

Here's a comprehensive guide on various SQL commands and queries related to database and table management, along with examples for each operation:

Database Operations

1. Show Databases

To display a list of all databases in the current SQL server.

Example:

```
SHOW DATABASES;
```

2. Create Database

To create a new database.

Example:

```
CREATE DATABASE my_database;
```

3. Select Database

To select a specific database to work with.

Example:

```
USE my_database;
```

4. Show All Tables

To list all tables in the selected database.

Example:

```
SHOW TABLES;
```

Table Operations

5. Create a Table

To create a new table in the database.

Example:

```
CREATE TABLE emp (  
    emp_id INT PRIMARY KEY,  
    name VARCHAR(50),  
    salary DECIMAL(10, 2),  
    hire_date DATE  
);
```

6. Show Structure of Table

To view the structure (columns, data types, etc.) of a specific table.

Example:

```
DESCRIBE emp; -- or alternatively  
SHOW COLUMNS FROM emp;
```

7. Insert Single Record into emp Table

To add a single record to the emp table.

Example:

```
INSERT INTO emp (emp_id, name, salary, hire_date)  
VALUES (1, 'Alice', 5000.00, '2023-01-15');
```

8. Insert Multiple Records into emp Table

To add multiple records to the emp table in a single query.

Example:

```
INSERT INTO emp (emp_id, name, salary, hire_date)  
VALUES  
  (2, 'Bob', 6000.00, '2023-02-10'),  
  (3, 'Charlie', 7000.00, '2023-03-05');
```

9. See All Records of Table

To retrieve all records from the emp table.

Example:

```
SELECT * FROM emp;
```

10. See Specific Columns Only

To retrieve specific columns from the emp table.

Example:

```
SELECT name, salary FROM emp;
```

11. Insert Records in Selected Columns

To insert records into specific columns while skipping others.

Example:

```
INSERT INTO emp (name, salary)  
VALUES ('David', 8000.00); -- emp_id and hire_date will be NULL or  
default values
```

12. Update Records in emp Table

To modify existing records in the emp table.

Example:

```
UPDATE emp
SET salary = 7500.00
WHERE emp_id = 1; -- Update Alice's salary
```

13. Delete a Record from emp Table

To remove a specific record from the emp table.

Example:

```
DELETE FROM emp
WHERE emp_id = 2; -- This will delete Bob's record
```

Summary

These commands provide a foundational toolkit for managing databases and tables in SQL. By using these commands, you can create databases, manipulate tables, and handle data efficiently. Each command serves a distinct purpose, enabling users to perform a wide range of database operations.

In []: