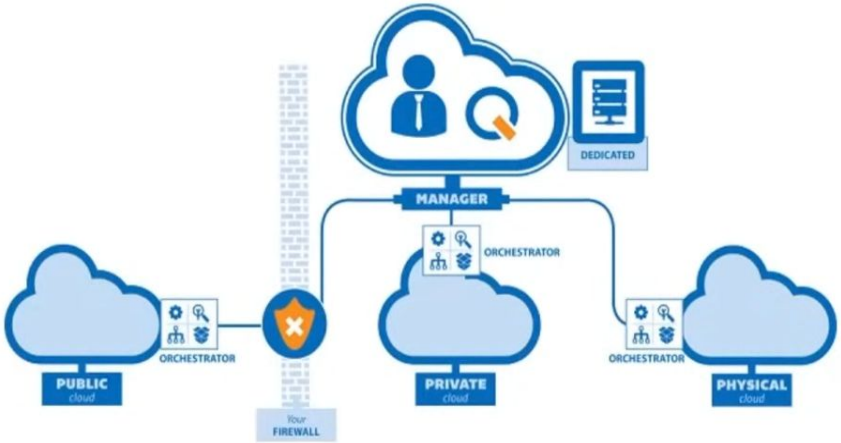
GCP

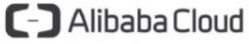
Entire Notes

What Is Cloud Computing ?



Cloud computing is the delivery of computing services—including servers, storage, databases, networking, software, analytics, and intelligence—over the internet to offer faster innovation, flexible resources, and economies of scale.

Cloud Service Providers



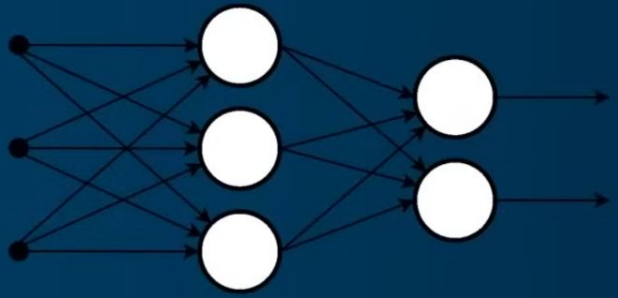
Google Cloud

IBM

HUAWEI CLOUD

pCloud

Cloud for IOT



Cloud for ML

Disaster recovery

Disaster recovery

Any downtime or loss of data can result in lost revenue, lose customers, poor productivity, penalties or litigation, and damage to your brand reputation. Disaster Recovery service framework is designed to meet the demands of enterprises to bring resiliency to business models delivering uninterrupted services.

What Is GCP ?

Google Cloud Platform, offered by Google, is a suite of cloud computing services that runs on the same infrastructure that Google uses internally for its end-user products, such as Google Search, Gmail, file storage, and YouTube.

Why GCP ?


Cost Effective
Serverless
Highly Scalable
Google Cloud Platform
Cloud AI
Custom Machine Types
Big Data Analytics
IoT
Internet of Things
API Platform and Ecosystem

AWS VS AZURE VS GCP

Market Trend & Growth Rate

According to Statista, AWS has 32% of the total cloud market share

AWS revenue was $13.5 billion for first quarter of 2021

First quarter revenue of 2020 which was $10.33 billion

According to Statista, Microsoft azure has 20% of the total cloud market share

It reported 50% revenue growth over the previous quarter

According to Statista, GCP has 9% of the total cloud market share

Google Cloud reported revenue of $4.047 billion, which was an increase of 46% compared to the previous year

edureka!

www.edureka.co/aws-certification-training

AWS VS AZURE VS GCP

Top Companies using Cloud Provider

edureka!

