



MongoDB Announces General Availability of MongoDB 8.0

October 2, 2024

Update to the world's most popular document database is the most performant version of MongoDB ever released, with greater ease of use and enterprise-grade security, resilience, and availability for a wide variety of applications

Optimizations in MongoDB 8.0 improve overall throughput by up to 32%, while accelerating time series data aggregations by more than 200%

New scale-out capabilities in MongoDB 8.0 distribute data up to 50x faster and reduce single-shard cluster costs by up to 50% for efficient scalability

MongoDB 8.0 expands industry-first Queryable Encryption to provide full-lifecycle data protection for additional use cases

LONDON, Oct. 2, 2024 /PRNewswire/ -- MongoDB, Inc. (NASDAQ: MDB) today announced the general availability of MongoDB 8.0, the best-performing version of MongoDB, the world's most popular document database. Millions of developers and more than 50,000 customers—including 70% of the Fortune 100 and leading global enterprises—rely on MongoDB as a trusted operational database for applications across a wide range of use cases. MongoDB 8.0 provides significant performance improvements, reduced scaling costs, and additional scalability, resilience, and data security capabilities. MongoDB 8.0 is now generally available on AWS, Google Cloud, and Microsoft Azure through MongoDB Atlas, on MongoDB Enterprise Advanced for on-premises and hybrid deployments, and as a free download with MongoDB Community Edition. To learn more about MongoDB 8.0, please [visit the product page](#).



"Customers across industries tell us how critical it is for their core operational database to perform well, no matter the scale," said Jim Scharf, Chief Technology Officer at MongoDB. "Developers have long loved building with MongoDB, so we've ensured that 8.0 kept the bar extremely high for developer usability. MongoDB 8.0 was also built to exceed our customers' most stringent security, resiliency, availability, and performance requirements, and is the most impressive version of MongoDB yet. MongoDB 8.0 gives customers the strongest possible foundation for building a wide range of applications, now and in the future."

Many customers primarily interact with organizations through applications, and they expect reliable, responsive experiences when doing so. Likewise, organizations need to know that their applications are secure, robust, performant, and will operate efficiently under all situations. Because of its ease of use, scalability, high performance, industry-leading security capabilities, and its ability to flexibly store and process virtually any type of data, MongoDB is an ideal solution for developers building applications and the customers who use them alike. Built for the needs of a wide variety of enterprise applications, MongoDB 8.0—the best version of MongoDB ever—empowers development teams to build innovative, customer-focused applications.

"As a MongoDB customer since 2022, we've loved building with MongoDB. The flexibility of the document model, MongoDB's ability to store both structured and unstructured data, and its robust scalability has made MongoDB an ideal database solution for Metaphor," said Mars Lans, co-Founder and Chief Technology Officer at [Metaphor](#). "We're really excited about the capabilities that MongoDB 8.0 brings, and we look forward to building mission-critical applications with it."

"As a company dedicated to unlocking the full potential of forests through data-driven climate projects, leveraging the right technology is paramount to our mission," said Felix Horvat, Chief Technology Officer at [OCELL](#). "With MongoDB 8.0, we have seen an incredible boost in performance, with some of our queries running twice as fast as before. This improvement not only enhances our data processing capabilities but also aligns perfectly with our commitment to resource efficiency. By optimizing our backend operations, we can be more effective in our climate initiatives while conserving resources—a true reflection of our dedication to sustainable solutions."

With an emphasis on enterprise-grade security, durability, availability, and performance—including more than 45 architectural improvements and new features—MongoDB 8.0's capabilities provide:

- **Optimized performance for a wide variety of applications.** As the data applications generate and use grows, inefficiencies can lead to increased infrastructure costs and decreased performance. Because many customers primarily interact with businesses through their applications, poor or inconsistent application performance can lead to customer unhappiness, lost opportunities, and lost revenue. It's therefore imperative for organizations to ensure that their applications perform consistently well.

MongoDB 8.0 improves performance by allowing applications to quickly query and transform data. Architectural optimizations in MongoDB 8.0 have significantly reduced memory usage and query times, and MongoDB 8.0 has more

efficient batch processing capabilities than previous versions. Specifically, MongoDB 8.0 features:

- 32% better throughput
- 56% faster bulk writes
- 20% faster concurrent writes during data replication

In addition, MongoDB 8.0 can handle higher volumes of time series data and can perform complex aggregations more than 200% faster—with lower resource usage and costs.

