

MariaDB & VSHN Technical Roadshow

VSHN Tower, Zürich
19 October 2026
MariaDB plc & VSHN

Agenda



Live demos, engineering talks and open Q&A at the VSHN Tower, Zürich

- 1 Welcome**
13:30, 5 min. MariaDB and VSHN.
- 2 MaxScale**
13:35, 40 min. Live demo, Anders Karlsson: failover and observability.
- 3 MariaDB Cloud & AI agents**
14:15, 30 min. Live demo, Anders Karlsson. AI features: vector search, RAG and MCP.
- 4 AI for databases & Swiss clouds**
14:55, 25 min. Aarno Aukia and Tobias Brunner, VSHN: AI landscape, Serval, Swiss clouds.
- 5 Ecosystem, Roadmap, Migrations**
15:20, 75 min. Michael “Monty” Widenius, creator of MySQL and MariaDB.
- 6 Open Q&A, then Apéro**
16:35, 20 min. MariaDB and VSHN engineering teams, then time to network.

Break 14:45 to 14:55, after the two live demos. Apéro from 16:55.

Who's In The Room?

The people who build the database, and the people who run it in Switzerland



**Michael "Monty"
Widenius**

CTO, MariaDB plc
Creator of MySQL
and MariaDB



**Anders
Karlsson**

Solutions Engineer,
MariaDB plc



**Jonas
Schwegler**

Account Executive
Switzerland,
MariaDB plc



Aarno Aukia

Co-Founder and
Partner, VSHN



Tobias Brunner

Co-Founder and
Partner, VSHN

What is MariaDB?

An open source relational database, started as a fork of MySQL

01 What it is

A SQL database with MySQL's protocol and connectors, plus `sql_mode=ORACLE` for PL/SQL.

02 Who makes it

The MariaDB Foundation keeps the server open. MariaDB plc is the top contributor.

03 What it runs

Transactions, Multi Master clustering (Galera), analytics (external plugins) and native vector search, in one server.

04 Versions

Free Community Server, Enterprise Platform with support and MaxScale, or MariaDB Cloud.

80%
Cost Savings

8 yrs

of support per Enterprise Server release

Run it on-premises, on a Swiss cloud or in MariaDB Cloud - all major public clouds. **Your data lives where you decide.**

Community Server and Enterprise Platform

Built from the same GPL codebase

01

Community Server

- Built for rapid innovation and new-feature testing, community driven
- Server is free
- Community support via Forums and Slack, no guaranteed support
- The focus is innovation over hardening

02

Enterprise Platform, subscription

- Built for mission-critical: long-term stability, security and support
- Hardened server with enterprise audit, encryption and RBAC
- Includes MaxScale for high availability and scaling
- Better performance
- 24/7/365 global support with contractual SLAs
- 15 min or less response time
- 99.999% HA - 5 mins a year
- Can be used longer without upgrades (8 year support)
- Custom Features

Everything in the proxy layer you are about to see is carried by the Enterprise subscription. That is the concrete reason to convert.

Three layers, three licenses

What the subscription buys, and what it does not

01

GPL

- MariaDB Community and Enterprise Server and Galera Cluster
- Free to run, no license audit on the database
- GPL obligations apply only if you distribute a modified server

02

LGPL

- Connectors: C, Java, ODBC, Python, Node.js
- Can be linked into proprietary applications without opening your own code

03

Commercial

- MaxScale, Enterprise Kubernetes Operator, Enterprise Manager, Exa, GridGain
- Galera with encryption and RAFT
- Enterprise subscription, with hardened builds and contractual 24/7 SLAs



Galera Cluster and MaxScale

MariaDB Galera: Synchronous clustering

Synchronous cluster with High Availability



Availability

- All nodes are read / write
- Data is synchronously replicated



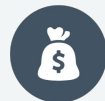
Distributed cluster

- Optimistic locking allows for distributed clustering
- Multi-site writes and reads
- RAFT Protocol with encryption (Enterprise)



Compatible

- Fully compatible with MariaDB Enterprise Server
- No special client drivers necessary

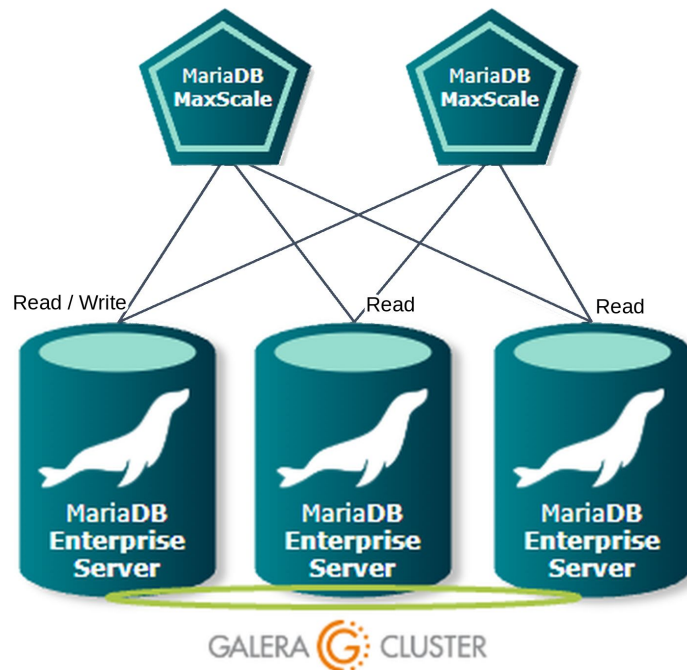


Software only - Cost efficient

- No special hardware necessary
- Lightweight implementation

MariaDB Galera: Clustering

- **Scalability**
 - All nodes are **created equal**
 - Nodes can be added transparently
- **Availability**
 - Split-brain protection
 - Instant **failover**
 - Automatic node deployment
- **Operations**
 - Managed and monitored by **MariaDB MaxScale**



MaxScale: what sits between app and server

SQL-aware proxy, configured through routers, monitors and filters



Availability

- Monitors servers
- Transaction replay re-executes in-flight transactions



Routing

- Read/write split: writes to primary, reads across replicas
- Transparent - No application changes



Security

- Firewall filter learns allowed query patterns
- Masking filter for sensitive columns; per-session throttling

