

# **Lab notebook Week 10**

**Submitted by: Vishrut Sharma (OdinID: vishrut)**

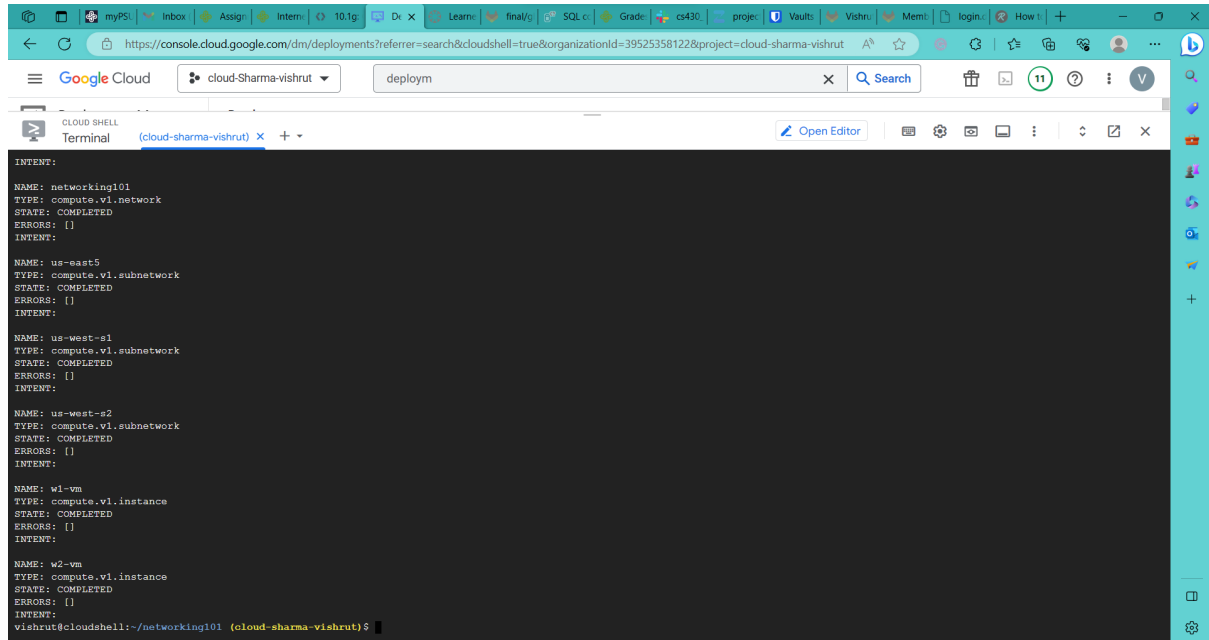
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# 10.1g: CDN

## 6. Deployment

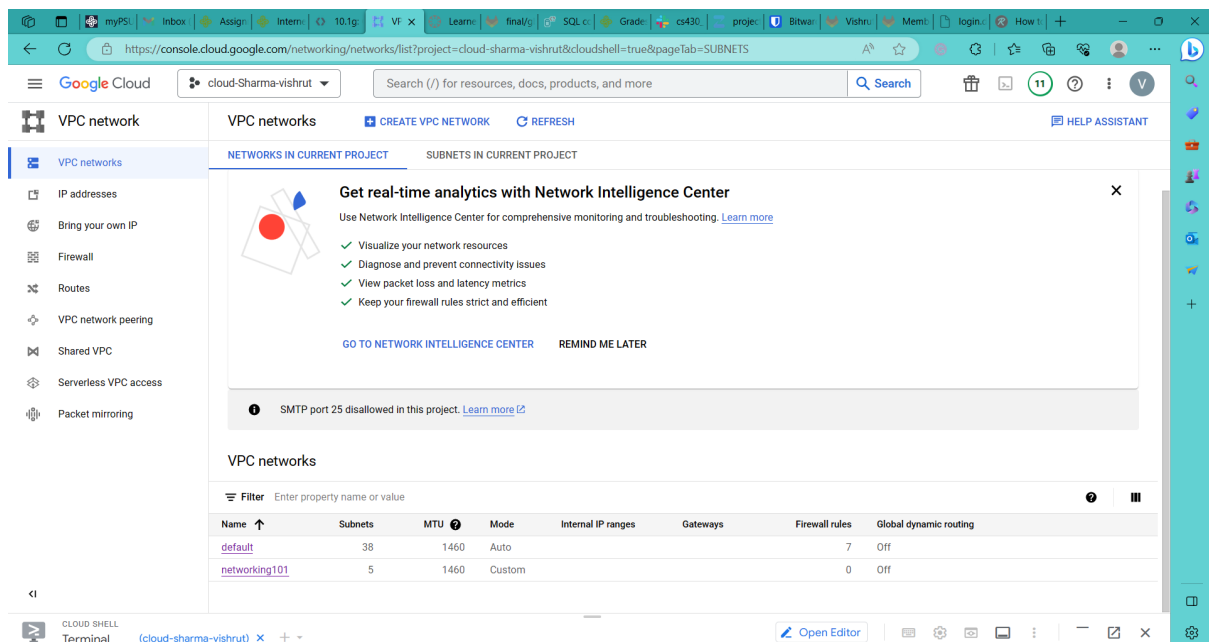
- Take a screenshot of the output to include in your lab notebook. How many networks, subnetworks, and VM instances have been created?



```
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-e1
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:
NAME: us-west-e2
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:
NAME: w1-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:
NAME: w2-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:
vishrut@cloudshell:~/networking101 (cloud-sharma-vishrut)$
```

