- Consider Aurora when your workloads require high availability. It replicates six copies of your data across three AZs.
- Also reduce database cost.

DynamoDB :- Nonrelational database.

- Key structure other than rows and columns.
- Key value pairs
- Delivers single digit millisecond performance at any scale
- DynamoDB is serverless
- Size automatically grows or shrinks
- Granular API access.

Redshift :-

- Data warehousing services that you can use for big data analytics.
- offers the ability to collect data from many sources and helps you to understand relationships and trends across your data.
- Massively scalable

Migration service of Database :

1. Homogeneous → Same source code or Target code

2. Heterogeneous → Different types of source code or Target code

DMS use cases

1. Enables you to test application against production data without affecting production users.
2. Combining several databases into a single database
3. Sending ongoing copies of your data to other target sources instead of doing one time migration.

Additional database services :

1. Document DB →
Support, Mongo DB workload
- MongoDB is a document database program

2. Amazon Neptune :
- Is a graph database service
- You can use Neptune that work with highly connected data assets. such as recommendation engines, fraud detection, knowledge graph.

3. Quantum Ledger Database QLDB →
- Is a ledger database service
- Review complete history of all the changes that have been made to your data.

4. Managed Blockchain :
- Use to create and manage blockchain networks
- Used for dynamo system
- It lets multiple parties run transaction and share data without central authority

5. Amazon Elasticache →
- Adds a cache layer on top of your database help to improve read time.
- Support two type of data - Redis and Memcached.

6. Dynamo DB Accelerator :
- Memory cache for for dynamo DB.
- Improve response time from single millisecond to microseconds.

S3 : Module 2

It is a streamlined solution that satisfy two major needs:
- hosting and file storage
- The polly notes application uses S3 bucket to host website and also store the MP3 files produced by Amazon Polly.

DynamoDB : (Storing)

- To store CRUD operation, application needs a database
- Amazon DynamoDB is fully managed NoSQL database that provides fast and predictable performance with seamless scalability
- scalability meet your application fluctuating capacity needs.

AWS Lambda : (Process)

Use for the processing.
It provide a workload aware scaling solution.

API Gateway : (connecting)

- Amazon API Gateway connects all the application's service together.
- It directs the event-driven request to and from your users to your compute, database, and storage device.

Amazon Cognito (User auth) :

- For the users secure authentication and authorization to the application.
- Two main component are:
  1. User pool → They are user directories that creat built in sign-up and sign in option for your application users.
  2. Identity pool → It is used to grant user access to other AWS service.

You can use user pool and identity pool separately and together.
user pool help folding or streamline access control for users, focusing on sign in and sign up

Amazon Cloud Watch :

- observability
- & monitoring and troubleshooting of an application.
- Also put alarms.
- uses Metrices to represent the data.

- Dashboards
- Logs
- Metrics
- Alarms
- Events

Amazon XRAY ⇒ • Traces • Analysis • Service maps

- It is a service that collects data about requests that your application serves.
- Provide tool to view, filter and gain insights.
- Traces requests to application, so you can also see detailed information.
- Used for analyzing and debugging your distributed application.

Module ⇒ 3

AWS REST API :

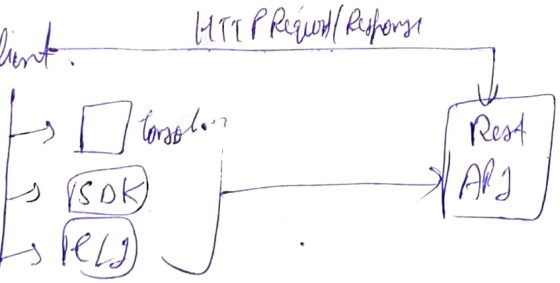
- All AWS services support a dedicated (API) to expose their features.
- To connect programmatically to an AWS service, you use an AWS service endpoint. Endpoint is the URL of the entry point for an AWS offering where the API is exposed.
- For security, most requests to AWS must be signed with an access key, which consist of access key ID and secret access key. AWS supports.
1. Sign V4 (Signature version 4) ⇒ As the process to add authentication information to AWS request sent by HTTP.

HTTP status code :

1. 100s ⇒ Informational ⇒ It indicates that everything is OK so far.
2. 200s ⇒ Success
3. 300s ⇒ ~~Bidi~~ Redirectional ⇒ Indicates that a further action is necessary to complete request
4. 400s ⇒ Client error ⇒ Incorrect syntax
5. 500s ⇒ Server error

Methods to access the AWS services :⇒

1. Application programming interface (API) ⇒ All service has dedicated API
2. Software Development kit (SDK) ⇒ You can do everything by code.
3. AWS Management Console :
4. Command line Interface (CLI) ⇒



Benefits of using SDK ⇒

- API can automatically calculate signatures, handle errors, even request retries.

Low Level API (Service client API in Python): client

- Give you a full control over the request
- You can tightly control the behaviour and performance of your calls.
- Has one method per service operation

High level API (Resource API in Python) ÷ resource

- Provide high level abstraction
- Has one class per conceptual resource.
- Define service resources and individual resources.

AWS CLI :

command :

$ aws s3 ls s3://bucket --recursive

- The base call is aws
- the service or command is S3
- The subcommand is ls with a target s3://bucket (operation perform on that service)
- optional parameter is --recursive
  you can get help by writing these commands!

$ awss help

$ aws s3 help

$ aws s3 ~~ls~~ ls help

Service Operation:

- Lambda can be invoked synchronously or asynchronously
- Amazon S3 invokes function asynchronously
- Create table operation for a DynamoDB is an asynchronous operation

Polling is necessary in asynchronous programming in some cases to determine the state of a service.

Wait and poll the resource for their state to ...

deleting & creating table means wait until it is ready.

Module 54

IAM

How IAM works :-

1. Principle → It is a person or application that uses the AWS account root user, an IAM user, role. To authenticate from the API, you must provide your access key and secret key.

2. Request ⇒
When a principle tries to use the AWS Management Console, the AWS API, or the AWS CLI, that principal sends a request to AWS.

3. Authorization ⇒
Two main policies are

• Identity based policy ⇒ It is attached to an IAM user, group or role. These policies let you specify what that identity can do. Identity 3 Policy for user, group, role
Effect
Action
Resource

• Resource based policy ⇒ It is attached to the resource. eg ⇒ You can attach resource based policy to Amazon S3 buckets. Resource based policies are popular for granting cross account access. Effect, Principal, Action, Resource.
It is attached to resource such as S3 bucket. Resource 3 Policy.

5. Resource → A resource is an object that exists within a service.

LinkedIn Profile :-

Make your brand (on LinkedIn) (make connections)

Connect with right person
Connect with HR directly and message them

Headline :-

- A fresh graduate in ---- [Actively looking for job]

- In about
Put all your achievements, Or About that company in which you are working.

- Politely talk with HR   I am fresher. Inform this
Like Respected Mam I am
4 to 6 lines. Mention Phone no.

Resume Building :

Debbie Pais
Debbie
Jyoti Tiwari

Amit _ Btch _ AWS

Skills :

Keywords mentioned like cloud computing, aws, ---

Summary : highlight your skill. It is your snapshot.

Project : -

If you dont know use ~~Cloud T~~ Word Cloud Generator

Interview Process :

Dressup formly → Professional dressed
use best noise cancellation headphone.
Donot go directly under fan.
You'd should be in a good light room.
You will be well grommed.

Introduction round

Ask interview

Thank you I am doing well. I hope you are doing ~~also~~ well.

(HR round)

They ask scenario based question.