Cloud Computing

- IT services accessible over the internet

- These services are provided by Cloud Services Providers such as AWS, Google Cloud Platform, Microsoft Azure

Advantages of Cloud Computing -

1. No heavy lifting

2. Economies of scale

3. Scalability

4. Flexible and instant

5. Pay as-you-go for only what you use

Types of Cloud Computing Services: -

- Infrastructure As A Service (IaaS)

- Platform As A Service (PaaS)

- Software As A Service (SaaS)

Types of Cloud Deployment Models : -

- Fully-Cloud

- Hybrid

- On-premises (Private Cloud)

AWS Certifications-

Foundational - Cloud Practitioner - $100

Developing - Developer Associate - $150, DevOps Professional - $300

Architecting - Solutions Architect Associate, Solutions Architect Professional

SysOps - SysOps Associate

Speciality - Big Data, Security, Networking, Alexa Skill Builder, Machine Learning - $300

Exam Blue Print of Developer Associate

- 130 minutes

- 65 questions

- Multiple choice ( one correct answer ), multiple response ( more than one correct answers)

- $150 - 10500(approx.)

- Situation Based Questions

Why AWS?

- AWS is the biggest cloud provider. AWS has market share of more than 50%

- We have more than 140 services available in around 190 countries

- AWS is the highest rated skill because of shortage of cloud experts

- Free Tier to learn most of the services

- AWS has 188 PoP (Point of Presence)

Shared Responsibility Model

- Customers and AWS have equal responsibility for security of the applications and resources

ISMS - Information Security Management System

We create some procedures and policies for the organisation to protect its information and AWS resources

For example in case of EC2:

AWS’s responsibility -> EC2 infrastructure, data centre, network security

Customer’s responsibility -> EC2 operating system, EBS drive, data at rest, data in transit, data stores, IAM credentials

For providing a role to user

1. Create a role with appropriate permissions

For eg :- a role to access s3

2. Create a policy that gives permission to assume the above created role

- Use STS (Security Token Service) service and provide AssumeRole permission

- Use ARN(Amazon Resource Name) of above created role to restrict access of this policy

3. Attach this policy to the user

**• Ratio of 3 IOPS per GB with up to 10,000 IOPS for volumes at 3334**

**GiB and above and the ability to burst up to 3000 IOPS for extended**

**periods of time**

**Min IOPS provided = 100 IOPS**

**Max IOPS provided = 10000 IOPS**

**3 IOPS per GB**

**1 GB -> 3 IOPS -> 100 (baseline)**

**8 GB -> 24 IOPS -> 100**

**10 GB -> 30 IOPS -> 100**

**33 GB -> 100 IOPS**

**35 GB -> 105 IOPS**

**100 GB -> 300 IOPS**

**1000 GB -> 3000 IOPS**

**3333 GB -> 10000 IOPS**

**10000 GB -> 10000 IOPS**

**t1.micro - 1 vCPU**

**t1.micro - apps doesn’t always use 100% of the core -**

**but was charged for the complete core - > 15-20K / month**

**t2.micro - 1 vCPU - 7K/month**

**was gives only a part of core**

**means we have complete core with us but we cannot utilise completely(100%)**

**t2.micro - 6 credits/hr**

**1 credit - 1min - 100% utilisation**

**t2.micro - 6min max. if we use 100% of core**

**t2.micro - 60 mins - 10% utilisation**

**(Baseline)**

**t2.micro - 6 \* 24 = 144 credits**

**t2.small - 2 vCPU - 12 credits/hr**

**t2.small - 12 min - 100%**

**60 min - 20% (baseline)**

**each core has 10% baseline**

**12 \*24 = 288 credits (max)**

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