Quick Guide – Assigning Elastic IPs to EC2 instances

Objective

This guide has been written to help you understand the purpose of Elastic IPS and how to assign them to EC2 instances.

Background

EC2 instances are typically assigned two IP addresses. A private IP which can be used to address it from any other instance in your AWS Virtual Private Cloud – VPC and a public IP which can be used to access it from anywhere on the internet (worldwide).

These IP addresses are assigned dynamically and change whenever an EC2 instance is shut down and restarted.

In many cases such as a fleet of web servers, this wouldn't present a problem. Provided that you had a mechanism to register an instance's current IP address with a load balancer at start up.

However, for a database server or perhaps a bastion server, you would need to ensure that it had a consistent IP address that didn't vary regardless of how many times it had to be restarted. In the case of a database server, it wouldn't be feasible to seek out all potential client applications in order to update their connection strings.

Amazon Web Services have addressed this problem by providing Elastic IPs. Elastic IPs are IP addresses that you can assign to an instance and which remains assigned to that instance until you re assign it or terminate the instance.

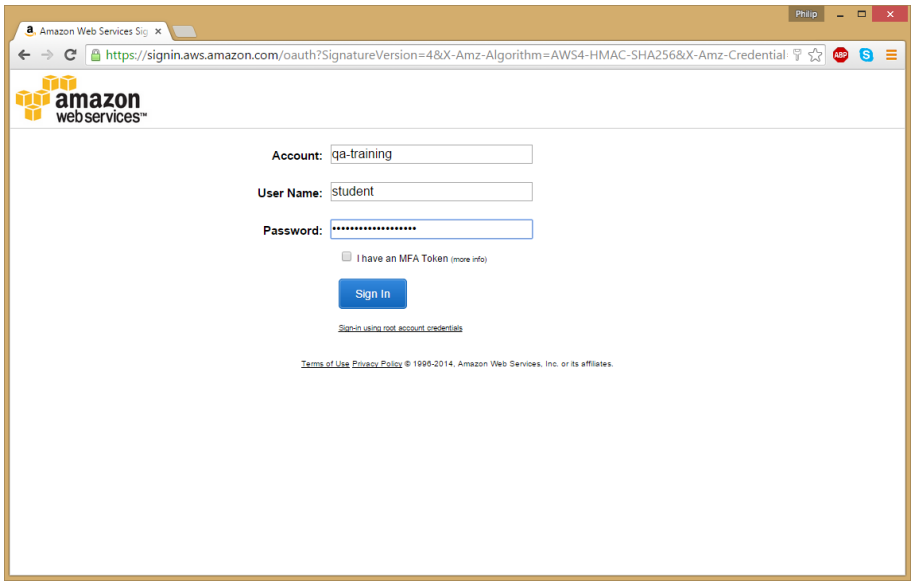
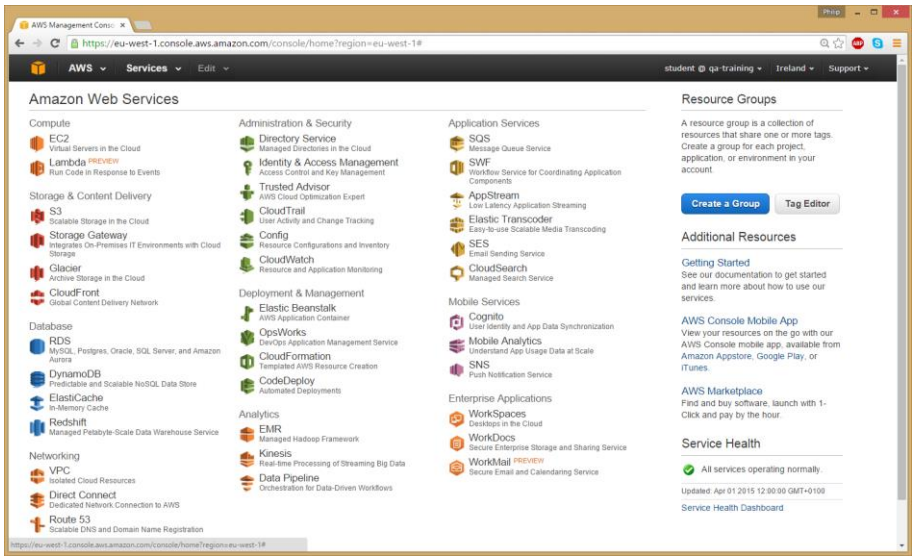
Further reading

