



Library database

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AMERICA AFRICA
ASIA AUSTRALASIA

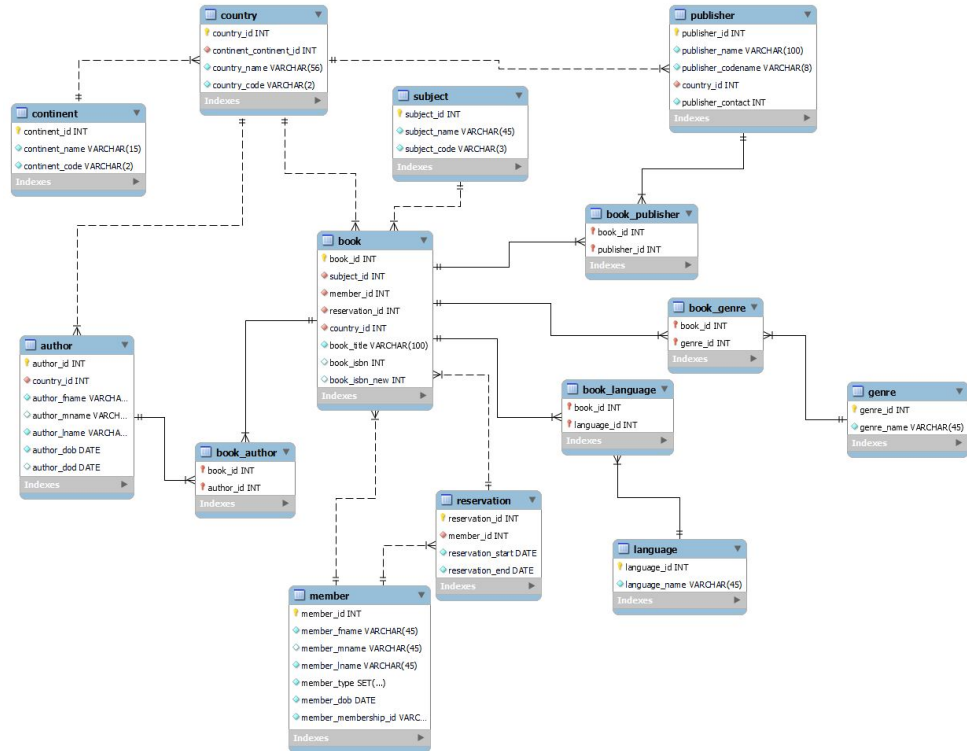
Purpose

We use SQL to manage the data in the small library that we have created. This query allows us to manage the database by performing actions such as inserting, deleting, and updating data in the library.



ERD For Library Database

- Book Table
- Author Table
- Country Table
- Subject Table
- Publisher Table
- Genre Table
- Etc.



Select statement

```
SELECT
  b.book_title AS 'Book Title'
,   CONCAT(a.author_fname, ' ', a.author_lname) AS 'Book Author'
,   l.display AS 'Book Language'
,   GROUP_CONCAT(g.genre_name SEPARATOR ' ', ' ') AS 'Book Genre'
,   p.publisher_name AS 'Book Publisher'
,   s.subject_name AS 'Book Subject'
,   c.country_name AS 'Book Origin'
,   IF
      ( b.reservation_id IS NOT NULL, 'Reserved', 'Available'
    ) AS 'Book Reservation'
FROM book b
INNER JOIN book_author ba ON b.book_id = ba.book_id
INNER JOIN author a ON ba.author_id = a.author_id
INNER JOIN book_genre bg ON b.book_id = bg.book_id
INNER JOIN genre g ON bg.genre_id = g.genre_id
INNER JOIN book_publisher bp ON b.book_id = bp.book_id
INNER JOIN publisher p ON bp.publisher_id = p.publisher_id
INNER JOIN subject s ON b.subject_id = s.subject_id
INNER JOIN country c ON b.country_id = c.country_id
INNER JOIN lang l ON b.lang_lang_id = l.lang_id
GROUP BY
  2
,   b.book_title
,   l.display
,   s.subject_name
,   c.country_name
,   p.publisher_name
,   b.reservation_id
ORDER BY b.book_title ASC;
```

Book Title	Book Author	Book Language	Book Genre	Book Publisher	Book Subject	Book Origin	Book Reservation
Fundamentals of Computer	Vaidyeswaran Rajaraman	Hindi	Technical	National Book Trust India	Computer Science	India	Available
Godan - The Gift of a Cow	Munshi Premchand	Hindi	Drama	National Book Trust India	Arts & Literature	India	Available
Insights into Medical Imaging	Allan Cormack	English	Technical, Instructional	Nota Bene Publishers	Physics	South Africa	Available
Machine Learning Essentials	Sourya Panda	English	Technical	Sipar Publishing	Computer Science	Cambodia	Available
The Art of Ballet	Margot Fonteyn	English	History, Instructional	Penguin Random House UK	Dance	England	Available
The Search Engine Revolution	Sundar Pichai	English	Technical	National Book Trust India	Computer Science	India	Reserved

