

Assignment 2

Problem Statement

Set up a virtual machine in Google Cloud Platform (GCP), implement auto-scaling policies based on workload, and configure security measures like firewall rules and IAM.

Implementation:

To perform this task, we need to setup GCP account and login to the google cloud console with Created account credentials

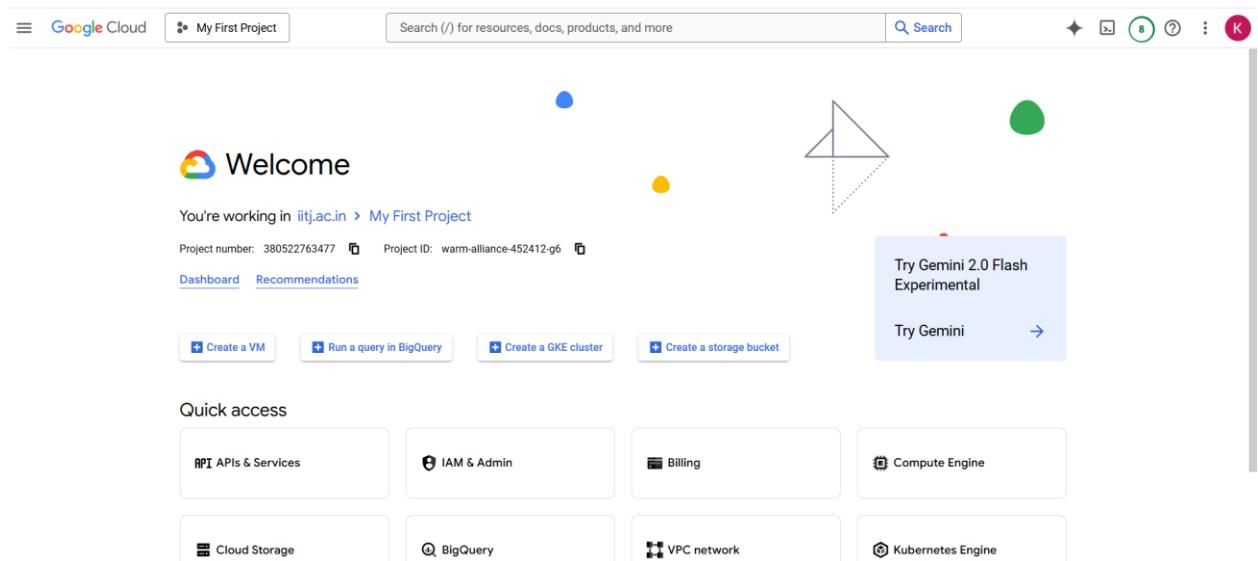
Link for GCP Platform:

<https://console.cloud.google.com/>

Creation of Virtual machine

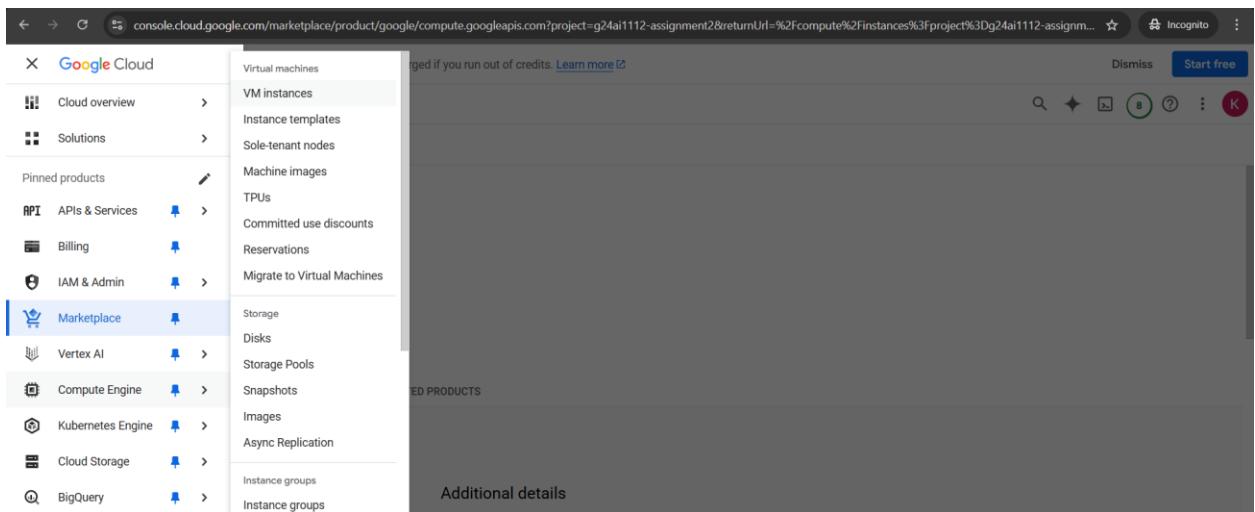
- 1) Login to the GCP Console
- 2) Once Logged in you will see the welcome screen

Screenshot for reference:



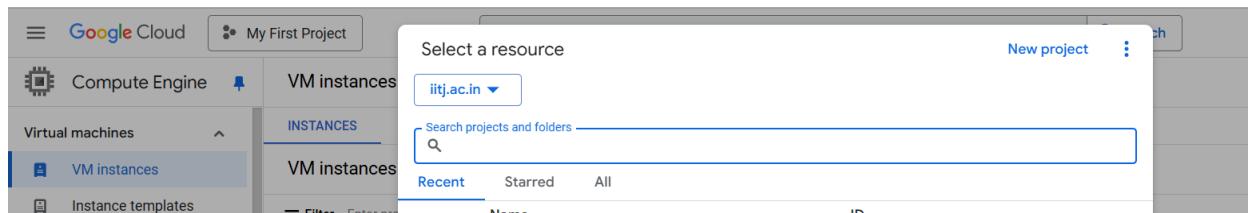
- 3) On the top left corner, you will see 3 lines known as navigation menu click on it and click on compute engine and click on vm instances

Screenshot for reference:



- 4) Create a new project and click on new project

Screenshot for reference:



- 5) Give the details like project name, organization, location and click on create

Screenshot for reference:

You have 10 projects remaining in your quota. Request an increase or delete projects. [Learn more](#)

[Manage Quotas](#)

Project name * G24AI1112-VCC-Assignment2

Project ID: g24ai1112-vcc-assignment2. It cannot be changed later. [Edit](#)

Organization * iitj.ac.in

Select an organization to attach it to a project. This selection can't be changed later.

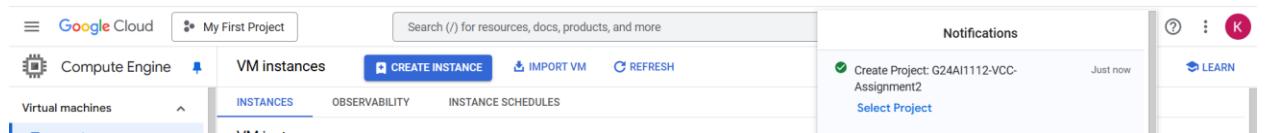
Location * iitj.ac.in

Parent organization or folder

[Create](#) [Cancel](#)