AWS VS AZURE VS GCP

Pricing

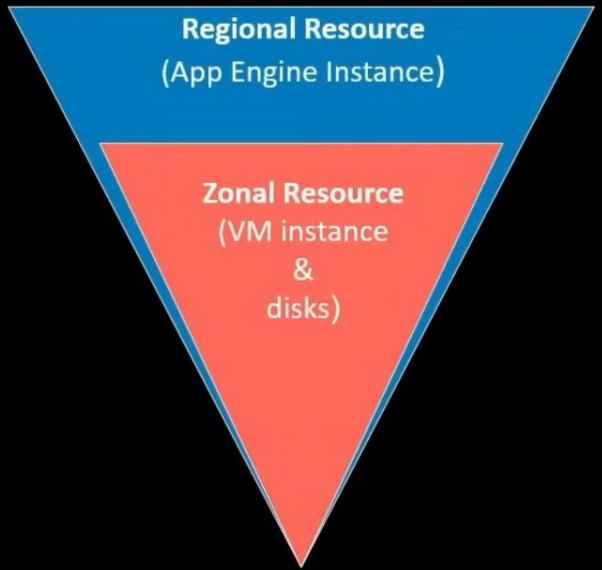
AWS charges you on hourly basis

Azure charges you on per minute basis

GCP charges you on p second billing basis

GCP Global Infrastructure

Global Resource or Multi-regional resource
(BigQuery, Datastore, Cloud Storage)



Source: https://cloud.withgoogle.com/infrastructure/explore/step-1

GCP Service Domains


Compute


Storage & Database


Networking


Big Data


Developer Tools


Identity & Security


Internet of Things


Cloud AI


Management Tools


Data Transfer

GCP Compute Services

1. **Compute engine**: IAS offering service with where you can launch your own machine eg : 1. Operating system machine, Linux operating system

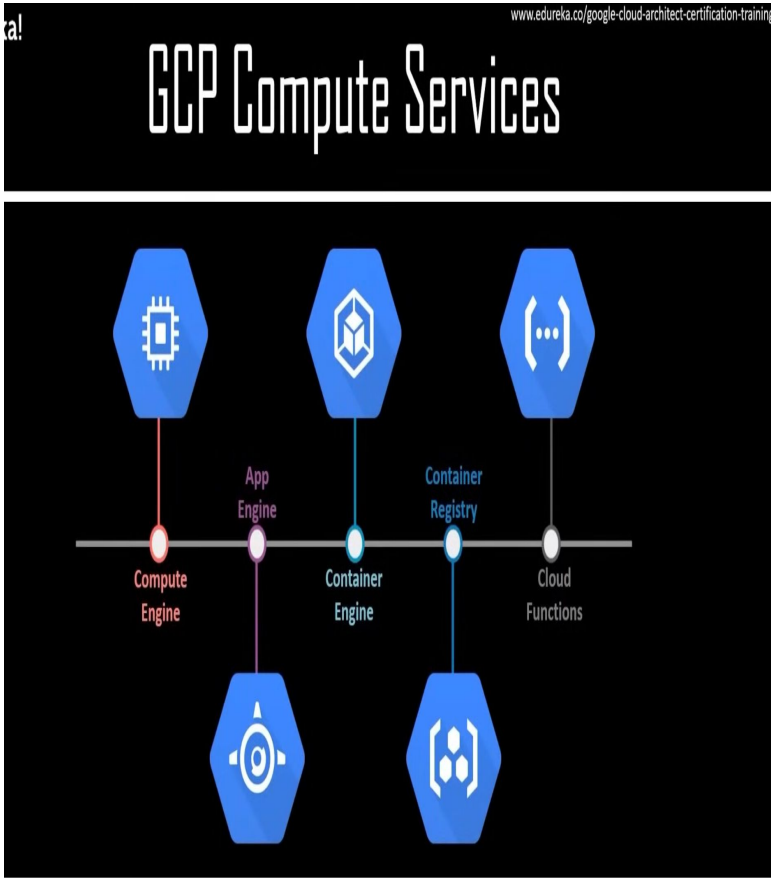
2. **App Engine:** It's a platform as a service engine,you can decide the platform weathers its a python based or PHP based etc.

