Application Load Balancer

	Name	Roll No	Seat no.
1.	Pranav Hatwar	6	T214132

1. Instance

Code:-

```
x=1
while [$x -ne 0]
do
echo "-----"
echo "****Welcome to Amazon CLI****"
echo 1.Create Instance
echo 2.Terminate Instance
echo 3.Create Key Pair
echo 4.Create VPC
echo 5.Create VPC Private Subnet
echo 6.Create public Gateway
echo "Enter the choice from above:-"
read ch
case "$ch" in
1)echo "Enter the Image-Id (AMI): "
read eid
```

```
echo "Enter the no. of Instances do you want to lanuch:"
read count
echo "Enter the Instance Type:"
read typ
echo "Use existing key-pair: "
read keych
echo "Enter Security-Group-Id:"
read sid
echo "Enter Subnet-ID:"
read subid
echo "Region:"
read region
aws ec2 run-instances --image-id $eid --count $count --instance-type $typ --key-name $keych
--security-group-ids $sid --subnet-id $subid --region $region --user-data file://UserScript.txt
echo " You have Launch Instance Successfully ";;
2)echo "Enter Instance ID"
read tid
aws ec2 terminate-instances --instance-ids $tid
echo "The $tid is Terminated Sucessfully";;
3)echo "Enter Key Pair Name"
read Kpair
aws ec2 create-key-pair --key-name $Kpair --query 'KeyMaterial' --output text > $Kpair.pem
echo " You have Create-key-pair Successfully ";;
```

```
4)echo "Let's start creating a VPC"
echo "Enter Cidr-block." read vpcidr
aws ec2 create-vpc --cidr-block $vpcidr --query Vpc.VpcId --output text
echo "VPC ID is given above ";;
5) echo "Enter the VPC Id:"
read vpcid
echo "Enter subneting cidr:"
read cidr
aws ec2 create-subnet --vpc-id $vpcid --cidr-block $cidr;;
6)aws ec2 create-internet-gateway --query InternetGateway.InternetGatewayId --output text
echo "Above is your internet gateway Id";;
*)echo "Invalid choice.";; esac
echo " "
echo "Enter 1 for continue and 0 for exit."
read x
done
```

