AWS CLOUD PRACTITIONER COURSE

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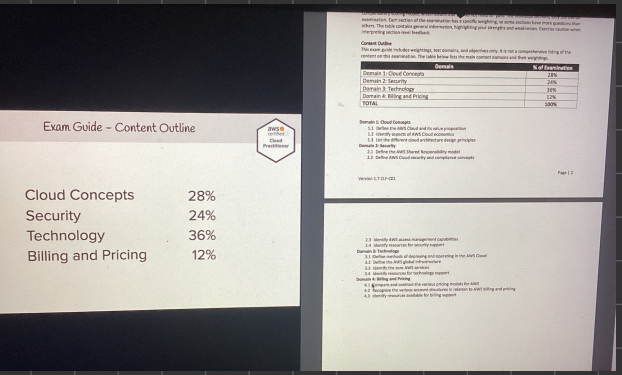


What is Cloud Computing?

cloud com·put·ing

noun

the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

On-Premise

- You own the servers
- You hire the IT people
- You pay or rent the real-estate
- You take all the risk

Cloud Providers -GCP, AWS, AZURE

- Someone else owns the servers
- Someone else hires the IT people
- Someone else pays or rents the real-estate
- You are responsible for your configuring cloud services and code, someone else takes care of the rest.

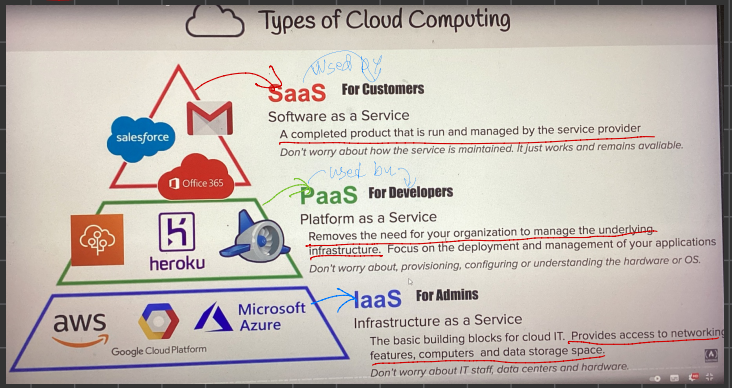
ADVANTAGES AND BENEFITS:-

Six Advantages and Benefits of Cloud Computing

Why go with a Cloud Provider over On-Premise?

1	**Trade capital expense for variable expense**	**No upfront-cost** Instead of paying for data centers and servers **Pay On-Demand** Pay only when you consume computing resources
2	**Benefit from massive economies of scale**	Usage from hundreds of thousands of customers aggregated in the cloud. You are **sharing the cost with other customers** to get unbeatable savings
3	**Stop guessing capacity**	Eliminate guesswork about infrastructure capacity needs. **Instead of paying for idle or underutilized servers**, you can scale up or down to meet the current need.
4	**Increase speed and agility**	Launch resources **within a few clicks in minutes** instead of waiting days or weeks of your IT to implement the solution on-premise
5	**Stop spending money on running and maintaining data centers**	**Focus on your own customers**, rather than on the heavy lifting of racking, stacking, and powering servers
6	**Go global in minutes**	Deploy your app in **multiple regions around the world with a few clicks.** Provide lower latency and a better experience for your customers at minimal cost.

Types of Cloud Computing :-



Cloud Computing Deployment Models :-

AWS Global Infrastructure:-

AWS Global Infrastructure

Where does all this Cloud Computing Run?

