

```
mysql> show databases;
```

```
+-----+  
| Database      |  
+-----+  
| information_schema |  
| te31283_db      |  
+-----+
```

```
2 rows in set (0.00 sec)
```

```
mysql> use te31283_db
```

Reading table information for completion of table and column names

You can turn off this feature to get a quicker startup with -A

Database changed

```
mysql> show tables;
```

```
+-----+  
| Tables_in_te31283_db |  
+-----+  
| Circle_Area          |  
| Fine                  |  
| borrower              |  
| dept                  |  
| employee              |  
| employee_audit        |  
| employee_dept_view    |  
| project               |  
| results               |  
| stud_marks            |  
+-----+
```

```
10 rows in set (0.00 sec)
```

```
mysql> CREATE TABLE Library (
-> BookID INT PRIMARY KEY AUTO_INCREMENT,
-> Title VARCHAR(255) NOT NULL,
-> Author VARCHAR(255) NOT NULL,
-> PublishedYear INT NOT NULL,
-> Genre VARCHAR(50) NOT NULL
-> );
```

Query OK, 0 rows affected (0.17 sec)

```
mysql> INSERT INTO Library (Title, Author, PublishedYear, Genre) VALUES
-> ('The Great Gatsby', 'F. Scott Fitzgerald', 1925, 'Fiction'),
-> ('To Kill a Mockingbird', 'Harper Lee', 1960, 'Fiction'),
-> ('1984', 'George Orwell', 1949, 'Dystopian'),
-> ('Moby Dick', 'Herman Melville', 1851, 'Adventure'),
-> ('Pride and Prejudice', 'Jane Austen', 1813, 'Romance'),
-> ('The Catcher in the Rye', 'J.D. Salinger', 1951, 'Fiction'),
-> ('The Hobbit', 'J.R.R. Tolkien', 1937, 'Fantasy'),
-> ('Brave New World', 'Aldous Huxley', 1932, 'Dystopian'),
-> ('Crime and Punishment', 'Fyodor Dostoevsky', 1867, 'Philosophical'),
-> ('War and Peace', 'Leo Tolstoy', 1869, 'Historical');
```

Query OK, 10 rows affected (0.03 sec)

Records: 10 Duplicates: 0 Warnings: 0

```
mysql> select * from Library;
```

BookID	Title	Author	PublishedYear	Genre
1	The Great Gatsby	F. Scott Fitzgerald	1925	Fiction
2	To Kill a Mockingbird	Harper Lee	1960	Fiction
3	1984	George Orwell	1949	Dystopian

4	Moby Dick	Herman Melville	1851	Adventure
5	Pride and Prejudice	Jane Austen	1813	Romance
6	The Catcher in the Rye	J.D. Salinger	1951	Fiction
7	The Hobbit	J.R.R. Tolkien	1937	Fantasy
8	Brave New World	Aldous Huxley	1932	Dystopian
9	Crime and Punishment	Fyodor Dostoevsky	1867	Philosophical
10	War and Peace	Leo Tolstoy	1869	Historical

+-----+-----+-----+-----+

10 rows in set (0.00 sec)

```
mysql> CREATE TABLE Library_Audit (
->   AuditID INT PRIMARY KEY AUTO_INCREMENT,
->   BookID INT,
->   Title VARCHAR(255),
->   Author VARCHAR(255),
->   PublishedYear INT,
->   Genre VARCHAR(50),
->   ChangeType ENUM('UPDATE', 'DELETE'),
->   ChangeTime TIMESTAMP DEFAULT CURRENT_TIMESTAMP
-> );
```