Insert Form



Book Information

Book Name
Godan - The gift of a cow

Book Subject
Arts & Literature

ISBN 10
9386000679

ISBN 13
9789386000675

Author's First Name
Munshi

Author's Last Name
Premchand

Publisher Code
NBT

Genre
drama

Country
India

New Book Entry

Insert Statement

```
SET @bookTitle = 'Godan - The Gift of a Cow';
SET @bookSubject = 'Arts & Literature';
SET @isbn10 = '9386000679';
SET @isbn13 = '9789386000675';
SET @authorFname = 'Munshi';
SET @authorLname = 'Premchand';
SET @publisherCode = 'NBT';
SET @bookGenre = 'Drama';
SET @bookOrigin = 'IN';
SET @bookLanguage = 'HI';
```

```
INSERT INTO book
```

```
(
    subject_id
,   country_id
,   book_title
,   book_isbn_new
,   book_isbn
,   lang_lang_id
)
```

```
VALUES
```

```
((SELECT subject_id FROM subject WHERE subject_name = @bookSubject), (SELECT country_id FROM country WHERE
country_code = @bookOrigin), @bookTitle, @isbn13, @isbn10, @bookLanguage);
```

```
INSERT INTO book_author
```

```
(
    book_id
,   author_id
)
```

```
VALUES
```

```
((SELECT book_id FROM book WHERE book_title = @bookTitle), (SELECT author_id FROM author WHERE author_fname =
@authorFname));
```

```
INSERT INTO book_genre
```

```
(
    book_id
,   genre_id
)
```

```
VALUES
```

```
((SELECT book_id FROM book WHERE book_title = @bookTitle), (SELECT genre_id FROM genre WHERE genre_name =
@bookGenre));
```

```
INSERT INTO book_publisher
```

```
(
    book_id
,   publisher_id
)
```

```
VALUES
```

```
((SELECT book_id FROM book WHERE book_title = @bookTitle), (SELECT publisher_id FROM publisher WHERE
publisher_codename = @publisherCode));
```

Before

Book Title	Book Author	Book Language	Book Genre	Book Publisher	Book Subject	Book Origin	Book Reservation
Fundamentals of Computer	Vaidyeswaran Rajaraman	Hindi	Technical	National Book Trust India	Computer Science	India	Available
Insights into Medical Imaging	Allan Cormack	English	Technical, Instructional	Nota Bene Publishers	Physics	South Africa	Available
Machine Learning Essentials	Sourya Panda	English	Technical	Sipar Publishing	Computer Science	Cambodia	Available
The Art of Ballet	Margot Fonteyn	English	History, Instructional	Penguin Random House UK	Dance	England	Available
The Search Engine Revolution	Sundar Pichai	English	Technical	National Book Trust India	Computer Science	India	Available

After

Book Title	Book Author	Book Language	Book Genre	Book Publisher	Book Subject	Book Origin	Book Reservation
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Machine Learning Essentials	Sourya Panda	English	Technical	Sipar Publishing	Computer Science	Cambodia	Available
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The Search Engine Revolution	Sundar Pichai	English	Technical	National Book Trust India	Computer Science	India	Reserved

Update form

Update User Name

Enter Memebership ID*

Student Update Type

Middle Name

Name*

Update



Update statement

```
SET @memberId = 'I9012345J78';
```

```
SET @updatedAtName = 'Kane';
```

```
UPDATE member
```

```
SET member_mname = @updatedAtName
```

```
WHERE member_membership_id = @memberId;
```

Before

member_fname	member_mname	member_lname
Olivia	Jane	Robinson

After

member_fname	member_mname	member_lname
Olivia	Kane	Robinson

Delete Form

Remove Genre

☐ Fiction

☐ Drama

☐ Non-fiction

☐ Technical

☐ Historical

☐ instructional

☒ Poetry

☒ Folk Tales

Remove



Delete statement (code, before, after)

```
CREATE TEMPORARY  
TABLE tempList  
(temp VARCHAR(50));
```

```
INSERT INTO tempList  
(temp)  
VALUES  
    ('Poetry')  
, ('Folk Tales');
```

```
DELETE FROM genre  
WHERE genre_name IN (SELECT temp FROM tempList);
```

```
DROP TEMPORARY TABLE tempList;
```

Before

genre_id	genre_name
1	Fiction
2	Drama
3	Non-fiction
4	Technical
5	History
6	Instructional
7	Poetry
8	Folk Tales

After

genre_id	genre_name
1	Fiction
2	Drama
3	Non-fiction
4	Technical
5	History
6	Instructional

Remove Reservation Form

Remove Reservation

Membership ID*

G7890123H56|

Remove



Remove Statement

```
SET @memberId = 'G7890123H56';
```

```
UPDATE book b
```

```
    INNER JOIN reservation r ON b.reservation_id = r.reservation_id
```

```
    INNER JOIN member m ON r.member_id = m.member_id
```

```
SET
```

```
    b.reservation_id = null
```

```
, b.member_id = null
```

```
WHERE m.member_membership_id = @memberId;
```

```
DELETE FROM reservation
```

```
WHERE member_id = (SELECT member_id FROM member WHERE member_membership_id = @memberId);
```

```
+-----+-----+-----+-----+
| reservation_id | member_id | reservation_start | reservation_end |
+-----+-----+-----+-----+
|              1 |          7 | 2024-01-20       | 2024-02-20       |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> source statement.sql
Query OK, 0 rows affected (0.00 sec)

Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM reservation;
Empty set (0.00 sec)

mysql> |
```

