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a9s MariaDB

DATASHEET

a9s MariaDB is a managed SQL database service designed for enterprise cloud environments. It enables application teams to deploy dedicated MariaDB instances, freeing them from managing VMs, configuring clustering, setting up backups, and handling operational overhead.

Platform teams retain full control over service plans, access policies, backup settings, observability, capacity upgrades, and version rollout. Built on the a9s Data Services automation stack, a9s MariaDB provides Galera-based high availability, automated backup and restore, secure access, logging and metrics integration, and disaster recovery support.

Key Benefits

- **Open-source relational database:** MariaDB for transactional workloads, MySQL-compatible application patterns, and common business applications.
- **Developer self-service:** Application teams can create, bind, update, and interact with Service Instance through Cloud Foundry workflows.
- **Dedicated instance isolation:** MariaDB nodes run on dedicated VM-based service infrastructure to reduce noisy-neighbor effects and improve operational predictability.
- **High availability options:** Cluster plans use MariaDB Galera Cluster with synchronous multi-primary replication.
- **Capacity upgrades:** Service plan updates can increase RAM, CPU, and storage capacity where supported by the platform catalog.
- **Operational automation:** Provisioning, binding, updates, monitoring, and backup workflows are handled through the a9s Data Services Framework.

Challenges Addressed

- Application teams need relational databases quickly, without waiting for manual infrastructure provisioning.
- Application Teams need to configure their MariaDB instances themselves using custom parameters.
- Platform teams need a standardized way to run MariaDB Service Instance across tenants and environments.
- Enterprises need stronger isolation, governance than ad hoc database deployments provide.
- Production workloads necessitate reliable backup & restore flows, continuous monitoring, and operational ownership.
- Teams need a managed path for service-instance forking, disaster recovery, and patching, and version migration.
- MariaDB cluster operations require service-specific knowledge around replication and high-availability, such as Galera State Transfer, quorums, and node rejoin behavior.

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Product Overview

a9s MariaDB is part of the a9s Data Services portfolio. Platform Operators manage the underlying BOSH runtime, define service plans, and configure custom parameter policies. Developers then provision instances through a platform marketplace and connect applications via the service binding model.

Typical workloads include:

- Web application databases
- Transactional business applications
- MySQL-compatible application backends
- Content and commerce systems
- Customer, order, and inventory data
- Smaller relational workloads requiring high availability

Provisioning & Automation

a9s MariaDB follows the a9s Data Services automation model:

- Developers request MariaDB Service Instance from the Cloud Foundry marketplace.
- BOSH and the a9s Data Services Framework provision the required VM-based service.
- Applications bind to Service Instance and receive MariaDB credentials in their runtime environment.
- The framework performs platform-level automation to coordinate updates, backup operations, plan-driven behavior, custom parameter handling, and day-2 service tasks.

This model gives application teams fast access to MariaDB while allowing platform teams to enforce capacity boundaries, backup policies, version policy and opinionated lifecycle management.

Core Capabilities

- On-demand provisioning of dedicated MariaDB Service Instance
- Single-node and Galera multi-node (cluster) plans
- Cloud Foundry service binding with credentials injected into the consuming applications through environment variables
- Galera-based synchronous, multi-primary replication for cluster plans
- Consul-based internal DNS behavior for application-side discovery
- Backup,restore and disaster recovery support through a9s Data Services tooling and automations
- Forking and migration workflows support through a9s Data Services tooling or targeted, manual migrations procedures
- Custom database management through custom parameters
- Optional Performance Schema monitoring based on custom parameters
- Logging and metric streaming integrations
- Continuous minor updates and security patches via our periodic (monthly) releases.

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Operations & Reliability

a9s MariaDB is designed for operated platform environments where lifecycle repeatability and cluster-state awareness matter:

- **Galera HA:** Cluster Service Instance uses MariaDB Galera Cluster with synchronous multi-primary replication.
- **Quorum-based availability:** Cluster instances remain available while a majority (a quorum) of nodes is healthy.
- **Multi-primary topology:** All nodes in a default cluster are primaries and can participate in read/write traffic.
- **Backup and restore:** Logical backup and restore workflows support recovery and migration scenarios.
- **Operational telemetry:** Logs and metrics can be streamed for platform observability purposes.
- **Controlled updates:** Security patches and minor version updates are released by anynines on a Monthly basis.

Governance & Security

a9s MariaDB supports enterprise platform governance through:

- dedicated VM-based service isolation
- plan-based control over topology, sizing, SSL support, and resource allocation
- platform-managed service provisioning and binding
- generated service credentials for applications
- Cloud Foundry security group integration for network access control
- governed backup, restore, migration, and disaster recovery procedures
- controlled security and version update rollout
- operator-managed custom parameter defaults and modifiability

This lets platform teams offer MariaDB self-service while preserving operational, security, and lifecycle control.

