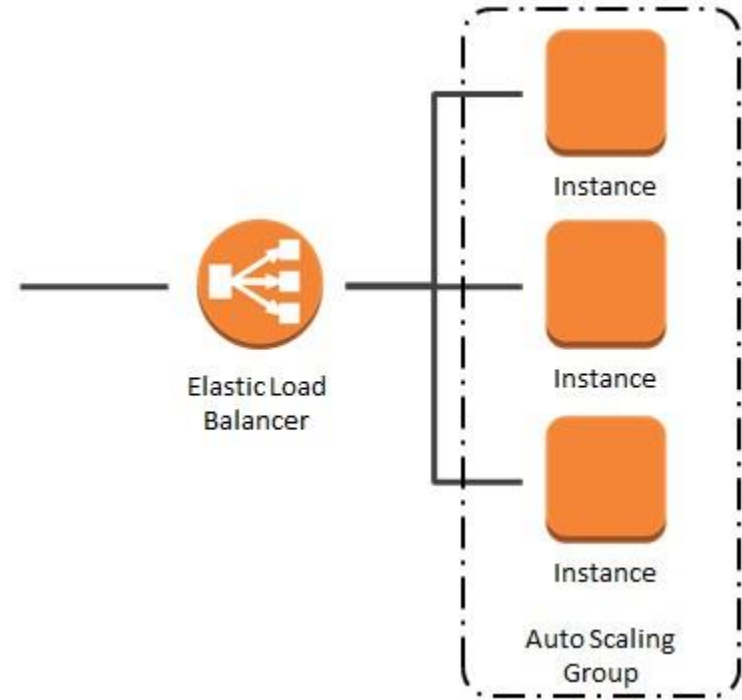
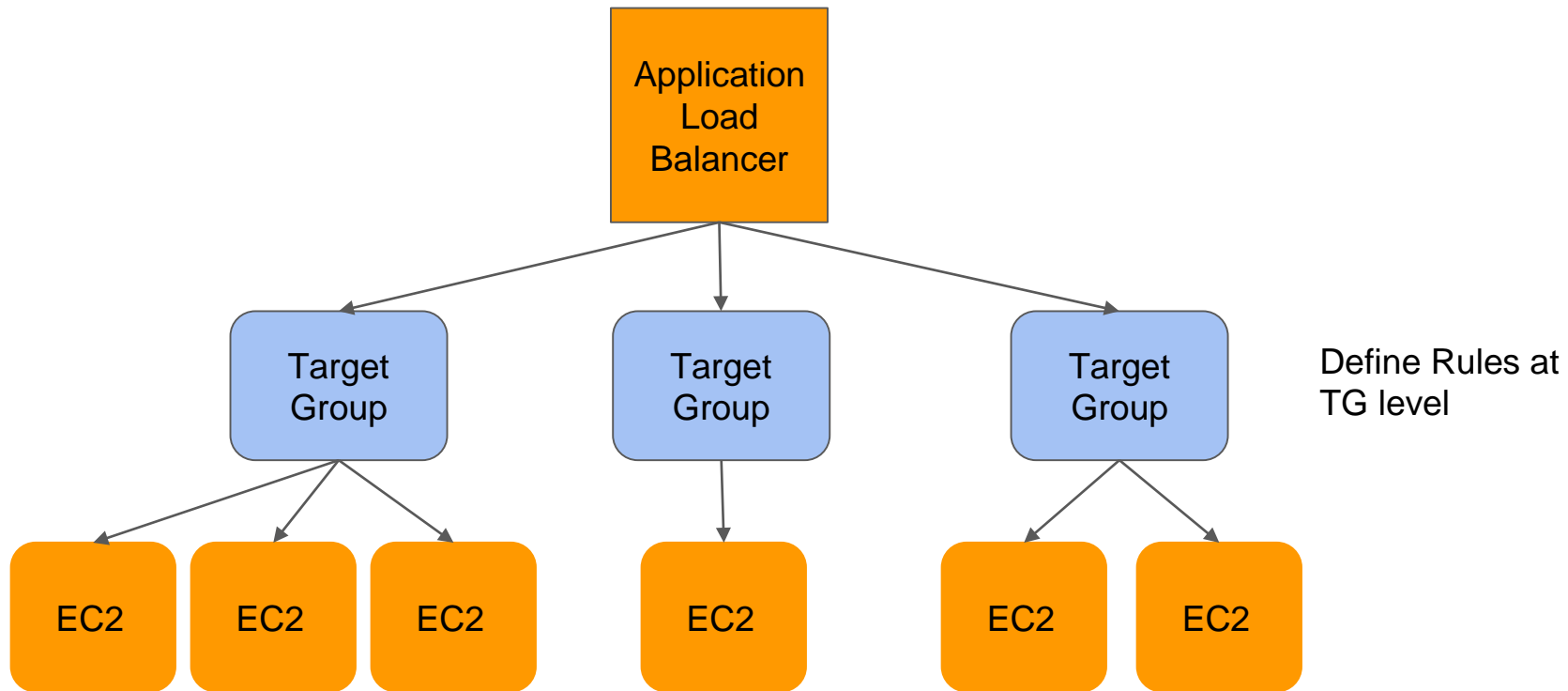


