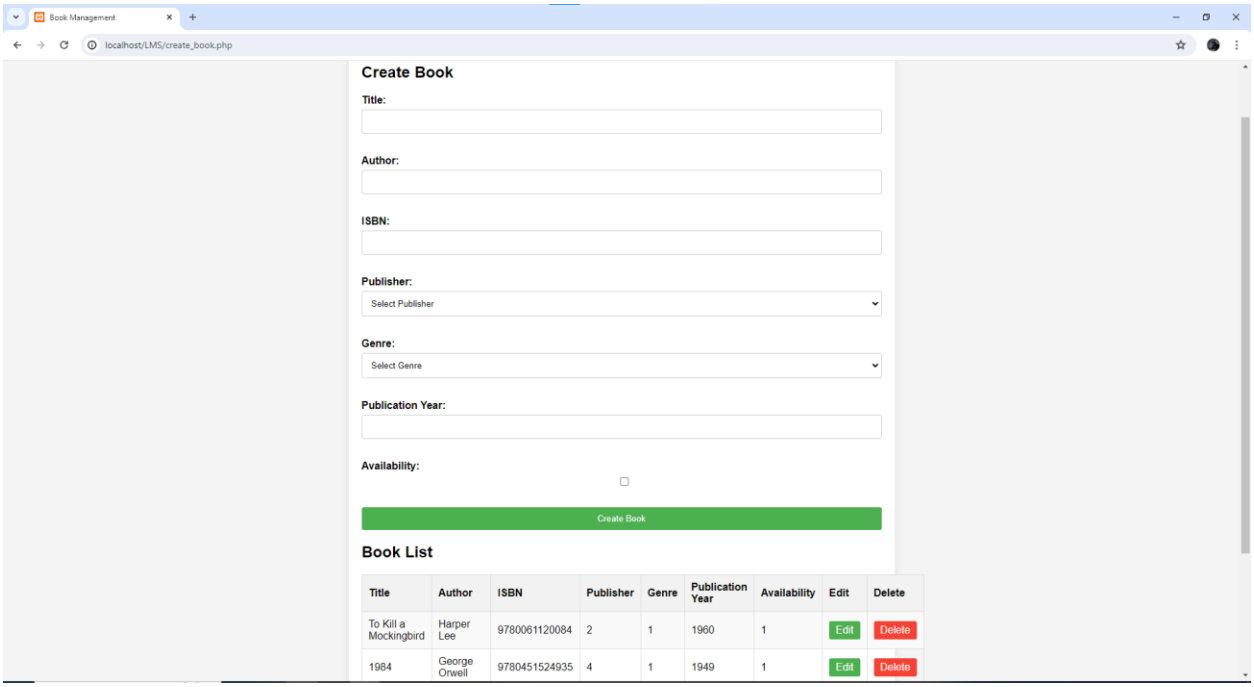


Publisher


Publisher Management
localhost/LMS/create_publisher.php
Publisher
Publisher Name:
Address:
Phone Number:
Email:
Create Publisher
Publisher List
Publisher ID
Publisher Name
Address
Phone Number
Email
Edit
Delete
1
Penguin Random House
1745 Broadway, New York, NY 10019
+1 (212) 782-9000
info@penguinrandomhouse.com
Edit
Delete
2
HarperCollins Publishers
195 Broadway, New York, NY 10007
+1 (212) 207-7000
info@harpercollins.com
Edit
Delete
3
Simon & Schuster
1230 Avenue of the Americas, New York, NY 10020
+1 (212) 698-7000
info@simonandschuster.com
Edit
Delete
4
Macmillan
120 Broadway,
+1 (212) 226-
info@macmillan.com
Edit
Delete


Edit Publisher
localhost/LMS/edit_publisher.php?id=1
Genre
Publisher
Book
Logout
Edit Publisher
Publisher Name:
Penguin Random House
Address:
1745 Broadway, New York, NY 10019
Phone Number:
+1 (212) 782-9000
Email:
info@penguinrandomhouse.
Update Publisher