User Data

Launching 6 Instance in 2 Different Subnet

```
[pdhatwar@localhost Downloads]$ ./Instance.sh
****Welcome to Amazon CLI****
1.Create Instance
2.Terminate Instance
3.Create Key Pair
4.Create VPC
5.Create VPC Private Subnet
Create public Gateway
Enter the choice from above:-
Enter the Image-Id (AMI) :
ami-0ed9277fb7eb570c9
Enter the no. of Instances do you want to lanuch :
Enter the Instance Type :
t2.micro
Use existing key-pair :
Final
Enter Security-Group-Id :
sg-09012434651f61673
Enter Subnet-ID :
subnet-a797bc86
Region :
us-east-1
****Welcome to Amazon CLI****
1.Create Instance
2.Terminate Instance
3.Create Key Pair
4.Create VPC
5.Create VPC Private Subnet
Create public Gateway
Enter the choice from above:-
Enter the Image-Id (AMI) :
ami-0ed9277fb7eb570c9
Enter the no. of Instances do you want to lanuch :
Enter the Instance Type :
t2.micro
Use existing key-pair :
Final
Enter Security-Group-Id :
sg-09012434651f61673
Enter Subnet-ID :
subnet-32f48403
Region :
us-east-1
  "Groups": [],
  "Instances": [
      "AmiLaunchIndex": 2,
      "ImageId": "ami-0ed9277fb7eb570c9",
      "InstanceId": "i-0a850f9d47f16bafe",
      "InstanceType": "t2.micro",
      "KeyName": "Final",
      "LaunchTime": "2021-12-05T18:17:26+00:00",
```

```
"Monitoring": {
  "State": "disabled"
},
"Placement": {
  "AvailabilityZone": "us-east-1c",
  "GroupName": "",
 "Tenancy": "default"
},
"PrivateDnsName": "ip-172-31-94-204.ec2.internal",
"PrivateIpAddress": "172.31.94.204",
"ProductCodes": [],
"PublicDnsName": "",
"State": {
  "Code": 0,
  "Name": "pending"
},
"StateTransitionReason": "",
"SubnetId": "subnet-a797bc86",
"VpcId": "vpc-b02850cd",
"Architecture": "x86_64",
"BlockDeviceMappings": [],
"ClientToken": "0c5ef0b5-ce3a-4982-87e3-0865bca6a613",
"EbsOptimized": false,
"EnaSupport": true,
"Hypervisor": "xen",
"NetworkInterfaces": [
  {
    "Attachment": {
      "AttachTime": "2021-12-05T18:17:26+00:00",
      "AttachmentId": "eni-attach-0035ff74cc1d7398c",
      "DeleteOnTermination": true,
      "DeviceIndex": 0,
      "Status": "attaching",
      "NetworkCardIndex": 0
    },
    "Description": "",
    "Groups": [
      {
        "GroupName": "launch-wizard-11",
        "GroupId": "sg-09012434651f61673"
      }
    "Ipv6Addresses": [],
    "MacAddress": "12:0d:a0:34:8c:09",
```

```
"NetworkInterfaceId": "eni-0e0c4471a0514cf6c",
    "OwnerId": "278460603394",
    "PrivateDnsName": "ip-172-31-94-204.ec2.internal",
    "PrivatelpAddress": "172.31.94.204",
    "PrivateIpAddresses": [
      {
        "Primary": true,
        "PrivateDnsName": "ip-172-31-94-204.ec2.internal",
        "PrivateIpAddress": "172.31.94.204"
      }
    ],
    "SourceDestCheck": true,
    "Status": "in-use",
    "SubnetId": "subnet-a797bc86",