3. **Container engine:** Its a container management service(Kubernates). Its creates containers where you can store or launch your data files.

4. **Container Ragistry**: Supports the activity to creates containers.

5. **Cloud functions** : Serverless offering that GCP provides to you.

Note: You will have to create an **Instance** in compute engine with a desired Machine type (CPU/GPU) to start working in your virtual machine. On AWS we have the same service available as **EC2 instance**.



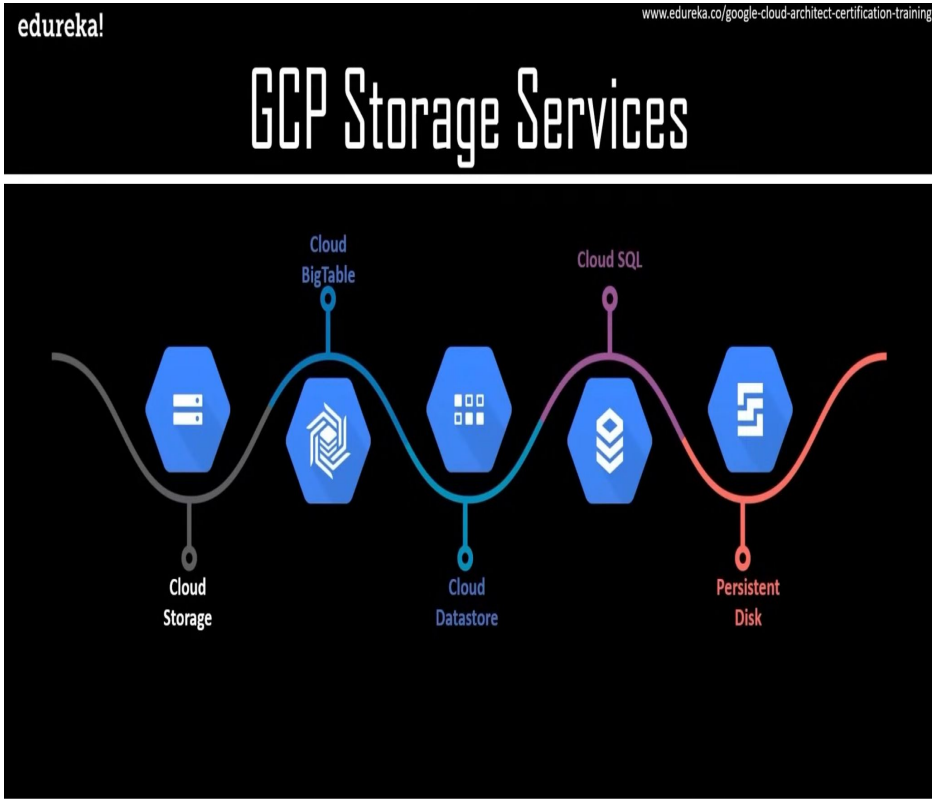
GCP Storage Services

1. **Cloud Storage**: GCP stores data in cloud storage like S3.

2. **Cloud Big table** : Cloud Big table have a NoSQL databases.

3. **Cloud SQL**: We can perform SQL operations on Cloud.

4. **Persistent Disk**: If the virtual machine dies we still have data available in persistent disk while this this is not true for other disks.



