MODULE 8: Databases

1. RDS:

- Unmanaged service: scaling, fault tolerance and availability services are managed by you.
- Managed service: scaling, fault tolerance and availability services are built into the service.

Challenges:

- Server maintenance and energy footprint
- Software installation and patches
- Database backups and HA
- Limits and scalability
- Data security

OS installation and patches:

- RDS is a managed services

Responsibilities of managed:

- Customer: application optimisation
- AWS: os installation and patches, db softwares installation and patches, backups, HA, scaling, power and racking and stacking servers and server maintenance

DB Engines:

- Aurora
- Mysql
- Microsoft Sql server
- PostgresQL
- MariaDB
- Oracle

Uses Cases:

- Web and mobile application
- E- commerce application
- Mobile and online games

Billing is clock hour

Characteristic of Databases:

- Engine
- Size
- Memory class

Pricing model:

- On-demand: pay by hour
- Reserved Instance : pay by 1 years term or 3 years term.

Storage:

- Provision : no charge
- Additional storage: there is charge

RDS features:

- Manages service
- Accessible via the console, CLI, API
- Scalable
- Automated redundancy and backup are available

2. DynamoDB:

- Fast and flexible NOsql database service for any scale

Core components:

- Tables
- Items
- Attributes

Partition key and partition and sort key: as data grows, table partition by key.

Features of DynamoDb:

- Runs exclusively on SSD
- Support document and key value store model
- Replicates your tables automatically across your choice of regions
- Works well for mobiles web , gaming, and IOT applications
- Accessible via the console, CLI, API

3. Redshift:

- Manage monitor and scale MCQ
- Compatible with SQL client and BI tools

Use cases:

- Big data
- EDW
- SAAS

Features:

- Fast fully managed dW service
- Easily scaled with no down time
- Columnar storage and parallel processing architecture
- Automatically and continuously mounted clusters
- Encryption is built it

4. Aurora:

Features

- High performance and scalability
- HA durability
- Multiple levels of security
- Compatible with MySQL and PostgresQL
- Fully managed