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SQL in 2025: What's New And Why It Still Matters for Data Pros



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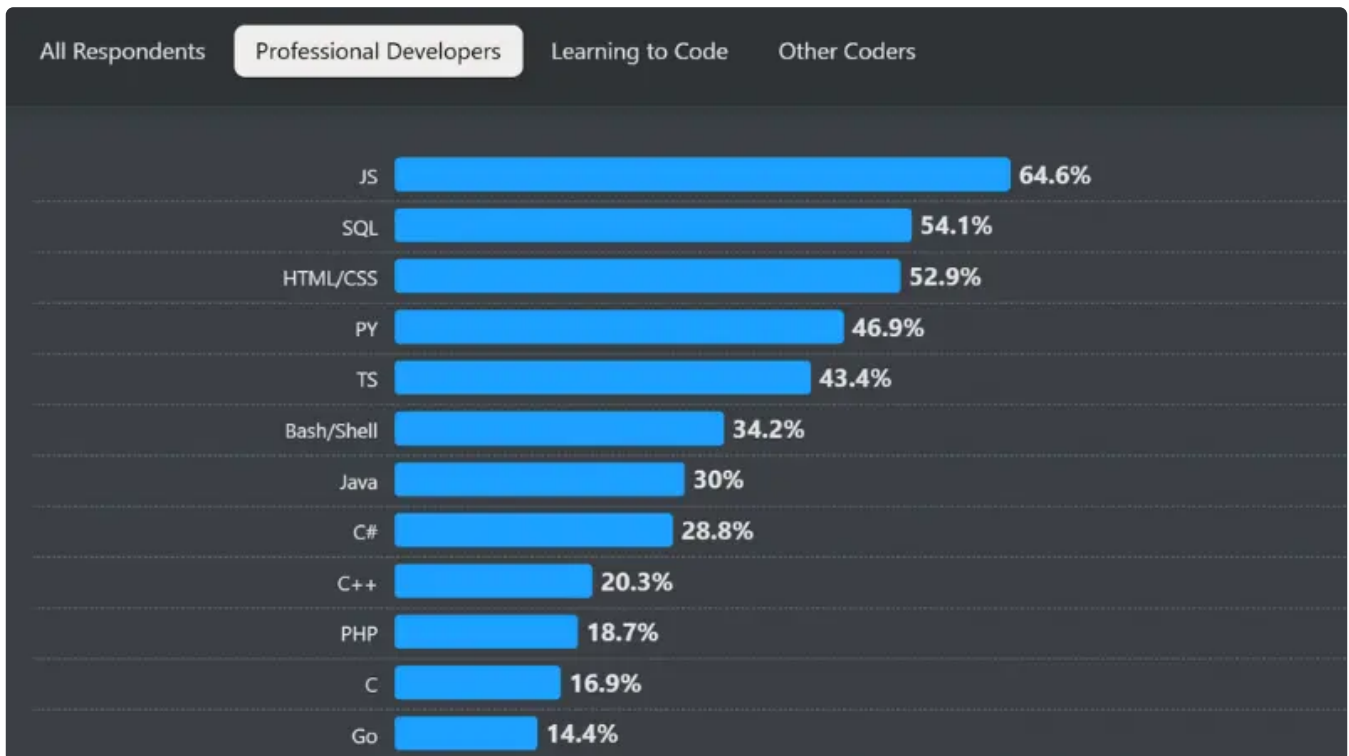
As we enter January 2025, data technologies continue to advance. AI, cloud computing, and big data are shaping the industry, but [SQL](#) (Structured Query Language) remains fundamental for managing and analyzing data effectively.

With new technologies emerging all the time, you might wonder if SQL is still relevant. The answer is a definite yes. It remains as essential as ever.

In this post, we'll look at why SQL is still a must-have skill in 2025, explore the latest trends, and provide actionable tips on improving your SQL expertise.

Why SQL Still Rules in 2025

Let's be clear: SQL isn't going away. While newer technologies like NoSQL databases and cloud platforms have gained popularity, SQL and database management systems are still at the center of most data operations.



According to the [2024 Stack Overflow Developer Survey](#), 72% of developers report using SQL regularly. This demonstrates that SQL remains a critical tool in enterprise data management, and SQL skills are highly valued in the industry.

Even with all the fancy tools out there, data pros—analysts, scientists, engineers—rely on SQL more than ever. According to the [2024 Forrester Research report on AI and SQL Integration](#), SQL is still the most widely used language for integrating machine learning models with databases. So, if you want to work with AI or big data in 2025, a solid understanding of SQL will still be your best friend.

In fact, 62% of data analysts and data scientists report using SQL daily for tasks such as querying large datasets, modifying existing data, and optimizing models. That's how fundamental SQL is, even as AI and machine learning take centre stage.

