

Steps to Learn SQL (Beginner to Advanced)

Step 1: Learn the Basics

- What is SQL? (Introduction to databases and SQL)
- Basic Commands:
 - - SELECT (Retrieve data)
 - - FROM (Specify table)
 - - WHERE (Filter data)
 - - ORDER BY (Sort data)
 - - GROUP BY (Group data)

Step 2: Learn How to Modify Data

- Insert, Update, Delete Data:
 - - INSERT INTO (Add new data)
 - - UPDATE (Modify data)
 - - DELETE (Remove data)

Step 3: Work with Multiple Tables

- Joins (Combine data from multiple tables):
 - - INNER JOIN
 - - LEFT JOIN
 - - RIGHT JOIN
 - - FULL JOIN
- Subqueries (Query inside a query)
- Aliases (AS) Rename columns or tables

Step 4: Learn Aggregation & Grouping

- Aggregate Functions:
 - - COUNT() (Count rows)
 - - SUM() (Total sum)
 - - AVG() (Average value)
 - - MIN(), MAX() (Find minimum & maximum)
- Using GROUP BY with HAVING (Filter grouped data)

Step 5: Master Constraints & Keys

- Primary Key & Foreign Key
- Constraints (NOT NULL, UNIQUE, CHECK)
- Indexes (Improve performance)

Step 6: Learn Advanced SQL

- Stored Procedures & Functions (Reusable SQL code)
- Triggers (Automatic actions on data changes)
- Views (Virtual tables)

Step 7: Work with Real Databases

- Install MySQL / PostgreSQL / SQL Server
- Create & manage databases
- Practice real-world projects

How to Practice?

- Use Online Platforms like SQLZoo, LeetCode, W3Schools
- Practice on Real Databases like Chinook (Music Store) or Sakila (Movie Rental)
- Solve SQL Interview Questions