

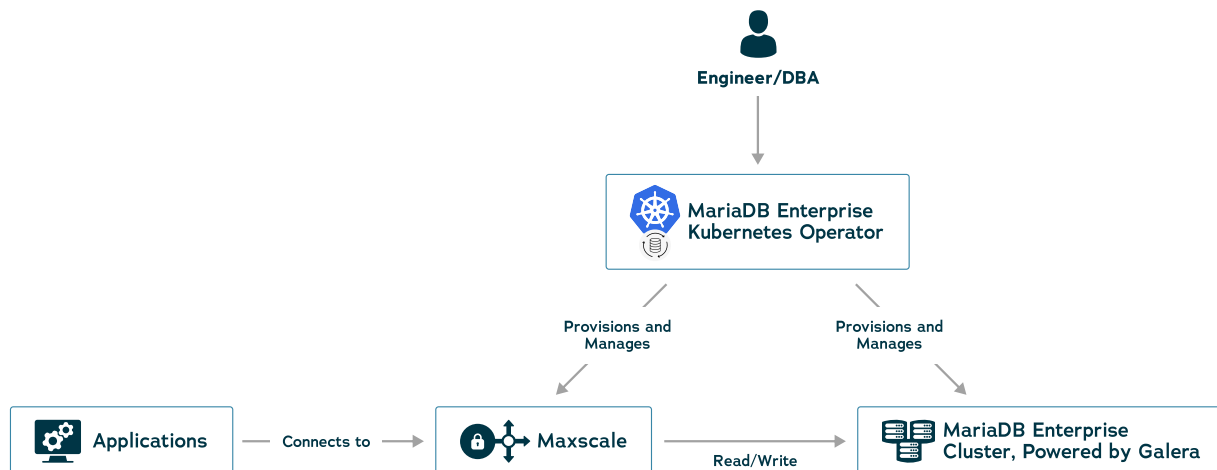


# MARIADB ENTERPRISE KUBERNETES OPERATOR

Automate and Simplify Production-Grade MariaDB Deployments on Kubernetes

While Kubernetes excels at orchestrating containerized applications, managing stateful workloads like databases introduces significant operational complexity. The MariaDB Enterprise Kubernetes Operator is designed specifically to solve this challenge by automating the deployment and lifecycle management of MariaDB Enterprise Server and MariaDB MaxScale.

As an extension of the Kubernetes API, the Operator uses Custom Resource Definitions (CRDs) to encapsulate the operational knowledge of an expert database administrator. This allows you to declaratively define and manage production-ready MariaDB topologies – including high-availability Galera clusters and load-balanced MaxScale setups – directly through standard Kubernetes manifests.



## KEY BENEFITS

- **Enhance Disaster Recovery & Resilience:** Dramatically reduce your Recovery Time Objective (RTO) with high-speed non blocking physical backups orchestrated by the Operator. Leverage native MariaDB tools or Kubernetes Volume Snapshots to ensure fast, reliable recovery from failures with minimal impact on production workloads.
- **Automate Full Lifecycle Management:** Drastically reduce manual effort and human error by automating operations, including high-availability configurations, zero-downtime rolling upgrades, database parameters and backup/restore schedules.
- **Deploy Anywhere with Confidence:** Standardize database deployment across any public cloud, private cloud, or on-premises environment, now including support for IBM Power (ppc64le) alongside x86\_64 and arm64 architectures. The Operator provides a consistent, repeatable process managed through infrastructure-as-code (IaC) principles.
- **Enterprise Support:** Get peace of mind and reliable operations with MariaDB Enterprise Server and MaxScale deployments, supported on the last three minor versions of **CNCF-certified** Kubernetes distributions and validated with the latest **Red Hat OpenShift EUS versions** (including 4.16)
- **Enhance Security & Compliance:** Meet stringent security and compliance requirements in regulated environments. Leverage fully customizable certificate lifecycles, advanced private key algorithms and strict TLS enforcement.
- **Observability:** Gain proactive insight into database health and performance. The Operator natively exports Prometheus metrics for both MariaDB Enterprise Server and MaxScale, enabling rich visualization in Grafana dashboards and real-time alerting.



## KEY FEATURES

- Provision and manage highly available MariaDB Enterprise Clusters (using Galera).
- Deploy MaxScale instances for intelligent query load balancing and read/write splitting.
- Perform high-speed non-blocking physical backups using native `mariadb-backup` or Kubernetes-native `VolumeSnapshots`.
- Take, schedule and restore backups to and from any S3-compatible object storage.
- Bootstrap new database instances directly from existing backups.
- Perform automated, zero-downtime rolling updates for patches and version upgrades.
- Issue, manage and rotate TLS certificates without downtime.
- Integrate with cert-manager and external PKIs like HashiCorp Vault.
- Dynamically provision and expand persistent storage on any cloud provider.

## ENTERPRISE VS. COMMUNITY OPERATOR

The MariaDB Enterprise Kubernetes Operator includes exclusive features designed for mission-critical, production environments.

Feature	MariaDB Enterprise Kubernetes Operator	MariaDB Community Kubernetes Operator
Non-Blocking Physical Backups	Leverages BACKUP STAGE feature minimizing read locks and service interruptions	No
IBM Power Architecture Support	Full support for the ppc64le architecture	No
Enterprise Support	The latest three versions of Kubernetes (CNCF-certified distributions)  Available in Google Distributed Cloud (GDC) air-gapped marketplace	No
OpenShift Certification	Fully certified with the two most recent OpenShift Extended Update Support (EUS) versions	No
Base Image	Red Hat UBI, secure and enterprise supported	Standard Community images
Supported Products	MariaDB Enterprise Server & MaxScale	MariaDB Community Server & MaxScale
Certificate Lifetime	Fully customizable to meet policy requirements	Fixed at 90 days
Private Key Security	Supports ECDSA & RSA with configurable key lengths	ECDSA only (P-256)
Advanced TLS Support	Enforce strict TLS versions and policies	Basic TLS support

## ABOUT MARIADB

MariaDB seeks to eliminate the constraints and complexity of proprietary databases, enabling organizations to reinvest in what matters most – rapidly developing innovative, customer-facing applications. Enterprises can depend on a single complete database for all their needs, that can be deployed in minutes for transactional, analytical, hybrid use cases. Trusted by organizations such as Deutsche Bank, DBS Bank, Red Hat, ServiceNow and Samsung – MariaDB delivers customer value without the financial burden of legacy database providers. For more information, please visit [mariadb.com](https://mariadb.com).

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