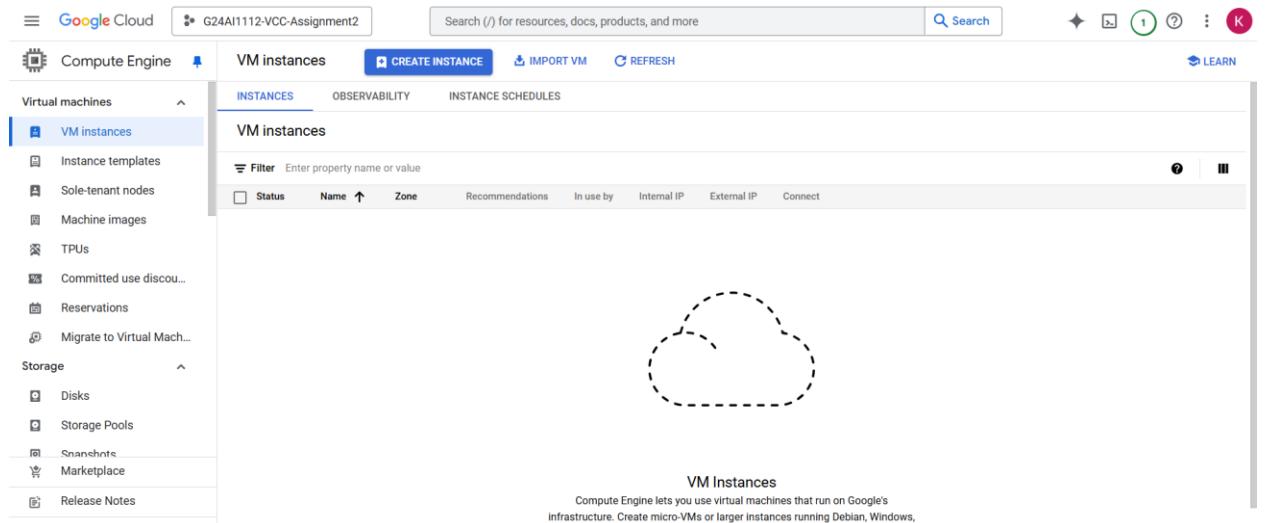
- Once clicked on create you can see in notifications stating that your project has been created.

Screenshot for reference:



- Once created you can see the vm instances page

Screenshot for reference:



- Click on create an instance
- Give the details like name,select the region,zone and select vcpus and its memory for a particular series etc

Screenshot for reference:

The screenshot shows the 'Create an instance' wizard. On the left, a sidebar lists configuration steps: Machine configuration (selected), OS and storage, Networking, Observability, Security, and Advanced. The main area is titled 'Machine configuration'. It includes fields for 'Name' (g24ai1112-instance), 'Region' (us-central1 (Iowa)), and 'Zone' (Any). A note states: 'Region is permanent' and 'Google will choose a zone on your behalf, maximizing VM obtainability. Zone is permanent.' Below these are tabs for 'General purpose' (selected), Compute optimized, Memory optimized, Storage optimized, and GPUs. A table lists machine types by series: C4, C4A, N4, C3, C3D, and E2. The E2 row is highlighted with a blue circle.

10) Go to OS and Storage and select the OS with which you wanted to create the VM.

11) The default OS Image and details will be provided and the default OS image is Linux but I wanted to go with windows hence click on change

Screenshot for reference:

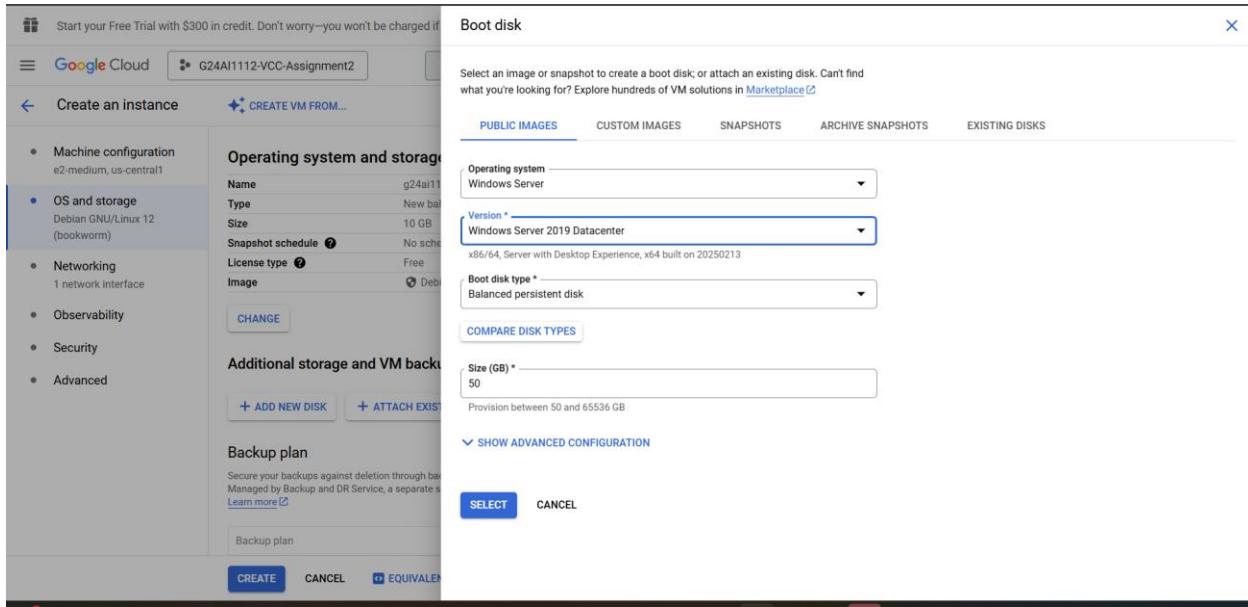
The screenshot shows the 'Create an instance' wizard. The sidebar shows 'OS and storage' is selected. The main area is titled 'Operating system and storage'. It displays the following details:

Name	g24ai1112-instance
Type	New balanced persistent disk
Size	10 GB
Snapshot schedule	No schedule selected
License type	Free
Image	Debian GNU/Linux 12 (bookworm)

A 'CHANGE' button is located below the table. At the bottom, there are buttons for '+ ADD NEW DISK', '+ ATTACH EXISTING DISK', and '+ ADD LOCAL SSD'.

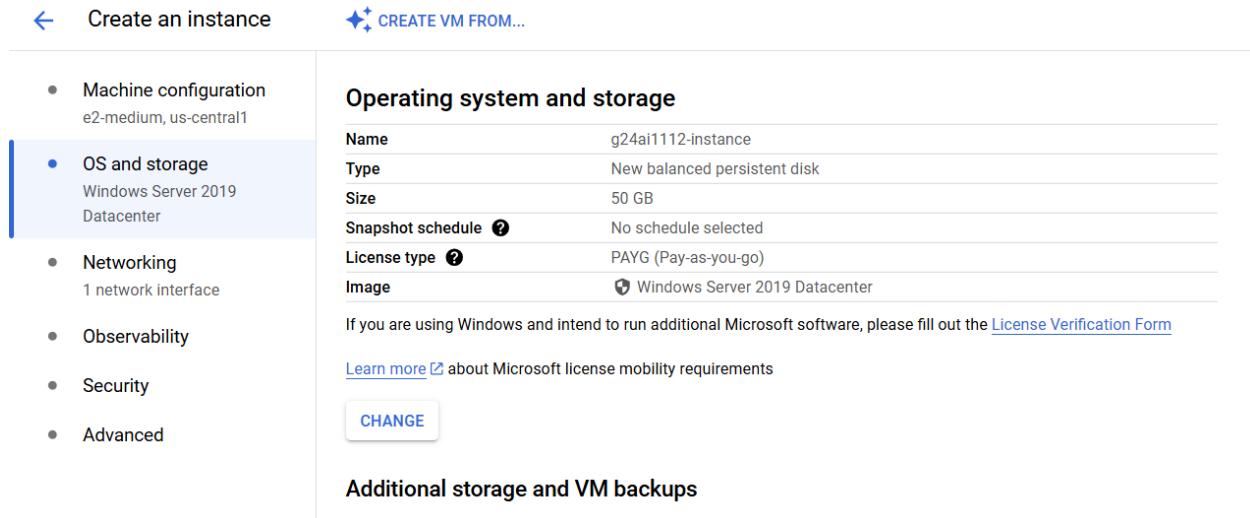
12) Choose the operating system name to windows server,version as windows server 2019 datacenter,boot disk type as balanced persistent disk and size is 50GB and minimum size is 50GB and click on select

Screenshot for reference:



13) Now you will see the options of windows operating system.