    "VpcId": "vpc-b02850cd",
    "InterfaceType": "interface"
 }
],
"RootDeviceName": "/dev/xvda",
"RootDeviceType": "ebs",
"SecurityGroups": [
  {
    "GroupName": "launch-wizard-11",
    "GroupId": "sg-09012434651f61673"
  }
],
"SourceDestCheck": true,
"StateReason": {
  "Code": "pending",
  "Message": "pending"
"VirtualizationType": "hvm",
"CpuOptions": {
  "CoreCount": 1,
  "ThreadsPerCore": 1
},
"CapacityReservationSpecification": {
  "CapacityReservationPreference": "open"
},
"MetadataOptions": {
  "State": "pending",
  "HttpTokens": "optional",
  "HttpPutResponseHopLimit": 1,
  "HttpEndpoint": "enabled",
```

```
"HttpProtocollpv6": "disabled"
  },
  "EnclaveOptions": {
    "Enabled": false
 }
},
  "AmiLaunchIndex": 0,
  "ImageId": "ami-0ed9277fb7eb570c9",
  "InstanceId": "i-056d94ff55903e8ff",
  "InstanceType": "t2.micro",
  "KeyName": "Final",
  "LaunchTime": "2021-12-05T18:17:26+00:00",
  "Monitoring": {
    "State": "disabled"
  },
  "Placement": {
    "AvailabilityZone": "us-east-1c",
    "GroupName": "",
    "Tenancy": "default"
  "PrivateDnsName": "ip-172-31-85-163.ec2.internal",
  "PrivateIpAddress": "172.31.85.163",
  "ProductCodes": [],
  "PublicDnsName": "",
  "State": {
    "Code": 0,
    "Name": "pending"
  },
  "StateTransitionReason": "",
  "SubnetId": "subnet-a797bc86",
  "VpcId": "vpc-b02850cd",
  "Architecture": "x86_64",
  "BlockDeviceMappings": [],
  "ClientToken": "0c5ef0b5-ce3a-4982-87e3-0865bca6a613",
  "EbsOptimized": false,
  "EnaSupport": true,
  "Hypervisor": "xen",
  "NetworkInterfaces": [
    {
      "Attachment": {
        "AttachTime": "2021-12-05T18:17:26+00:00",
        "AttachmentId": "eni-attach-02ff199a3be85ad34",
        "DeleteOnTermination": true,
```

```
"DeviceIndex": 0,
      "Status": "attaching",
      "NetworkCardIndex": 0
    },
    "Description": "",
    "Groups": [
        "GroupName": "launch-wizard-11",
        "GroupId": "sg-09012434651f61673"
      }
    ],
    "Ipv6Addresses": [],
    "MacAddress": "12:a0:56:ba:a0:69",
    "NetworkInterfaceId": "eni-0d8c0abe419ea9d71",
    "OwnerId": "278460603394",
    "PrivateDnsName": "ip-172-31-85-163.ec2.internal",
    "PrivatelpAddress": "172.31.85.163",
    "PrivateIpAddresses": [
      {
        "Primary": true,
        "PrivateDnsName": "ip-172-31-85-163.ec2.internal",
        "PrivateIpAddress": "172.31.85.163"
      }
    ],
    "SourceDestCheck": true,
    "Status": "in-use",
    "SubnetId": "subnet-a797bc86",
    "VpcId": "vpc-b02850cd",
    "InterfaceType": "interface"
 }
],
"RootDeviceName": "/dev/xvda",
"RootDeviceType": "ebs",
"SecurityGroups": [
 {
    "GroupName": "launch-wizard-11",
    "GroupId": "sg-09012434651f61673"
 }
"SourceDestCheck": true,
"StateReason": {
  "Code": "pending",
  "Message": "pending"
},
```

