GCP-2

Challenge in cloud shell is that we have to manually activate it & login to graphical screen.

CLI (Shell)

- cloud shell
- own Laptop (need SDK)
  - gcloud

Google → gcloud download window

cmd → gcloud projects list

> gcloud compute instances list

> gcloud compute instances create OS1

zone : 19

> gcloud ~~ssh~~ compute ssh OS1

open shell in putty

New Project : →

Name : LWProject

Project
- security (~~Isolation~~)
- Quotas
- Isolation

Kubernetes (Google)
- Redhat (openshift)
- AWS (EKS)
- Google (GKE)

Challenge –

① Container stops
② Node ~~[illegible]~~ stops

GKE

or GCE (Google container Engine)

- Managed services for K8s clusters
- Master node is launched by GKE
  - ↳ No of nodes
  - ↳ RAM | CPU
  - ↳ Region

} for slave nodes Requirement (~~[illegible]~~ Node Pools)

Project - LW Project1

→ K8s Engine → Create cluster

→ Node Pools → default-pool

Name: default-pool
Node version: 1.15.12-gke.2 (master version)
Size: 1

Zone & Region → Disaster Management

→ Nodes

Image type: Container Optimised OS (cos) (default)
Machine type –
N1 (1 vCPU, 3.75 GB)
Bootdisk: 100 GiB

→ Cluster Basics

Name: lw-cluster-kube
⊙ Region
Region: asia-southeast1 (Singapore)

- a
- b
- c

Means total 3 nodes they will launch as in node pool

~~size~~ size of nodes is 1.

1 x 3 = 3.

⑧ Static version

1.15.12-gke.2 (default)

Client need kubectl program to send request
download kubernetes for windows

→ Connect → copy the command & paste in cmd (in windows)

This updates the kos file (configuration)
↓
Kubeconfig file

>kubectl.exe get pods
No resources

>kubectl.exe get nodes
(3)

