

# Classic Load Balancer Setup and Configuration on AWS

## Introduction

This project demonstrates the deployment and configuration of a Classic Load Balancer (CLB) in AWS. A Classic Load Balancer is designed to automatically distribute incoming traffic across multiple EC2 instances, ensuring improved availability, fault tolerance, and scalability of applications. The Classic Load Balancer operates at both the transport layer (Layer 4) and the application layer (Layer 7), giving it the ability to balance traffic based on both network connections and application requests. It continuously performs health checks to route traffic only to healthy instances, further enhancing fault tolerance.

## Prerequisites

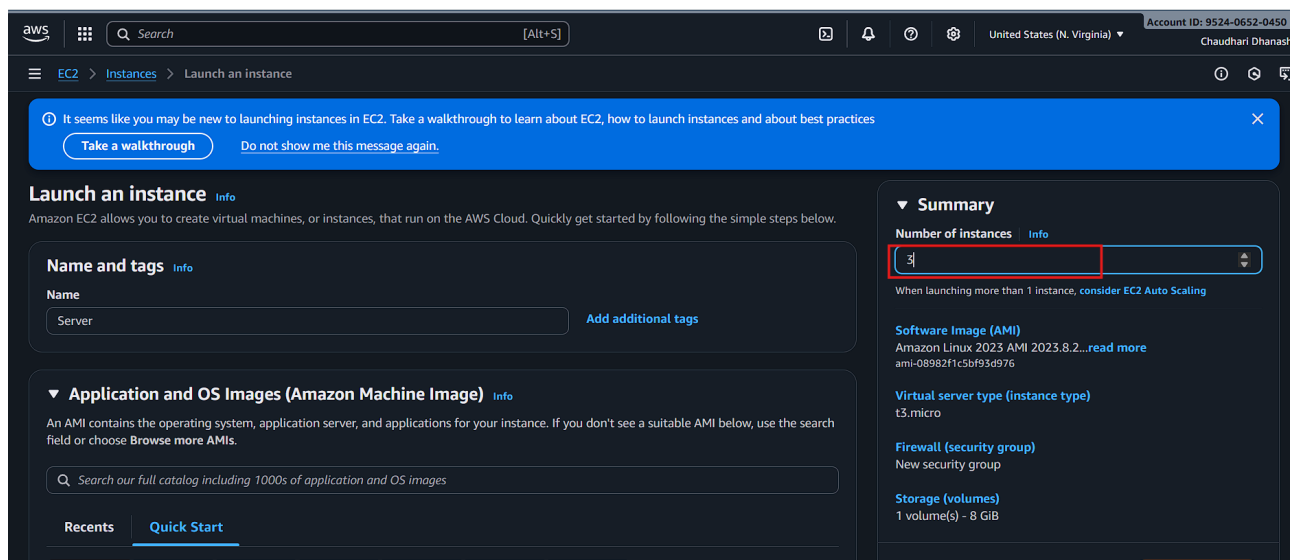
Before setting up the Classic Load Balancer, ensure the following requirements are met:

- AWS Account – with access to EC2 and Load Balancer services
- Running EC2 Instances – at least two instances in the same VPC and region
- Security Groups configured to allow:
  - Inbound HTTP (port 80) and/or HTTPS (port 443) traffic
  - Inbound SSH (port 22) access for administration (optional)
- Web Server Installed (e.g., Apache or Nginx) on each EC2 instance, serving a sample page

## Steps to Setup Classic Load Balancer

### Step 1: Launch 3 EC2 Instances with User Data Script

#### 1. Launch 3 Instance.



## 2. Write user script while launching instance.

The screenshot shows the AWS Management Console 'Launch an instance' page. The 'User data' field is highlighted with a red box and contains the following script:

```
#!/bin/bash
yum update -y
yum install httpd -y
systemctl start httpd
systemctl enable httpd
echo "<h1>Hello World from $(hostname -f)</h1>" > /var/www/html/index.html
```

The 'Launch instance' button is highlighted with a red arrow.

