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Deploying your first Java Application to AWS-4 (Load Balancer)

Mini Lab | Digital Summit '18

Miracle Innovation Labs

Miracle Software Systems, Inc.

Deploying your first Java Application to AWS-4 (Load Balancer)

Introduction

The goal of this document is to create a Load Balancer in AWS and distribute the traffic between the two EC2 instances which are already serving the traffic on port 80.

This guide was prepared by **Miracle's Innovation Labs.**

Pre-Requisites

All attendees must have their workstation (with Internet) to participate in the workshop (both PC and MAC are compatible). The following pre-requisites will help you to make the workshop experience easier,

- AWS Account

Note: Before you begin with this document, please get 2 EC2 instances up and running with the provided sample application deployed on to them.

Technology Involved

- AWS
- Java
- Apache Tomcat
- PuTTY (for Windows)
- Git

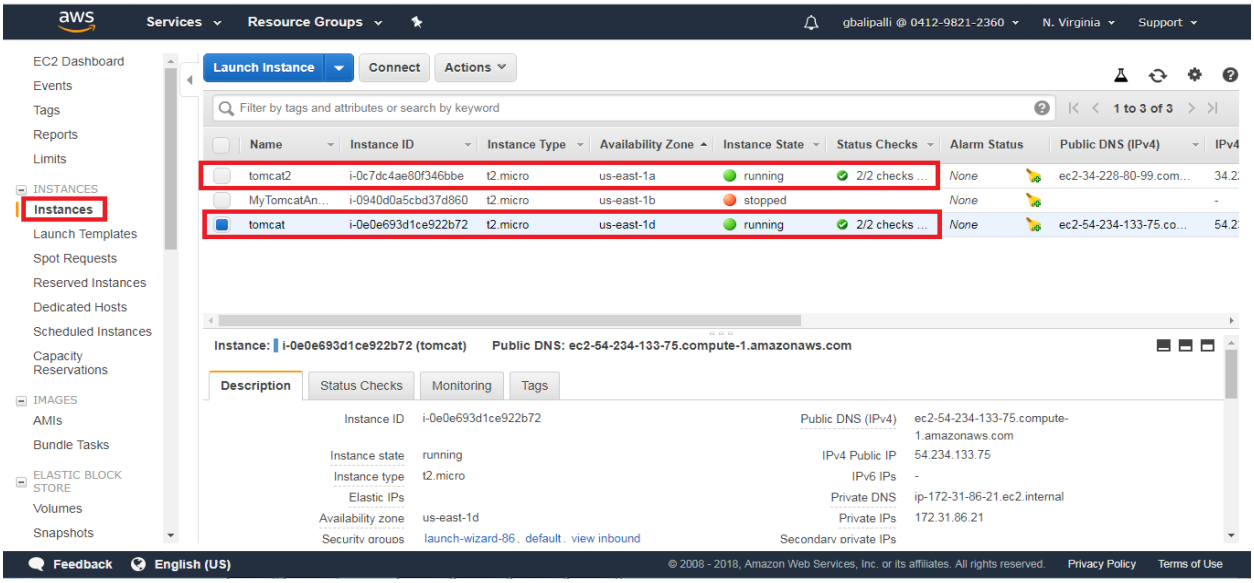
Lab Steps

In this workshop, we will be showing you how to create classic load balancer which will distribute the traffic in Round Robin process. If in case an instance is out of service then the load balancer will send traffic to healthy instances. You need minimum 2 EC2 instances for running same application on each.

Note: Two Instances should not be in the same Availability zone.

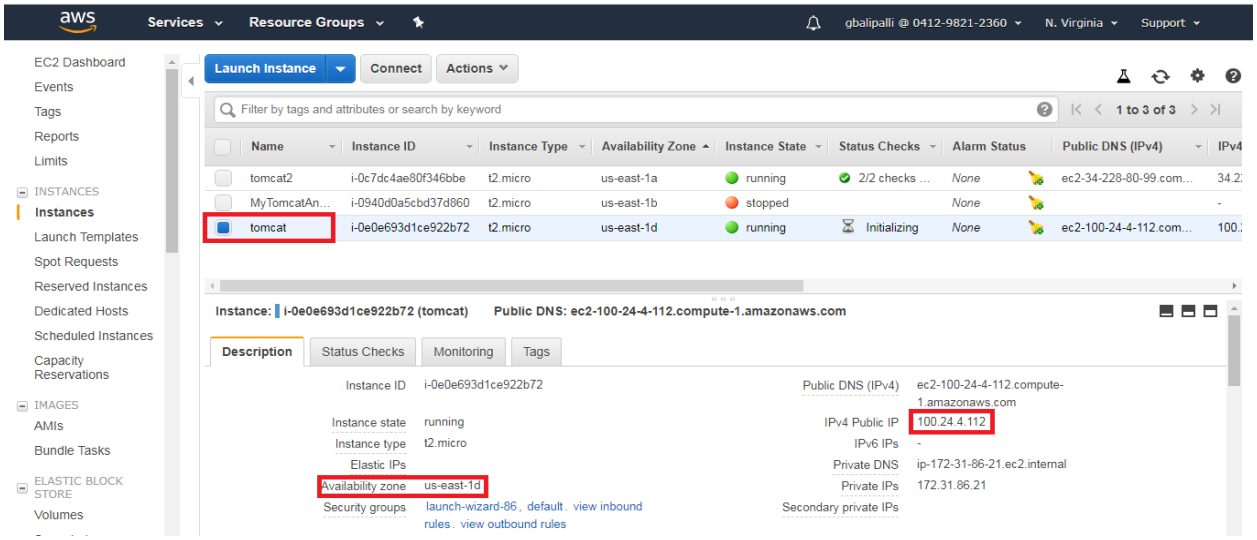
As of now, you have only one instance in your AWS Account. So, you need one more EC2 instance to do the below procedure. Please follow the document Deploying your first Java Application to AWS-2(AWS EC2) to launch EC2 instance, to install Tomcat and you can find “Deployment of your .war file” procedure in Deploying your first Java Application to AWS-3(AWS EC2).

