

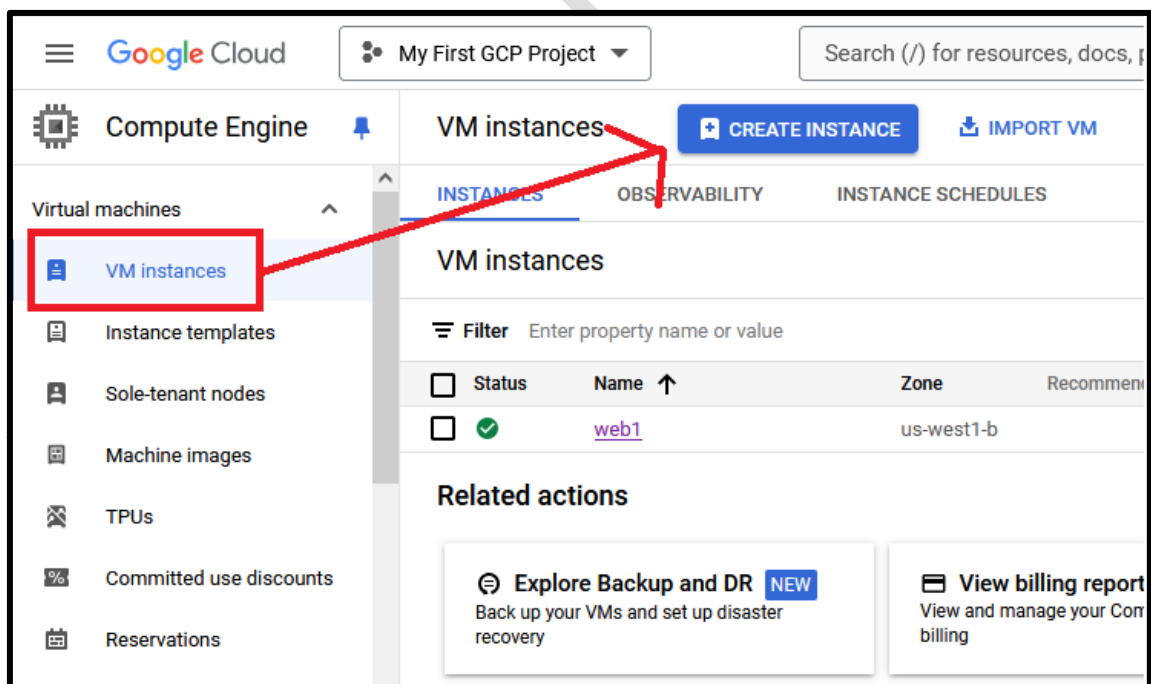
# Google Cloud Platform Practices

## 1. Virtual machines

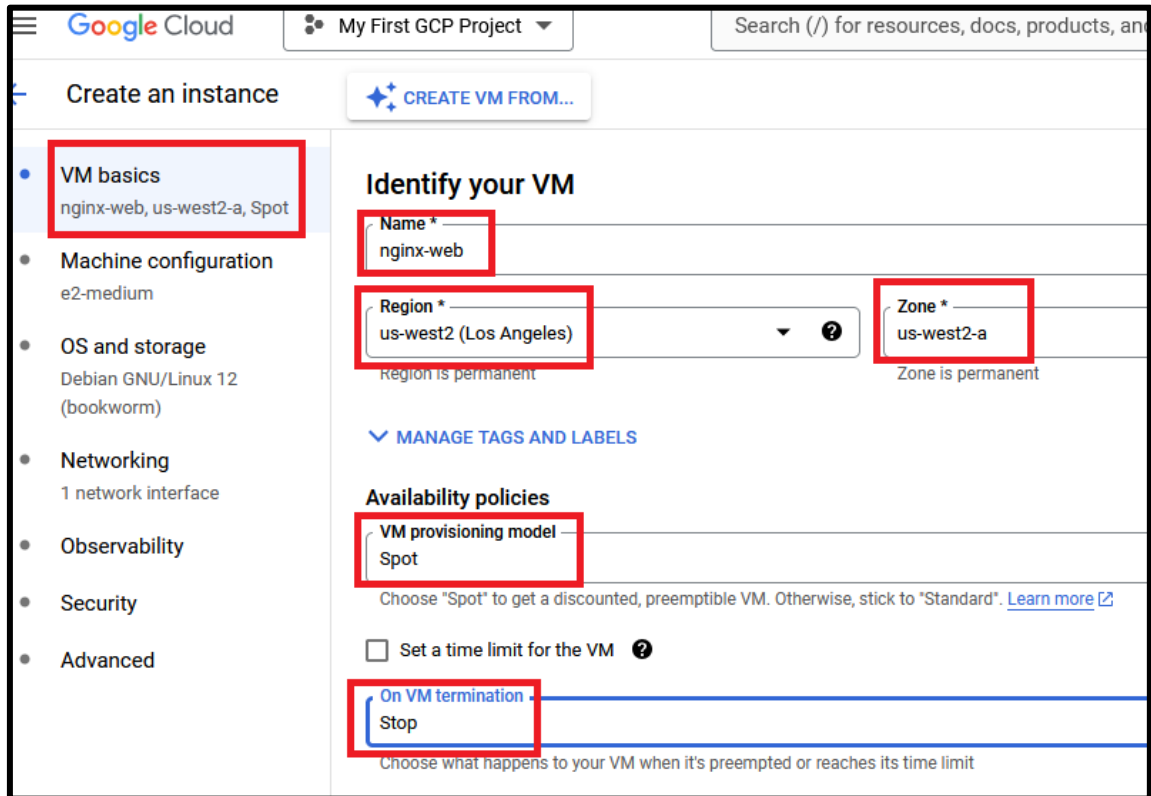
- Create a virtual machine with the following characteristics

