SECTION 01: AWS - Introduction

- Client-Network-Server
- Server contains CPU(compute),RAM(memory)
- Storage: Data(if structured then Database).
- Router: forward network packets between computer networks
- Switch: takes packet and send it to the correct server/client on your network.
- Data Center: storage for servers.
- Traditional IT approach:

1] pay for rent of data center

2] pay for power supply,cooling and maintenance

3] adding or replacinf hardware

4] limited scaling

5] hire team to monitor 24/7

6] disaster managemnt

ANSWER: cloud computing...

CLOUD COMPUTING:

- on demand delivery of computer power,database storage,applications and resources.
- cloud service platform: pay-as-you-go pricing
- provision exactly the right type and size of computing resources you need
- instant access of resources
- AWS services: web application which provide these resources.
- EX: Gmail,Dropbox,Netflix,etc.

DEPLOYMENT MODEL OF CLOUD:

- private cloud:

1] used by single org.

2] not exposed to public

3] complete control

4] security for sensitive applications

5] meet specific business needs.

- public cloud:

1]ex: azure, google cloud, aws

2]owned and operated by 3rd party

- hybrid cloud:

1] some servers on premises and some capabilites on cloud.

2] control oversensitive assets in private infrastructure.

3] flexibility and cost effectiveness of using public cloud.

5 CHARACTERISTICS OF CLOUD COMPUTING:

- ON DEMAND SERVICE
- BROAD NETWORK ACCESS
- MULTI-TENDENCY AND RESOURCE POOLING
- RAPID ELASTICITY AND SCALABILITY
- MEASURED SERVICE

6 ADVANTAGES OF CLOUD COMPUTING:

- TRADE CAPITAL EXPENSE FOR OPERATIONAL EXPENSE
- BENEFITS FROM MASSIVE ECONOMIES OF SCALE
- STOP GUESSING CAPACITY
- INCREASE SPEED AND AGILITY
- STOP SPENDING MONEY RUNNING AND MAINTAINING DATA CENTERS

- GO GLOBAL IN MINUTES

PROBLEMS SOLVED BY CLOUD:

- flexibility
- cost-effectiveness
- scalability
- elasticity
- high availability and fault tolerance
- agility

TYPES OF CLOUD COMPUTING:

1] Infrastructure as a service(IaaS):

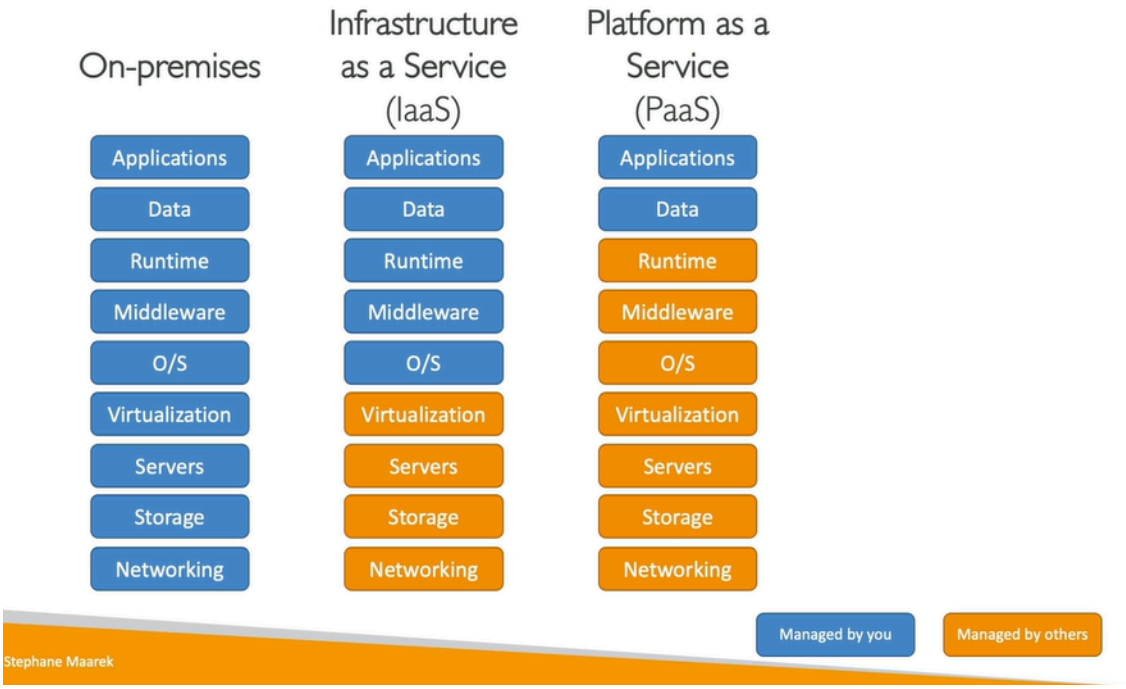
- provides networking, computers, data storage space
- highest level of flexibility