],

```
"VirtualizationType": "hvm",
  "CpuOptions": {
    "CoreCount": 1,
    "ThreadsPerCore": 1
  },
  "CapacityReservationSpecification": {
    "CapacityReservationPreference": "open"
  },
  "MetadataOptions": {
    "State": "pending",
    "HttpTokens": "optional",
    "HttpPutResponseHopLimit": 1,
    "HttpEndpoint": "enabled",
    "HttpProtocollpv6": "disabled"
  },
  "EnclaveOptions": {
    "Enabled": false
 }
},
  "AmiLaunchIndex": 1,
  "ImageId": "ami-0ed9277fb7eb570c9",
  "InstanceId": "i-01040a4263c248c8e",
  "InstanceType": "t2.micro",
  "KeyName": "Final",
 "LaunchTime": "2021-12-05T18:17:26+00:00",
  "Monitoring": {
    "State": "disabled"
  },
  "Placement": {
    "AvailabilityZone": "us-east-1c",
    "GroupName": "",
    "Tenancy": "default"
  "PrivateDnsName": "ip-172-31-80-232.ec2.internal",
  "PrivatelpAddress": "172.31.80.232",
  "ProductCodes": [],
 "PublicDnsName": "",
  "State": {
    "Code": 0,
    "Name": "pending"
  },
  "StateTransitionReason": "",
  "SubnetId": "subnet-a797bc86",
```

```
"VpcId": "vpc-b02850cd",
"Architecture": "x86 64",
"BlockDeviceMappings": [],
"ClientToken": "0c5ef0b5-ce3a-4982-87e3-0865bca6a613",
"EbsOptimized": false,
"EnaSupport": true,
"Hypervisor": "xen",
"NetworkInterfaces": [
  {
    "Attachment": {
      "AttachTime": "2021-12-05T18:17:26+00:00",
      "AttachmentId": "eni-attach-0dd2fa848d0d18099",
      "DeleteOnTermination": true,
      "DeviceIndex": 0,
      "Status": "attaching",
      "NetworkCardIndex": 0
    },
    "Description": "",
    "Groups": [
      {
        "GroupName": "launch-wizard-11",
        "GroupId": "sg-09012434651f61673"
      }
    ],
    "Ipv6Addresses": [],
    "MacAddress": "12:ab:dc:02:c0:6b",
    "NetworkInterfaceId": "eni-0bc430838ccd229d2",
    "OwnerId": "278460603394",
    "PrivateDnsName": "ip-172-31-80-232.ec2.internal",
    "PrivatelpAddress": "172.31.80.232",
    "PrivateIpAddresses": [
      {
        "Primary": true,
        "PrivateDnsName": "ip-172-31-80-232.ec2.internal",
        "PrivateIpAddress": "172.31.80.232"
      }
    "SourceDestCheck": true,
    "Status": "in-use",
    "SubnetId": "subnet-a797bc86",
    "VpcId": "vpc-b02850cd",
    "InterfaceType": "interface"
],
```

```
"RootDeviceName": "/dev/xvda",
      "RootDeviceType": "ebs",
      "SecurityGroups": [
           "GroupName": "launch-wizard-11",
           "GroupId": "sg-09012434651f61673"
        }
      ],
      "SourceDestCheck": true,
      "StateReason": {
        "Code": "pending",
        "Message": "pending"
           "GroupId": "sg-09012434651f61673"
        }
      ],
      "SourceDestCheck": true,
      "StateReason": {
        "Code": "pending",
        "Message": "pending"
{
  "Groups": [],
  "Instances": [
      "AmiLaunchIndex": 1,
      "ImageId": "ami-0ed9277fb7eb570c9",
      "InstanceId": "i-0073e6489fb08626a",
      "InstanceType": "t2.micro",
      "KeyName": "Final",
      "LaunchTime": "2021-12-05T18:00:17+00:00",
      "Monitoring": {
        "State": "disabled"
      },
      "Placement": {
        "AvailabilityZone": "us-east-1e",
        "GroupName": "",
        "Tenancy": "default"
      "PrivateDnsName": "ip-172-31-52-6.ec2.internal",
      "PrivateIpAddress": "172.31.52.6",
      "ProductCodes": [],
