**TASK : 1 - Create a project jumphost instance**

- login to your lab

- goto HOME - goto Compute Engine - VM Instances - CREATE instance

- copy paste the name of the instance

- goto series and select the one which is mentioned in your lab, for eg - f1 - micro

- click CREATE

- \*\*NOTE\*\*: Ensure that you click on the Check my Progress Bar every time you complete a task

**TASK : 2 - Create a Kubernetes service cluster**

- OPEN Cloud Shell

- commands

1. gcloud auth list

2. gcloud config project

3. set your zone

gcloud config set compute/zone us-east1-b

4. create the cluster

gcloud container clusters create [ANY NAME]

It takes around 4-5 minutes in creation of a cluster, so be patient :)

**\*\*NOTE\*\*: remove the square brackets while you write the command**

5. Get credentials of cluster

gcloud container clusters get-credentials [SAME NAME AS ABOVE ONE]

6. kubectl create deployment hello-server --image=gcr.io/google-samples/hello-app:2.0

7. kubectl expose deployment hello-server --type=LoadBalancer --port 8082

**\*\*NOTE\*\* : Check your port number!**

**TASK : 3 - Set up an HTTP load balancer**

- commands

1. COPY/PASTE the transcript given

cat << EOF > startup.sh

#! /bin/bash

apt-get update

apt-get install -y nginx

service nginx start

sed -i -- 's/nginx/Google Cloud Platform - '"\$HOSTNAME"'/' /var/www/html/index.nginx-debian.html

EOF

2. Use this command for instance update

gcloud compute instance-templates create web-server-template \

--metadata-from-file startup-script=startup.sh \

--network nucleus-vpc \

--machine-type g1-small \

--region us-east1

3. Manage instance group

gcloud compute instance-groups managed create web-server-group \

--base-instance-name web-server \

--size 2 \

--template web-server-template \

--region us-east1

4. Lets now create a firewall rule name

gcloud compute firewall-rules create [REPLACE YOUR FIREWALL NAME WHICH IS MENTIONED ON LEFT SIDE] \

--allow tcp:80 \

--network nucleus-vpc

gcloud compute http-health-checks create http-basic-check

gcloud compute instance-groups managed \

set-named-ports web-server-group \

--named-ports http:80 \

--region us-east1

5. gcloud compute backend-services create web-server-backend \

--protocol HTTP \

--http-health-checks http-basic-check \

--global

gcloud compute backend-services add-backend web-server-backend \

--instance-group web-server-group \

--instance-group-region us-east1 \

--global

6. gcloud compute url-maps create web-server-map \

--default-service web-server-backend

gcloud compute target-http-proxies create http-lb-proxy \

--url-map web-server-map

7. gcloud compute forwarding-rules create http-content-rule \

--global \

--target-http-proxy http-lb-proxy \

--ports 80

8. gcloud compute forwarding-rules list

**\*\*VERY IMPORTANT\*\*: In case you get a message saying-**

**"Please verify the web servers are serving on frontend of HTTP(s) Load Balancer."**

**Wait for a while and check your progress again.**

**Else check out this link for possible issues: - [Click Here](https://cloud.google.com/load-balancing/docs/https/troubleshooting-ext-https-lbs)**