2] Platform as a Service(PaaS):

- focus on deployment and management for your applications
- removes need to manage underlying infrastructure

3] Software as a Service(SaaS):

- completed product that is run and managed by service provider



- IaaS: EC2
- PaaS: Elastic Beanstalk
- SaaS: rekognition for ML

AWS CLOUD USE CASES:

- enterprise IT
- backup & storage
- big data analystics
- website hosting
- mobile & social apps
- gaming

AWS GLOBAL INFRASTRUCTURE:

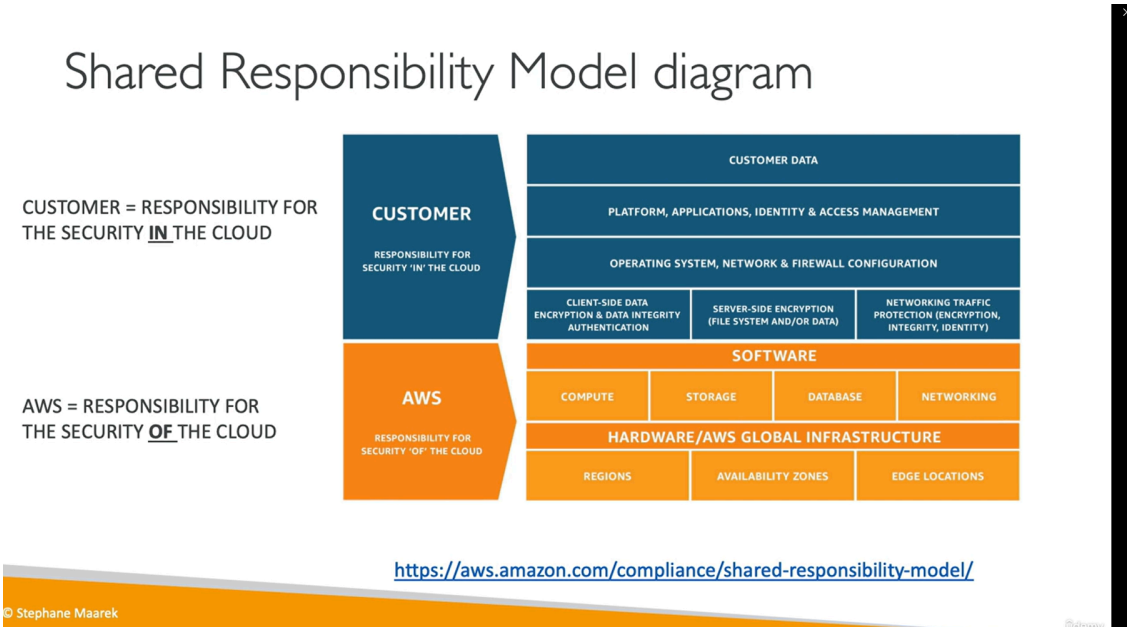
- aws regions: cluster of data centers. (chosen on the basis of latency, compliance with govt and legal requirements, available services within region, pricing)
- aws availability zones: min =3, max=6(ex. ap-southeast-2a,2b,2c), separated so that they are isolated from disasters. collectively forms region.
- aws data centers
- aws edge locations/points of presence: content is delivered to end users with lower latency.

GLOBAL AWS SERVICES:

Identity and access management(IAM), Route 53(DNS Service), CloudFront(Content Delivery Network), Web Application Firewall(WAF).

REGION-SCOPED SERVICES:

EC2(IaaS),Elastic Benstalk(PaaS), Lamda (Function aaS),Rekognition (SaaS).



SECTION 02: IAM

SECTION 05 : EC2