69 Availability Zones within **22 Geographic Regions** around the world
Way More **Edge Locations** than AZs!

AWS serves over **a million** active customers in **more than 190 countries**

Steadily **expanding** global infrastructure to help customers achieve lower latency and higher throughput

Regions physical location in the world with multiple Availability Zones

Availability Zones one or more discrete data centers

Edge Location datacenter owned by a trusted partner of AWS

Regions:-

Regions

A **geographically distinct** location which has multiple datacenters (AZs)

Every region is **physically isolated** from and independent of every other region in terms of location, power, water supply

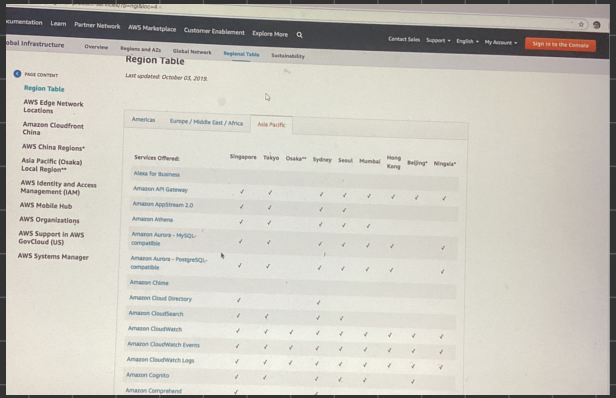
Each region has at least ✌ two AZs → 2 AZs at least

AWS largest region is **US-EAST**

NEW services almost always become available first in **US-EAST**

Not all services are available in all regions

US-EAST-1 is the region where you see all your billing information



Availability Zones :-

Availability Zones (AZs)

An AZ is a datacenter owned and operated by AWS in which AWS services run

Each region has at least ✌ two AZs

AZs are represented by a Region Code, followed by a letter identifier eg. **us-east-1a**

Multi-AZ Distributing your instances across multiple AZs allows failover configuration for handling requests when one goes down.

< 10ms latency between AZs

Edge Locations :-

Edge Locations

Get Data Fast or Upload Data Fast to AWS

An Edge Location is a datacenter owned by a trusted partner of AWS which has a **direct connection** to the AWS network.

These locations serve requests for **CloudFront** and **Route 53**. Requests going to either of these services will be routed to the nearest edge location automatically.

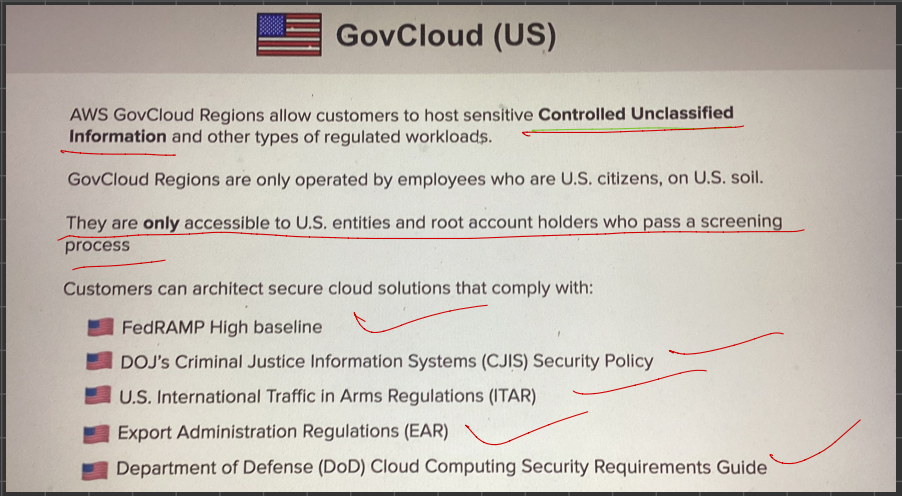
S3 Transfer Acceleration traffic and **API Gateway** endpoint traffic also use the AWS Edge Network.

This allows for **low latency** no matter where the end user is geographically located.

CloudFront & Route 53 & S3 Transfer Acceleration & API GATEWAY.

This is why edge location is needed.

GOVCloud Regions :- Available for US only and US Govt use it for controlled Unclassified Information.