>kubectl.exe run myos1 --image=vimal13/apache-webserver-php

>kubectl.exe get pods

>kubectl.exe get pods -o wide

> delete pod myos1

> k get pods x

Need controllers
- RS
- RC
- Deployment

>kubectl.exe create deployment mynew --image=vimal13/apache-webserver-php

> get pods

> delet pod mynew-5707

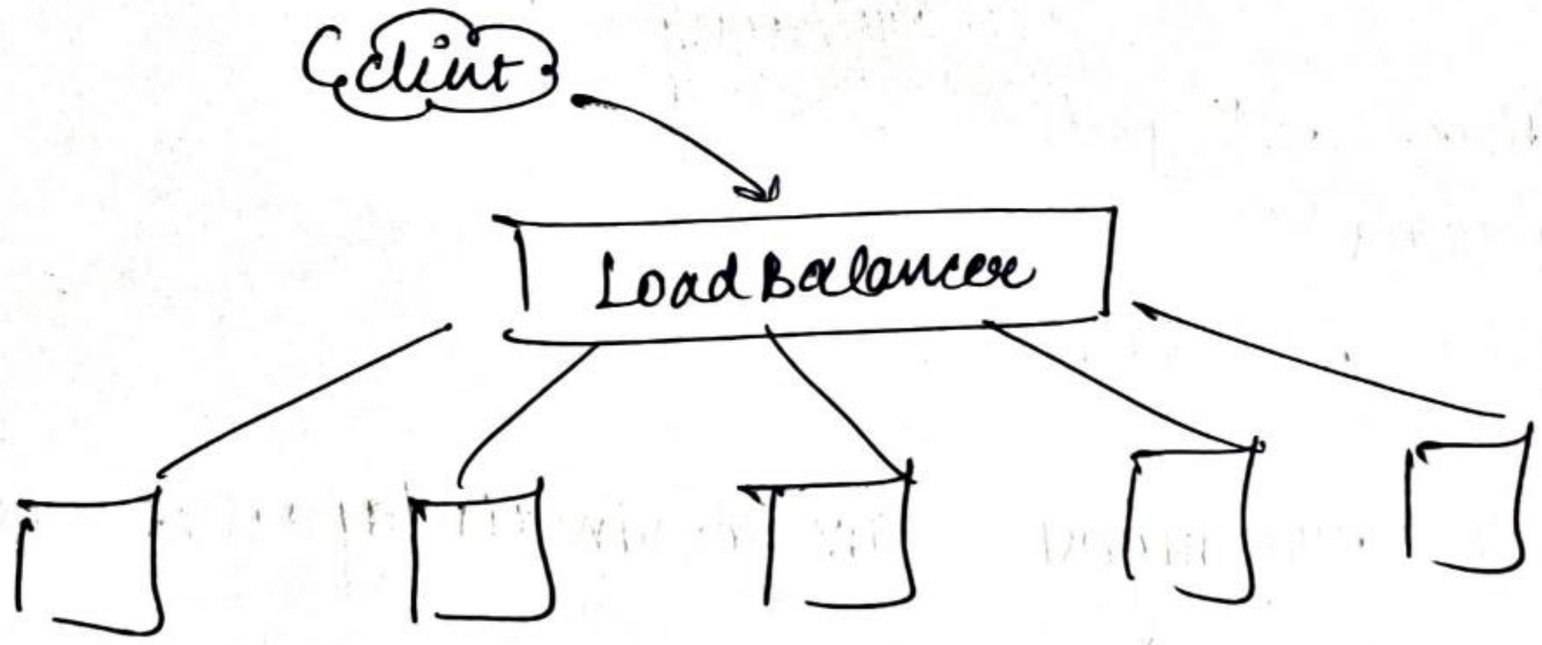
> get pods

> get deployments

scale out using replicas -

> kubectl.exe scale deployment mynew --replicas=5

> get pods (5)



VPC → N/W services → Load balancing

without using this GCP load balancer, we can use k8s loadbalancer called service (external)

> kubectl.exe expose deployment mynew --type=LoadBalancer --port=80

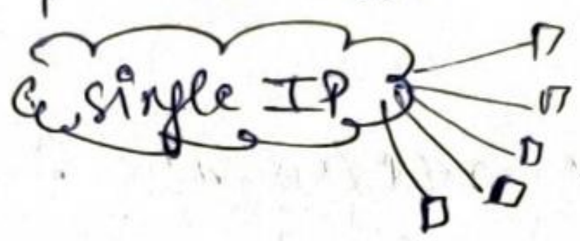
This is actual k8s command. But this is running on cloud (gcp) with the help of (--type=LoadBalancer), whatever internal loadbalancer you have, create LoadBalancer.

(How to set limit & quotas)

Window ⟶ GCP(KSD) ⟶ External LBAAS

VPC → NW services ⟶ LB
(already a load balancer is created)
↳ This is created by the window

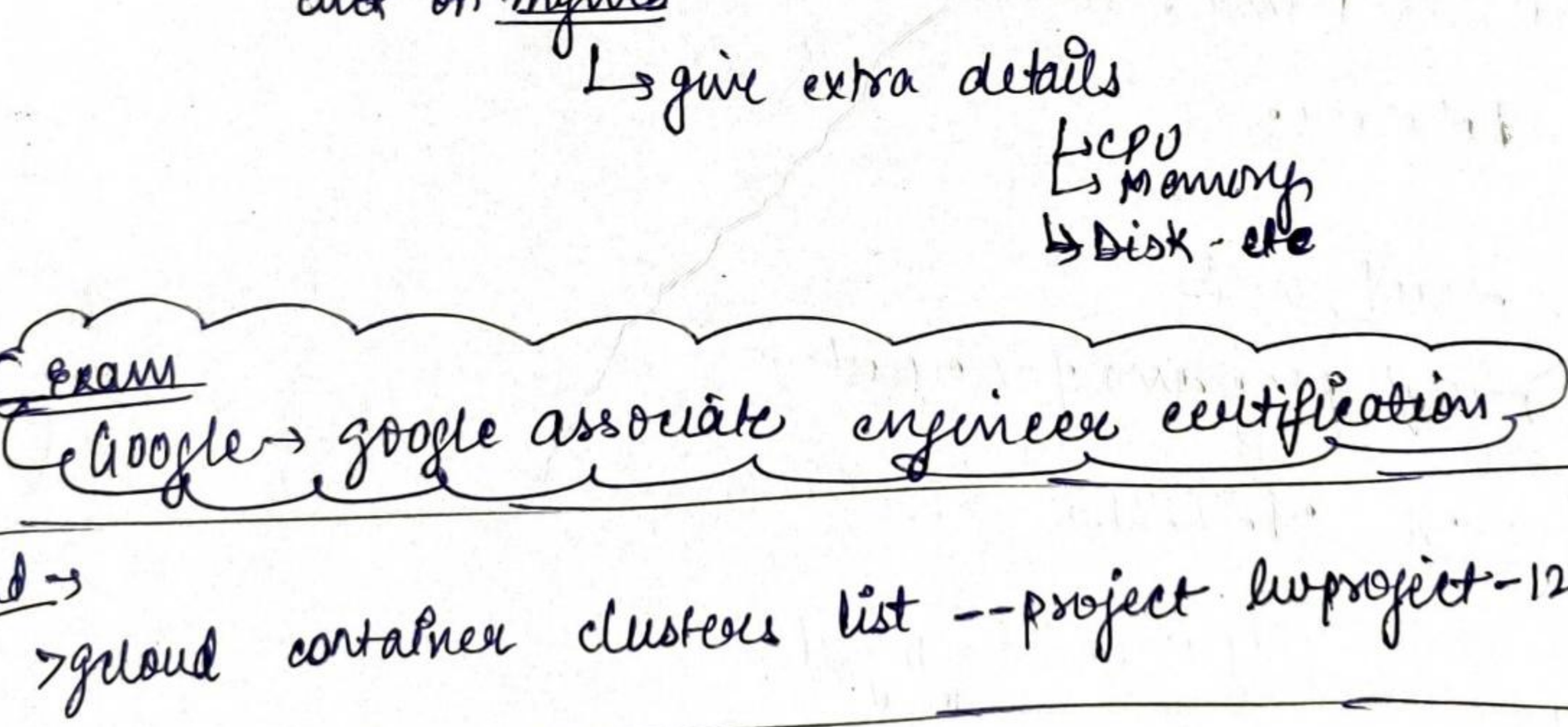
>kubectl.exe get services ✓
copy external IP & paste in url ✓