      "PublicDnsName": "",
```

```
"State": {
  "Code": 0,
  "Name": "pending"
},
"StateTransitionReason": "",
"SubnetId": "subnet-32f48403",
"VpcId": "vpc-b02850cd",
"Architecture": "x86 64",
"BlockDeviceMappings": [],
"ClientToken": "058eefea-4abf-4987-ab01-2e4a56bf5bfc",
"EbsOptimized": false,
"EnaSupport": true,
"Hypervisor": "xen",
"NetworkInterfaces": [
    "Attachment": {
      "AttachTime": "2021-12-05T18:00:17+00:00",
      "AttachmentId": "eni-attach-056f413837c5cbb38",
      "DeleteOnTermination": true.
      "DeviceIndex": 0,
      "Status": "attaching",
      "NetworkCardIndex": 0
    },
    "Description": "",
    "Groups": [
      {
        "GroupName": "launch-wizard-11",
        "GroupId": "sg-09012434651f61673"
      }
    ],
    "Ipv6Addresses": [],
    "MacAddress": "06:3c:4e:c3:4e:7b",
    "NetworkInterfaceId": "eni-01a1fc8a1a22fd576",
    "OwnerId": "278460603394",
    "PrivateDnsName": "ip-172-31-52-6.ec2.internal",
    "PrivatelpAddress": "172.31.52.6",
    "PrivateIpAddresses": [
      {
        "Primary": true,
        "PrivateDnsName": "ip-172-31-52-6.ec2.internal",
        "PrivatelpAddress": "172.31.52.6"
      }
    ],
    "SourceDestCheck": true,
```

```
"Status": "in-use",
      "SubnetId": "subnet-32f48403",
      "VpcId": "vpc-b02850cd",
      "InterfaceType": "interface"
    }
  ],
  "RootDeviceName": "/dev/xvda",
  "RootDeviceType": "ebs",
  "SecurityGroups": [
    {
      "GroupName": "launch-wizard-11",
      "GroupId": "sg-09012434651f61673"
    }
  1,
  "SourceDestCheck": true,
  "StateReason": {
    "Code": "pending",
    "Message": "pending"
  },
  "VirtualizationType": "hvm",
  "CpuOptions": {
    "CoreCount": 1,
    "ThreadsPerCore": 1
  },
  "CapacityReservationSpecification": {
    "CapacityReservationPreference": "open"
  },
  "MetadataOptions": {
    "State": "pending",
    "HttpTokens": "optional",
    "HttpPutResponseHopLimit": 1,
    "HttpEndpoint": "enabled",
    "HttpProtocollpv6": "disabled"
  "EnclaveOptions": {
    "Enabled": false
  }
},
  "AmiLaunchIndex": 2,
  "ImageId": "ami-0ed9277fb7eb570c9",
  "InstanceId": "i-091f9eb0237b2f91e",
  "InstanceType": "t2.micro",
  "KeyName": "Final",
```

```
"LaunchTime": "2021-12-05T18:00:17+00:00",
"Monitoring": {
  "State": "disabled"
},
"Placement": {
  "AvailabilityZone": "us-east-1e",
  "GroupName": "",
  "Tenancy": "default"
},
"PrivateDnsName": "ip-172-31-57-120.ec2.internal",
"PrivateIpAddress": "172.31.57.120",
"ProductCodes": [],
"PublicDnsName": "",
"State": {
  "Code": 0,
  "Name": "pending"
},
"StateTransitionReason": "",
"SubnetId": "subnet-32f48403",
"VpcId": "vpc-b02850cd",
"Architecture": "x86 64",
"BlockDeviceMappings": [],
"ClientToken": "058eefea-4abf-4987-ab01-2e4a56bf5bfc",
"EbsOptimized": false,
"EnaSupport": true,
"Hypervisor": "xen",
"NetworkInterfaces": [
    "Attachment": {
      "AttachTime": "2021-12-05T18:00:17+00:00",
      "AttachmentId": "eni-attach-028e3483683801d8e",
      "DeleteOnTermination": true,
      "DeviceIndex": 0,
      "Status": "attaching",
      "NetworkCardIndex": 0
    },
    "Description": "",
    "Groups": [
      {
        "GroupName": "launch-wizard-11",
        "GroupId": "sg-09012434651f61673"
      }
    ],
    "Ipv6Addresses": [],