We have two instances named as tomcat and tomcat2 as shown below.

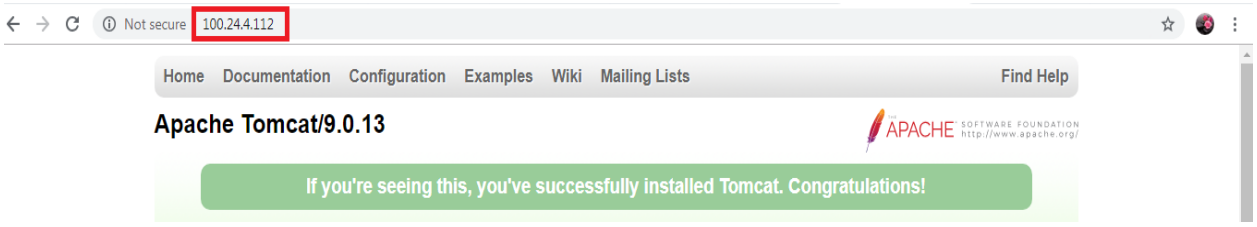


In this document, tomcat is in **us-east-1a** Availability Zone and tomcat2 is in **us-east-1d** Availability Zone. The availability zones might vary from account to account. So, please select the instances that were created already.

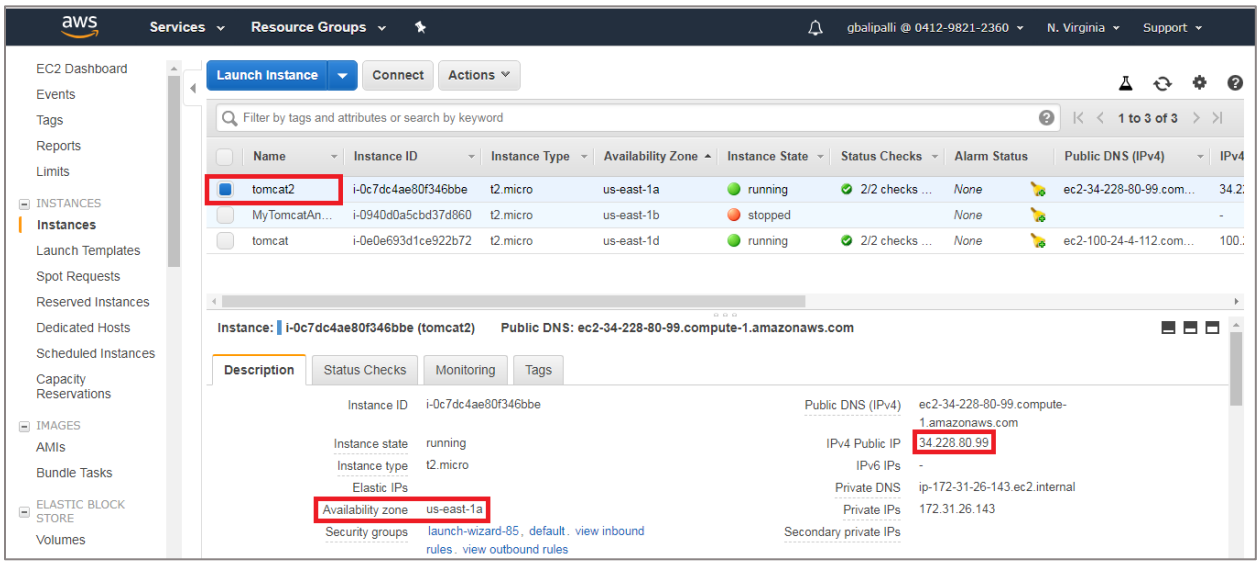
Instance #1



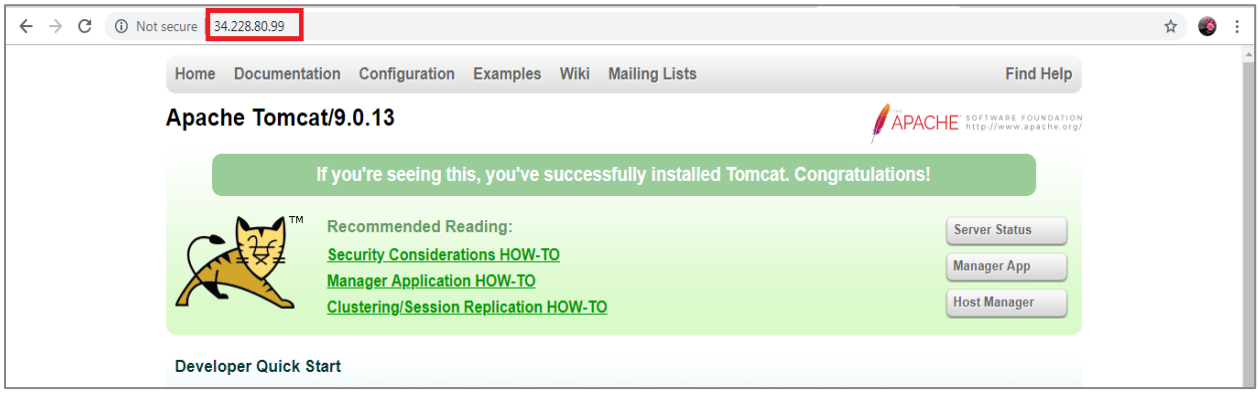
Running Tomcat server on tomcat Instance of port 80.



