Aws

- Aws is a subsidiary that offers cloud computing services.
- what is cloud computing:
  - It is the use of remote servers on internet to store, manage & process data rather than a local server.

Advantages

- Scalability: is the ability to scale the computing resources up or down when demand increases or decreases respectively.

- Flexibility allows us to settle on which programming models, languages & OS are better fitted to their project.

- Elasticity is defined because of distribution of incoming application traffic.

Services.

IAAS: All h/w & s/w stack, up to OS is managed for you.
  - we don't need to invest in our own h/w.
  - infrastructure scales on-demand to support dynamic work loads
  - increase stability, reliability, supportability

Eg of IAAS:
Amazon Elastic Compute cloud (E(2)) offers broadest & deepest compute platform, with over 475 instances & choice of latest processor storage, n/w, OS ...

Platform as Service (PaaS)

This allows developers to concentrate on their code without needing to manage environment on which it runs.

Developer simply upload their code to build web appln.

PaaS package is disgned to support the complete web appln.

Life cycle : building, testing, deploying, managing, updating.

Databases can also be offered in platform as a service

adv: develop applications faster

: Reduce complexity with middleware as a service

: .

Software as a service

- Software appln that are delivered over internet.
  Gmail, Dropbox, fb. - Thek are ready to use.

benefits: Signup & rapidly start using

: Apps & data are accessible from any connected comp.

: No data is lost if your comp breaks.

: dynamically scale to usage cted

eg): Ms office, Google app

Aws. - cloud essential practitioner - course

Aws EC2 - virtual server
- It provides scalable computing capacity in Aws cloud.
- It eliminates your need to invest in the up front, so you can develop & deploy applications faster. enables us to scale up or down based on requirements.

diff EC2 Instances

1. General purpose instance : It provides good balance of compute
   & n/w resources.

2. Compute optimized instance : Good for compute intensive tasks
   Gaming servers, high performance computing.

3. memory optimized instance : mtr coord of mry intensive tasks
   complex calculations, graphics processing.

4. Accelerated computing

5. Storage optimized : High Performance for locally stored data.

Elastic Load Balancing

- For balancing the traffic

- Automatically distributes incoming appln traffic across
  multiple resources.

Amazon SQS (simple queue service)

   - send messages
   - store   "
   - Receive "
   - B/w s/w components
   - Any volume

Amazon SNS (simple notification service)

- sent messages like sms, emails, msms,
- notification

AWS Lambda

It is a serverless compute option

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Interact with Aws Services

- Aws management console
- Aws command line Interface - Make Api call using terminal on your machine.
- Aws s/w development kits. - use Aws service through on Api, designed to your own languages.

Aws - Direct connect
: it allows you to establish a completly private dedicated fiber connection from your data center to Aws.

Amazon Route 53
- DNS service of amazon

Amazon cloud front

Storage

1) Amazon Elastic Block store (EBS) is service that provides block-level storage volumes that you can use with EC2 instances. If you stop or terminate an amazon EC2 instance, all data on attached EBS volume remains available.

2) Amazon simple storage service (S3)
- store data as object
- store obj in bucket
- max. obj size 5TB.

2, Amazon Ssaster filesystem

RDBMS

Amazon Relational database Servit

→ Automated patching

→ Backups

→ Failover

→ Redundancy

→ Disaster recovery

Amazon DynamoDB

- Non-relational database
- millisec response time
- Highly sialoble

Redshift

- data warehouse as a service

Database migration service

- move data s/w source database fo target.
- database remain fully functional during migration.

Document DB

Principle of least privilege:

A user is granted alurl only to what they need

Aws Identity & Access mang (IAM)

Enable us to manage access to aws service & resource
seusly

root user : All permissions over the account.
IAM user : Identity we create in AWS.
: default : No permission.

IAM policies : document that allow/deny permission.
IAM group : collection of user

Distributed dential of server (D DOS)

- security groups
- Elastic load balancer

AWS cloud Trail

- Every request gets logged in cloud Trail engine.

AWS Trusted advisor

- Inspects your AWS env. & provides real-time recommendation in accordance with AWS best practice.
  - Cost optimization
  - Performance
  - security
  - service limits.

MOD-8
Pricing & Support

Free tier
→ always free. - S3 storage up to 5GB.
→ 12 month
→ Trial

Aws - Budget

→ create budget plan

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2. Migration & innovation

6 core perspritive of Adoption

Business
People
Governance
platform
Security
Operation

6 common migration strategy

.Rehosting, Replatforming, Refactoring,

.Repurchasing, retaining, Retiring