```

```
"MacAddress": "06:13:56:b8:fa:79",
    "NetworkInterfaceId": "eni-0235b67fea9b37633",
    "OwnerId": "278460603394",
    "PrivateDnsName": "ip-172-31-57-120.ec2.internal",
    "PrivateIpAddress": "172.31.57.120",
    "PrivateIpAddresses": [
      {
        "Primary": true,
        "PrivateDnsName": "ip-172-31-57-120.ec2.internal",
        "PrivatelpAddress": "172.31.57.120"
      }
    ],
    "SourceDestCheck": true,
    "Status": "in-use",
    "SubnetId": "subnet-32f48403",
    "VpcId": "vpc-b02850cd",
    "InterfaceType": "interface"
 }
],
"RootDeviceName": "/dev/xvda",
"RootDeviceType": "ebs",
"SecurityGroups": [
    "GroupName": "launch-wizard-11",
    "GroupId": "sg-09012434651f61673"
  }
1,
"SourceDestCheck": true,
"StateReason": {
  "Code": "pending",
  "Message": "pending"
},
"VirtualizationType": "hvm",
"CpuOptions": {
  "CoreCount": 1,
  "ThreadsPerCore": 1
"CapacityReservationSpecification": {
  "CapacityReservationPreference": "open"
},
"MetadataOptions": {
  "State": "pending",
  "HttpTokens": "optional",
  "HttpPutResponseHopLimit": 1,
```

```
"HttpEndpoint": "enabled",
    "HttpProtocollpv6": "disabled"
  },
  "EnclaveOptions": {
    "Enabled": false
  }
},
  "AmiLaunchIndex": 0,
  "ImageId": "ami-0ed9277fb7eb570c9",
  "InstanceId": "i-04ef92ffb3df43da7",
  "InstanceType": "t2.micro",
  "KeyName": "Final",
  "LaunchTime": "2021-12-05T18:00:17+00:00",
  "Monitoring": {
    "State": "disabled"
  },
  "Placement": {
    "AvailabilityZone": "us-east-1e",
    "GroupName": "",
    "Tenancy": "default"
  },
  "PrivateDnsName": "ip-172-31-56-211.ec2.internal",
 "PrivateIpAddress": "172.31.56.211",
  "ProductCodes": [],
  "PublicDnsName": "",
  "State": {
    "Code": 0,
    "Name": "pending"
  },
  "StateTransitionReason": "",
  "SubnetId": "subnet-32f48403",
  "VpcId": "vpc-b02850cd",
  "Architecture": "x86 64",
  "BlockDeviceMappings": [],
  "ClientToken": "058eefea-4abf-4987-ab01-2e4a56bf5bfc",
  "EbsOptimized": false,
  "EnaSupport": true,
  "Hypervisor": "xen",
  "NetworkInterfaces": [
      "Attachment": {
        "AttachTime": "2021-12-05T18:00:17+00:00",
        "AttachmentId": "eni-attach-00dcc340d7463963b",
```

```
"DeleteOnTermination": true,
      "DeviceIndex": 0,
      "Status": "attaching",
      "NetworkCardIndex": 0
    },
    "Description": "",
    "Groups": [
        "GroupName": "launch-wizard-11",
        "GroupId": "sg-09012434651f61673"
      }
    ],
    "Ipv6Addresses": [],
    "MacAddress": "06:e7:e7:14:a9:17",
    "NetworkInterfaceId": "eni-013a05fa465e2afe0",
    "OwnerId": "278460603394",
    "PrivateDnsName": "ip-172-31-56-211.ec2.internal",
    "PrivateIpAddress": "172.31.56.211",
    "PrivateIpAddresses": [
        "Primary": true,
        "PrivateDnsName": "ip-172-31-56-211.ec2.internal",
        "PrivateIpAddress": "172.31.56.211"
      }
    ],
    "SourceDestCheck": true,
    "Status": "in-use",
    "SubnetId": "subnet-32f48403",
    "VpcId": "vpc-b02850cd",
    "InterfaceType": "interface"
 }
"RootDeviceName": "/dev/xvda",
"RootDeviceType": "ebs",
"SecurityGroups": [
    "GroupName": "launch-wizard-11",
    "GroupId": "sg-09012434651f61673"
 }
"SourceDestCheck": true,
"StateReason": {
  "Code": "pending",
 "Message": "pending"
```

