Module 5

Amazon Simple Storage Service(Amazon S3)

It is a service that provides object-level storage. Amazon S3 stores data as objects in buckets.

When you upload a file to Amazon S3, you can set permission to control visibility and access to it.

Amazon S3 storage Classes:

1. Amazon S3 standard:

- designed for frequently accessed data
- stores data in a minimum of three availability zone

2. Amazon S3 standard-infrequent Access(S3 Standard-IA)

- Ideal for infrequently accessed data
- Similar to amazon S3 standard but has a lower storage price and higher retrieval price

3. Amazon S3 one zone-infrequent Access(S3 one zone-IA)

- Stores data in a single availability zone
- Has a lower storage price than amazon S3 standard-IA

4. Amazon S3 intelligent-Tiering

- Ideal for data with unknown or changing access patterns
- Requires a small monthly monitoring and automation free per object

5. Amazon S3 glacier instant retrieval

- Works well for achieved data that requires immediate access.
- Can retrieve objects within a few milliseconds.

6. Amazon S3 Glacier flexible retrieval

- Low cost storage designed for data archiving
- Able to retrieve objects within a few minutes to hours.

7. Amazon S3 glacier deep archive

- Lowest cost object storage class ideal for archiving
- Able to retrieve objects withing 12 hours

8. Amazon S3 outposts:

- Create S3 buckets on Amazon S3 outposts
- Makes it easier to retrieve, store and access data on AWS outposts.

File Storage:

Amazon Elastic file System (Amazon EFS) is a scalable file system used with AWS cloud services and on premises resources.

As you add or remove files, Amazon EFS grows and shrinks automatically. It can scale on demand to petabytes without disrupting applications.

Relational Databases:

In a RD, data is stored in a way that relates it to other pieces of data.

RD use SQL to store and query data. This approach allows data to be stored in an easily understandable, consistent, and scalable way.

Amazon Relational Database Service

It is a service that enables you to run relational databases in the AWS cloud.

It is a managed service that automates tasks such as hardware provisioning, databases setup, patching and backups.

Amazon RDS database engines:

Supported database engine's are:

1. Amazon Aurora
2. PostgreSQL
3. MySQL
4. MariaDB
5. Oracle Database
6. Microsoft SQL server

Amazon Aurora

It is an enterprise-class relational database. It is compatible with MySQL and PostgreSQL relational Databases. It helps to reduce your database cost by reducing unnecessary I/O operations.

Amazon DynamoDB

It is a key-value database service. It delivers single-digit millisecond performance at any scale.

Amazon Redshift

It is a data warehousing service that you can use for big data analytics. It offers the ability to collect data from many sources and helps you to understand relationships and tends across your data.

AWS database migration service(AWS DMS)

it enables you to migrate relational databases, nonrelational databases, and other types of data stores.

With AWS DMS, you move data between a source database and a target database. The source and target databases can be of the same type or different types.

Additional database services