1 network, 5 subnetworks, and 5 VM instances have been created

- 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.



**VPC network**

**Get real-time analytics with Network Intelligence Center**

- Visualize your network resources
- Diagnose and prevent connectivity issues
- View packet loss and latency metrics
- Keep your firewall rules strict and efficient

[GO TO NETWORK INTELLIGENCE CENTER](#) [REMINDE ME LATER](#)

**VPC networks**

Name	Subnets	MTU	Mode	Internal IP ranges	Gateways	Firewall rules	Global dynamic routing
default	38	1460	Auto			7	Off
networking101	5	1460	Custom			0	Off

**VPC network details**

**SUBNETS**

Name	Region	Stack Type	Internal IP ranges	External IP ranges	Secondary IP
asia-east1	asia-east1	IPv4	10.40.0.0/16	None	None
europe-west1	europe-west1	IPv4	10.30.0.0/16	None	None
us-east5	us-east5	IPv4	10.20.0.0/16	None	None
us-west-s1	us-west1	IPv4	10.10.0.0/16	None	None
us-west-s2	us-west1	IPv4	10.11.0.0/16	None	None

**Reserved proxy-only subnets for load balancing**

Name	Region	IP address ranges	Gateway	Role	Purpose
No rows to display					

**Select a subnet**

Please select at least one resource.

- 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 initial figure.

**Compute Engine VM instances**

**INSTANCES**

Status	Name	Zone	Recommendations	In use by	Internal IP	External IP	Network	Connect
✓	asia1-vm	asia-east1-b			10.40.0.2 (nic0)	35.234.56.245 (nic0)	networking101	SSH
✓	e1-vm	us-east5-a			10.20.0.2 (nic0)	34.162.237.53 (nic0)	networking101	SSH
✓	eu1-vm	europe-west1-d			10.30.0.2 (nic0)	146.148.125.244 (nic0)	networking101	SSH
✓	w1-vm	us-west1-a			10.10.0.2 (nic0)	34.127.50.146 (nic0)	networking101	SSH
✓	w2-vm	us-west1-a			10.11.0.100 (nic0)	35.203.141.71 (nic0)	networking101	SSH

**Related actions**

- Explore Backup and DR
- View billing report
- Monitor VMs
- Explore VM logs
- Set up firewall rules
- Patch management
- Load balance between VMs

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

**Answer:** It failed due to the lack of firewall rules.

## 8. Update deployment

- Take a screenshot that indicates the new rules have been deployed

```
ERRORS: []
INTENT:
vishrut@cloudshell:~/networking101 (cloud-sharma-vishrut)$ vim networking-lab.yaml
vishrut@cloudshell:~/networking101 (cloud-sharma-vishrut)$ vim firewall-template.jinja
vishrut@cloudshell:~/networking101 (cloud-sharma-vishrut)$ gcloud deployment-manager deployments update networking101 --config networking-lab.yaml
The fingerprint of the deployment is b'McT--Dtg3J5uWcuW1-PyEA=='
Waiting for update [operation-1686156631043-5fd8cef076d45-6566ae94-9101celb]...done.
Update operation operation-1686156631043-5fd8cef076d45-6566ae94-9101celb 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: e1-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: europe-west1
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:
NAME: networking-firewall-allow-icmp
TYPE: compute.v1.firewall
STATE: COMPLETED
ERRORS: []
INTENT:
NAME: networking-firewall-allow-internal
TYPE: compute.v1.firewall
STATE: COMPLETED
ERRORS: []
INTENT:
NAME: networking-firewall-allow-ssh
TYPE: compute.v1.firewall
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
```