Instance #2



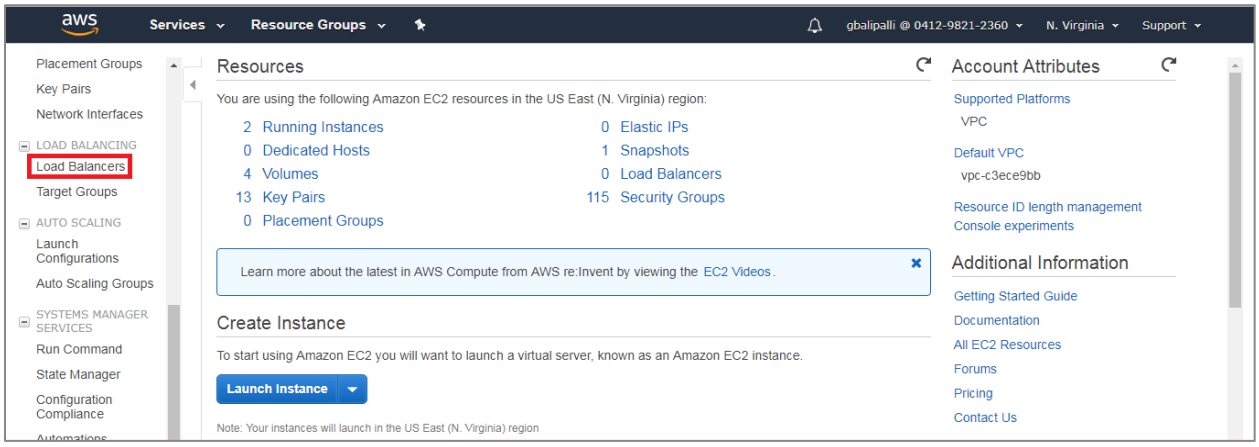
Running Tomcat server on tomcat2 Instance on port 80.



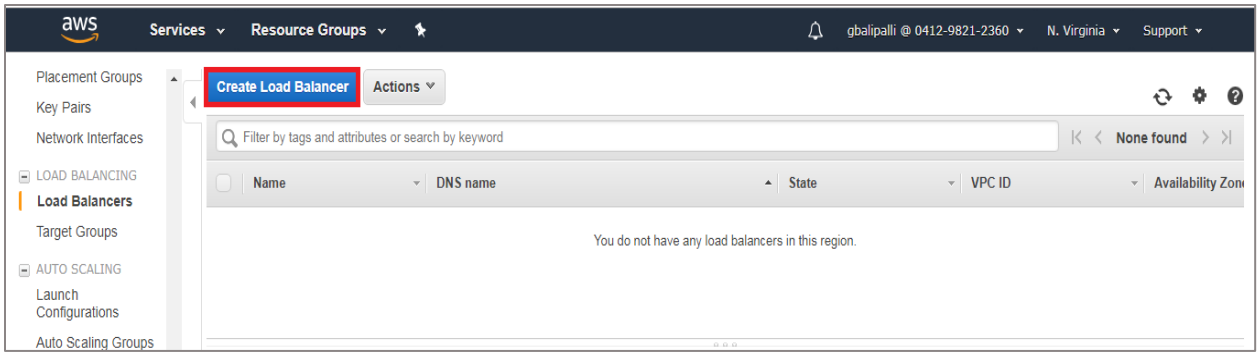
After completion of two EC2 instances with above mentioned points. Now, follow the below steps.

Step #1 | Creating Load Balancer

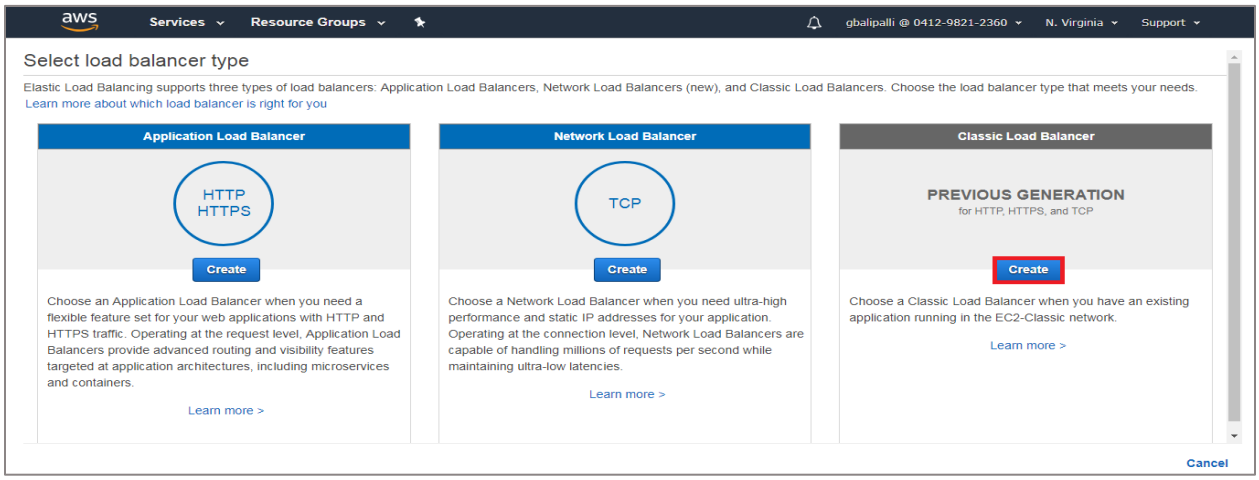
Select the **Load Balancers** option in the left corner of EC2 Dashboard.



