**Cloud Spanner**

Fully managed relational database with unlimited scale, strong consistency, and up to 99.999% availability.

New customers get $300 in free credits to spend on Spanner. All customers can create a 90-day Spanner free trial instance with 10 GB of storage, not charged against their credits.

* Get all the benefits of relational semantics and SQL with unlimited scale
* Start at any size and scale with no limits as your needs grow. Get started with a [free trial](https://cloud.google.com/spanner/docs/free-trial-quickstart).
* Enjoy high availability with zero scheduled downtime and online schema changes
* Deliver high-performance transactions with strong consistency across regions and continents
* Focus on innovation, eliminating manual tasks with capabilities like automatic sharding

Cloud Spanner is a fully managed, mission-critical, relational database service that offers transactional consistency at global scale, automatic, synchronous replication for high availability, and support for two SQL dialects: Google Standard SQL (ANSI 2011 with extensions) and PostgreSQL.

BENEFITS

### **Scale as needed with no limits**

Globally distributed, ACID-compliant database that automatically handles replicas, sharding, and transaction processing, so you can quickly scale to meet any usage pattern and ensure success of your products.

### **Make your database highly available anywhere**

Cloud Spanner is built on Google’s dedicated network and battle tested by Google services used by billions. It offers up to 99.999% availability with zero downtime for planned maintenance and schema changes.

### **Do fewer thankless tasks with a simpler experience**

IT admins and DBAs are inundated with operating databases. With Cloud Spanner, creating or scaling a globally replicated database now takes a handful of clicks and reduces your cost of maintaining databases.

## **Key features**

### **Relational database, built for scale**

Everything you would expect from a relational database—schemas, [SQL queries](https://cloud.google.com/spanner/docs/query-syntax), and ACID transactions—battle tested and ready to scale globally.

### **99.999% availability**

Cloud Spanner delivers industry-leading 99.999% availability for multi-regional instances—10x less downtime than four nines—and provides transparent, synchronous replication across region and multi-region configurations.

### **Automatic sharding**

Cloud Spanner optimizes performance by automatically sharding the data based on request load and size of the data. As a result, you can spend less time worrying about how to scale your database and instead focus on scaling your business.

### **All features**

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| Relational database, built for scale | Everything you would expect from a relational database—schemas, SQL queries, and ACID transactions—battle-tested and ready to scale for both reads and writes globally. |
| 99.999% availability | Industry-leading 99.999% availability for multi-regional instances with TrueTime atomic clocks and transparent, synchronous replication. 100% online schema changes and maintenance while serving traffic with zero downtime. |
| Automatic sharding | Optimize performance by automatically sharding the data based on request load and data size. As a result, you can scale your database without disruptive re-architecture, and focus on growing your business. |
| Fully managed | Easy deployment at every stage and for any size database. Synchronous replication and maintenance are automatic and built in. |
| Strong transactional consistency | Purpose-built for industry-leading [external](https://cloud.google.com/spanner/docs/true-time-external-consistency) consistency without compromising on scalability or availability. |
| Granular instance sizing | Start with Spanner with a granular instance for only $65/month and scale it based on your needs without downtime and with no need for re-architecting. [Learn more](https://cloud.google.com/spanner/docs/instances). |
| PostgreSQL interface | Combine the scalability and reliability of Spanner with the familiarity and portability of PostgreSQL. Use the skills and tools that your teams already know, future-proofing your investment for peace of mind. [Learn more](https://cloud.google.com/spanner/docs/postgresql-interface). |
| Regional and multi-regional configurations | No matter where your users may be, apps backed by Spanner can read and write up-to-date strongly consistent data globally. Additionally, when running a multi-region instance, your database is protected against a regional failure and offers industry-leading 99.999% availability. |
| Federated queries with BigQuery | Query data in Spanner from BigQuery in real time without moving or copying the data, bridging the gap between operational data and analytics and creating a unified data life cycle. |
| Built on Google Cloud network | Cloud Spanner is built on Google’s dedicated [network](https://cloud.google.com/about/locations/#network) that provides low-latency, security, and reliability for serving users across the globe. |
| Enterprise-grade security and controls | [Customer-managed encryption keys (CMEK)](https://cloud.google.com/spanner/docs/cmek), data-layer encryption, [IAM integration](https://cloud.google.com/spanner/docs/iam) for access and controls, and comprehensive [audit logging](https://cloud.google.com/spanner/docs/audit-logging). Support for VPC-SC, Access Transparency and Access Approval. |
| Backup and Restore, point-in-time recovery (PITR) | [Backup](https://cloud.google.com/spanner/docs/backup) your database to store a consistent copy of data and restore on demand. [PITR](https://cloud.google.com/spanner/docs/pitr)provides continuous data protection with the ability to recover your past data to a microsecond granularity. |
| Rich application and tool support | Meet development teams where they are with native [client libraries](https://cloud.google.com/spanner/docs/reference/libraries) for Java/[JDBC](https://cloud.google.com/spanner/docs/jdbc-drivers), Go, Python, C#, Node.js, PHP, Ruby and C++ as well as the most popular ORMs, including Hibernate and Entity Framework. |
| Real-time change data capture and replication | Use [Datastream](https://cloud.google.com/datastream) to deliver change data from Oracle and MySQL databases into Spanner for up-to-date information. Use [Spanner change streams](https://www.youtube.com/watch?v=fwyLNP3RtCs) to capture change data from Spanner databases and integrate it with other systems for analytics, event triggering, and compliance. |
| Observability | Monitor performance of Spanner databases with [metrics](https://cloud.google.com/monitoring/api/metrics_gcp#gcp-spanner) and [stats](https://cloud.google.com/spanner/docs/introspection). Analyze usage patterns in Spanner databases with [Key Visualizer](https://cloud.google.com/spanner/docs/key-visualizer), an interactive monitoring tool. |