## 9. Latency measurements

Location pair	Ideal latency	Measured latency
us-west1 us-east5	~45 ms	49.381
us-west1 europe-west1	~93 ms	134.537
us-west1 asia-east1	~114 ms	120.289
us-east5 europe-west1	~76 ms	96.280
us-east5 asia-east1	~141 ms	163.255
europe-west1 asia-east1	~110 ms	247.790

## 16. Test groups

- Are the instances in the same availability zone or in different ones?

Answer: They are in different zones.

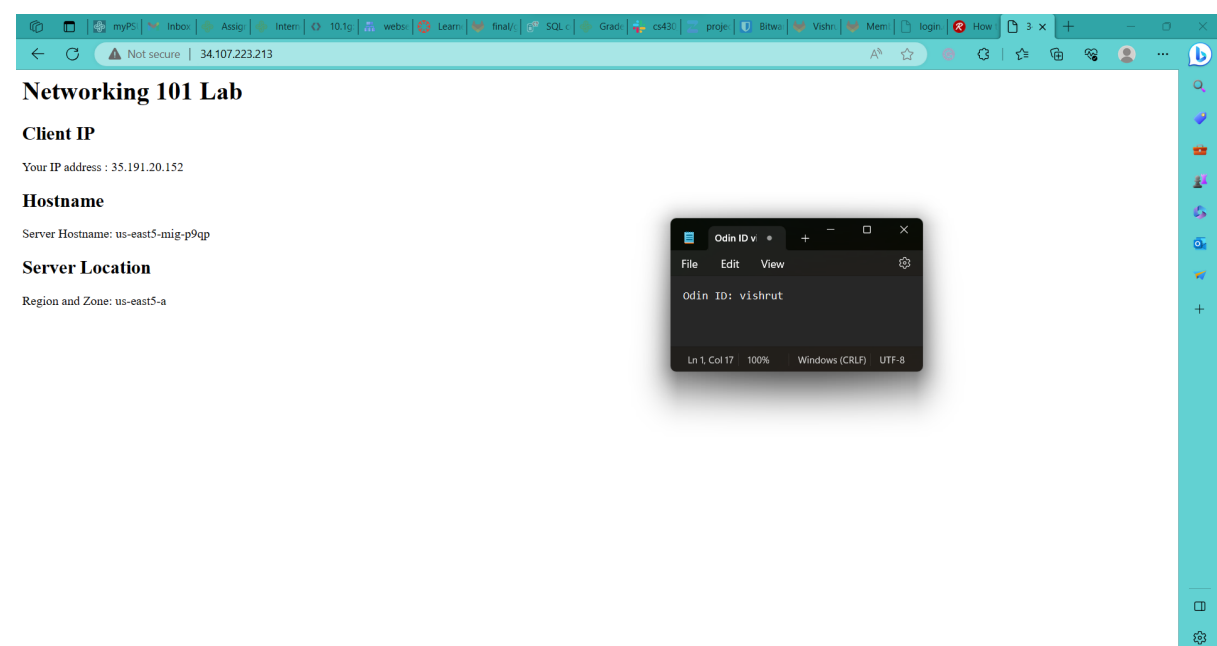
- List all availability zones that your servers show up in for your lab notebook.