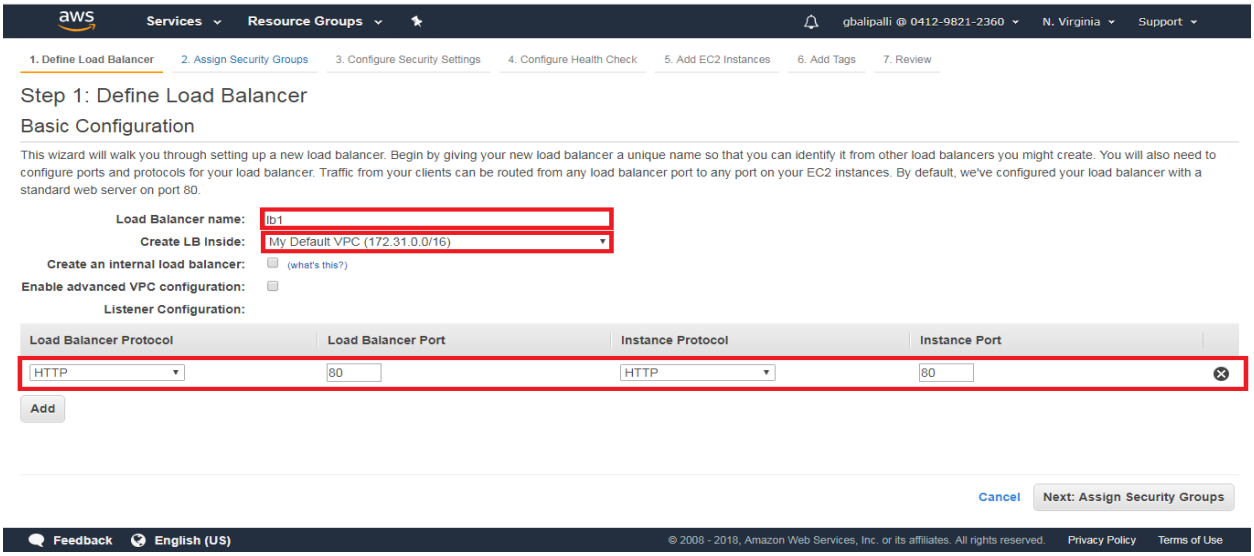
Click on **Create Load Balancer** as shown below.



Select **Create** option in **Classic Load Balancer**.



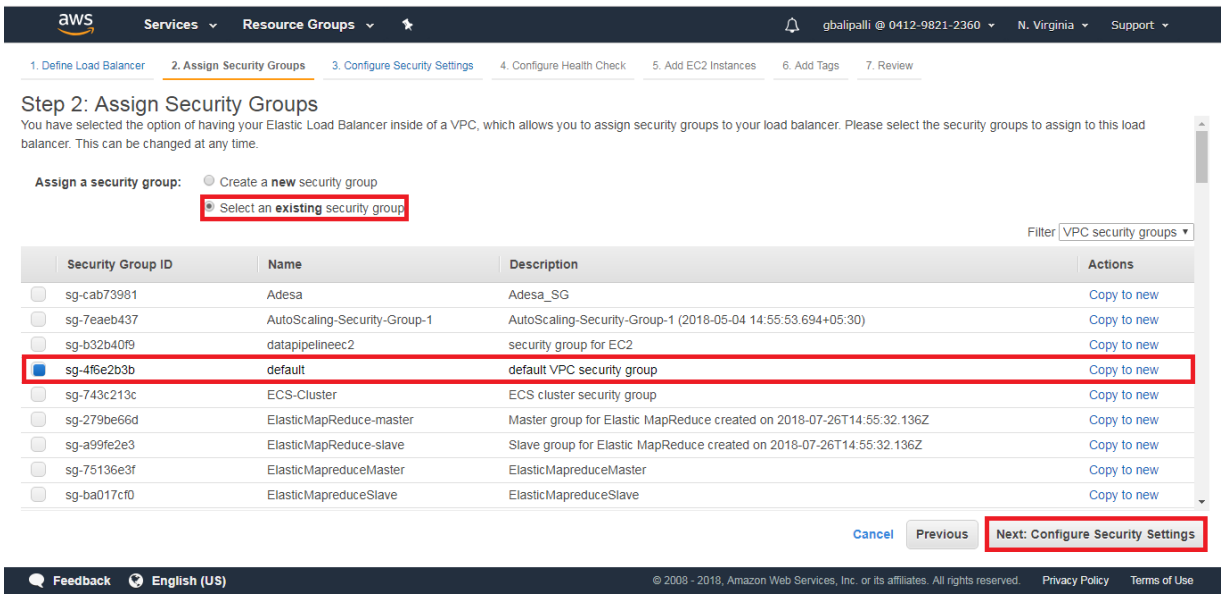
You have to provide a basic configuration for your load balancer, such as a name, a network where you have created EC2 instances and configure a listener that accepts HTTP requests on port 80 and sends them to your instances on port 80 using HTTP.



