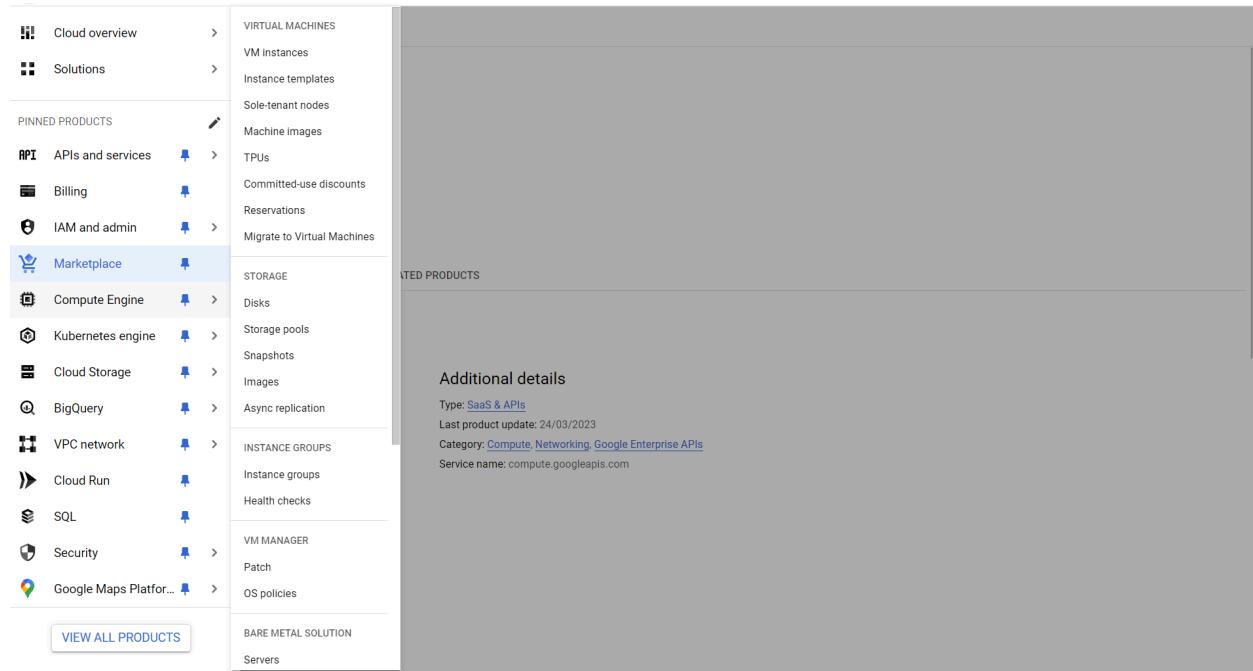


GOOGLE CLOUD ASSIGNMENT

1. Setup and Configuration:

- Create a Google Cloud Platform (GCP) free tier account if not already done.
- Create a Compute Engine VM instance using the GCP Console or Cloud SDK.
Choose a Linux or Windows instance type and configure firewall rules.
- SSH into the Compute Engine instance (for Linux) or RDP into it (for Windows).



[← Create an instance](#) [CREATE VM FROM...](#) [EQUIVALENT CODE](#)

New VM instance
Create a single VM instance from scratch

New VM instance from template
Create a single VM instance from an existing template

New VM instance from machine image
Create a single VM instance from an existing machine image

Marketplace
Deploy a ready-to-go solution onto a VM instance

Name * [?](#)

MANAGE TAGS AND LABELS

Region * us-central1 (Iowa) [?](#) **Zone *** Any [?](#)
Region is permanent
Google will choose a zone on your behalf, maximising VM obtainability. Zone is permanent.

Machine configuration

NEW: Google Axion virtual machines in preview [X](#)
Try Google Axion arm-based processors. Sign up for early access now [SIGN UP](#)

General purpose **Compute-optimised** **Memory-optimised** **Storage optimised** **GPUs**

Machine types for common workloads, optimised for cost and flexibility

Series ?	Description	vCPUs ?	Memory ?	Platform
C4	Consistently high performance	2 - 192	4 – 1,488 GB	Intel Emerald Rapids
N4	Flexible and cost-optimised	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 and performance	2 - 128	2 – 864 GB	Intel Cascade and Ice Lake
N2D	Balanced price and performance	2 - 224	2 – 896 GB	AMD EPYC
T2A	Scale-out workloads	1 - 48	4 – 192 GB	Ampere Altra ARM

[CREATE](#) [CANCEL](#) [EQUIVALENT CODE](#)

[← Create an instance](#) [CREATE VM FROM...](#) [EQUIVALENT CODE](#)

New VM instance
Create a single VM instance from scratch

New VM instance from template
Create a single VM instance from an existing template

New VM instance from machine image
Create a single VM instance from an existing machine image

Marketplace
Deploy a ready-to-go solution onto a VM instance

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-micro (2 vCPU, 1 core, 1 GB memory)

vCPU	Memory
0.25-2 vCPU (1 shared core)	1 GB

ADVANCED CONFIGURATIONS

Availability policies
VM provisioning model: Standard

Choose 'Spot' to get a discounted, pre-emptible VM. Otherwise, stick to 'Standard'. [Learn more](#)

VM PROVISIONING MODEL ADVANCED SETTINGS

Display device
Enable to use screen capturing and recording tools.
 Enable display device

Confidential VM service [?](#)
Confidential Computing is disabled on this VM instance

[ENABLE](#)

Container [?](#)

[CREATE](#) [CANCEL](#) [EQUIVALENT CODE](#)

Google Cloud My First Project Search X

[Create an instance](#) [CREATE VM FROM...](#)

New VM instance Create a single VM instance from scratch

New VM instance from template Create a single VM instance from an existing template

New VM instance from machine image Create a single VM instance from an existing machine image

Marketplace Deploy a ready-to-go solution onto a VM instance

Container Deploy a container image to this VM instance

[DEPLOY CONTAINER](#)

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](#) [EXISTING DISKS](#)

Operating system Ubuntu

Version Ubuntu 20.04 LTS

Boot disk type Standard persistent disk

Size (GB) 10

[TRY NOW](#) [SHOW ADVANCED CONFIGURATION](#)

Identity and API access

Service accounts

Service account Compute Engine default service account

Requires the Service Account User role on the account. [Learn more](#)

Access scopes

Allow default access Allow full access to all Cloud APIs Set access for each API

[CREATE](#) [CANCEL](#) [EQUIVALENT CODE](#)

[Create an instance](#) [CREATE VM FROM...](#) [TRY NOW](#) [EQUIVALENT CODE](#)

New VM instance Create a single VM instance from scratch

New VM instance from template Create a single VM instance from an existing template

New VM instance from machine image Create a single VM instance from an existing machine image

Marketplace Deploy a ready-to-go solution onto a VM instance

Identity and API access

Service accounts

Service account Compute Engine default service account

Requires the Service Account User role (roles/iam.serviceAccountUser) to be set for users who want to access VMs with this service account. [Learn more](#)

Access scopes

Allow default access Allow full access to all Cloud APIs Set access for each API

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

Observability – Ops Agent

Monitor your system through collection of logs and key metrics.

Install Ops Agent for monitoring and logging

Advanced options

Networking, disks, security, management, sole-tenancy

[CREATE](#) [CANCEL](#) [EQUIVALENT CODE](#)

Monthly estimate
US\$6.51
That's about US\$0.01 hourly
Pay for what you use: No upfront costs and per-second billing

Item	Monthly estimate
2 vCPU + 1 GB memory	US\$6.11
10 GB standard persistent disk	US\$0.40
Total	US\$6.51

[Compute Engine pricing](#) [LESS](#)

Compute Engine

VM instances

INSTANCES **OBSERVABILITY** **INSTANCE SCHEDULES**

VM instances

Filter Enter property name or value

Status	Name	Zone	Recommendations	In use by	Internal IP	External IP	Connect
Green	instance-20241006-133639	us-central1-c			10.128.0.2 (nic0)	34.70.127.49 (nic0)	SSH

Related actions

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

SSH-in-browser

Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.0-1067-gcp x86_64)

* Documentation: <https://help.ubuntu.com>
* Management: <https://landscape.canonical.com>
* Support: <https://ubuntu.com/pro>

System information as of Sun Oct 6 13:48:21 UTC 2024

```
System load: 0.29      Processes:          104
Usage of /: 21.7% of 9.51GB   Users logged in:    0
Memory usage: 25%           IPv4 address for ens4: 10.128.0.2
Swap usage:  0%
```

Expanded Security Maintenance for Applications is not enabled.

