

# **Title:** Library Management System Proposal

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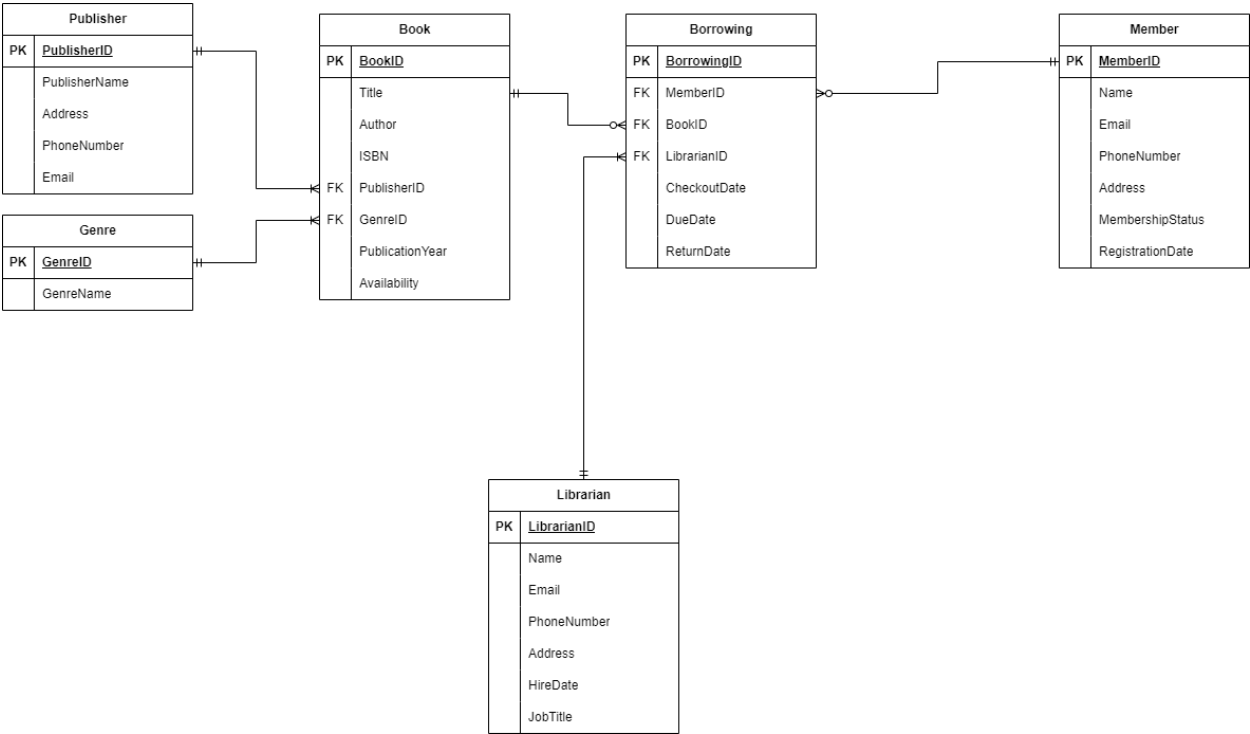
## Introduction:

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.

