

SETTING UP NETWORK LOAD BALANCER.

I set up a network load balancer and was able to send traffic to a forwarding rule and watched traffic get distributed to various instances.

I used the gcloud cli and ran several commands there.

Task 1: Setting up region and zones

Task 2: Creating my VMs instances that acted as the backend web servers.

Task 3: Creating a Load Balancer to distribute traffic automatically.

Task 4: Create a forwarding rule (routes network traffic to backend services of a load balancer)

Outputs:

```
student_04_00b08d33ec53@cloudshell:~ (qwiklabs-gcp-00-e9b180e3afe7)$ gcloud compute instances list
NAME: www1
ZONE: us-central1-a
MACHINE_TYPE: e2-small
PREEMPTIBLE:
INTERNAL_IP: 10.128.0.2
EXTERNAL_IP: 34.42.191.62
STATUS: RUNNING

NAME: www2
ZONE: us-central1-a
MACHINE_TYPE: e2-small
PREEMPTIBLE:
INTERNAL_IP: 10.128.0.3
EXTERNAL_IP: 35.226.232.134
STATUS: RUNNING

NAME: www3
ZONE: us-central1-a
MACHINE_TYPE: e2-small
PREEMPTIBLE:
INTERNAL_IP: 10.128.0.4
EXTERNAL_IP: 35.239.226.191
STATUS: RUNNING
```

```
student_04_00b08d33ec53@cloudshell:~ (qwiklabs-gcp-00-e9b180e3afe7)$ gcloud compute
addresses create network-lb-ip-1 \
  --region us-central1
Created [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-00-e9b180e3afe7
/regions/us-central1/addresses/network-lb-ip-1].
student_04_00b08d33ec53@cloudshell:~ (qwiklabs-gcp-00-e9b180e3afe7)$ gcloud compute
http-health-checks create basic-check
Created [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-00-e9b180e3afe7
/global/httpHealthChecks/basic-check].
NAME: basic-check
HOST:
PORT: 80
REQUEST_PATH: /
student_04_00b08d33ec53@cloudshell:~ (qwiklabs-gcp-00-e9b180e3afe7)$ gcloud compute
target-pools create www-pool \
  --region us-central1 --http-health-check basic-check
Created [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-00-e9b180e3afe7
/regions/us-central1/targetPools/www-pool].
NAME: www-pool
REGION: us-central1
SESSION_AFFINITY: NONE
BACKUP:
HEALTH_CHECKS: basic-check
student_04_00b08d33ec53@cloudshell:~ (qwiklabs-gcp-00-e9b180e3afe7)$ gcloud compute
target-pools add-instances www-pool \
  --instances www1,www2,www3
Updated [https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-00-e9b180e3afe7
/regions/us-central1/targetPools/www-pool].
```

```
student_04_00b08d33ec53@cloudshell:~ (qwiklabs-gcp-00-e9b180e3afe7)$ gcloud compute
forwarding-rules describe www-rule --region us-central1
IPAddress: 34.134.203.90
forwarding-rules describe www-rule --region us-central1
IPAddress: 34.134.203.90
IPProtocol: TCP
creationTimestamp: '2025-11-10T11:35:41.682-08:00'
description: ''
fingerprint: pY78jAHQxOY=
id: '9154757983173836898'
kind: compute#forwardingRule
labelFingerprint: 42WmSpB8rSM=
loadBalancingScheme: EXTERNAL
name: www-rule
networkTier: PREMIUM
portRange: 80-80
region: https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-00-e9b180e3afe7/
regions/us-central1
selfLink: https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-00-e9b180e3afe
7/regions/us-central1/forwardingRules/www-rule
selfLinkWithId: https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-00-e9b18
0e3afe7/regions/us-central1/forwardingRules/9154757983173836898
target: https://www.googleapis.com/compute/v1/projects/qwiklabs-gcp-00-e9b180e3afe7/
regions/us-central1/targetPools/www-pool
```

```
student_04_00b08d33ec53@cloudshell:~ (qwiklabs-gcp-00-e9b180e3afe7)$ while true; do  
curl -m1 34.134.203.90; done
```

```
<h3>Web Server: www3</h3>
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<h3>Web Server: www1</h3>
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<h3>Web Server: www3</h3>
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<h3>Web Server: www1</h3>
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<h3>Web Server: www1</h3>
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<h3>Web Server: www3</h3>
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<h3>Web Server: www2</h3>
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<h3>Web Server: www3</h3>
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<h3>Web Server: www1</h3>
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<h3>Web Server: www3</h3>
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<h3>Web Server: www1</h3>
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<h3>Web Server: www3</h3>
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```
<h3>Web Server: www2</h3>
```