Day 6

TOPICS COVERED

1. Storage and Database Services
2. Cloud Storage
3. Cloud Filestore
4. Cloud SQL
5. Cloud Spanner
6. Cloud Firestore
7. Cloud Bigtable
8. Cloud Memorystore
9. Decision Chart

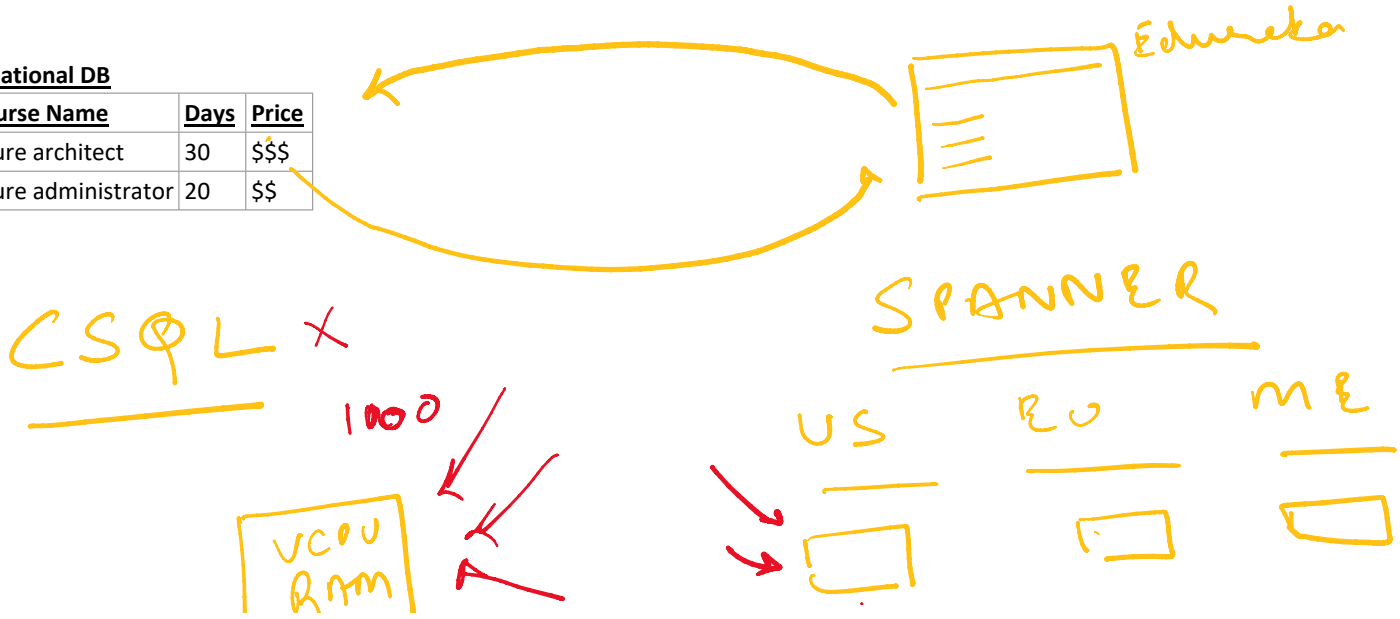
- You must have seen a website with pics/videos
  - Where are they hosted?

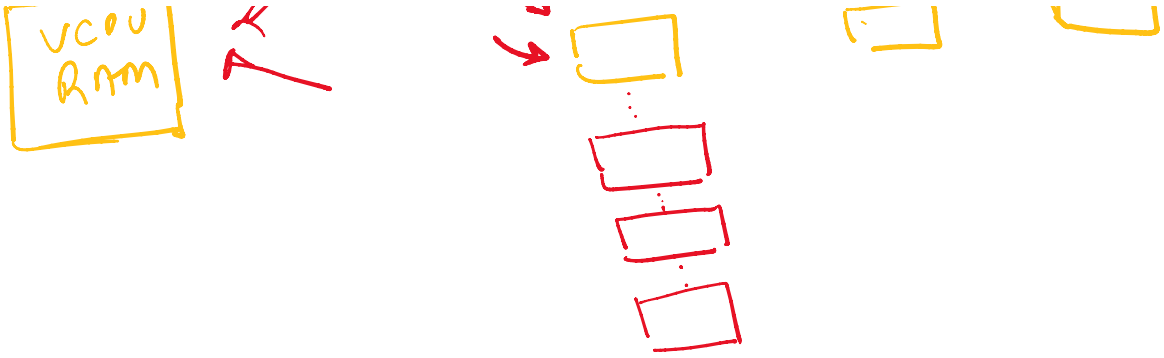
We have a backend always to store these pics/images and data which then later is fetched on to your app or website.

