

# WCS in Google Cloud setup with autoscale

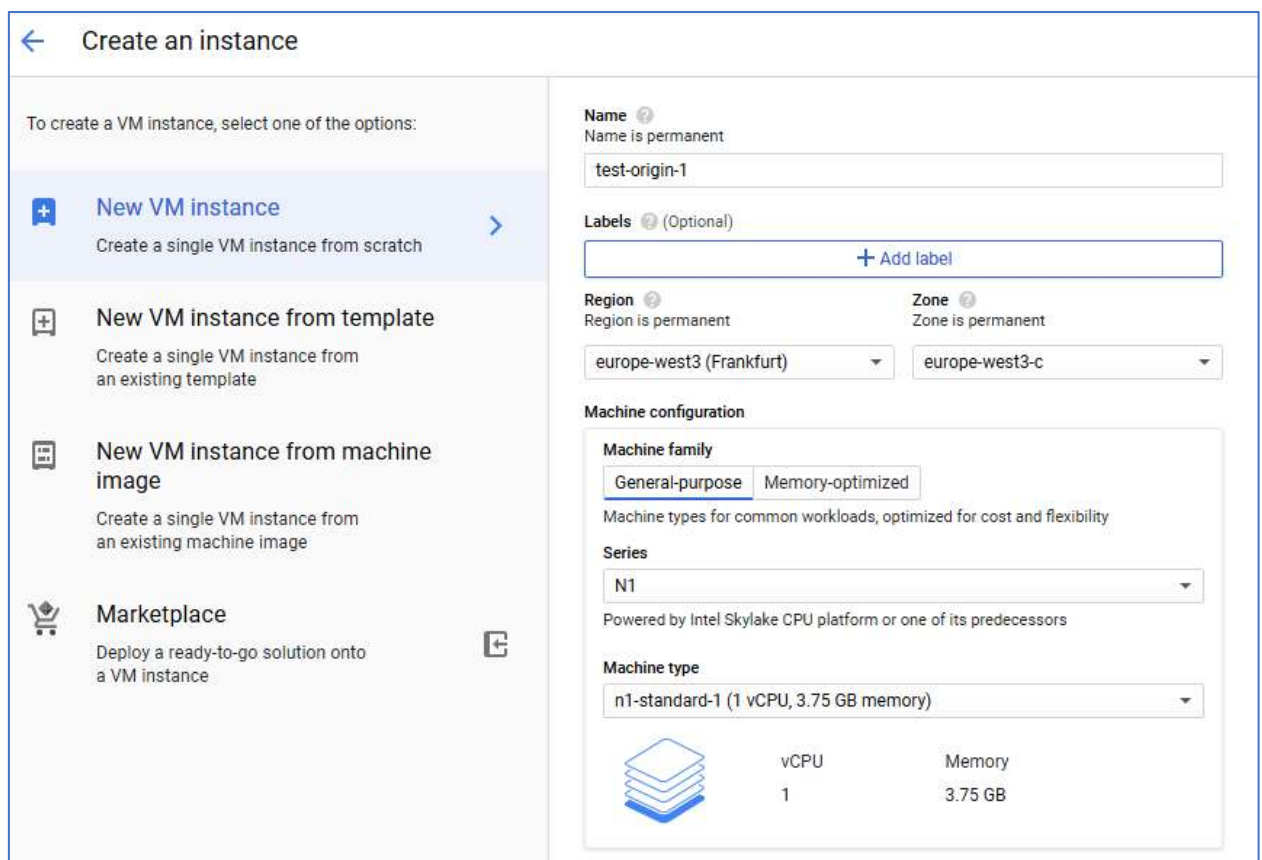
A low latency CDN with Edge autoscaling based on Flashphoner WebCallServer can be deployed in Google Cloud Platform.