## 3. Rename the 3 instance with different names(server-1, server-2, server-3)

The screenshot shows the AWS Management Console 'Instances' page. Three instances are listed:

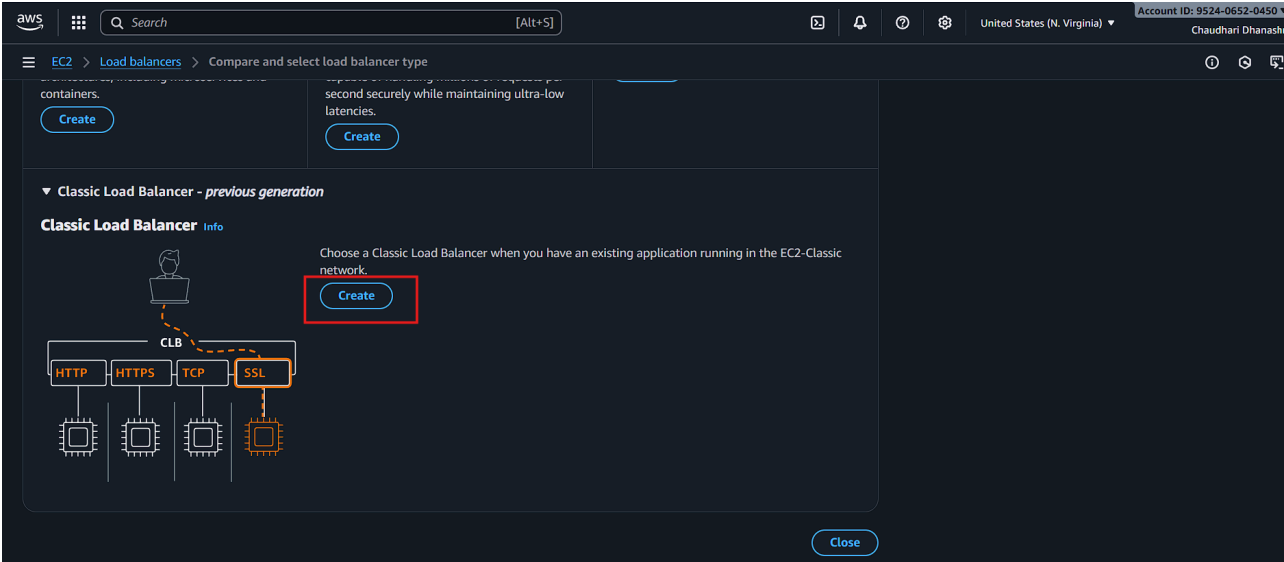
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
Server-1	i-020b4cd4fa6ff512c	Running	t3.micro	Initializing	View alarms +	us-east-1d	ec2-98-8f...
Server-2	i-05479cc3deec8fcb9	Running	t3.micro	Initializing	View alarms +	us-east-1d	ec2-107-...
Server-3	i-04958d397f43541fe	Running	t3.micro	Initializing	View alarms +	us-east-1d	ec2-100-...

## Step 2: Create a Classic Load Balancer

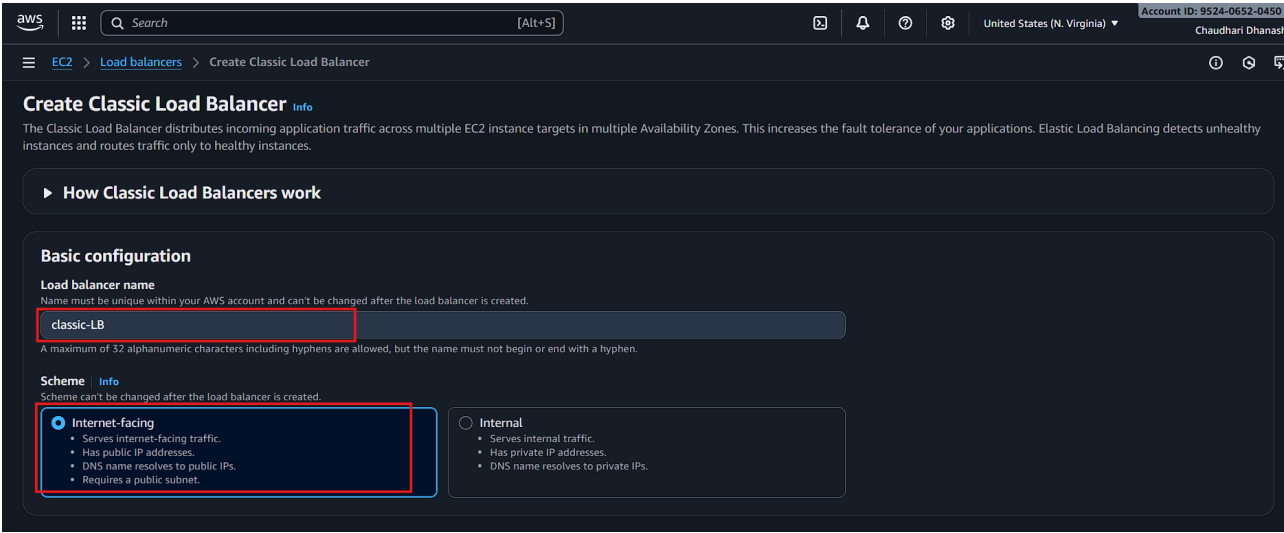
### 1. Go to Load Balancer.