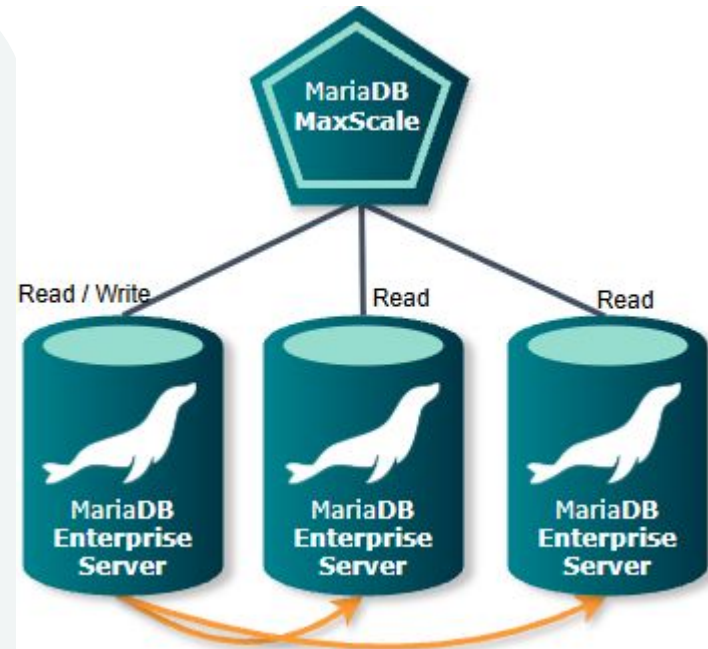


Operations

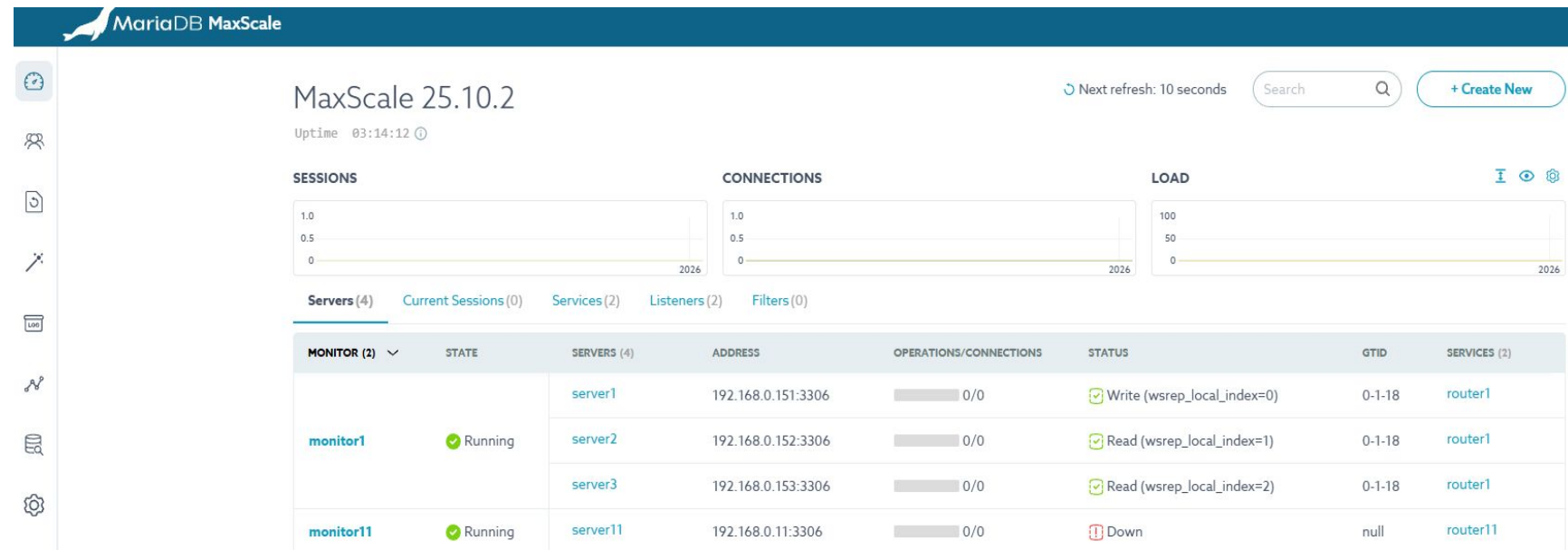
- Rolling upgrades with 0 downtime
- REST API, CLI and GUI for topology changes

MariaDB MaxScale: Transparent Database Proxy

- **Load balancing**
 - Reads and Writes are identified and distributed
 - MariaDB Servers are monitored out of band
- **Availability**
 - Transparent failover
 - Transaction replay
- **Operations**
 - Online **reconfiguration**
 - Managed through API and/or GUI
 - Supports both Asynchronous replication and Galera



MariaDB MaxScale: GUI



GUI Access

- GUI using a web-based interface
- May be disabled for security
- Using TLS for security

MariaDB MaxScale: CLI and REST API

```
> maxctrl -h 192.168.0.150:8989 -u admin -p mariadb list servers
```

Server	Address	Port	Connections	Status	Status Info	GTID	Monitor
server1	192.168.0.151	3306	0	Write	wsrep_local_index=0	0-1-18	monitor1
server2	192.168.0.152	3306	0	Read	wsrep_local_index=1	0-1-18	monitor1
server3	192.168.0.153	3306	0	Read	wsrep_local_index=2	0-1-18	monitor1
server11	192.168.0.11	3306	0	Down			monitor11

```
> curl -u admin:mariadb http://192.168.0.150:8989/v1/servers | jq '.data[].attributes.name'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left   Speed
100 39843  100 39843    0     0  3449k      0  --:--:-- --:--:-- --:--:-- 3537k
"server1"
"server2"
"server3"
"server11"
>
```



CLI Access

- The tool **maxctrl** is included for CLI access
- The protocol is standard REST/JSON so **curl** also works out of the box for scripting



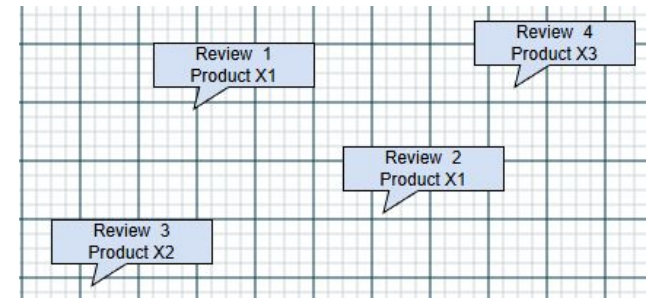
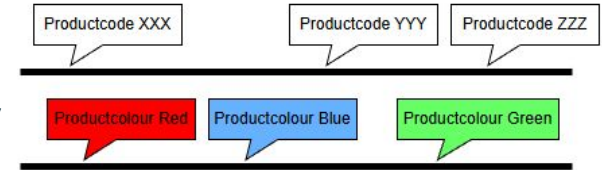
Live Demo: MariaDB Galera Cluster with MariaDB MaxScale



MariaDB AI Features

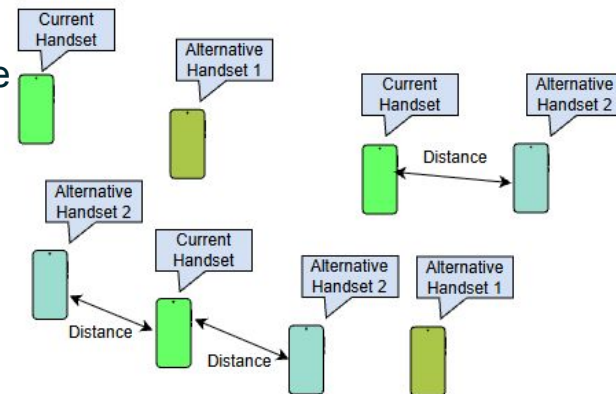
AI Vector search

- Database search is simplified:
 - "Give me the product with a product code X"
 - See it as one-dimensional - The searched product code or some other attribute either exists or it doesn't.
- AI search in comparison is **multi dimensional**
 - Let's say that we have **reviews** from the internet on all our products, there are many reviews, some short and some very long.
 - If I create a vector index to all of those reviews, that will reflect many, thousands, of **different attributes** of those review: long / short, positive / negative, insightful / sloppy, well / badly written. A LLM can get all those attributes of each review into a **vector** for each review
 - To the left is a 2-dimensional simple illustration of this situation, the actual 1000 or more dimensions of a VECTOR index are hard to illustrate



