

How to Create a Virtual Machine in GCP?

written by sysadmin | 11 January 2025

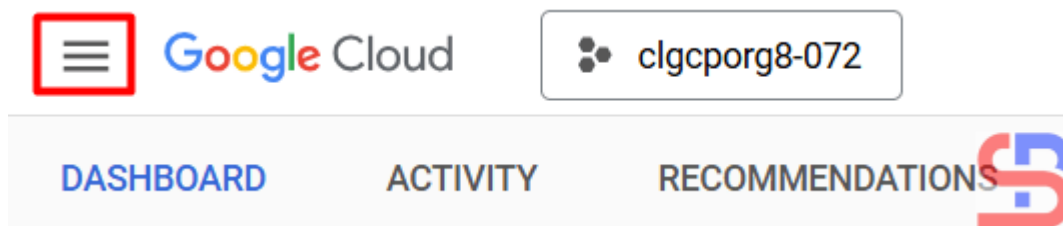
Many people use cloud technology provided by cloud providers such as AWS, GCP, and Azure to support their business operations. One of the features of this technology is the use of a virtual machine, or VM.

Problem

How to create a virtual machine in GCP?

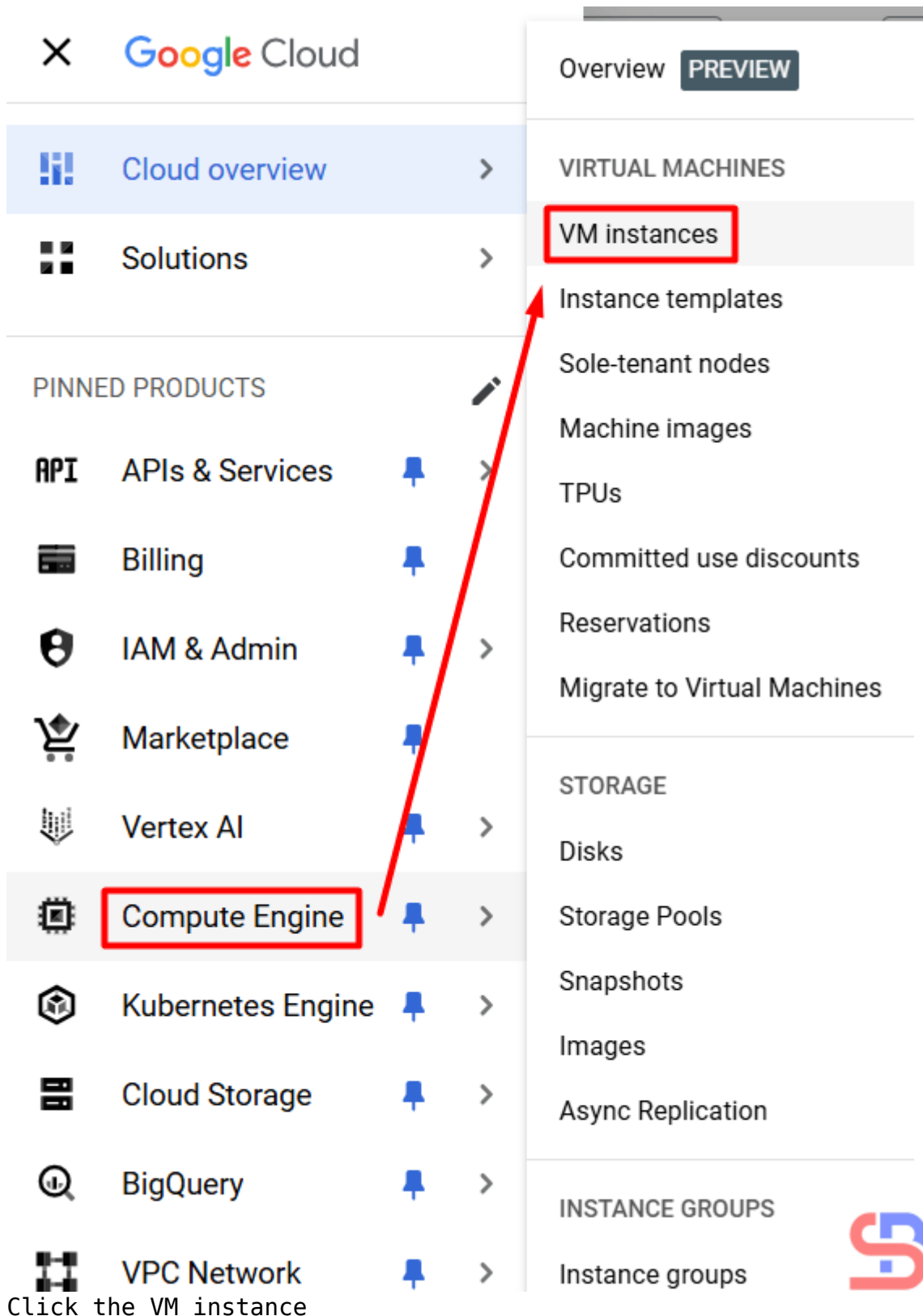
Solution

There are several ways to create a virtual machine or a VM in GCP, but this article will explain how to create a virtual machine in the GCP console. In the GCP Console, at the top left corner, click the Navigation menu, which is symbolized by three lines as in the image below:



Click the icon

Then click **Compute Engine > VM Instances** as in the image below:



After that, click the **CREATE INSTANCE** button, then a display will appear as below:

VM instances

CREATE INSTANCE

IMPORT VM

REFRESH

INSTANCES
OBSERVABILITY
INSTANCE SCHEDULES

VM instances


Click the button

You will see a display like the image below:

Machine configuration

e2-medium, us-west1-a

OS and storage

Debian GNU/Linux 12 (bookworm)

Networking

1 network interface

Observability

Security

Advanced

Machine configuration

Name *

my-first-vm

Region *

us-west1 (Oregon)

Region is permanent

Zone *

us-west1-a

Zone is permanent

General purpose

Compute optimized

Memory optimized

Storage optimized

GPUs

Machine types for common workloads, optimized for cost and flexibility

	Series ?	Description	vCPUs ?	Memory ?	Platform
☐	C4	Consistently high performance	2 - 192	4 - 1,488 GB	Intel Emerald Rapids
☐	C4A	Arm-based consistently high performance	1 - 72	2 - 576 GB	Google Axion
☐	N4	Flexible & cost-optimized	2 - 80	4 - 640 GB	Intel Emerald Rapids
☐	C3	Consistently high performance	4 - 192	8 - 1,536 GB	Intel Sapphire Rapids