Before we start, make sure you have:

1. Google Cloud account with project created
2. WCS license to activate on servers
3. Optionally, domain names to bind to static IPs and corresponding SSL certificates

## Create Origin server instance

1. Start Origin VM creation, choose name “test-origin-1”, choose data center region and zone, then choose configuration



← Create an instance

To create a VM instance, select one of the options:

- 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** ⓘ  
Name is permanent  
test-origin-1

**Labels** ⓘ (Optional)  
+ Add label

**Region** ⓘ  
Region is permanent  
europe-west3 (Frankfurt)


**Zone** ⓘ  
Zone is permanent  
europe-west3-c

**Machine configuration**

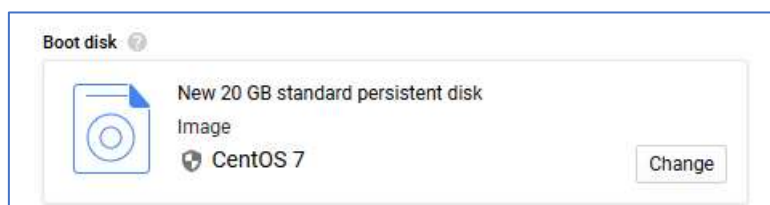
**Machine family**  
General-purpose Memory-optimized  
Machine types for common workloads, optimized for cost and flexibility

**Series**  
N1  
Powered by Intel Skylake CPU platform or one of its predecessors

**Machine type**  
n1-standard-1 (1 vCPU, 3.75 GB memory)

	vCPU	Memory
	1	3.75 GB

2. Press “Change” in “Boot disk” section. Choose boot disk image based on Cantos 7.6



**Boot disk** ⓘ

New 20 GB standard persistent disk

Image  
CentOS 7

Change

### 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 imagesCustom imagesSnapshotsExisting disks

Operating system

CentOS

Version

CentOS 7

x86\_64 built on 20200618, supports Shielded VM features ?

Boot disk type ?

Standard persistent disk

Size (GB) ?

20

- On “Security” tab, add SSH public key to access to the instance

### SSH Keys

☐ Block project-wide SSH keys  
When checked, project-wide SSH keys cannot access this instance [Learn more](#)

You have 0 SSH keys

Enter public SSH key

×

+ Add item

- On “Networking” tab, go to “Network interface”, change “Internal IP” to “Static”

Network interface

Network

default

Subnetwork

default

Internal IP

10.156.0.3

Internal IP type

Ephemeral

Alias IP ranges

Subnet range

Primary (10.156.0.0/20)

Alias IP range

Example: 10.0.1.0/24 or /32

+ Add IP range

Hide alias IP ranges

External IP

Ephemeral

Network Service Tier

Premium (Current project-level tier, change)

Standard (europe-west3)

IP forwarding

Off

Public DNS PTR Record

Enable

PTR domain name

Done

Cancel

and reserve static internal IP address for further CDN setup

Reserve static internal IP address

Reserve IP address 10.156.0.3

Name

Name is permanent

tess-origin1-ip

Description (Optional)

CANCEL

RESERVE

You could also reserve external static IP to bind domain name later, too

5. Press “Create”

Management
Security
Disks
Networking
Sole Tenancy

Shielded VM
Turn on all settings for the most secure configuration.

☐ Turn on Secure Boot
☒ Turn on vTPM
☒ Turn on Integrity Monitoring

SSH Keys
These keys allow access only to this instance, unlike project-wide SSH keys

☐ Block project-wide SSH keys
When checked, project-wide SSH keys cannot access this instance

gcp

gTaJ8gvi6x9RQB6niVuTN80cK3H1A4xINxQ29GGxWJwXe4kRKIkM4QnxUTsNNsC6yc/d57Ur773518Tevf3v4GcWQ9gCPvoIIHZqE79zb0xbRhggjj4ED1rRbC11ug0uGO+2kaChLkxHehJ+Xotz/NW0Az0cwkW1YSZGDditT vICrIDvRXFD0nuSuj8EpBU3Jjj54zChTI2k4dUDcPYkA/bAgy2tF5Ajc50ZCPIVc0u74R1/7RZ1YqgIJ1g+LaB gcp

+ Add item

Less

You can always create instance templates free of charge. Your free trial credit won't be used.