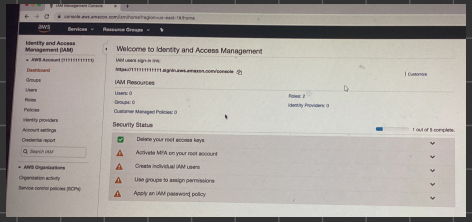
Cost Management Preferences :-

Receive Free tier Usage Alerts [free]

Receive Billing Alerts [free]

Detailed Billing Reports [You have to buy this → Can be stored in S3 Bucket. This is not free]

IAM users Sign in Link:-

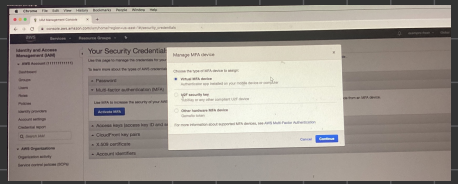


MFA:- multi Factor Authentication

MFA activated on root account

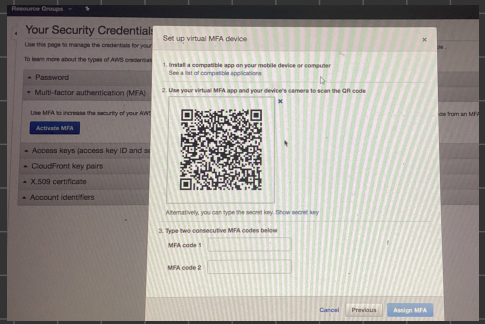
MFA is 6 pin number

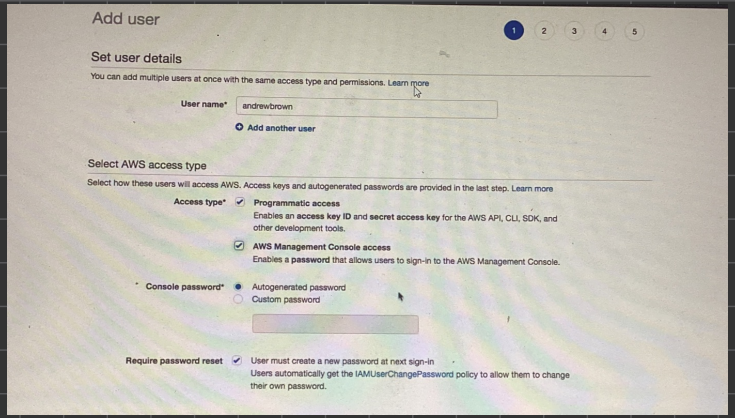
It is an additional Security



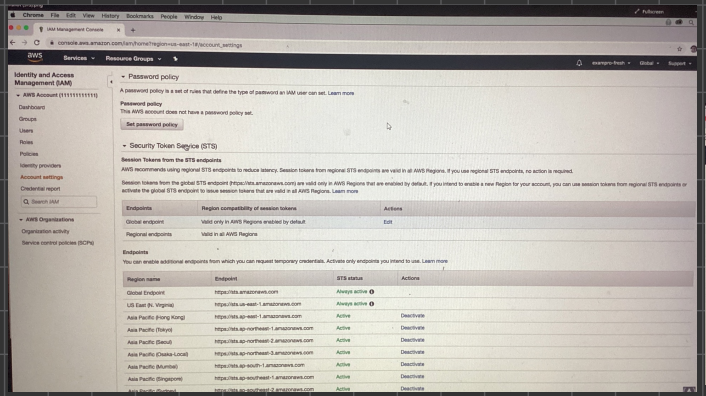
Android, iphone → Google Authenticator

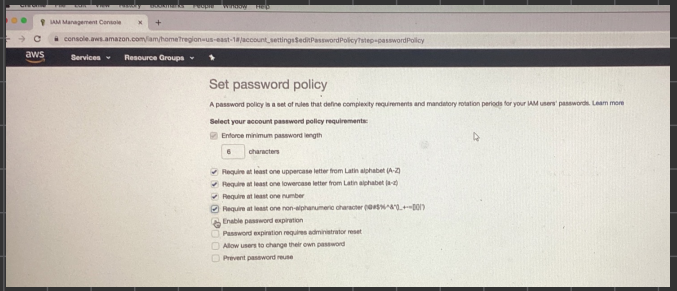
Windows Phone → Google Authenticator





PASSWORD POLICY:-





EC2 Instances :-

→ EC2 instances created from AMI → SSM
→ Instances are nothing but Servers
→ AMI is a copy/snapshot of your entire server

AUTO SCALING GROUPS :-