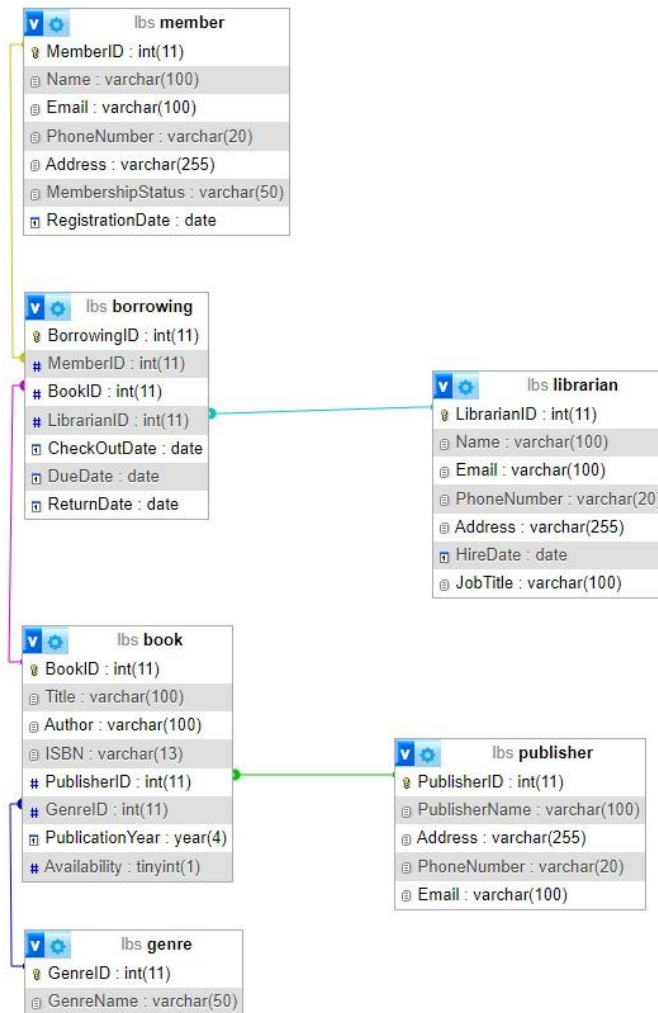
## Key Features:

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),

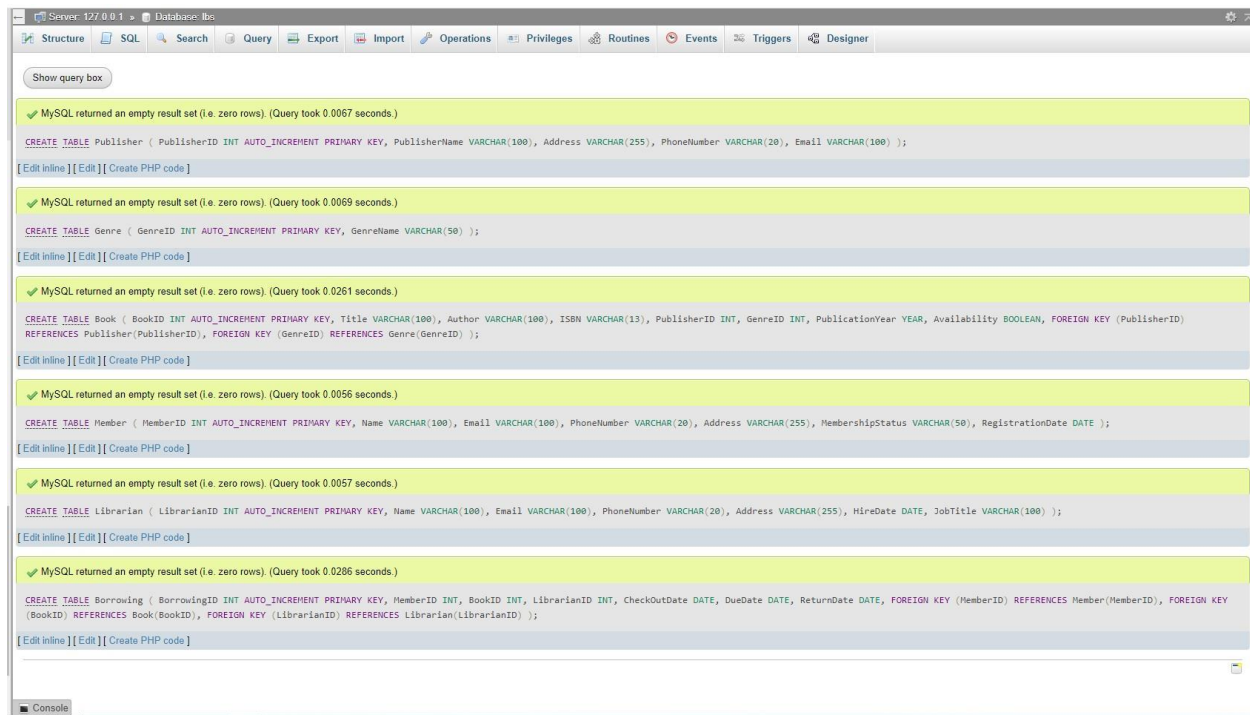
    FOREIGN KEY (BookID) REFERENCES Book(BookID),

    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',  
'2022-05-15', '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);

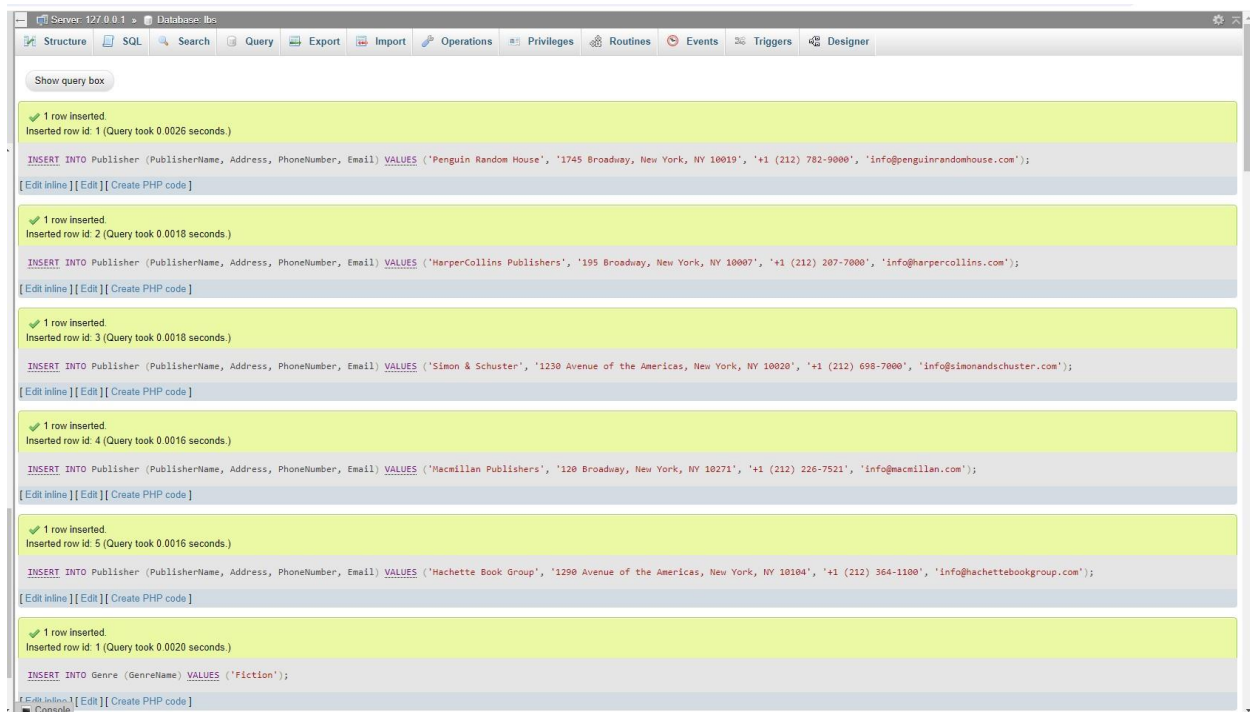
INSERT INTO Borrowing (MemberID, BookID, LibrarianID, CheckOutDate, DueDate, ReturnDate)

```
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

The screenshot shows the phpMyAdmin interface for a database named 'library'. The 'book' table is selected, and its structure and data are displayed. The table has 8 columns: BookID, Title, Author, ISBN, PublisherID, GenreID, PublicationYear, and Availability. The data is as follows:

BookID	Title	Author	ISBN	PublisherID	GenreID	PublicationYear	Availability
1	To Kill a Mockingbird	Harper Lee	9780061120084	2	1	1960	1
2	1984	George Orwell	9780451524935	4	1	1949	1
3	The Great Gatsby	F. Scott Fitzgerald	9780743273565	5	1	1925	1
4	Pride and Prejudice	Jane Austen	9780486284736	3	1	0000	1
5	Harry Potter and the Sorcerer's Stone	J.K. Rowling	9780590353427	1	2	1997	1

## Borrowing

The screenshot shows the phpMyAdmin interface for a database named 'library'. The 'borrowing' table is selected, and its structure and data are displayed. The table has 7 columns: BorrowingID, MemberID, BookID, LibrarianID, CheckOutDate, DueDate, and ReturnDate. The data is as follows:

BorrowingID	MemberID	BookID	LibrarianID	CheckOutDate	DueDate	ReturnDate
