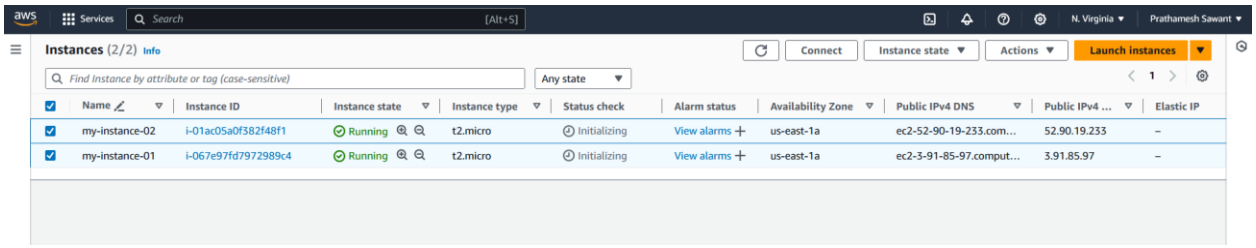
Prathamesh Sawant

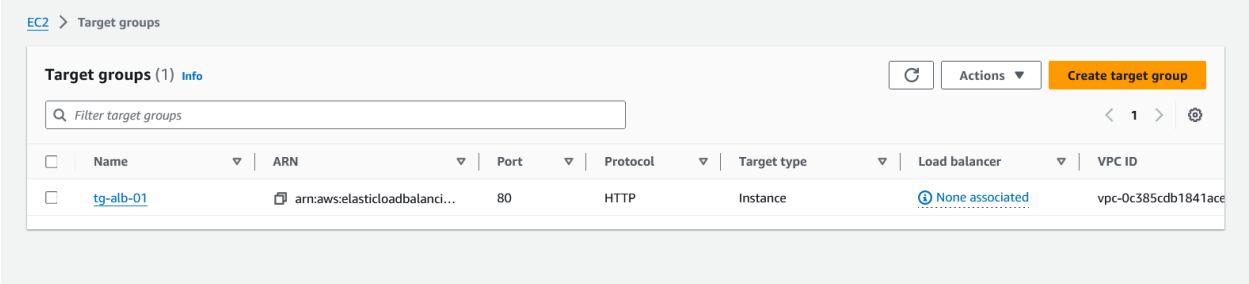
Create an Application Load Balancer using Console and CLI

