

LAB 2-DAY 2

APPLICATION LOAD BALANCER.

A better type of load balancing that operates on the Google FrontEnd.

```
student_04_53a2ecdac9c4@cloudshell:~ (qwiklabs-gcp-02-fb646dc9644d)$ gcloud compute instance-templates create lb-backend-template \
--region=us-east4 \
--network=default \
--subnet=default \
--tags=allow-health-check \
--machine-type=e2-medium \
--image-family=debian-11 \
--image-project=debian-cloud \
--metadata=startup-script='#!/bin/bash
apt-get update
apt-get install apache2 -y
a2ensite default-ssl
a2enmod ssl
vm_hostname="$(curl -H "Metadata-Flavor:Google" \
http://169.254.169.254/computeMetadata/v1/instance/name)"
echo "Page served from: $vm_hostname" | \
tee /var/www/html/index.html
systemctl restart apache2'
Created [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-02-fb646dc9644d/global/instanceTemplates/lb-backend-template].
NAME: lb-backend-template
MACHINE_TYPE: e2-medium
PREEMPTIBLE:
CREATION_TIMESTAMP: 2025-11-11T10:46:03.605-08:00
student_04_53a2ecdac9c4@cloudshell:~ (qwiklabs-gcp-02-fb646dc9644d)$ gcloud compute instance-groups managed create lb-backend-group \
--template=lb-backend-template --size=2 --zone=us-east4-a
Created [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-02-fb646dc9644d/zones/us-east4-a/instanceGroupManagers/lb-backend-group].
NAME: lb-backend-group
LOCATION: us-east4-a
SCOPE: zone
BASE_INSTANCE_NAME: lb-backend-group
SIZE: 0
TARGET_SIZE: 2
INSTANCE_TEMPLATE: lb-backend-template
AUTOSCALED: no
```

```
student_04_53a2ecdac9c4@cloudshell:~ (qwiklabs-gcp-02-fb646dc9644d)$ gcloud compute health-checks create http http-basic-check \
--port 80
Created [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-02-fb646dc9644d/global/healthChecks/http-basic-check].
NAME: http-basic-check
PROTOCOL: HTTP
student_04_53a2ecdac9c4@cloudshell:~ (qwiklabs-gcp-02-fb646dc9644d)$ gcloud compute backend-services create web-backend-service \
--protocol=HTTP \
--port-name=http \
--health-checks=http-basic-check \
--global
Created [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-02-fb646dc9644d/global/backendServices/web-backend-service].
NAME: web-backend-service
BACKENDS:
PROTOCOL: HTTP
student_04_53a2ecdac9c4@cloudshell:~ (qwiklabs-gcp-02-fb646dc9644d)$ gcloud compute backend-services add-backend web-backend-service \
--instance-group=lb-backend-group \
--instance-group-zone=us-east4-a \
--global
Updated [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-02-fb646dc9644d/global/backendServices/web-backend-service].
student_04_53a2ecdac9c4@cloudshell:~ (qwiklabs-gcp-02-fb646dc9644d)$ gcloud compute url-maps create web-map-http \
--default-service web-backend-service
Created [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-02-fb646dc9644d/global/urlMaps/web-map-http].
NAME: web-map-http
DEFAULT_SERVICE: backendServices/web-backend-service
student_04_53a2ecdac9c4@cloudshell:~ (qwiklabs-gcp-02-fb646dc9644d)$ gcloud compute target-http-proxies create http-lb-proxy \
--url-map web-map-http
Created [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-02-fb646dc9644d/global/targetHttpProxies/http-lb-proxy].
NAME: http-lb-proxy
URL_MAP: web-map-http
student_04_53a2ecdac9c4@cloudshell:~ (qwiklabs-gcp-02-fb646dc9644d)$ gcloud compute forwarding-rules create http-content-rule \
--address=lb-ipv4-1 \
--global \
--target-http-proxy=http-lb-proxy \
--ports=80
```

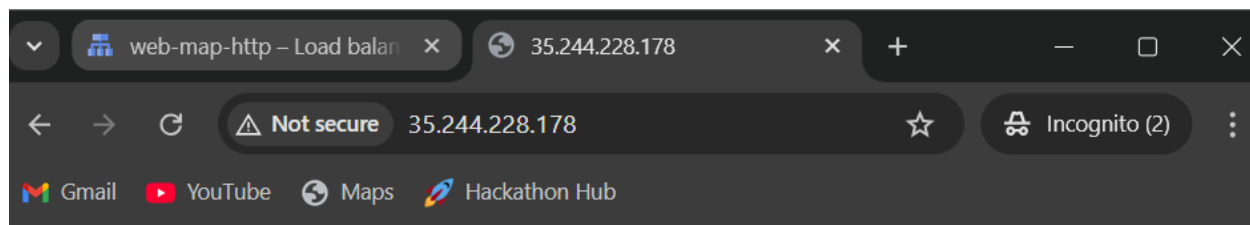
<input type="checkbox"/>	Name	Load balancer type	Access type	Protocols	Actions
<input type="checkbox"/>	web-map-http	Application (Classic)	External	HTTP	⋮

I confirmed that all the backend services are healthy based on the health check created to test the various VMs

✓	Name	Access type	Protocols	Region	Backends	Actions
✓	web-map-http	External	HTTP		✓ 1 backend service (1 instance group, 0 network endpoint groups)	⋮

All backend services are healthy

It worked!!



Page served from: lb-backend-group-jp58