],

```
},
      "VirtualizationType": "hvm",
      "CpuOptions": {
        "CoreCount": 1,
        "ThreadsPerCore": 1
      },
      "CapacityReservationSpecification": {
        "CapacityReservationPreference": "open"
      },
      "MetadataOptions": {
        "State": "pending",
        "HttpTokens": "optional",
        "HttpPutResponseHopLimit": 1,
        "HttpEndpoint": "enabled",
        "HttpProtocollpv6": "disabled"
      },
      "EnclaveOptions": {
        "Enabled": false
      }
    }
  "OwnerId": "278460603394",
  "ReservationId": "r-0c464bdbeb7b2dd4f"
}
```

2. Target Group

Code:-

```
x=1
while [$x -ne 0]
do
  echo "****Target Group******"
  echo 1. Create Target Group
  echo 2. Register-targets
  echo 3. Describe-target-groups
  echo 4. Modify-target-group
  echo 5. Delete-target-group
  echo 6. Deregister-targets
  echo "-----"
  echo "Enter the choice from above:-"
  read ch
  case "$ch" in
1)echo "Enter the Target Group Name: "
read nam
echo "Enter Protocol:"
read protocol
echo "Enter Port:"
read port
echo "Enter Type:"
```

```
read typet
echo "Enter vpc-id: "
read vpcid
echo "Enter Protocol Version: "
read vprotocol
echo "Enter health-check-protocol "
read protocol
echo "Enter health-check-port "
read port
echo "Enter health-check-interval-seconds "
read hint
echo "Enter health-check-timeout-seconds"
read htime
echo "Enter healthy-threshold-count "
read hcount
echo "Enter unhealthy-threshold-count "
read unhcount
aws elbv2 create-target-group --name $nam --protocol $protocol --port $port --target-type
$typet --vpc-id $vpcid --protocol-version $vprotocol --health-check-protocol $protocol
--health-check-port $port --health-check-interval-seconds $hint
--health-check-timeout-seconds $htime --healthy-threshold-count $hcount
--unhealthy-threshold-count $unhcount
echo " You have create-target-group Successfully";;
2) echo "Enter Amazon Resource Name "
```

```
read arn
echo "Enter instance/targets Id"
read tid
aws elbv2 register-targets --target-group-arn $arn --targets $tid
echo " You have register-target-group Successfully ";;
3) echo "Enter Amazon Resource Name"
read arn
aws elbv2 describe-target-groups --target-group-arn $arn
echo "Describe Sucessfully";;
4)echo "Enter Amazon Resource Name "
read arn
echo "Enter health-check-protocol "
read protocol
echo "Enter health-check-port "
read port
echo "Enter health-check-interval-seconds "
read hint
echo "Enter health-check-timeout-seconds"
read htime
echo "Enter healthy-threshold-count "
read hcount
echo "Enter unhealthy-threshold-count "
```

read unhcount

```
aws elbv2 modify-target-group --target-group-arn $arn --health-check-protocol $protocol
--health-check-port $port --health-check-interval-seconds $hint
--health-check-timeout-seconds $htime --healthy-threshold-count $hcount
--unhealthy-threshold-count $unhcount
echo "Modify Sucessfully";;
5) echo "Enter Amazon Resource Name "
read arn
aws elbv2 delete-target-group --target-group-arn $arn
echo "Deleted Sucessfully";;
6) echo "Enter Amazon Resource Name "
read arn
echo "Enter targets Id "
read tid
aws elbv2 deregister-targets --target-group-arn $arn --targets $tid
echo "The Deregister-targets Sucessfully";;
      *)echo "Invalid choice."
      esac
       echo "-----"
       echo "Enter 1 for continue and 0 for exit."
       read x
done
clear
```

Creating 3 Target Group Name CLB, ALB, NLB

• CLB

```
[pdhatwar@localhost Downloads]$ ./TargetGrp.sh
****Target Group*****
1. Create Target Group

 Register-targets

 Describe-target-groups

    Modify-target-group

Delete-target-group
Deregister-targets
Enter the choice from above:-
Enter the Target Group Name:
CLB
Enter Protocol :
HTTP
Enter Port :
80
Enter Type :
instance
Enter vpc-id:
vpc-b02850cd
Enter Protocol Version:
HTTP1
Enter health-check-protocol
Enter health-check-port
80
Enter health-check-interval-seconds
30
Enter health-check-timeout-seconds
Enter healthy-threshold-count
Enter unhealthy-threshold-count
    "TargetGroups": [
            "TargetGroupArn": "arn:aws:elasticloadbalancing:us-east-1:278460603394:targ
etgroup/CLB/94abad9a80d6dffa",
"TargetGroupName": "CLB",
            "Protocol": "HTTP",
            "Port": 80,
            "VpcId": "vpc-b02850cd",
"HealthCheckProtocol": "HTTP",
            "HealthCheckPort": "80",
            "HealthCheckEnabled": true,
             "HealthCheckIntervalSeconds": 30,
             "HealthCheckTimeoutSeconds": 3,
             "HealthyThresholdCount": 2,
             "UnhealthyThresholdCount": 2,
             "HealthCheckPath": "/",
             "Matcher": {
                 "HttpCode": "200"
             "TargetType": "instance",
             "ProtocolVersion": "HTTP1"
```