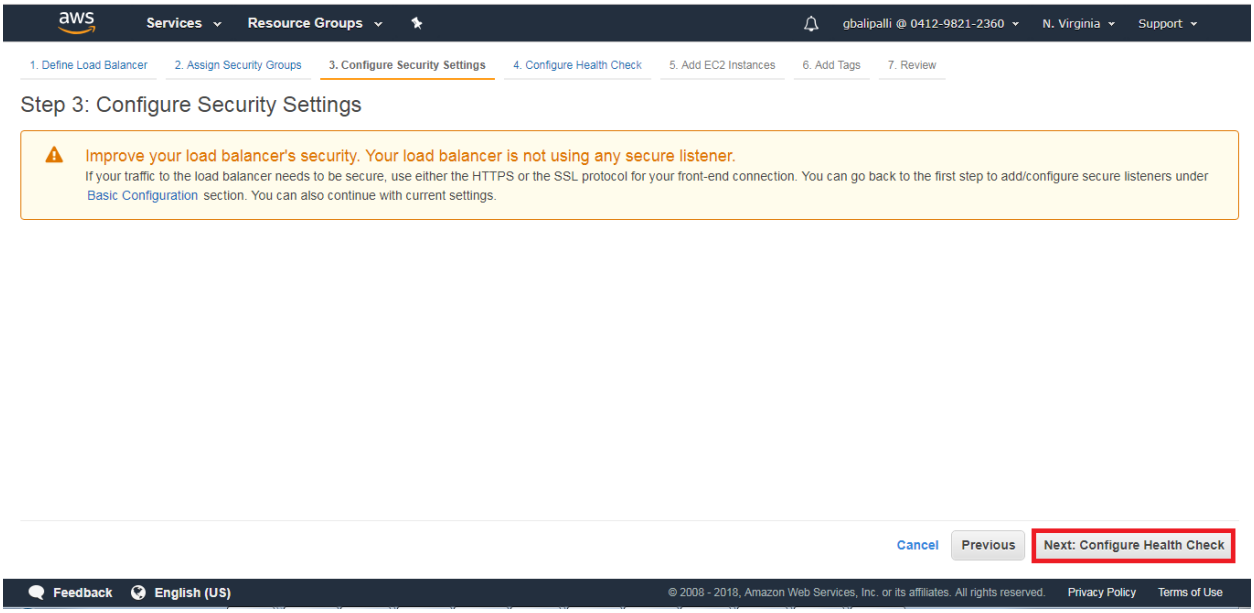
In the above screenshot, Load Balancer name is **lb1**, network is **MyDefault VPC (172.31.0.0/16)** and you can leave the default listener configuration.

Assign Security Groups to your Load Balancer in a VPC, and select an existing Security Group.

Here, we are considering the default VPC Security Group. Now, click on **Next: Configure Security Settings**.

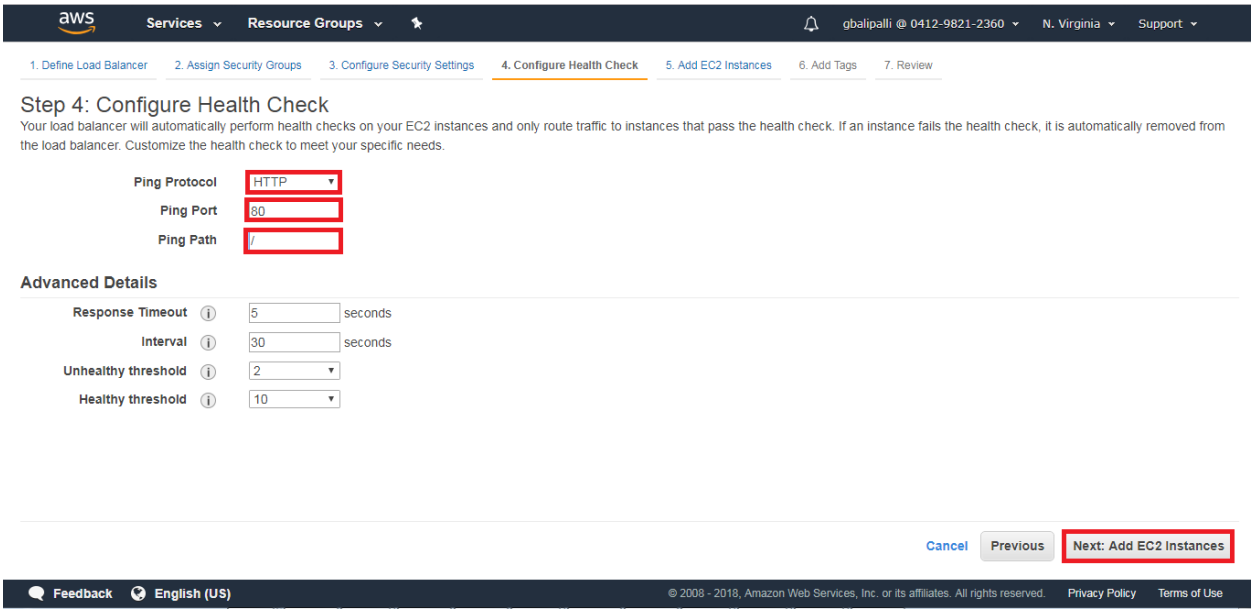


Click on **Next : Configure Health Check**.