Create
Cancel

Equivalent REST or command line

“test-origin-1” instance will start

VM instances
CREATE INSTANCE
IMPORT VM
REFRESH
START
STOP
RESET
DELETE

Filter VM instances
Columns

Name	Zone	Recommendation	In use by	Internal IP	External IP	Connect
<input checked="" type="checkbox"/> test-origin-1	europe-west3-c			10.156.0.3 (nic0)	35.234.93.218	SSH

## Create Edge server basic instance

Do the steps 1-5 above to create “test-edge-1” instance. Skip step 3: all the edge instances will be behind load balancer and don’t need to have static external IP

VM instances
CREATE INSTANCE
IMPORT VM
REFRESH
START
STOP
RESET
DELETE

Filter VM instances
Columns

Name	Zone	Recommendation	In use by	Internal IP	External IP	Connect
<input checked="" type="checkbox"/> test-edge-1	europe-west3-c			10.156.0.4 (nic0)	None	SSH
<input checked="" type="checkbox"/> test-origin-1	europe-west3-c			test-origin1-ip (10.156.0.3) (nic0)	None	SSH

# Install and configure WCS

## Install prerequisites

### 1. Install JDK 12 using the following script (run with sudo)

```
#!/bin/bash

rm -rf jdk*

curl -s
https://download.java.net/java/GA/jdk12.0.2/e482c34c86bd4bf8b56c0b35558996b9/10/GPL/openjdk-
12.0.2_linux-x64_bin.tar.gz | tar -zx

[ ! -d jdk-12.0.2/bin ] && exit 1

mkdir -p /usr/java

[ -d /usr/java/jdk-12.0.2 ] && rm -rf /usr/java/jdk-12.0.2

mv -f jdk-12.0.2 /usr/java

[ ! -d /usr/java/jdk-12.0.2/bin ] && exit 1

rm -f /usr/java/default

ln -sf /usr/java/jdk-12.0.2 /usr/java/default

update-alternatives --install "/usr/bin/java" "java" "/usr/java/jdk-12.0.2/bin/java" 1
update-alternatives --install "/usr/bin/jstack" "jstack" "/usr/java/jdk-12.0.2/bin/jstack" 1
update-alternatives --install "/usr/bin/jcmd" "jcmd" "/usr/java/jdk-12.0.2/bin/jcmd" 1
update-alternatives --install "/usr/bin/jmap" "jmap" "/usr/java/jdk-12.0.2/bin/jmap" 1
update-alternatives --set "java" "/usr/java/jdk-12.0.2/bin/java"
update-alternatives --set "jstack" "/usr/java/jdk-12.0.2/bin/jstack"
update-alternatives --set "jcmd" "/usr/java/jdk-12.0.2/bin/jcmd"
update-alternatives --set "jmap" "/usr/java/jdk-12.0.2/bin/jmap"
```

### 2. Install additional utilities

```
sudo yum install -y tcpdump mc
```

### 3. Disable firewalld (firewall rules will be created using Google Cloud interface, internal firewall setup is not needed)

```
sudo systemctl stop firewalld
sudo systemctl disable firewalld
```

### 4. Disable SELinux

```
sudo setenforce 0
```

## Install and activate WCS on both Origin and Edge servers

### 1. Install WCS 5.2.679 and later

```
curl -OL https://flashphoner.com/downloads/builds/WCS/5.2/FlashphonerWebCallServer-5.2.679.tar.gz

tar -xzf FlashphonerWebCallServer-5.2.679.tar.gz
cd FlashphonerWebCallServer-5.2.679
sudo ./install.sh
```

### 2. Activate your license using command line

```
cd /usr/local/FlashphonerWebCallServer/bin
sudo ./activation.sh
```

## Configure Origin server

```
flashphoner.properties [----] 29 L:[ 1+23 24/ 40] *(680 / 981b) 0010 0x00A
# Config flashphoner.properties
# To get more settings:
# ssh -p 2001 admin@localhost
# default password: admin
# show node-settings
# show node-settings | grep port

#server ip
ip                =34.107.12.11
ip_local          =10.156.0.3

#webrtc ports range
media_port_from   =31001
media_port_to     =32000

#codecs
codecs            =opus,alaw,ulaw,g729,speex16,g722,mpeg4-generic,telephone-event,h264,vp8,flv,mpv
codecs_exclude_sip =mpeg4-generic,flv,mpv
codecs_exclude_streaming =flv,telephone-event
codecs_exclude_sip_rtmp =opus,g729,g722,mpeg4-generic,vp8,mpv

#websocket ports
ws.port           =8080
wss.port          =8443

cdn_enabled=true
cdn_ip=10.156.0.3
cdn_role=origin
cdn_nodes_resolve_ip=false

# Request keyframes from WebRTC publishers every 5 seconds
periodic_fir_request=true

# Disable RTMP keepalives to publish from OBS
keep_alive.enabled=websocket,rtmfp

client_mode=false

rtc_ice_add_local_component=true
```

