D Y Patil International University

School of Computer Science, Engineering, and Applications

Academic Year 2022-2023

Practical Assignment No. 1

Class: MCA-SEM III **Subject: Computer Forensics**

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Experiments:

Aim:- Application Load Balancer

What is AWS?

AWS (Amazon Web Services) is a comprehensive, evolving cloud computing platform provided by Amazon that includes a mixture of infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS) and packaged-software-as-a-service (SaaS) offerings. AWS services can offer an organization tools such as compute power, database storage and content delivery services.

Amazon.com Web Services launched its first web services in 2002 from the internal infrastructure that Amazon.com built to handle its online retail operations. In 2006, it began offering its defining IaaS services. AWS was one of the first companies to introduce a pay-as-you-go cloud computing model that scales to provide users with compute, storage or throughput as needed.

AWS offers many different tools and solutions for enterprises and software developers that can be used in data centers in up to 190 countries. Groups such as government agencies, education institutions, non-profits and private organizations can use AWS services.

What is Load Balancer:-

The elastic load balancer is a service provided by Amazon in which the incoming traffic is efficiently and automatically distributed across a group of backend servers in a manner that increases speed and performance. It helps to improve the scalability of your application and secures your applications. Load Balancer allows you to configure health checks for the registered targets. In case any of the registered targets (Autoscaling group) fails the health check, the load balancer will not route traffic to that unhealthy target. Thereby ensuring your application is highly

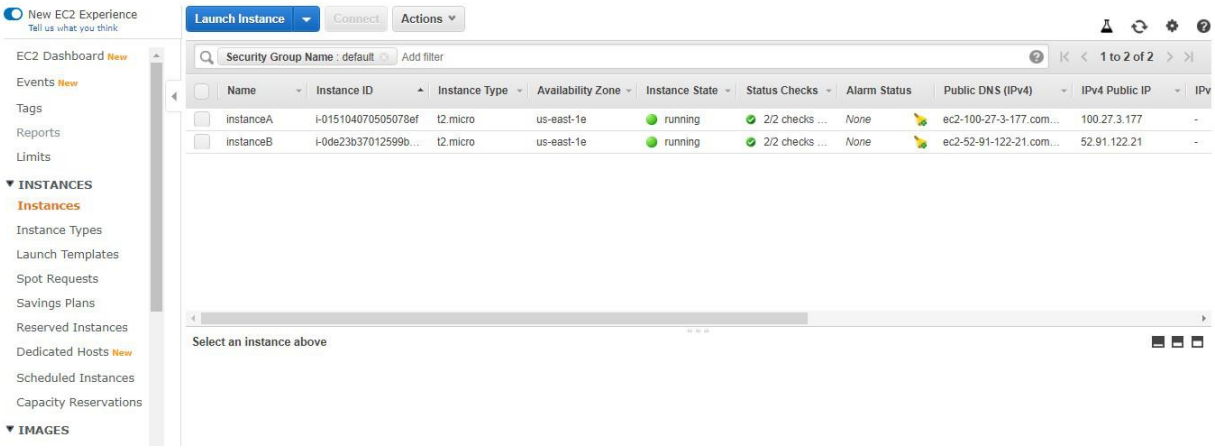
available and fault tolerant. To know more about load balancing refer to Load Balancing in Cloud Computing.

