

# PostgreSQL Setup for Library Management System

## Using Script:

1. Run this command with script file attached in zip.

```
psql -h localhost -p 5432 -U postgres -d postgres -f "D:\SpringBoot Interview Prep\Library Management System-project\create_database.sql"
```

2. Run 2<sup>nd</sup> command for inserting table and data to the database.

```
psql -h localhost -p 5432 -U postgres -d library_management_lms -f "D:\SpringBoot Interview Prep\Library Management System-project\insert_data.sql"
```

## Manually:

### 1. Connect to PostgreSQL

- Open Command Prompt and navigate to the PostgreSQL `bin` folder:

```
C:\Program Files\PostgreSQL\16\bin>psql -h localhost -p 5432 -U postgres
```

- Enter the PostgreSQL password when prompted.

### 2. Create the Database

- List all databases to ensure connection:

```
\l
```

- Create the library\_management\_lms database:

```
CREATE DATABASE library_management_lms;
```

- Connect to the new database:

```
\c library_management_lms;
```

### 3. Create the users Table

- Define a table to store user information:

```
CREATE TABLE users (
```

```
    id SERIAL PRIMARY KEY,
```

```
    name VARCHAR(255) NOT NULL,
```

```
    email VARCHAR(255) NOT NULL UNIQUE
```

```
);
```

#### 4. Create the book Table

- Define a table to store book information:

```
CREATE TABLE book (  
    id SERIAL PRIMARY KEY,  
    title VARCHAR(255) NOT NULL,  
    author VARCHAR(255) NOT NULL,  
    status VARCHAR(50) NOT NULL CHECK (status IN ('available', 'issued')),  
    book_quantity BIGINT NOT NULL CHECK (book_quantity >= 0)  
);
```

#### 5. Insert Sample Data into the users Table

- Add sample users to the database:

```
INSERT INTO users (name, email) VALUES  
(  
    'John Doe', 'johndoe@example.com'),  
(  
    'Jane Smith', 'janesmith@example.com'),  
(  
    'Mark Smith', 'marksmith@example.com'),  
(  
    'Musk Nolan', 'musknolan@example.com'),  
(  
    'Chris Hemsworth', 'chrishems@example.com');
```

#### 6. Insert Sample Data into the book Table

- Add sample books to the database:

```
INSERT INTO book (title, author, status, book_quantity) VALUES  
(  
    'Catcher in the Rye', 'J.D. Salinger', 'available', 5),  
(  
    'To Kill a Mockingbird', 'Harper Lee', 'available', 3),  
(  
    'Elon Musk: Tesla, SpaceX, and the Quest for a Fantastic Future', 'Ashlee Vance', 'available', 4),  
(  
    'Harry Potter and the Philosopher's Stone', 'J.K. Rowling', 'available', 5),  
(  
    'American Pie', 'Don McLean', 'available', 8);
```

#### 7. Configure Spring Boot Application

In your Spring Boot project, you'll need to configure the application.properties for the database connection.

- **src/main/resources/application.properties:**

- ```
spring.application.name=lms
spring.datasource.url=jdbc:postgresql://localhost:5432/library_management_lms
spring.datasource.username=postgres
spring.datasource.password=123456
spring.datasource.driver-class-name=org.postgresql.Driver

# Hibernate Properties
spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.PostgreSQLDialect
spring.jpa.hibernate.ddl-auto=update
```

## 8. Add PostgreSQL Dependency in Maven

If you haven't added the PostgreSQL driver dependency in your pom.xml, include it:

```
<dependency>
```

```
<groupId>org.postgresql</groupId>
```

```
<artifactId>postgresql</artifactId>
```

```
</dependency>
```