The screenshot shows the AWS Management Console 'Load balancers' page. The 'Create load balancer' button is highlighted with a red box.

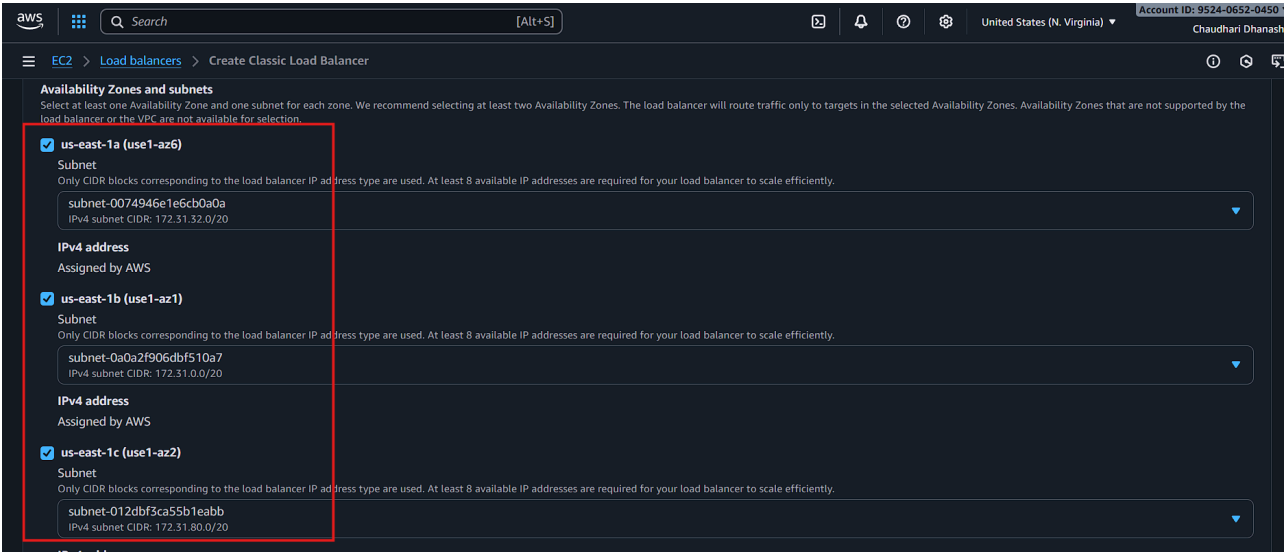
2. Choose Classic Load Balancer.