Name	Nginx-web
Region	Us-west2
Zone	Us-west2-a
Series	E2
Type	E2-small
Provisioning model	Spot
At the end of the vm	Stop
Operating system	Rocky Linux 8

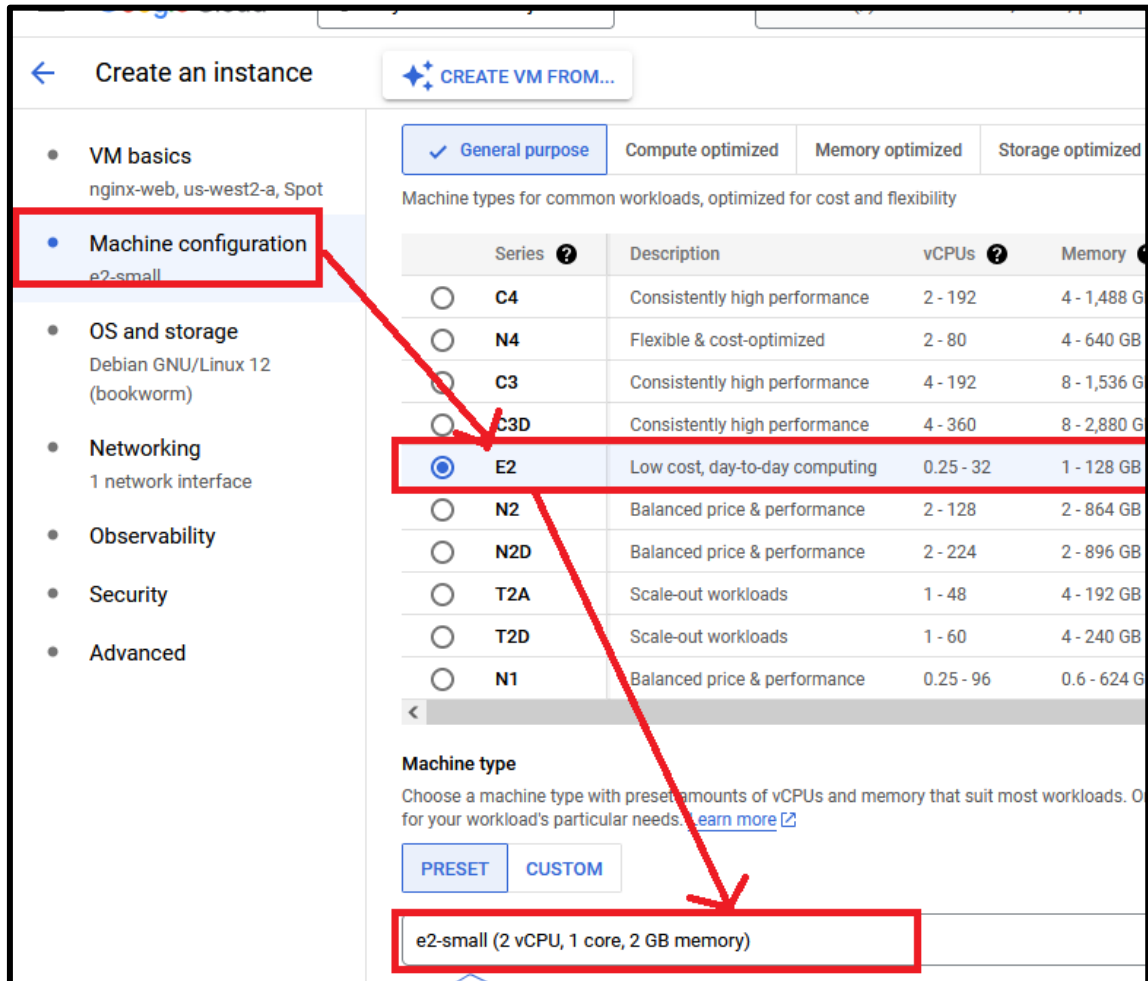
- We select “VM instances” and “CREATE INSTANCE”



- We write the data of the VM in the fields



- We select “Machine configuration” tab and select the E2 machine type



← Create an instance CREATE VM FROM...

- VM basics  
nginx-web, us-west2-a, Spot
- Machine configuration**  
e2-small
- OS and storage  
Debian GNU/Linux 12 (bookworm)
- Networking  
1 network interface
- Observability
- Security
- Advanced