Answer: us-east5-a, europe-west1-d, europe-west1-b, europe-west1-c

## 19. Test load balancer

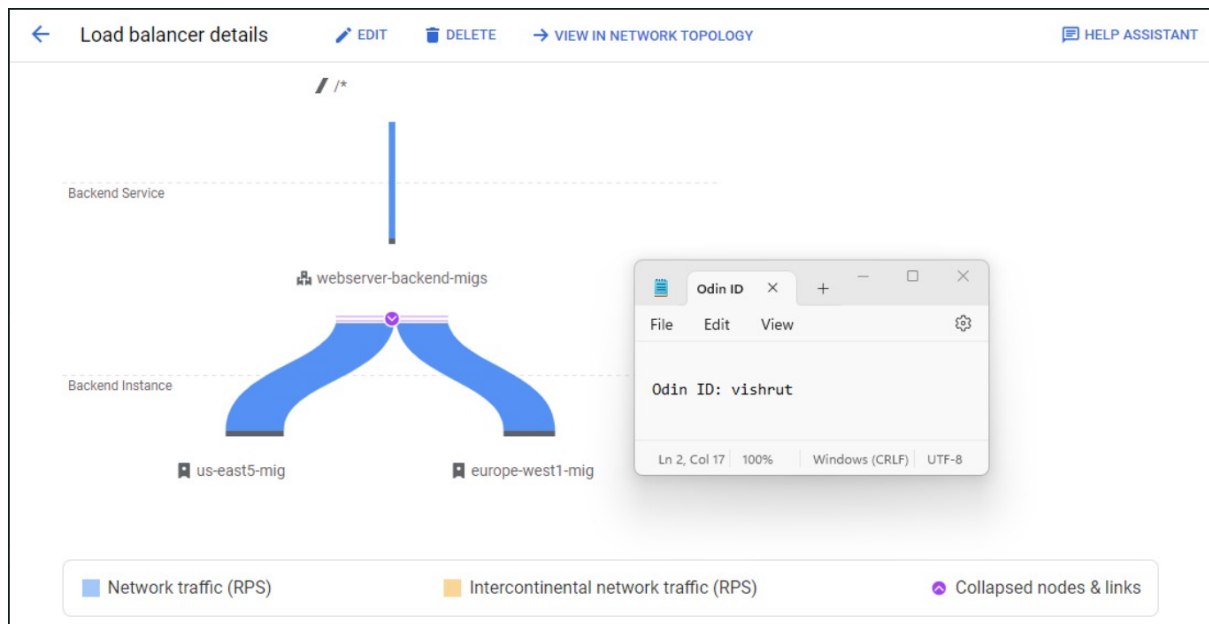
- Which availability zone does the server handling your request reside in?

Answer: It resides in us-east5-a

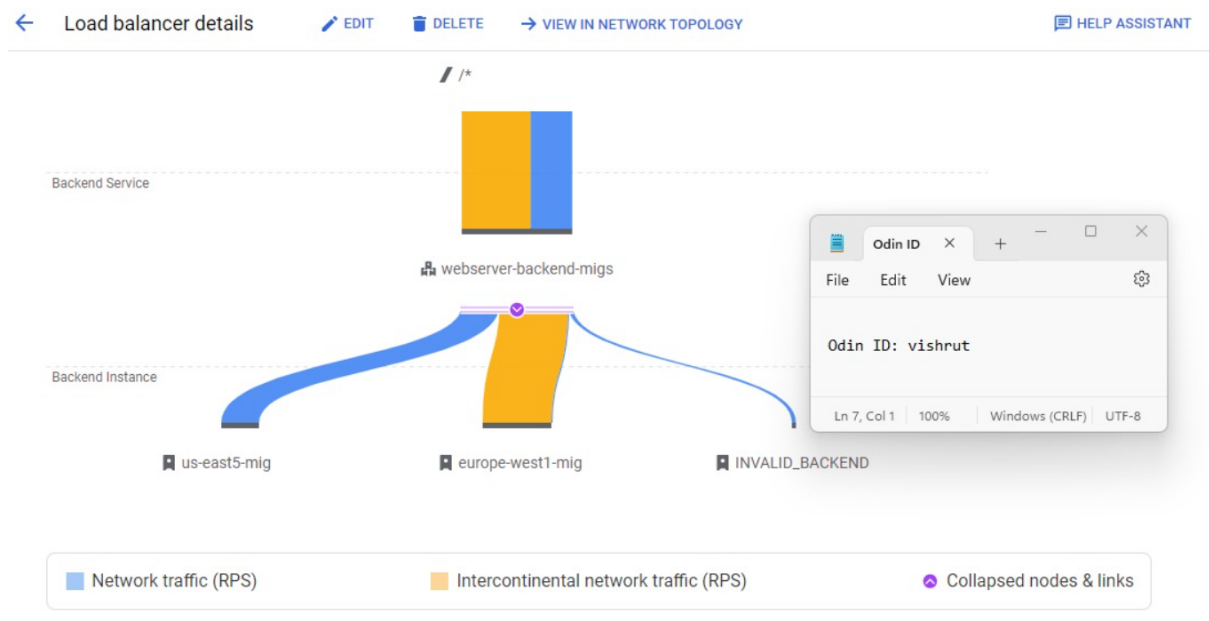


## 20. Siege! (Part 1)

- 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



## 21. Siege! (Part 2)

- Show a screenshot of the final traffic distribution.