Key SQL Trends to Watch in 2025

As we look ahead, SQL is evolving to meet the demands of modern data workloads. Here are a few trends that will shape SQL in 2025:

One notable trend is the increasing use of the query store to enhance the performance of [SQL queries](#).

Azure SQL Database Are Here Now

Cloud computing isn't just the future—it's the present. The shift to cloud-native databases is accelerating and SQL-based solutions like Azure SQL are leading the way. According to the [2024 McKinsey & Company Enterprise Data Management Report](#), over 80% of large enterprises are either migrating to or already running their [SQL databases](#) on cloud platforms, including Azure SQL Database. This includes giants like AWS, Microsoft Azure and Google Cloud, all of which support SQL-based relational databases at scale.

With cloud databases, scalability, security and cost effectiveness are now more achievable. If you're not already familiar with cloud SQL services, it's time to get up to speed.

SQL Powers AI And Data Analytics

Artificial intelligence and machine learning are having a big impact on how we manage data. The 2024 Forrester report notes that SQL is the key to making AI and machine learning work with databases. SQL isn't just for [querying data](#) anymore—it's now deeply integrated into the automation of tasks, from predictive analytics to automating data pipelines.

As businesses start to use AI, SQL will be key to making sure data flows between storage systems, analysis tools, and models. If you're involved in any AI projects, mastering SQL is non-negotiable.

Optimising SQL For Big Data

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[SQL query](#) optimization will be more and more important as businesses collect and process petabytes of data. Knowing how to structure efficient queries and use advanced indexing, partitioning, and caching techniques will give you a big advantage in 2025.

Maintaining indexes helps [SQL Server](#) operate efficiently, thereby enhancing the speed and effectiveness of retrieving data. Additionally, normalization helps in organizing data into separate tables based on logical relationships, ensuring that each table contains only relevant data to minimize redundancy and dependency.

If you like learning SQL using hands-on exercises, then you've got to try [All Forever SQL Package](#).

SQL Skills In 2025

As we head deeper into 2025, the ability to retrieve data efficiently will be one of the key SQL skills that will make you stand out in the data world. Here's what you should focus on:

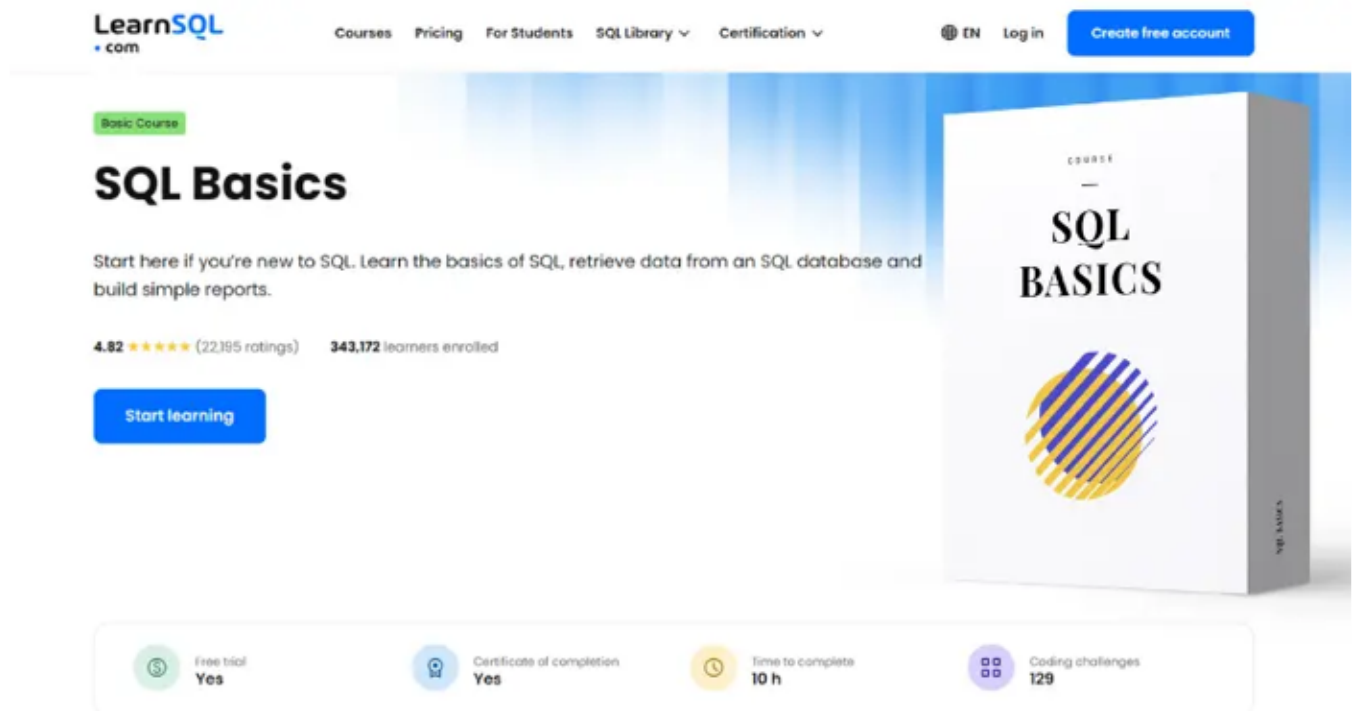
Start With The Basics

Establish a solid foundation in SQL fundamental concepts and functionalities. Begin by getting acquainted with various data types, such as integers, strings, and dates, as these form the core of your [database structure](#).