Types of Load Balancers

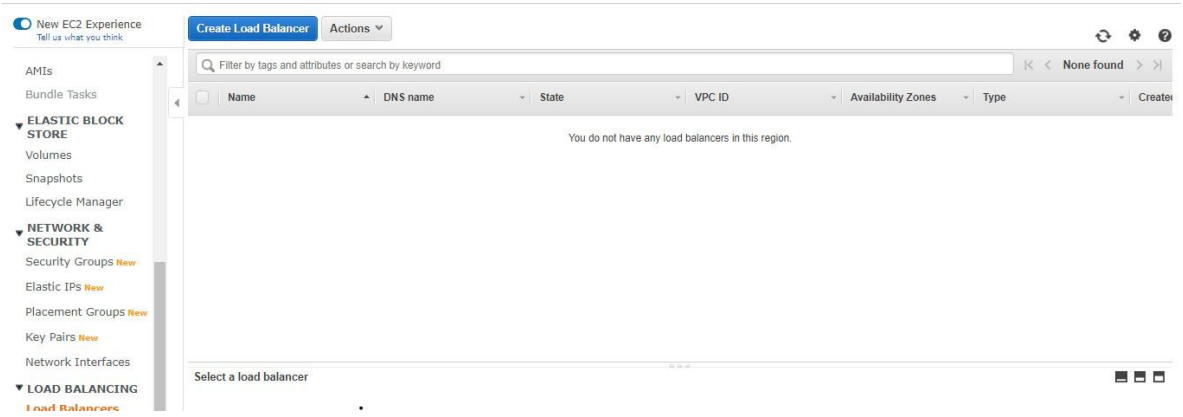
1. **Application Load Balancer:** This type of Load Balancer is used when decisions are to be made related to HTTP and HTTPS traffic routing. It supports path-based routing and host-based routing. This load balancer works at the Application layer of the OSI Model. The load balancer also supports dynamic host port mapping.
2. **Network Load Balancer:** This type of load balancer works at the transport layer(TCP/SSL) of the OSI model. It's capable of handling millions of requests per second. It is mainly used for load-balancing TCP traffic.
3. **Gateway Load Balancer:** Gateway Load Balancers provide you the facility to deploy, scale, and manage virtual appliances like firewalls. Gateway Load Balancers combine a transparent network gateway and then distribute the traffic.

Procedure:-

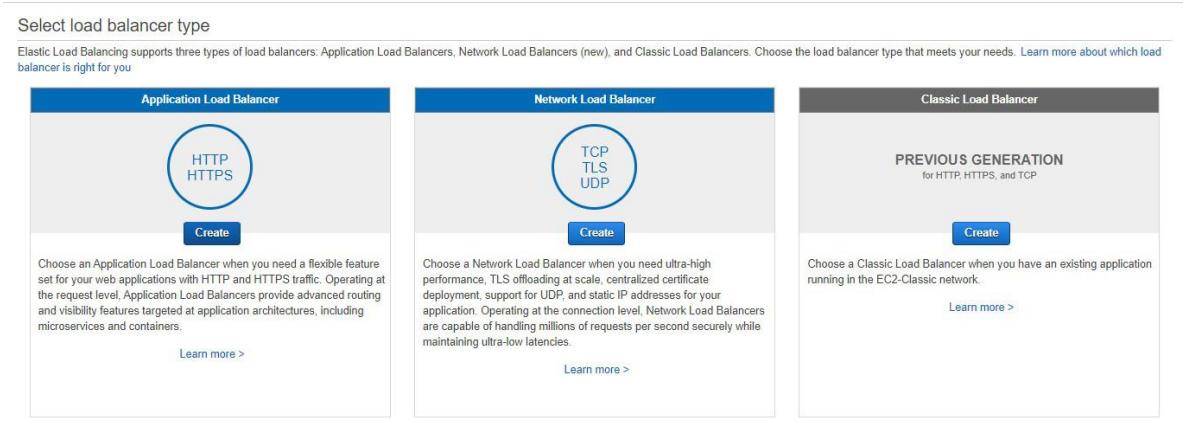
Step 1: Launch the two instances on the AWS management console named Instance A and Instance B. Go to services and select the load balancer. To create AWS free tier account refer to Amazon Web Services (AWS) – Free Tier Account Set up.



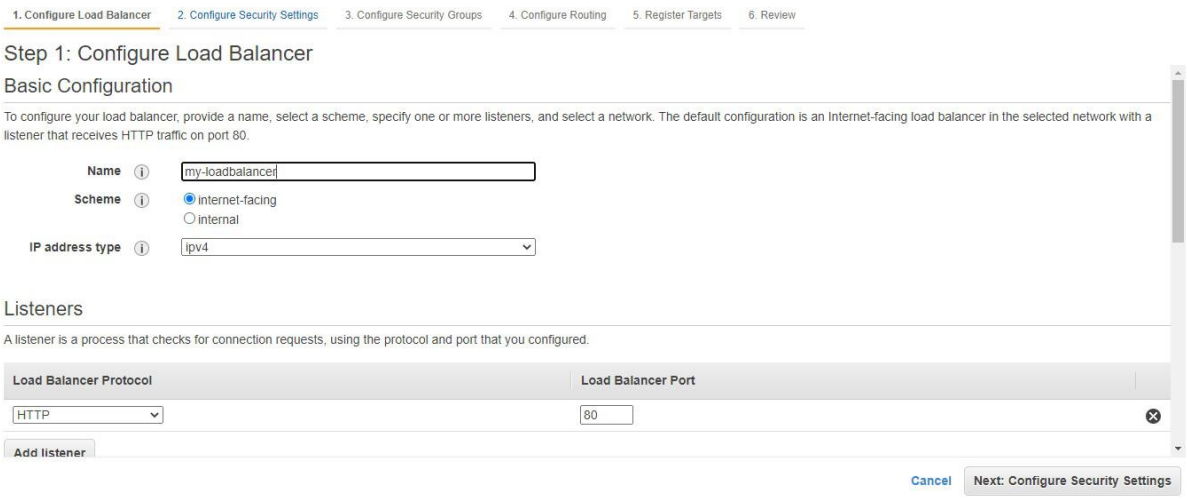
Step 2: Click on Create the load balancer.