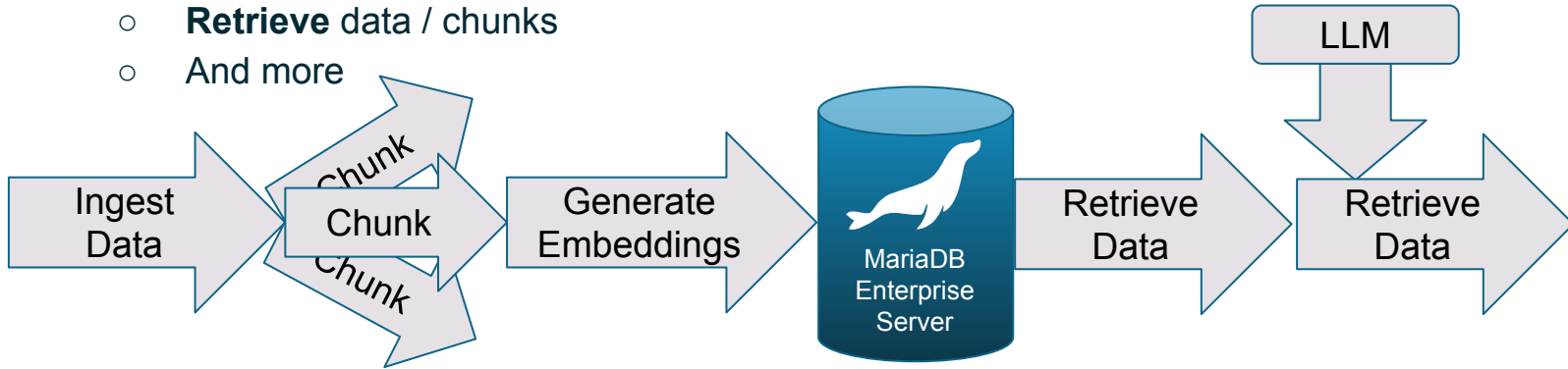
AI Vector search - A simple use case explained

- Let's say you are working for a **cell-phone operator**
- Most of your users are on a **subscription** that includes a handset
- When the subscription ends, you want to ensure that they **sign up again**, so you want to give them a good deal
- You know what type of handset they have right now
 - Exclusive / Everyday, Advanced / Simple, Stylish / Boring etc.
 - You know **how long** they have had the handset, you know what handsets you have **available** for them and you know which ones are on sale
 - But how can you find a handset, amongst the ones you have available, that would be interesting for the subscriber?
 - You can get online reviews of handsets on the internet
 - Create a vector index on the reviews
 - The reviews subscribers current handset are compared to the Handsets you have available



MariaDB AI RAG - Time for buzzword bingo!

- **MariaDB AI RAG** is a server that is included with **MariaDB Enterprise Platform**
- MariaDB AI RAG is a tool to manage what is called a **RAG Pipeline**, among the things does is
 - **Ingest** data
 - Split large data into useable "**chunks**", say a section on in a reference book
 - Generate **embeddings**, an embedding is an individual value in a VECTOR index
 - **Load** the embeddings into the **vector index** of a database table
 - **Retrieve** data / chunks
 - And more





Live Demo: MariaDB Cloud & AI Agents

What is MariaDB Cloud?

A fully managed database service for MariaDB, on AWS, Google Cloud and Azure

Capacity follows the load

Scale up

bigger nodes



Scale out

more replicas



Serverless

or provisioned

Idle databases scale to zero and bill per use. Provisioned suits steady load.

AI agents

DBA copilot

Dev copilot

English to
SQL

MariaDB Cloud

Fully managed: provisioning, upgrades, monitoring and failover,
with MaxScale built in

AWS

Google Cloud

Azure

40+ regions across all three providers

Capacity follows demand, not a forecast. **No overprovisioning, no idle hardware.**



Break: back in 10 minutes



AI for Databases

Agents connect, and agents provision

Two different problems, and where the second one is already solved

01

It connects to yours

- Query shapes nobody wrote or reviewed
- One least-privilege account per agent
- Firewall, throttling and audit at the proxy
- Point-in-time recovery, because agents are fast

02

It provisions its own

- Instances launched programmatically
- Nobody ordered it, so nobody patches it
- The data it copied in now lives there too
- No retention rule, no backup, no owner

03

Kubernetes is the API

- An AppCat database is a Kubernetes object
- So provisioning is a call an agent can make
- RBAC, quotas and namespaces are the policy
- Your cluster, your Swiss cloud, your audit

MariaDB Cloud's MCP server does this today on AWS, Azure or Google Cloud. The same capability inside your own cluster is a Kubernetes call.

AI on databases: three architecture patterns

Where embeddings live decides how much infrastructure you run and secure

01

Separate vector store

- Dedicated vector database beside the system of record
- Sync pipeline to build, run and monitor
- A second security, backup and access model



02

Vectors in the database

- Embeddings stored beside the rows they describe
- One backup, replication and access model
- Native in MariaDB since 11.8, no extension to install



03

Agents through MCP

- Agents call the database as MCP tools
- SQL and semantic search behind one gateway
- Agent actions land in the normal audit trail

The more the database does natively, **the fewer systems hold a copy of your data.**

Sovereign AI: three questions before go-live

Data residency is only the first question

01

Where is the data?

- Source rows, embeddings and prompt logs are all data
- Embeddings carry the classification of their source

02

Where do models run?

- Hosted embedding APIs send text outside your perimeter
- Self-hosted or Swiss-hosted models keep it inside

03

Who operates it?

- Operator, contract law and control plane decide who can be compelled
- Open source plus a Swiss operator answers this structurally

A Swiss region alone does not make an AI workload sovereign. **The operator and the model location decide it.**

Greater control over government software, data and digital infrastructure



CHF 9M

First phase, Swiss Confederation

For its most critical processes the Confederation is putting a sovereign open-source workplace alongside Microsoft 365: about 3,000 staff from end 2027, CHF 9 million in phase one.

The same argument that puts a government's critical work on open source puts a bank's critical data on an open database.

[Source: Bundeskanzlei, Programm für einen digital souveränen Arbeitsplatz, 2.9.2026](#)

Sovereignty is a budget line now, not a talking point.



MariaDB on Swiss Clouds

Three ways to run MariaDB with VSHN

Same database, same operations team, wherever the infrastructure sits

01



Serval

- Self-service from the Serval sovereign app store
- Pick the cloud provider per instance
- Provisioned automatically, operated by VSHN

02



Directly from VSHN

- VSHN Application Catalog on APPUiO or VSHN Managed OpenShift
- Ordered as a Kubernetes object
- VSHN runs day-2 operations

03

In your environment

- Your private cloud or data center
- VSHN operates the service, you keep the infrastructure
- Where MariaDB Enterprise is engineered per workload

The self-service catalog runs MariaDB Community Server as a Galera cluster. Enterprise is scoped per customer on the same platform, with VSHN as the authorized Swiss reseller.