Do not change “ip” and “ip\_local” parameters, they will be automatically reconfigured while starting WCS

## Configure Edge server

```
flashphoner.properties [-M--] 0 L:[ 1+36 37/ 37] *(874 / 874b) <EOF>
# Config flashphoner.properties
# To get more settings:
# ssh -p 2001 admin@localhost
# default password: admin
# show node-settings
# show node-settings | grep port

#server ip
ip                =34.107.12.11
ip_local          =10.156.0.5

#webrtc ports range
media_port_from   =31001
media_port_to      =32000

#codecs
codecs            =opus,alaw,ulaw,g729,speex16,g722,mpeg4-generic,telephone-event,h264,vp8,flv,mpv
codecs_exclude_sip =mpeg4-generic,flv,mpv
codecs_exclude_streaming =flv,telephone-event
codecs_exclude_sip_rtmp =opus,g729,g722,mpeg4-generic,vp8,mpv

#websocket ports
ws.port           =8080
wss.port          =8443

cdn_enabled=true
cdn_ip=10.156.0.5
cdn_role=edge
cdn_point_of_entry=10.156.0.3
cdn_nodes_resolve_ip=false

client_mode=false

rtc_ice_add_local_component=true

http_enable_root_redirect=false
```

Do not change “ip” and “ip\_local” parameters, they will be automatically reconfigured while starting WCS

## Firewall rules setup

1. Go to “VPC network - Firewall” side menu section and create firewall rule “wcs-ports”

VPC network	Create a firewall rule
<ul style="list-style-type: none"><li>VPC networks</li><li>External IP addresses</li><li><b>Firewall</b></li><li>Routes</li><li>VPC network peering</li><li>Shared VPC</li><li>Serverless VPC access</li><li>Packet mirroring</li></ul>	<p>Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. <a href="#">Learn more</a></p> <p><b>Name *</b> wcs-ports</p> <p>Lowercase letters, numbers, hyphens allowed</p> <p><b>Description</b> WCS specific ports rule</p> <p><b>Logs</b> Turning on firewall logs can generate a large number of logs which can increase costs in Stackdriver. <a href="#">Learn more</a></p> <p><input type="radio"/> On <input checked="" type="radio"/> Off</p>

## 2. Allow incoming traffic from all hosts

Network \*  
default

Priority \*  
1000  
Priority can be 0 - 65535 [Check priority of other firewall rules](#)

Direction of traffic ?  
☒ Ingress  
☐ Egress

Action on match ?  
☒ Allow  
☐ Deny

Targets  
All instances in the network

Source filter  
IP ranges

Source IP ranges \*  
0.0.0.0/0 for example, 0.0.0.0/0, 192.168.2.0/24

Second source filter  
None

## 3. Enter WCS specific TCP and UDP ports

Protocols and ports ?  
☐ Allow all  
☒ Specified protocols and ports

☒ tcp : 554, 1935, 8080-8084, 8443-8445, 8888, 9091, 30000-33000

☒ udp : 1935, 30000-33000

☐ Other protocols  
protocols, comma separated, e.g. ah, sctp

DISABLE RULE

CREATE CANCEL

Equivalent [REST](#) or [command line](#)

and press "Create"



Go to “Compute Engine – Images” section and create Edge disk image. It will be used as basic image for Edge instance template.

←

Create an image

Name ?  
Name is permanent

test-edge-image-1

Source ?

Disk

Source disk ?

test-edge-1

Location ?

☒ Multi-regional

☐ Regional

eu (European Union) (default)

Family (Optional) ?

Description (Optional)

Labels ? (Optional)

+ Add label

Encryption

Data is encrypted automatically. Select an encryption key management solution.