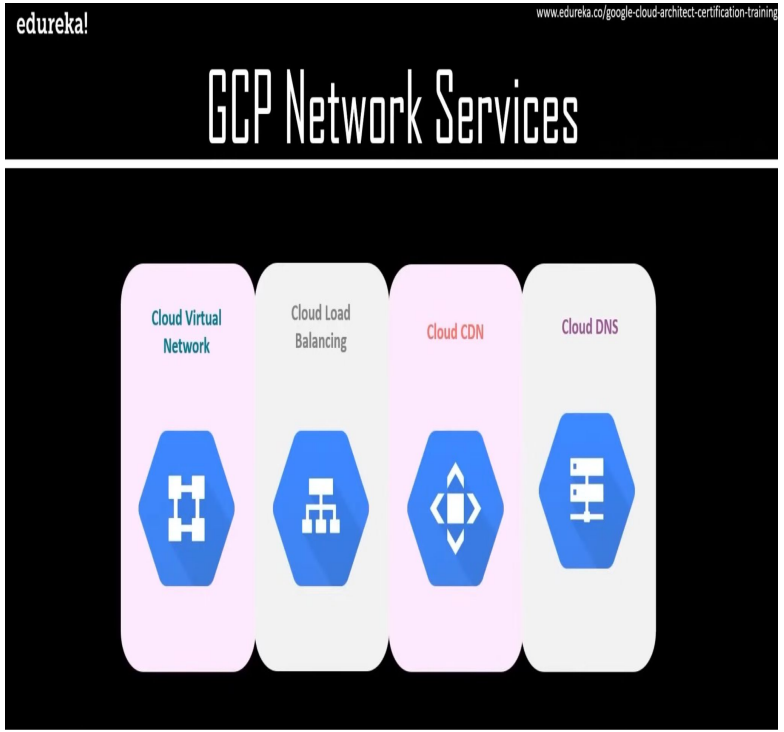
GCP Network Services

1.**Cloud Virtual Network** : We can create sunnets, assign 100 devices or IP addresses and the ways to access resources from there.

2. **Cloud Load Balancing** : If there's a lot of load attach to a resource we can attach multiple servers(Horizontal Scaling) while you can attach multiple computation storage (Vertical scaling).

3. **Cloud CDN** : Content distribution network , provides solututions to avoid data latency via catching data to edge locations from the main server locations.

4. **Cloud DNS**: Cloud Domain name service,Data address services are governed by DNS



GCP Cheatsheet

Link :https://jayendrapatil.com/google-cloud-gcloud-cheat-sheet/

Google Cloud Config

PURPOSE	COMMAND
List projects	gcloud config list, gcloud config list project
List projects	gcloud config list, gcloud config list project
Show project info	gcloud compute project-info describe
Switch project	gcloud config set project <project-id>
Set the active account	gcloud config set account <ACCOUNT>
Set default region	gcloud config set compute/region us-west
Set default zone	gcloud config set compute/zone us-west1-b
List configurations	gcloud config configurations list
Activate configuration	gcloud config configurations activate

Google Cloud IAM

PURPOSE	COMMAND
get project roles	`gcloud projects get-iam-policy`
copy roles across org and projects	`gcloud iam roles copy`
get project roles	`gcloud projects get-iam-policy`
copy roles across org and projects	`gcloud iam roles copy`

Google Cloud Auth

PURPOSE	COMMAND
Display a list of credentialed accounts	`gcloud auth list`
Authenticate client using service account	`gcloud auth activate-service-account --key-file <key-file>`
Auth to GCP Container Registry	`gcloud auth configure-docker`
Print token for active account	`gcloud auth print-access-token, gcloud auth print-refresh-token`
Revoke previous generated credential	`gcloud auth <application-default> revoke`

Google Cloud Storage

PURPOSE	COMMAND
List all buckets and files	`gsutil ls`, `gsutil ls -lh gs://<bucket-name>`
Create bucket	`gsutil mb gs://<bucket-name>`
Download file	`gsutil cp gs://<bucket-name>/<dir-path>/app.txt`
Upload file	`gsutil cp <filename> gs://<bucket-name>/<directory>/`
Delete file	`gsutil rm gs://<bucket-name>/<filepath>`
Move file	`gsutil mv <src-filepath> gs://<bucket-name>/<directory>/<dest-filepath>`
Copy folder	`gsutil cp -r ./conf gs://<bucket-name>/`
Show disk usage	`gsutil du -h gs://<bucket-name/<directory>`
Make all files readable	`gsutil -m acl set -R -a public-read gs://<bucket-name>/`
Create signed url with duration	`gsutil signurl -d 1m`