MariaDB on K8s & OpenShift, in Switzerland

AVAILABLE TODAY

Managed MariaDB by VSHN

- Galera cluster, 1 or 3 replicas, on your OpenShift
- Ordered as a Kubernetes object, or via Servalia
- Daily backups, weekly maintenance, CVE patches
- Service levels to 99.99%, with service credits
- From CHF 80 per 30 days, plus compute

Built on MariaDB Community Server

Vector search ships in MariaDB 11.8, so it runs here too.



ON REQUEST

MariaDB Enterprise, on the same platform

- Subscription through VSHN, authorized reseller, in CHF
- Enterprise Kubernetes Operator, OpenShift certified
- MaxScale in front: failover with transaction replay
- Operations engineered per customer

Scoped in the Estate Health Check

Same subscription, same cluster: Exa analytics, GridGain caching, AI RAG and the MCP server.

Runs on Cloudscale, Exoscale, on-premises or APPUIO. OpenShift in production at VSHN since 2016. ISO 27001, ISAE 3402 Type II.

When I recommend MariaDB Enterprise

Where the line sits, from the operator's side

01

Community, run well, is enough when

- The application reconnects and retries on its own
- A failover of a few seconds is acceptable
- One node, or HA you run yourself, is enough
- You can upgrade within community maintenance
- Support means your operator, not the vendor
- No migration off a proprietary database in flight

02

I recommend Enterprise when

- Mission-critical: the business stops with it
- Zero downtime: failover invisible to the app
- An auditor or regulator asks for a vendor SLA
- A CVE needs a fix on your schedule
- You need support past community end of life
- You are migrating off Oracle or SQL Server
- OpenShift, with a vendor-supported operator

What it costs depends on the workload. We size it with you in a free estate review.

Run in Switzerland, by people in Switzerland

Local delivery, global engineering



Swiss company, Swiss operations

- A Swiss company running Swiss infrastructure under Swiss law.
- About 86% of our revenue is recurring monthly operations, not projects.
- Swiss contracts and jurisdiction, not a foreign parent's.



Engineers you can reach

- A local operations team in your timezone, working in German and English.
- 24/7 monitoring and proactive incident handling; a 99.99% service level on three replicas.
- No offshore first line between you and the fix.



The database vendor behind it

- MariaDB Enterprise subscriptions with contractual SLAs, 24/7/365.
- Long-term support and patching from the engineers who build it.
- A European vendor, not a US hyperscaler's managed service.

Two service levels, one stack: VSHN's on the platform, MariaDB's on the database. For a regulated workload, neither one alone is enough.

Open weights are not open source

The question that created MariaDB, asked again about models

01

What open means now

- Weights published, training data withheld
- Licenses carrying use restrictions, not OSI-approved
- Terms can change with the next version

02

What open buys you

- Run it where your data already is
- No seat count, no audit, no renewal cliff
- If stewardship changes, the community can fork

03

Apertus

- Swiss model from ETH Zurich, EPFL and CSCS
- Apache-2.0, with its training transparency published
- Carries the documentation the EU AI Act asks of general models

MariaDB exists because a database changed hands. The same question is being asked about models now, and it is the one Monty has answered twice.



Michael “Monty” Widenius: Ecosystem, Roadmap & Migrations

Why open source wins



Control, cost and quality, without a single-vendor dependency

01

No lock-in

Open standards and more than one vendor able to support you. You own the exit and upgrade path.

02

Auditable security

Open source code: no hidden trap doors, and many more eyes and AI brains on every release.

03

Built with its users

Customise it, contribute to it, and get support from the people who wrote it.

04

Resource friendly

Runs well on modest and older hardware; test the full product at no cost.

With open source, **you take charge of your own future.**

Agenda

Where MariaDB came from, where it is going, and how to move to it

01

Ecosystem

- Why MariaDB exists and stays open
- The size of the MySQL and MariaDB family
- Where it runs today - everywhere!

02

Roadmap

- What 12.x and 13.0 deliver now
- Performance, security, vector search and analytics
- What is planned for 13.x, 14 and beyond

03

Migrations

- MariaDB compared with MySQL and PostgreSQL
- Moving off MySQL and Oracle

From the creator of MySQL and MariaDB: where it came from, where it is going, and how to get there.

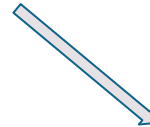
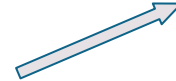


Short History

The Soul of Open Source



MariaDB was created to preserve openness and community, so that we can push ahead faster with the capabilities for tomorrow's applications.



The MySQL and MariaDB ecosystem is huge



One of the most widely deployed database families in the world

01

**450M to 800M
instances**

Estimated MySQL and
MariaDB databases running
just on wordpress.

02

**~56% of WordPress
(~650M instances)**

MariaDB's share of database
versions reported by
WordPress.org installs.

03

**Everywhere you
deploy**

Shipped by all major Linux and
all open source OS
distributions and offered by all
major cloud providers; work
with all hardware and
languages.

Skills, tooling and drivers your teams already have **carry straight over.**

MariaDB already runs underneath your stack



The default or recommended database today. Full catalog at ecohub.mariadb.org

E-commerce

Adobe Commerce and Magento recommended DB, PrestaShop and OpenCart official support and others.



Collaboration

Nextcloud recommends MariaDB as its primary database, from home to enterprise.



Websites and CMS

WordPress lists MariaDB first in its requirements. Drupal, Joomla and MediaWiki run on it too.



ERP and CRM

ERPNext and Dolibarr recommend MariaDB. ERP5 runs on it for banks and public bodies.



AI and agents

LangChain, LlamaIndex and Spring AI ship MariaDB vector stores. MariaDB has MCP.



Swiss public sector

Switzerland is investing CHF 9 million in a sovereign workplace suite that includes Nextcloud.

Sources: [MariaDB Foundation Ecosystem Hub](https://ecohub.mariadb.org) (e-commerce, CMS, ERP and CRM, AI frameworks); Nextcloud admin manual; WordPress.org requirements; Bundeskanzlei, 2.9.2026 (sovereign workplace).