☐	C3D	Consistently high performance	4 - 360	8 - 2,880 GB	AMD Genoa
☒	E2	Low cost, day-to-day computing	0.25 - 32	1 - 128 GB	Based on availability
☐	N2	Balanced price & performance	2 - 128	2 - 864 GB	Intel Cascade Lake
☐	N2D	Balanced price & performance	2 - 224	2 - 896 GB	AMD EPYC
☐	T2A	Scale-out workloads	1 - 48	4 - 192 GB	Ampere Altra Arm
☐	T2D	Scale-out workloads	1 - 60	4 - 240 GB	AMD EPYC Milan
☐	N1	Balanced price & performance	0.25 - 96	0.6 - 624 GB	Intel Skylake

Machine type

Choose a machine type with preset amounts of vCPUs and memory that suit most workloads. Or, you can create a custom machine for your workload's particular needs. [Learn more](#)

PRESET

CUSTOM

e2-medium (2 vCPU, 1 core, 4 GB memory)



vCPU

1-2 vCPU (1 shared core)



Memory

4 GB

ADVANCED CONFIGURATIONS

Fill in the columns in the machine configuration section

In the **Machine Configuration** section, you have to write the name of the VM, the location of the VM, the CPU, the RAM, and the type of machine that will be used in your VM. I

wrote down my VM requirements as in the picture above. After filling in this section, click the **OS and storage** section. Here you can choose the OS you use and how many hard disk sizes you want in the VM using the **CHANGE** button:

Machine configuration
e2-medium, us-west1-a

OS and storage
Debian GNU/Linux 12 (bookworm)

Networking
1 network interface

Observability

Security

Advanced

Operating system and storage

Name	my-first-vm
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

[+ ADD NEW DISK](#) [+ ATTACH EXISTING DISK](#) [+ ADD LOCAL SSD](#)

Backup plan **PREVIEW**

Secure your backups against deletion through backup vault storage and enable centralized backup management across projects. Managed by Backup and DR Service, a separate service from Compute Engine with independent certifications and accreditation. [Learn more](#)

Backup plan SELECT A PLAN ?

