Goskills

SQL Fundamentals

GoSkills online course syllabus

Skill level
Beginner

Lessons
27

Pre-requisites
No prior experience needed

Video duration
53m

Estimated study time
53m 54s

Instructor
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Introduction

1 Learning the ropes
Learning to program with SQL can feel like a daunting task, but it doesn't have to.

Getting to Know SQL

2 What is SQL?
What is SQL and why should you care?

3 Setting up SQL
There are many ways you can interact with a SQL database. After watching this video, you'll be able to perform your own environment setups.

4 Interpreting databases
Databases are a core way businesses store their data.

5 SQL environment structure
Like many things on a computer, SQL Environments follow a logical hierarchy of objects.

Basic Querying

6 Running a query
SQL queries are the fundamental way you can pull data from SQL databases.

7 SQL data types
Data types are a core part of SQL and help you structure your data cleanly and securely.

8 Filtering data

You'll rarely want to pull all of the data from a table.

9 NULL data

NULL values are a common occurrence in database records.

10 Outputting clean data

When presenting results, you'll often need to organize your work prior to the presentation.

Advanced Querying

11 Grouping data

Grouping your data allows you to generalize information from many rows down to just one row.

12 Aggregating data

Along with being able to group your data, you'll also want to add, count, or average out the numerical columns.

13 CASE statements

Depending on the conditions, you may want your columns to dynamically change.

14 Using subqueries

SQL queries can get quite long and complex, subqueries offer an easy way to organize SQL queries one after another.

Combining Data

15 Adding columns together

Oftentimes, the column of data you need might not be readily available, so you'll need to combine the data of multiple columns into one.

16 Combining with unions

Necessary data can live in multiple different tables, and in these cases, you can combine tables through a UNION operation.

17 Combining horizontal data

If you need to combine data horizontally, then you'll use a join function.

18 Join gotchas

Joins are very powerful, but using them can easily lead to data errors if you aren't careful.

Intermediate Filtering

19 Wildcard operators

If you want to do more than simple filtering, then you'll need to use wildcard operators.

20 Filtering using lists

You may only want to select certain values in a range, and in these situations you'll use the BETWEEN and IN operators.

Advanced Aggregation

21 Understanding window functions

While you'll usually manipulate data on a column basis, there may be instances where you'll want to manipulate based on the row.

22 Structuring window functions

When using a window function, there are several factors you'll need to account for when crafting your framework.

23 Referencing different rows

LAG, LEAD, and OFFSET are the most commonly used additions to a basic window function.

24 Ranking your data

If you want to order data by certain groups in the same row, you can use the RANK operator.

SQL in the Real World

25 SQL order of execution

One important factor with SQL is that SQL operators are not executed in the order they're written in.

26 SQL is non-standard

What you consider to be SQL is effectively a loose set of standards that change depending on what RDBMS you use.

Conclusion

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Let's get started

Thanks for watching this course!

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