AWS
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DAT216-R

Build on Amazon RDS for MySQL and MariaDB

Vijay Karumajji

Specialist Database Solution Architect

Amazon Web Services

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Agenda

❖ Amazon Relational Database Service (Amazon RDS) for MySQL & MariaDB overview

❖ Build!

What are Amazon RDS for MySQL and Amazon RDS for MariaDB?

- Fully managed open-source engines

- Work with the MySQL applications and tools you use today

- Make it easy to migrate existing MySQL databases to AWS

- General purpose SSD, provisioned IOPS, and magnetic storage options

- Start at $0.017/hour for db.t3.micro*

* As of October 2019, see https://aws.amazon.com/rds/mysql/pricing/

Available database engine versions

- ## MySQL: 5.5, 5.6, 5.7, 8.0**NEW!**
  - MySQL 8.0: Window functions, common table expressions, JSON functions, spatial support, improved performance, crash-safe data definition language (DDL) operations, security roles, TLS 1.2

- ## MariaDB: 10.0, 10.1, 10.2, 10.3**NEW!**
  - MariaDB 10.3: Oracle compatibility (PL/SQL parser), sequences, INTERSECT and EXCEPT, new ROW type and TYPE OF stored functions, invisible columns, temporal versioned tables, user-defined aggregates, instant ADD COLUMN operations

Value proposition: Easy to use

- Launch a MySQL-compatible DB instance in minutes

- No need to worry about provisioning, installation, monitoring, backup/restore, patching, or infrastructure optimization

- Push-button vertical scaling, up or down, and storage scaling

Value proposition: Easy to manage

- With **Enhanced Monitoring**, you get deeper visibility into the health of your Amazon RDS instances in real time

- With RDS **Performance Insights** for MySQL, you can monitor and tune query performance

- Monitoring data integrates with third-party tools

Value proposition: Secure

- **SSL** to secure data in transit and AES-256 encryption for data at rest, including backups, read replicas, and snapshots

- **Encryption** key management through the AWS Key Management Service (AWS KMS)

- **HIPAA BAA** eligible

- **Audit plug-in** provides auditing/event logging to help meet compliance requirements

- **Amazon Virtual Private Cloud (Amazon VPC)** lets you isolate and control network configuration and connect securely to your IT infrastructure

Value proposition: Fast and scalable

- Scale out beyond the capacity of a single database deployment for read-heavy database workloads with Read Replicas

- Scale up/down the compute resources in minutes

- Storage Auto Scaling

Value proposition: Highly available

- **Automated failover** with the Multi-AZ deployment option

  You can run mission-critical workloads with high availability and built-in automated failover from your primary database to a synchronously replicated secondary database in case of a failure.

- **Disaster recovery** with cross-region read replicas

  You can operate a read replica in a region different from your master database region. In case of a regional disruption, you can promote the replica to be the new master and keep your business in operation.

Value proposition: Fast, predictable storage

Storage Type

Provisioned IOPS (SSD)

– Select One –
General Purpose (SSD)
Provisioned IOPS (SSD)
Magnetic

Allocated Storage*

Provisioned IOPS

General purpose (SSD) for most workloads

Provisioned IOPS (SSD) for IO optimized workloads up to 80,000 IOPS

Magnetic for backward compatibility

Positioning: RDS for MySQL vs. RDS for MariaDB

Amazon RDS for MySQL	Amazon RDS for MariaDB
Based on MySQL 5.6, 5.7 / 8.0 Community Edition	Based on MySQL 5.5 + extensions
No thread pool	Dynamic thread pool
GTID support in MySQL 5.7+	GTID support in all versions
Standard performance	Improved performance for some workloads
Limited Oracle database compatibility	Oracle compatibility mode in version 10.3 and above

Lets build!

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How do I allow users to connect to Amazon RDS with IAM credentials?

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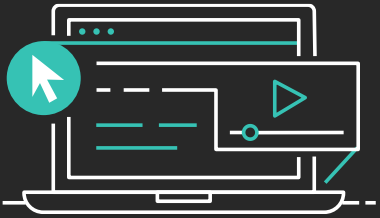
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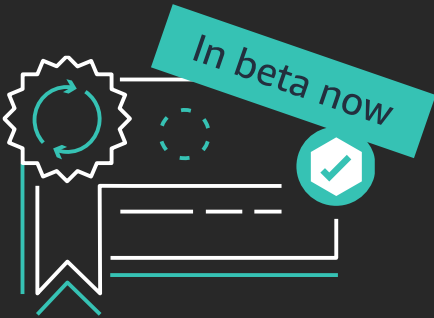
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