Query OK, 0 rows affected (0.18 sec)

```
mysql> DELIMITER //
```

```
mysql>
```

```
mysql> CREATE TRIGGER before_library_update
```

```
-> BEFORE UPDATE ON Library
```

```
-> FOR EACH ROW
```

```
-> BEGIN
```

```
->   INSERT INTO Library_Audit (BookID, Title, Author, PublishedYear, Genre, ChangeType)
```

```
->   VALUES (OLD.BookID, OLD.Title, OLD.Author, OLD.PublishedYear, OLD.Genre, 'UPDATE');
```

```
-> END;
```

```
-> //
Query OK, 0 rows affected (0.05 sec)
```

```
mysql>
mysql> DELIMITER ;
mysql> DELIMITER //
mysql>
mysql> CREATE TRIGGER before_library_delete
-> BEFORE DELETE ON Library
-> FOR EACH ROW
-> BEGIN
->   INSERT INTO Library_Audit (BookID, Title, Author, PublishedYear, Genre, ChangeType)
->   VALUES (OLD.BookID, OLD.Title, OLD.Author, OLD.PublishedYear, OLD.Genre, 'DELETE');
-> END;
-> //
```

Query OK, 0 rows affected (0.05 sec)

```
mysql>
mysql> DELIMITER ;
mysql> select * from Library;
```

BookID	Title	Author	PublishedYear	Genre
1	The Great Gatsby	F. Scott Fitzgerald	1925	Fiction
2	To Kill a Mockingbird	Harper Lee	1960	Fiction
3	1984	George Orwell	1949	Dystopian
4	Moby Dick	Herman Melville	1851	Adventure
5	Pride and Prejudice	Jane Austen	1813	Romance
6	The Catcher in the Rye	J.D. Salinger	1951	Fiction
7	The Hobbit	J.R.R. Tolkien	1937	Fantasy
8	Brave New World	Aldous Huxley	1932	Dystopian

9	Crime and Punishment	Fyodor Dostoevsky	1867	Philosophical
10	War and Peace	Leo Tolstoy	1869	Historical

10 rows in set (0.01 sec)

```
mysql> select * from Library_Audit;
Empty set (0.01 sec)
```

```
mysql> DELETE FROM Library WHERE BookID = 6;
Query OK, 1 row affected (0.02 sec)
```

```
mysql> DELETE FROM Library WHERE BookID = 8;
Query OK, 1 row affected (0.02 sec)
```

```
mysql> UPDATE Library SET Title = 'Nineteen Eighty-Four', Author = 'George Orwell', PublishedYear = 1949, Genre = 'Science Fiction' WHERE BookID = 3;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> UPDATE Library SET Title = 'Moby Dick: The Whale', Author = 'Herman Melville', PublishedYear = 1851, Genre = 'Adventure Fiction' WHERE BookID = 4;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from Library;
```

BookID	Title	Author	PublishedYear	Genre
--------	-------	--------	---------------	-------

1		The Great Gatsby		F. Scott Fitzgerald	1925 Fiction
2		To Kill a Mockingbird		Harper Lee	1960 Fiction
3		Nineteen Eighty-Four		George Orwell	1949 Science Fiction
4		Moby Dick: The Whale		Herman Melville	1851 Adventure Fiction
5		Pride and Prejudice		Jane Austen	1813 Romance
7		The Hobbit		J.R.R. Tolkien	1937 Fantasy
9		Crime and Punishment		Fyodor Dostoevsky	1867 Philosophical
10		War and Peace		Leo Tolstoy	1869 Historical

8 rows in set (0.00 sec)

mysql> select * from Library_Audit;

AuditID		BookID		Title		Author	PublishedYear Genre ChangeType ChangeTime
1		6		The Catcher in the Rye		J.D. Salinger	1951 Fiction DELETE 2024-08-28 11:59:07
2		8		Brave New World		Aldous Huxley	1932 Dystopian DELETE 2024-08-28 11:59:11
3		3		1984		George Orwell	1949 Dystopian UPDATE 2024-08-28 11:59:16
4		4		Moby Dick		Herman Melville	1851 Adventure UPDATE 2024-08-28 11:59:16

4 rows in set (0.00 sec)