

Database Services in GCP - Overview

- The different Database options available in Google Cloud are as follows.

Database

AlloyDB	Scalable & performant PostgreSQL-compatible DB
Cloud Bigtable	Petabyte-scale, low-latency, non-relational
Cloud Firestore	Serverless NoSQL document DB
Cloud Memorystore	Managed Redis and Memcached
Cloud SQL	Managed MySQL, PostgreSQL, SQL Server
Cloud SQL Insights	SQL Inspector
Cloud Spanner	Horizontally scaleable relational database
Database Migration Service	Migrate to Cloud SQL

DATABASE TYPE	GOOGLE CLOUD SERVICE	USE CASE EXAMPLES
Relational	<u>Cloud SQL</u> <ul style="list-style-type: none"> Fully managed MySQL, PostgreSQL, and SQL Server. Simplify migrations to Cloud SQL from MySQL, PostgreSQL, and Oracle databases with Database Migration Service. Set up easy-to-use, low-latency database replication with Datastream. 	<ul style="list-style-type: none"> CRM ERP Ecommerce and web SaaS application
	<u>AlloyDB for PostgreSQL</u> <ul style="list-style-type: none"> PostgreSQL-compatible database service for your most demanding enterprise workloads. AlloyDB Omni is a downloadable edition designed to run anywhere—in your datacenter, your laptop, and in any cloud. Use AlloyDB AI to easily build enterprise generative AI applications. Simplify migrations to AlloyDB with Database Migration Service. 	<ul style="list-style-type: none"> Heterogenous migrations Legacy applications Enterprise workloads Hybrid cloud, multicloud, and edge
	<u>Cloud Spanner</u> <ul style="list-style-type: none"> Cloud-native with unlimited scale, global consistency, and up to 99.999% availability. Processes more than 3 billion requests per second at peak. Create a 90-day Spanner free trial instance with 10 GB of storage at no cost. Migrate from databases like Oracle or DynamoDB. 	<ul style="list-style-type: none"> Gaming Retail Global financial ledger Supply chain/inventory management

DATABASE TYPE	GOOGLE CLOUD SERVICE	USE CASE EXAMPLES
Relational	<u>Bare Metal Solution for Oracle</u> <ul style="list-style-type: none"> Lift and shift Oracle workloads to Google Cloud. 	<ul style="list-style-type: none"> Legacy applications Data center retirement
	<u>BigQuery</u> <ul style="list-style-type: none"> Serverless, highly scalable, and cost-effective multicloud data warehouse designed for business agility and offers up to 99.99% availability. Enable near real-time insights on operational data with Datastream for BigQuery. 	<ul style="list-style-type: none"> Multicloud analytics Real-time processing Built-in machine learning
Key-value	<u>Cloud Bigtable</u> <ul style="list-style-type: none"> Highly performant, fully managed NoSQL database service for large analytical and operational workloads. Offers up to 99.999% availability. Processes more than 5 billion requests per second at peak, and with more than 10 Exabytes of data under management. Learn how to migrate from HBase or Cassandra. 	<ul style="list-style-type: none"> Personalization Adtech Recommendation engines Fraud detection
Document	<u>Firestore/Datastore</u> <ul style="list-style-type: none"> Highly-scalable, massively popular document database service for mobile, web, and server development that offers richer, faster queries and high availability up to 99.999%. Has a thriving developer community of more than 250,000 monthly active developers. 	<ul style="list-style-type: none"> Mobile/web/IoT applications Real-time sync Offline sync

DATABASE TYPE	GOOGLE CLOUD SERVICE	USE CASE EXAMPLES
	<u>Firestore Database</u> <ul style="list-style-type: none"> Store and sync data in real time. 	<ul style="list-style-type: none"> Mobile sign-ins Personalized applications and ads In-app chat
In-memory	<u>Memorystore</u> <ul style="list-style-type: none"> Fully managed Redis and Memcached for sub-millisecond data access. Memorystore for Redis Cluster is a fully managed service which can easily scale to terabytes of key space and tens of millions of operations per second. 	<ul style="list-style-type: none"> Caching Gaming Leaderboard Social chat or news feed
Additional NoSQL	<u>MongoDB Atlas</u> <ul style="list-style-type: none"> Global cloud database service for modern applications. 	<ul style="list-style-type: none"> Mobile/web/IoT applications Gaming Content management Single view
	<u>Google Cloud Partner Services</u> <ul style="list-style-type: none"> Managed offerings from our open source partner network, including MongoDB, Datastax, Redis Labs, and Neo4j. 	<ul style="list-style-type: none"> Leverage existing investments