☒ Google-managed key  
No configuration required

☐ Customer-managed key  
Manage via Google Cloud Key Management Service

☐ Customer-supplied key  
Manage outside of Google Cloud

Your free trial credit will be used for this image. [GCP Free Tier](#)

Create

Cancel

Equivalent [REST](#) or [command line](#)

## Create Edge instance template

1. Go to “Compute Engine – Instance templates” section and create instance template “test-edge-template”, select machine configuration

←

Create an instance template

Describe a VM instance once and then use that template to create groups of identical instances [Learn more](#)

**Name** ⓘ  
Name is permanent

test-edge-template

**Machine configuration**

**Machine family**

General-purpose

Memory-optimized

Compute-optimized

Machine types for common workloads, optimized for cost and flexibility


**Series**

N1

Powered by Intel Skylake CPU platform or one of its predecessors

**Machine type**

n1-standard-1 (1 vCPU, 3.75 GB memory)



vCPU	Memory
1	3.75 GB


⌵ CPU platform and GPU

**Container** ⓘ  
☐ Deploy a container image to this VM instance. [Learn more](#)

- In “Boot disk” section, press “Change”

Boot disk

ⓘ



New 20 GB standard persistent disk  
Image

test-edge-image-1

Change

- On “Custom images” tab, select “test-edge-mage-1”

Boot disk

ⓘ

Select an image to create a boot disk. The image determines the operating system installed on the instance. Can't find what you're looking for? Explore hundreds of VM solutions in [Marketplace](#).

Public images

Custom images

Show images from

Test GCP LB

☐ Show deprecated images

**Image**

test-edge-image-1

Created on Jun 25, 2020, 1:53:31 PM

**Boot disk type** ⓘ

Standard persistent disk

**Size (GB)** ⓘ

20

3. On “Security” tab, add SSH public key to access to the instances created by template, then press “Create”

Management **Security** Disks Networking Sole Tenancy

**Shielded VM** ⓘ  
Turn on all settings for the most secure configuration.

☐ Turn on Secure Boot ⓘ  
☒ Turn on vTPM ⓘ  
☒ Turn on Integrity Monitoring ⓘ

**SSH Keys**  
These keys allow access only to this instance, unlike [project-wide SSH keys](#) [Learn more](#)

☐ Block project-wide SSH keys  
When checked, project-wide SSH keys cannot access this instance [Learn more](#)

gcp

```
gTaJ8gvi6x9RQB6niVuTN80cK3H1A4xINxQ29GxWJ  
wXe4kRKIkM4QnxUTsNNsC6yc/d57Ur773518Tevf3v  
4GcWQ9gCPvoIIHZqE79zB0xbRhggj4ED1rRbC11ug0  
uG0+2kaChLkxHehJ+Xotz/NW0Az0cwkW1YSZGddiT  
vICrIDvRXFD0nuSuj8EpBU3Jjj54zChTI2k4dUDcPY  
kA/bAgy2tF5Ajc50ZCPiVc0u74R1/7RZ1YqgIJ1g+L  
aB gcp
```

+ Add item

⤴ Less

You can always create instance templates free of charge. Your free trial credit won't be used.

Create Cancel

Equivalent [REST](#) or [command line](#)

Template will be created

Instance templates

CREATE INSTANCE TEMPLATE

REFRESH

COPY

CREATE INSTANCE GROUP

DELETE

Filter instance templates

Columns

<input type="checkbox"/> Name	Machine type	Image	Disk type	In use by	Creation time
<input type="checkbox"/> test-edge-template	1 vCPU, 3.75 GB	test-edge-image-1	Standard persistent disk		Jun 25, 2020, 2:05:06 PM


## Create Edge autoscaling group

1. Go to “Compute Engine – Instance groups” section and create “test-edge-instance-group” instance group. Select “test-edge-template” as instance template.

←

Create an instance group


To create an instance group, select one of the options:



New managed instance group


A group of VMs created from a template.  
Supports autohealing, autoscaling, auto updating, regional deployments, and load balancing.

>



New managed instance group for stateful workloads

A group of VMs created from a template, with preserved disks and metadata individually for each VM.  
Supports autohealing, auto updating, regional deployments, and load balancing for stateful workloads.



New unmanaged instance group

A group of existing VMs that you manage.  
Supports load balancing.

