Amazon Aurora

- A fully managed relational database engine that's compatible with MySQL and PostgreSQL.
- Aurora is a proprietary technology from AWS (not open sourced)
- Aurora is “AWS cloud optimized” and claims 5x performance improvement over MySQL on RDS, over 3x the performance of Postgres on RDS
- Aurora storage automatically grows in increments of 10GB, up to 128 TB.
- Aurora can have up to 15 replicas and the replication process is faster than MySQL (sub 10 ms replica lag)
- Failover in Aurora is instantaneous. It’s HA (High Availability) native.
- Aurora costs more than RDS (20% more) – but is more efficient
- 6 copies of your data across 3 AZ:
  - 4 copies out of 6 needed for writes
  - 3 copies out of 6 need for reads
  - Self-healing with peer-to-peer replication
  - Storage is striped across 100s of volumes
- One Aurora Instance takes writes (master)
- Points illustrate how Amazon Aurora relates to the standard MySQL and PostgreSQL engines available in Amazon RDS:
  - Can choose Aurora MySQL or Aurora PostgreSQL as the DB engine option when setting up new database servers through Amazon RDS.

Aurora DB clusters

- Cluster has
  - one Primary DB instance – Supports read and write operations, and performs all of the data modifications to the cluster volume.
  - Aurora Replica – Connects to the same storage volume as the primary DB instance and supports only read operations. Can have 15 aurora replicas in separate AZs
- Automatically fails over to an Aurora Replica in case the primary DB instance becomes unavailable.