General purpose Compute optimized Memory optimized Storage optimized

Machine types for common workloads, optimized for cost and flexibility

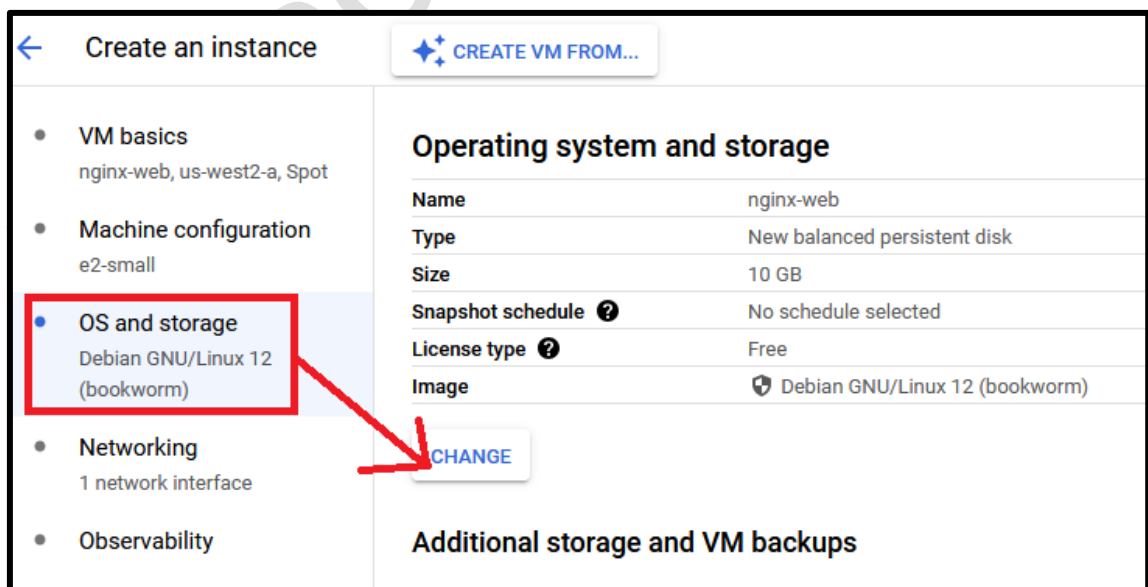
Series	Description	vCPUs	Memory
<input type="radio"/> C4	Consistently high performance	2 - 192	4 - 1,488 GB
<input type="radio"/> N4	Flexible & cost-optimized	2 - 80	4 - 640 GB
<input type="radio"/> C3	Consistently high performance	4 - 192	8 - 1,536 GB
<input type="radio"/> C3D	Consistently high performance	4 - 360	8 - 2,880 GB
<input checked="" type="radio"/> E2	Low cost, day-to-day computing	0.25 - 32	1 - 128 GB
<input type="radio"/> N2	Balanced price & performance	2 - 128	2 - 864 GB
<input type="radio"/> N2D	Balanced price & performance	2 - 224	2 - 896 GB
<input type="radio"/> T2A	Scale-out workloads	1 - 48	4 - 192 GB
<input type="radio"/> T2D	Scale-out workloads	1 - 60	4 - 240 GB
<input type="radio"/> N1	Balanced price & performance	0.25 - 96	0.6 - 624 GB

Machine type  
Choose a machine type with preset amounts of vCPUs and memory that suit most workloads. Or for your workload's particular needs. [learn more](#)

PRESET CUSTOM

e2-small (2 vCPU, 1 core, 2 GB memory)

- We select the “OS and Storage” tab and click on “CHANGE” button



← Create an instance CREATE VM FROM...

- VM basics  
nginx-web, us-west2-a, Spot
- Machine configuration  
e2-small
- OS and storage**  
Debian GNU/Linux 12 (bookworm)
- Networking  
1 network interface
- Observability

### Operating system and storage

Name	nginx-web
Type	New balanced persistent disk
Size	10 GB
Snapshot schedule	No schedule selected
License type	Free
Image	Debian GNU/Linux 12 (bookworm)

CHANGE

### Additional storage and VM backups

- We select “Rocky Linux” for Operating System

### Boot disk

Select an image or snapshot to create a boot disk; or attach an existing disk. Can't find what you're looking for? Explore hundreds of VM solutions in [Marketplace](#)

**PUBLIC IMAGES**    CUSTOM IMAGES    SNAPSHOTS    ARCHIVE SNAPSHOTS

Operating system  
Rocky Linux

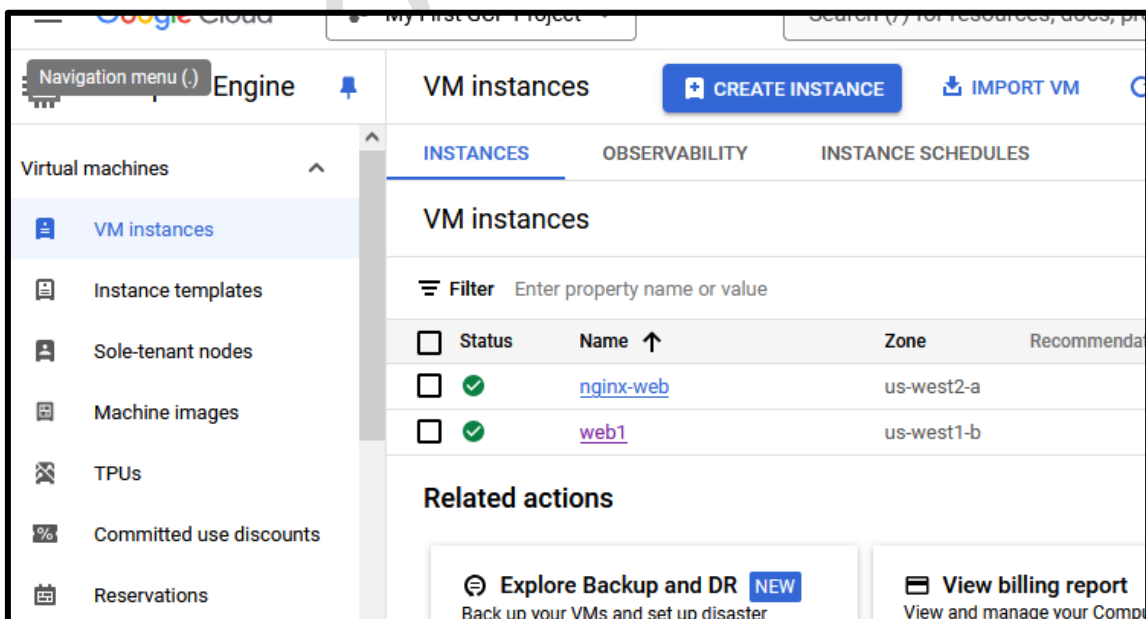
Version \*  
Rocky Linux 8 optimized for GCP  
x86/64, x86\_64 built on 20241009

Boot disk type \*  
Balanced persistent disk

[COMPARE DISK TYPES](#)