→ kubernetes engine → services & Ingress
Give info about cluster, Endpoint, pods(s), Type (external LB)
click on <u>myweb</u>
↳ give extra details
↳ CPU
↳ Memory
↳ Disk - etc

Exam
Google → google associate engineer certification

cmd →
>gcloud container clusters list --project lwproject-123457



Database is here managed by gcp.

If we create pod for database, we have to manage it ourselves, so we are using gcp managed service of Database.

Project:

storage → SQL → Create instance → choose MySQL

Instance ID: mydbos

Root password:

Region: asia-southeast1 (Singapore) zone: 1a

Database version: MySQL 5.7

Databases → create database

Database Name: lwdb

>show databases;

Activate cloud shell

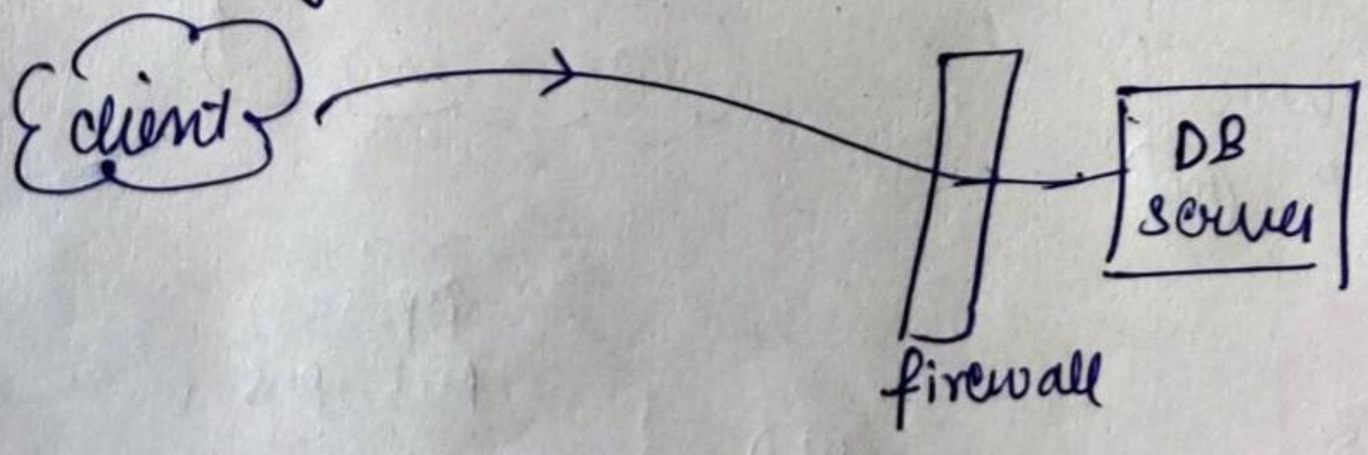
Need mysql program for client

$ mysql -h 34.87.31.3 -u root -p

↑ Public IP of mysql.

Password:

↳ They are not able to launch access of firewall



SQL → overview → edit configuration

→ connectivity

☐ Private IP
☑ Public IP (Not good)

→ Authorized network → Add nlw

Name: allowall

Nlw: 0.0.0.0/0

Save

$ mysql -h 7.7.8.79 -u root -p
Password
✓

> show databases;

Without command, in gcp we can create database

→ SQL → Databases.

Database Name: lwdb

Create Database

> show databases;

✓
Without command, in gcp we can create user

→ SQL → Users →

> Kubectl.exe create deployment mywp --image=wordpress
> " get deploy
> " expose deploy mywp --type=LoadBalancer
--port=80
> " get services

Now connect this wordpress with database.
using LB IP address open wordpress, page will open.
Inside this enter the details of database.