Screenshot for reference:



14) In network settings for firewall checkbox for allowing traffic for http,https and load balancer.

Screenshot for reference:

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

- Machine configuration
e2-medium, us-central1
- OS and storage
Windows Server 2019
Datacenter
- Networking
3 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

Network tags

Hostname: g24ai1112-instance.us-central1.c.g24ai1112-vcc-assignment2.internal

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

IP forwarding

Enable

15) Click on Create

16) It takes some time for VM creation and wait for sometime for the complete and successful VM creation

Screenshot for reference:

The screenshot shows the Google Cloud Compute Engine interface. The top navigation bar includes 'Google Cloud' and a project dropdown ('G24AI1112-VCC-Assignment2'). A search bar and a 'Search' button are also present. The main menu on the left is under 'Compute Engine' and includes 'Virtual machines' (selected), 'Instance templates', 'Sole-tenant nodes', 'Machine images', 'TPUs', 'Committed use discounts', and 'Reservations'. The central content area is titled 'VM instances' and features a 'CREATE INSTANCE' button. Below it, there are tabs for 'INSTANCES', 'OBSERVABILITY', and 'INSTANCE SCHEDULES'. A message states: 'Your project's VMs use global DNS names by default. To reduce the risk of cross-regional outages, we recommend you use zonal DNS instead.' Buttons for 'USE ZONAL DNS' and 'DISMISS' are shown. The 'INSTANCES' table lists one item:

Status	Name	Zone	Recommendations	In use by	Internal IP	External IP	Connect
<input checked="" type="checkbox"/>	g24ai1112-instance	us-central1-c			10.128.0.2 (nic0)	35.222.56.179 (nic0)	RDP

17) As it is windows server we have to connect it using RDP, click on the name of the instance to see the status of it and you can see it the status as running.

Screenshot for reference:

The screenshot shows the Google Cloud Compute Engine interface for a VM named 'g24ai1112-ins...'. In the 'DETAILS' tab, under the 'RDP' section, there is a blue button labeled 'SET WINDOWS PASSWORD'. Below it, a note says 'Connecting to serial ports is disabled.' The 'Logs' section shows 'Logging' and 'Serial port 1'. The 'Basic information' table includes fields like Name (g24ai1112-instance), Instance Id (3604374796007742284), and Status (Running). A sidebar on the left lists 'Virtual machines' (VM instances, Instance templates, Sole-tenant nodes, Machine images, TPUs, Committed use discounts, Reservations, Migrate to Virtual Machine), 'Storage' (Disks, Storage Pools, Snapshots, Marketplace), and 'Release Notes'.

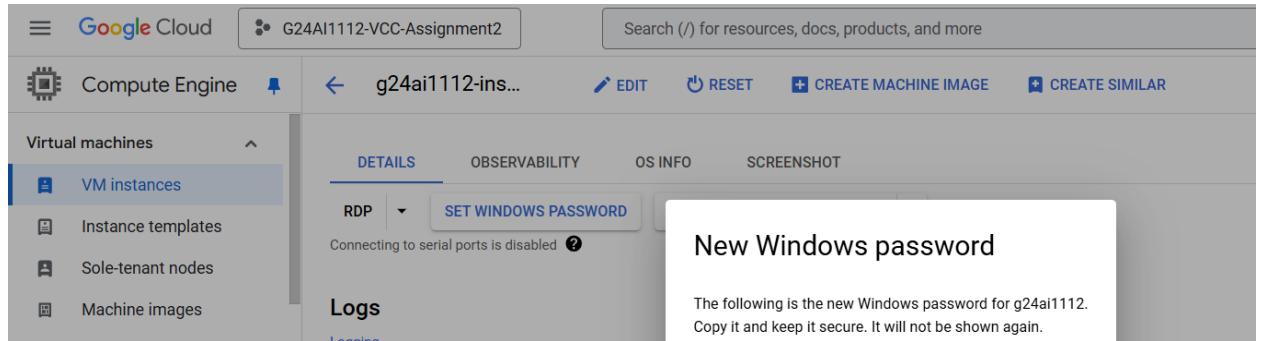
- 18) Wait for 10 minutes of time as it takes some time to get connected and click on set windows password to download this rdp and to connect to the created vm

Screenshot for reference:

The screenshot shows the 'Set new Windows password' dialog box overlaid on the VM details page. The dialog has a title 'Set new Windows password' and a warning message: 'If a Windows account with the following username does not exist, it will be created and a new password assigned. If the account exists, its password will be reset.' It contains a warning icon and a link 'Learn more'. A 'Username *' field is populated with 'g24ai1112'. At the bottom are 'CANCEL' and 'SET' buttons.

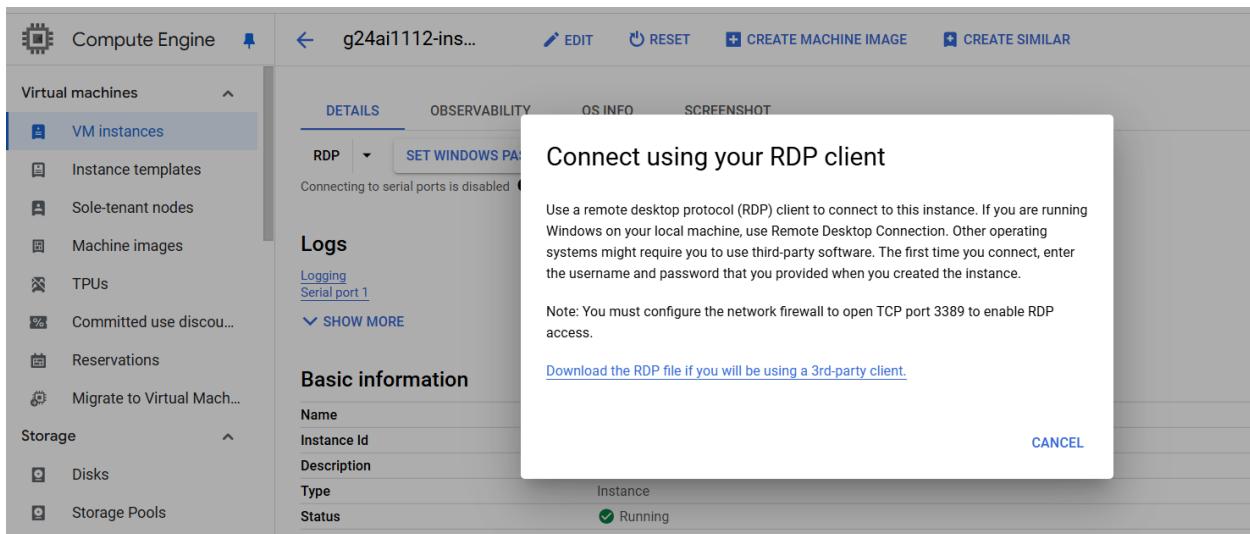
- 19) It generates the password and copy it as its needed to connect to your VM and click on close

Screenshot for reference:



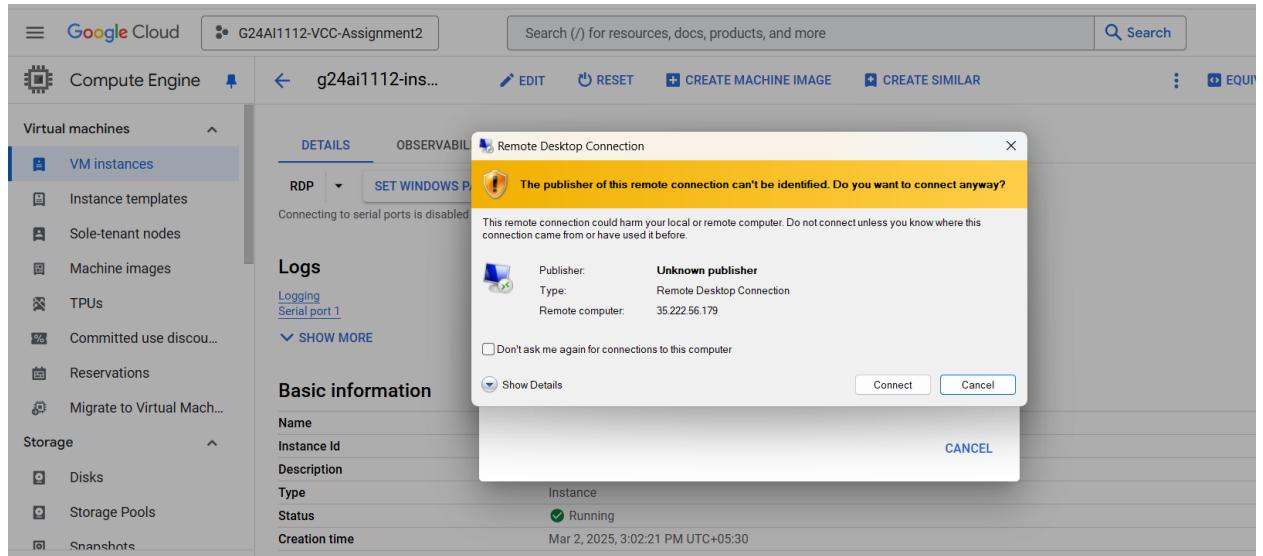
20) Click on the RDP and click on the download the RDP file and download the RDP file

Screenshot for reference:



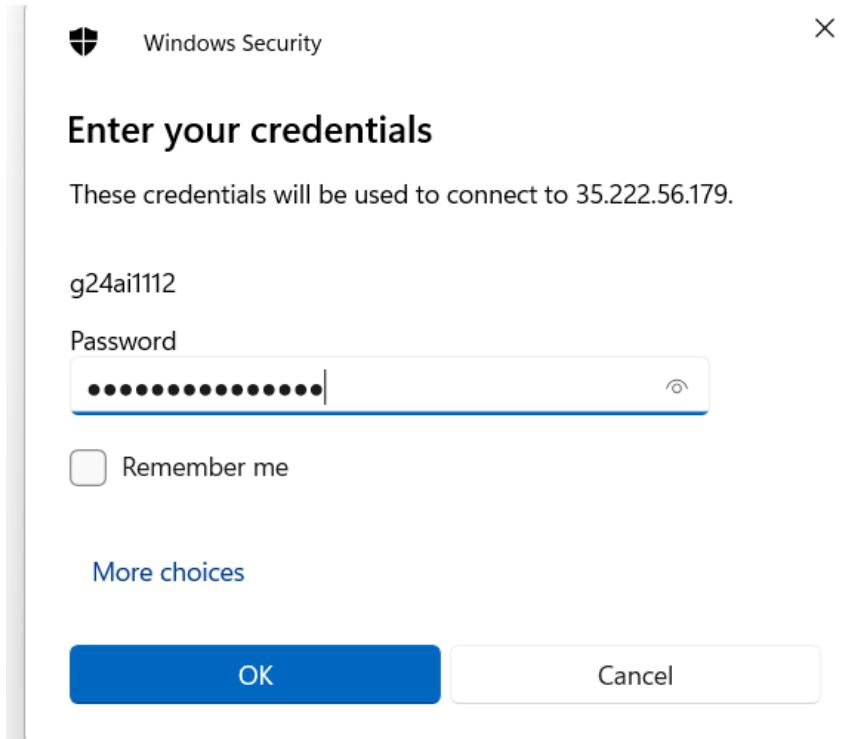
21) It will download the RDP file and once downloaded double click on it and click on connect

Screenshot for reference:



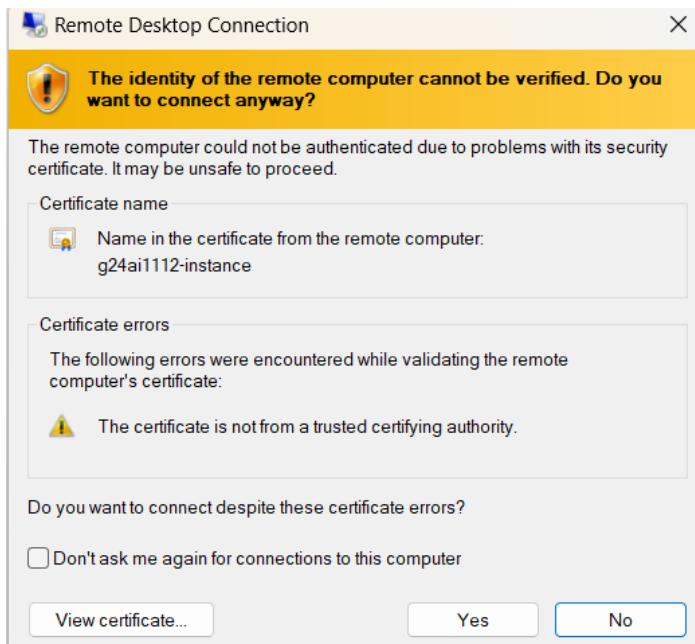
22) Give the password which you have setup for it to connect for the VM and click on ok

Screenshot for reference:



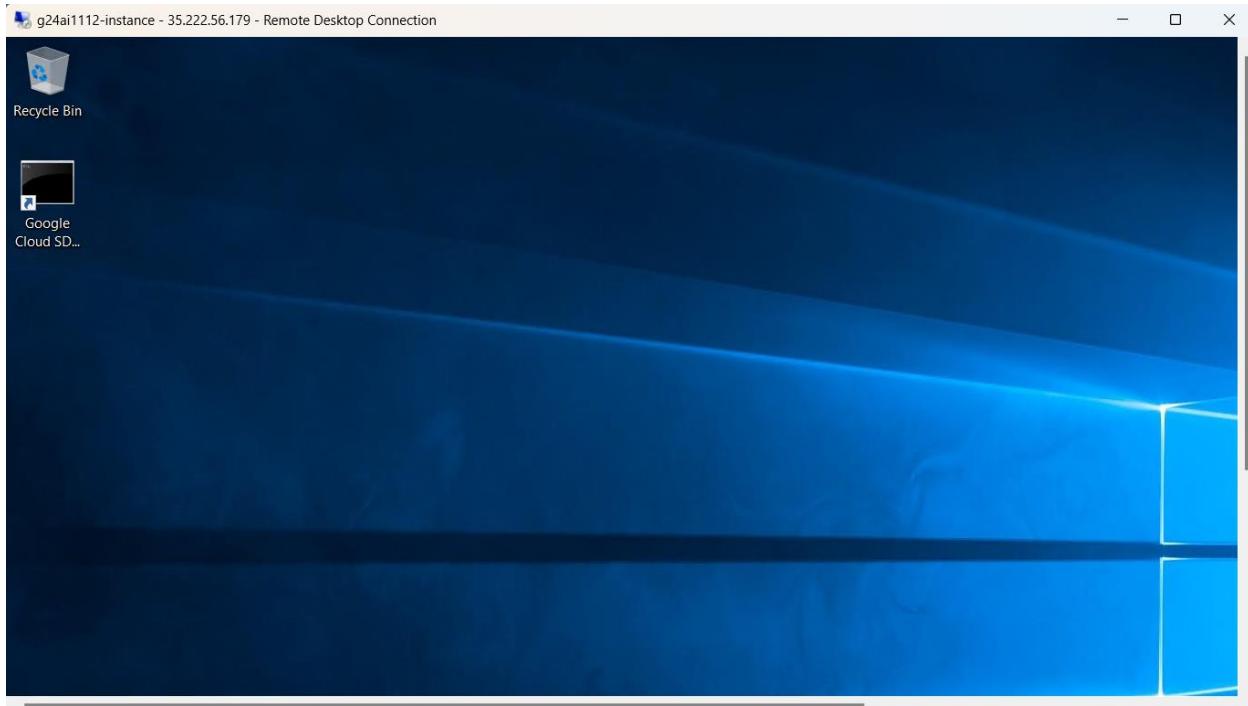
23) Click on yes for the dialogue box of computer to be verified

Screenshot for reference:



24) You can see the instance after this.

