

Elastic IP Address

Jun 2017

Introduction

This guide assumes that you know a few basic things about AWS, that you have logged in and created an instance, and can navigate the AWS menus. If you have not created an instance, check this out: [Creating an Amazon AWS EC2 Instance](#)

From Amazon:

<sxh [text], gutter: false; highlight: 0-0;> An Elastic IP address is a static IPv4 address designed for dynamic cloud computing. An Elastic IP address is associated with your AWS account. With an Elastic IP address, you can mask the failure of an instance or software by rapidly remapping the address to another instance in your account.

An Elastic IP address is a public IPv4 address, which is reachable from the Internet. If your instance does not have a public IPv4 address, you can associate an Elastic IP address with your instance to enable communication with the Internet; for example, to connect to your instance from your local computer. </sxh>

When you create an instance, you are associated an IP Address from a pool of Amazon public addresses. When/if you stop that instance, and restart it you, chances are you will get a different IP Address (as is normal with any DHCP system, depending on lease times of course.)

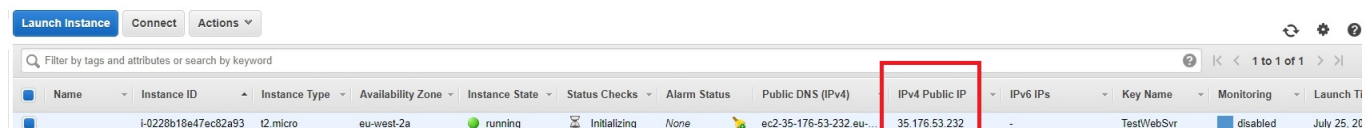
To avoid this we can use a feature called Elastic IP Address. If you are in your first year of free access, you can get the your first Elastic IP Address for free (and I think it stays free, but you have to pay for the instance after one year (or create another account (ssh)).

Your Elastic IP Address has a fixed IP. So no matter how many times you stop/start/restart your instance, you will always have the same Public IP Address, brilliant if you have mapped that to a Domain Name.

WARNING!!! The Elastic IP Address is only FREE if you USE it! If you stop your instance, you start to be charged by the hour for any unused Elastic IP Addresses, so if you don't want to pay for them, release them immediately.

Setup

If your instance is running, it will currently have a dynamic IP Address assigned by Amazon.



The screenshot shows the AWS Management Console interface. At the top, there are buttons for 'Launch Instance', 'Connect', and 'Actions'. Below these is a search bar. The main area displays a table of EC2 instances. The table has columns for Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, Alarm Status, Public DNS (IPv4), IPv4 Public IP, IPv6 IPs, Key Name, Monitoring, and Launch Time. One instance is listed with ID 'i-0228b18e47ec82a93', type 't2.micro', in 'eu-west-2a' zone, and state 'running'. The 'IPv4 Public IP' column for this instance shows '35.176.53.232', which is highlighted with a red box.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs	Key Name	Monitoring	Launch Time
	i-0228b18e47ec82a93	t2.micro	eu-west-2a	running	Initializing	None	ec2-35-176-53-232.eu-...	35.176.53.232	-	TestWebSvr	disabled	July 25, 2017

If your instance is running, you have to stop the instance to allow the DHCP address to return to the Amazon pool, and to allow assignment of an [Elastic IP Address](#).

Navigate to the [AWS Console](#).

The screenshot shows the Amazon EC2 Dashboard. The left sidebar has the 'EC2 Dashboard' link highlighted. The main content area is titled 'Resources' and lists the following counts for the EU West (London) region:

- 0 Running Instances
- 0 Dedicated Hosts
- 1 Volumes
- 1 Key Pairs
- 0 Placement Groups
- 0 Elastic IPs
- 0 Snapshots
- 0 Load Balancers
- 2 Security Groups

Below the resource counts, there is a 'Create Instance' section with a 'Launch Instance' button. To the right, there is a 'Service Health' section showing 'EU West (London):' with a green checkmark and the text 'This service is operating normally'. Further right, there is a 'Scheduled Events' section showing 'EU West (London):' with 'No events'.

Select the **Elastic IPs** Option.

The next page shows your allocated **Elastic IPs** (you probably won't have any.)

The screenshot shows the 'Elastic IP Addresses' page in the Amazon EC2 console. The left sidebar shows the 'Elastic IPs' link under the 'INSTANCES' section. The main content area has a search bar and a message: 'You do not have any Addresses in this region. Click the Create Address button to create your first Address.' A blue button labeled 'Allocate new address' is highlighted with a red box.