Should you require any further information, please refer to the following resource:

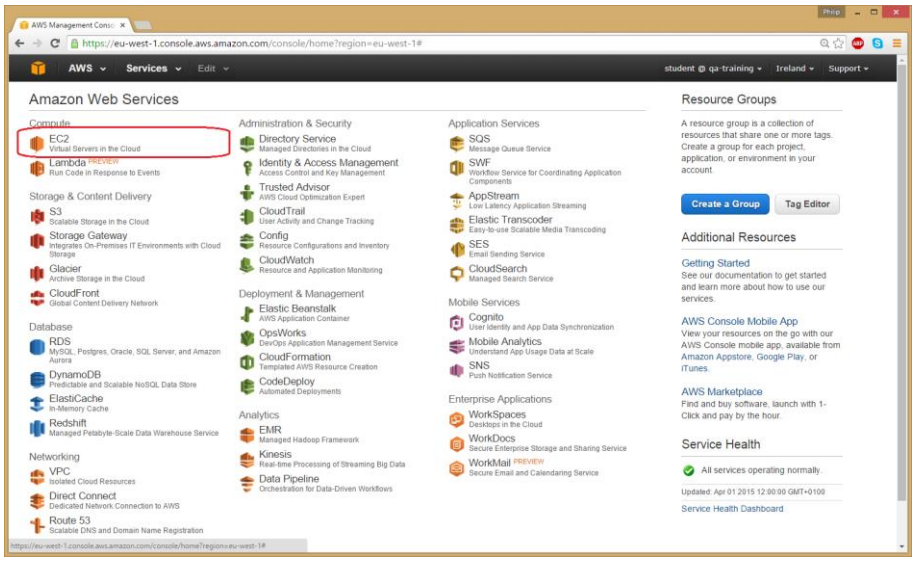
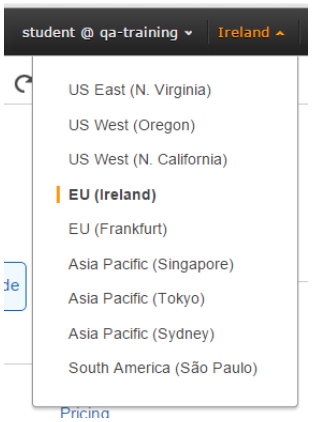
http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-eip.html

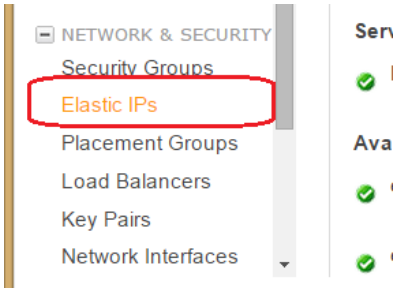
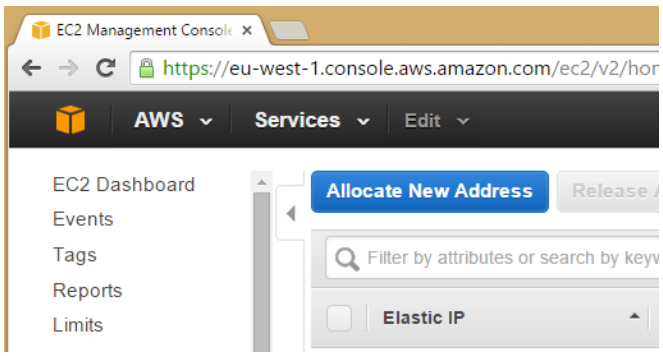
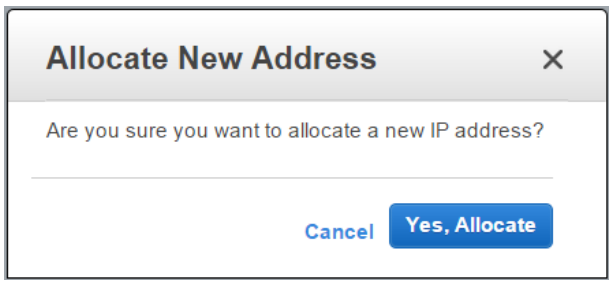
Note: If you find that some of the screen shots or steps are out of date, **please report them to your trainer.**