1	1	1	1	2023-01-10	2023-01-24	NULL
2	2	2	2	2023-02-15	2023-03-01	NULL
3	3	3	3	2023-03-20	2023-04-03	NULL
4	4	4	4	2023-04-25	2023-05-09	NULL
5	5	5	5	2023-05-30	2023-06-13	NULL

# Genre

localhost/phpmyadmin/index.php?route=/sql&pos=0&db=library&table=genre

Showing rows 0 - 4 (5 total. Query took 0.0003 seconds)

SELECT \* FROM `genre`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	GenreID	GenreName
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1	Fiction
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2	Non-Fiction
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	3	Mystery
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	4	Science Fiction
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	5	Thriller

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

Print Copy to clipboard Export Display chart Create view

localhost/phpmyadmin/index.php?route=/sql&db=library&table=genre&pos=0

# Librarian

localhost/phpmyadmin/index.php?route=/sql&pos=0&db=library&table=librarian

Showing rows 0 - 4 (5 total. Query took 0.0003 seconds)

SELECT \* FROM `librarian`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	LibrarianID	Name	Email	PhoneNumber	Address	HireDate	JobTitle
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1	John Smith	john@example.com	123-456-7890	123 Main St. Cityville	2022-01-15	Head Librarian
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2	Emily Brown	emily@example.com	987-654-3210	456 Elm St. Townsville	2022-02-20	Assistant Librarian