Book


Book Management
localhost/LMS/create_book.php
Create Book
Title:
Author:
ISBN:
Publisher:
Select Publisher
Genre:
Select Genre
Publication Year:
Availability:
Create Book
Book List
Title
Author
ISBN
Publisher
Genre
Publication Year
Availability
Edit
Delete
To Kill a Mockingbird
Harper Lee
9780061120084
2
1
1960
1
Edit
Delete
1984
George Orwell
9780451524935
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1
1949
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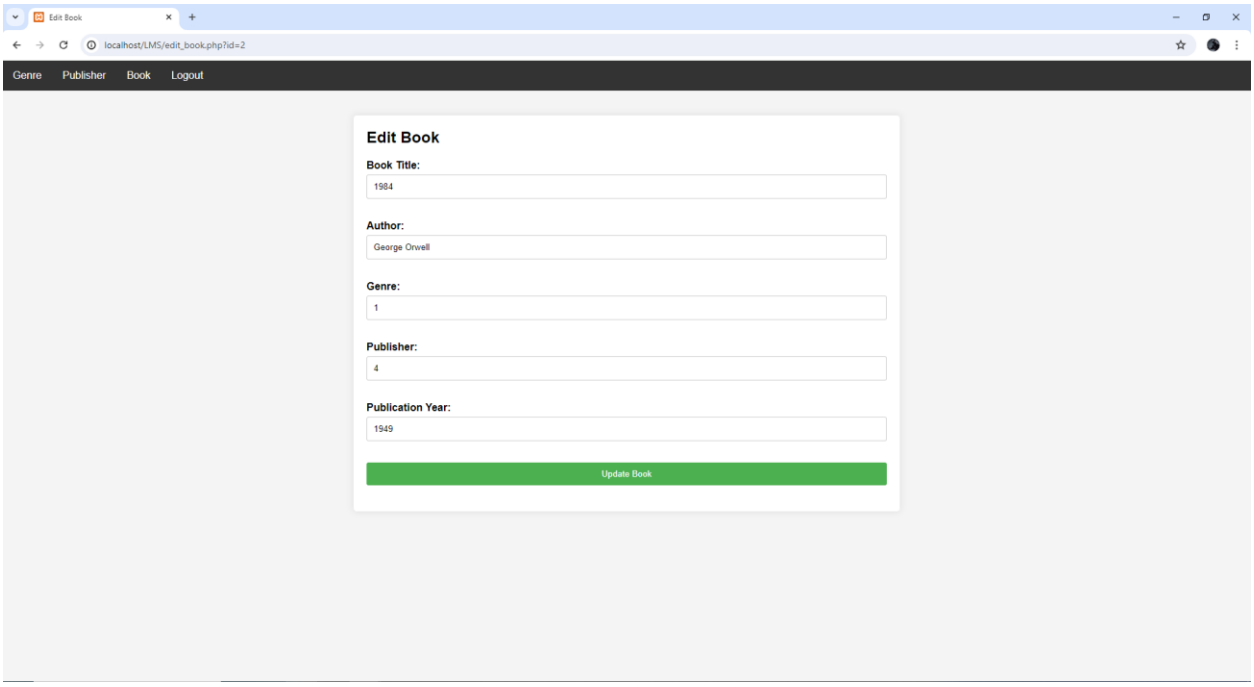
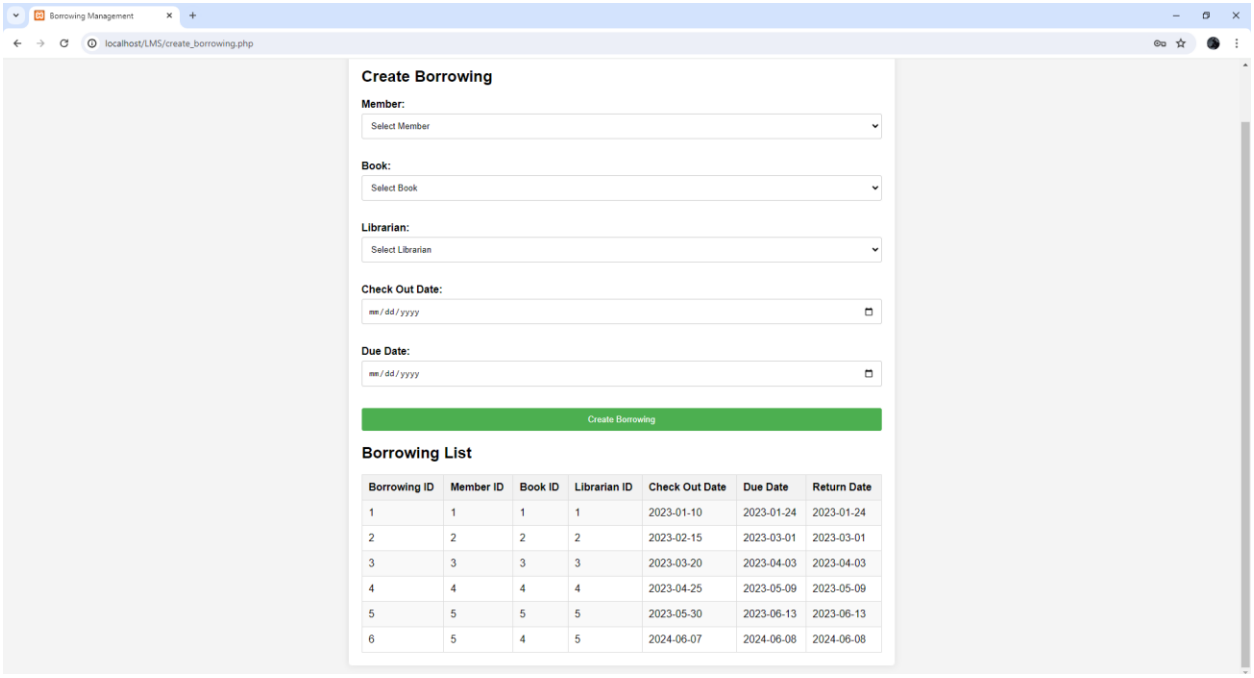

Edit Book
localhost/LMS/edit_book.php?id=2
Genre
Publisher
Book
Logout
Edit Book
Book Title:
1984
Author:
George Orwell
Genre:
1
Publisher:
4
Publication Year:
1949
Update Book

After Member Login

Borrowing