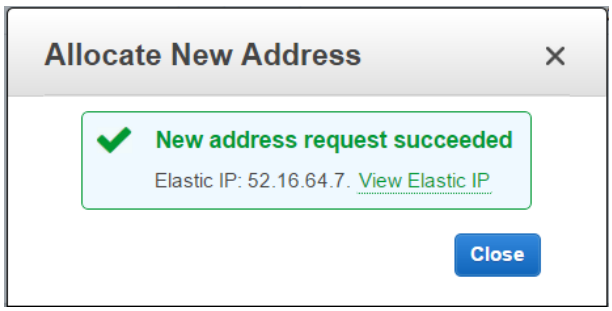
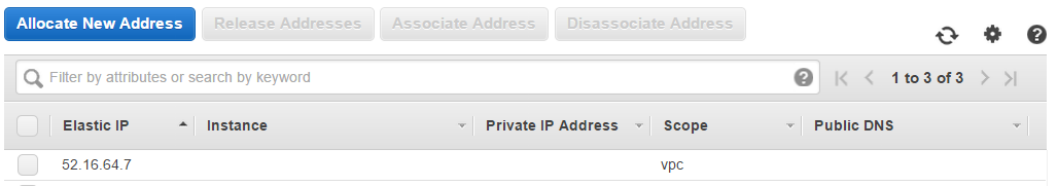
Stage 1 : Logging in to the AWS Console

1	Before you can allocate and assign Elastic IPs, you must first log into the **AWS Console**. 
2	Once logged into the **AWS Console**, you should see most of the AWS services listed. 

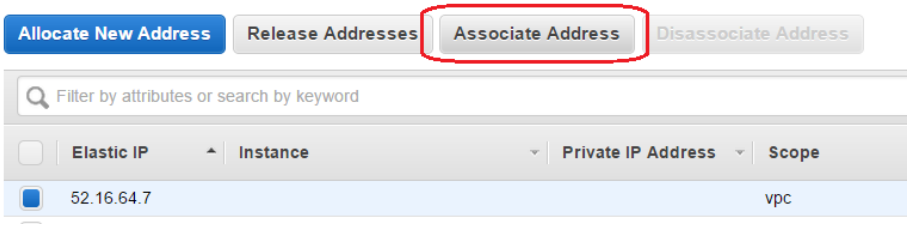
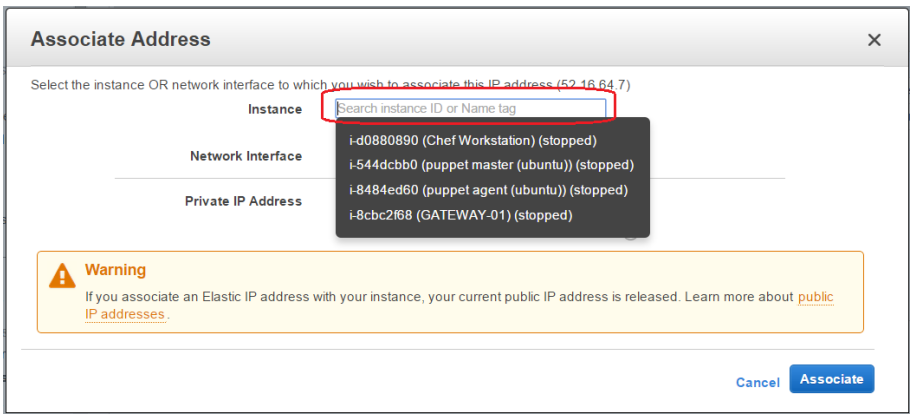
Stage 2 : Allocate an Elastic IP

