

Week10

Lab10

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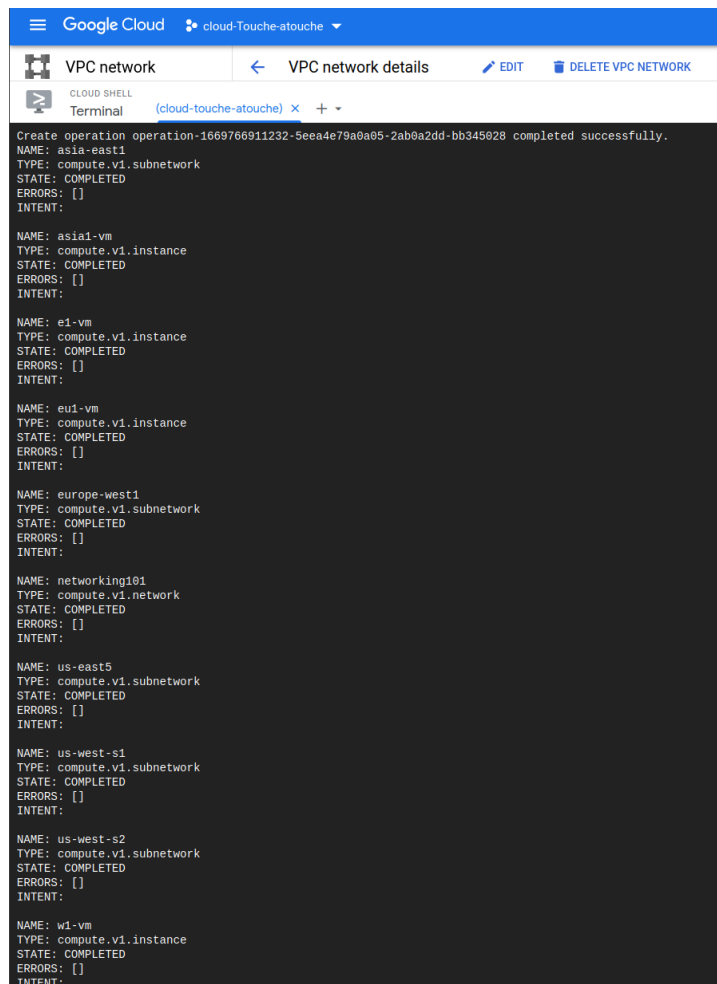
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1. Lab10

1.1. CDN

CDN ([Link](#))

- ☐ Part 1: Networks and VMs
- ☐ Deployment specification
- ☐ Network specification
- ☐ Subnetwork deployment specification
- ☐ Deployment
- ☐ **Take a screenshot of the output to include in your lab notebook. How many networks, subnetworks, and VM instances have been created?**



```
Google Cloud cloud-Touche-atoche
VPC network VPC network details EDIT DELETE VPC NETWORK
CLOUD SHELL
Terminal (cloud-touche-atoche) x +
Create operation operation-1669766911232-5eea4e79a0a05-2ab0a2dd-bb345028 completed successfully.
NAME: asia-east1
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: asia1-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: ei-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: eu1-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: europe-west1
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: networking101
TYPE: compute.v1.network
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: us-east5
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: us-west-s1
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: us-west-s2
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: w1-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:
```

- 1 Virtual Private Cloud network
- 5 Subnetworks
- 5 VM instances on Compute Engine

- ☐
- Visit the web console for VPC network and show the network and the subnetworks that have been created. Validate that it has created the infrastructure in the initial figure. Note the lack of firewall rules that have been created.

cloud-Touche-atouche

Search Compu

VPC network details

EDITDELETE VPC NETWORK

networking101

Subnet creation mode

Custom subnets

Dynamic routing mode

Regional

VPC network ILLA internal IPv6 range

Disabled

DNS server policy

Enable DNS API

Applying DNS server policies to the network requires DNS API. This is a one-time enablement per project and may take a few minutes to complete.