Container ?

Deploy a container image to this VM instance

[DEPLOY CONTAINER](#)

Fill in the OS and storage section

After that, in the Networking section, you have to fill in the network requirements for the VM. I filled it in as shown in the image below. I don't fill in the **Observability**, **Security**, and **Advanced** sections because I don't need them for my virtual machine.

- Machine configuration
e2-medium, us-west1-a
- OS and storage
Debian GNU/Linux 12
(bookworm)
- Networking**
2 firewall rules, 1 network interface
- Observability
- Security
- Advanced

Networking

Firewall ?

Add tags and firewall rules to allow specific network traffic from the Internet

☒ Allow HTTP traffic
 ☒ Allow HTTPS traffic
 ☐ Allow Load Balancer Health Checks

Set a custom hostname for this instance or leave it default. Choice is permanent

IP forwarding ?

☐ Enable

Network performance configuration

Network bandwidth ?

☐ Enable per VM Tier_1 networking performance
 Maximum outbound network bandwidth: 2Gbps
 VM to Public IP: 2Gbps

Network interfaces ?

Network interface is permanent

▼
 default default IPv4 (10.138.0.0/20)

ADD A NETWORK INTERFACE

CREATE

CANCEL

EQUIVALENT CODE

Fill in the Networking section

After that, I press the **CREATE** button and wait until the virtual machine creation process completes:

VM instances

CREATE INSTANCE
 IMPORT VM
 REFRESH

INSTANCES
 OBSERVABILITY
 INSTANCE SCHEDULES

VM instances

Filter Enter property name or value

☐ Status	Name ↑	Zone	Recommendations	In use by	Internal IP	External IP	Connect
☒	my-first-vm	us-west1-a			10.138.15.202 (nic0)	35.197.111.231 (nic0)	SSH

The new VM has been created

If you want to access your VM, then press the **SSH** button, and you can see the OS and HDD size on your VM in the image below:

SSH-in-browser

UPLOAD FILE

DOWNLOAD FILE

Linux my-first-vm 6.1.0-28-cloud-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.119-1 (2024-11-22) 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.

odl_user_1559114@my-first-vm:~\$ df -h

Filesystem	Size	Used	Avail	Use%	Mounted on
udev	2.0G	0	2.0G	0%	/dev
tmpfs	393M	448K	393M	1%	/run
/dev/sda1	9.7G	2.0G	7.2G	22%	/
tmpfs	2.0G	0	2.0G	0%	/dev/shm
tmpfs	5.0M	0	5.0M	0%	/run/lock
/dev/sda15	124M	12M	113M	10%	/boot/efi
tmpfs	393M	0	393M	0%	/run/user/1000

odl_user_1559114@my-first-vm:~\$

odl_user_1559114@my-first-vm:~\$ cat /etc/*release

PRETTY_NAME="Debian GNU/Linux 12 (bookworm)"

NAME="Debian GNU/Linux"

VERSION_ID="12"

VERSION="12 (bookworm)"

VERSION_CODENAME=bookworm

ID=debian

HOME_URL="https://www.debian.org/"

SUPPORT_URL="https://www.debian.org/support"

BUG_REPORT_URL="https://bugs.debian.org/"

odl_user_1559114@my-first-vm:~\$

Access to the VM using the SSH button

Note

At first glance, it seems easy to create a virtual machine in GCP. However, if you work in real conditions, there will be many options that must be filled in when creating your virtual machine.

References

diana-moraa.medium.com

techrepublic.com