

AWS Aurora

AWS Database Services





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1) Introduction





Introduction

AWS Aurora is a fully managed relational database engine provided by Amazon Web Services. It's designed for high performance, reliability, and scalability, integrating with the MySQL and PostgreSQL database engines.

2) Key Features





Key Features

1)

High Performance

2)

High Availability
and Durability

3)

Security

4)

Compatibility

5)

Global Database



01

High Performance



- **Low Latency:** Aurora provides up to five times better performance than standard MySQL and three times better than PostgreSQL.
- **Scalability:** Aurora can automatically scale up to 64 TB of storage without downtime and up to 15 low-latency read replicas.





02

High Availability

- **Fault-Tolerant Storage:** Data is replicated six ways across three AWS Availability Zones.
- **Automated Backups:** Continuous backups to Amazon S3 and point-in-time recovery.
- **Failover:** Automatic failover with a few seconds of downtime.





03

Security

- **Encryption:** Data is encrypted at rest and in transit.
- **VPC Integration:** Allows deployment within an Amazon VPC, providing network isolation.
- **IAM Integration:** Fine-grained access control using AWS Identity and Access Management (IAM).





04

Compatibility

- **MySQL and PostgreSQL Compatible:** Aurora supports MySQL 5.6, 5.7, and 8.0, and PostgreSQL 9.6, 10.x, 11.x, and 12.x.
- **Migration:** Easy migration from standard MySQL and PostgreSQL databases to Aurora using AWS Database Migration Service (DMS).





05

Global Database

- **Global Distribution:** Provides multi-region read replicas for low-latency global access and disaster recovery.
- **Global Write Operations:** Supports write operations in multiple regions.



3) Components



Cluster Volume



1)

Cluster Volume

A single virtual volume that uses SSDs and is made up of multiple data copies spread across different Availability Zones.



DB Instance



1)

Primary

Handles all write operations and can also read operations.

2)

Replica

Handle read-only queries and can serve as failover targets for high availability.



End Points



1)

Cluster Endpoint

Distribute connection requests among all available instances in the cluster.



2)

Reader Endpoint

Directs read-only connections to replica instances.

4) Performance



Performance



Replicas

Up to 15 replicas in addition to the primary instance with sub-second replication lag.



Parallel Query

Speeds up read queries by parallelizing them across thousands of CPUs.



Serverless

Automatically adjusts capacity based on application needs. Suitable for variable workloads



5) Pricing



Pricing



On Demand

Charges based on the storage consumed and the instance hours used

Offers savings up to 65% over the on-demand pricing by committing to a one- or three-year term.

Reserved

Serverless

Automatically starts, shuts down, and scales capacity based on needs, reducing costs for infrequent workloads.



6) Use Cases



Use Cases



Web & Mobile Applications

Ideal for applications requiring high availability and scalability.

SaaS Applications

Suitable for multi-tenant architectures requiring high performance.



Use Cases



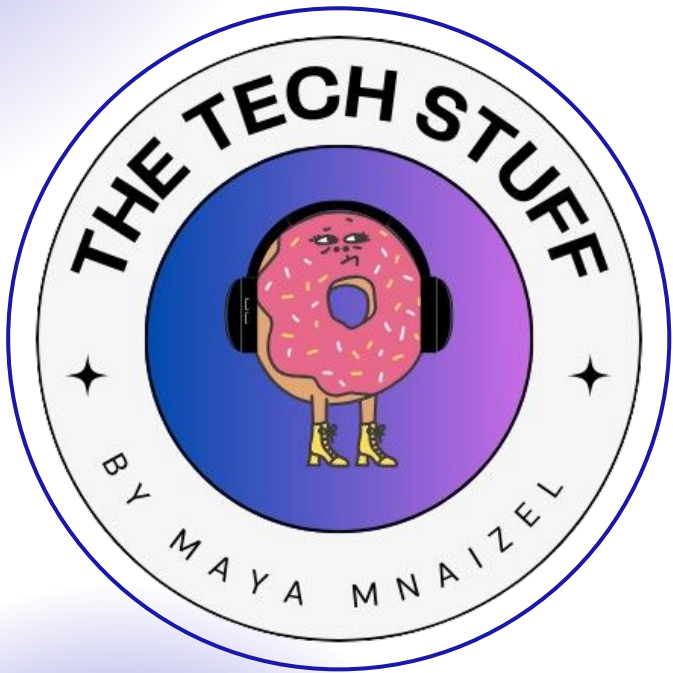
Enterprise Applications

Perfect for mission-critical applications with strict availability and durability requirements.

Disaster Recovery

Supports multi-region replication for robust disaster recovery solutions.





Thanks!



Do you have any questions?
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The Tech Stuff

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