**Exercise19**

**Application Load Balancer (ALB)**

**NOTE: Only major steps are shown here. You will need to apply the knowledge and skills that you have acquired.**

1. Login to your IAM user
2. Create the setup using VPC Wizard
   1. After clicking Create VPC, choose VPC and more, check Auto-generate (under Name tag auto-generation), name: *VPC-ALB*, CIDR: 12.34.0.0/16, number of AZs: 2, Number of public subnets: 2, Number of private subnets: 2, NAT Gateways: None, VPC endpoints: None, keep both the DNS options checked
3. Create Linux Web Servers
   1. Launch an EC2 instance *Webserver1* in the first private subnet using the AMI that you created in the earlier exercise; create a security group *Webserver* allowing HTTP traffic from VPC-ALB’s CIDR and use it
   2. Start/Launch the Linux Web Server (that you had created earlier) and update the message from “Welcome to YourName’s Apache Web Server” to “This is YourName’s Second Apache Web Server” [Replace YourName with your name]. Take a snapshot (with your IAM username to confirm this step) [3points] Stop the instance, create an AMI, and use it to launch another EC2 instance *Webserver2* in the second private subnet (use the Webserver security group) Take a snapshot (with your IAM username to confirm this step) [2points]
4. Create Application Load Balancer
   1. Click Target Groups, click Create Target group, Target group name: *ALB-TG*, Health check path: /index.html, click Next, select both the instances (under Register targets), click Include as pending below, click Create target group
   2. Click Load Balancer, click Create load balancer, Create Application Load Balancer, name MyALB, choose both the AZs (under Mappings) [Make sure you choose public subnet in each case], unselect the default security group, create a new security group, name ALB-SG, allow http traffic from anywhere, select this new security group, Listeners and routing: ALB-TG, click Create load balancer
5. Check heath of the target
   1. Click target Groups
      1. Select ALB-TG and go to the Details tab, it will show 2 health instances Take a snapshot (with your IAM username to confirm this step) [4points]
      2. Go to Targets tab, you will see both the instances to have *Healthy* Health status Take a snapshot (with your IAM username to confirm this step) [2points]
      3. Click Load Balancers, select MyALB, copy the DNS name, paste it in a new tab in your browser, and hit enter. You will see the message that you had written in the index file when you created the Linux Web Server in the earlier exercise. Refresh the browser. Now will see the second message (that you wrote in this exercise.) Take a snapshot of both the messages from your browser (with your IAM username to confirm this step) [4points]
6. **Cleanup:**
   1. Stop the two EC2 instances.
   2. Delete the ALB and the Target group
7. Takeaway
   1. By default, ALB distributes incoming requests to backend targets using round-robin algorithm

Sources:

<https://www.awswithchetan.com/>

<https://aws.amazon.com/about-aws/whats-new/2019/11/application-load-balancer-now-supports-least-outstanding-requests-algorithm-for-load-balancing-requests/>