Screenshot for reference:



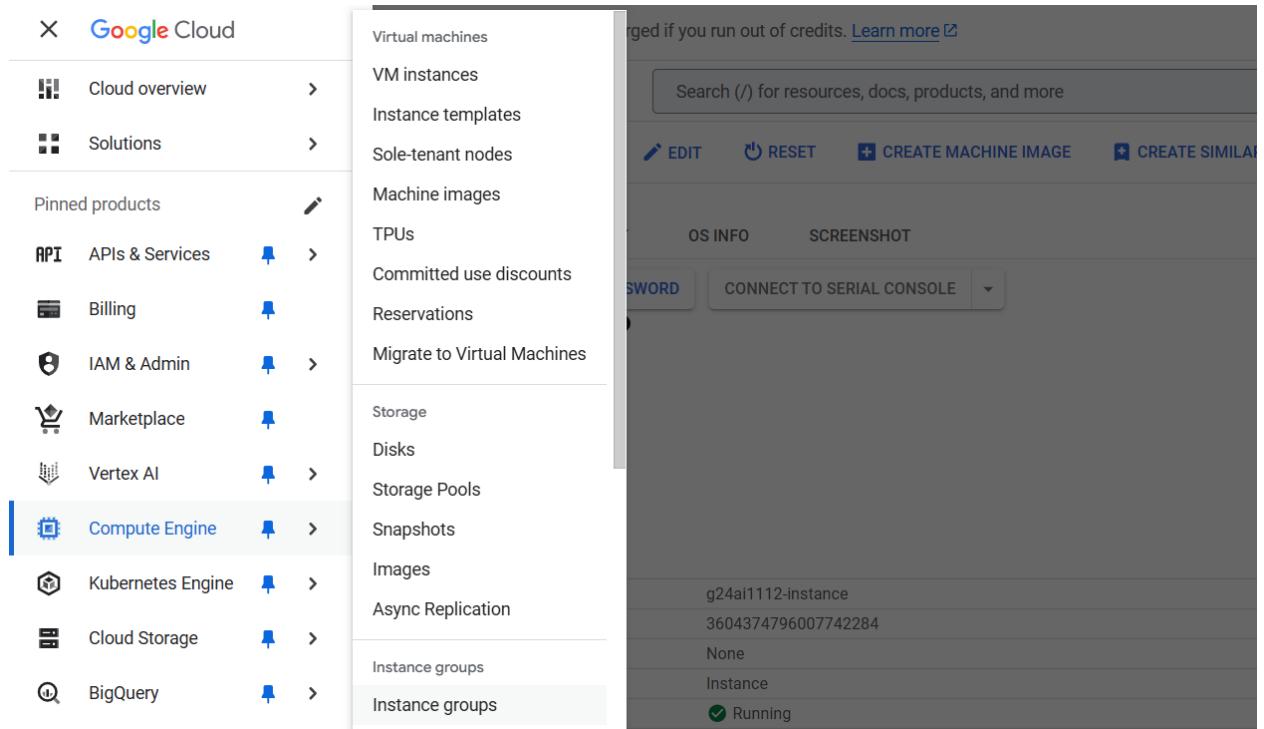
Implementation of Auto Scaling Policies

Implementation of Auto Scaling Policies can be done using Managed Instance Group

Steps for creating Managed Instance Group

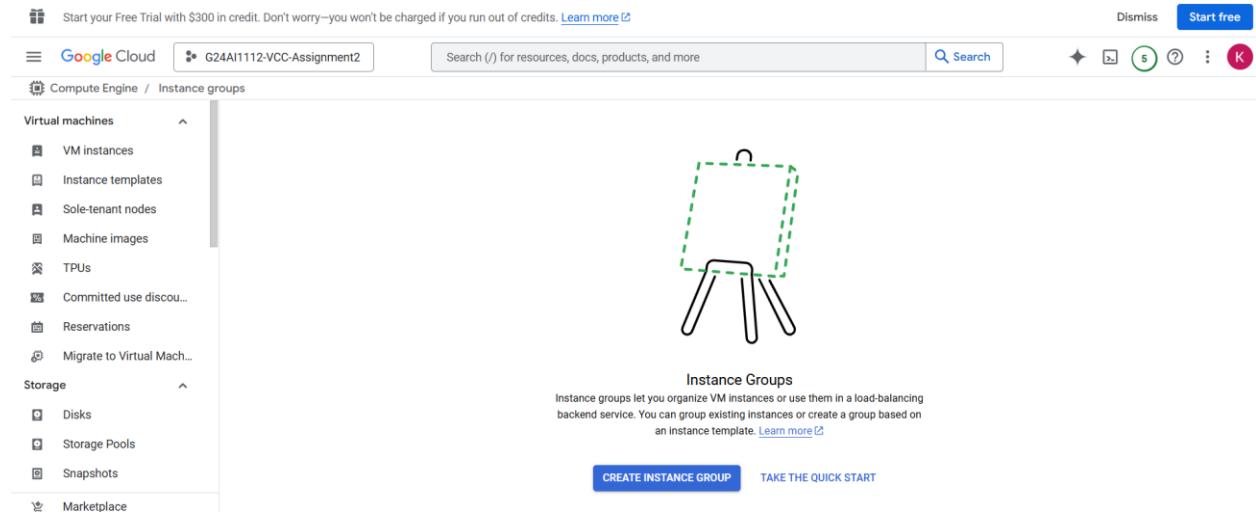
- 1) Go to the Instance groups page.

Screenshot for reference:



- 2) Click on "Create instance group".

Screenshot for reference:



- 3) Choose "Managed instance group" give the details and in the instance template click on create new instance template, and choose the options to the similar way you created for windows vm and click on save and continue

Screenshots for reference:

The screenshot shows the 'Create Instance Group' page in Google Cloud. On the left sidebar, there are three options: 'New managed instance group (stateless)', 'New managed instance group (stateful)', and 'New unmanaged instance group'. The 'New managed instance group (stateless)' option is selected. The main form is titled 'Create instance group' and contains the following fields:

- Name**: instance-group-1
- Description**: (empty)
- Instance template**: (dropdown menu open, showing 'instance-template-1')
- Number of instances**: (dropdown menu open, showing 'Based on autoscaling configuration')
- Use resize request to create VMs all at once**: (checkbox)

Below the form, there is a section titled 'Instance flexibility' with a note: 'Select multiple machine types for your instance group. This increases the chance of node availability.'