Object Storage	File	Relational DB		Non-relational DB		Data Warehouse
GCS - Google Cloud Storage Images/videos/media serving backend Azure - Blob AWS - S3 bucket	Filestore Network Attached Storage For workoads which are latency sensitive and most of the time need to be used on a specific network.	Cloud SQL Web frameworks - CMS, ecommerce	Cloud Spanner If you want horizontal scalability and make sure the DB is Global.	Firestore Mobile/web app - user profile, gaming servers	Cloud Bigtable Heavy read and write	Big Query - Analytics -Dashboards created for analysis

Relational DB

Course Name	Days	Price
Azure architect	30	$$$
Azure administrator	20	$$



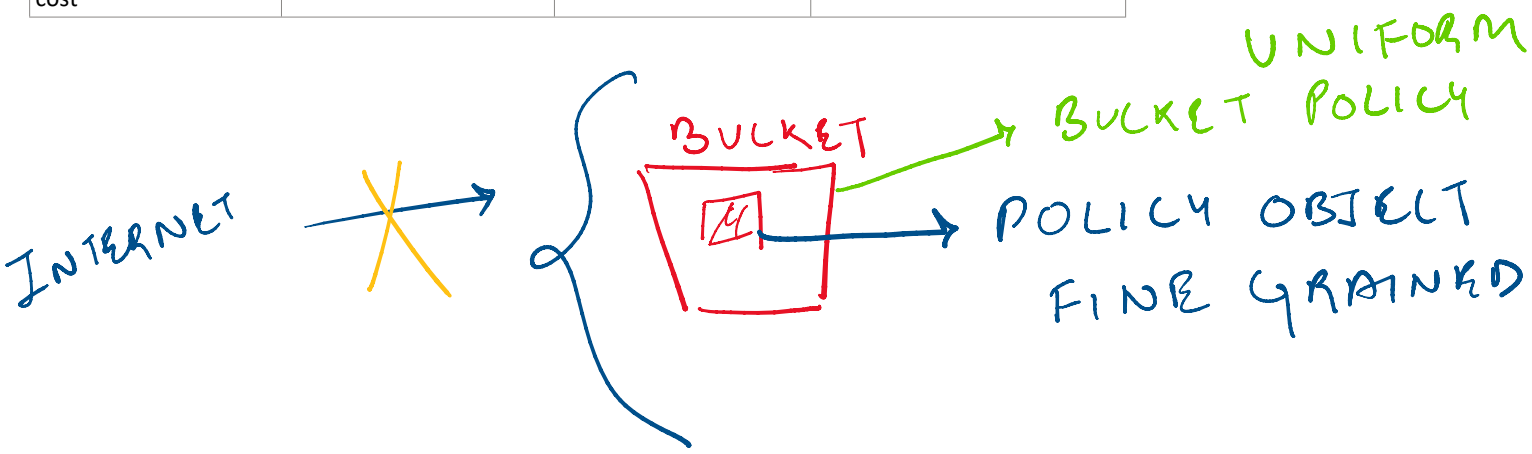


GCS- Google Cloud Storage

- Wide range storage and retrieval of any amount of data at any time.
- Website content
- Disaster recovery
- Anything that you store in GCS needs to be in a bucket.
- This bucket has to be a globally unique name.