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	3	Michael Johnson	michael@example.com	111-222-3333	789 Oak St. Villagetown	2022-03-10	Library Clerk
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	4	Sarah Wilson	sarah@example.com	444-555-6666	321 Pine St. Hamletville	2022-04-05	Library Assistant
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	5	David Lee	david@example.com	777-888-9999	567 Maple St. Metropolis	2022-05-15	Library Technician

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

Print Copy to clipboard Export Display chart Create view

localhost/phpmyadmin/index.php

## Member

Showing rows 0 - 4 (5 total. Query took 0.0003 seconds)

SELECT \* FROM `member`

Query results operations

MemberID	Name	Email	PhoneNumber	Address	MembershipStatus	RegistrationDate
1	Alice Johnson	alice@example.com	123-456-7890	123 Main St. Cityville	Active	2022-01-15
2	Bob Smith	bob@example.com	987-654-3210	456 Elm St. Townsville	Active	2022-02-20
3	Emma Davis	emma@example.com	111-222-3333	789 Oak St. Villagetown	Active	2022-03-10
4	Grace Wilson	grace@example.com	444-555-6666	321 Pine St. Hamletville	Active	2022-04-05
5	James Brown	james@example.com	777-888-9999	567 Maple St. Metropolis	Active	2022-05-15

## Publisher

Showing rows 0 - 4 (5 total. Query took 0.0003 seconds)

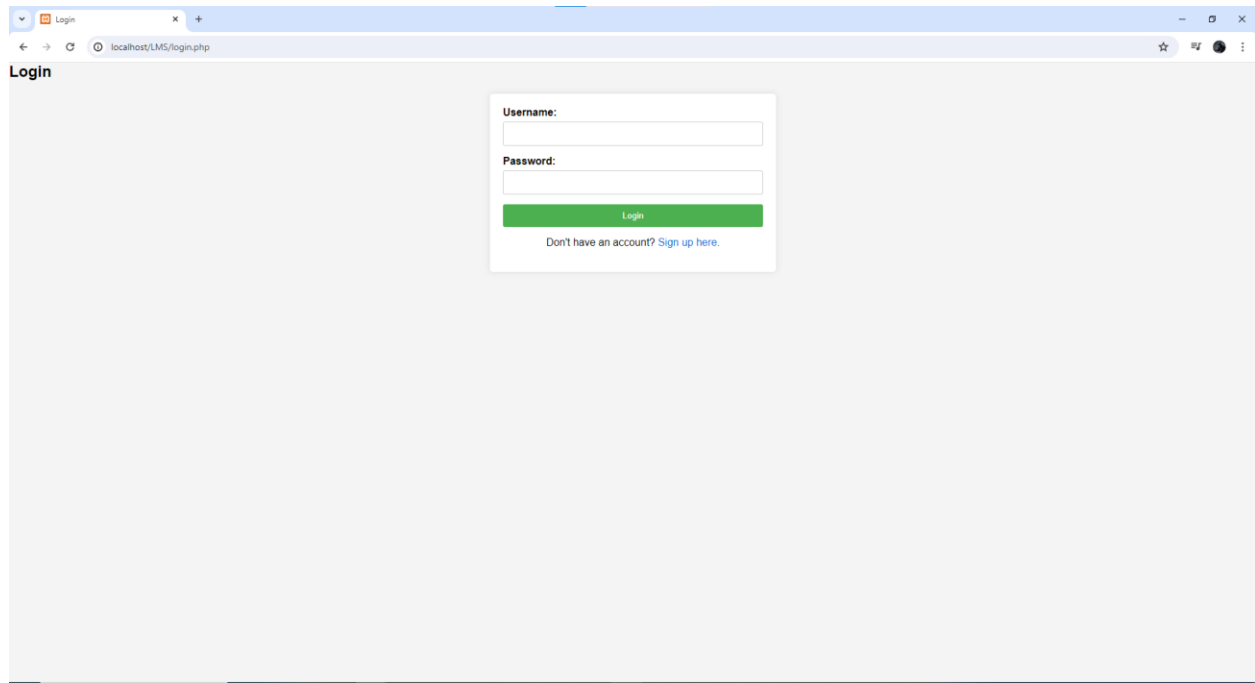
SELECT \* FROM `publisher`

Query results operations

PublisherID	PublisherName	Address	PhoneNumber	Email
1	Penguin Random House	1745 Broadway, New York, NY 10019	+1 (212) 782-9000	info@penguinrandomhouse.com
2	HarperCollins Publishers	195 Broadway, New York, NY 10007	+1 (212) 257-7000	info@harpercollins.com