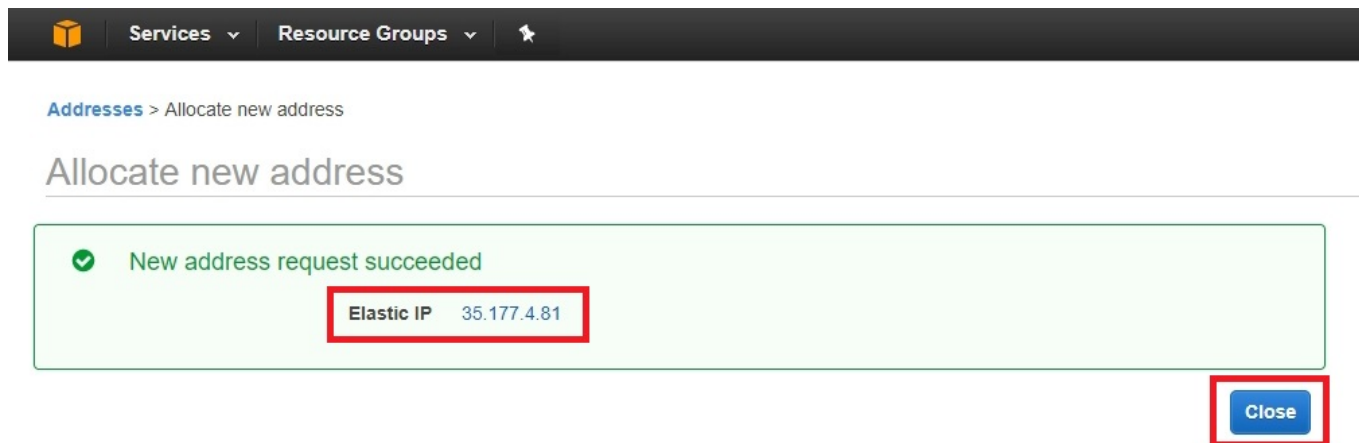
Select **Allocate New Address**.

The next page seems a bit unnecessary.

The screenshot shows the 'Allocate new address' page in the Amazon EC2 console. The page title is 'Allocate new address'. Below the title, there is a instruction: 'Allocate a new Elastic IP address by selecting the scope in which it will be used'. At the bottom right, there are two buttons: 'Cancel' and 'Allocate'. The 'Allocate' button is highlighted with a red box.

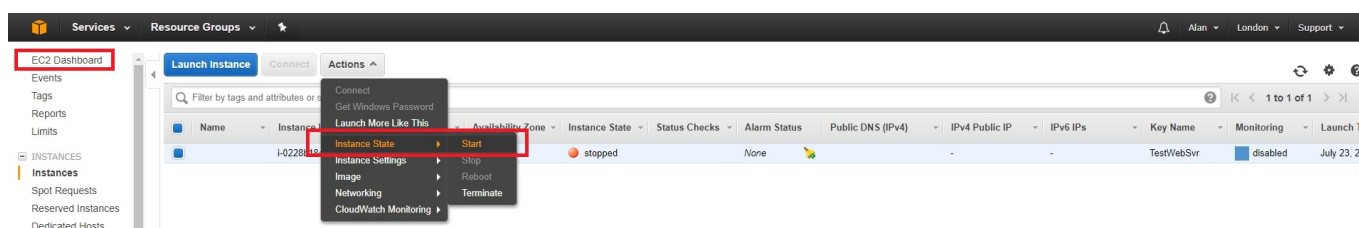
Select **Allocate**.

Next you will see a confirmation page.



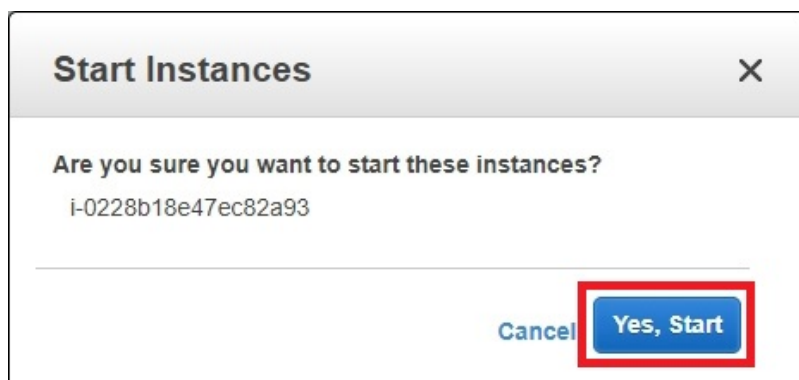
Here you can see the Public Elastic IP Address you have been allocated (this is not associated with your instance yet.) Select Close.

Once back at the EC2 Console. You need to start your instance.



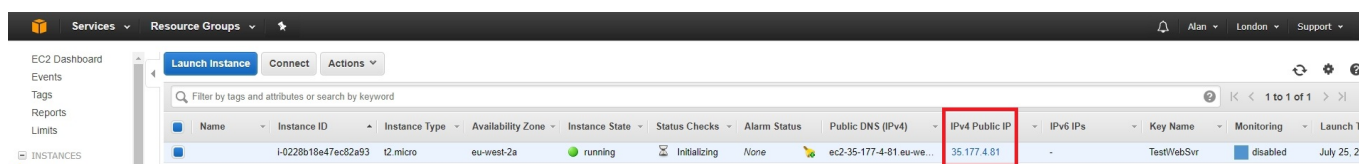
Select Actions, Instance State then Start.

You will get a prompt asking if you wish to start the instance.

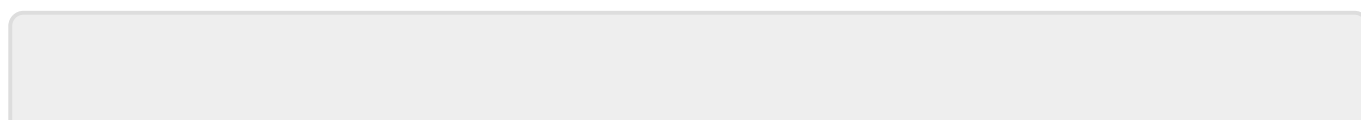


Click Yes, Start.

Back at the EC2 Console you will see your started instance.



The IP Address should match the Elastic IP Address you were allocated when you created it.



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