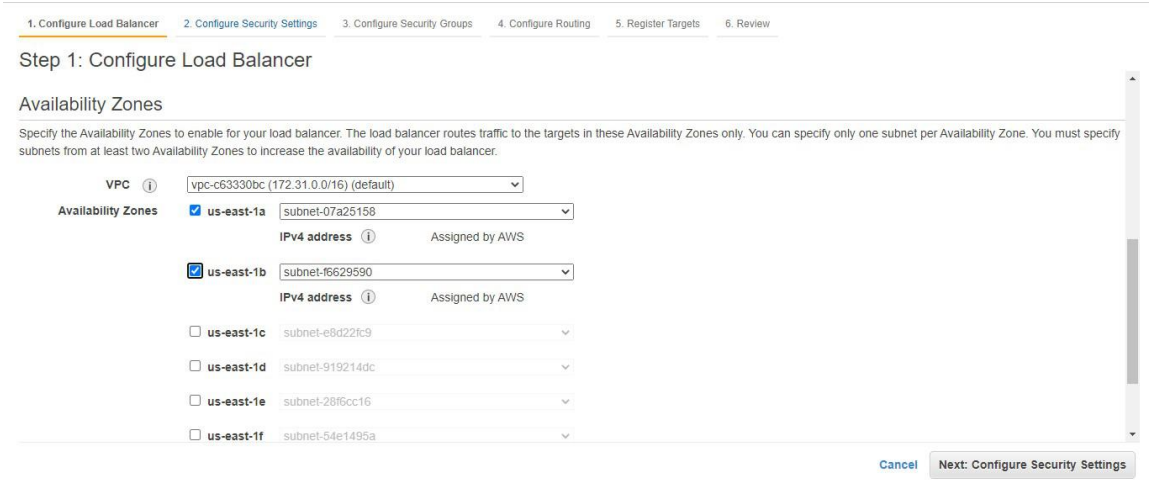
Step 3: Select Application Load Balancer and click on Create.



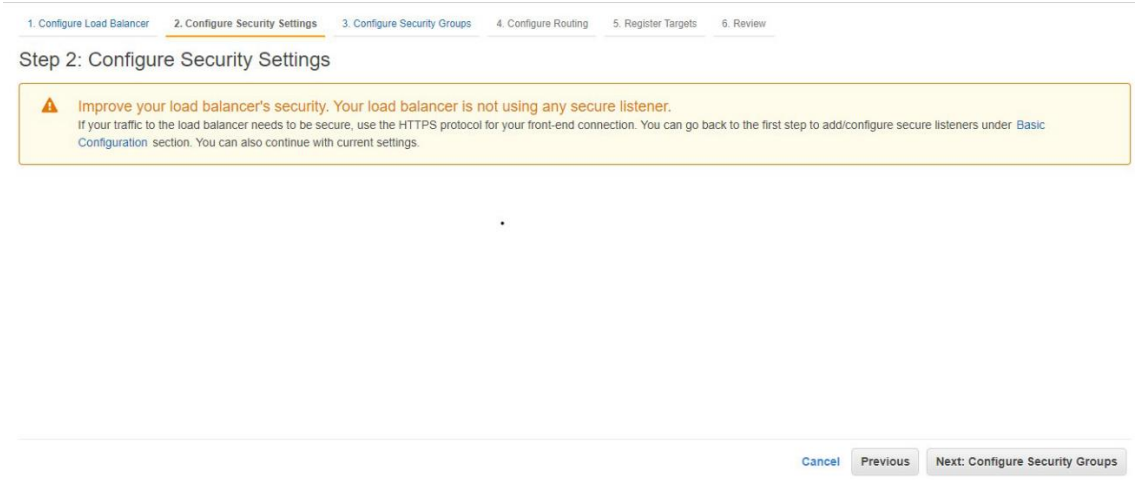
Step 4: Here you are required to configure the load balancer. Write the name of the load balancer. Choose the scheme as internet facing.