ENABLE API

None

Maximum transmission unit

1460

SUBNETSSTATIC INTERNAL IP ADDRESSESFIREWALLSROUTESVPC NETWORK PEERINGPRIVATE SERVICE CONNECTION

ADD SUBNETFLOW LOGS

Filter Enter property name or value

Name	Region	Stack Type	Internal IP ranges	External IP ranges	Secondary IPv4 ranges	Gateway	Private Google Access	Flow logs
asia-east1	asia-east1	IPv4	10.40.0.0/16	None	None	10.40.0.1	Off	Off
eu-west1	eu-west1	IPv4	10.30.0.0/16	None	None	10.30.0.1	Off	Off
us-east5	us-east5	IPv4	10.20.0.0/16	None	None	10.20.0.1	Off	Off
us-west-e1	us-west1	IPv4	10.10.0.0/16	None	None	10.10.0.1	Off	Off
us-west-e2	us-west1	IPv4	10.11.0.0/16	None	None	10.11.0.1	Off	Off

- ☐
- Visit the web console for Compute Engine and show all VMs that have been created, their internal IP addresses and the subnetworks they have been instantiated on. Validate that it has created the infrastructure shown in the

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VM instances

CREATE INSTANCIMPORT VMREFRESHSTART / RESUMESTOPSUSPENDRESETDELETECREATE SCHEDULE

INSTANCES

INSTANCE SCHEDULES

VM instances are highly configurable virtual machines for running workloads on Google infrastructure. [Learn more](#)

Filter Enter property name or value

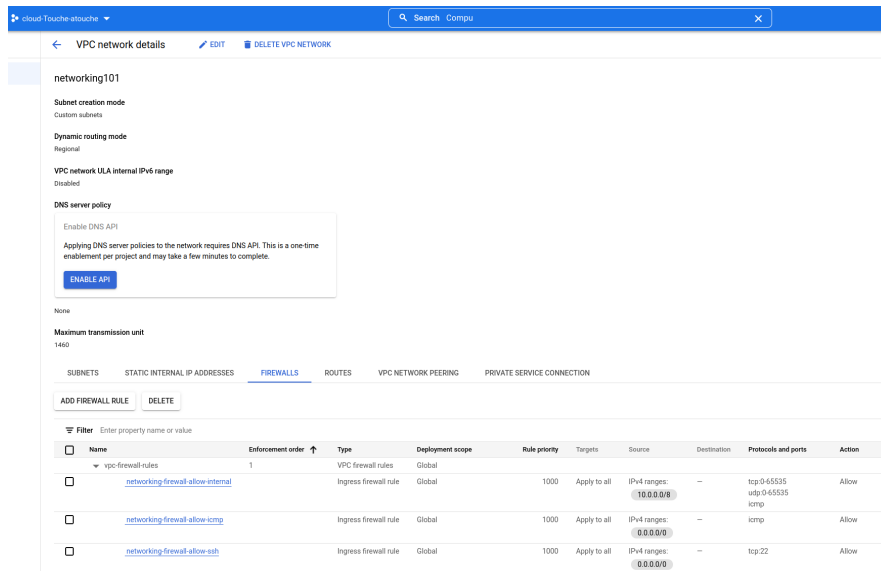
Status	Name	Zone	Recommendations	In use by	Internal IP	External IP	Connect
✓	asia1-vm	asia-east1-b			10.40.0.2 (nic0)	35.221.255.194 (nic0)	SSH
✓	e1-vm	us-east5-a			10.20.0.2 (nic0)	34.162.42.63 (nic0)	SSH
✓	eu1-vm	eu-west1-d			10.30.0.2 (nic0)	34.140.226.147 (nic0)	SSH
✓	w1-vm	us-west1-b			10.10.0.2 (nic0)	34.105.109.223 (nic0)	SSH
✓	w2-vm	us-west1-b			10.11.0.100 (nic0)	34.127.90.34 (nic0)	SSH

initial figure.

- ☐
- Click on the ssh button for one of the VMs and attempt to connect. Did it succeed?