44 updates can be applied immediately.
29 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

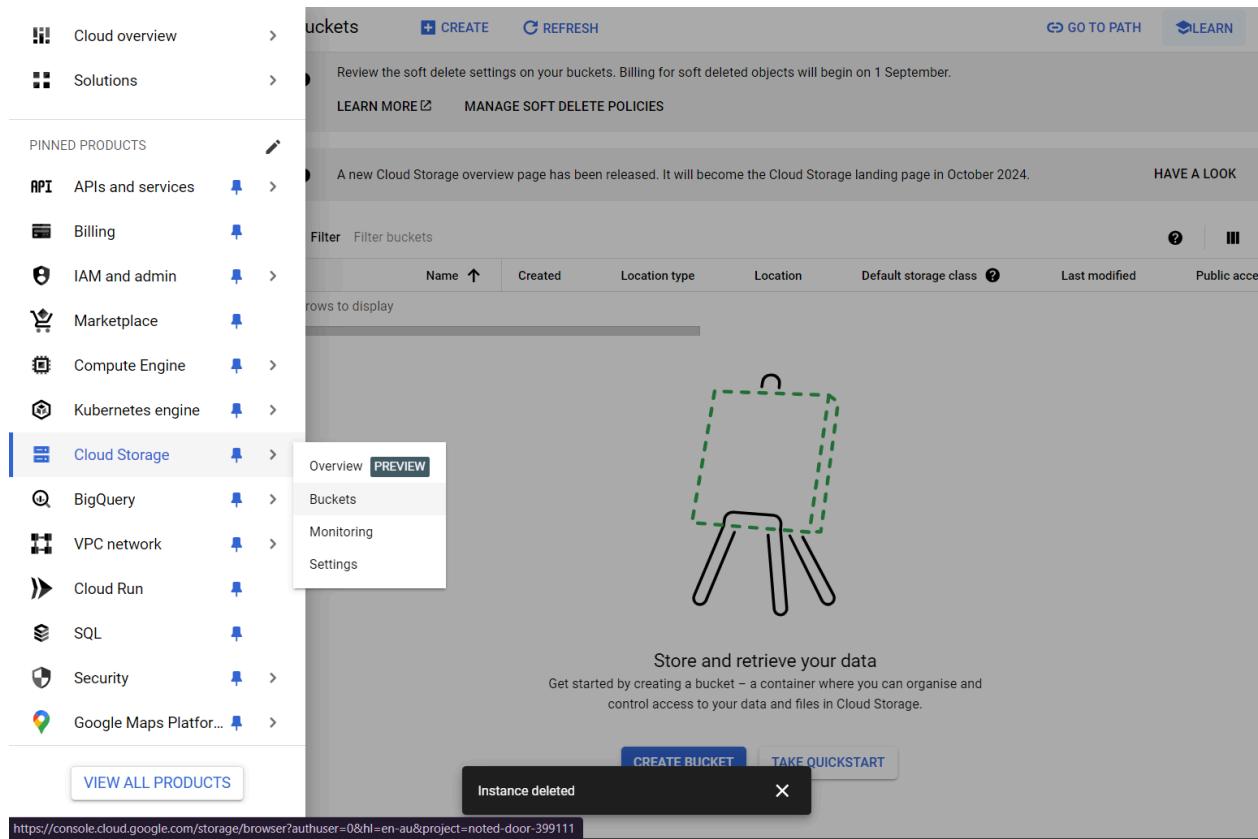
Enable ESM Apps to receive additional future security updates.
See <https://ubuntu.com/esm> or run: sudo pro status

New release '22.04.5 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

```
Last login: Sun Oct 6 13:44:02 2024 from 35.235.244.33
gamer screw2017 4bullets@instance-20241006-133639:~$ sudo apt-get update
Hit:1 http://us-central1.gce.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-central1.gce.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-central1.gce.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu focal-security InRelease
Reading package lists... Done
gamer screw2017 4bullets@instance-20241006-133639:~$
```

2. Storage and Content Delivery:

- Create a Cloud Storage bucket using GCP Console or Cloud SDK.
- Upload a sample HTML file and an image to the Cloud Storage bucket.
- Configure the bucket for static website hosting and access it via the provided URL.



Cloud Storage  

Create a Bucket

-  Overview PREVIEW
-  Buckets
-  Monitoring
-  Settings

 Marketplace

 Release notes

Get started

Pick a globally unique, permanent name. [Naming guidelines](#)

Tip: Don't include any sensitive information

Optimise storage for data-intensive workloads

Labels (optional)

CONTINUE

Choose where to store your data

This choice defines the geographic placement of your data and affects cost, performance and availability. Cannot be changed later. [Learn more](#)

Location type

- Multi-region Highest availability across largest area
- Dual-region High availability and low latency across 2 regions
- Region Lowest latency within a single region

us-east1 (South Carolina) 

Add cross-bucket replication via Storage Transfer Service As data is added or changed, replicate it to another bucket enabling you to store a copy that follows different bucket settings. [etc Learn more](#)

Instance deleted 

Good to know

Location pricing

Storage rates vary depending on the storage class of your data and location of your bucket. [Pricing details](#)

Current configuration: Region / Standard

Item	Cost
us-east1 (South Carolina)	\$0.020 per GB/month

ESTIMATE YOUR MONTHLY COST

Cloud Storage  

Create a Bucket

-  Overview PREVIEW
-  Buckets
-  Monitoring
-  Settings

 Marketplace

 Release notes

Choose a storage class for your data

A storage class sets costs for storage, retrieval and operations, with minimal differences in uptime. Choose if you want objects to be managed automatically or specify a default storage class based on how long you plan to store your data and your workload or use case. [Learn more](#)

- Autoclass  Automatically transitions each object to Standard or Nearline class based on object-level activity, to optimise for cost and latency. Recommended if usage frequency may be unpredictable. Can be changed to a default class at any time. [Pricing details](#)
- Set a default class Applies to all objects in your bucket unless you manually modify the class per object or set object lifecycle rules. Best when your usage is highly predictable.

Standard  Best for short-term storage and frequently accessed data

Nearline Best for backups and data accessed less than once a month

Coldline Best for disaster recovery and data accessed less than once a quarter

Archive Best for long-term digital preservation of data accessed less than once a year

CONTINUE

Choose how to control access to objects

Prevent public access

Restrict data from being publicly accessible via the Internet. Will prevent this bucket from being used for web hosting. [Learn more](#)

Enforce public access prevention on this bucket

Access control

Uniform Ensure uniform access to all objects in the bucket by using only bucket-level permissions (IAM). This setting becomes permanent after 90 days. [Learn more](#)

Cloud Storage Bucket details

rithvik-181818

Location	Storage class	Public access	Protection
us-east1 (South Carolina)	Standard	Not public	Soft delete

OBJECTS **CONFIGURATION** **PERMISSION** **PROTECTION** **LIFECYCLE** **OBSERVABILITY** **INVENTORY REPORTS** **OPERATIONS**

Folder browser

Buckets > rithvik-181818 > RithvikGoud

CREATE FOLDER **UPLOAD** **TRANSFER DATA** **OTHER SERVICES**

Filter by name prefix only Filter objects and folders Show Live objects only

Name	Size	Type	Created	Storage class	Last modified
avengers.jpg	32.8 KB	Image/jpeg	6 Oct 2024, 19:32:33	Standard	6 Oct 2024, 19:3
quantiphi.html	569 B	text/html	6 Oct 2024, 19:32:11	Standard	6 Oct 2024, 19:3