Go to SQL → Copy Public IP address of database server.

SQL → Databases → copy database name

Database Name : ·

Username : root

password :

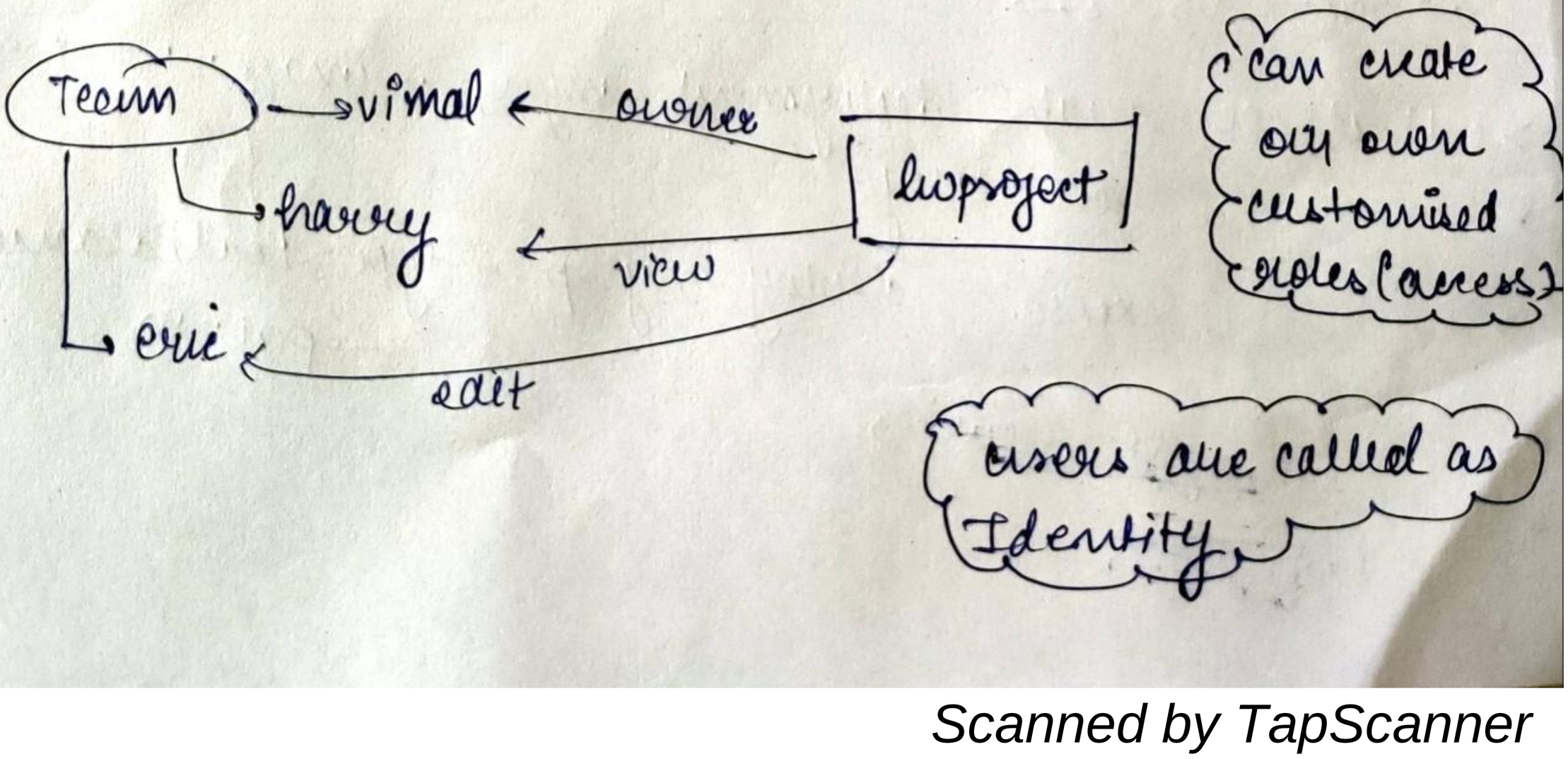
Database Host :

Submit

In Database we need cache database,
gcp has this, Database → Memorystore

IAM (Identity Access Management)

My root account has all the power
(gmail account) → owner role



IAM & Admin → IAM ← Here you can set quotas

→ select the project on the top

→ Add

New member : vimal@gmail.com

Select a role : Project → Viewer

(We can even add conditions here like time & even schedule it)

☑ send notification email

Save

(We can even edit the power using ☆)

Viewer
Editor
Owner
Browser

If you want to create customised role then

→ IAM & Admin → Roles → Create Role

GCP/AWS is as IAAS

Compute → App Engine → Create Application

Region : us-east1

Create App

Language : Python

Next