3	Simon & Schuster	1230 Avenue of the Americas, New York, NY 10020	+1 (212) 696-7000	info@simonandschuster.com
4	Macmillan Publishers	120 Broadway, New York, NY 10271	+1 (212) 226-7521	info@macmillan.com
5	Hachette Book Group	1290 Avenue of the Americas, New York, NY 10104	+1 (212) 364-1100	info@hachettebookgroup.com

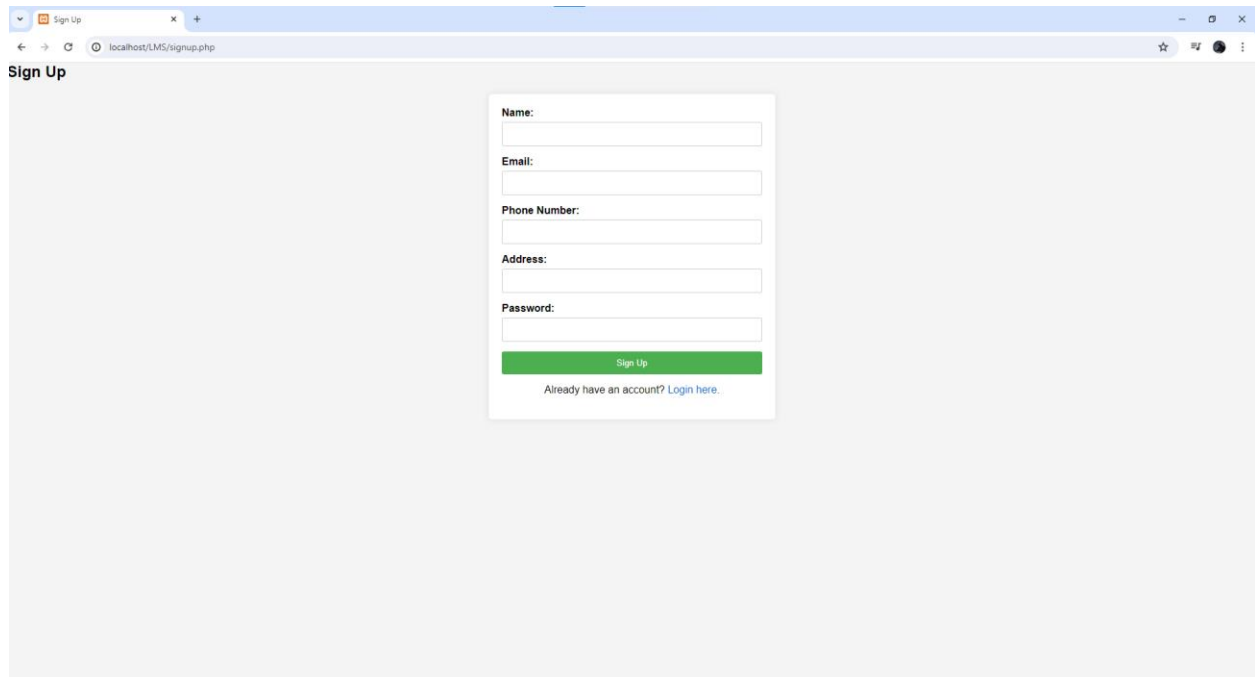
## Screenshots for the System

### Login Form



A screenshot of a web browser displaying a login form. The browser's address bar shows the URL "localhost/LMS/login.php". The page title is "Login". The form is centered and contains two input fields: "Username:" and "Password:". Below these fields is a green "Login" button. At the bottom of the form, there is a link that says "Don't have an account? [Sign up here.](#)".

### Sign Up Form



A screenshot of a web browser displaying a sign-up form. The browser's address bar shows the URL "localhost/LMS/signup.php". The page title is "Sign Up". The form is centered and contains five input fields: "Name:", "Email:", "Phone Number:", "Address:", and "Password:". Below these fields is a green "Sign Up" button. At the bottom of the form, there is a link that says "Already have an account? [Login here.](#)".

## After Admin Login

### Genre

Project Creation

localhost/LMS/CreateGenre.php

Genre Publisher Book Logout

**Genre**

Genre Name:

Create Project

**Genre List**

Genre #	Genre name	Edit	Delete
1	Fiction	Edit	Delete
2	Non-Fiction	Edit	Delete
3	Mystery	Edit	Delete
4	Science Fiction	Edit	Delete