1 file successfully uploaded

Cloud Storage Object details

Object details

Buckets > rithvik-181818 > RithvikGoud > quantiphi.html

LIVE OBJECT **VERSION HISTORY**

DOWNLOAD **EDIT METADATA** **EDIT ACCESS** **DELETE**

Overview

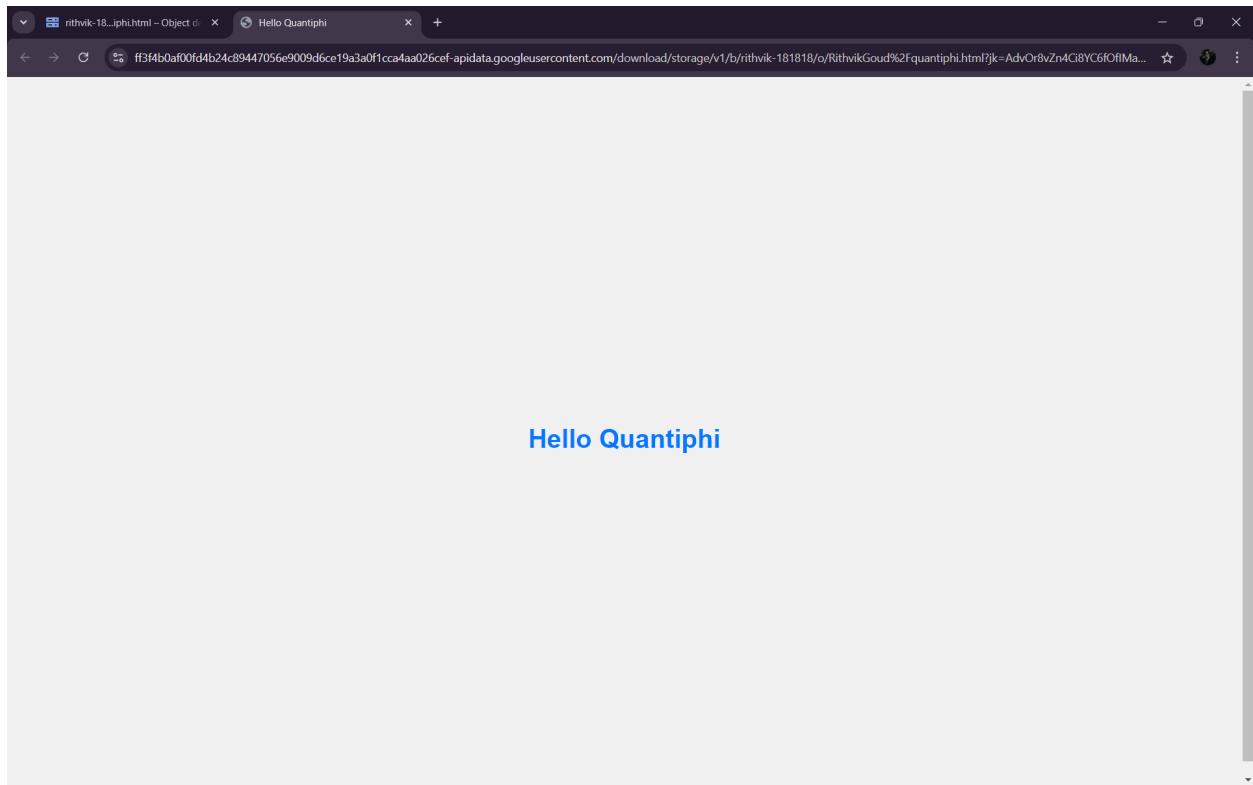
Type	text/html
Size	569 B
Created	6 Oct 2024, 19:32:11
Last modified	6 Oct 2024, 19:32:11
Storage class	Standard
Custom time	—
Public URL	Not applicable
Authenticated URL	https://storage.cloud.google.com/rithvik-181818/RithvikGoud/quantiphi.html?authuser=0
gsutil URI	gs://rithvik-181818/RithvikGoud/quantiphi.html

Permission

Public access	Not public
---------------	------------

Protection

Version history	—
Retention expiry time	None
Object retention retain-until time	None
Bucket retention retain-until time	None
Hold status	None
Encryption type	Google-managed



3. Networking:

- Set up a Virtual Private Cloud (VPC) network with subnets.
- Deploy a Compute Engine instance in each subnet.
- Configure firewall rules to allow traffic between these instances.

The screenshot shows the 'Create a VPC network' page in the Google Cloud Platform. On the left, a sidebar lists various network-related options: VPC networks, IP addresses, Internal ranges, Bring your own IP, Firewall, Routes, VPC network peering, Shared VPC, Serverless VPC access, Packet mirroring, and VPC flow logs. The main area is titled 'Create a VPC network' and contains the following fields:

- Name ***: rithvik-vpc (Note: Lowercase letters, numbers, hyphens allowed)
- Description**: (Empty text input field)
- Maximum transmission unit (MTU)**: 1460 (dropdown menu)
- Subnet creation mode**: Custom (radio button selected)
- Private IPv6 address settings**: A checkbox labeled 'Configure a ULA internal IPv6 range for this VPC Network' is unchecked. Below it, a note states: 'The ULA range is a /48 CIDR from which all private IPv6 subnet ranges will be taken. Google Cloud can allocate one automatically or you can allocate one manually. Allocation is permanent. You cannot de-allocate or change the ULA range.'
- Subnets**: A section describing what subnets are and how to create them. It includes a link to 'Learn more'.
- Edit subnet**: A modal window showing fields for creating a subnet: Name * (subnet-a), Description (Empty text input field), and Region * (Region dropdown menu).

VPC network

VPC networks

Subnets

Subnets let you create your own private cloud topology within Google Cloud. Click Automatic to create a subnet in each region, or click Custom to manually define the subnets. [Learn more](#)

Edit subnet

Name * [?](#)

Description

Region * [?](#)

IP stack type

IPv4 (single-stack) [?](#)

IPv4 and IPv6 (dual-stack) [?](#)

IPv4 range * [?](#)

e.g. 10.0.0.0/24

Secondary IPv4 ranges [?](#)

[+ ADD IP RANGE](#)

Private Google Access [?](#)

On

Off

Flow logs

[◀](#)

[Create a VPC network](#)

VPC network

VPC networks

New subnet

Name * [?](#)

Description

Region * [?](#)

IP stack type

IPv4 (single-stack) [?](#)

IPv4 and IPv6 (dual-stack) [?](#)

IPv4 range * [?](#)

e.g. 10.0.0.0/24

[CREATE SECONDARY IPV4 RANGE](#)

Private Google Access [?](#)

On

Off

Flow logs

On

Off

Hybrid Subnets [?](#)

On

Off

[◀](#)

[DONE](#)

VPC network

VPC networks

CREATE VPC NETWORK **REFRESH** **LEARN**

NETWORKS IN CURRENT PROJECT **SUBNETS IN CURRENT PROJECT**

Get started with real-time analytics

Use Network Intelligence Center for comprehensive monitoring and troubleshooting. [Learn more](#)

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

TRY NOW **REMIND ME LATER**

SMTP port 25 disallowed in this project. [Learn more](#)

VPC networks

Filter Enter property name or value

Name	Subnets	MTU	Mode	IPv6 ULA range	Gateways	Firewall rules	Global dynamic routing
default	39	1460	Auto			4	Off
rithvik-vpc	2	1460	Custom			0	Off

Successfully created network rithvik-vpc.

Create an instance **CREATE VM FROM...** **EQUIVALENT CODE**

New VM instance Create a single VM instance from scratch

New VM instance from template Create a single VM instance from an existing template

New VM instance from machine image Create a single VM instance from an existing machine image

Marketplace Deploy a ready-to-go solution onto a VM instance

Network interfaces Network interface is permanent

Edit network interface

Network: rithvik-vpc

Subnetwork: subnet-a IPv4 (10.0.1.0/24)

To use IPv6, you need an IPv6 subnet range. [LEARN MORE](#)

IP stack type: IPv4 (single-stack)

Primary Internal IPv4 address: Ephemeral (Automatic)

Alias IP ranges

Network Service Tier: Premium

Public DNS PTR record

CREATE **CANCEL** **EQUIVALENT CODE**

Monthly estimate
US\$7.11
That's about US\$0.01 hourly
Pay for what you use: No upfront costs and per-second billing

Item	Monthly estimate
2 vCPU + 1 GB memory	US\$6.11
10 GB balanced persistent disk	US\$1.00
Total	US\$7.11

[Compute Engine pricing](#) **LESS**

[← Create an instance](#)

[CREATE VM FROM...](#)

Wide variety of networking performance

New VM instance
Create a single VM instance from scratch

New VM instance from template
Create a single VM instance from an existing template

New VM instance from machine image
Create a single VM instance from an existing machine image

Marketplace
Deploy a ready-to-go solution onto a VM instance

Network interfaces ?

Network interface is permanent

Edit network interface

Network *: rithvik-vpc

Subnetwork *: subnet-b IPv4 (10.0.2.0/24)

To use IPv6, you need an IPv6 subnet range. [LEARN MORE](#)

IP stack type: IPv4 (single-stack) IPv4 and IPv6 (dual-stack)

Primary internal IPv4 address: Ephemeral (Automatic)

Alias IP ranges

[+ ADD IP RANGE](#)

External IPv4 address: Ephemeral

Network Service Tier

CREATE **CANCEL** [EQUIVALENT CODE](#)

Monthly estimate
US\$7.11
That's about US\$0.01 hourly
Pay for what you use: No upfront costs and per-second billing

Item	Monthly estimate
2 vCPU + 1 GB memory	US\$6.11
10 GB balanced persistent disk	US\$1.00
Total	US\$7.11

[Compute Engine pricing](#)

[LESS](#)

[← VPC network details](#)

[DELETE VPC NETWORK](#)

[HIDE INFO PANEL](#)

VPC networks

- rithvik-vpc**
- IP addresses
- Internal ranges
- Bring your own IP
- Firewall
- Routes
- VPC network peering
- Shared VPC
- Serverless VPC access
- Packet mirroring
- VPC flow logs

VPC network details

rithvik-vpc

[OVERVIEW](#) [SUBNETS](#) [STATIC INTERNAL IP ADDRESSES](#) [FIREWALLS](#) [FIREWALL ENDPOINTS](#)

Subnets [+ ADD SUBNET](#) [MANAGE FLOW LOGS](#)

Filter Enter property name or value

Name	Region	Stack type	Primary IPv4 range	Secondary IPv4 ranges
subnet-a	us-central1	IPv4	10.0.1.0/24	Delete Edit
subnet-b	us-east1	IPv4	10.0.2.0/24	Delete Edit

Reserved proxy-only subnets for load balancing

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

[EQUIVALENT REST](#)

Successfully created network rithvik-vpc.