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Supported Technologies & Compatibility

- **Core datastore:** MariaDB
- **Compatibility pattern:** MySQL-compatible relational database access patterns
- **Data model:** relational SQL database
- **HA mechanism:** MariaDB Galera Cluster
- **Replication model:** synchronous multi-primary replication through Galera
- **Cluster synchronization:** SST and IST state transfer mechanisms
- **Developer interfaces:** Cloud Foundry Apps Manager and `cf` CLI
- **Platform automation:** Open Service Broker API, BOSH, a9s Data Services Framework
- **Backup tooling:** MariaDB logical backup and restore workflows through the a9s backup tooling
- **Custom parameters:** database list management, binary log retention, network timeouts, and selected credential-level permissions
- **Access protocol:** MariaDB/MySQL client protocol, commonly exposed on port `3306`
- **Kubernetes-facing integration:** Klutch-oriented data service management workflows, where deployed and licensed

Compatibility note: available MariaDB versions, service plans, SSL plans, migration paths, custom parameters, and backup behavior depend on the installed a9s Data Services Framework release and operator configuration. Some internal service properties may still use historic `mysql` naming due to the product lineage from a9s MySQL to a9s MariaDB.

Security & Compliance

a9s MariaDB is built for controlled enterprise platform environments:

- Service instances run on dedicated VM-based infrastructure.
- Application access is mediated through generated service credentials.
- Bound applications receive host, port, URI, username, password, and database name details through Cloud Foundry service binding.
- Managed Cloud Foundry security groups help control application-to-service network access.
- SSL-capable service plans can encrypt application-to-database communication where supported and configured.
- Custom parameters and Performance Schema permissions can be governed through platform policy.
- Backup and recovery processes can be governed through platform-defined procedures.
- Security updates are delivered through the a9s service release and rollout workflow.

Compliance posture depends on the surrounding platform deployment, SSL settings, backup policies, access controls, operational procedures, retention rules, and customer-specific regulatory requirements.

Operational Model

a9s MariaDB separates responsibilities between application teams and platform teams:

Application teams

- create and bind MariaDB Service Instance
- consume credentials through application environment variables
- use MariaDB/MySQL clients and connection URIs provided by the platform
- define schema, indexing, query, and transaction behavior
- manage permitted custom databases through the `databases` parameter
- request Performance Schema permissions for specific service credentials where required
- participate in migration, restore, and major-version upgrade testing

Platform teams

- define service plans and marketplace exposure
- operate the service broker, MariaDB SPI, BOSH runtime, backup tooling, and monitoring stack
- manage MariaDB version availability and lifecycle timing
- enforce SSL, custom parameter, backup, and access policies
- coordinate patch rollout, upgrades, capacity, and incident response
- guide Galera cluster operations, quorum recovery, SST/IST behavior, and production recovery procedures

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Deployment Environments

Environment	How a9s MariaDB fits
Cloud Foundry	Developers provision and bind a9s MariaDB through the service marketplace, Apps Manager, or the `cf` CLI.
Kubernetes via Klutch	Kubernetes users consume centrally operated, VM-based a9s MariaDB instances through Klutch resources and workflows.
Open Stack	BOSH can provision and operate dedicated a9s MariaDB VMs on an OpenStack-based infrastructure when the required BOSH CPI, networking, storage, and platform configuration are available.
Other supported IaaS environments	Deployment is possible on compatible public-cloud, private-cloud, on-premises, or hybrid infrastructure supported by the installed BOSH and a9s Platform configuration.

Use Cases

- Transactional relational application databases
- MySQL-compatible application backends
- Web and commerce application databases
- Customer, order, and inventory systems
- Content management backends
- Smaller HA relational workloads
- Development, test, staging, and production database self-service
- Migration from older MariaDB Service Instance to newer supported versions
- Platform-standard SQL database offering for Cloud Foundry application teams

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Why a9s MariaDB

a9s MariaDB is a strong fit for organizations that need MariaDB with enterprise platform operations around it. It combines open-source relational database capabilities with dedicated instance isolation, developer self-service, Galera-based high availability, backup and restore workflows, capacity upgrades, observability, and controlled lifecycle automation.

Unlike a manually deployed MariaDB server, a9s MariaDB is delivered through an automated data service platform. Unlike unmanaged shared database infrastructure, it gives teams isolated Service Instance, standardized lifecycle controls, and operator-governed service plans. Unlike a purely application-team-owned deployment, it gives platform teams a clear operating model for security, backup, Galera operations, upgrades, migration, and support.

Services & Support

anynines can support organizations across the full lifecycle of a9s MariaDB adoption:

- platform assessment and service plan design
- installation and integration with Cloud Foundry, BOSH, and a9s Data Services
- MariaDB service catalog and marketplace configuration
- backup, restore, disaster recovery, and forking workflow design
- migration planning for MariaDB versions and service-instance moves
- Galera topology, quorum, SST/IST, and recovery guidance
- observability, alerting, and operations enablement
- security configuration, SSL policy, and custom parameter governance
- operator and developer enablement
- production support and managed operations options

Deliver MariaDB self-service without losing enterprise control. a9s MariaDB gives developers a familiar open-source SQL database while giving platform teams the automation, governance, and operational tooling needed to run MariaDB Service Instance at scale.