- **Innovative encryption that unlocks new use cases.** Data protection and security are paramount, and safeguarding sensitive information with robust encryption is more critical than ever. Organizations must protect their data using encryption throughout its lifecycle: in transit over networks, at rest where it is stored, and while it's in use for querying and processing. However, it can be challenging to encrypt data while it is queried and processed, leaving it vulnerable to inadvertent exposure or exfiltration by threat actors.

MongoDB Queryable Encryption is a groundbreaking, industry-first innovation developed by the MongoDB Cryptography Research Group that allows customers to encrypt sensitive application data, store it securely as fully randomized encrypted data in the MongoDB database, and to run expressive queries on the encrypted data for processing—with no cryptography expertise required.

Now with range queries in MongoDB 8.0, Queryable Encryption helps reduce the risk of inadvertent data exposure and exfiltration by malicious actors with applications that store and process highly sensitive data by keeping it encrypted throughout its lifecycle, with no cryptography expertise required.

- **Faster horizontal scaling for high availability.** As organizations grow, their application requirements evolve. For example, scaling to support millions of users can be challenging for organizations that originally designed their applications for thousands of users. Implementing architectural changes in production applications can be challenging—they can be costly, time-consuming, and can require specialized skills. We've continued to improve MongoDB's robust scaling features in each version of the database since introducing horizontal scaling in 2010.

With MongoDB 8.0, horizontal scaling is faster and easier than ever, and at a lower cost to get started. Horizontal scaling allows applications to scale beyond the limits of traditional database resources by splitting data across multiple servers known as shards—without having to pre-provision increasing amounts of compute resources for a single server. Sharding improvements in MongoDB 8.0 distribute data across shards up to 50 times faster and at up to 50% lower starting cost, without the need for additional configuration or setup.

- **Resilience for unexpected application demand.** End-users expect consistent application experiences, even during periods of high demand and usage spikes. Organizations without a highly durable operational database risk poor customer experiences, with lagging application behavior (or even downtime) during times of high demand.

MongoDB 8.0 provides greater control for teams optimizing database performance for unpredictable spikes in usage and sustained periods of high demand. MongoDB 8.0 includes the ability to set a default maximum time limit for running queries, to reject recurring types of problematic queries, and to set query settings to persist through events like database restarts to help deliver consistent performance for applications experiencing high demand.

- **Reduced costs and increased scale for vector applications.** The introduction of vector search opened up possibilities for unlocking insights within unstructured data. However, large-scale vector applications using full-fidelity vectors can have high processing costs and slow query times, hindering scalability and performance.

MongoDB addresses this challenge by adding the ability to leverage quantized vectors and automatically quantize full-fidelity vectors in Atlas Vector Search. Quantized vectors—compressed representations of full-fidelity vectors—require significantly less memory (73% to 96% less) and are faster to retrieve while preserving accuracy. With vector quantization, customers can build a wide range of search and AI applications at higher scale and lower cost. And when combined with Search Nodes, MongoDB's infrastructure for independent scalability and resource optimization, quantized vectors can further reduce costs and improve performance.

Generally available now, scalar quantized vector ingestion enables customers to seamlessly import and work with quantized vectors from their embedding models of choice—directly in MongoDB Atlas.

Together, these new capabilities for MongoDB 8.0 provide the fastest, most durable, secure, and reliable version of MongoDB for building a wide variety of applications across the enterprise.

[MongoDB 8.0 is available today](#) via MongoDB Atlas—MongoDB's multi-cloud developer data platform—as part of MongoDB Enterprise Advanced for on-premises and hybrid deployments, and as a free download from mongodb.com/try with MongoDB Community Edition. In addition, customers upgrading from previous versions of MongoDB to 8.0 can find helpful [upgrade guides](#) on mongodb.com.

About MongoDB

Headquartered in New York, MongoDB's mission is to empower innovators to create, transform, and disrupt industries by unleashing the power of software and data. Built by developers, for developers, MongoDB's developer data platform is a database with an integrated set of related services that allow development teams to address the growing requirements for a wide variety of applications, all in a unified and consistent user experience. MongoDB has more than 50,000 customers in over 100 countries. The MongoDB database platform has been downloaded hundreds of millions of times since 2007, and there have been millions of builders trained through MongoDB University courses. To learn more, visit mongodb.com.

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