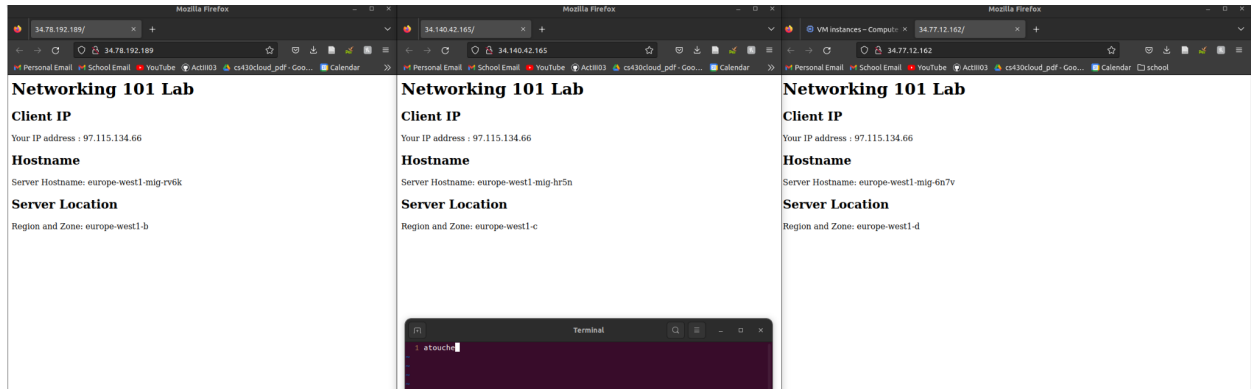
 - No, because in our VPC network, we did add an ingress rule to allow TCP forwarding netblock to the SSH port (port=22).

- ☐ Firewall deployment
- ☐ Update deployment
- ☐ **Take a screenshot that indicates the new rules have been deployed**

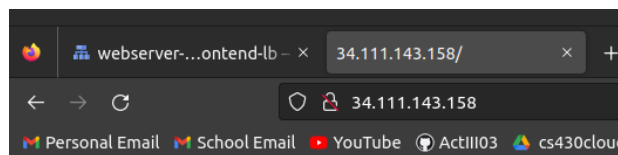


- ☐ Latency deployment
- ☐ Latency measurements
 - ☐ **Measured latency**
 - us-west1 to us-east5 measured latency (min) is 49.891 ms
 - us-west1 to europe-west1 measured latency (min) is 136.463 ms
 - us-west1 to asia-east1 measured latency (min) is 115.822 ms
 - us-east5 to europe-west1 measured latency (min) is 97.019 ms
 - us-east5 to asia-east1 measured latency (min) is 169.233 ms
 - europe-west1 to asia-east1 measured latency (min) is 250.023 ms
- ☐ Part 2: Scaling via Instance Groups and Load Balancing
- ☐ Firewall rule for HTTP
- ☐ Instance templates
- ☐ Health Check
- ☐ Managed Instance Group (europe-west1-mig)
- ☐ Managed Instance Group (us-east5-mig)

- ☐ Test groups
 - ☐ Are the instances in the same availability zone or in different ones?
 - They are in the same Region but not same availability zones
 - ☐ List all availability zones that your servers show up in for your lab notebook.



- ☐ HTTP load balancer
- ☐ HTTP load balancer
- ☐ Test load balancer
 - ☐ Which availability zone does the server handling your request reside in?