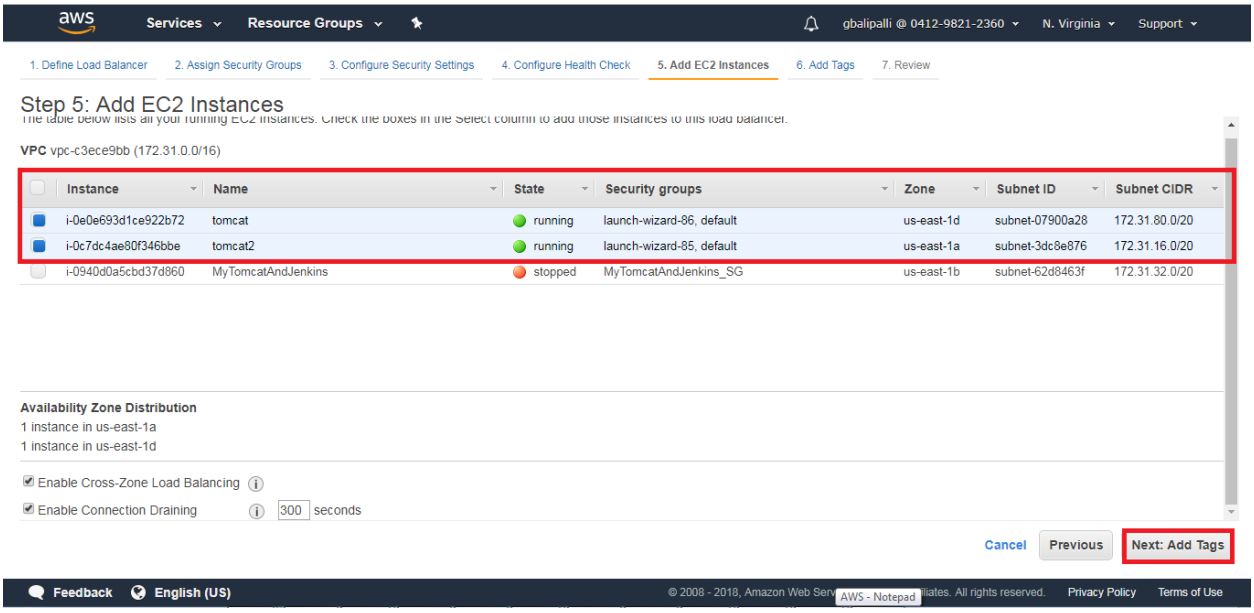
Configure Health Checks for Your EC2 Instances.

Set the Ping Protocol as **HTTP** and Ping Port as **80**. Leave the default values for Ping Path as **/** and Advanced Details. Click on **Next: Add EC2 Instances**.



You have to register the EC2 Instances with your Load Balancer. So, please select the existing instances to register with your load balancer.

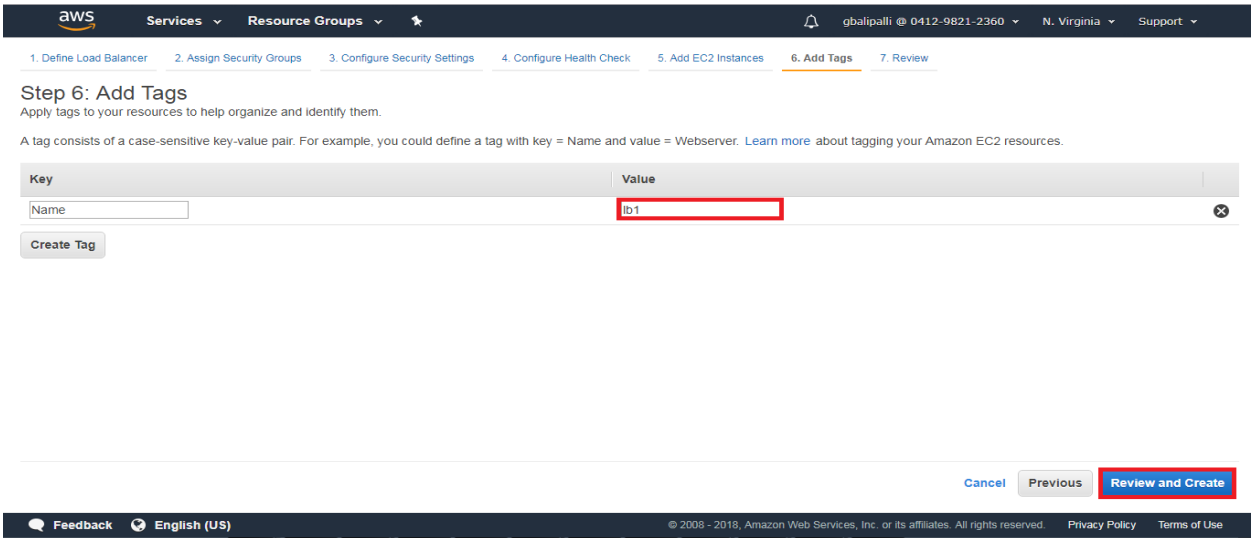
Here, adding tomcat and tomcat2 instances to our Load Balancer. Now, click on **Next: Add Tags**.