Size (GB) \*  
20

- Save the new Virtual Machine
- Verify that it is created correctly



Navigation menu (.) Engine

VM instances    CREATE INSTANCE    IMPORT VM

INSTANCES    OBSERVABILITY    INSTANCE SCHEDULES

#### VM instances

Filter Enter property name or value

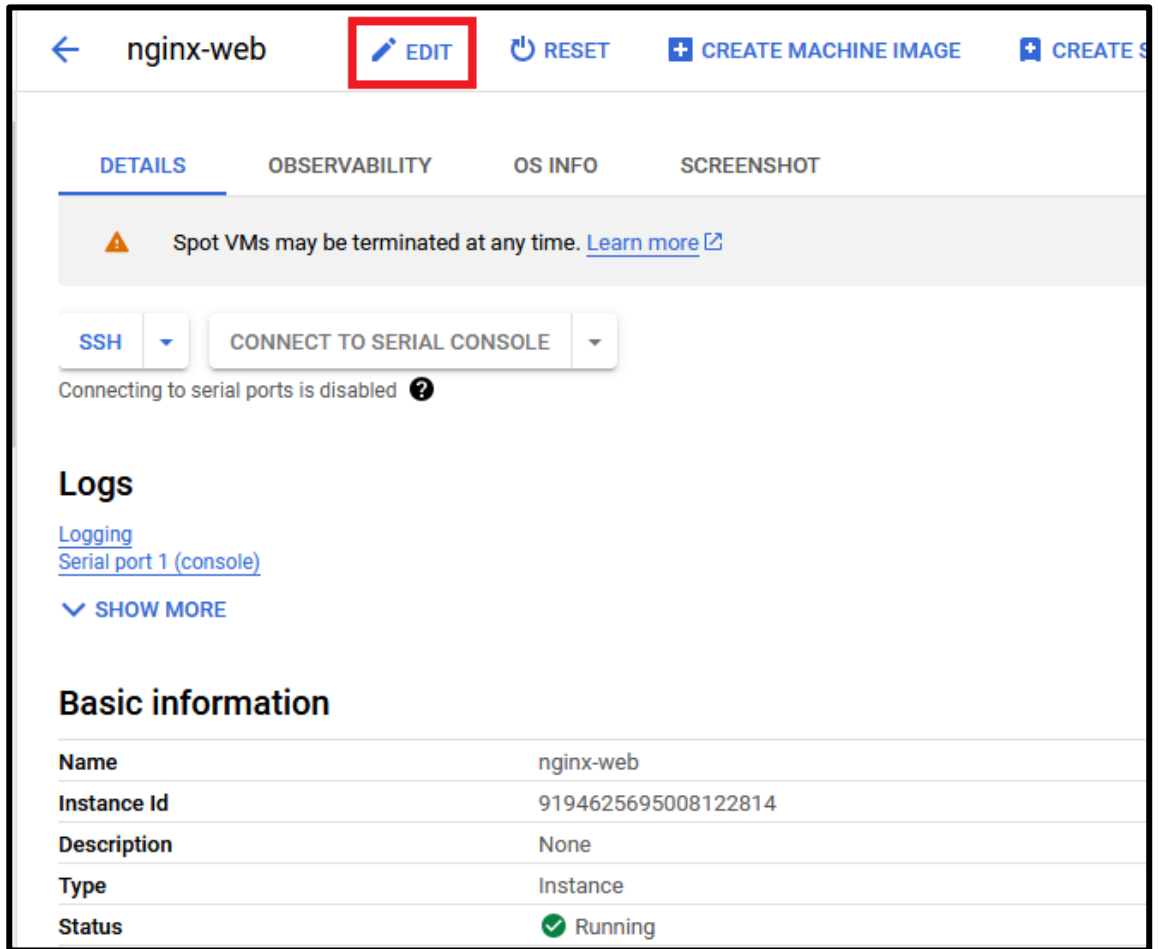
<input type="checkbox"/>	Status	Name ↑	Zone	Recommendation
<input type="checkbox"/>	✓	<a href="#">nginx-web</a>	us-west2-a	
<input type="checkbox"/>	✓	<a href="#">web1</a>	us-west1-b	

**Related actions**

- Explore Backup and DR **NEW**  
Back up your VMs and set up disaster
- View billing report  
View and manage your Compu

- Add a rule to allow passage through port 80
  - Enter the machine's properties by clicking on its name

- Select EDIT



nginx-web **EDIT** RESET CREATE MACHINE IMAGE CREATE S

DETAILS OBSERVABILITY OS INFO SCREENSHOT

⚠ Spot VMs may be terminated at any time. [Learn more](#)

SSH CONNECT TO SERIAL CONSOLE

Connecting to serial ports is disabled ?

### Logs

[Logging](#)  
[Serial port 1 \(console\)](#)

