Step 1: Launch an EC2 Instance for Nginx Load Balancer(linux or Ubuntu)

- Allow HTTP (80), HTTPS (443), and SSH (22) ,Set Source to Anywhere (0.0.0.0/0) or your IP for SSH.
- Install Nginx
  # yum update -y
  # yum install nginx -y
  # systemctl start nginx
  # systemctl enable nginx

Step 2 : Launch two or more EC2 instances for backend server

- Install apache2(httpd) on both servers .
- Commands are
  # yum update -y
  # yum install httpd -y
  # systemctl start httpd
  #systemctl enable httpd

- Then go to backend server html folder
  # Cd /var/www/html

  Create a index.html file int it (for identifying both backend server) and some content in it
  # vi index.html
  Echo ”hello from server-1”
- Do the same process for backend server2.

Step 3 : Configure Nginx as a Load Balancer

- In your Nginx Installed Instance , Edit the Nginx configuration file:

  # nano /etc/nginx/nginx.conf

  Add script in it , first remove http block from it and add this http block in config file

```
http {
    upstream backend_servers {
        server <backend1-IP>:80;  # First backend server
        server <backend2-IP>:80;  # Second backend server
    }

    server {
```

```
        listen 80;

        location / {
            proxy_pass http://backend_servers;
            proxy_set_header Host $host;
            proxy_set_header X-Real-IP $remote_addr;
            proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
        }
    }
}
```

- Replace <backend1-IP> and <backend2-IP> with your actual backend EC2 instance private IPs.

- Test the configuration:

  nginx -t

- If successful, you will see:

  nginx: configuration file /etc/nginx/nginx.conf test is successful

- Restart the nginx

  #systemctl restart nginx

- Copy the public IP of nginx server(instance) and check it .