Next, focus on constructing simple [SELECT](#) statements to retrieve data from tables, which is a fundamental skill for any SQL practitioner. Understanding how to filter data using WHERE clauses will allow you to narrow down results based on specific criteria. Additionally, learning to implement [ORDER BY](#) clauses will enable you to sort query

results in ascending or descending order, making your data easier to analyze.

Lastly, familiarize yourself with the different types of [JOINS](#), as they are essential for combining data from multiple tables effectively. All of this is covered in our engaging [SQL Basics](#) course, designed for beginners and those with no IT experience.



With over 129 interactive exercises and a certificate of completion available, it's an excellent resource for anyone looking to strengthen their SQL skills.

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Master Advanced SQL

[SQL](#) has come a long way since its early days and mastering advanced techniques is essential. From window functions to complex [joins](#), [recursive queries](#), and stored procedures, there's a lot to learn if you want to be a true SQL expert. As noted in the [DB-Engines Ranking 2024](#), PostgreSQL and [MySQL](#) are the most popular relational databases and knowing how to use their advanced features will set you apart.

Whether it's for performance tuning, data analysis or application development,

[advanced SQL](#) skills will be in high demand.

Security And Compliance is More Important Than Ever

As data security becomes more important, SQL pros need to be up to speed on best practices for database security. [The 2024 Deloitte Data Management Report](#) notes that security and compliance are top of the mind for organizations, especially considering that they store customer data. Compliance often includes requirements for secure data destruction, such as [data wiping](#), which ensures sensitive information is permanently erased from storage devices when they are retired or recycled.

SQL is no exception—making sure your queries and databases are secure from unauthorized access is part of your job. Getting to know encryption, role-based access control and auditing features in SQL will be key in 2025.

[Learn SQL by writing SQL! Build your SQL skills \(and confidence\) by completing the 129 interactive exercises in our \[SQL Basics\]\(#\) course.](#)

SQL Jobs, Freelancing And Career Growth

Many companies are looking for SQL professionals to fill roles in [data analysis](#), database management, and application development. Salaries for these positions typically range from [\\$70,000 to \\$120,000 a year](#), depending on experience and the complexity of the work.

In addition to traditional office roles, remote job options are increasingly common. Many organizations now offer flexible work arrangements, allowing SQL professionals to work from home, or anywhere with internet access. This flexibility opens up a wider array of job opportunities.

For those interested in freelancing, the SQL field offers numerous possibilities. You can select projects that interest you, set your own hours, and work from any location. This can help you balance your work with personal commitments.

This diversity not only keeps your work engaging but also helps you develop a broader skill set that can make you more attractive to future clients. However, [freelancing](#) comes with its own challenges. Income can be inconsistent, so it's important to manage your finances carefully and build a strong network to ensure a steady flow of projects.

If you're ready to land your next SQL or database role, [this list of top 10 websites for SQL and database jobs](#) is a must-read. It highlights platforms tailored to SQL professionals, featuring opportunities for data analysts, developers, and database admins. Explore specialized job boards and kickstart your career growth!

Why SQL Still Matters In 2025

So, it's clear that SQL still matters. While newer technologies are gaining popularity, SQL is still the foundation of data management. It's still the most widely used language for querying and manipulating relational databases.

The enduring popularity of SQL isn't just about legacy. It's about flexibility, scalability, and the fact that SQL has evolved over time to handle complex, high-performance workloads. Relational databases are just as important in cloud environments as they were on-premise, if not more so.

In fact, SQL's role in cloud computing has only grown more prominent with cloud providers like AWS and Azure offering SQL-based solutions for modern data infrastructures.

If you want to deepen your SQL skills and be ready for the challenges and opportunities of 2025, one of the best ways to get started is with a structured learning path. That's where the SQL from [A to Z track](#) comes in.



This course has everything you need, from the basics to advanced techniques, with hands-on practice and real-world examples. Whether you're a beginner or an experienced data professional looking to sharpen your SQL skills, this track has the tools and resources to help you level up in your career.

By learning SQL, you're not just preparing for today's data challenges; you're preparing for 2025 and beyond. With SQL under your belt, you'll be able to handle anything that comes your way, whether it's tuning SQL queries, managing SQL servers in the cloud, or feeding data into the latest AI models.

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