Day 1

11 January 2025 10:30

TOPICS COVERED

1. Cloud basics - How Cloud started ?
2. Features Of Cloud Computing
3. Cloud - Service Models.
    - SAAS
    - PAAS
    - IAAS
4. Cloud - Deployment Models.
    - Public Cloud
    - Private Cloud
    - Hybrid Cloud
    - Community Cloud
5. Introduction To GCP
6. Using GCP
7. Projects and Folders
8. Demo :
    - Create Projects
    - Create Folders
    - Switch Projects
    - Shutdown Projects

- Class starts at 8:33 PM IST.

- **What is Cloud?**
    - Cloud computing is breaking your key services of your laptop and delivering it over the internet.
- Earlier we had Datacenters:
    - I need to take care of electricity,cooling, security.
    - Headache to maintain all these operations.
    - I had to pay upfront.
    - You had limited racks for the servers.
- Challenge was to get **ON-DEMAND.**

- **Features Of Public Cloud**
    - On demand consumption.
    - No upfront investment.
    - **Pay as you go.**
    - **No capital expenditure.**
    - Complete solution.
    - GCP/AWS/Azure/Oracle/Alibaba

Categories of Public Cloud - Service Models

- **IAAS - Infrastructure as a service**
    - I need to be charge of the OS/I need a specific version of CPU/GPU.
    - I have a legacy application and I need a custom infra to run on it.
    - Migrate to It !!!

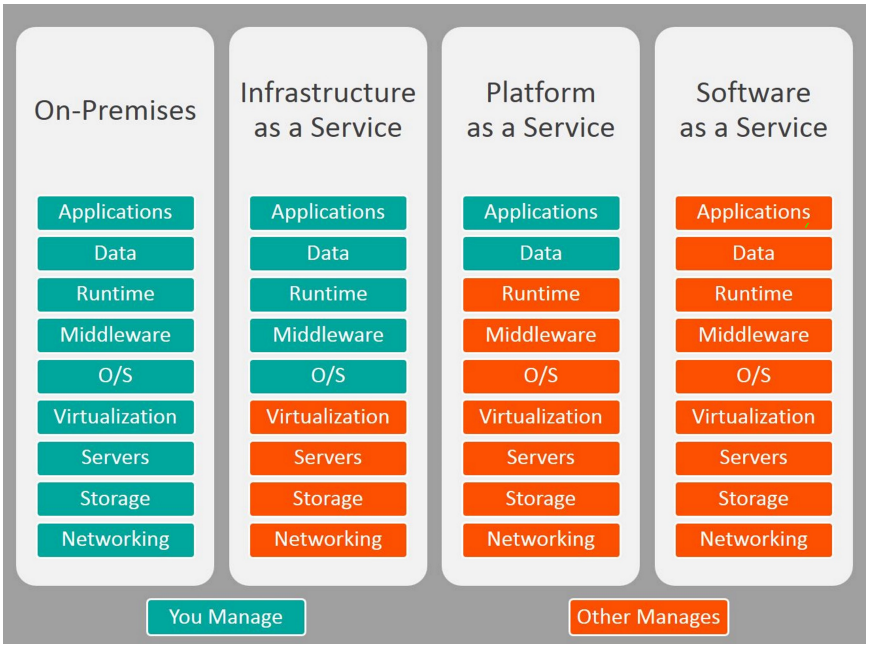
-PAAS - Platform as a service:

- GKE
- AppEngine
- You bring your code and run on me ! Focus on writing your code !

-SAAS - Software as a service :

- Which you start using.

- Gmail/MS Office/Office 365/Workspace/Zoom



Public Cloud vs Private Cloud vs Hybrid Cloud [Deployment Models]