5	Thriller	Edit	Delete

Edit Project

localhost/LMS/EditGenre.php?id=2

Genre Publisher Book Logout

**Edit Genre**

Genre ID:

2

Genre Name:

Non-Fiction

Update Project



## Publisher

localhost/LMS/create\_publisher.php

The screenshot shows a web browser window with the title 'Edit Publisher'. The address bar contains 'localhost/LMS/edit\_publisher.php?id=1'. Below the address bar is a dark navigation bar with links: 'Genre', 'Publisher', 'Book', and 'Logout'. The main content area is a light gray box with the title 'Edit Publisher' in bold. Below the title are four form fields: 'Publisher Name' with the value 'Penguin Random House', 'Address' with the value '1745 Broadway, New York, NY 10019', 'Phone Number' with the value '+1 (212) 762-9000', and 'Email' with the value 'info@penguinrandomhouse.com'. At the bottom of the form is a green button labeled '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	4	1	1949	1	Edit	Delete

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

Borrowing Management

localhost/LMS/create\_borrowing.php

Create Borrowing

Member:

Select Member

Book:

Select Book

Librarian:

Select Librarian

Check Out Date:

mm/dd/yyyy

Due Date:

mm/dd/yyyy

Create Borrowing

Borrowing List

Borrowing ID	Member ID	Book ID	Librarian ID	Check Out Date	Due Date	Return Date
1	1	1	1	2023-01-10	2023-01-24	2023-01-24
2	2	2	2	2023-02-15	2023-03-01	2023-03-01
3	3	3	3	2023-03-20	2023-04-03	2023-04-03
4	4	4	4	2023-04-25	2023-05-09	2023-05-09
5	5	5	5	2023-05-30	2023-06-13	2023-06-13
6	5	4	5	2024-06-07	2024-06-08	2024-06-08