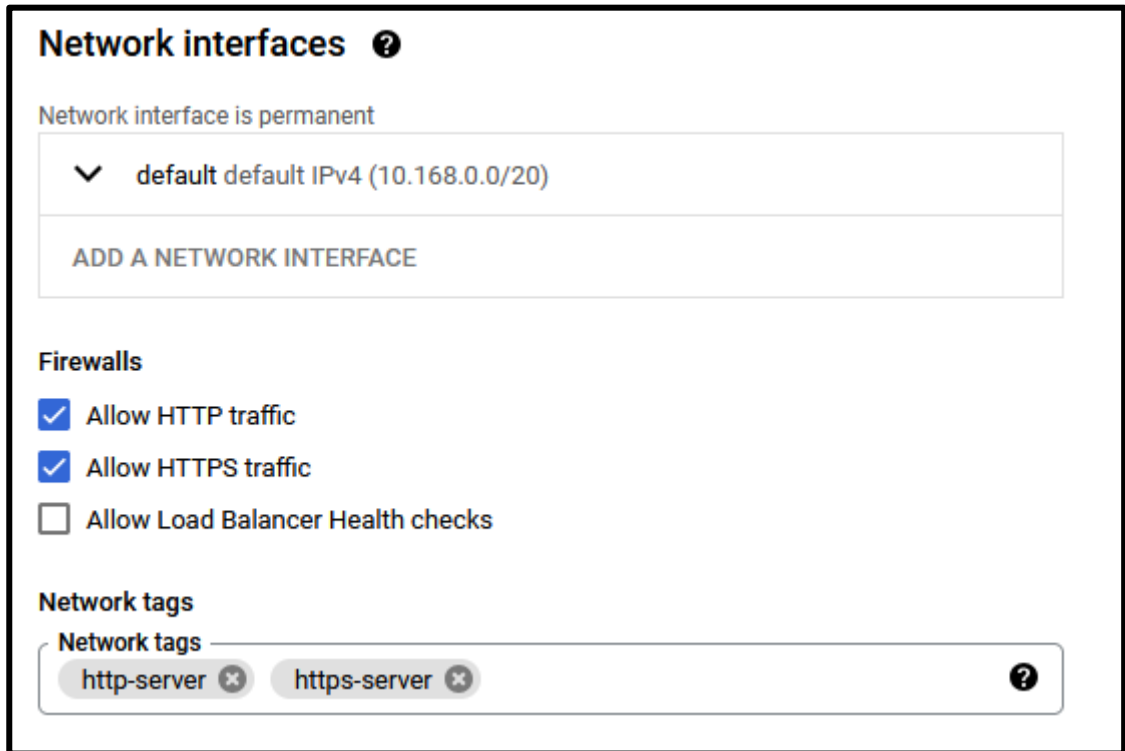
SHOW MORE

### Basic information

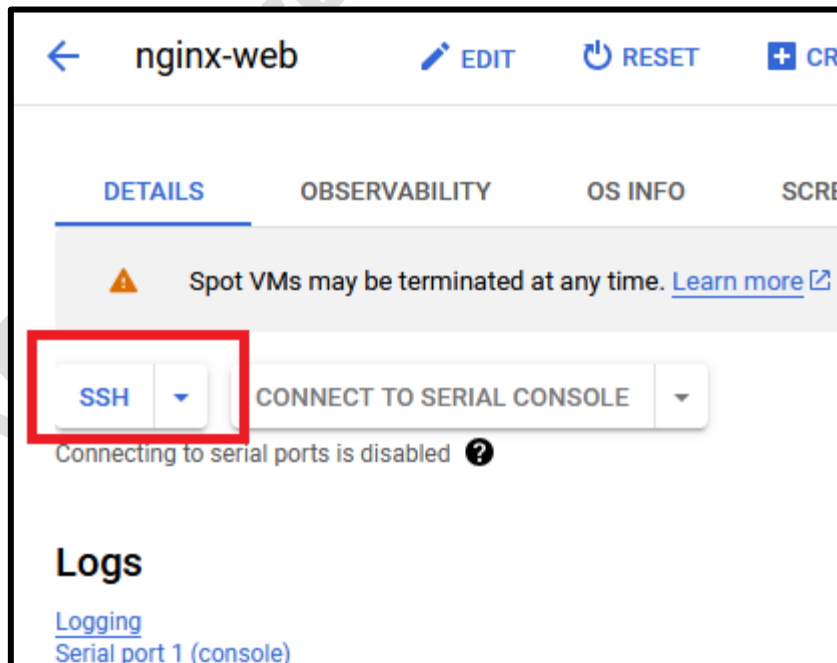
Name	nginx-web
Instance Id	9194625695008122814
Description	None
Type	Instance
Status	Running

- Access network interfaces and enable HTTP and HTTPS

Apasoft



- Save your changes
- Access the machine via the SSH console and install nginx



- The comands to execute are

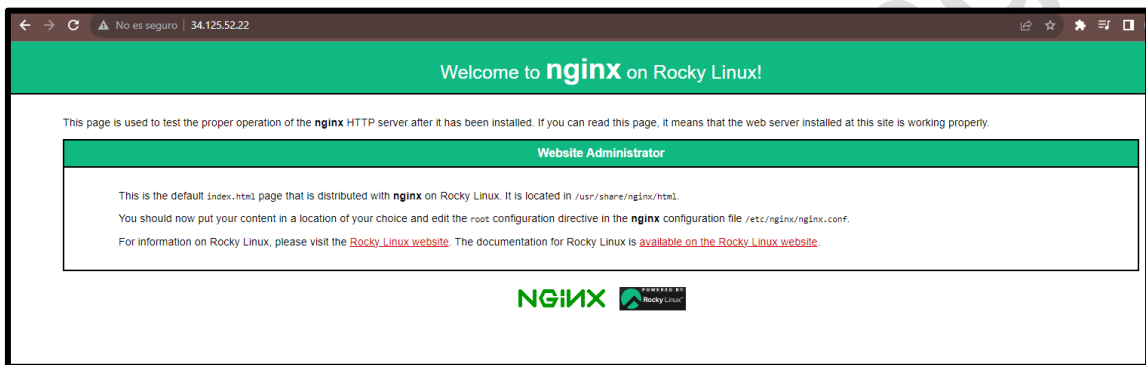
```
sudo yum install nginx
sudo systemctl start nginx
```

```
sudo systemctl enable nginx
```