Compute Engine

VM instances

CREATE INSTANCE **IMPORT VM** **REFRESH** **LEARN**

INSTANCES **OBSERVABILITY** **INSTANCE SCHEDULES**

VM instances

Filter Enter property name or value

Status	Name	Zone	Recommendations	In use by	Internal IP	External IP	Connect
<input type="checkbox"/>	rithvik-1	us-central1-c			10.0.1.2 (nic0)	35.192.200.4 (nic0)	SSH
<input type="checkbox"/>	rithvik-2	us-east1-c			10.0.2.2 (nic0)	34.148.48.176 (nic0)	SSH

Related actions

- Explore Backup and DR** NEW Back up your VMs and set up disaster recovery
- View billing report** View and manage your Compute Engine billing
- Monitor VMs** View outlier VMs across metrics like CPU and network
- Explore VM logs** View, search, analyse and download VM instance logs
- Set up firewall rules** Control traffic to and from a VM instance
- Patch management** Schedule patch updates and view patch compliance on VM instances
- Load balance between VMs** Set up load balancing for your applications as your traffic and users grow

HIDE

Network security

Create a firewall rule

Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. [Learn more](#)

Name * allow-internal
Lowercase letters, numbers, hyphens allowed

Description

Logs
Turning on firewall logs can generate a large number of logs, which can increase costs in Logging. [Learn more](#)

On
 Off

Network * rithvik-vpc

Priority * 1000 **COMPARE**

Priority can be 0–65535

Direction of traffic [?](#)
 Ingress
 Egress

Action on match [?](#)
 Allow
 Deny

Targets All instances in the network

Source filter IPv4 ranges

Create a firewall rule

- Secure web proxy
- Cloud Armor
- Cloud Armor policies
- Adaptive protection
- Cloud Armor service tier
- Cloud IDS
- IDS dashboard
- IDS endpoints
- IDS threats
- Cloud NGFW
- Dashboard
- Firewall policies**
- Threats
- Firewall endpoints
- Common components
- Address groups PREVIEW
- Security profiles
- TLS inspection policies

Direction of traffic

Ingress

Egress

Action on match

Allow

Deny

Targets
All instances in the network

Source filter
IPv4 ranges

Source IPv4 ranges *
10.0.0.0/8

Second source filter
None

Destination filter
None

Protocols and ports

Allow all

Specified protocols and ports

DISABLE RULE

CREATE **CANCEL**

EQUIVALENT COMMAND LINE

Firewall policies

VPC firewall rules

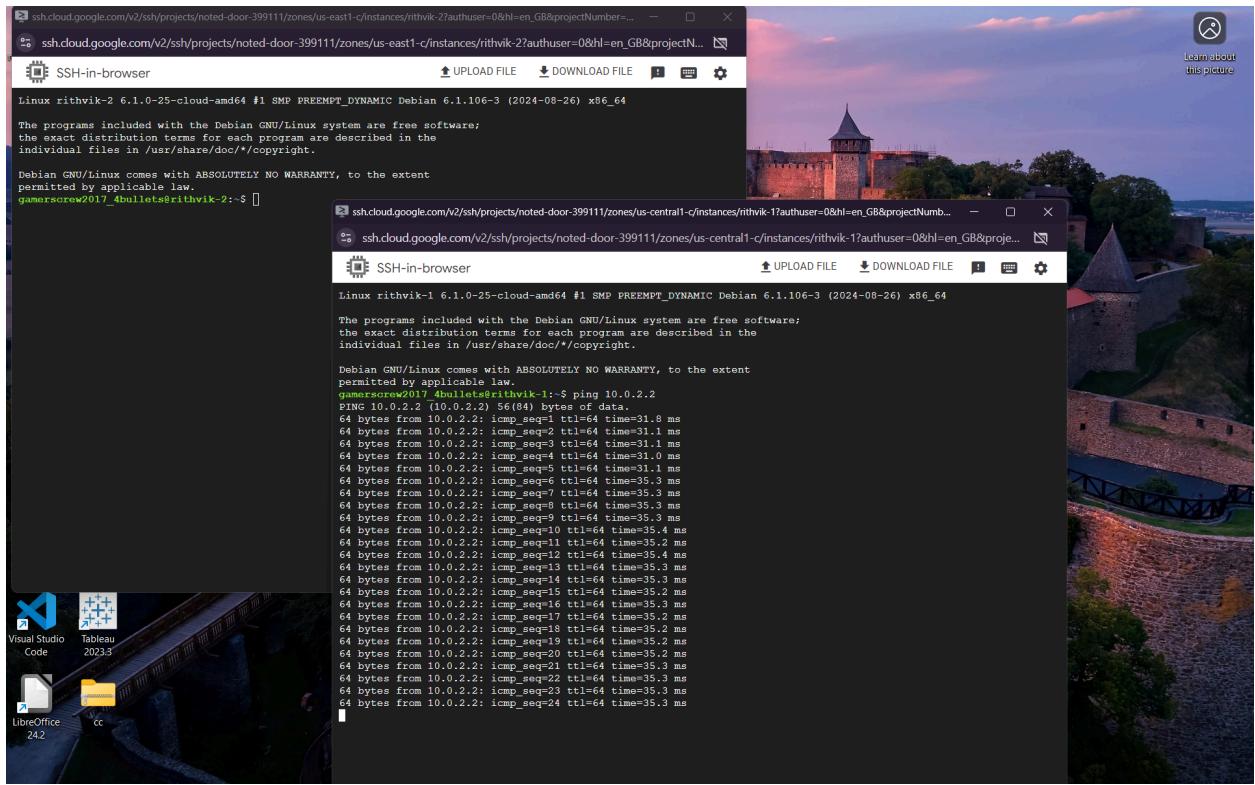
Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. [Learn more](#)

Note: App Engine firewalls are managed in the [App Engine firewall rules section](#).

SMTP port 25 disallowed in this project. [Learn more](#)

REFRESH	CONFIGURE LOGS	DELETE				
Filter Enter property name or value						
Name	Type	Targets	Filters	Protocols/ports	Action	Priority
Network ↑	Logs	Hit count	Last			
<input type="checkbox"/> default-allow-icmp	Ingress	Apply to all	IP ranges:	icmp	Allow	65534
<input type="checkbox"/> default-allow-internal	Ingress	Apply to all	IP ranges:	tcp:0-65535 udp:0-65535 icmp	Allow	65534
<input type="checkbox"/> default-allow-rdp	Ingress	Apply to all	IP ranges:	tcp:3389	Allow	65534
<input type="checkbox"/> default-allow-ssh	Ingress	Apply to all	IP ranges:	tcp:22	Allow	65534
<input checked="" type="checkbox"/> allow-internal	Ingress	Apply to all	IP ranges:	All	Allow	1000
<input type="checkbox"/> rithvik-vpc-allow-http	Ingress	http-server	IP ranges:	tcp:80	Allow	1000

Network firewall policies



4. Compute Services:

- Deploy a simple web application using Google App Engine. Choose a standard environment with Python, Java, Go, or Node.js runtime.
- Access the application endpoint and verify functionality.

The screenshot shows the Google Cloud Platform App Engine dashboard for a project named "My First Project". The main area displays a "Welcome to App Engine" message with the subtext "Build scalable apps in any language on Google's infrastructure" and a prominent "Create application" button. To the left, a sidebar menu lists various services and tools: Dashboard, Services, Versions, Instances, Task queues, Cron jobs, Security scans, Firewall rules, Quotas, Memcache, Search, and Settings. Below this is a "Release notes" section. On the right, a "Learn" sidebar provides links to documentation on setting up the development environment, access control, communication between services, managing instances, handling requests, and testing/deploying applications. The URL at the bottom of the screen is <https://console.cloud.google.com/appengine/start/create?project=noted-door-39911>.

