30-Day SQL Mastery Plan

Tools You'll Need (Set These Up Before Day 1)

- SQL Environment: Install DBeaver, Azure Data Studio, PostgreSQL or MySQL.

- Sample Databases: Sakila, Chinook, AdventureWorks, or Kaggle datasets.

- Learning Platform: Khan Academy, Mode SQL Tutorial, LeetCode, StrataScratch.

Week 1: SQL Basics & Foundations

- Day 1: SELECT, FROM, WHERE - Query from employees table.

- Day 2: AND, OR, IN, NOT - Filtering practice.

- Day 3: ORDER BY, LIMIT, DISTINCT - Sort products.

- Day 4: COUNT(), SUM(), AVG(), etc. - Aggregation.

- Day 5: GROUP BY & HAVING - Group sales by customer.

- Day 6: SQL vs Excel - Reporting with GROUP BY.

- Day 7: Mini Project - Sales Report.

Week 2: Intermediate SQL

- Day 8: INNER & LEFT JOIN - orders and customers.

- Day 9: RIGHT & FULL OUTER JOIN - missing data.

- Day 10: CROSS & SELF JOIN - employees data.

- Day 11: Subqueries - Top-selling products.

- Day 12: String functions - CONCAT, LIKE, etc.

- Day 13: Date functions - Monthly analysis.

- Day 14: Mini Project - Customer Order Analysis.

Week 3: Advanced SQL

- Day 15: CTEs (WITH clause) - Simplify logic.

- Day 16: CASE statements - Conditional columns.

- Day 17: RANK(), ROW_NUMBER() - Top-N logic.

- Day 18: PARTITION BY - Running totals.

- Day 19: NTILE(), LAG(), LEAD - Time analysis.

- Day 20: EXPLAIN PLAN - Optimize queries.

- Day 21: Mini Project - Churn & Retention.

Week 4: Real-World Projects

- Day 22: Data cleaning - Handle NULLs, duplicates.

- Day 23: Temporary tables & views - Reusability.

- Day 24: Stored procedures - Automation basics.

- Day 25: Error handling & Transactions.

- Day 26: LeetCode Medium SQL - Solve 5 problems.

- Day 27: StrataScratch - Solve 3 business problems.

- Day 28: Capstone Project - E-commerce dashboard.

- Day 29: Mock Interview - Write & explain queries.

- Day 30: Optional Certification - Add to resume.

Practice Techniques

- Daily Drill: Solve 2-3 problems/day on LeetCode or StrataScratch.

- Build Your Own Dataset: Use CSVs or Kaggle + PostgreSQL.

- Whiteboard SQL: Practice writing queries on paper.

- Explain Your Query: Speak out each query step.

- Query Optimization: Use indexes, test subqueries vs joins.

Final Tips for Success

- Consistency > Intensity - 45-60 mins daily is ideal.

- Join SQL Communities - Reddit, Discord, Kaggle.

- Document Learning - Use GitHub, Notion, blogs to retain knowledge.