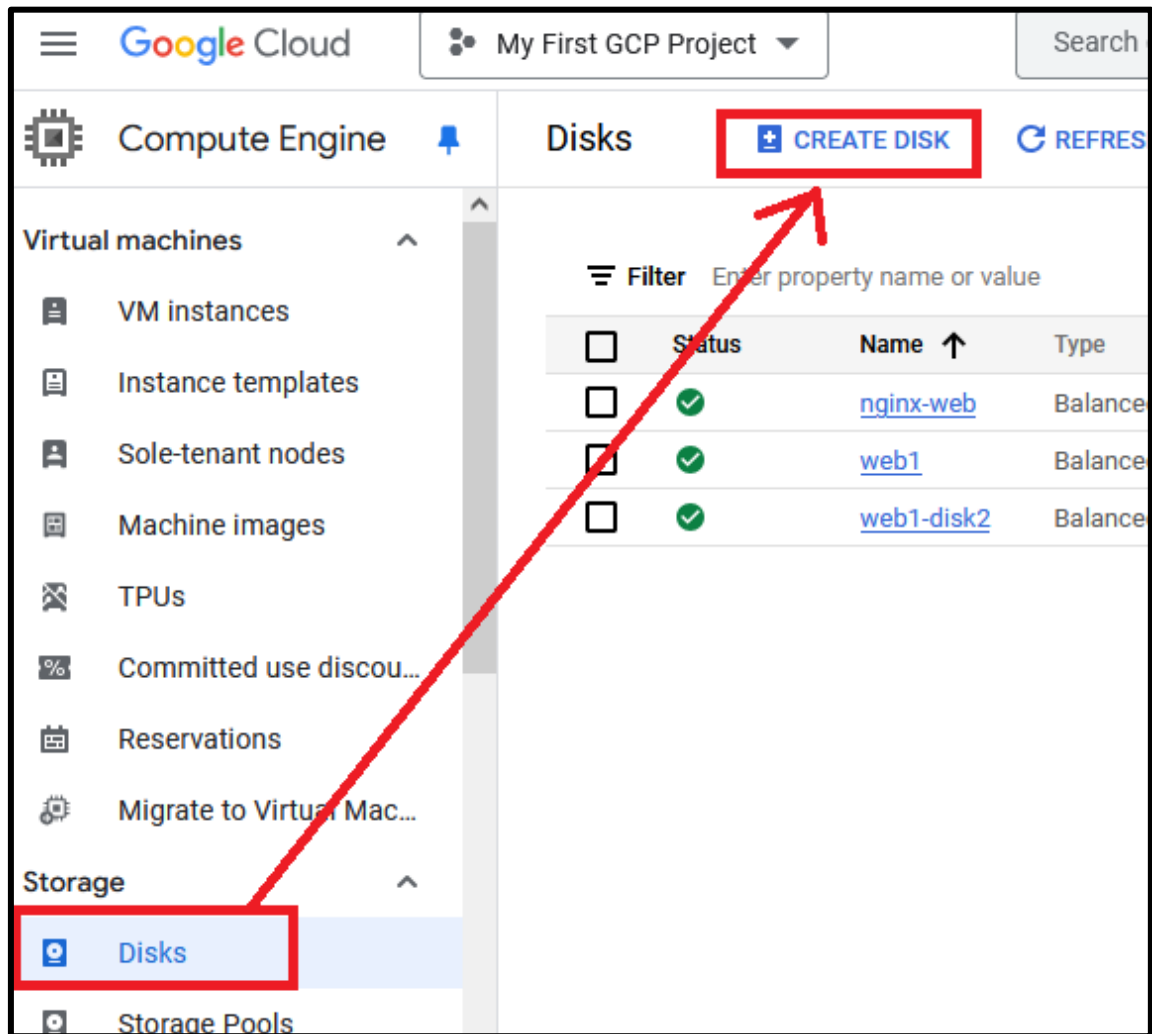
- Copy the external IP of the VM. Your virtual machine will have a different IP.

Network interfaces						
Name ↑	Network	Subnetwork	Primary internal IP address	Alias IP ranges	IP stack type	External IP address
nic0	default	default	10.168.0.2		IPv4	35.236.78.21 (Ephemeral)

- Check through a browser and through the machine's external IP that the nginx appears



- We create a new disk called nginx-web2 of 10 gigabytes in size. You need to make sure that you create it in the same region as the virtual machine before you can add it. (us-west2-a)
- We go to the “Disks” tab and select “CREATE DISK”



- We indicate the name, región, size, etc...

← Create a disk

**Name \***  
 nginx-web2 ?

Name is permanent

**Description**

**Location**

Single zone

Regional  
Create a failover replica in the same region for high availability. Storage and data replication is provided between both zones. [Learn more](#)

**Region \***  
 us-west2 (Los Angeles) ?

**Zone \***  
 us-west2-a ?

**Source**

Create a blank disk, apply a bootable disk image, or restore a snapshot of another disk in this project.