1. Using Console

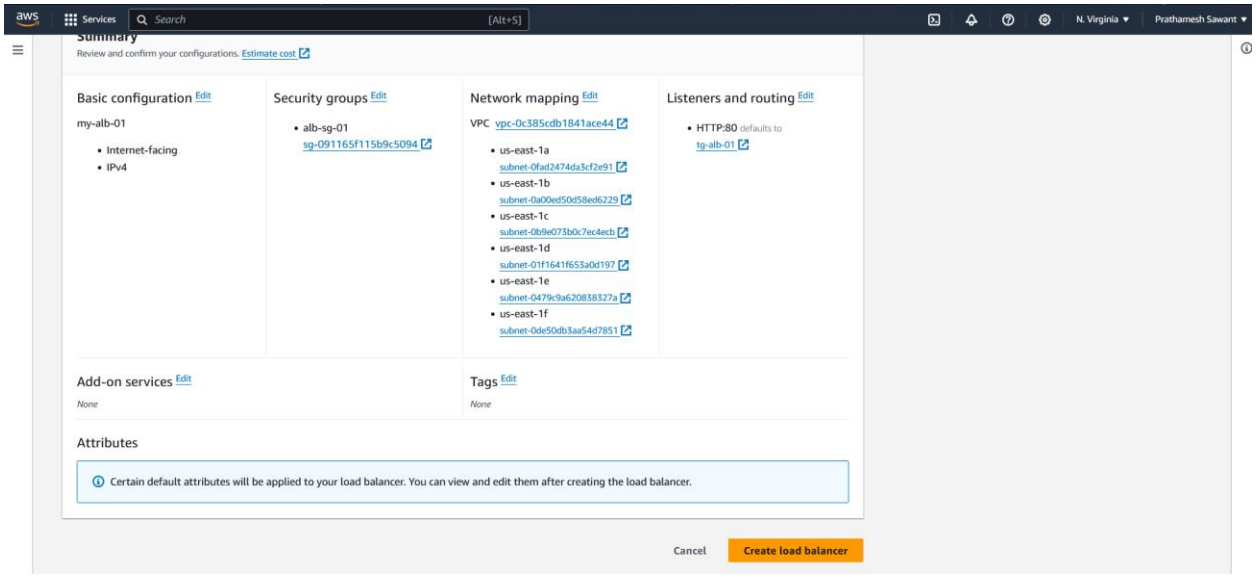
   Launch 2 ec2 instances

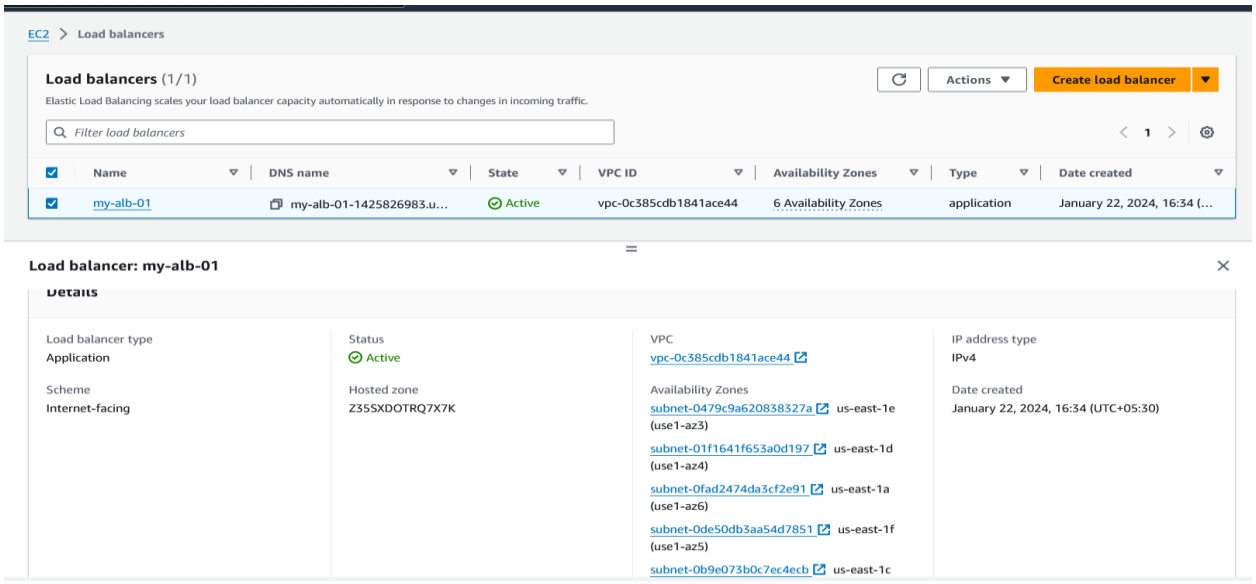


   Create Target Groups



   Create ALB





Traffic Balancing

Hello World from ip-172-31-37-245.ec2.internal

Hello World from ip-172-31-41-119.ec2.internal

2. Using CLI

Launch ALB

```
C:\Users\rohan>aws elbv2 create-load-balancer --name my-alb-02 --subnets subnet-0fad2474da3cf2e91 subnet-0a00ed50d58ed6229 subnet-0de50db3aa54d7851 --securi
ty-groups sg-091165f115b9c5094
{
    "LoadBalancers": [
        {
            "LoadBalancerArn": "arn:aws:elasticloadbalancing:us-east-1:139017485331:loadbalancer/app/my-alb-02/ce5d44ff2c29d1e0",
            "DNSName": "my-alb-02-488745832.us-east-1.elb.amazonaws.com",
            "CanonicalHostedZoneId": "Z35SXDOTRQ7X7K",
            "CreatedTime": "2024-01-22T11:24:15.970000+00:00",
            "LoadBalancerName": "my-alb-02",
            "Scheme": "internet-facing",
            "VpcId": "vpc-0c385cdb1841ace44",
            "State": {
                "Code": "provisioning"
            },
            "Type": "application",
            "AvailabilityZones": [
                {
                    "ZoneName": "us-east-1b",
                    "SubnetId": "subnet-0a00ed50d58ed6229",
                    "LoadBalancerAddresses": []
                },
                {
                    "ZoneName": "us-east-1f",
                    "SubnetId": "subnet-0de50db3aa54d7851",
                    "LoadBalancerAddresses": []
                },
                {
                    "ZoneName": "us-east-1a",
                    "SubnetId": "subnet-0fad2474da3cf2e91",
                    "LoadBalancerAddresses": []
                }
            ],
            "SecurityGroups": [
                "sg-091165f115b9c5094"
            ],
            "IpAddressType": "ipv4"
        }
    ]
```