On the right side of the page, there is a 'Create an instance template' panel with the following details:

- Boot disk**:
 - Name**: instance-template-20250302-142439
 - Type**: New balanced persistent disk
 - Size**: 50 GB
 - License type**: PAYG (Pay-as-you-go)
 - Image**: Windows Server 2019 Datacenter
- Identity and API access**:
 - Service accounts**: (dropdown menu open, showing 'No matches for "')
 - 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

At the bottom of the page, there are 'CREATE', 'CANCEL', and 'EQUIVALENT CODE' buttons.

- 4) In auto scaling options give minimum 2 and maximum number of instances as 4 and CPU utilization as 60% and mention the details for vm instance life cycle for action on failure and auto healing for health check

Screenshots for reference:

Google Cloud G24AI1112-VCC-Assessment2 Search (/) for resources, docs, products, and more Search

Compute Engine / Instance groups / Create instance group

Create Instance Group

EQUIVALENT CODE

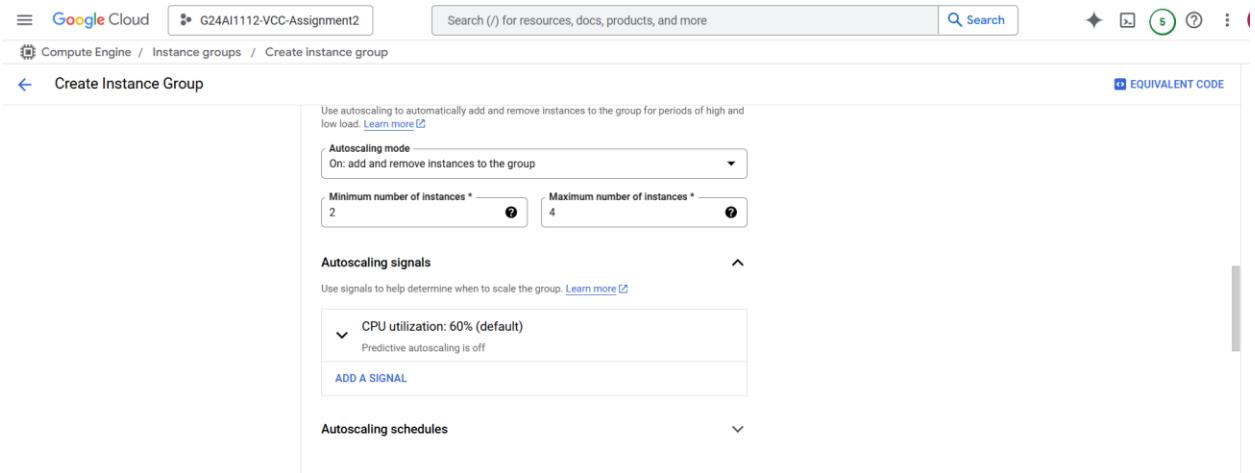
Use autoscaling to automatically add and remove instances to the group for periods of high and low load. [Learn more](#)

Autoscaling mode: On: add and remove instances to the group

Minimum number of instances *: 2 Maximum number of instances *: 4

Autoscaling signals: CPU utilization: 60% (default)
Predictive autoscaling is off
[ADD A SIGNAL](#)

Autoscaling schedules



Google Cloud G24AI1112-VCC-Assessment2 Search (/) for resources, docs, products, and more Search

Compute Engine / Instance groups / Create instance group

Create Instance Group

EQUIVALENT CODE

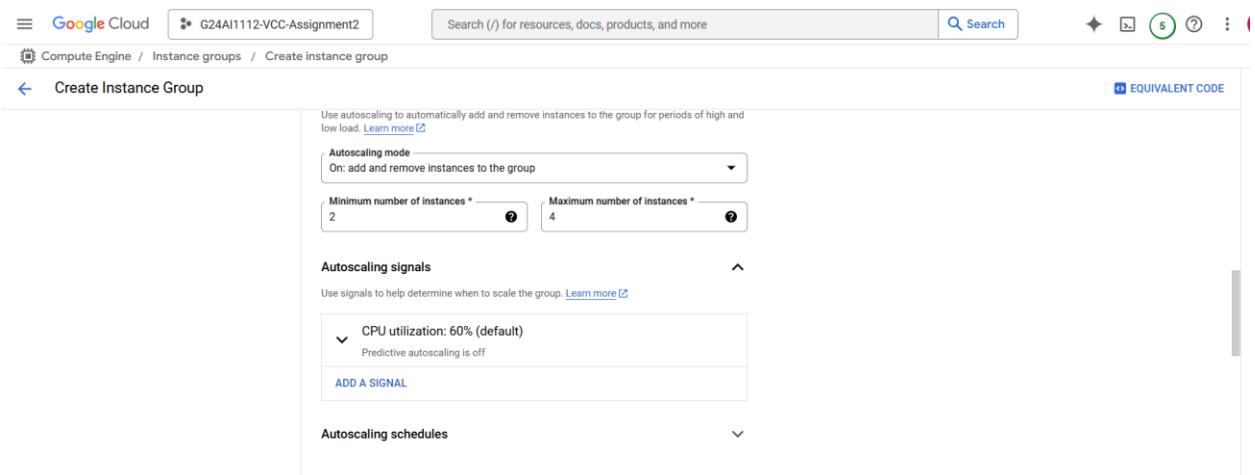
Use autoscaling to automatically add and remove instances to the group for periods of high and low load. [Learn more](#)

Autoscaling mode: On: add and remove instances to the group

Minimum number of instances *: 2 Maximum number of instances *: 4

Autoscaling signals: CPU utilization: 60% (default)
Predictive autoscaling is off
[ADD A SIGNAL](#)

Autoscaling schedules



5) Click on create

Screenshot for reference:

VM instance lifecycle

Configure what happens when VMs are created, repaired, and deleted.

Action on failure

Select the action to take when a VM in your instance group fails. [Learn more](#)

Default action on failure Repair instance

Autohealing

Autohealing recreates VM instances if your application cannot be reached by the health check. [Learn more](#)

Health check

Compute Engine will recreate VM instances only when they're not running.

Updates during VM instance repair

Keep the same instance configuration Recreate the VM with the same instance template and per-instance configuration that was used to create it

Update the instance configuration Apply the latest instance template and per-instance configuration when recreating the VM

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

6) Now you can see the instance groups created.

Screenshot for reference:

Status	Name	Instances	Template	Group type	Creation time	Recommendation	Autoscaling	Zone	In Use By
<input checked="" type="checkbox"/>	instance-group-1	2	instance-template-20250302-142439 (Regional)	Managed	Mar 2, 2025, 8:10:18 PM UTC+05:30		On: Target CPU utilization 60%	us-central1-c	

7) Click on instancegroup-1 to see the no of instances present

Screenshot for reference:

OVERVIEW

Instances by status
4 instances. 1
4

Instance by health ⓘ
Not configured
Autohealing off. [Configure](#)

Autoscaling
On (min 2, max 4)
Based on 1 metric and 0 schedules. ⓘ

VM instances	SUSPEND	STOP	START / RESUME	REMOVE FROM GROUP	DELETE			
Filter Enter property name or value								
<input type="checkbox"/> Status	Name ↑	Creation Time	Template	Per instance config	Internal IP	External IP	Health Check Status	Connect
<input checked="" type="checkbox"/>	instance-group-1-3kb2	Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.3 (nic0)	34.123.88.67		RDP ▾
<input checked="" type="checkbox"/>	instance-group-1-4b3h	Mar 2, 2025, 8:13:05 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.5 (nic0)	34.132.176.249		RDP ▾
<input checked="" type="checkbox"/>	instance-group-1-v02g	Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.4 (nic0)	34.135.205.83		RDP ▾
<input checked="" type="checkbox"/>	instance-group-1-w3cb	Mar 2, 2025, 8:13:21 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.6 (nic0)	35.239.243.110		RDP ▾

- 8) You can see the 4 instances created as we have selected maximum as 4

Screenshot for reference:

VM instances	SUSPEND	STOP	START / RESUME	REMOVE FROM GROUP	DELETE			
Filter Enter property name or value								
<input type="checkbox"/> Status	Name ↑	Creation Time	Template	Per instance config	Internal IP	External IP	Health Check Status	Connect
<input checked="" type="checkbox"/>	instance-group-1-3kb2	Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.3 (nic0)	34.123.88.67		RDP ▾
<input checked="" type="checkbox"/>	instance-group-1-4b3h	Mar 2, 2025, 8:13:05 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.5 (nic0)	34.132.176.249		RDP ▾
<input checked="" type="checkbox"/>	instance-group-1-v02g	Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.4 (nic0)	34.135.205.83		RDP ▾
<input checked="" type="checkbox"/>	instance-group-1-w3cb	Mar 2, 2025, 8:13:21 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.6 (nic0)	35.239.243.110		RDP ▾

- 9) To check for the auto scaling is implemented or not delete one instance and after that it creates automatically another instance
 10) Select last instance and click on delete

Screenshot for reference:

The screenshot shows the Google Cloud Compute Engine interface for managing instance groups. On the left, a sidebar lists various categories like Virtual machines, Storage, and Marketplace. The main area is titled 'instance-group-1' and contains tabs for EDIT, UPDATE VMS, RESTART/REPLACE VMS, and DELETE GROUP. A warning message states: 'The number of instances in the instance group has reached the max_num_replicas. The autoscaler cannot add more instances.' Below this, the 'Location' is set to 'us-central1-c'. Under 'VM instances', there are five entries, each with a checkbox, name, creation time, template, and network information. The fourth instance, 'instance-group-1-w3cb', has its checkbox checked.

11) Confirm to delete and click on delete

Screenshot for reference:

This screenshot shows the same instance group management interface as above, but with a modal dialog box in the foreground. The dialog is titled 'Delete instance-group-1-w3cb?' and contains a warning: 'This operation cannot be undone.' It asks the user to 'Confirm deletion by typing following below: delete' and has a text input field containing 'delete'. There are 'CANCEL' and 'DELETE' buttons at the bottom of the dialog. The background shows the list of VM instances, with the fourth instance ('instance-group-1-w3cb') still selected.

12) As soon as its deleted it creates another instance automatically

Screenshots for reference:

The screenshot shows the Google Cloud Compute Engine interface for managing instance groups. The left sidebar lists various resources under 'Virtual machines' and 'Storage'. The main panel displays 'instance-group-1' with the following details:

- Location:** us-central1-c
- Resize requests:** None

The 'VM instances' section lists five entries:

Status	Name	Creation Time	Template	Per instance config	Internal IP	External IP	Health Check Status	Connect
<input type="checkbox"/>	instance-group-1-3kb2	Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.3 (nic0)	34.123.88.67	RDP	<input type="button" value="RDP"/>
<input type="checkbox"/>	instance-group-1-4b3h	Mar 2, 2025, 8:13:05 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.5 (nic0)	34.132.176.249	RDP	<input type="button" value="RDP"/>
<input type="checkbox"/>	instance-group-1-4x9n	Mar 2, 2025, 8:19:30 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.7 (nic0)	34.69.247.175	RDP	<input type="button" value="RDP"/>
<input type="checkbox"/>	instance-group-1-v02g	Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.4 (nic0)	34.135.205.83	RDP	<input type="button" value="RDP"/>
<input checked="" type="checkbox"/>	instance-group-1-w3cb	Mar 2, 2025, 8:13:21 PM UTC+05:30	-		10.128.0.6 (nic0)	35.239.243.110	RDP	<input type="button" value="RDP"/>

This screenshot shows the same Google Cloud Compute Engine interface for 'instance-group-1'. The configuration has been updated:

- Description:** Target running size 4
- Template:** instance-template-20250302-142439 (Regional)
- Location:** us-central1-c
- Resize requests:** None

The 'VM instances' section now lists four entries, indicating one instance was automatically deleted:

Status	Name	Creation Time	Template	Per instance config	Internal IP	External IP	Health Check Status	Connect
<input type="checkbox"/>	instance-group-1-3kb2	Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.3 (nic0)	34.123.88.67	RDP	<input type="button" value="RDP"/>
<input type="checkbox"/>	instance-group-1-4b3h	Mar 2, 2025, 8:13:05 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.5 (nic0)	34.132.176.249	RDP	<input type="button" value="RDP"/>
<input type="checkbox"/>	instance-group-1-4x9n	Mar 2, 2025, 8:19:30 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.7 (nic0)	34.69.247.175	RDP	<input type="button" value="RDP"/>
<input type="checkbox"/>	instance-group-1-v02g	Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)		10.128.0.4 (nic0)	34.135.205.83	RDP	<input type="button" value="RDP"/>

Justification of implementation of Auto Scaling:

When the instance is deleted without recreating by ourself manually it has automatically created it means it has automatically scaled up the instances as per the configurations and the work load that has been set.

Configuring Security Measures

Security measures can be implemented by setting up by firewall and IAM Policies

IAM Policies:

- 1) Go to IAM & Admin and click on IAM

Screenshot for reference:

The screenshot shows the Google Cloud Platform navigation bar at the top with the text "It's free! Don't worry—you won't be charged if you run out of credits. Learn more". Below the navigation bar is a sidebar menu on the left containing various services like Cloud overview, Solutions, Pinned products, APIs & Services, Billing, IAM & Admin, Marketplace, Vertex AI, and Compute Engine (which is currently selected). To the right of the sidebar is a main content area. At the top of the content area is a search bar with the placeholder "Search (/) for resources, docs, products, and more". Below the search bar is a table titled "Compute Engine" showing four rows of instance templates. The columns are "Creation Time", "Template", and "Per instance options". The data in the table is as follows:

Creation Time	Template	Per instance options
Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)	
Mar 2, 2025, 8:13:05 PM UTC+05:30	instance-template-20250302-142439 (Regional)	
Mar 2, 2025, 8:19:30 PM UTC+05:30	instance-template-20250302-142439 (Regional)	
Mar 2, 2025, 8:10:33 PM UTC+05:30	instance-template-20250302-142439 (Regional)	

2) You will see the users present in it

Screenshot for reference:

Type	Principal	Name	Role	Security Insights
	919943103582-compute@developer.gserviceaccount.com	Compute Engine default service account	Editor	
	g24ai1112@iltj.ac.in	Kameswara Ananda Krishna Pindiprolu (G24AI1112)	Owner	

- 3) Click on grant access to add new user and give the role, in new principle give your email of any eg like personal email and role as viewer and click on save

- 4) You can see the user granted access with viewer role

Screenshot for reference:

The screenshot shows the Google Cloud IAM interface. The left sidebar is titled "IAM & Admin / IAM" and includes options like PAM, Principal Access Boundaries, Organizations, Identity & Organization, Policy Troubleshooter, Policy Analyzer, Organization Policies, Service Accounts, Workload Identity Federation, Workforce Identity Federation, Labels, Tags, Settings, Manage Resources, and Release Notes. The main content area is titled "Permissions for project 'G24AI1112-VCC-Assignment2'". It shows a table of users and their roles:

Type	Principal	Name	Role	Security insights
Compute Engine default service account	919943103582-compute@developer.gserviceaccount.com	Compute Engine default service account	Editor	
User	anandkrishnapindiprolu@gmail.com		Viewer	
User	g24ai1112@iitj.ac.in	Kameswara Ananda Krishna Pindiprolu (G24AI1112)	Owner	

Implementation of Firewall

- 1) Go to the VPC network in the menu and click on firewall

Screenshot for reference:

The screenshot shows the Google Cloud VPC Network Firewall settings. The left sidebar has sections for Cloud overview, Solutions, Pinned products, APIs & Services, Billing, IAM & Admin (selected), Marketplace, Vertex AI, Compute Engine, Kubernetes Engine, Cloud Storage, BigQuery, and VPC Network. A dropdown menu from the "VPC Network" section lists: 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 content area shows a table of firewalls:

Firewall	Target	Source	Action	Priority	Last modified
fire	allow	any	allow	1000	1 day ago

- 2) Once clicked entered you can see the default firewalls that are created already

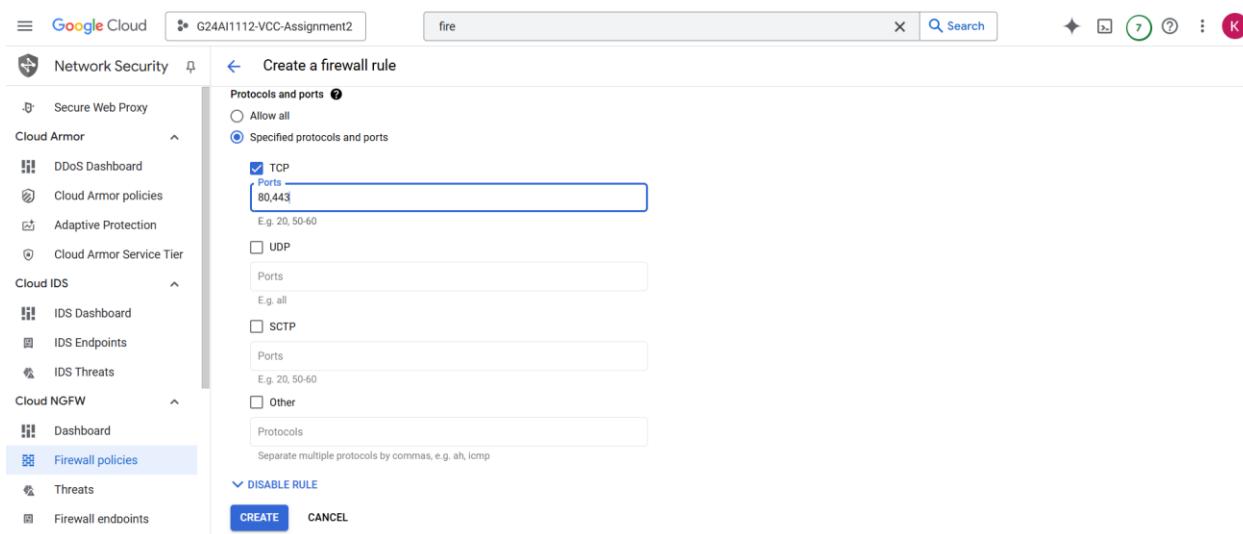
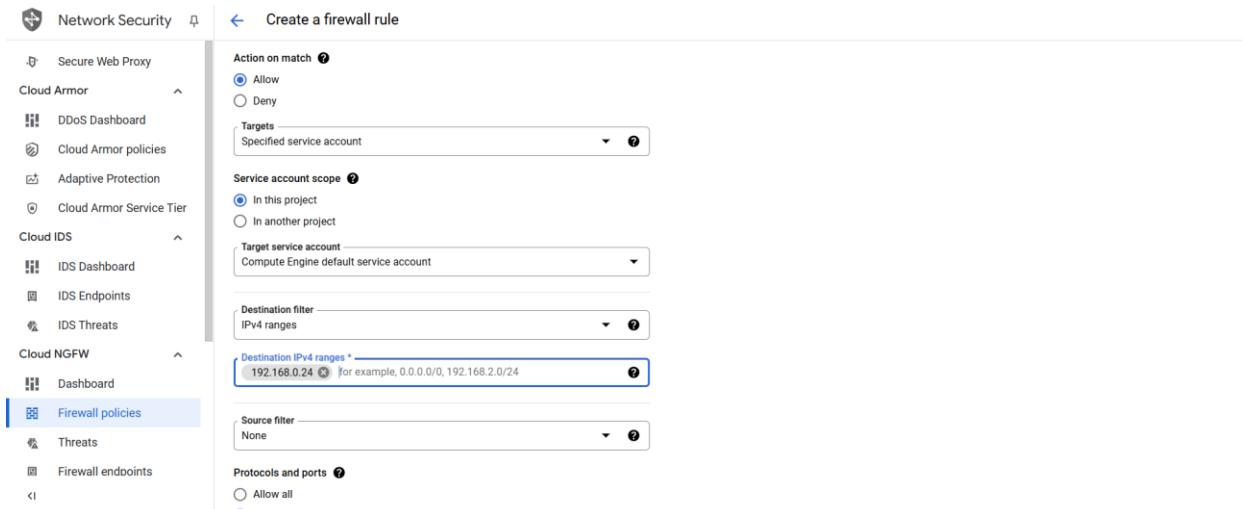
Screenshot for reference:

Firewall policies									CREATE FIREWALL POLICY	CREATE FIREWALL RULE	LEARN
<input type="checkbox"/>	default-allow-health-check	Ingress	Ib-health-	IP ranges:	tcp	Allow	1000	default	Off		
<input type="checkbox"/>	default-allow-health-check-ipv6	Ingress	Ib-health-	IP ranges:	tcp	Allow	1000	default	Off		
<input type="checkbox"/>	default-allow-htp	Ingress	http-server	IP ranges: 0.0.0.0/0	tcp:80	Allow	1000	default	Off		
<input type="checkbox"/>	default-allow-https	Ingress	https-	IP ranges: 0.0.0.0/0	tcp:443	Allow	1000	default	Off		
<input type="checkbox"/>	default-allow-icmp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	icmp	Allow	65534	default	Off		
<input type="checkbox"/>	default-allow-internal	Ingress	Apply to all	IP ranges:	tcp:0-65535 udp:0-65535 icmp	Allow	65534	default	Off		
<input type="checkbox"/>	default-allow-rdp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:3389	Allow	65534	default	Off		
<input type="checkbox"/>	default-allow-ssh	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:22	Allow	65534	default	Off		

3) Click on Create firewall rule to add new firewall and give the details and click on create

Screenshots for reference:

Create a firewall rule											
<p>Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. Learn more</p>											
<p>Name * <input type="text" value="vcc-firewallrule"/> <small>Lowercase letters, numbers, hyphens allowed</small></p>											
<p>Description <input type="text"/></p>											
<p>Logs</p> <p>Turning on firewall logs can generate a large number of logs which can increase costs in Logging. Learn more</p> <p><input type="radio"/> On</p> <p><input checked="" type="radio"/> Off</p>											
<p>Network * <input type="text" value="default"/> <small>Priority can be 0 - 65535</small></p>											
<p>Priority * <input type="text" value="1000"/> COMPARE <small>Priority can be 0 - 65535</small></p>											
<p>Direction of traffic <input type="radio"/> Ingress <input checked="" type="radio"/> Egress</p>											



4) You will see the created firewall rule in the list.

Screenshot for reference:

Network Security

Firewall policies

[CREATE FIREWALL POLICY](#) [CREATE FIREWALL RULE](#)

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
vcc-firewallrule	Egress	919943103582-	IP ranges:	tcp:80,443	Allow	1000	default
default-allow-health-check	Ingress	lb-health-check	IP ranges:	tcp	Allow	1000	default
default-allow-health-check-ipv6	Ingress	lb-health-check	IP ranges:	tcp	Allow	1000	default

Github Link:

<https://github.com/AnandaKrishnaPindiprolu/VCC-Assignment2>

Video Link:

https://drive.google.com/file/d/15WxgoqOdbwsEkf-e_yugFYEFQNSsLG4/view?usp=drive_link

Architecture Diagram