Most teams already run MariaDB, often without knowing it. **The real question is who supports it in production.**

Building For The Future

Investing and Innovating



+



MariaDB acquires
Galera Cluster



MariaDB reacquired its
cloud business, now
MariaDB Cloud



MariaDB partners with
Exasol to launch
MariaDB Exa



MariaDB acquires
GridGain in-memory
cache and data grid



Vector
Search



Kubernetes
Operator



Enterprise
Manager



MCP
Server



AI RAG



AI
Agents



Serverless



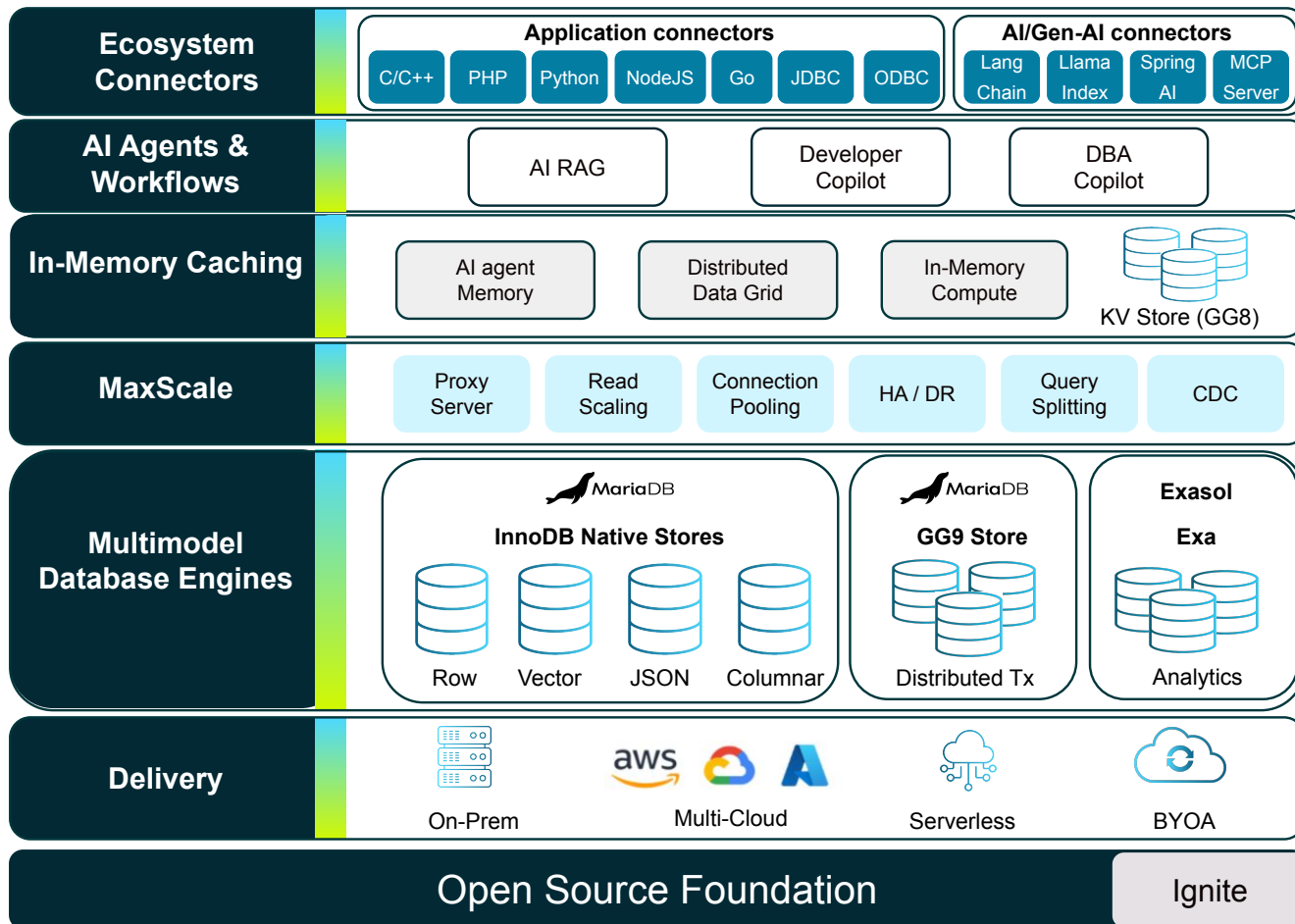
Multi-Cloud:
AWS/Azure/GCP



BYOA



MariaDB Enterprise Platform





Roadmap

New in MariaDB 12.x



Oracle-style PL/SQL

- `TO_DATE()`, `TO_NUMBER()`, `TRUNC()`
- `SYS_REFCURSOR` return values
- Array type; associative arrays (`INDEX BY`)
- `SET PATH` (Rakuten contribution)

SQL and replication

- `UPDATE` / `DELETE` reading from a CTE
- Triggers on multiple events
- MySQL-style optimizer hints
- `IS JSON` predicate, XML data type, new GIS functions
- Predictable temporary tables in replication

Performance and HA

- InnoDB and binlog combined: 2 to 4x writes on HDD, ~25% on SSD
- MDL scalability; segmented Aria key cache
- Parallel replication between Galera clusters
- Buffered audit log
- Multi-master conflict resolution (12.3 ES)

What's new in MariaDB, in code

12.3 LTS for production; 13.0 (GA 15 September 2026) for the newest features

Analytics inside MariaDB (13.0, experimental)

```
CREATE TABLE sales_facts ( ... )  
ENGINE=DuckDB;
```

DuckDB's columnar engine runs in-process, next to InnoDB

One round trip (13.0)

```
UPDATE accounts SET balance = balance - 100  
WHERE id = 42 RETURNING balance;
```

Changed values come back without a second SELECT

Point-in-time recovery from the WAL (13.0)

```
[mariadb]  
innodb_log_archive = ON
```

InnoDB keeps its redo log instead of overwriting it

Vectors, native (since 11.8 LTS)

```
SELECT id FROM docs ORDER BY  
VEC_DISTANCE_COSINE(emb, VEC_FromText(?))  
LIMIT 5;
```

Semantic search in plain SQL, no extension to install

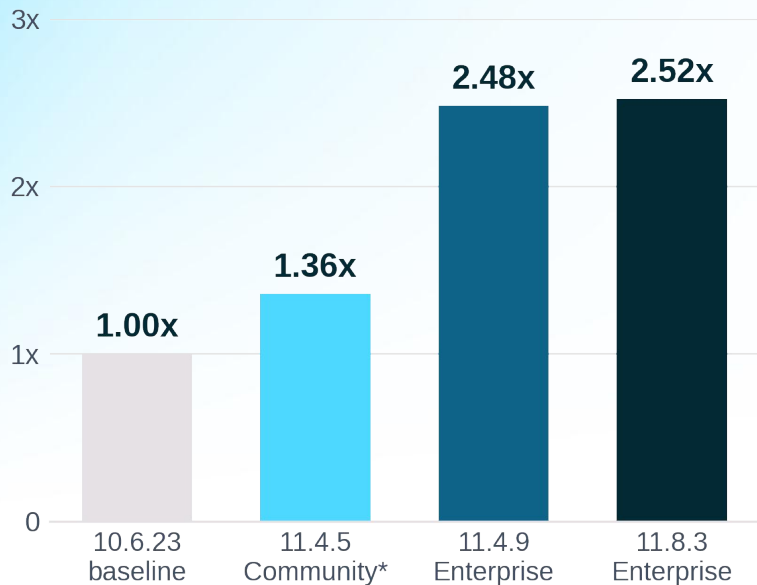
Sources: [MariaDB 13.0 Changes & Improvements](#); [DuckDB storage engine documentation](#) (experimental, for evaluation only); [12.3 LTS announcement](#).

