

SQL Basics Guide

1. Introduction to SQL

What is SQL?

Importance of SQL in Databases

Common SQL-based RDBMS (MySQL, PostgreSQL, SQL Server, etc.)

2. Basic Concepts

Database, Table, Row, and Column

Data Types in SQL (INT, VARCHAR, DATE, etc.)

3. SQL Syntax

Overview of SQL Commands (DDL, DML, DCL, TCL)

4. Common SQL Commands

CREATE DATABASE:

```
CREATE DATABASE my_database;
```

CREATE TABLE:

```
CREATE TABLE employees (  
    id INT PRIMARY KEY,  
    name VARCHAR(100),  
    age INT,  
    position VARCHAR(50)  
);
```

INSERT:

```
INSERT INTO employees (id, name, age, position) VALUES (1, 'Alice', 30,  
'Manager');
```

SELECT:

```
SELECT * FROM employees;
```

5. Filtering Data

WHERE Clause:

```
SELECT * FROM employees WHERE age > 25;
```

ORDER BY:

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

LIMIT:

```
SELECT * FROM employees LIMIT 5;
```

6. Basic Functions

Aggregate Functions: COUNT(), AVG(), SUM(), MIN(), MAX()

```
SELECT COUNT(*) FROM employees;
```

7. Joins

INNER JOIN:

```
SELECT employees.name, departments.name  
FROM employees  
INNER JOIN departments  
ON employees.department_id = departments.id;
```