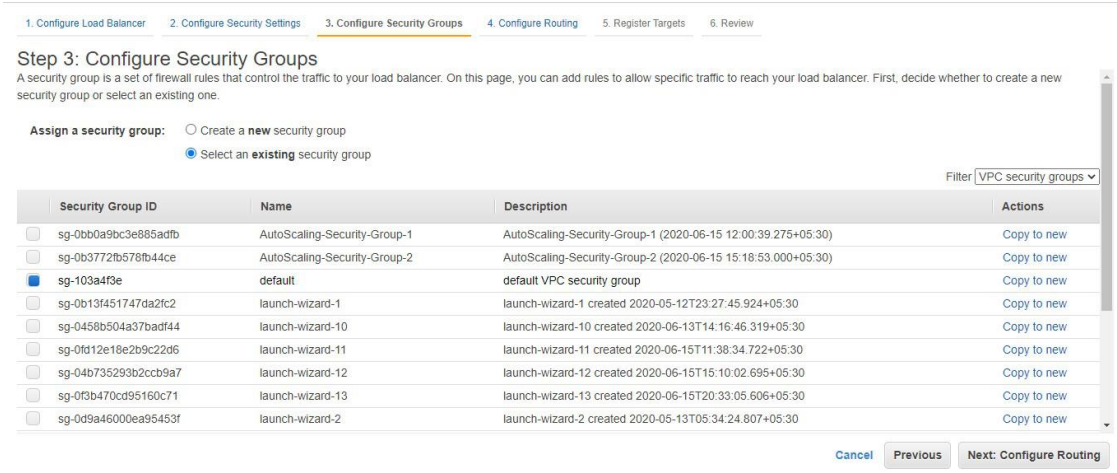
Step 5: Add at least 2 availability zones. Select us-east-1a and us-east-1b



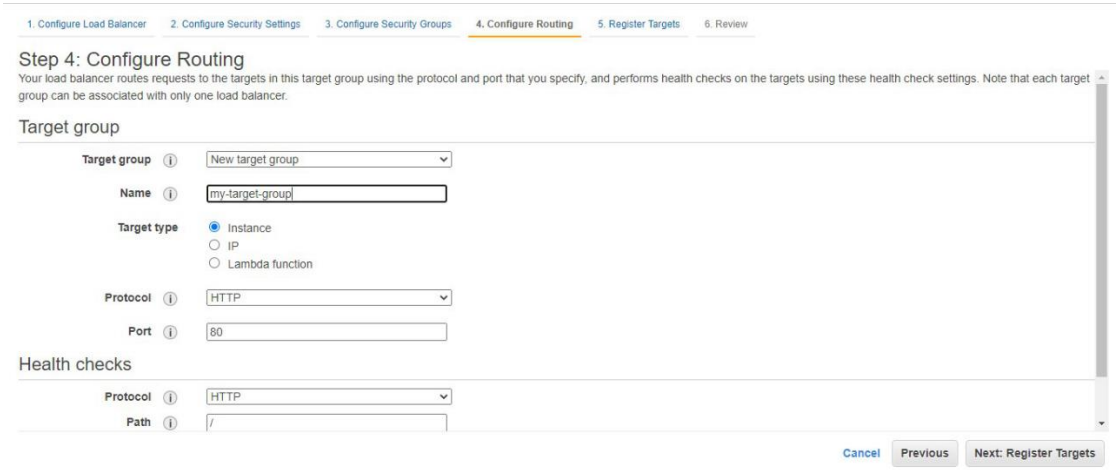
Step 6: We don't need to do anything here. Click on Next: Configure Security Groups