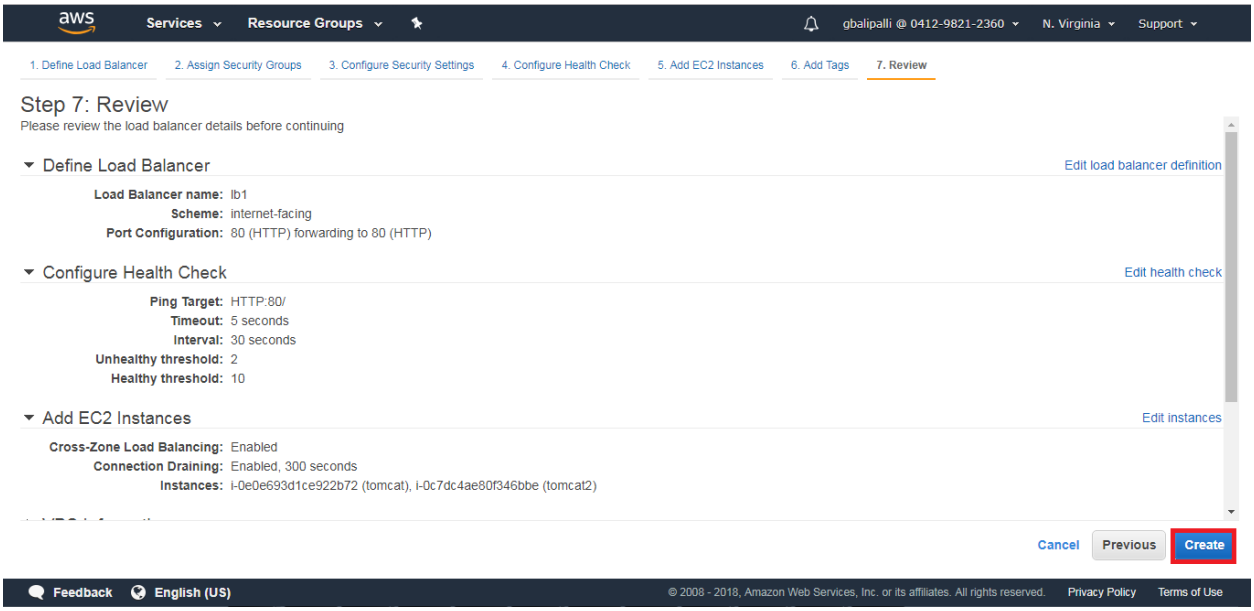
Note: You can tag your Load Balancer (Optional).

Here, tagging our Load Balancer with key as **Name** and value as **lb1**. Now, click on **Review and Create**.

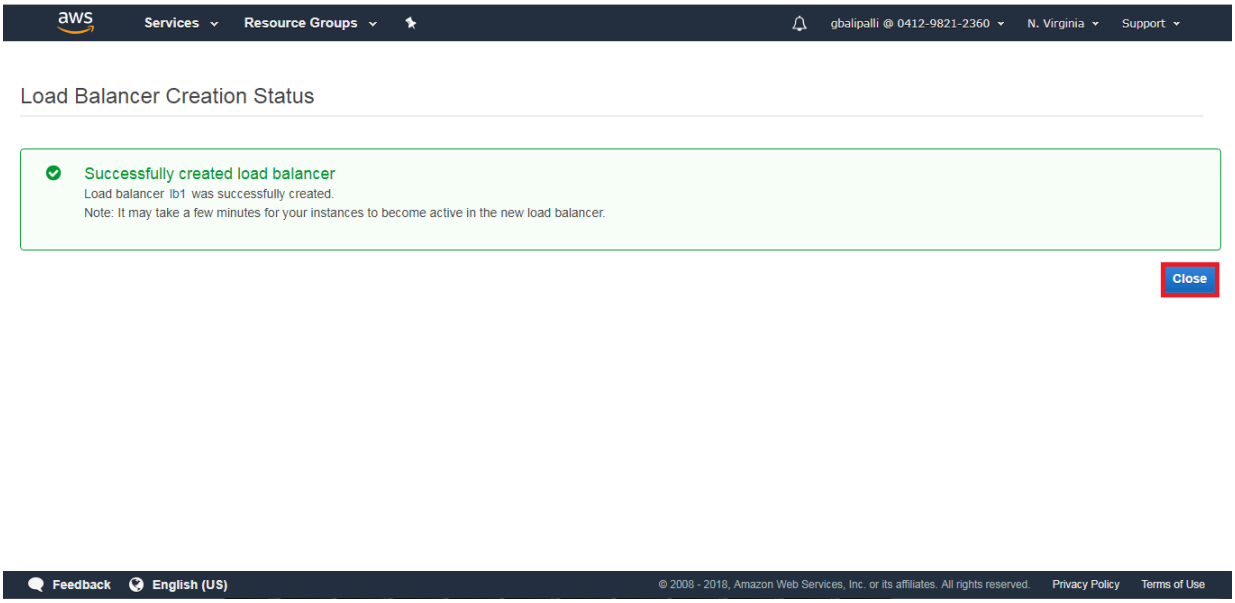
Note: You need to tag your load balancer



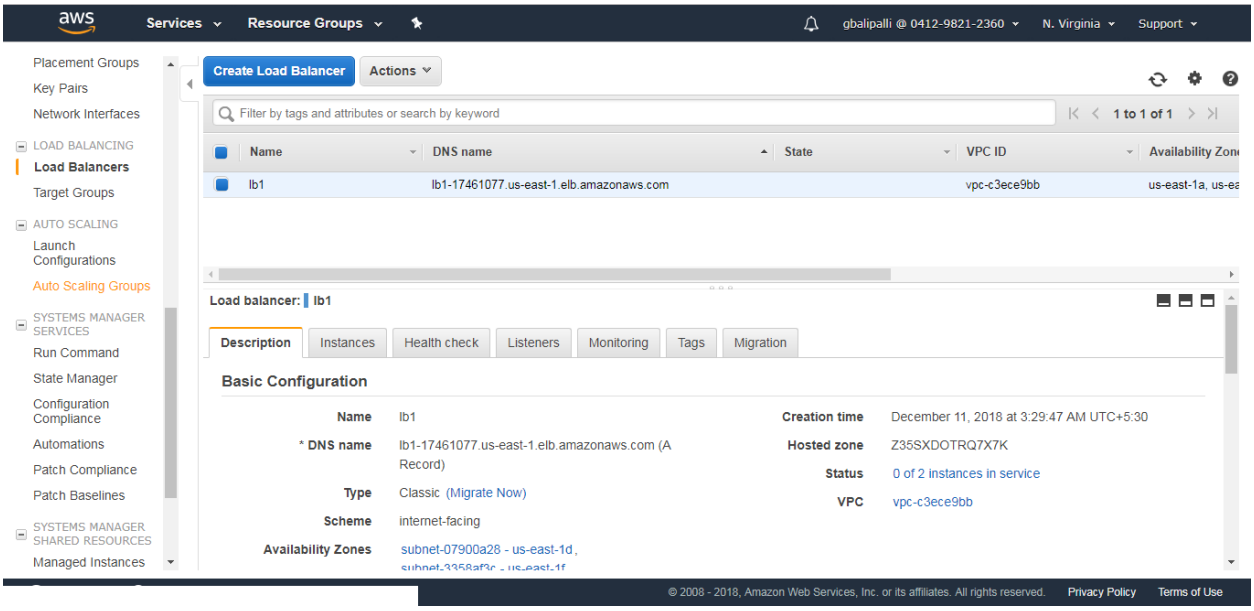
Re-check your configurations. Once you have confirmed with your configurations, Click on Create.