App Engine ☰

Create app

1 **Configure application** — 2 **Get started**

Region

Select a region for your App Engine application. Please remember, once selected the region is permanently tied to the project.

Select a region * Keyboard shortcuts | Map data ©2024 | Terms

Identity and API access

Select a service account If no service account is selected, the default App Engine service account will be used.

Next

Learn

App Engine ☰

Get started

1 **Configure application** — 2 **Get started**

Resources

Language ▼

Environment ▼

[Read App Engine Node.js Standard Environment Documentation](#)

Visit [Github](#) for Node.js Standard Environment code samples.

Deploy with Google Cloud SDK

Download the Cloud SDK 🔗

Initialise your SDK

```
$ gcloud init
```

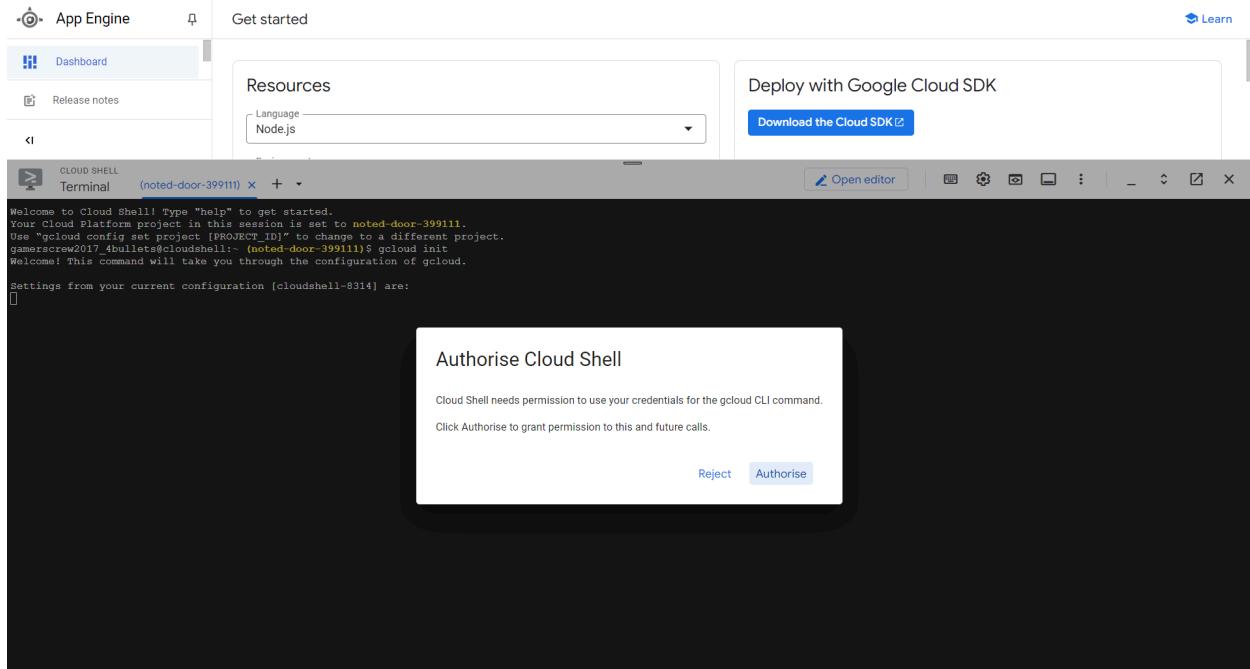
Code copied

Deploy to App Engine

```
$ gcloud app deploy
```

I'LL DO THIS LATER

Learn



```
gamerscrew2017_4bullets@cloudshell:~/my-app (noted-door-399111)$ gcloud app deploy
Services to deploy:
descriptor:      [/home/gamerscrew2017_4bullets/my-app/app.yaml]
source:          [/home/gamerscrew2017_4bullets/my-app]
target project:  [noted-door-399111]
target service:   [default]
target version:  [20241006t144248]
target url:      [https://noted-door-399111.uc.r.appspot.com]
target service account:  [noted-door-399111@appspot.gserviceaccount.com]

Do you want to continue (Y/n)? Y
Beginning deployment of service [default]...
Uploading 1 file to Google Cloud Storage
100%
100%
File upload done.
Updating service [default]...working WARNING: *** Improve build performance by generating and committing package-lock.json.

Updating service [default]...done.
Setting traffic split for service [default]...done.
Deployed service [default] to [https://noted-door-399111.uc.r.appspot.com]

You can stream logs from the command line by running:
$ gcloud app logs tail -s default

To view your application in the web browser run:
$ gcloud app browse
gamerscrew2017_4bullets@cloudshell:~/my-app (noted-door-399111)$ ^C
gamerscrew2017_4bullets@cloudshell:~/my-app (noted-door-399111)$ gcloud app browse
Did not detect your browser. Go to this link to view your app:
https://noted-door-399111.uc.r.appspot.com
gamerscrew2017_4bullets@cloudshell:~/my-app (noted-door-399111)$
```



Hello, I am Rithvik from Quantiphi!

5. Database Services:

- Create a Cloud SQL instance (MySQL, PostgreSQL, or another supported database).
- Connect to the Cloud SQL instance from your Compute Engine instance or local machine using appropriate credentials.
- Create a sample database schema and insert some data.

The screenshot shows the 'Create an instance' page in the Google Cloud Platform SQL interface. It features three main engine options: MySQL, PostgreSQL, and SQL Server. Each option has a description of its versions and a 'Choose' button. A promotional overlay for 'Introducing AlloyDB for PostgreSQL' is displayed, highlighting its benefits like scale-out storage and compute, intelligent caching, and AI/ML-powered management. The URL at the bottom of the page is <https://console.cloud.google.com/sql/instances/create;engine=MySQL?authuser=0&hl=en-US>.

SQL | [Create an instance](#)

Choose your database engine

MySQL Versions: 8.4, 8.0, 5.7, 5.6 [Choose MySQL](#)

PostgreSQL Versions: 16, 15, 14, 13, 12, 11, 10, 9.6 [Choose PostgreSQL](#)

SQL Server Versions: 2022, 2019, 2017 [Choose SQL Server](#)

Want more context on the Cloud SQL database engines? [Learn more](#)

Introducing AlloyDB for PostgreSQL

PostgreSQL plus the best of the cloud: scale-out storage and compute, intelligent caching and AI/ML-powered management. Choose AlloyDB for 4x faster transactional workloads, more efficient analytical and vector queries and an industry-leading 99.99% SLA, inclusive of maintenance.

[CHOOSE ALLOYDB](#) [LEARN MORE](#)

Now viewing project 'My First Project' in organisation 'No organisation' X

<https://console.cloud.google.com/sql/instances/create;engine=MySQL?authuser=0&hl=en-US>

[← Create a MySQL instance](#)

Choose a Cloud SQL edition

A Cloud SQL edition determines foundational characteristics of your instance. Choose the best option for your price and performance needs. [Learn more](#)

<input type="radio"/> Enterprise Plus	<ul style="list-style-type: none"> 99.99% availability SLA Sub-second planned maintenance downtime Near-zero downtime instance scale-up Performance-optimised machines Up to 35 days point-in-time recovery window Up to 3x higher read throughput with data cache Advanced disaster recovery with easy switchback
<input checked="" type="radio"/> Enterprise	<ul style="list-style-type: none"> 99.95% availability SLA Less than 60 seconds planned maintenance downtime General purpose machines Up to 7 days point-in-time recovery window

Edition preset: Sandbox

[COMPARE EDITION PRESETS](#)

Instance info

Database version *: MySQL 8.0

[▼ SHOW MINOR VERSIONS](#)

Instance ID *: rithvik-db

Summary

Cloud SQL edition	Enterprise
Region	us-central1 (Iowa)
DB version	MySQL 8.0
vCPUs	2 vCPU
RAM	8 GB
Data cache	Disabled
Storage	10 GB
Connections	Public IP
Backup	Automated
Availability	Single zone
Point-in-time recovery	Enabled
Network throughput (MB/s)	500 of 500
Disk throughput (MB/s)	Read: 4.8 of 240.0 Write: 4.8 of 240.0
IOPS	Read: 300 of 15,000 Write: 300 of 15,000

Pricing estimate

These items represent Cloud SQL compute, memory and storage resources only, and reflect how you configured your instance so far. Discounts not included in estimate. [Learn more](#)

Item	Hourly cost (estimate)
2 vCPU (US\$0.041 per vCPU/hour)	US\$0.08
8 GiB RAM (US\$0.007 per GiB/hour)	US\$0.06
10 GiB SSD (US\$0.17 per GiB/month)	US\$0.002
Total without usage discounts	US\$0.14

[← Create a MySQL instance](#)

Instance ID *: rithvik-db

Use lowercase letters, numbers and hyphens. Start with a letter.

