TiDB

Unlocks Limitless Scale for Data-Intensive Businesses

What is TiDB?

TiDB is an open-source, MySQL-compatible distributed SQL database that runs transactions and analytics on the same data. It combines NoSQL scale with relational SQL. The project has about 40.7K GitHub stars and a growing community of contributors.

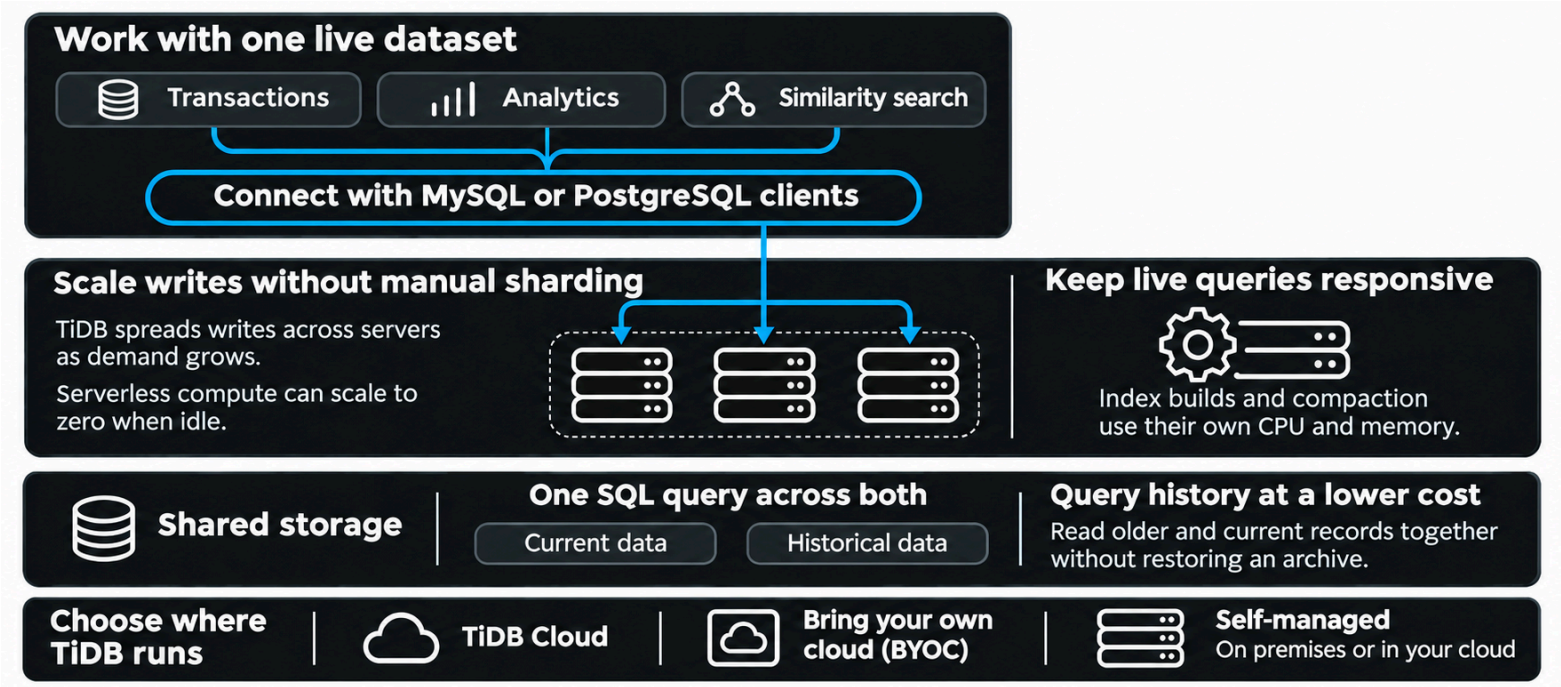
- **Zero-downtime by design:** Raft-based HA with ACID transactions, online DDL, rolling upgrades, and PITR.
- **MySQL-compatible, AI-ready:** Drop in with existing MySQL tooling and skills, then add AI-centric capabilities (branching and semantic search with vectors) without a rewrite.
- **Adaptive scale:** TiDB decouples compute and storage so you can scale each independently. Automatic sharding and placement balance the load across nodes.
- **Unified storage engine:** Run transactions and analytics on the same live data. TiDB uses one SQL planner across its row and columnar engines and supports vector similarity search.
- **Built for multi-tenancy and agents:** Per-tenant isolation, resource groups, and copy-on-write branching enable safe parallel experiments and schema evolution without impacting neighbors.

TiDB Use Cases

TiDB excels in scenarios that require strong ACID consistency, 24/7 availability, data volumes from terabytes to petabytes, high read and write throughput, or thousands to millions of QPS:

- **A more scalable and reliable RDBMS:** Drop-in MySQL compatibility with horizontal scale, automated failover, PITR, and zero-downtime operations.
- **Database consolidation:** Replace fleets of siloed RDBMS instances for higher dev velocity, lower ops toil, and better resource efficiency.
- **Operational data layer:** Process and query large volumes of fresh data with high throughput and low latency.
- **NoSQL replacement:** Keep NoSQL-like elasticity while retaining SQL, ACID transactions, secondary indexes, and rich joins without app rewrites.
- **Agentic AI apps:** Give thousands of agent-built apps their own isolated databases, each ready in seconds.
- **Real-time RAG and vector search:** Serve OLTP on fresh data while running analytics and semantic search with vectors in the same platform, eliminating fragile ETL hops.

What Sets TiDB Apart?



TiDB Success Stories

For additional insights, please visit pingcap.com/customers.

- **Plaid:** Migrated key services from Amazon Aurora to TiDB to retire manual sharding, run online schema changes with zero downtime, and scale elastically on Kubernetes. Result: simpler ops, faster iteration, and headroom to grow without re-architecting.
- **Databricks:** TiDB saved Databricks over 60% of their TCO because of TiDB's horizontal scalability, decoupled compute and storage, and automated database operations. With TiDB, Databricks never experienced downtime across all three public clouds (AWS, GCP, and Azure) in over two years.
- **Pinterest:** TiDB helped Pinterest cut their TCO by 80% (50% reduction in hardware costs, 30% reduction in engineering costs) while eliminating complex systems. With TiDB, Pinterest can now support hundreds of microservices querying three billion unique products at ultra low latency, delivering a much improved user experience.
- **Atlassian:** Consolidated at least 750 Postgres clusters into 16 TiDB clusters for Forge SQL, tested one cluster with over 3 million tables, and moved its DynamoDB key-value store to TiDB.

Square Catalyst PLAID Bolt CAPCOM

TiDB Powered by PingCAP

TiDB, powered by PingCAP, unlocks limitless scale for data-intensive businesses. Our advanced distributed SQL database enables leading enterprises, SaaS, and digital native companies to build petabyte-grade clusters while managing millions of tables, concurrent connections, frequent schema changes, and zero-downtime scaling. With AI-driven innovations and multi-cloud flexibility, TiDB offers unmatched agility, resilience, and security.

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