Organize VM instances in a group to manage them together. [Instance groups](#)

Name

Name is permanent

test-edge-instance-group

Description (Optional)

Location

To ensure higher availability, select a multiple zone location for an instance group. [Learn more](#)

Single zone

Multiple zones

Region

Region is permanent

europa-west3 (Frankfurt)

Zone

Zone is permanent

europa-west3-c

Specify port name mapping (Optional)

Instance template

test-edge-template

Number of instances

Based on autoscaling configuration

2. Select "Autoscale" mode, select metric type "CPU utilization", enter 80 % to "Target" and 3 to "Maximum number of instances"



←

Create a health check

Health checking mechanisms determine whether VM instances respond properly to traffic. You cannot create a legacy health check using this page. For more information, refer to the [Health Checks Concepts](#) documentation.

Name

wcs-health-check

?

Description

WCS health checking

Scope

☒ Global

☐ Regional

Protocol

TCP

Port

8081

?

Proxy protocol

NONE

Request

/health-check

?

Response

?

Logs

Turning on Health check logs can increase costs in Stackdriver.

☐ On

☒ Off

Set health criteria and press “Save” to return to autoscaling configuration

Health criteria

Define how health is determined: how often to check, how long to wait for a response, and how many successful or failed attempts are decisive

Check interval

5

seconds

?

Timeout

5

seconds

?

Healthy threshold

2

consecutive successes

?

Unhealthy threshold

2

consecutive failures

?

You can create this health check free of charge

CREATE

CANCEL

Equivalent [REST](#) or [command line](#)

4. Expand advanced creation options and check “Do not retry machine creation”, then press “Create”

**Advanced creation options**  
Advanced configuration controlling how the instance group is created

☒ Do not retry machine creation.  
If Compute Engine hits a usage limit or error during instance creation, then reduce the instance group size to create as many instances as possible.

[Hide advanced creation options](#)

---

Your free trial credit will be used for VM instances in this group. [GCP Free Tier](#)

Create

Cancel

Equivalent [REST](#) or [command line](#)

Autoscaling group will be created and 1 instance will be started

Instance groups									
<a href="#">CREATE INSTANCE GROUP</a> <a href="#">REFRESH</a> <a href="#">DELETE</a>									
Instance groups are collections of VM instances that use load balancing and automated services, like autoscaling and autohealing. <a href="#">Learn more</a>									
<input type="text" value="Filter resources"/> <a href="#">Columns</a>									
<input type="checkbox"/> Name	Zone	Instances	Template	Group type	Creation time	Recommendation	Autoscaling	In use by	
<input checked="" type="checkbox"/> test-edge-instance-group	europe-west3-c	1	test-edge-template	Managed	Jun 25, 2020, 2:09:10 PM		On: Target CPU utilization 80%		

## Create TCP Network load balancer

1. Go to “Network – Load balancers” section and create load balancer. Choose “TCP Load Balancing”

### HTTP(S) Load Balancing

Layer 7 load balancing for HTTP and HTTPS applications. [Learn more](#)

**Configure**  
HTTP LB  
HTTPS LB (includes HTTP/2 LB)

**Options**  
Internet-facing or internal  
Single or multi-region

[Start configuration](#)

### TCP Load Balancing

Layer 4 load balancing or proxy for applications that rely on TCP/SSL protocols. [Learn more](#)

**Configure**  
TCP LB  
SSL Proxy  
TCP Proxy

**Options**  
Internet-facing or internal  
Single or multi-region

[Start configuration](#)

### UDP Load Balancing

Layer 4 load balancing for applications that rely on UDP protocols. [Learn more](#)

**Configure**  
UDP LB

**Options**  
Internet-facing or internal  
Single-region

[Start configuration](#)

2. Select external load balancer type and region



←

Create a load balancer

Please answer a few questions to help us select the right load balancing type for your application

**Internet facing or internal only**

Do you want to load balance traffic from the Internet to your VMs or only between VMs in your network?

☒ From Internet to my VMs
 ☐ Only between my VMs

**Multiple regions or single region**

Do you want to place the backends for your load balancer in a single region or across multiple regions?