Prathamesh Sawant

Create Target Groups

```
C:\Users\rohan>aws elbv2 create-target-group --name my-tg-02 --protocol HTTP --port 80 --vpc-id vpc-0c385cdb1841ace44
{
    "TargetGroups": [
        {
            "TargetGroupArn": "arn:aws:elasticloadbalancing:us-east-1:139017485331:targetgroup/my-tg-02/c36c54ec38550f36",
            "TargetGroupName": "my-tg-02",
            "Protocol": "HTTP",
            "Port": 80,
            "VpcId": "vpc-0c385cdb1841ace44",
            "HealthCheckProtocol": "HTTP",
            "HealthCheckPort": "traffic-port",
            "HealthCheckEnabled": true,
            "HealthCheckIntervalSeconds": 30,
            "HealthCheckTimeoutSeconds": 5,
            "HealthyThresholdCount": 5,
            "UnhealthyThresholdCount": 2,
            "HealthCheckPath": "/",
            "Matcher": {
                "HttpCode": "200"
            },
            "TargetType": "instance",
            "ProtocolVersion": "HTTP1"
        }
    ]
}
```

Attach Instance to Target Groups

```
C:\Users\rohan>aws elbv2 register-targets --target-group-arn arn:aws:elasticloadbalancing:us-east-1:139017485331:targetgroup/my-tg-02/c36c54ec38550f36 --tar
gets Id=i-01ac05a0f382f48f1 Id=i-067e97fd7972989c4
```

```
C:\Users\rohan>aws elbv2 create-listener --load-balancer-arn arn:aws:elasticloadbalancing:us-east-1:139017485331:loadbalancer/app/my-alb-02/ce5d44ff2c29d1e0
 --protocol HTTP --port 80 --default-actions Type=forward,TargetGroupArn=arn:aws:elasticloadbalancing:us-east-1:139017485331:targetgroup/my-tg-02/c36c54ec38
550f36
{
    "Listeners": [
        {
            "ListenerArn": "arn:aws:elasticloadbalancing:us-east-1:139017485331:listener/app/my-alb-02/ce5d44ff2c29d1e0/4e54ac930de431fe",
            "LoadBalancerArn": "arn:aws:elasticloadbalancing:us-east-1:139017485331:loadbalancer/app/my-alb-02/ce5d44ff2c29d1e0",
            "Port": 80,
            "Protocol": "HTTP",
            "DefaultActions": [
                {
                    "Type": "forward",
                    "TargetGroupArn": "arn:aws:elasticloadbalancing:us-east-1:139017485331:targetgroup/my-tg-02/c36c54ec38550f36",
                    "ForwardConfig": {
                        "TargetGroups": [
                            {
                                "TargetGroupArn": "arn:aws:elasticloadbalancing:us-east-1:139017485331:targetgroup/my-tg-02/c36c54ec38550f36",
                                "Weight": 1
                            }
                        ],
                        "TargetGroupStickinessConfig": {
                            "Enabled": false
                        }
                    }
                }
            ]
        }
    ]
}
```

Health Check

```
C:\Users\rohan>aws elbv2 describe-target-health --target-group-arn arn:aws:elasticloadbalancing:us-east-1:139017485331:targetgroup/my-tg-02/c36c54ec38550f36

    "TargetHealthDescriptions": [
        {
            "Target": {
                "Id": "i-067e97fd7972989c4",
                "Port": 80
            },
            "HealthCheckPort": "80",
            "TargetHealth": {
                "State": "healthy"
            }
        },
        {
            "Target": {
                "Id": "i-01ac05a0f382f48f1",
                "Port": 80
            },
            "HealthCheckPort": "80",
            "TargetHealth": {
                "State": "healthy"
            }
        }
    ]
}
```