

### **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](#)**