

Lab 3 Assessment

What was the replication lag between master and replica?

The replication lag was really minimal - usually less than 1 second for the local replica. When I inserted data into the master and immediately checked the replica, the data was already there most of the time. The cross-region replica had a bit more lag, maybe 2-3 seconds, probably because the data has to travel across the country.

What happens when you try to write to a read replica?

When I tried to insert data into the read replica, MySQL gave me an error saying the server is running in read-only mode. That makes sense because read replicas are designed only for reading data, not writing. All writes have to go to the master database.

How does cross-region replication affect data transfer costs?

Cross-region replication costs extra because AWS charges for data transfer between regions. Every change that gets replicated from us-east-1 to us-west-2 incurs data transfer charges. For a production system with lots of writes, this could add up to significant costs.

What are the use cases for promoting a read replica?

You'd promote a read replica if your main database fails completely and can't be recovered. It's like a disaster recovery option. Also, if you want to split your database for different applications or create a separate database for analytics. Once you promote it though, you can't undo it - the replica becomes its own independent database.