Configuring High availability using ELB and ASG

Friday, June 9, 2023 6:37 PM

Steps

1. Launch an Instance as below
    1. AMI - Amazon Linux 2 AMI
    2. No Keypair
    3. HTTP protocol open in SG and remove SSH
        a. User data

        ```
        #!/bin/bash
        yum update -y
        yum install httpd -y
        service httpd start
        chkconfig httpd on
        IP_ADDR=$(curl http://169.254.169.254/latest/meta-data/public-ipv4)
        echo "Manual instance with IP $IP_ADDR" > /var/www/html/index.html
        echo "ok" > /var/www/html/health.html
        ```

    4. Access the Webserver using public IP
2. Creating Load Balancer
    1. Select Application Load Balancer
    2. Create a new SG with http protocol open
    3. Listener - http
    4. Create a Target group
        a. Add /health.html as path
        b. Healthy threshold as 2 sec and interval as 6 sec
        c. Add the manual Instance in to the target group
    5. Select all Availability zones in default VPC
    6. Click 'Create load Balancer'
    7. Wait for the manual instance to be healthy to access the Load Balancer DNS name
3. Creating Auto Scaling group
    1. Create a Launch Template and follow the same steps as of manual instance creation
        a. User data

        ```
        #!/bin/bash
        yum update -y
        yum install httpd -y
        service httpd start
        chkconfig httpd on
        IP_ADDR=$(curl http://169.254.169.254/latest/meta-data/public-ipv4)
        echo "Auto Scaling instance with IP $IP_ADDR" > /var/www/html/index.html
        echo "ok" > /var/www/html/health.html
        ```

    2. Create an Auto Scaling group from Launch Template
        a. Select all Availability zones in default VPC
        b. Capacity
            i. Desired - 2
            ii. Min - 2
            iii. Max - 5
        c. Select the Load balancer and choose the Target group
        d. Enable policy with CPU Utilization - 80%
        e. Review and create
        f. Check if 2 instances were added in the Instance console
4. Accessing the Load Balancer to distribute traffic to all 3 instances
    1. Check if all 3 instances are healthy under the target group
    2. Access the Load Balancer to resolve into all the 3 Instances one by one

Clean Up

5. Delete the Auto Scaling group
6. Delete the Launch Template
7. Delete the Load Balancer
8. Delete Target group
9. Terminate the Instance