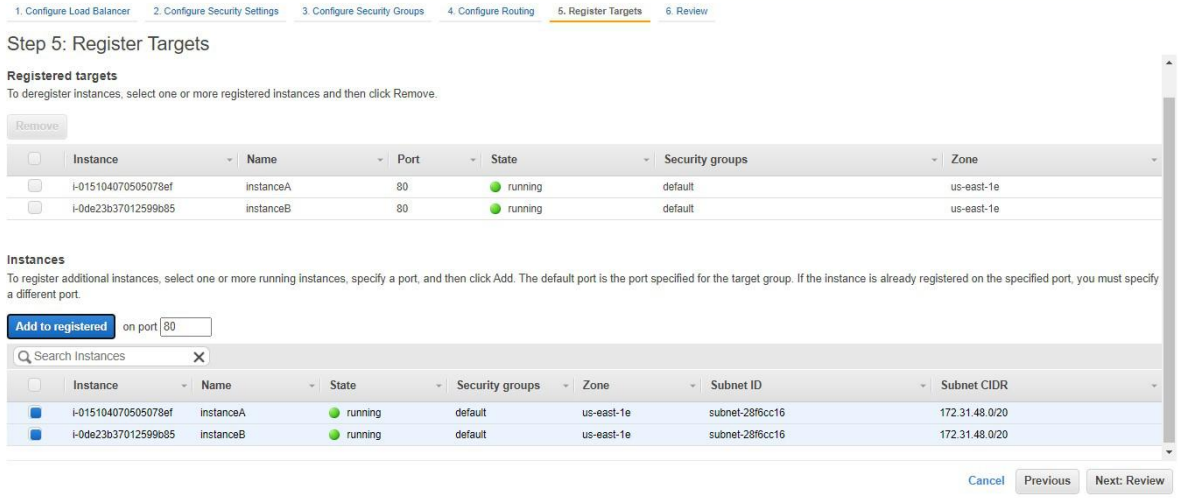
Step 7: Select the default security group. Click on Next: Configure Routing



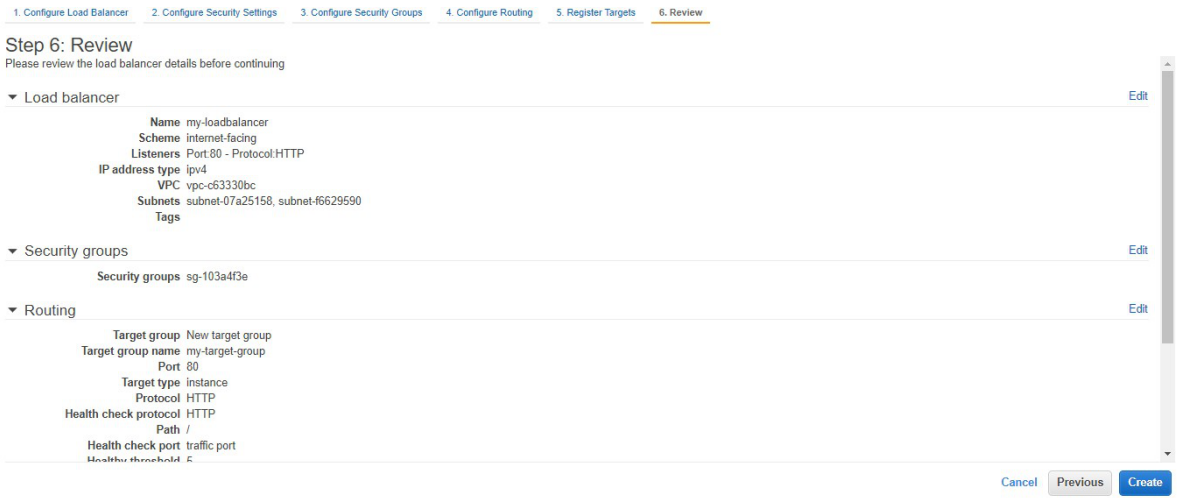
Step 8: Choose the name of the target group to be my target group. Click on Next: Register Targets.



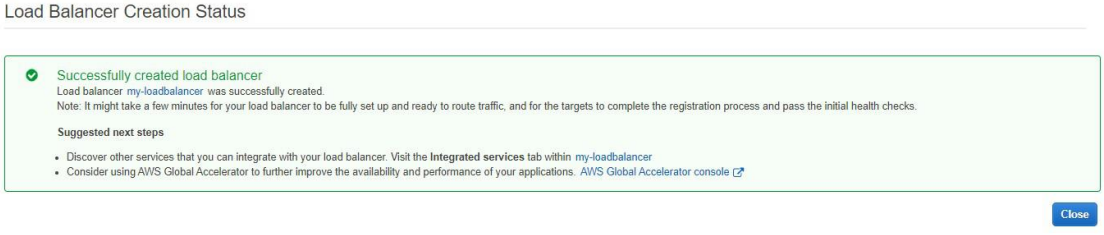
Step 9: Choose instance A and instance B and click on Add to register. Click on Next: Review



Step 10: Review all the configurations and click on create



Step 11: Congratulations!! You have successfully created a load balancer. Click on close.



Result:- We have successfully created a load Balancer.