Upskill Your Team:

SQL Training from Fundamentals to AI

Schedule your training session today.

Dr Kim Data

drkimdata.com

hello@drkimdata.com

Hi, I'm **Kimberly (Kim) Fessel**, a **data scientist and educator** with over a decade of experience. I've trained individuals and teams in corporate settings, universities, online platforms, and as a director at a data science bootcamp. My approach is **hands-on and results-driven**, focused on transforming data skills into practical, on-the-job impact. I've helped hundreds of professionals accelerate their careers and significantly strengthen their team's data capabilities.

I am the author of *Head First SQL (2nd Edition)*, published by O'Reilly Media.

Let's unlock your team's data potential together.

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SQL Program Overview

Each half-day program builds practical, job-relevant SQL skills—from foundational querying to AI-assisted analysis workflows.

Practical SQL Fundamentals

This hands-on course focuses on practical, no-fluff SQL fundamentals for real analysis work. Participants will query relational databases and answer everyday data questions.

- Understand how relational data is structured
- Inspect tables and their underlying schemas
- Select and retrieve relevant data from tables
- Filter and sort query results
- Group and aggregate data
- Join simple related tables

Intermediate SQL for Practitioners

This course teaches structured, multi-step SQL thinking for analytical problems. Participants fo beyond SQL fundamentals to work with more complex queries in applied, real-world scenarios.

- Join multiple tables
- Write subqueries and common table expressions
- Filter aggregations with HAVING
- Break down problems into step-by-step SQL logic
- Use common SQL functions to transform data

AI-Assisted SQL: Building Confidence in Query Results

This session helps professionals who are increasingly relying on AI to write SQL queriers, but want to ensure the outputs are accurate and reliable.

- Create a workflow for AI-assisted query generation
- Write effective prompts for SQL queries
- Avoid common pitfalls in AI-generated SQL
- Use iterative AI feedback loops to refine queries
- Validate query outputs using repeatable checking patterns

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Practical SQL Fundamentals

This course focuses on writing SQL queries to retrieve, filter, and summarize data from relational databases.

Audience

For professionals with little to no SQL experience who need to explore and understand data in relational databases.

Outcomes

Upon completing this course, participants will be able to:

- Interpret relational database structures and schemas
- Extract and filter data using SQL queries
- Sort, group, and aggregate data for analysis
- Join tables to work across related datasets
- Build queries to answer basic analytical questions

Core Topics

- Relational database structure
- Tables, rows, columns, and data types
- Basic SQL querying with SELECT and WHERE
- Sorting and limiting results (ORDER BY, LIMIT)
- Data aggregation with GROUP BY
- Basic table joins (INNER JOIN)

Format

- Half-day (4-hour) live, remote training
- Onsite delivery available for organizations in the Northeast
- Instructor-led with hands-on exercises

Prerequisites

- No prior SQL experience required
- Familiarity with basic data handling (e.g. Excel) is helpful but not required

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Intermediate SQL for Practitioners

This course builds upon SQL fundamentals to develop structured, multi-step query thinking for real analytical problems.

Audience

For professionals with basic SQL skills who want to write more structured and powerful queries for analytical work.

Outcomes

Upon completing this course, participants will be able to:

- Combine multiple tables using different types of joins
- Design multi-step queries with subqueries and CTEs
- Analyze aggregated data using filtering logic
- Break complex problems into structured SQL steps
- Transform datasets using SQL functions

Core Topics

- Multi-table relational structures
- SQL joins (inner, left, outer)
- Subqueries and common table expressions (CTEs)
- Aggregation logic and HAVING clause
- Query decomposition strategies
- Data transformation functions

Format

- Half-day (4-hour) live, remote training
- Onsite delivery available for organizations in the Northeast
- Instructor-led with hands-on exercises

Prerequisites

- Basic SQL querying skills (SELECT, FROM, WHERE)
- Familiarity with relational database structures (tables, rows, columns)

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AI-Assisted SQL:
Building Confidence in Query Results

This course teaches professionals how to safely use AI to generate SQL queries while ensuring results are accurate and reliable.

Audience

For technical-adjacent professionals who rely on AI to write SQL queries and want to confidently review and validate the results.

Outcomes

Upon completing this course, participants will be able to:

- Translate analytical questions into effective prompts for SQL generation
- Evaluate AI-generated SQL for correctness and potential errors
- Diagnose and fix common errors in AI-produced queries
- Use iterative prompting to refine SQL queries
- Apply structured validation checks to ensure reliable results

Core Topics

- AI-assisted SQL query generation workflows
- Prompt design for SQL generation tasks
- Common error patterns in AI-generated SQL
- Iterative prompting and refinement loops
- SQL query review and validation techniques
- Structured output checking and diagnostics

Format

- Half-day (4-hour) live, remote training
- Onsite delivery available for organizations in the Northeast
- Instructor-led with hands-on exercises

Prerequisites

- Familiarity with AI-assisted coding or query tools (no mastery required)
- Basic understanding of relational databases (tables, rows, columns)
- Comfort reading simple SQL queries is helpful but not required

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