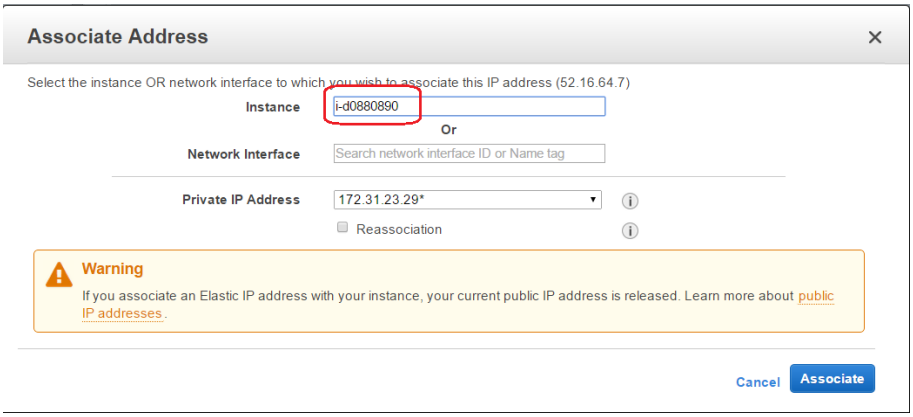
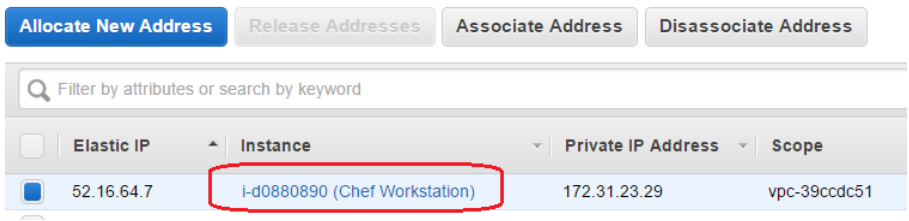
3	Once logged in to the **AWS Console** you must click on the **EC2** link. 
4	Elastic IPs are localised to a particular AWS Region so you must choose that first by selecting a region from the list in the top right hand corner of the **AWS Console**. 

5	Now that you have decided what region to create the Elastic IP in, you must select **Elastic IPs** from the side bar on the left hand side of the **AWS Console**. 
6	If you require an IP address that you can assign to a specific server, click the **Allocate New Address** button. 
7	When prompted, click the **Yes, Allocate** button. 

8	You will now be presented with your new Elastic IP.  **Note**. This Elastic IP address now belongs to your AWS account and can be assigned to any EC2 instance you wish until to choose to de-allocate (release) it.
9	Your new Elastic IP will now be displayed in the **AWS Console**. As you can see, it hasn't been assigned to an EC2 instance yet. 

Stage 3 : Associate an Elastic IP

10	In order to associate an Elastic IP from the current (Elastic IPs) screen, select the newly allocated Elastic IP and then click on the **Associate Address** button. 
11	In the **Associate Address** dialog, click into the **Instance** box in order to reveal a list of the EC2 instances available in the current region.  **Note**. Some of these instances may already have an Elastic IP associated with it. If you choose one of these, the new Elastic IP will be used and the former Elastic IP will be disassociated.

12	Once you have selected the desired instance, its Instance ID is displayed. Click the **Associate** button. 
13	The Elastic IP screen will refresh to show the instance associated with the Elastic IP address.  **Note**. This instance will retain the Elastic IP regardless of the number of times it is stopped and restarted.
14	Congratulations. You have successfully *allocated* a new Elastic IP and *associated* it with an EC2 instance.

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