National University of Sciences and Technology (NUST)
School of Electrical Engineering and Computer Science

Department of Computing

SE-315: Cloud Computing

Lab 05: Cloud Marketplace – Deploy LAMP stack.

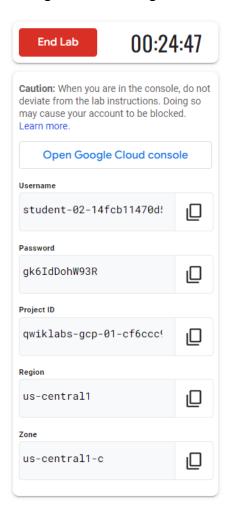### Working with VPC Networking and Google Compute Engine

Date: 9.10.24

Lab 05: Cloud Marketplace – Deploy LAMP stack. Working with VPC Networking and Google Compute
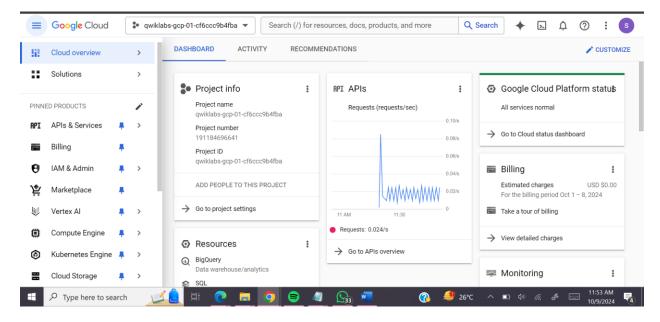
Introduction:

This lab consists of two tasks:

1. Deploy LAMP stack using Google Cloud Marketplace
2. Working with VPC networking and Google compute
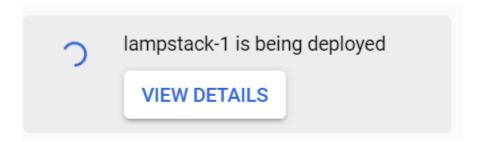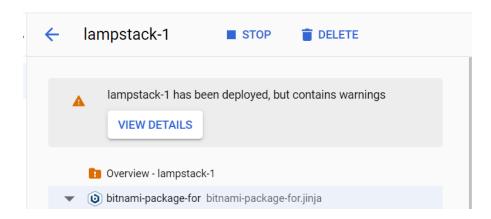
1. Sign in to the Google Cloud Console

End Lab	00:24:47

Caution: When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked. Learn more.

Open Google Cloud console

Username

student-02-14fcb11470d!

Password

gk6IdDohW93R

Project ID

qwiklabs-gcp-01-cf6ccc!

Region

us-central1

Zone

us-central1-c

2. Use Cloud Marketplace to deploy a LAMP stack

Lampstack successfully deployed:

3. Verify your deployment

Task B
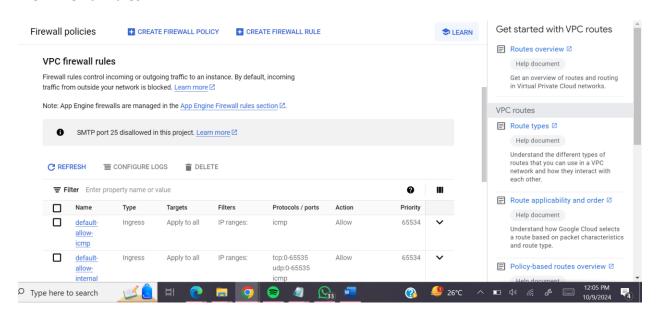1. Explore the default network

View the subnets

View the routes
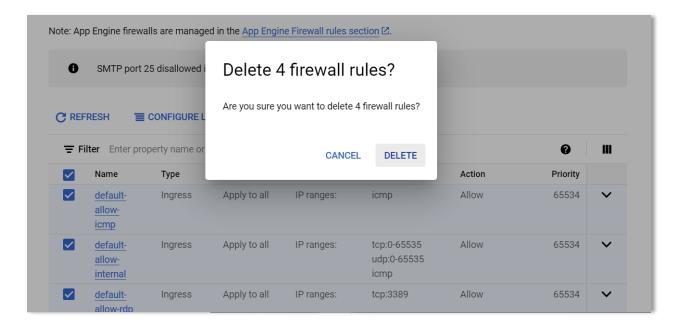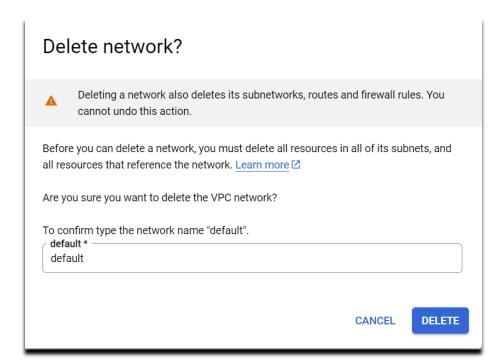
Routes

View firewall rules

Delete the default network

Deleting firewall rules

Deleting VPC network

Without a VPC network, there are no routes!