Networking 101 Lab

Client IP

Your IP address : 35.191.20.180

Hostname

Server Hostname: us-east5-mig-516v

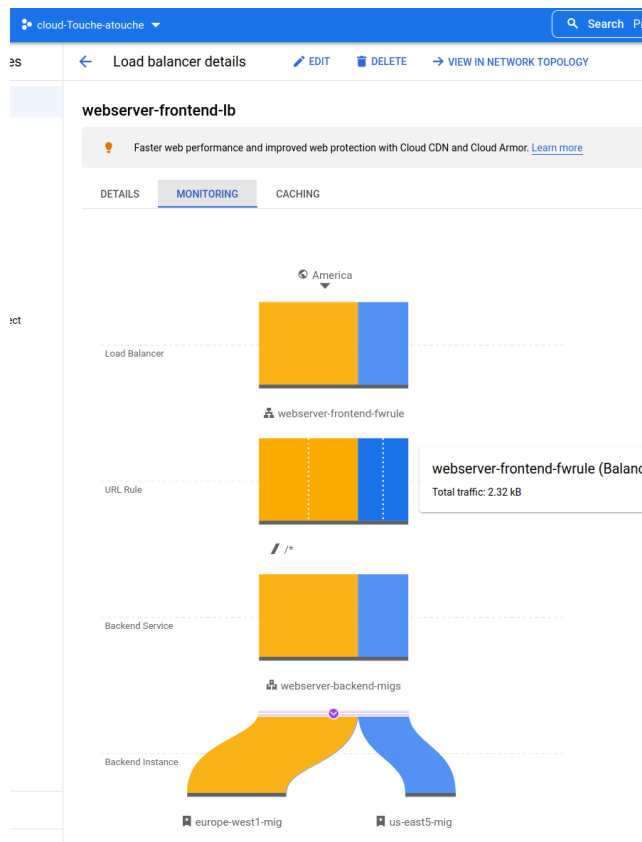
Server Location

Region and Zone: us-east5-c

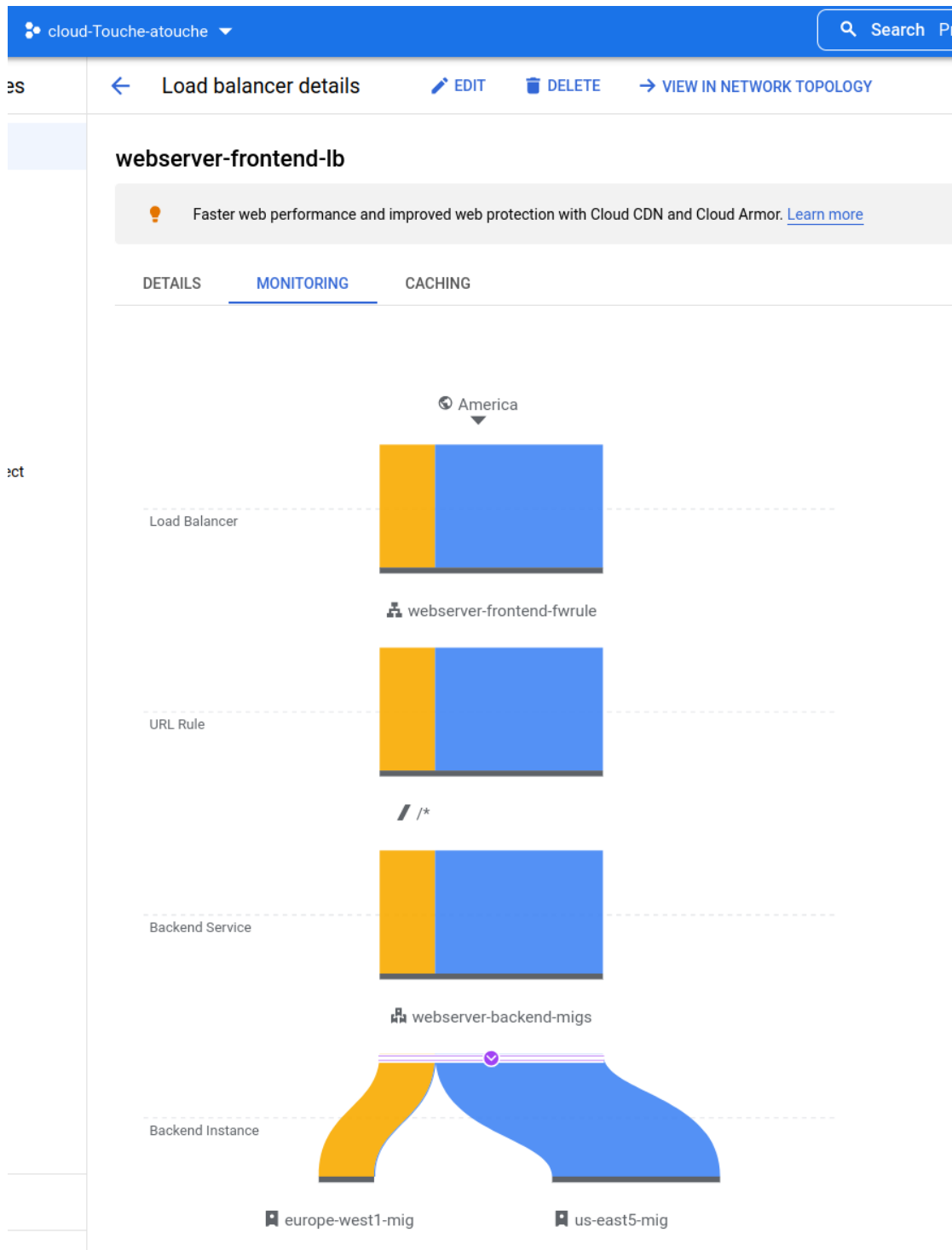


- us-east5-c

- ☐ Siege! (Part 1)
 - ☐ Take a screenshot of the initial traffic distribution



- ☐ Take a screenshot of the UI as additional instances are brought up and show that the traffic distribution shifts



☐ Siege! (Part 2)

☐ Show a screenshot of the final traffic distribution.



☐ Clean-up