

How To Assign a Floating IP Address to an Instance in OpenStack

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You want to assign an OpenStack Instance a floating IP address from your public network?. When an virtual instance is created in OpenStack, it is automatically assigned a fixed IP in the network to which it is assigned . This IP address is permanently associated with the instance until the instance is terminated.

OpenStack also gives you an option to use floating IP address created from external network's subnet. A **"floating IP"** is an IP address that can be dynamically added to a running virtual instance. The floating IP association can be modified at any time regardless of the state of the instance in question.

Here is the process you'll use to create a floating IP Address in OpenStack and assign it to an instance.

Step 1: Create an Instance on private network

First create a Virtual instance from OpenStack horizon dashboard or CLI in a private network.

I have two networks – public and private. The instance will be created on the private subnet.

```
$ openstack network list
+-----+-----+-----+
| ID                                     | Name   | Subnets |
+-----+-----+-----+
| b94431cb-08cf-42ea-be61-55f5cf459276 | private | 57601b99-ea64-41a8-a927-fbd591ae3f2b |
| f7ccac3b-73eb-49bf-a4ec-af750216b819 | public  | 7536e4a8-6aa8-45dc-aed6-1a98afc416d |
+-----+-----+-----+
```



```
$ openstack subnet list
```

```
+-----+-----+-----+
| ID                                         | Name           | Network |
| Subnet                                   |                |         |
+-----+-----+-----+
| 57601b99-ea64-41a8-a927-fbd591ae3f2b | private_subnet | b94431cb-08cf-42ea-be61-55f5cf459276 | 10.10.1.0/24 |
| 7536e4a8-6aa8-45dc-aed6-1a98afc416d | public_subnet  | f7ccac3b-73eb-49bf-a4ec-af750216b819 | 96.220.99.8/29 |
+-----+-----+-----+
```

I'll create an Instance called **testfloating** from Ubuntu 18.04 template.

```
openstack server create \
  --image Ubuntu-18 \
  --key-name jmutai \
  --flavor m1.small \
  --security-group 7fffea2a-b756-473a-a13a-219dd0f1913a \
  --network private \
  testfloating
```

VM creation can be done from your OpenStack Dashboard.

Launch Instance



Details

Please provide the initial hostname for the instance, the availability zone where it will be deployed, and the instance count. Increase the Count to create multiple instances with the same settings.

Source *

Flavor *

Networks *

Network Ports

Security Groups

Key Pair

Instance Name *

testfloating

Description

VM for Testing Floating IP Allocation

Availability Zone

nova

Count *

1

Total Instances

(No Limit)

6 Current Usage

1 Added

After creation, confirm the server is running.

```
$ openstack server show testfloating
```

```
+-----+-----+-----+
| ID                                         | Name           | Network |
+-----+-----+-----+
```



Field	Value
+-----+-----	
-----+	
OS-DCF:diskConfig	MANUAL
OS-EXT-AZ:availability_zone	nova
OS-EXT-SRV-ATTR:host	server1.computingforgeeks.com
OS-EXT-SRV-ATTR:hypervisor_hostname	server1.computingforgeeks.com
OS-EXT-SRV-ATTR:instance_name	instance-0000002e
OS-EXT-STS:power_state	Running
OS-EXT-STS:task_state	None
OS-EXT-STS:vm_state	active
OS-SRV-USG:launched_at	2019-09-22T07:13:40.000000
OS-SRV-USG:terminated_at	None
accessIPv4	
accessIPv6	
addresses	private=10.10.1.185
config_drive	
created	2019-09-22T07:13:35Z
flavor	m1.small (1)
hostId	
da0a05ef20a03e97f301563551bab9b669ef04adbce232d941519946	
id	a731e48d-d3b5-4fcf-8fc7-f8f280b51b44
image	Ubuntu-18 (7bd462ad-cc11-4d89-8b85-9aab0cfe114b)
key_name	jmutai



```

|
| name                      | testfloating
|
| progress                  | 0
|
| project_id                |
06bcc3c56ab1489282b65681e782d7f6
| properties                |
|
| security_groups           | name='default'
|
| status                    | ACTIVE
|
| updated                   | 2019-09-22T07:13:40Z
|
| user_id                  |
336acbb7421f47f8be4891eabf0c9cc8
| volumes_attached          |
|
+-----+-----+
-----+

```

Step 2: Reserve a floating IP address from external network pool.

You need to reserve a floating IP address from external network subnet pool. This can be done from the web dashboard or CLI.

From CLI:

```

openstack floating ip create --project admin --subnet public_subnet
public

```

Where:

- **admin** is the Owner's project. Created floating IP will be available for association in this project.
- **public_subnet** is the name of the subnet on which you want to create the floating IP.
- **public** is the name of the network to allocate floating IP from.

See all options by typing:

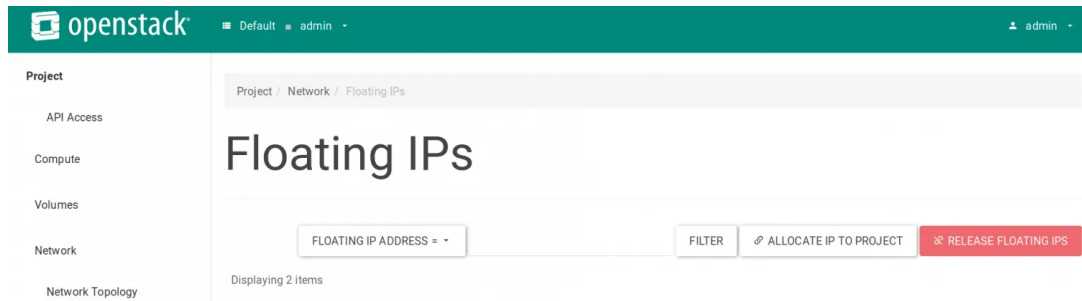


```
$ openstack floating ip create --help
```

From Dashboard:

Log in to the dashboard as a user that has the Member role. Then navigate to:

Project > Network > Floating IPs



Click on the **“ALLOCATE IP TO PROJECT”** button. On the new window, select a Pool, provide description and click on **“ALLOCATE IP”**.

