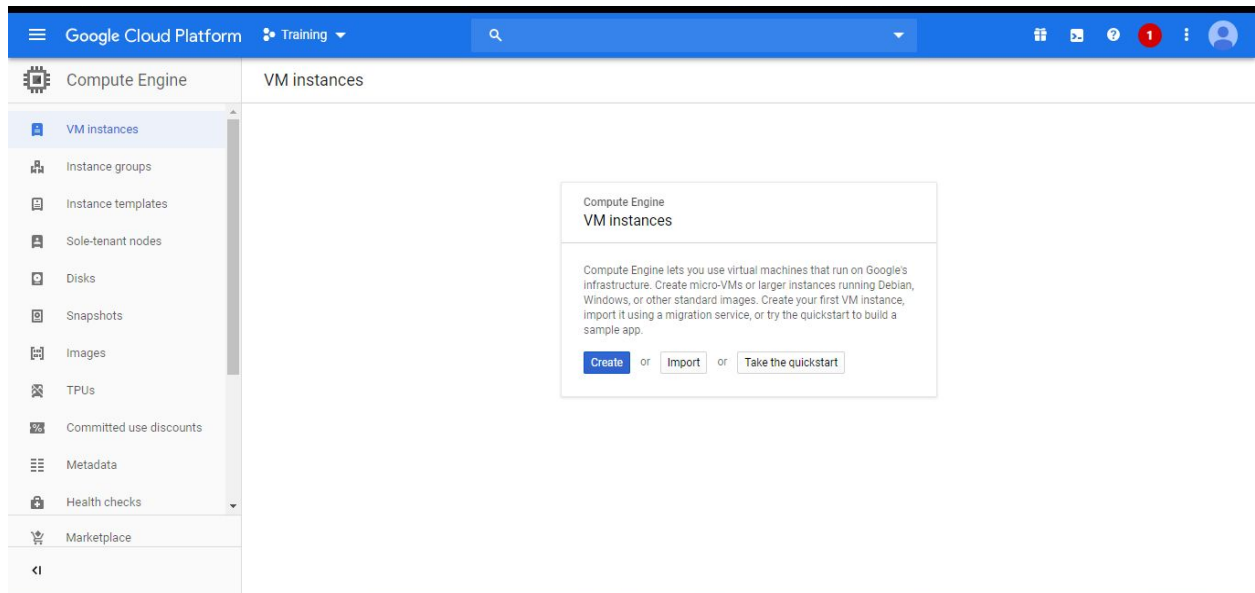


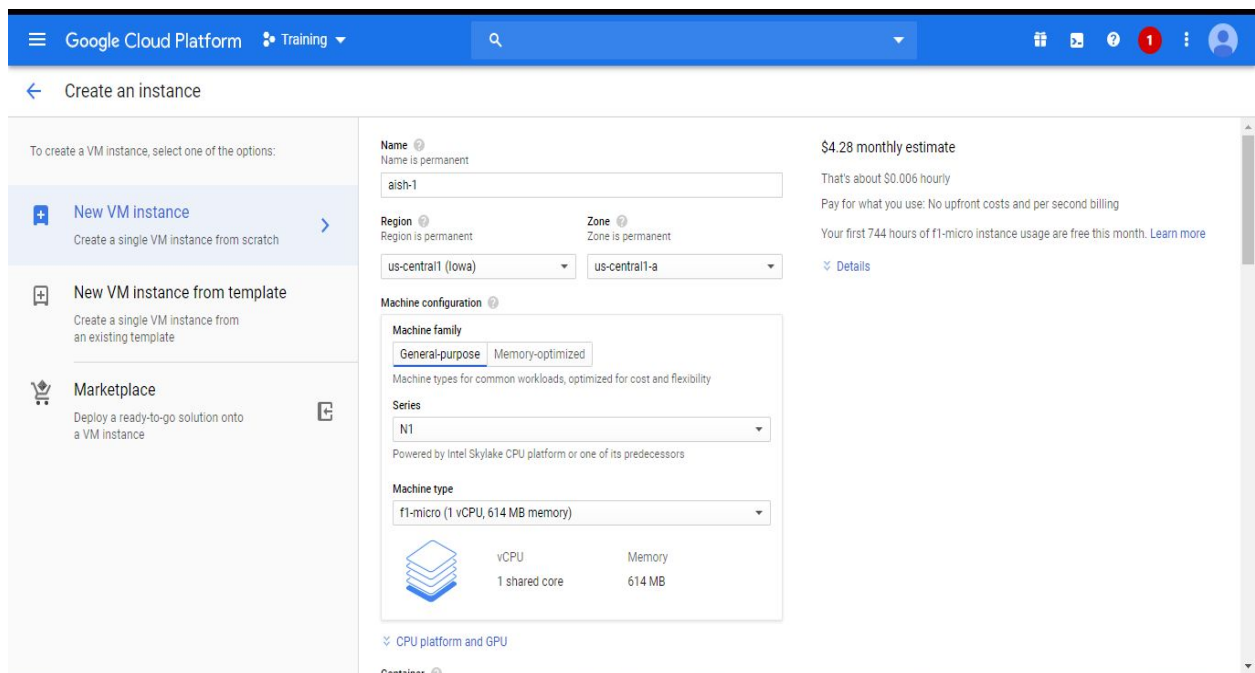
GCP assessment on VPC

Q1) Create an instance A in default VPC.

