

This lab will guide students through **creating a database, adding tables, inserting records, and running queries** on four different browser-based SQL platforms: **SQLite Online, DB Fiddle, SQL Fiddle, and Oracle Live SQL.**

Lab 1: Using SQLite Online

Website: <https://sqliteonline.com/>

Objective

- Create a database.
- Create a table.
- Insert records.
- Query data.

Steps

1. **Open SQLite Online**
 - Go to [SQLite Online](https://sqliteonline.com/).
 - The interface will show a SQL editor where you can type commands.
2. **Create a Database and Table**
 - Type the following SQL command in the editor and press **Run SQL**:

```
CREATE TABLE students (  
    id INTEGER PRIMARY KEY,  
    name TEXT,  
    age INTEGER,  
    email TEXT  
);
```

- This creates a table named `students`.
3. **Insert Records into the Table**
 - Run the following SQL statement:

```
INSERT INTO students (name, age, email) VALUES ('John Doe', 22, 'john@example.com');
INSERT INTO students (name, age, email) VALUES ('Jane Smith', 20, 'jane@example.com');
```

- This adds two students to the database.

4. Query the Table

- Run:

```
SELECT * FROM students;
```

- This retrieves all students in the table.

5. Filter Records with **WHERE**

- Run:

```
SELECT * FROM students WHERE age > 21;
```

- This retrieves only students older than 21.

6. Sort Results with **ORDER BY**

- Run:

```
SELECT * FROM students ORDER BY name ASC;
```

- This sorts the results alphabetically by name.

Lab 2: Using DB Fiddle

Website: <https://dbfiddle.uk/>

Objective

- Create a database and table.
- Insert records.

- Run queries.

Steps

1. Open DB Fiddle

- Go to [DB Fiddle](#).
- In the "Database Engine" section, select **MySQL 8.0** or **PostgreSQL**.

2. Create a Table

- In the SQL editor, type:

```
CREATE TABLE employees (  
    emp_id SERIAL PRIMARY KEY,  
    emp_name VARCHAR(50),  
    emp_age INT,  
    emp_position VARCHAR(50)  
);
```

- Click **Run** to execute.

3. Insert Records

- Run:

```
INSERT INTO employees (emp_name, emp_age, emp_position)  
VALUES ('Alice Johnson', 30, 'Manager'),  
       ('Bob Williams', 25, 'Developer');
```

- Click **Run**.

4. Query Data

- Run:

```
SELECT * FROM employees;
```

- This retrieves all employees.

5. Filter Results

- Run:

```
SELECT * FROM employees WHERE emp_age > 28;
```

- This finds employees older than 28.

6. Join Data (Optional Advanced Step)

- Run:

```
SELECT emp_name, emp_position FROM employees WHERE emp_position = 'Developer';
```

- This selects employees with a Developer position.
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Lab 3: Using SQL Fiddle

Website: <http://sqlfiddle.com/>

Objective

- Create a table.
- Insert data.
- Query data.

Steps

1. Open SQL Fiddle

- Go to [SQL Fiddle](#).
- In the **Schema Panel**, type:

```
CREATE TABLE books (  
    book_id SERIAL PRIMARY KEY,  
    title VARCHAR(100),  
    author VARCHAR(50),  
    published_year INT
```

);

- Click **Build Schema**.

2. Insert Data

- Run:

```
INSERT INTO books (title, author, published_year)
VALUES ('The Great Gatsby', 'F. Scott Fitzgerald', 1925),
       ('1984', 'George Orwell', 1949);
```

- Click **Run SQL**.

3. Query Data

- Run:

```
SELECT * FROM books;
```

- This displays the books in the database.

Lab 4: Using Oracle Live SQL

Website: <https://livesql.oracle.com/>

Objective

- Create and manage tables using Oracle SQL.

Steps

1. Open Oracle Live SQL

- Go to [Oracle Live SQL](https://livesql.oracle.com/).
- Sign in with an **Oracle account** (free sign-up required).

2. Create a Table

- In the SQL worksheet, type:

```
CREATE TABLE customers (  
    customer_id NUMBER PRIMARY KEY,  
    customer_name VARCHAR2(50),  
    city VARCHAR2(50)  
);
```

- Click **Run**.

3. Insert Data

- Run:

```
INSERT INTO customers (customer_id, customer_name, city)  
VALUES (1, 'Emma Brown', 'New York');  
INSERT INTO customers (customer_id, customer_name, city)  
VALUES (2, 'Michael Lee', 'Los Angeles');
```

- Click **Run**.

4. Query Data

- Run:

```
SELECT * FROM customers;
```

- This displays all customers.

5. Delete a Record

- Run:

```
DELETE FROM customers WHERE customer_id = 1;
```

- Click **Run**.

Conclusion

Each lab provides hands-on experience with creating and managing databases directly in a web browser. These tools allow students to:

- **Practice SQL commands**
- **Explore different database engines**
- **Work without needing installation**