Application Load Balancer

- Distribute incoming traffic across attached EC2 instances across AZs
- Highly available and Scalable
- Supports protocols like HTTP, HTTPS, TCP, SSL (termination)
- Receives Public DNS Canonical name (CNAME) for endpoint
- Performs instance health checks
- Supports various routing - Round Robin, Path based, Host Based



Application Load Balancer



Application Load Balancer



Internet

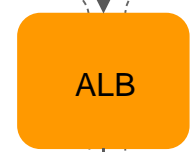
VPC (10.10.0.0/16)

Public-A

Public-B

10.10.0.0/24

10.10.1.0/24



ALB



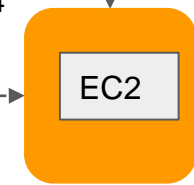
TG

Private-A

Private-B

10.10.11.0/24

10.10.12.0/24



EC2



EC2

AZ1

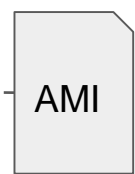
AZ2

TG - Target Group



AMI

Webserver 1



AMI

Webserver 2

Steps - Part 1

- Create a VPC, 2 Public Subnets and 2 Private subnets in different AZs ●
Launch 2 EC2 instances in 2 private subnets from preconfigured AMIs
 - In security group, allow port 80 for VPC CIDR
- Create EC2 Target group and add these 2 EC2 instances into target group
 - Configure target as port 80 and health check at /index.html
- Create Application Load balancer
 - Use 2 public subnets to launch ALB
 - Configure listener at port 80
 - Configure Security Group and allow port 80 from anywhere
 - Attach to Target group created above
 - Wait for instances to be Healthy in given target group

Steps - Part 2 -

- Get the Load Balancer DNS and try to access over internet web

Enable Stickiness

- Go to Target group
- Edit Attributes
- Enable Stickiness with Stickiness duration of 30 secs
- Now try to hit the load balancer DNS again
- Refresh the page multiple times -> You should always see same web page due to session stickiness

Steps - Part 3 -

ALB with Custom Domain

- Go to AWS Route53 (Assuming you have your own Domain name purchased already. In order to see how to redirect DNS from say godaddy or Route53 to AWS Route53, refer Hosting website on S3 with custom domain name session)
- In Public hosted zone for your domain, create A record of type Alias and point it to ALB
- Wait for 1-5 minutes
- Now try to access your domain URL. You should be able to access the same web pages being served by Load Balancer

Steps - Part 4 -

ALB serving HTTPS traffic

- Add a HTTPS listener to ALB
- While configuring HTTPS listener, get the SSL Certificate from Amazon Certificate Manager (You must own domain name to validate the certificate)
- Deploy Certificate on ALB for HTTPS listener
- Forward the traffic to same Target group created for HTTP traffic
- Modify ALB security group and allow traffic for HTTPS (443)
- Access web application using `https://your-domain-name`