Run 12.3 LTS in production, maintained to June 2029. **Evaluate 13.0 for DuckDB, RETURNING and WAL archiving.**

OLTP throughput up to 2.5x since 10.6

HammerDB benchmark, relative to MariaDB 10.6.23

Relative OLTP throughput



*tuned: log_spin_wait_delay = 50. HammerDB OLTP, relative to 10.6

Enterprise Server 11.8

2.5x

throughput of 11.8.3 Enterprise
vs the 10.6 baseline

2-4x

write throughput on HDD in 12.3
(InnoDB + binlog combined)

Access and audit controls, built in

What recent releases add for banks, insurers and public bodies

01

Who can access

- DENY: negative grants override inherited privileges (13.1)
- Nine authentication plugins, including PAM
- Password strength checks in the server

02

Who did what

- Audit plugin with buffered logging for busy servers (12.3)
- Warnings captured in `sql_error_log`
- Per-user and per-table usage statistics

03

Keeping data safe

- Encryption at rest with pluggable key management
- Conflict detection for multi-master writes (12.3 Enterprise)
- Parallel replication between Galera clusters (12.3)

Sources: Michael Widenius, “New features in MariaDB 12.x” and “MariaDB plugins”, 2026; MariaDB documentation. 13.1 is the next release after 13.0.

Auditors ask who can reach the data and who touched it. **Both answers live in the server.**

MariaDB Vector: AI next to your data



GA in 11.8 LTS (and Enterprise 11.4)

- VECTOR(N) type; text input via VEC_FromText() or packed binary
- MHNSW index: modified HNSW graph, approximate nearest neighbour
- VEC_DISTANCE_EUCLIDEAN(), VEC_DISTANCE_COSINE()
- Tuning: M (index build) and mhnsw_ef_search (query recall)
- Index used only when the query's distance matches the index

In SQL

```
CREATE TABLE docs (  
  id    INT PRIMARY KEY,  
  body  TEXT,  
  emb   VECTOR(256) NOT NULL,  
  VECTOR INDEX (emb) M=8 DISTANCE=cosine  
);  
  
-- k-NN: 10 nearest documents  
SELECT id, body FROM docs  
ORDER BY VEC_DISTANCE_COSINE(emb,  
                             VEC_FromText(?))  
LIMIT 10;
```

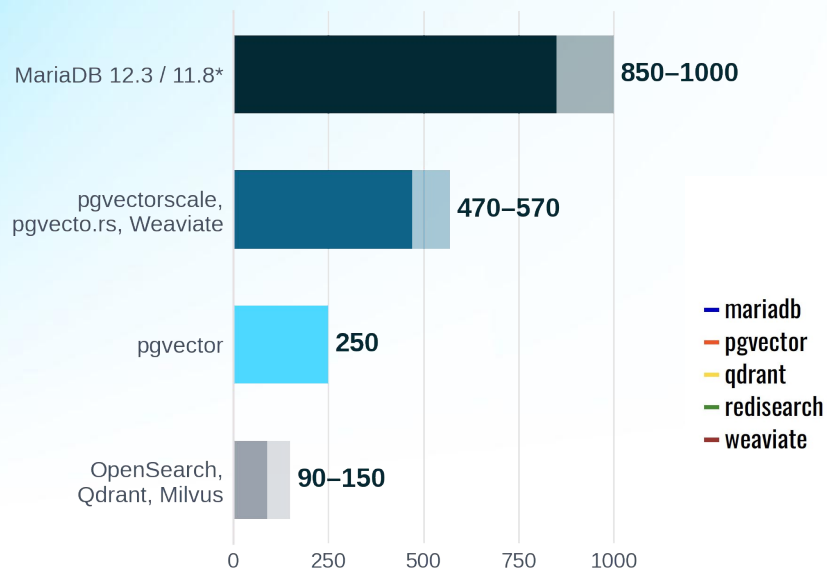
Embeddings sit beside the rows they describe: **one engine to secure, back up and audit.**

MariaDB Vector: fastest search and build



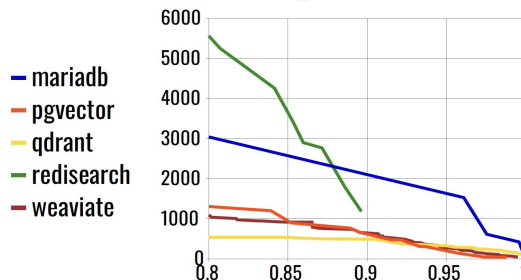
1M OpenAI embeddings, 1,536 dimensions (dbpedia-openai-1000k)

Queries per second at 94% recall



*Top group shared with Redisearch (index build 2.5-3 h).
Shaded = range within group.

