Amazon Relational Database Service (Amazon RDS)

- web service that makes it easier to set up, operate, and scale a relational database in the cloud
- It provides cost efficient, resizable capacity for an industry standard relational database and manages common database administration tasks

DB Instances

- The basic building block of Amazon RDS is the DB instance
- A DB instance is an isolated database environment in the cloud.
- A DB instance can contain multiple user-created databases, and you can access it by using the same tools and applications that you use with a stand alone database instance

Disadvantages of building a database inside EC2

- Must build and design for **high availability**.
- Must implement own backup solutions.
- Must manage replication manually between master and slave databases.

- Must manage tighter security controls.
- Upgrading resources or any type of **failover** requires manual interaction or custom scripting.
- Java App → EC2, ALB, AS and Oracle database --> RDS save cost, Automate, **DR(Disaster Recovery)** -->
- Each DB instance runs a DB engine.
- Amazon RDS currently supports the MySQL, Maria DB, PostgreSQL, Oracle, and Microsoft SQL Server DB engines.
- For each DB instance, you can select from 20 GB to 16 TB of associated storage capacity.
- Each DB instance class has minimum and maximum storage requirements for the DB instances that are created from it.
- It's important to have enough storage so that your databases have room to grow and that features for the DB engine have room to write content or log entries.
- DB instance storage comes in three types: Magnetic, General Purpose (SSD), and Provisioned IOPS (SSD).
- They differ in performance characteristics and price, allowing you to tailor your storage performance and cost to the needs of your database.