GCS Storage Class

Standard	Nearline	Coldline	Archive
'Hot' data	Infrequently accessed data	Once a quarter data.	Data archiving, online backup
There is NO minimum storage duration	Minimum storage duration is 30 days	90 days	365 days
There is NO retrieval cost	$0.01/GB	$0.02/GB	$0.05/GB



With most of the services gcloud command line works.
But for GCS - gsutil

Command - gsutil mb -c standard -l us-east1 gs://arjun12345test

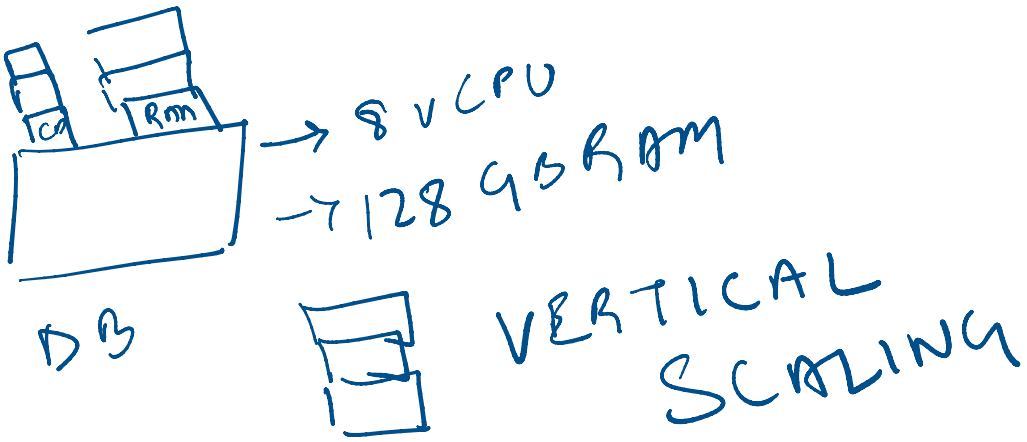
Cloud Shell SDK - https://cloud.google.com/sdk?hl=en

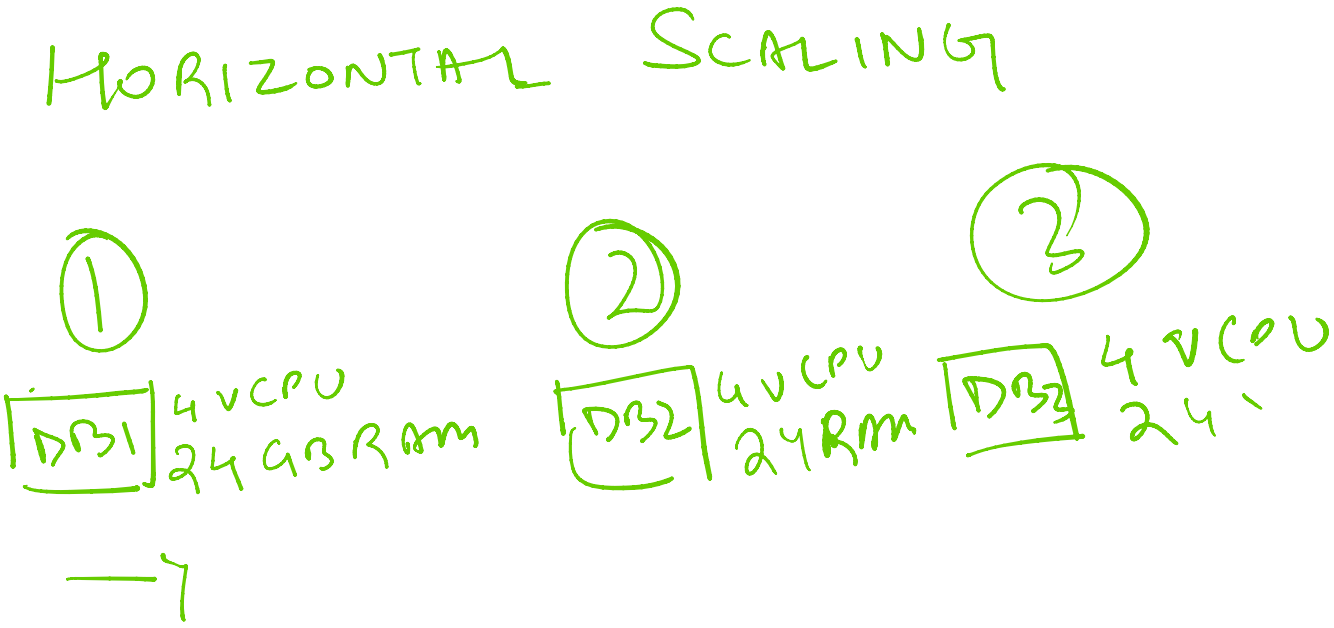
Data Import Services

1. **STS - Storage Transfer Service -** Hundreds of GB of data.
2. **Transfer Appliance -** Actually hardware device.