Routes

🎓 LEARN

EFFECTIVE ROUTES ROUTE MANAGEMENT

Select the VPC network and region for which you want to view routes

Network *
default ▼

Region *
us-central1 (Iowa) ▼ ❓

VIEW **REFRESH**

≡ Filter Enter property name or value   ❓ ⬤ Show suppressed routes III

Status	Name ↑	Type	IP version	Destination IP range	Priority	Scope limits ❓	Next hop

No rows to display

Successfully deleted network ✕

Can not create a VM instance due to unavailability of network

Edit network interface

Network *

⚠ Network is required

⚠ No more networks available in this project

Subnetwork

⚠ You must select a subnetwork

2. Create a VPC network and VM instances

Create an auto mode VPC network with Firewall rules
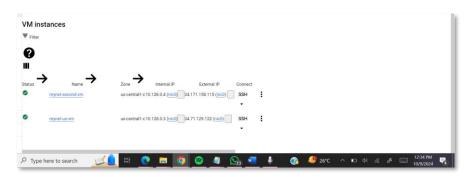

Creating network "mynetwork"...   ✕

Viewing the subnets and noting IP ranges

Creating a vm instance

3. Test your understanding

Accessing SSH server

PINIGING THE SECOND VM SUCCESSFULLY

4. **Remove the allow-icmp firewall rules**

Delete a firewall rule

Are you sure you want to delete firewall rule "mynetwork-allow-icmp"?

CANCEL   DELETE

100% Packet loss when accessing external IP of second vm

```
sfatima_bese22seecs@mynet-us-vm:~$ ping -c 3 10.128.0.4
PING 10.128.0.4 (10.128.0.4) 56(84) bytes of data.
64 bytes from 10.128.0.4: icmp_seq=1 ttl=64 time=1.17 ms
64 bytes from 10.128.0.4: icmp_seq=2 ttl=64 time=0.254 ms
64 bytes from 10.128.0.4: icmp_seq=3 ttl=64 time=0.299 ms

--- 10.128.0.4 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2011ms
rtt min/avg/max/mdev = 0.254/0.573/1.167/0.420 ms
sfatima_bese22seecs@mynet-us-vm:~$ ping -c 3 34.171.158.115
PING 34.171.158.115 (34.171.158.115) 56(84) bytes of data.

--- 34.171.158.115 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2056ms

sfatima_bese22seecs@mynet-us-vm:~$
```

5. **Remove the allow-custom firewall rules**

✅ Delete firewall rule "mynetwork-allow-custom"   Just now
My First Project

100% packet loss when accessing the internal IP of the second vm instance
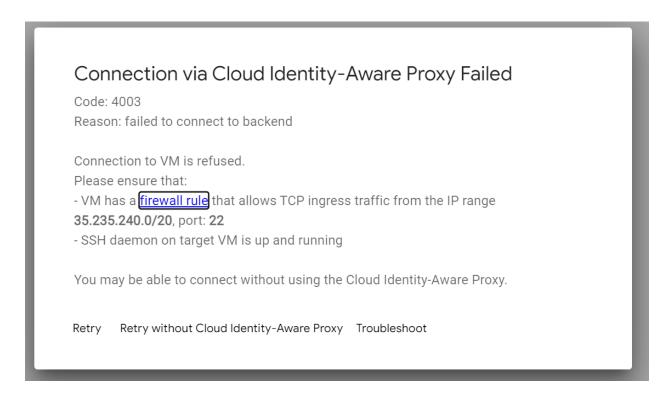
```
sfatima_bese22seecs@mynet-us-vm:~$ ping -c 3 10.128.0.4
PING 10.128.0.4 (10.128.0.4) 56(84) bytes of data.

--- 10.128.0.4 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2053ms
```

6. Remove the allow-ssh firewall rules

✅ Delete firewall rule "mynetwork-allow-ssh"   Just now
My First Project

Trying to access the SSH server of mynet-us-vm

Connection via Cloud Identity-Aware Proxy Failed

Code: 4003
Reason: failed to connect to backend

Connection to VM is refused.
Please ensure that:
- VM has a firewall rule that allows TCP ingress traffic from the IP range
35.235.240.0/20, port: 22
- SSH daemon on target VM is up and running

You may be able to connect without using the Cloud Identity-Aware Proxy.

Retry   Retry without Cloud Identity-Aware Proxy   Troubleshoot

The **Connection failed** message indicates that you are unable to SSH to **mynet-us-vm** because you deleted the **allow-ssh** firewall rule!

DELETING VM INSTANCES:

```
sfatima_bese22seecs@cloudshell:~ (massive-tea-433020-b2)$ gcloud compute instances delete mynet-second-vm mynet-us-vm --zone=us-ce
ntral1-c
The following instances will be deleted. Any attached disks configured to be auto-deleted will be deleted unless they are attached
 to any other instances or the `--keep-disks` flag is given and specifies them for keeping. Deleting a disk is irreversible and
any data on the disk will be lost.
 - [mynet-second-vm] in [us-central1-c]
 - [mynet-us-vm] in [us-central1-c]

Do you want to continue (Y/n)?  y

Deleted [https://www.googleapis.com/compute/v1/projects/massive-tea-433020-b2/zones/us-central1-c/instances/mynet-second-vm].
Deleted [https://www.googleapis.com/compute/v1/projects/massive-tea-433020-b2/zones/us-central1-c/instances/mynet-us-vm].
sfatima_bese22seecs@cloudshell:~ (massive-tea-433020-b2)$
```

DELETING COMPUTE ENGINE API:

```
sfatima_bese22seecs@cloudshell:~ (massive-tea-433020-b2)$ gcloud services disable compute.googleapis.com --force
Operation "operations/acf.p17-597660719414-10afe73a-a79a-4982-9983-82f65cc26f1a" finished successfully.
sfatima_bese22seecs@cloudshell:~ (massive-tea-433020-b2)$
```

Available credits by the end of the lab:

Status	Percent remaining	Remaining value	Original value
→	→	→	→
✅ Available	99%	$49.64	$50.00