Password *: [GENERATE](#)

Set a password for the root user. [Learn more](#)

No password

[▼ PASSWORD POLICY](#)

Choose region and zonal availability

For better performance, keep your data close to the services that need it. Region is permanent, while zone can be changed any time.

Region: us-central1 (Iowa)

Zonal availability:

Single zone

In case of outage, no failover. Not recommended for production.

Multiple zones (highly available)

Automatic failover to another zone within your selected region. Recommended for production instances. Increases cost.

[▼ SPECIFY ZONES](#)

Customise your instance

You can also customise instance configurations later

[▼ SHOW CONFIGURATION OPTIONS](#)

[CREATE INSTANCE](#) [CANCEL](#)

Summary

Data cache	Disabled
Storage	10 GB
Connections	Public IP
Backup	Automated
Availability	Single zone
Point-in-time recovery	Enabled
Network throughput (MB/s)	500 of 500
Disk throughput (MB/s)	Read: 4.8 of 240.0 Write: 4.8 of 240.0
IOPS	Read: 300 of 15,000 Write: 300 of 15,000

Pricing estimate

These items represent Cloud SQL compute, memory and storage resources only, and reflect how you configured your instance so far. Discounts not included in estimate. [Learn more](#)

Item	Hourly cost (estimate)
2 vCPU (US\$0.041 per vCPU/hour)	US\$0.08
8 GiB RAM (US\$0.007 per GiB/hour)	US\$0.06
10 GiB SSD (US\$0.17 per GiB/month)	US\$0.002
Total without usage discounts	US\$0.14

Usage and traffic costs

These costs vary based on your feature usage, traffic or data location, and aren't included in the cost estimate above. [Learn more](#)

Backups (US\$0.08 per GiB)

Network data transfer out (variable) [?](#)

SQL

OVERVIEW

All instances > **rithvik-db**

rithvik-db

MySQL 8.0

Instance is being created. This may take a few minutes. While this operation is running, you may continue to view information about the instance.

VIEW ALL

1 hour 6 hours **1 day** 7 days 30 days Custom

Chart CPU utilisation

No data is available for the selected time frame.

UTC+5:30 6 Oct 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00

Go to Query insights for more in-depth info on queries and performance

Instance issues (0)
No issues found

Connect to this instance
Connection name
noted-door-399111:us-central1:rithvik-db

Configuration

vCPUs	Memory	SSD storage
2	8 GB	10 GB

Enterprise edition UPGRADE

Database version is MySQL 8.0.31

<https://console.cloud.google.com/sql/instances/rithvik-db/insights?authuser=0&hl=en-au&...>

Google Cloud My First Project cloud sql Search

SQL Instances CREATE INSTANCE MIGRATE DATABASE EXPLORE GEMINI HIDE INFO PANEL LEARN

Filter Enter property name or value

Instance ID	Issues	Cloud SQL edition	Type	Public IP address	Private IP address	Instance connection name	Actions
<input type="checkbox"/> rithvik-db		Enterprise	MySQL 8.0	35.239.24.67		noted-door-399111:u...	<input type="button"/>

No instances selected

MONITORING LABELS

No instances selected.

The screenshot shows the Google Cloud Platform Cloud Shell interface. At the top, there are tabs for 'SQL' and 'Databases'. Below the tabs, there's a 'Release notes' section and a breadcrumb trail 'All instances > rithvik-db'. The main area is a terminal window titled 'CLOUD SHELL Terminal (noted-door-399111)'. The terminal displays a MySQL session:

```
Welcome to Cloud Shell! Type "help" to get started.  
Your Cloud Platform project in this session is set to noted-door-399111.  
Use "gcloud config set project [PROJECT_ID]" to change to a different project.  
gamersecret2017_4hRt8$ gcloud sql connect rithvik-db  
All instances are 16 for incoming connection for 5 minutes..done.  
Connected to database with SQL user [root].Enter password:  
Welcome to the MySQL monitor. Commands end with ; or \q.  
Your MySQL connection id is 56  
Server version: 8.0.31-google (Google)  
Copyright (c) 2000, 2024, Oracle and/or its affiliates.  
Oracle is a registered trademark of Oracle Corporation and/or its  
affiliates. Other names may be trademarks of their respective  
owners.  
Type 'help;' or 'h' for help. Type 'c' to clear the current input statement.  
mysql> create database rith;  
Query OK, 1 row affected (0.21 sec)  
mysql> use rith;  
Database changed  
mysql> CREATE TABLE users (  
    -> id INT PRIMARY KEY AUTO_INCREMENT,  
    -> name VARCHAR(100),  
    -> email VARCHAR(100)  
    -> );  
Query OK, 0 rows affected (0.23 sec)  
mysql> INSERT INTO users (name, email) VALUES ('Mamidipally Rithvik Goud', 'rithvik18m@gmail.com');  
Query OK, 1 row affected (0.21 sec)  
mysql> select * from users;  
+----+-----+-----+  
| id | name | email |  
+----+-----+-----+  
| 1 | Mamidipally Rithvik Goud | rithvik18m@gmail.com |  
+----+-----+-----+  
1 row in set (0.20 sec)  
mysql> |
```

6. Monitoring and Logging:

- Enable Stackdriver Logging and Monitoring for your Compute Engine instances and Cloud SQL instance.
- Create a Stackdriver alert to monitor CPU utilization on your Compute Engine instance and configure an email notification.

The screenshot shows the 'APIs and services' section of the Google Cloud Platform. On the left, a sidebar lists 'Enabled APIs and services' (Library, Credentials, OAuth consent screen, Page usage agreements), and a main panel displays the 'Cloud Monitoring API'. The API details include its service name (monitoring.googleapis.com), type (Public API), and status (Enabled). It also provides links to Documentation, Explore (with a 'TRY IN API EXPLORER' button), and Support. Below this, the 'METRICS' tab is selected, showing a graph interface with filters for 'Select graphs' (4 Graphs), 'Versions' (v1 and v3), 'Credentials' (API key 1, Web client 1, A...), and 'Methods' (71 options selected). The graph area shows 'Traffic by response code' with a note: 'No data is available for the selected time frame.' The x-axis shows dates from UTC+5:30 to 3 Oct 2024. At the bottom, there's a section for 'Errors by API method'.

Observability Monitoring

- Overview**
- Dashboards**
- Explore**
 - Metrics explorer
 - Logs Explorer
 - Log Analytics
 - Trace explorer
- Detect**
 - Alerting
 - Error reporting
 - Uptime checks
 - Synthetic monitoring
 - SLOs
- Configure**
 - Integrations

Observability scopes My First Project

Release notes

Dashboards overview + Create Dashboard

Dashboard list Sample library

Categories All Dashboards Labels

Filter by category All 15

	Name	Type	Labels	Actions
Recently viewed	App Engine	Google Cloud Platform		
Favourites	Autoscaler Monitoring	Google Cloud Platform		
Custom	Cloud Storage	Google Cloud Platform		
GCP	Disks	Google Cloud Platform		
Integration	Firewalls	Google Cloud Platform		
Other	GCE Interactive Playbook - Host Events	Google Cloud Platform		
Labelled	GCE Interactive Playbook - MIG Autoscaling Failures	Google Cloud Platform		
	GCE Interactive Playbook - MIG Health Check Failures	Google Cloud Platform		
	GCE Interactive Playbook - Resource Availability Errors	Google Cloud Platform		
	GCE VM Instance Monitoring	Google Cloud Platform		
	GCE VM Lifecycle Events Monitoring	Google Cloud Platform		
	Infrastructure summary	Google Cloud Platform		
	Logs dashboard	Google Cloud Platform		
	VM Instances	Google Cloud Platform		

Rows per page: 50 ▾ 1 – 15 of 15 < >

Observability Logging

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- Configure**
 - Integrations

Observability scopes My First Project

Release notes

Logs Explorer

Project logs Search all fields

All resources All log names All severities Correlate by

Timeline 6 Oct, 21:42 21:50 22:00 22:10 22:20 22:30 22:40 6 Oct, 22:42

Log fields Search fields and values

RESOURCE TYPE

- Cloud SQL Database 807
- GAE application 17
- VM Instance 14
- Audited Resource 11