Steps: 1. Go to Compute Engine >> VM instances >> Create Instance



2. Name the Instance and configure it.



3. In Networking Interface select **Default** network.

← Create an instance

Network interface

Network ?
default

Subnetwork ?
default (10.128.0.0/20)

Primary internal IP ?
Ephemeral (Automatic)

⌵ Show alias IP ranges

External IP ?
Ephemeral

Network Service Tier ?
☒ Premium (Current project-level tier, change) ?
☐ Standard (us-central1) ?

IP forwarding ?
Off

Public DNS PTR Record ?
☐ Enable
PTR domain name

4. Click on Create. An Gcp instance in default VPC would be created.

Q2.) Launch instance B with only private ip in default VPC in different zone.

Steps:

- 1.Go to Compute Engine>>VM instances>>Create Instance
- 2.Name the Instance and configure it (**Select different Region than that of above instance**)
3. In Networking Interface select **Default** network.
- 4.Choose External IP as **none**.(To create instance with only private IP).

The screenshot shows the Google Cloud Platform interface for creating a new instance. The top navigation bar includes the Google Cloud Platform logo, a 'Training' dropdown, and a search bar. Below the navigation bar, a breadcrumb trail shows 'Create an instance'. The main content area is divided into two sections. The left section is a large, empty gray box. The right section is a configuration panel titled 'Network interface' with a blue header and an upward arrow. This panel contains several dropdown menus: 'Network' set to 'default', 'Subnetwork' set to 'default (10.128.0.0/20)', and 'Primary internal IP' set to 'Ephemeral (Automatic)'. Below these is a link 'Show alias IP ranges'. Further down, 'External IP' is set to 'None', and 'IP forwarding' is set to 'Off'. At the bottom of the panel are 'Done' and 'Cancel' buttons. Below the panel is a button with a plus icon and the text '+ Add network interface'.

Q3.configure NAT so instance can access Internet.

Steps:

- 1.Go to the Cloud NAT page in the Google Cloud Console.
- 2.Click **Get started** or **Create NAT gateway**.
- 3.Enter a **Gateway name**.
- 4.Choose a **VPC network**.
- 5.Set the **Region** for the NAT gateway.
- 6.Select or create a **Cloud Router** in the region.
- 7.Select 'Primary ranges for all subnets' in NAT Mapping (for Compute Engine).
- 8.Click on create.This will allow all private subnets to connect to internet using **NAT**.

Q4)SSH into Instance B using instance A and try to install nginx.

Steps:

1. SSH to your public instance.
2. In the terminal,type ssh <private-instance-name> (This will take us to the terminal in the private instance).
3. Type sudo apt-get install nginx.

	Name ^	Zone	Recommendation	In use by	Internal IP	External IP	Connect
<input type="checkbox"/>	private1	us-central1-a			10.128.0.32 (nic0)	None	SSH
<input checked="" type="checkbox"/>	public1	us-central1-c			10.128.0.33 (nic0)	35.225.159.179 ↗	SSH

Ssh into private1 using public1 instance:

```
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
aishwary_chauhan@public1:~$ ssh private1
The authenticity of host 'private1 (10.128.0.32)' can't be established.
ECDSA key fingerprint is SHA256:NWAvGnzM89hVzqrhlXi8X35kALi8B1aYZCzJ8v9zPr4.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'private1,10.128.0.32' (ECDSA) to the list of known hosts.
Linux private1 4.9.0-11-amd64 #1 SMP Debian 4.9.189-3+deb9u2 (2019-11-11) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
aishwary_chauhan@private1:~$
```

Installing nginx:

```
aishwary_chauhan@private1:~$ sudo apt-get install nginx
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libgd3 libgeoip1 libicu57 libjpeg62-turbo libnginx-mod-http-auth-pam libnginx-mod-http-dav-ext libnginx-mod-http-echo
  libnginx-mod-http-geoip libnginx-mod-http-image-filter libnginx-mod-http-substitutions libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream libtiff5
  libwebp6 libx11-6 libx11-data libxau6 libxcb1 libxdmcp6 libxml2 libxpm4 libxslt1.1 nginx-common nginx-full
  sgml-base xml-core
Suggested packages:
  libgd-tools geoip-bin fcgiwrap nginx-doc ssl-cert sgml-base-doc debhelper
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libgd3 libgeoip1 libicu57 libjpeg62-turbo libnginx-mod-http-auth-pam libnginx-mod-http-dav-ext libnginx-mod-http-echo
  libnginx-mod-http-geoip libnginx-mod-http-image-filter libnginx-mod-http-substitutions libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream libtiff5
  libwebp6 libx11-6 libx11-data libxau6 libxcb1 libxdmcp6 libxml2 libxpm4 libxslt1.1 nginx nginx-common
  nginx-full sgml-base xml-core
0 upgraded, 34 newly installed, 0 to remove and 0 not upgraded.
Need to get 16.4 MB of archives.
After this operation, 53.6 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
0% [Connecting to prod.debian.map.fastly.net (151.101.184.204)]
```