A screenshot of the 'Allocate Floating IP' dialog box. It has a title bar with a close button. The form contains a 'Pool' dropdown menu with 'PUBLIC' selected, a 'Description' text input field, and a 'Project Quotas' section showing a progress bar for 'Floating IP' usage (2 of -1 Used). At the bottom, there are 'CANCEL' and 'ALLOCATE IP' buttons.

Step 3: Associate the reserved floating IP address with the instance.

Once the floating IP address is reserved, we can associate it with an instance.

From CLI:

```
$ openstack floating ip list
$ openstack server list
$ openstack server add floating ip <server> <ip-address>
```



Example:

```
$ openstack server add floating ip testfloating 96.220.99.11
```

From dashboard:

Option 1: **Project > Network > Floating IPs > Select IP > Associate**

-	public	Down	ASSOCIATE ▾
---	--------	------	-------------

Pick a floating IP, an instance and a port to associate.

Manage Floating IP Associations ×

IP Address ^{*}

+

Select the IP address you wish to associate with the selected instance or port.

Port to be associated ^{*}

TESTFLOATING: 10.10.1.185 ▾

CANCEL

ASSOCIATE

Option 2: **Project > Compute > Instances**

openstack

■ Default ■ admin ▾

admin ▾

Project

API Access

Compute

Overview

Instances

Images

Key Pairs

Instances

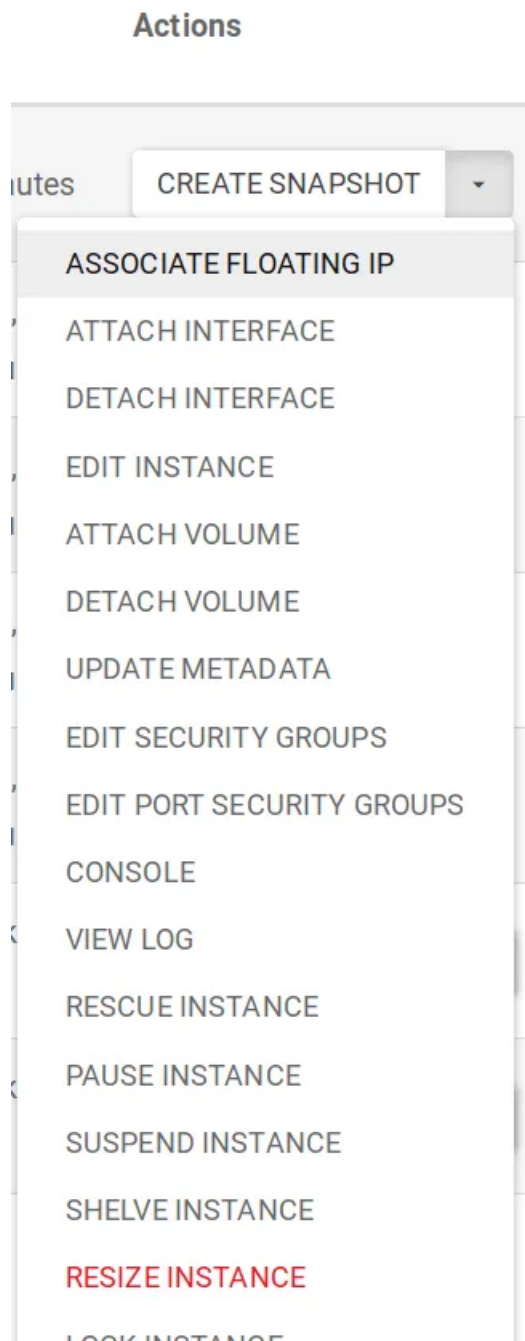
INSTANCE ID ▾ FILTER LAUNCH INSTANCE DELETE INSTANCES MORE ACTIONS ▾

Displaying 7 items

<input type="checkbox"/>	Instance Name	Image Name	IP Address	Flavor	Key Pair	Status	Availability Zone	Task	Power State	Age	Actions
<input type="checkbox"/>	testfloatin g	Ubuntu -18	10.10.1.185	m1.small	jmutai	Active	5 nova	None	Running	28 minutes	CREATE SNAPSHOT ▾

Under **actions**, select **"ASSOCIATE FLOATING IP"**





Select an IP address and click **"ASSOCIATE"**.

Manage Floating IP Associations

IP Address *

SELECT AN IP ADDRESS

+

Select the IP address you wish to associate with the selected instance or port.

Port to be associated *

TESTFLOATING: 10.10.1.185

▼

CANCEL

ASSOCIATE



Disassociate a floating IP Address

To disassociate IP address, use either of below methods:

CLI:

```
$ openstack server remove floating ip <server> <ip-address>
```

Dashboard:

- Project > Network > Floating IPs > DISASSOCIATE
- Project > Compute > Instances > Actions > DISASSOCIATE FLOATING IP

That's all on how to associate a floating IP address to an instance running on OpenStack.

Other OpenStack guides:

[How To Create OpenStack Instance With a Fixed / Static IP Address](#)

[How To Create OpenStack projects, users and roles](#)

[How To Migrate OpenStack Instance from one Compute Host to Another](#)

[How To Resize OpenStack Instance / Virtual Machine](#)

[How To Configure OpenStack Instances / VMs to Autostart after Nova compute reboot](#)

[How To Create OpenStack Cinder Volumes and Attach to a VM Instance](#)

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