- Backing up persistent disks using snapshots
- Working with machine images
- Creating and managing custom images
- Importing custom images and VM instances
- Managing your instances
- Creating and managing instance templates
- Creating and managing groups of instances
- Managed instance groups (MIGs)
- Supporting stateful workloads with MIGs

Creating groups of unmanaged instances

- Networking
- Deploying containers
- Scaling your application
- Managing compute accelerators
- Managing operating systems
- Monitoring activity
 Naming resources
 Labeling resources
 Managing access to Compute Engine resources
- Working with regions and zones
- ▶ Migrating VMs to Compute Engine
- ▶ Advanced VM configurations

Compute Products > Compute Engine > Documentation



Creating groups of unmanaged instances

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Contents

Before you begin

Working with unmanaged instance groups

Creating groups

Listing and describing groups

Deleting groups

An unmanaged instance group is a collection of virtual machines (VMs) that reside in a single zone, VPC network, and subnet. An unmanaged instance groups is useful for grouping together VMs that require individual configuration settings or tuning.

For VMs that require consistent configuration settings, you can use a managed instance group (MIG) with an instance template. When possible, consider using managed instance groups instead of unmanaged ones. To create a managed instance group, see Creating groups of managed instances.

You can add either type of instance group as a backend to a Google Cloud load balancer. For more information, see Cloud Load Balancing overview. For the number of VMs per instance group that Google Cloud supports, see VMs per instance group.

To learn more about instance groups, see Instance groups overview.

Before you begin

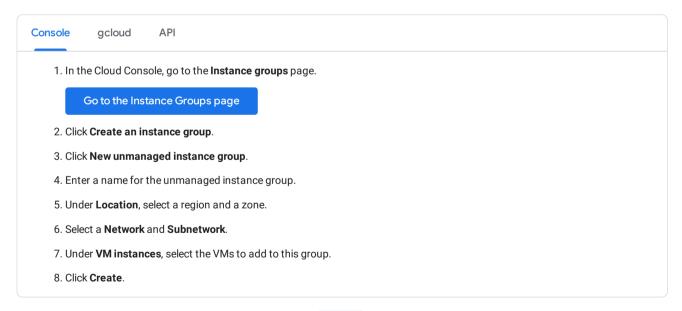


- If you want to use the command-line examples in this guide:
 - 1. Install or update to the latest version of the gcloud command-line tool.
 - 2. Set a default region and zone.
- If you want to use the API examples in this guide, set up API access.
- Read about the difference between managed and unmanaged instance groups.

Working with unmanaged instance groups

Creating groups

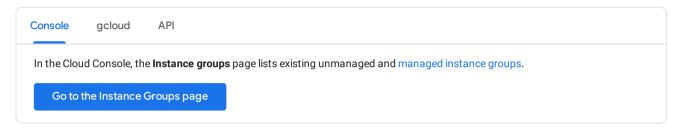
Unlike managed instance groups, unmanaged instance groups are just collections of distinct VMs that do not share a common instance template. You simply create a group, and add individual VMs to the group.



When you create a new unmanaged instance group with gcloud command-line tool or the API, no VMs are added to it automatically. You can add VMs to the unmanaged instance group manually.

Listing and describing groups

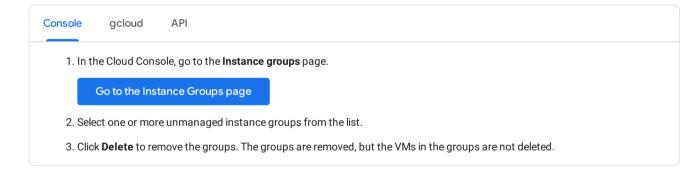
Retrieve a list of existing unmanaged instance groups.



Deleting groups

Unlike a managed instance group, deleting an unmanaged instance group does not delete any of the VMs within the group. Deleting an unmanaged instance group only removes the logical grouping of VMs.

You can't delete an instance group if the group is a backend of a Google Cloud load balancer. You must first remove the backend from the backend service.



Group membership

Adding VMs

After you create an unmanaged instance group, you can add VMs to the group.

Console gcloud API

1. In the Cloud Console, go to the Instance groups page.

Go to the Instance Groups page

- 2. Under the **Name** column of the list, click the name of the instance group where you want to add your VMs. A page opens with the instance group properties and a list of VMs that are already part of the group.
- 3. Click **Edit group** to modify this unmanaged instance group.
- 4. Under **VM instances** select one or more existing VMs to add to the group. You can only select VMs that are in the same zone, VPC network, and subnet as existing VMs.
- 5. Click **Save** to add the new VMs to the group.

Listing VMs

You can retrieve a list of member VMs in an unmanaged instance group.

Console gcloud API

1. In the Cloud Console, go to the **Instance groups** page.

Go to the Instance Groups page

2. Under the **Name** column of the list, click the name of the unmanaged instance group that you want to view. A page with the list of instances that are included in the group appears.

Removing VMs

You can remove VMs from an unmanaged instance group. Removing a VM from the instance group does not delete the VM.

*

Note: If the group is attached to backend service that has <u>connection draining</u> enabled, it can take up to 60 seconds *after* the connection draining timeout for the VM instance to be removed from the unmanaged instance group.

Console gcloud API

1. In the Cloud Console, go to the Instance groups page.

Go to the Instance Groups page

- 2. Under the **Name** column of the list, click the name of the instance group from which you want to remove VMs. A page opens with the instance group properties and a list of VMs that are included in the group.
- 3. In the list, select one or more VMs that you want to remove from the group.
- 4. Click **Remove from group**. VMs that you remove from an unmanaged instance group continue to exist and run unless you stop or delete them.

Working with named ports

Named ports are key-value pairs that represent a port's name and number. They are used in conjunction with Google Cloud load balancers. Load balancers that act as proxies subscribe to a single named port in their backend service configuration. The port's name is translated to a port number based on the named ports mapping of each instance group backend.

For example, a backend service can subscribe to a port that is named http-port. The backend instance group can have a port named http-port:80. The backend instance group instructs the load balancer to send traffic to a VM in the group on port 80 using a protocol (such as TCP). The protocol is defined in the load balancer's backend service.

You can define multiple named ports in an instance group. However, a load balancer's backend service only subscribes to a single named port. Backend instance groups on the same backend service can use different named port mappings. To illustrate, consider an example backend service that subscribes to the named port http-port, and that has two backend instance groups:

- instance-group-a with a named port of http-port:80
- instance-group-b with a named port of http-port:79

This backend service sends traffic to port 80 for VMs in instance-group-a and port 79 for VMs in instance-group-b.

Important: Named ports do not create or modify Google Cloud <u>firewall rules</u>. To permit traffic to backend VMs, you must still create necessary firewall rules.

Console gcloud API

1. In the Cloud Console, go to the **Instance groups** page.

Go to the Instance Groups page

- 2. Under the Name column of the list, click the name of the instance group where you want to specify named ports. A page opens with the instance group properties.
- 3. Click **Edit group** to modify this unmanaged instance group.
- 4. In the Port name mapping (Optional) section, click Add item, and enter a port name and its number. Add or remove other named ports as necessary.
- 5. Click **Save** to update the list of named ports for the unmanaged instance group.

What's next

- Create a zonal managed instance group.
- Create a regional managed instance group.
- Learn about Cloud Load Balancing.

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