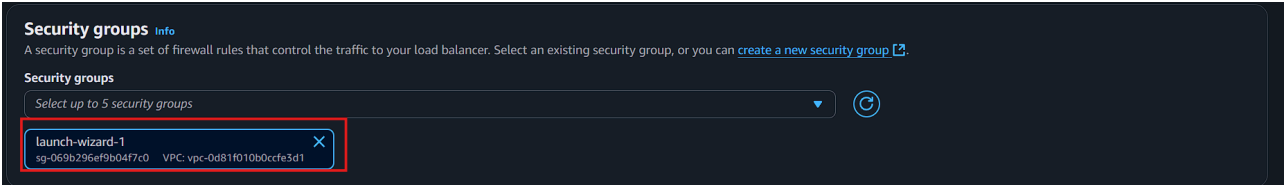
3. Name the Load Balancer



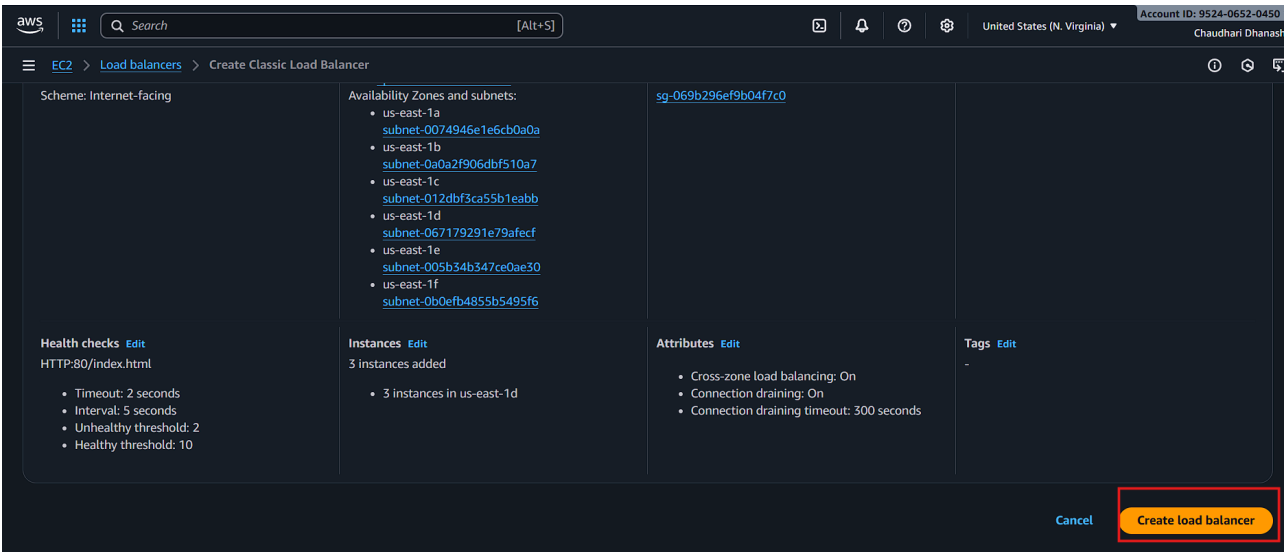
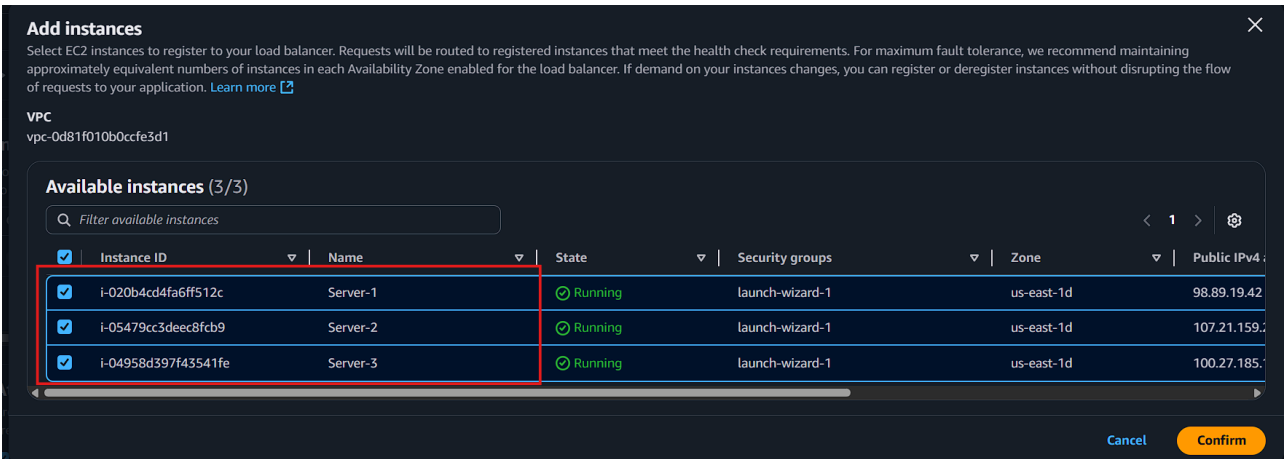
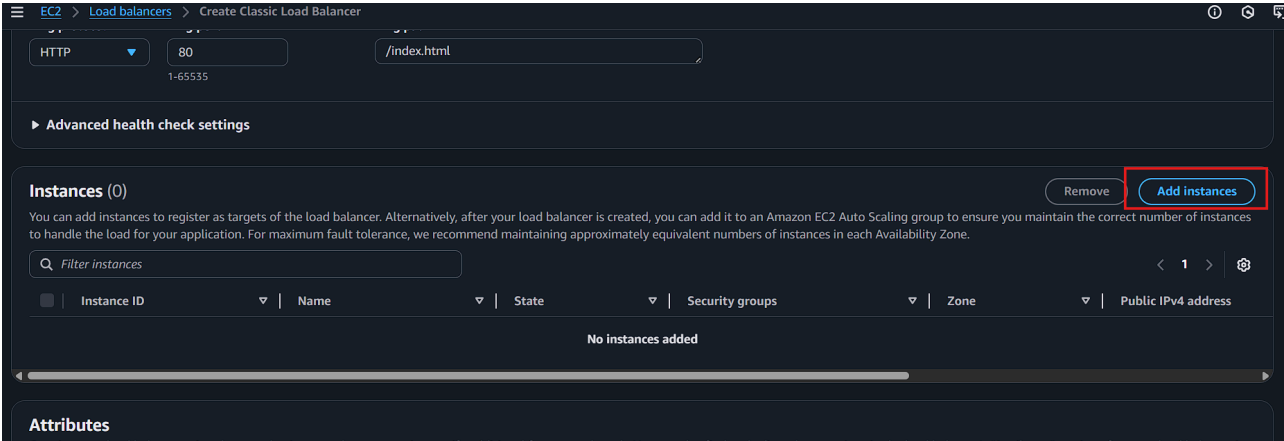
4. Select all Availability Zones.