**Disk source type \***  
 Blank disk

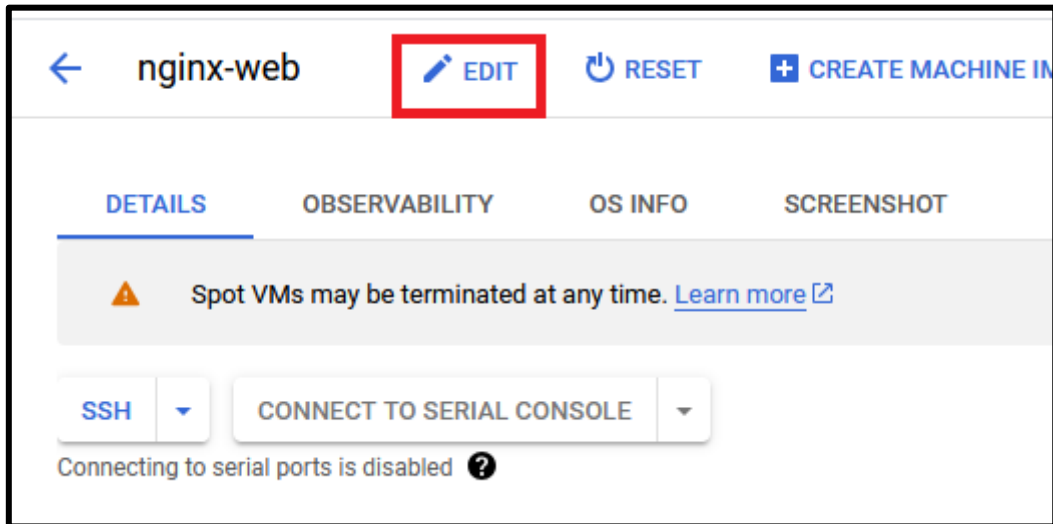
- Save the disk and check it is created

Disks
CREATE DISK
REFRESH
DELETE

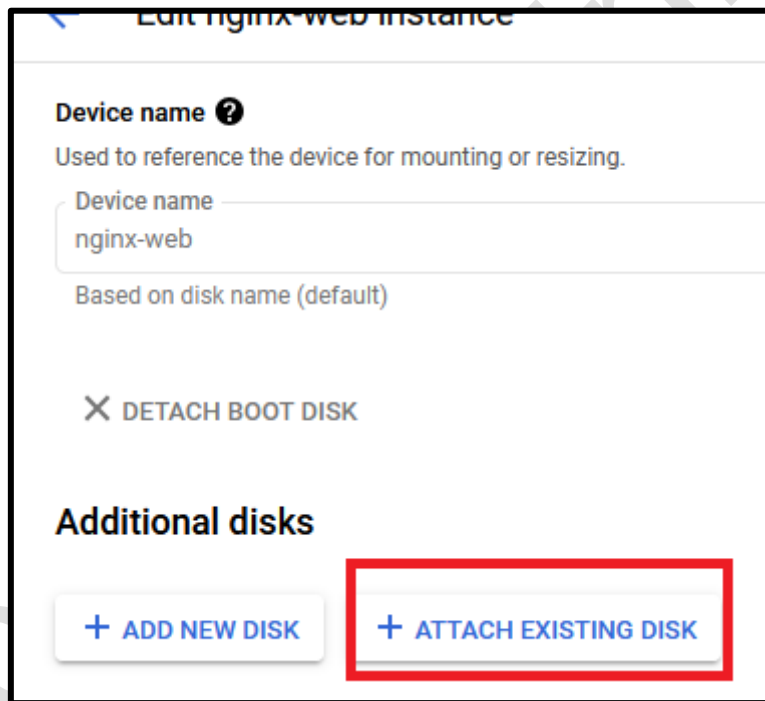
**Filter** Enter property name or value

<input type="checkbox"/>	Status	Name ↑	Type	Size	Architecture	Zone(s)	In use by	Snapshot schedule
<input type="checkbox"/>	✓	<a href="#">nginx-web</a>	Balanced persistent disk	20 GB	x86/64	us-west2-a	<a href="#">nginx-web</a>	None
<input type="checkbox"/>	✓	<a href="#">nginx-web2</a>	Balanced persistent disk	10 GB	—	us-west2-a		<a href="#">default-schedule</a>
<input type="checkbox"/>	✓	<a href="#">web1</a>	Balanced persistent disk	10 GB	x86/64	us-west1-b	<a href="#">web1</a>	None
<input type="checkbox"/>	✓	<a href="#">web1-disk2</a>	Balanced persistent disk	10 GB	—	us-west1-b	<a href="#">web1</a>	None

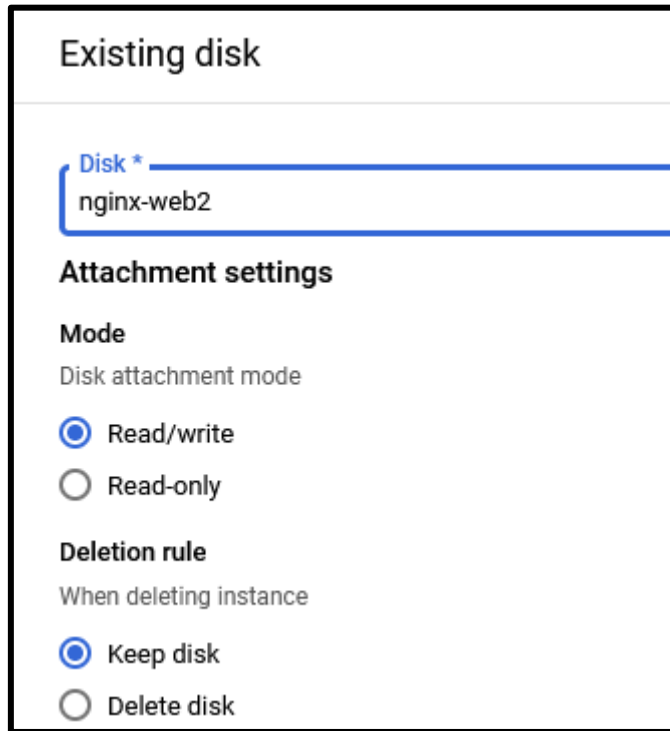
- We add it to the web2 machine. We go to the Virtual machine and select “EDIT”



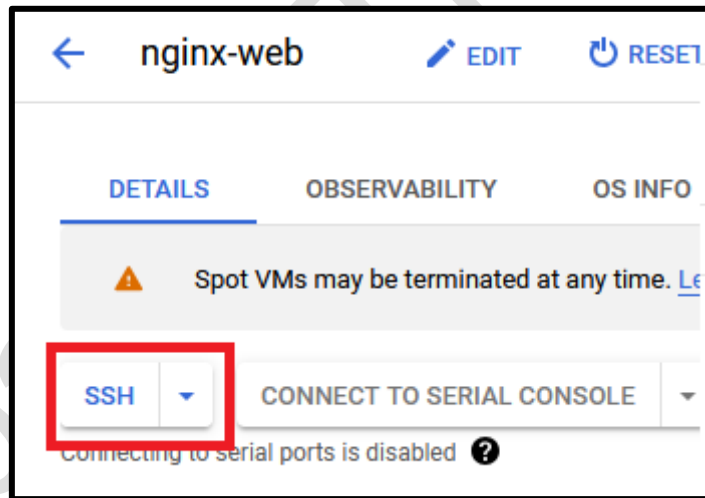
- Select "ATTACH EXISTING DISK"



- Select the new disk and SAVE the attach and save the virtual machine edit.