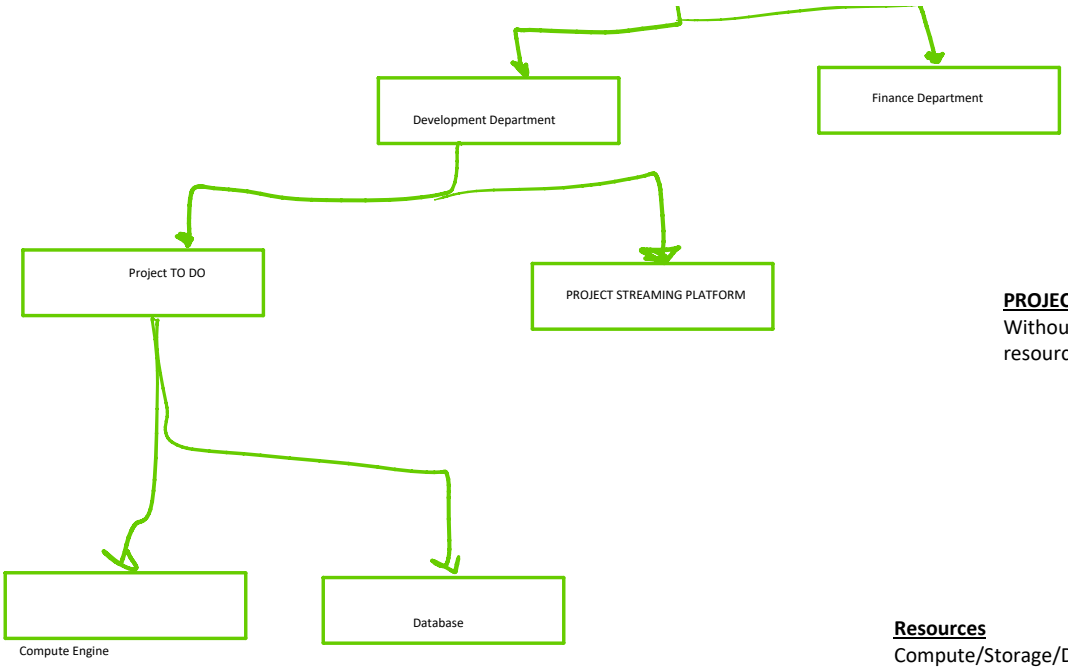
Public Cloud	**Private Cloud**	**Hybrid Cloud**
-AWS/GCP/Azure. -Open to public. -Login and start using the services and pay for it ! -Your data is still secured. -This does not mean anyone on the internet can see your data.	-Defense project -NASA project -Without sharing the racks/location with anyone. -Exclusive !!! -You pay extra ! -It is very much similar to on premise setups. -Automation and new services . -These are owned by the organization !! Example - IBM is just using their on prem solution. Important point is that do not think that Private cloud can only be setup by a Public Cloud provider.	**-Public Cloud +Private Cloud** -Organization use their on premise setup along with a public cloud.

Google Cloud Platform

- GCP is just a public cloud solution given to us by Google.
- **Google has an ecosystem** - Google workspace + Gmaps + Google shopping etx etx .....it easy for me to integrate these soln with GCP and create a complete solution.
- Pricing !
- Google provides a global Networking !

GCP Console

- If you are a NEW user you will get 300$ credit from GCP for 90 days !!!
- You need to sign up.
- You DO NOT have to have a Organization for practice. It is NOT mandatory to create FOLDERS. You can directly create projects !
- You cannot create folder without organization.



FOLDERS

PROJECTS
Without projects you canNOT create any resource.

Resources
Compute/Storage/DB/Networking

How to create an Organization?
- Buy a domain on GoDaddy.
- Login into google workspace.
- You will get a super user once you login to Google workspace.
- Use that super user to login to GCP console.

PROJECTS
- No projects no resources.
- Every Project has a **Project Name - That you can choose but it has to be globally unique**
- **Project ID -** This is associated with the Project Name. You use project id in CLI commands to refer to the right projects. You can only edit this during the project creation.
- **Project Number -** This is for Google Cloud usage . Not important for you. Automatically given.

Ways to Connect to GCP
- Through GCP console.
- Through the GCP CLI [Command Line Interface].
- GCP Cloud SDK - https://cloud.google.com/sdk
- GCP App on playstore/appstore.

GCP Billing
- This is critical but make sure you do NOT over spend on a resource and delete it once tested.
- Always SETUP a BILLING ALERT !!! - VERY CRITICAL

Day 2 - Tomorrow' Class
- Please learn about basic networking :
  - What is IP address
  - What is Subnet
  - What is Subnet Mask
  - Understand how an IP address is created.
  - Octet?