SEVERITY

- Info 776
- Warning 36
- Notice 28
- Default 6
- Error 2
- Debug 1

849 results

SEVERITY	TIME	SUMMARY
> i	2024-10-06 22:40:26.534	appengine.googleapis.com ..v1.Applications.UpdateApplication apps/nceted-door-399111 gamerscrew2017.4bt
> i	2024-10-06 22:40:36.791	GET 200 374 B 663 ms Chrome 129.0. /
> i	2024-10-06 22:40:36.970	[pid1] started [session:8V133MD]
> i	2024-10-06 22:40:36.979	[pid1-app] Using app start info from /srv/.googleconfig/app_start.json: &main.appStart{Entrypoint:struct { - }}
> i	2024-10-06 22:40:36.979	[pid1-app] Starting processes [app nginx] [session:8V133MD]
> i	2024-10-06 22:40:36.980	[pid1-app] app has no prerequisites, starting immediately [session:8V133MD]
> i	2024-10-06 22:40:36.988	[pid1-nginx] nginx waiting for any of 4 prerequisite(s): [portbind:tcp:127.0.0.1:8081 portbind:tcp:localhost-]
> i	2024-10-06 22:40:36.989	[pid1-app] Starting app (pid 12): /serve [session:8V133MD]
> i	2024-10-06 22:40:36.993	[serve] Serve started.
> i	2024-10-06 22:40:36.993	[serve] Args: {runtimeLanguage:nodejs runtimeName:nodejs18 memoryMB:384 positional:[]}
> i	2024-10-06 22:40:36.996	[serve] Running /bin/sh -c exec node app.js
> i	2024-10-06 22:40:37.485	App is running on port 8081
> i	2024-10-06 22:40:37.487	[pid1-nginx] Successfully connected to 127.0.0.1:8081 after 426.159267ms [session:8V133MD]
> i	2024-10-06 22:40:37.488	[pid1-nginx] Successfully connected to localhost:8081 after 426.655544ms [session:8V133MD]
> i	2024-10-06 22:40:37.499	[pid1-nginx] Creating config at /tmp/nginxconf-810831230/nginx.conf [session:8V133MD]
> i	2024-10-06 22:40:37.410	[pid1-nginx] Starting nginx (pid 24): /usr/sbin/nginx -c /tmp/nginxconf-810831230/nginx.conf [session:8V133MD]

Showing logs for last 1 hour from 06/10/2024, 21:42 to 06/10/2024, 22:42 Extend time by: 1 hour Edit time

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 - SLOs
- Configure
 - Observability scopes
 - Release notes

Alerting + Create policy Edit notification channels Learn

Monitoring now supports both user-scoped and device-scoped Cloud Console Mobile notification channels

Manage channels Learn more Dismiss

Summary

Incidents firing: 0 Incidents acknowledged: 0 Alert policies: 0

Incidents

Show closed incidents

State	Severity	Policy name	Incident summary	Opened
No rows to display				

→ See all incidents

Snoozes Create snooze

Show past snoozes

Start time	End time
No rows to display	

→ See all snoozes

Policies

Create policy

Display Name	Type	Last modified by	Created on
No rows to display			

Create alerting policy

+ Add alert condition Delete alert condition View Code

ALERT CONDITIONS

- New condition
- Configure trigger

ALERT DETAILS

- Notifications and name
- Review alert

Policy configuration mode

Builder Code editor (MQL or PromQL)

Select a metric

Select a metric

GCE VM Instance

ACTIVE METRIC CATEGORIES

Active

Firewall 2 metrics

Instance 29 metrics

Logs-based metrics 2 metrics

Mirroring 3 metrics

Vm_flow 5 metrics

ACTIVE METRICS

CPU usage
compute.googleapis.com/instance/cpu/usage...

CPU utilization
compute.googleapis.com/instance/cpu/utilizati...

Disk average io queue depth
compute.googleapis.com/instance/disk/averag...

Disk average latency
compute.googleapis.com/instance/disk/averag...

Disk performance status
compute.googleapis.com/instance/disk/perform...

Disk read bytes
compute.googleapis.com/instance/disk/read_b...

Disk read operations
compute.googleapis.com/instance/disk/read_o...

Disk write bytes

Selection preview
VM Instance > Instance > CPU utilization

to begin

Reset Cancel Apply

Create policy Provide feedback Cancel

[Create alerting policy](#) [+ Add alert condition](#) [Delete alert condition](#) [View Code](#)

ALERT CONDITIONS

- VM Instance - CPU utilization
 - Configure trigger

ALERT DETAILS

- Notifications and name
- Review alert

Policy configuration mode

Builder Code editor (MQL or PromQL)

Select a metric

[VM Instance - CPU utilization](#)

Add filters Optional

Selections made on the chart do not affect the alert policy [Learn more](#)

[Add a filter](#)

Transform data

Within each time series

Rolling window * Adjust the length of time that a signal is calculated for. Example: Mean of CPU utilisation for five minutes is above 80%

Rolling window function * Function applied to the rolling window

Across time series

[Add secondary data transformation](#)

[Create policy](#) [Provide feedback](#) [Cancel](#)

Filter	Enter property name or value	Value
<input type="checkbox"/>	Metric ↑	
<input checked="" type="checkbox"/>	utilization	46.769 %

[Create alerting policy](#) [+ Add alert condition](#) [Delete alert condition](#) [View Code](#)

ALERT CONDITIONS

- VM Instance - CPU utilization
 - Configure trigger

ALERT DETAILS

- Notifications and name
- Review alert

Configure alert trigger

Condition Types

Threshold Condition triggers if a time series rises above or falls below a value for a specific duration window

Metric absence Condition triggers if any time series in the metric has no data for a specific duration window

Forecast [Preview](#) Condition triggers if any timeseries in the metric is projected to cross the threshold in the near future.

Alert trigger Threshold position

Threshold value %

Advanced Options

Condition name *

[Next](#)

[Create policy](#) [Provide feedback](#) [Cancel](#)

Filter	Enter property name or value	Value
<input type="checkbox"/>	Metric ↑	
<input checked="" type="checkbox"/>	utilization	19.572 %

[← Create alerting policy](#) [+ Add alert condition](#) [Delete alert condition](#) [View Code](#)

ALERT CONDITIONS

- VM Instance - CPU utilization
- Configure trigger**

ALERT DETAILS

- Notifications and name
- Review alert

Configure alert trigger

Condition Types

- Threshold** Condition triggers if a time series rises above or falls below a value for a specific duration window
- Metric absence Condition triggers if any time series in the metric has no data for a specific duration window
- Forecast** [Preview](#) Condition triggers if any timeseries in the metric is projected to cross the threshold in the near future.

Alert trigger — Any time series violation... Threshold position — Above threshold

Threshold value %

Advanced Options

Condition name * VM Instance - CPU utilization

[Next](#) [Create policy](#) [Provide feedback](#) [Cancel](#)

UTC: 22:40 22:50 22:55 23:00 23:05 23:10 23:15 23:20 23:25 23:30 23:35 23:40 23:45 23:50 23:55 24:00

Filter	Enter property name or value
<input type="checkbox"/>	Metric ↑
<input checked="" type="checkbox"/>	utilization
	Value
	19.572 %

[≡ Google Cloud](#) [X](#)

[← Create alerting policy](#)

ALERT CONDITIONS

- VM Instance - CPU utilization
- Configure trigger**

ALERT DETAILS

- Notifications and name**
- Review alert

Notification channels

Mobile Devices (via [Cloud Mobile App](#)) [Add New](#)

● Monitoring now supports both user-scoped and device-scoped Cloud Console Mobile notification channels [Learn more](#) [Dismiss](#)

No mobile devices configured

Google Chat [Preview](#) [Add New](#)

No Google Chat channels configured

PagerDuty Services [Add New](#)

No PagerDuty services configured

PagerDuty Sync [Beta](#) [Add New](#)

No PagerDuty Sync channels configured

Slack [Add New](#)

No Slack channels configured

Webhooks [Add New](#)

No webhook channels configured

Email [Add New](#)

No emails configured

SMS [Add New](#)

No SMS channels configured

Pub/Sub [Add New](#)

No Pub/Sub channels configured

Create Email Channel

Email addresses can be set to receive notifications from your alerting when a new incident is created.

Email Address *

Display Name *

[Cancel](#) [Save](#)

[Create alerting policy](#) [+ Add alert condition](#) [Delete alert condition](#) [View Code](#)

ALERT CONDITIONS

- VM Instance - CPU utilization
- Configure trigger

ALERT DETAILS

- Notifications and name
- Review alert

Configure notifications and finalize alert

Configure notifications Recommended

Use notification channel

Notification channels — Rithvik

Notification subject line — Your CPU Utilization just crossed above 50%

We recommend that you create multiple notification channels for redundancy purposes. Google has no control of many of the delivery systems after we have passed the notification to that system. Additionally, a single Google service supports Cloud Console Mobile App, PagerDuty, Webhooks, and Slack. If you use one of these notification channels, then use email, SMS, or Pub/Sub as the redundant channel.

[Learn more](#)

Notify on incident closure

Incident autoclose duration

If data is absent, select a duration after which the incident will be automatically closed.