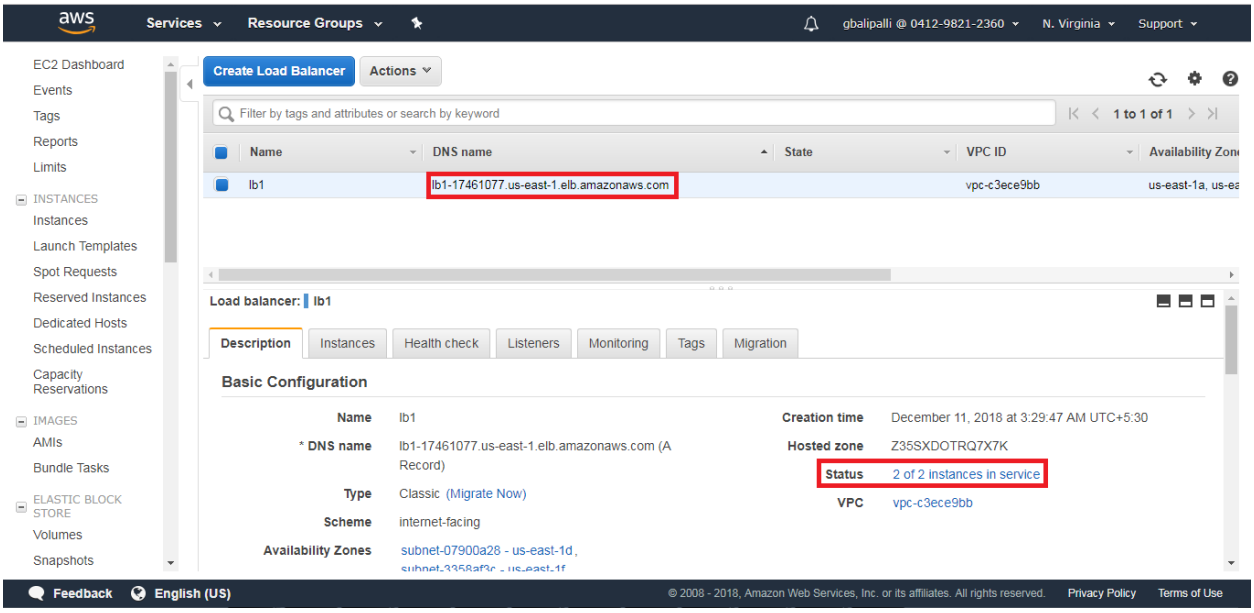
After creating the Load Balancer, it will show the message as shown below. Now, click on **Close**.



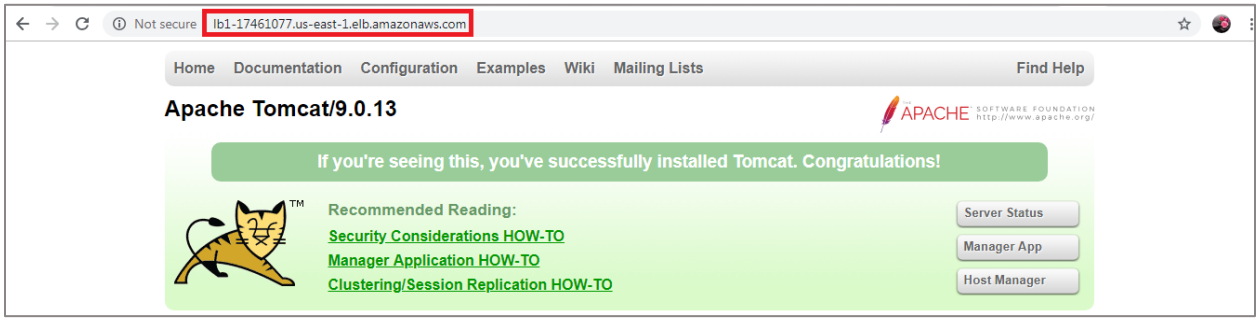
You can see the list of created Load Balancers in your Load Balancer dashboard.



Whenever the Status of Load Balancer becomes 2 of 2 instances in service, that means LB is available.



Copy the DNS name of your Load Balancer and paste it in your browser. Now your application traffic is served by your Load Balancer as shown below.



For any questions regarding the lab please feel free to reach out to innovation@miraclesoft.com. **We hope you enjoyed this workshop!**