qps vs recall



MariaDB vs pgvector

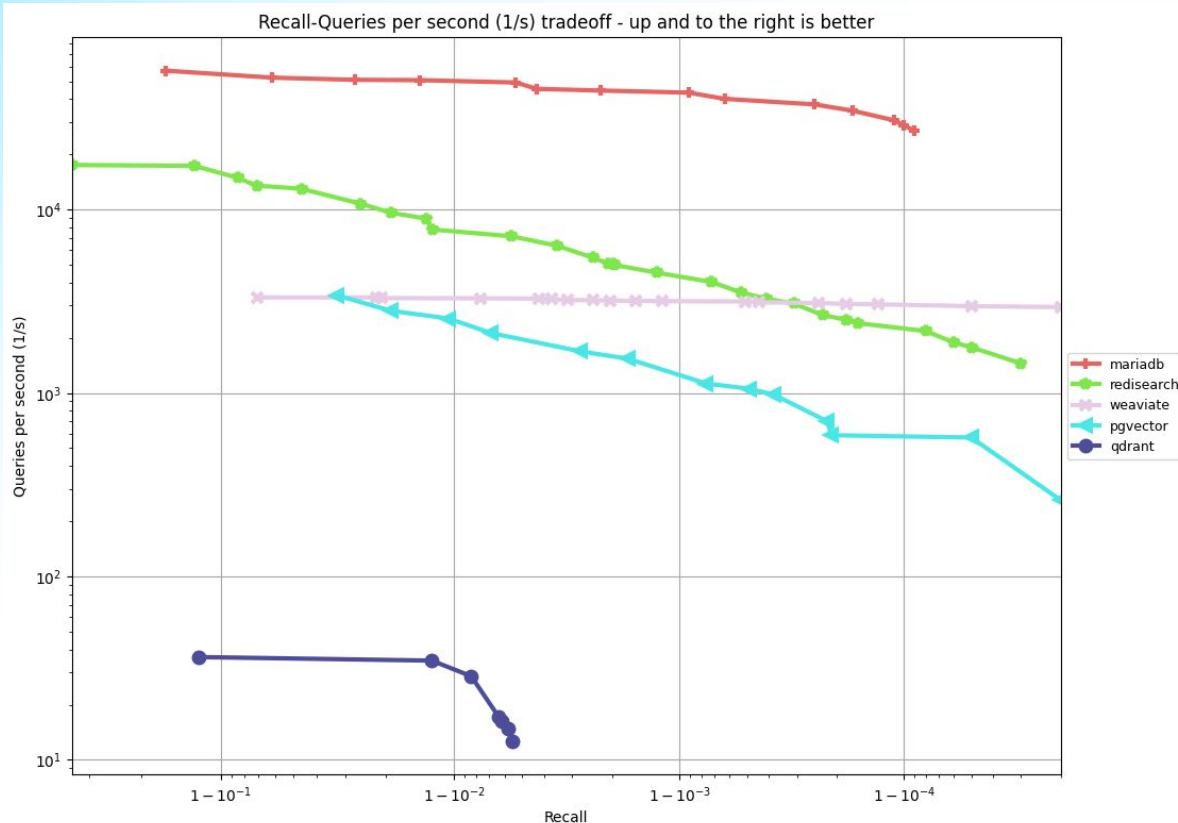
2-3x
queries per second at 94% recall

<15m

index build; pgvector needs 2.5 to 3 hours

MariaDB Vector: what happens when you scale

Tested on 48 vCPU



MariaDB vs
pgvector

20x

queries per second at 94%
recall

MariaDB Exa: analytics on live data

MaxScale sends analytic queries to Exasol's MPP engine; CDC keeps it current



01

Write

Applications write to MariaDB as usual, through MaxScale.

02

Sync

CDC streams the binlog into Exasol continuously. No pipeline to build.

03

Route

MaxScale spots analytic queries, routed to both MariaDB and Exa. Maxscale picks the fastest.

04

Answer

Exasol processes them in parallel. The application keeps one connection.

Source: MariaDB Exa datasheet: 10 to 1,000x faster analytic queries; on premises, cloud or hybrid.

One connection, two engines: **transactions on MariaDB, analytics on Exasol, on the same live data.**

Coming in MariaDB 13.x



Security, JSON, DDL and caching

Feature	Reference	Notes
DENY: negative grants in the privilege system	MDEV-14443	13.1.1
BLOBs in MEMORY (HEAP) tables	MDEV-38975	Up to 20x on JSON GROUP BY / DISTINCT
JSON column->path and column->>path	MDEV-13594	MySQL syntax compatible
Query cache: per-table SQL_CACHE=0 1		Faster invalidation, non-blocking lookups
ADAPTIVE_HASH_INDEX per InnoDB table		YES NO DEFAULT
Atomic CREATE OR REPLACE TABLE	MDEV-25292	–
Auto-add partitions for PARTITION BY RANGE	MDEV-15621	–
Formatted columns in JSON_TABLE	MDEV-25727	–
CREATE TRIGGER FOR STARTUP SHUTDOWN	MDEV-30645	–
TYPE .. IS REF CURSOR; package-wide TYPE	MDEV-10152, -39587	Oracle mode
utf8 now defaults to utf8mb4	MDEV-30041	Check legacy schemas

New storage engines in the pipeline



Planned for MariaDB 13.3 / 14.0, all via the pluggable engine API

DuckDB (available)

Open-source columnar analytics engine that can also read data lakes.

TidesDB (available)

High-compression, high-performance engine; candidate successor to RocksDB, which is no longer actively maintained.

GridGain (coming)

Distributed key-value store and cache (13.3); distributed SQL (14.0).

New engines arrive **with no changes to your application code.**

Reinventing plugin distribution

MariaDB Foundation project in development: from a developer's repository to every supported server



01

Build

The developer writes the plugin in their own GitHub repository.

02

Register

They optionally register it once with the MariaDB Foundation plugin repository.

03

Verify

Buildbot builds and tests it for every supported MariaDB Server version, operating system/hardware. AI scans it for security issues; curated plugins also get human review.

04

Publish

Registered plugins land in the Foundation catalog. The Foundation can block a plugin until issues are fixed.

The aim is to release plugins for every supported MariaDB version within 24 hours. **No waiting for the next LTS.**

Plugins installed from SQL, without a shell

MariaDB Foundation project in development: one signed plugin catalog for MariaDB and MySQL

Where it is heading (illustrative)

```
-- Today: the plugin set is fixed at build
-- time, whatever the provider pre-approved.

-- Direction: install from a trusted
-- repository, under operator policy and
-- a dedicated privilege.
INSTALL PLUGIN tidesql
FROM REPOSITORY 'repo.mariadb.org';
```

What a platform gets

Signed builds, checked per server version
Mirror it whole, or curate and pin versions
New engines arrive as plugins, not forks

Where it stands

Prototype running at the MariaDB
Foundation
Package spec and server ABI defined now
Updates on mariadb.org/blog

Source: Michael Widenius, “MariaDB plugins”, September 2026. In development: commands and names shown are illustrative and may change.

For managed platforms, **new capabilities ship as signed plugins, without waiting for the next LTS.**

Planned for MariaDB 14 and beyond



Direction, not commitment: scope and timing may change

Capability	Reference	Status
Parallel query, incl. parallel partition scans	MDEV-39845	Active development
Full outer join	MDEV-13648	Active development
Multi-valued indexes (JSON)	MDEV-25848	In review
Multiple engines in one partitioned table	–	In development
Materialized views	–	Design complete
Global temporary tables	MDEV-35915	In review
Lateral derived tables	MDEV-19078	Planned
Non-blocking DROP PARTITION; skip opening pruned partitions	MDEV-32052	Planned
Row-level security	–	Planned
Vector index plugins: IVF-FLAT, IVF-PQ, DiskANN	–	Planned
Autonomous transactions; multi-language procedures	MDEV-10155	Planned



Comparisons and Migrations

Benefits of moving to MariaDB



A predictable platform for long-lived systems

01

Painless upgrades

Upgrade any MariaDB version directly to any newer one; old storage formats stay readable.

02

Run anywhere

Most hardware and OS platforms, every major distribution and cloud.

03

Replication first

Arguably the most flexible replication of any database: parallel, multi-source, cross-engine.

04

Long support

Enterprise Server supported 8+ years on the original OS; encryption at rest built in.

Fully open source, built with the community, **backed by MariaDB plc.**

MariaDB builds in what others bolt on

MariaDB, MySQL and PostgreSQL compared on their open source editions

Capability	MariaDB	MySQL	PostgreSQL
Execution Model	• Threads	Threads	Processes
Connections	• Thread pool in Community	Not in stable Community	Process per connection
Multi-primary writes	• Galera cluster, built in	Group Replication	Single primary in core
Vector search	• VECTOR type and index, built in	Type only, index in HeatWave	pgvector extension
Oracle PL/SQL	• sql_mode=ORACLE, built in	Not available	PL/pgSQL (only enterpriseDB)
Data as of a past date	• System-versioned tables	Not available	Not available
Storage engines	• InnoDB, ColumnStore, Spider, S3	InnoDB	One built-in engine
Major upgrades	• Any version to any newer one	One major version at a time	pg_upgrade or dump/restore

Fewer add-ons mean fewer things to secure, patch and support. **One server, one vendor behind it.**

MariaDB vs MySQL: what you gain



Performance and operations

- Thread pool for high concurrency and many connections, not in any stable MySQL Community release
- Online ALTER TABLE, applied in parallel on primary and replica
- Mostly non-blocking backup (10.11+)
- Upgrade directly from any MariaDB version to any newer one

