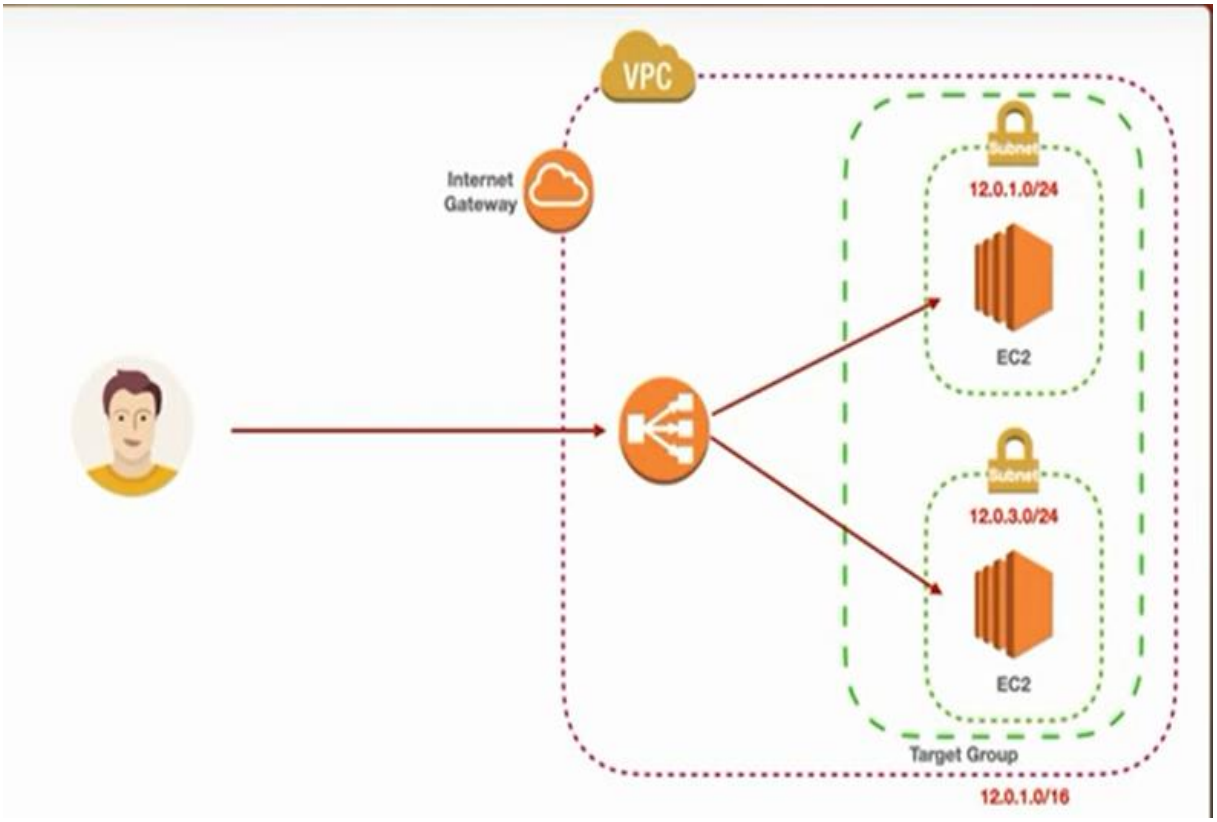
Demonstration of Application Load Balancer



Application Load Balancer

Create VPC

VPC → Create VPC → VPC only → Specify VPC name → Specify IP Range→Create VPC

Create Internet Gateway

Internet Gateway→ Create Gateway →Specify name→Create Internet Gateway

Click on Gateway ID→Actions→Attach VPC→Select created VPC name→ attach IGW

Create Subnet

VPC Dashboard→ Subnets→ Create subnet→Select created VPC name→specify subnet name →select availability zone→IPV4 VPC CIDR block → IPV4 subnet CIDR block

Add New subnet → Repeat the subnet creation process

Create Route Table

RT→Create RT→specify RT name → select created VPC name →Create RT

Associate RT with subnet

RT id→subnet association →Edit subnet association → choose both subnets → save association

Connect RT to internet

Routes→Edit routes → Add Routes→0.0.0.0/0 → select the IGW name created→save changes

Create one EC2 instance in Each subnet

EC2 →Launch EC2 instance→choose Ubuntu AMI→t2.micro instance type→ Create new key pair→Network Settings→Edit→Select the VPC created → subnet created (first one) → Auto assign public IP(Enable)

Add security group rule→Choose HTTP →Source type → Anywhere

To install apache sever

Advance Details→User data → Type the commands in the box →

```
#!/bin/bash
sudo apt update -y
sudo apt install -y apache2
sudo systemctl start apache2
sudo systemctl enable apache2
```

echo "<h1>Server Details </h> Hostname: $(hostname)

IP Address: $(hostname –I | cut-d" " –f1) "> /var/www/html/index.html

```
sudo systemctl restart apache2
```

Then click on Launch Instance

To check apache is running

Click on running instance ID →copy the Public Id→paste in browser

Create another EC2 instance in other subnet with the above steps

Create Target Group

EC2 Dashboard→Load balancing→ Target Groups→Create TG→Instances→Specify TG name→Select Created VPC→HTTP1→Next→Select both instances →Include as pending below → Create TG

Create Application Load Balancer

EC2 Dashboard →Load Balancing → Load Balancers →Create LB→Application LB→ Create (below)→Specify name→VPC→Select created VPC name→Select both the subnets created →Create security group→specify name→VPC→ created VPC name →Inbound rule→ add rule→HTTP→source →0.0.0.0/0→copy security group name→ create SG

Listeners and routing →Protocol→ HTTP→ Forward to→ select the TG name created → Create Load Balancer

Click on Load Balancer ID → Copy DNS name→Goto new tab and copy the DNS

Result/Out put : On each refresh You will get the different IP toggling between TWO EC2 instances

Reference Video: https://www.youtube.com/watch?v=cuJTmBvFCS0&pp=0gcJCdgAo7VqN5tD