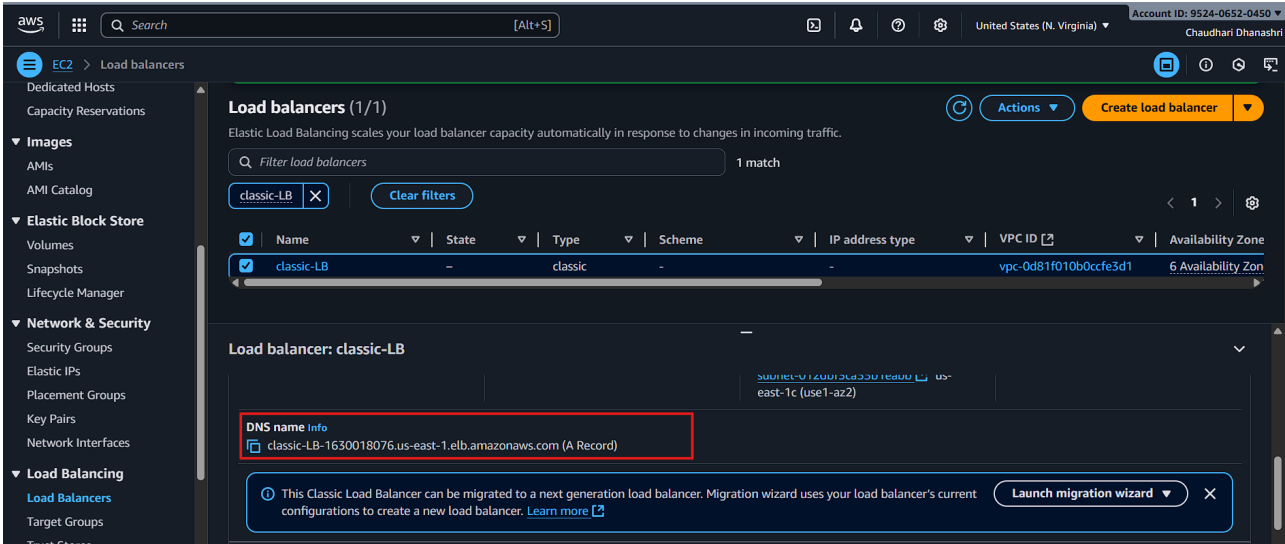
5. Manage Security Group



6. Add instances to Load Balancer

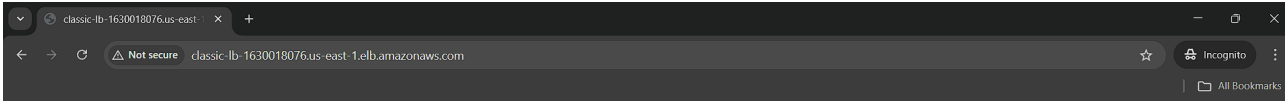


7. Copy DNS command and paste it in any browser.



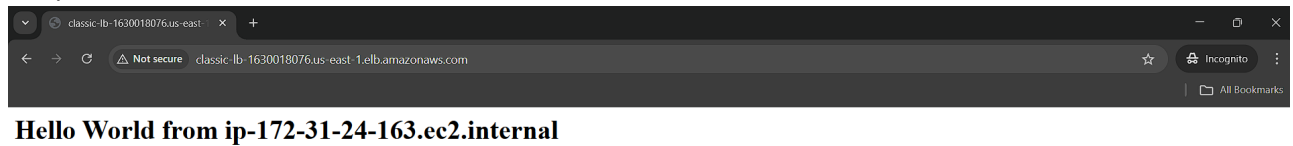
Step 3: Testing the Deployment.

1. Output for Server-1



Hello World from ip-172-31-30-243.ec2.internal

## 2. Output for Server-2



## 3. Output for Server-3



## Summary

This project demonstrates the deployment and configuration of a Classic Load Balancer (CLB) in AWS to distribute incoming traffic across multiple EC2 instances. By launching three instances with a user-data script, the setup ensures that each instance runs a web server and serves unique content, allowing you to verify traffic distribution.