

**GCP – HOL -Session 15**

Configure multiple Cloud Memorystore for Redis instances using Twemproxy and an internal load balancer in front of them.

**Create nine new Cloud Memorystore for Redis instances in asia-northeast1 region**

$ for i in {1..9}; do gcloud redis instances create redis${i} --size=1 --region=asia-northeast1 --tier=STANDARD; done

Prepare a Twemproxy container for deployment

$mkdir twemproxy

$ cd twemproxy

$ cat <<EOF > nutcracker.yml

gcloud redis instances list --region=asia-northeast1 | awk ‘{ printf “ - %s:%s:1\n”, $5, $6 }’ | tail -n +2 >> nutcracker.yml

Build a Twemproxy docker image

gcloud builds submit --tag gcr.io/<your-project>/twemproxy

\* Please replace <your-project> with your GCP project ID.

Note that a VM instance starts a container with --network="host" flag of the Docker run command by default.

**Create an instance template based on the Docker image**

gcloud compute instance-templates create-with-container twemproxy --machine-type=n1-standard-8 --tags=twemproxy-26379,allow-health-checks-tcp --container-image gcr.io/<your-project>/twemproxy:latest

\* Please replace <your-project> with your GCP project ID.

**Create a managed instance group using the template**

gcloud compute instance-groups managed create ig-twemproxy --base-instance-name ig-twemproxy --size 3 --template twemproxy --region asia-northeast1

gcloud compute instance-groups managed set-autoscaling ig-twemproxy --max-num-replicas 10 --min-num-replicas 3 --target-cpu-utilization 0.6 --cool-down-period 60 --region asia-northeast1

**Create a health check for the internal load balancer**

gcloud compute health-checks create tcp hc-twemproxy --port 26379 --check-interval 5 --healthy-threshold 2

**Create a back-end service for the internal load balancer**

gcloud compute backend-services create ilb-twemproxy --load-balancing-scheme internal --session-affinity client\_ip\_port\_proto --region asia-northeast1 --health-checks hc-twemproxy --protocol tcp

**Add instance groups to the back-end service**

gcloud compute backend-services add-backend ilb-twemproxy --instance-group ig-twemproxy --instance-group-region asia-northeast1 --region asia-northeast1

**Create a forwarding rule for the internal load balancer**

gcloud compute forwarding-rules create fr-ilb-twemproxy --load-balancing-scheme internal --ip-protocol tcp --ports 26379 --backend-service ilb-twemproxy --region asia-northeast1

**Configure firewall rules to allow the internal load balancer access to Twemproxy instances**

gcloud compute firewall-rules create allow-twemproxy --action allow --direction INGRESS --source-ranges 10.128.0.0/20 --target-tags twemproxy-26379 --rules tcp:26379

gcloud compute firewall-rules create allow-health-checks-tcp --action allow --direction INGRESS --source-ranges 130.211.0.0/22,35.191.0.0/16 --target-tags allow-health-checks-tcp --rules tcp