

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](#).
- 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](#), 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

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 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.
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.
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 that provides low-latency, security, and reliability for serving users across the globe.

Enterprise-grade security and controls	Customer-managed encryption keys (CMEK) , data-layer encryption, IAM integration for access and controls, and comprehensive audit logging . Support for VPC-SC, Access Transparency and Access Approval.
Backup and Restore, point-in-time recovery (PITR)	Backup your database to store a consistent copy of data and restore on demand. 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 for Java/ JDBC , 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 to deliver change data from Oracle and MySQL databases into Spanner for up-to-date information. Use Spanner change streams 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 and stats . Analyze usage patterns in Spanner databases with Key Visualizer , an interactive monitoring tool.