



PROGRAM SYLLABUS

A D V A N C E D S Q L



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Important Course Details:



Time to Complete

15+ Hours

over the course of 1 week.



Support

3 online instructor led
classes over 1 week



Prerequisites

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ADVANCED SQL

Data increases exponentially with over 1.134 trillion MB of data created daily! To learn from this data, you need to be skilled in the TOP data programming language, SQL. SQL Advanced is a fast-paced, straightforward continuation to our SQL course, the most common language used in querying databases and the TOP programming language in terms of number of job listings!

Lesson One

Combining tables, aggregate functions and transactions

- Delve deep into sophisticated JOIN techniques, exploring CROSS JOIN, FULL OUTER JOIN, and USING clause. Understand the nuances of table relationships in complex database architectures and how to efficiently combine data from multiple sources.
- Gain expertise in aggregate functions like COUNT, SUM, AVG, MAX, and MIN. Learn how to use GROUP BY and HAVING clauses effectively to categorize and filter aggregated data, enabling powerful data analysis and insights.

Lesson Two

Triggers, automation and views

- Understand the intricacies of SQL triggers, their types (BEFORE, AFTER, INSTEAD OF), and how they can automatically execute actions in response to specific events in the database. Explore practical use cases and best practices for implementing efficient triggers.
- Discover advanced methods for automating repetitive or complex tasks in the database, using scheduled jobs, stored procedures, and automated scripts. Learn how automation can enhance efficiency, consistency, and reduce human errors.
- Master the concept of views in SQL, which offer a virtual snapshot of table data. Learn how to create, update, and manage views, understand their advantages in terms of security and data abstraction, and explore scenarios where views optimize data access and manipulation.

Learning Outcomes Continued

Building a SQL application in Javascript

- Get hands-on experience setting up and integrating SQL databases with JavaScript frameworks. Learn how to utilize Node.js with packages like Express and database drivers such as pg (for PostgreSQL) or mysql (for MySQL) to establish seamless connectivity.
- Master the art of executing Create, Read, Update, and Delete (CRUD) operations using JavaScript. Dive into writing SQL queries within JavaScript functions, handling responses, and managing potential errors to build dynamic, data-driven applications.
- Explore advanced SQL-JavaScript integrations like implementing real-time data updates, utilizing ORMs (Object-Relational Mapping) like Sequelize, and ensuring security with prepared statements and input validation. Gain insights into best practices for scalable and maintainable SQL applications in a JavaScript environment.

Lesson Three

THE WE CAN CODE IT EXPERIENCE

Community

WCCI offers its students an opportunity to use a learning management system called Canvas to augment their instructor-led experience. Through Canvas, students can access supplementary instructional videos, grade books, student assessments, course content, and mobile communications.

Instructor-led Classroom Experiences

One of the greatest advantages of WCCI instructor-led training is that students have the opportunity to ask questions. Highly-trained WCCI instructors can also adapt their presentations to the skill level and personality of the class they're teaching. This leads to a much better student experience and significantly higher program graduation rate than e-learning based training programs that leave students on their own.