- We enter the ssh console and check that it is added



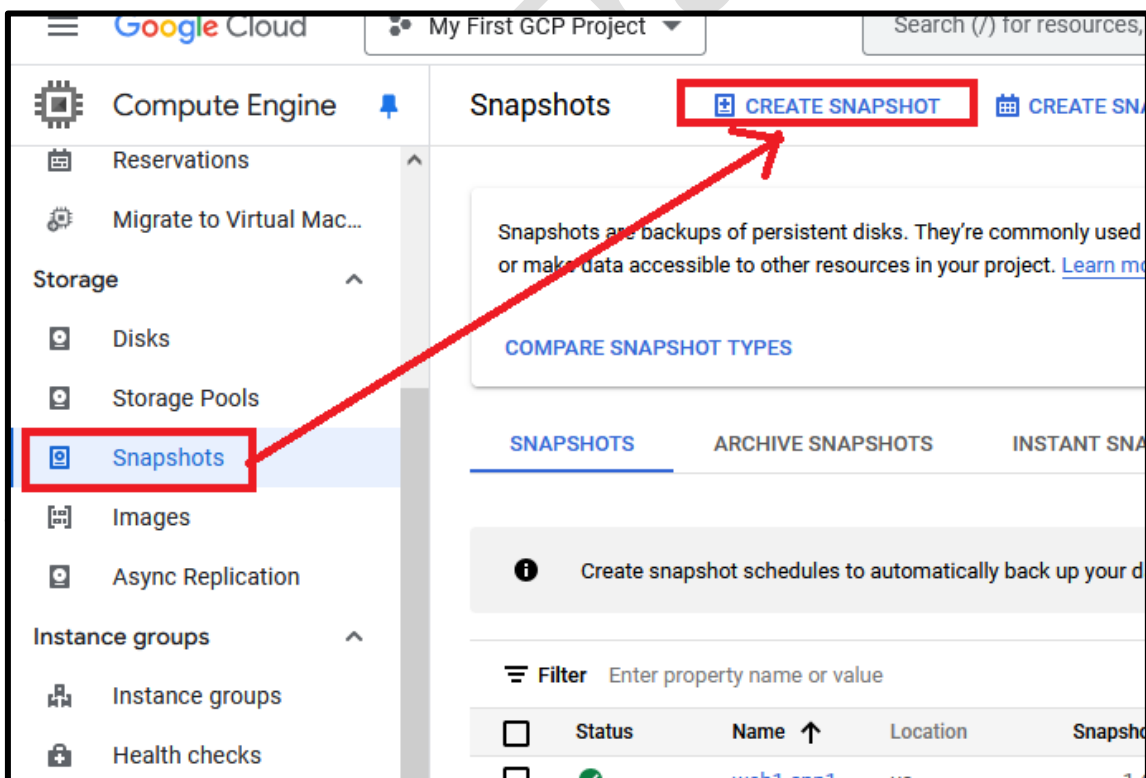
- We use the command "ls -l /dev/sd\*"

```

SSH-in-browser
[↑] UPLOAD FILE [↓] DOWNL

[gcp@nginx-web ~]$ ls -l /dev/sd*
brw-rw----. 1 root disk 8,  0 Oct 15 21:06 /dev/sda
brw-rw----. 1 root disk 8,  1 Oct 15 21:06 /dev/sda1
brw-rw----. 1 root disk 8,  2 Oct 15 21:06 /dev/sda2
brw-rw----. 1 root disk 8, 16 Oct 16 11:05 /dev/sdb
[gcp@nginx-web ~]$
    
```

- We exit from the console with the command “exit”.
- We create a snapshot of the newly created disk.
- We go to Snapshots tab and select “CREATE SNAPSHOT”.



- We write the name “nginx-web2-snp1” and select the new disk

← Create a snapshot

Snapshots are backups of persistent disks. They're commonly used to recover, transfer, or make data accessible to other resources in your project. [Learn more](#)

**Name \***  
  
Name is permanent

Description

Snapshot source type \*  
 Disk

**Source disk \***

**Type \***

Snapshot  
 Standard backup and disaster recovery; stored in a separate location from your disk

Instant snapshot

- We click on “CREATE” button to create the snapshot and check that it exists. It must be 0G in size since the disk is empty

SNAPSHOTS    ARCHIVE SNAPSHOTS    INSTANT SNAPSHOTS    **NEW**    SNAPSHOT SCHEDULES

**i** Create snapshot schedules to automatically back up your data. [Learn more about creating snapshot schedules](#)

**Filter** Enter property name or value

<input type="checkbox"/>	Status	Name ↑	Location	Snapshot size	Creation time
<input type="checkbox"/>	✓	<a href="#">nginx-web2-snp1</a>	us	0 B	Oct 16, 2024, 1:18:59 PM UTC+02:00
<input type="checkbox"/>	✓	<a href="#">web1-snp1</a>	us	1.65 GB	Oct 15, 2024, 5:36:25 PM UTC+02:00

Apasoft Training