Policy user labels Recommended

Policy user labels allow you to add your own labels to alert policies for organization. The labels are included in the notification and incident details.

[Create policy](#) [Provide feedback](#) [Cancel](#)

<https://cloud.google.com/monitoring/support/notification-options?hl=en-au>

Observability Monitoring

[Overview](#) [Dashboards](#)

Explore

- Metrics explorer
- Logs Explorer
- Log Analytics
- Trace explorer

Detect

- Alerting
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- SLOs

Configure

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Observability scopes My First Project

[Release notes](#)

Policy details [Enabled](#) [Edit](#) [Copy](#) [Delete](#) [JSON](#)

1 hour 6 hours 1 day 1 week 1 month 6 weeks

High CPU Utilization

Conditions	Severity
Policy violates when ANY condition is met	No severity

VM Instance - CPU utilization

Condition type	Triggers when	Threshold position	Threshold value	Retest window
Threshold	Any time series cross threshold	Above threshold	50 %	No retest

Filter Enter property name or value

Metric ↑	Value
utilization	1.51 %

7. Security and Identity:

- Set up Identity and Access Management (IAM) roles and policies to grant permissions to your Compute Engine instance to access Cloud Storage buckets securely.
- Configure Identity-Aware Proxy (IAP) for web application access control.
- Use IAM to create a new user with limited permissions and test access.

The screenshot shows the Google Cloud Platform console. The left sidebar lists various services: Cloud overview, Solutions, PINNED PRODUCTS (APIs and services, Billing, IAM and admin, Marketplace, Compute Engine, Kubernetes engine, Cloud Storage, BigQuery, VPC network, Cloud Run, SQL, Security, Google Maps Platform), and a button to VIEW ALL PRODUCTS. The APIs and services section is currently selected. A dropdown menu for 'APIs and services' is open, showing options like IAM, PAM, Principal access boundary, Identity and organisation, Policy troubleshooter, Policy analyser (NEW), Organisation policies, Service accounts, Workload Identity Federation, Workforce identity federation, Labels, Tags, Settings, Privacy and security, Identity-Aware Proxy, Roles, Audit logs, Manage resources, Create a project, Essential contacts, Asset inventory, Quotas and system limits, and Groups. The 'IAM' option is highlighted. The main content area shows a message: 'services, an administrator must verify this account.' Below this is a 'VERIFY ACCOUNT' button. To the right, there's a 'PORT RELATED PRODUCTS' section with links to Stackdriver, Web Services, and Cloud. At the bottom, there's an 'Additional details' section with information about the IAM service: Type: SaaS & APIs, Last product update: 30/04/2022, Category: Monitoring, Google Enterprise APIs, and Service name: monitoring.googleapis.com. A status bar at the bottom indicates 'TIER 1' and shows a warning: 'Policy High CPU Utilization deleted' with a timestamp of '7:11:19 Requests'.

Edit access to "My First Project"

Principal: 458832835508-compute@developer.gserviceaccount.com **Project**: My First Project

Assign Roles

Roles are composed of sets of permissions and determine what the principal can do with this resource. [Learn more](#)

Role: Storage Object Viewer **IAM condition (optional)**: [+ ADD IAM CONDITION](#)

Grants access to view objects and their metadata, excluding ACLs. Can also list the objects in a bucket.

Role: Storage Object Admin **IAM condition (optional)**: [+ ADD IAM CONDITION](#)

Grants full control over objects, including listing, creating, viewing and deleting objects.

[+ ADD ANOTHER ROLE](#)

TEST CHANGES [SAVE](#) [TEST CHANGES](#) [CANCEL](#)

Summary of changes

Role removed: Editor

Roles added: Storage Object Admin, Storage Object Viewer

Recommended for you

- IAM overview** [Help document](#)
Basic IAM concepts and access management in Google Cloud.
- Grant an IAM role using the Google Cloud console** [Help document](#)
Use the Google Cloud console to grant IAM roles to principals at the project level.
- Choose predefined roles** [Help document](#)
Choose which predefined roles to grant to users.
- Basic and predefined roles reference** [Help document](#)
IAM roles that you can grant to identities to access Google Cloud resources.
- Manage access to projects, folders, and organizations** [Help document](#)
Grant, change, and revoke access to projects, folders, and organizations.
- Troubleshoot IAM permissions** [Help document](#)
Use Policy Troubleshooter to

Identity-Aware Proxy

APPLICATIONS **SSH AND TCP RESOURCES**

Identity-Aware Proxy (IAP) lets you manage who has access to services hosted on App Engine, Compute Engine or an HTTPS load balancer. [Learn more](#)

To get started with IAP, add an [App Engine app](#), a [Compute Engine instance](#) or configure an [HTTPS load balancer](#).

[CONNECT NEW APPLICATION](#) [Premium](#)

Filter Enter property name or value

Resource	IAP	Method	Connection	Published	Status
All Web Services					
App Engine app	<input checked="" type="radio"/>	IAM		https://noted-door-399111.uc.r.appspot.com	
default				https://noted-door-399111.uc.r.appspot.com	

No resources selected

Please select at least one resource.

IAP has been turned on for App Engine app

Grant access to 'App Engine app'

Grant principals access to this resource and add roles to specify what actions the principals can take. Optionally, add conditions to grant access to principals only when a specific criteria is met. [Learn more about IAM conditions](#)

Resource

App Engine app

Add principals

Principals are users, groups, domains or service accounts. [Learn more about principals in IAM](#)

New principals *

Assign Roles

Roles are composed of sets of permissions and determine what the principal can do with this resource. [Learn more](#)

Role *	IAM condition (optional)
IAPI-secured Web App User	+ ADD IAM CONDITION

Access HTTPS resources which use Identity-Aware Proxy

+ ADD ANOTHER ROLE

SAVE **CANCEL**

IAP has been updated.

IAM and admin

IAM

ALLOW DENY RECOMMENDATIONS HISTORY

Permissions for project My First Project

These permissions affect this project and all of its resources. [Learn more](#)

1 service account with highly privileged Owner/Editor roles has excess permissions. Improve security by applying recommendations to this account. [Learn more about recommendations](#)

VIEW BY PRINCIPALS **VIEW BY ROLES** Include Google-provided role grants

GRANT ACCESS **REMOVE ACCESS**

Filter Enter property name or value

Type	Principal ↑	Name	Role	Security insights
Service account	458832835508-compute@developer.gserviceaccount.com	Compute Engine default service account	Storage Object Admin Storage Object Viewer	
User	gamerscrew2017.4bullets@gmail.com	Akshay RF	Owner	10092 / 10166 excess permissions
Service account	noted-door-399111@appspot.gserviceaccount.com	App Engine default service account	Editor	

Google Cloud IAM and admin screen for 'My First Project' showing IAM permissions configuration.

Permissions for project My First Project

These permissions affect this project and all of its resources. [Learn more](#)

1 service account with highly privileged Owner/Editor roles. Improve security by applying recommendations to this account. [Learn more about recommendations](#).

Add principals

Principals are users, groups, domains or service accounts. [Learn more about principals](#)

New principals * [?](#)

Assign Roles

Roles are composed of sets of permissions and determine what the principal can do with this resource. [Learn more](#)

Role *	IAM condition (optional) ?	+ ADD IAM CONDITION
Viewer	View most Google Cloud resources. See the list of included permissions.	-
Storage Object Viewer	Grants access to view objects and their metadata, excluding ACLs. Can also list the objects in a bucket.	-

[+ ADD ANOTHER ROLE](#)

SAVE **CANCEL**

Google Cloud IAM and admin screen for 'My First Project' showing IAM permissions configuration.

Permissions for project My First Project

These permissions affect this project and all of its resources. [Learn more](#)

1 service account with highly privileged Owner/Editor roles has excess permissions. Improve security by applying recommendations to this account. [Learn more about recommendations](#).

[Tell me more](#) [VIEW RECOMMENDATIONS IN TABLE](#) [?](#)

Include Google-provided role grants [?](#)

VIEW BY PRINCIPALS **VIEW BY ROLES**

GRANT ACCESS **REMOVE ACCESS**

Filter Enter property name or value

Type	Principal ↑	Name	Role	Security Insights ?
Compute Engine default service account	458832835508-compute@developer.gserviceaccount.com	Compute Engine default service account	Storage Object Admin	Edit
			Storage Object Viewer	Edit
Owner	gamerscrew2017.4bullets@gmail.com	Akshay RF	Owner	10092 / 10166 excess permissions View details Edit
	mamidipallyrithvik@gmail.com		Storage Object Viewer	Edit
	noted-door-399111@appspot.gserviceaccount.com	App Engine default service account	Editor	Edit

Policy updated [X](#)