☐ Multiple regions (or not sure yet)
 ☒ Single region only

[Continue](#)

- In “Backend configuration”, on “Select existing instance groups” tab select “test-edge-instance-group”, select session affinity to “Client IP and protocol”

←

New TCP load balancer

**Name** ⓘ  
Name is permanent

test-lb

☒ **Backend configuration**  
Your backend is configured →

☐ **Frontend configuration**  
You have not configured your frontend yet

☐ **Review and finalize**  
Optional

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

**Backend configuration**

**Name** ⓘ  
test-lb

**Region** ⓘ  
europe-west3

**Backends** ⓘ  
[Select existing instance groups](#)
[Select existing instances](#)

test-edge-instance-group ×  
No more instance groups available in this region

**Backup pool** ⓘ (Optional)  
None

**Failover ratio** ⓘ  
10 %

**Health check** ⓘ  
wcs-lb-health-check (HTTP)  
port: 8081, timeout: 5s, check interval: 10s, unhealthy threshold: 3 attempts

**Session affinity** ⓘ  
Client IP and protocol

- Create HTTP legacy health check. Note that load balancer always checks server root “/”

### Create a health check

Autohealing instance groups and load balancing use health checks to detect when an instance is unresponsive [Learn more](#)

**Name** ⓘ  
Name is permanent

wcs-lb-health-check

**Description** (Optional)

WCS health check for load balancer

**Protocol**

HTTP

**Port** ⓘ

8081

**Request path** ⓘ

/

⌵ More

### Health criteria

Define how health is determined: how often to check, how long to wait for a response, and how many successful or failed attempts are decisive

<b>Check interval</b> ⓘ	<b>Timeout</b> ⓘ
10 seconds	5 seconds
<b>Healthy threshold</b> ⓘ	<b>Unhealthy threshold</b> ⓘ
2 consecutive successes	3 consecutive failures

Save and continue

Cancel

5. Create frontend configuration for HTTP(S) WCS ports and WS(S) WSC ports. Select “Create static IP” and create static IP address for load balancer

← New TCP load balancer

Name ?  
Name is permanent

test-lb

✓ Backend configuration  
Your backend is configured

✓ Frontend configuration  
Your frontend is configured

→

ⓘ Review and finalize  
Optional

Create Cancel

Frontend configuration

Specify an IP address, port and protocol. This IP address is the frontend IP for your clients requests.

New Frontend IP and port

Name (Optional) ?  
Name is permanent

test-lb-http

Add a description

Protocol  
TCP

Network Service Tier ?

☒ Premium (Current project-level tier, [change](#)) ?
☐ Standard ?

IP

test-lb-entry-point (34.107.5.128)

Port

8081

Done Cancel

+ Add Frontend IP and port

← New TCP load balancer

Name ?  
Name is permanent

test-lb

✓ Backend configuration  
Your backend is configured

✓ Frontend configuration  
Your frontend is configured

→

ⓘ Review and finalize  
Optional

Create Cancel

Frontend configuration

Specify an IP address, port and protocol. This IP address is the frontend IP for your clients requests.

Protocol:TCP, IP:34.107.5.128, Port:8081	Not saved	✎
Protocol:TCP, IP:34.107.5.128, Port:8080	Not saved	✎
Protocol:TCP, IP:34.107.5.128, Port:8444	Not saved	✎
Protocol:TCP, IP:34.107.5.128, Port:8443	Not saved	✎

+ Add Frontend IP and port

6. Press “Create”. Load balancer will start working immediately

Load balancing

CREATE LOAD BALANCER

REFRESH

DELETE

Load balancers

Backends

Frontends

Filter by name or protocol

Name

Protocol

Region

Backends

test-lb

TCP

europa-west3

1 target pool (1 instance)

To edit load balancing resources like forwarding rules and target proxies, go to the [advanced menu](#).

## Test load balancer

Publish stream “test” to Origin using origin external IP address and play it using load balancer IP address

Two-way Streaming

Local

Stream

Player

Two-Wy Streaming

Fullscreen

WebRTC

Stream

Stream

Stream

Stream

Screen

Embed

2 Player

Media T

Video C

Video C Screen

MCU C

Conferen

Start

Stop

PUBLISHING

Player

4090

Play

Available

MCU C

Disconnected

ESTABLISHED

Player

Stream

Player

Two-Wy Streaming

Fullscreen

WebRTC

Stream Pk

Stream Tr

Stream Cl

Screen Cl

Embed Pk

2 Player

Media Dk

Video Cl

Video Cl Screen

MCU Cl

Conferen

WCS URL

http://34.107.5.128/444/

Stream

test

Volume

Full Screen

On/Off