Cloud SQL

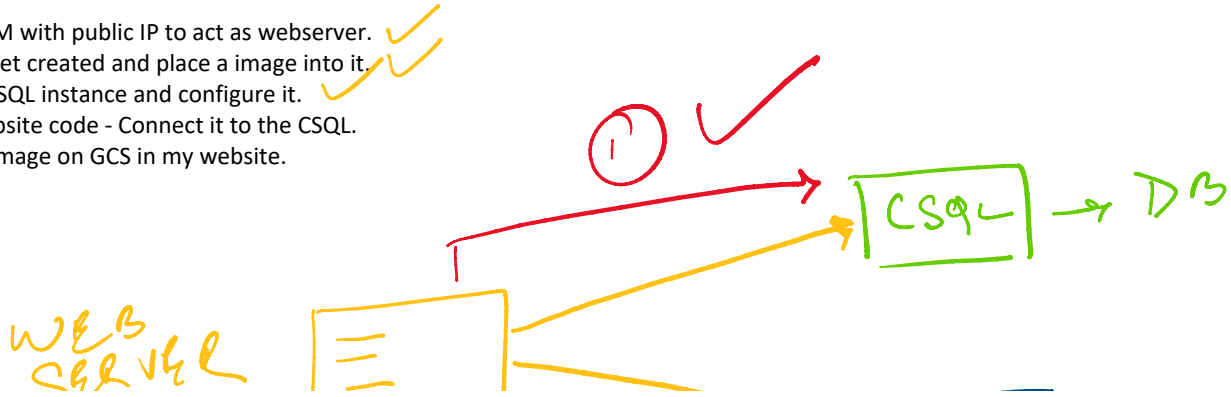
- Fully managed service - MySQL, PostgresSQL and Microsoft SQL

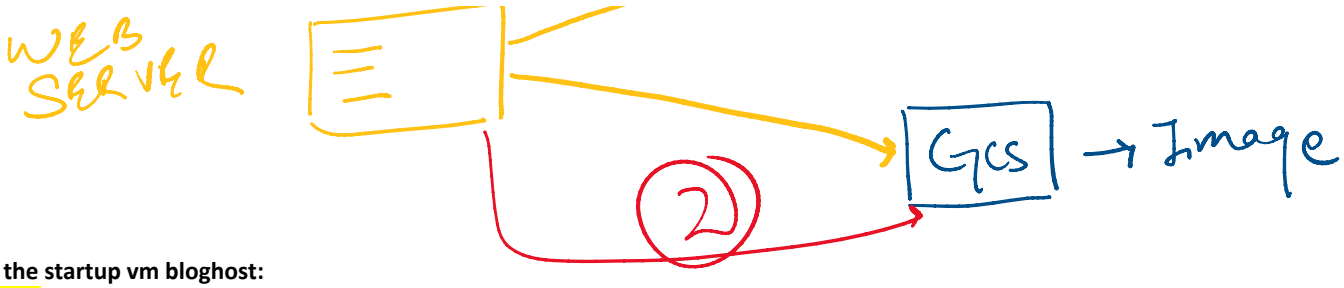




Demo GCP +CSQL

1. Create VM with public IP to act as webserver.
2. GCS bucket created and place a image into it.
3. Create a SQL instance and configure it.
4. Basic website code - Connect it to the CSQL.
5. Use the image on GCS in my website.





Script for the startup vm bloghost:

```
apt-get update
apt-get install apache2 php php-mysql -y
service apache2 restart
```

Banner Link - `gs://cloud-training/gcpfci/my-excellent-blog.png`

HTML Code

```
<html>
<head><title>Welcome to my excellent blog</title></head>
<body>
<h1>Welcome to my excellent blog</h1>
<img src 'https://storage.googleapis.com/project-alpha12/my-excellent-blog.png'>
<?php
$dbserver = "146.148.42.132";
$dbuser = "blogdbuser";
$dbpassword = "Passw0rd";
 try {
  $conn = new PDO("mysql:host=$dbserver;dbname=mysql", $dbuser, $dbpassword);
  // set the PDO error mode to exception
  $conn->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
  echo "Connected successfully";
} catch(PDOException $e) {
  echo "Database connection failed:: " . $e->getMessage();
}
?>
</body></html>
```