SQL and features

- System-versioned tables: compare today's data with years ago
- Oracle compatibility layer (sql_mode=ORACLE)
- SEQUENCES
- VECTOR index (11.4 Enterprise, 11.8 Community)
- Open project with broad community contributions

Familiar to every MySQL team, **with capabilities MySQL Community lacks.**

MariaDB vs PostgreSQL: architecture matters



Architecture and scale

- Thread-based, not process-based: less memory and energy per user
- 100,000+ connected users; fast connects with no pooler required
- Parallel, flexible logical replication; replicas can run different engines
- Multi-primary writes with Galera

Features and support

- Vector search: 3 to 20x pgvector QPS at 94% recall (MariaDB benchmark)
- System-versioned tables and an Oracle compatibility layer
- Pluggable engines: ColumnStore, S3, RocksDB, CONNECT, DuckDB
- Upgrades in seconds in most cases; 8+ years of Enterprise support
- MariaDB plc can fix any bug or add any feature customers need

Built for many concurrent users, **mixed workloads and long-lived systems.**

PostgreSQL extensions: mostly built into MariaDB



90% of PostgreSQL users run no extensions; the rest use a handful

Extension	What it does	In MariaDB
uuid-oss	UUID type and functions	Built in
pgvector	Vector column and index	Built in
pgcrypto	Cryptographic functions	Built in
citext	Case-insensitive text	Built in (collations)
PostGIS	GIS types, spatial indexes, ST_ functions	Partial: no geography semantics
hstore / JSON	Key-value and JSON storage	Partial: multi-valued indexes coming
pg_trgm	Trigram text similarity	Not existing

The capabilities teams actually use ship in the server, **with no extensions to manage.**

MariaDB Plugins



Lots of storage engines (all implemented as plugins):

archive blackhole columnstore **connect** csv federated heap InnoDB Aria mroonga myisam
myisammrg oqgraph(*) rocksdb sequence sphinx(*) spider videx

New: TiesDB and DuckDB

Lots of native plugins that can be loaded (from MariaDB server plugin directory)

- Audit
- Authentication with different protocols(9)
- Password checkers (3)
- Key management plugins (5)
- New data types (9): assoc_array, cursor, geom, inet, mysql_json, mysql_timestamp, uuid, xml
- Status: disks, userstat, wsrep_info (galera), user_variables, qc_info (query_cache)
- Encryption: zlib (native), bzip2, lz4, lzma, lzo, snappy
- Div: fulltext, handler_socket, sql_errlog
- Pluggable Data Types (UUID and IPv4/v6)
- Select/Derived Handlers

Migrations: what carries over, what to test

The MySQL and Oracle paths, and how a migration is run

01 From MySQL

- Same wire protocol and client connectors
- `caching_sha2_password` from 11.4.9, 11.8.4 and 12.1.1: passwords carry over
- Test first: JSON functions, GTID replication, plans of top queries

02 From Oracle

- `sql_mode=ORACLE` accepts PL/SQL-style syntax: packages, sequences, `%TYPE`
- Oracle-compatible `TO_DATE()` added in 12.3
- Test first: data type mapping and stored code coverage

03 How we run it

- Assess the estate and stored code first
- Test top queries and transactions on real data
- Plan cutover and rollback before the first test run

Start with the transactions the business depends on, **not with the whole schema.**

From MySQL: often easier than a MySQL upgrade



MySQL 5.7 and earlier

- In most cases a drop-in replacement
- Migration often done in minutes
- Avoids the 5.7 to 8.0 upgrade project entirely

MySQL 8.0 and later

- Move data with mysqldump and mariadb-import
- MariaDB 11.8 replicates to and from MySQL: test side by side
- Free MySQL to MariaDB migration tool
- Step-by-step guides in the MariaDB Knowledge Base

You can use the MySQL to MariaDB Open Source Migration tool [link](#)

Lowest-risk exit from MySQL: **test in parallel, cut over when ready.**

Moving off MySQL with minimal downtime

MariaDB replicates to and from MySQL 5.7 and 8.0, so you test before you switch

00

Migrate Replica to MariaDB

Migrate inplace or migrate to copy with migration tool. Check character sets and collations.

01

Replicate

Add MariaDB as a replica of the MySQL primary, using binlog file and position.

02

Validate

Run tests and read traffic on MariaDB against live, current data.

03

Keep a way back

Setup Replication back to MySQL

04

Cut over

Point the application at MariaDB, ideally through MaxScale, so it is one change. You can go back by pointing application to the original primary

Source: [MariaDB documentation, "Replication Compatibility Between MariaDB and MySQL"](#): MySQL 8.0 from MariaDB 10.6.21, 10.11.11, 11.4.5; MySQL 5.7 from 10.2.

Replication does the heavy lifting. **Test on live data, switch when ready, keep a way back.**

Oracle PL/SQL that runs on MariaDB

sql_mode=ORACLE parses the dialect natively, inside the engine

Runs as-is with sql_mode=ORACLE

```
SET SQL_MODE='ORACLE';

CREATE SEQUENCE order_seq;

CREATE PROCEDURE add_order(p_amt NUMBER) AS
  v_id orders.id%TYPE;
BEGIN
  v_id := order_seq.NEXTVAL;
  INSERT INTO orders VALUES (v_id, p_amt);
END;
```

Runs natively

Packages, procedures, %TYPE, %ROWTYPE
REF CURSOR and SYS_REFCURSOR returns
Associative arrays (INDEX BY)
(+) outer joins and DBMS_OUTPUT
TO_DATE(), TO_NUMBER(), TRUNC()

Plan for

DBMS_* packages beyond DBMS_OUTPUT
Materialized views

Full outer join

Sources: [MariaDB documentation, SQL_MODE=ORACLE](#); [MariaDB OpenWorks, "Tips and Tricks for Migrating from Oracle to MariaDB" \(Anders Karlsson\)](#).

No translation layer to operate. **Anders Karlsson runs MariaDB's Oracle migration sessions: ask him today.**

What to take back to your team



Ecosystem, roadmap and migrations, in three points

01

Already in your stack

WordPress, Nextcloud, Wikipedia and the major Linux distributions run on it. The question is who supports it.

02

Built for what comes next

2.5x OLTP over 10.6, native vector search and MCP for AI agents, Exa analytics, and 14 already planned.

03

A tested path to move

Replicate from MySQL, run PL/SQL with `sql_mode=ORACLE`, and prove the switch on real traffic with MaxScale.

Start with a free estate review of your versions, stored code and top queries. **Ask us at the apéro.**

Next steps

Three things you can start before you leave the room

01

Get an estate review

- We assess versions, stored code and your top queries
- Written findings, sizing and a migration plan
- Ask Jonas or Aarno during the apéro

02

Try it

- Managed MariaDB on Servala, your choice of provider
- MariaDB Cloud on Public Cloud
- MariaDB Enterprise
- servala.com/service/mariadb

03

Take it to your team

- managed-mariadb.ch for pricing, service levels and the comparison
- A written cost estimate within one business day
- We are all here during the apéro

The MariaDB and VSHN engineering teams are in the room for the rest of the afternoon.



Open Q&A: MariaDB & VSHN