• ALB

```
[pdhatwar@localhost Downloads]$ ./TargetGrp.sh
****Target Group*****
1. Create Target Group
Register-targets
Describe-target-groups
4. Modify-target-group
Delete-target-group
Deregister-targets
Enter the choice from above:-
Enter the Target Group Name:
ALB
Enter Protocol :
HTTP
Enter Port :
80
Enter Type :
instance
Enter vpc-id:
vpc-b02850cd
Enter Protocol Version:
HTTP1
Enter health-check-protocol
Enter health-check-port
80
Enter health-check-interval-seconds
30
Enter health-check-timeout-seconds
Enter healthy-threshold-count
Enter unhealthy-threshold-count
    "TargetGroups": [
             "TargetGroupArn": "arn:aws:elasticloadbalancing:us-east-1:278460603394:targ
etgroup/ALB/60c8722f658dddff",
             "TargetGroupName": "ALB",
            "Protocol": "HTTP",
            "Port": 80,
            "VpcId": "vpc-b02850cd",
"HealthCheckProtocol": "HTTP",
            "HealthCheckPort": "80",
            "HealthCheckEnabled": true,
             "HealthCheckIntervalSeconds": 30,
             "HealthCheckTimeoutSeconds": 3,
             "HealthyThresholdCount": 2,
             "UnhealthyThresholdCount": 2,
             "HealthCheckPath": "/",
             "Matcher": {
                 "HttpCode": "200"
             },
"TargetType": "instance",
"ProtocolVersion": "HTTP1"
(END)
```

NLB

```
[pdhatwar@localhost Downloads]$ ./TargetGrp.sh
****Target Group*****
1. Create Target Group
2. Register-targets
3. Describe-target-groups

 Modify-target-group

Delete-target-group
6. Deregister-targets
Enter the choice from above:-
Enter the Target Group Name:
NLB
Enter Protocol :
HTTP
Enter Port :
80
Enter Type :
instance
Enter vpc-id:
vpc-b02850cd
Enter Protocol Version:
HTTP1
Enter health-check-protocol
Enter health-check-port
Enter health-check-interval-seconds
Enter health-check-timeout-seconds
Enter healthy-threshold-count
Enter unhealthy-threshold-count
    "TargetGroups": [
             "TargetGroupArn": "arn:aws:elasticloadbalancing:us-east-1:278460603394:targ
etgroup/NLB/217cb39b4a4458cb",
             "TargetGroupName": "NLB",
             "Protocol": "HTTP",
             "Port": 80,
             "VpcId": "vpc-b02850cd",
"HealthCheckProtocol": "HTTP",
             "HealthCheckPort": "80",
             "HealthCheckEnabled": true, [
"HealthCheckIntervalSeconds": 30,
             "HealthCheckTimeoutSeconds": 3,
             "HealthyThresholdCount": 2,
"UnhealthyThresholdCount": 2,
             "HealthCheckPath": "/",
             "Matcher": {
                  "HttpCode": "200"
             },
"TargetType": "instance",
"ProtocolVersion": "HTTP1"
(END)
```

Registering 2 Instances to Each Target Group

Target Group CLB and 2 Instance

Target Group ALB and 2 Instance

Target Group NLB and 2 Instance

3. Load Balance Code:-

```
x=1
while [$x -ne 0]
do
echo "-----"
 echo "**** Load-Balancer*****"
  echo 1. Create-load-balancer
  echo 2. Create-listener
  echo 3. Create-rule
  echo 4. Describe-load-balancers
  echo 5. Describe-listeners
  echo 6. Describe-rules
 echo 7. Modify-rule
 echo 8. Modify-listener
 echo 9. Delete-load-balancer
 echo 10. Delete-listener
 echo 11. Delete-rule
 echo "-----"
  echo "Enter the choice from above:-"
  read ch
```

```
case "$ch" in
1)echo "Enter the load-balancer Name: "
read nam
echo "Enter subnet1:"
read sub1
echo "Enter subnet2:"
read sub2
echo "Enter Type:"
read typ
echo "Enter security-groups: "
read sg
echo "Enter scheme: "
read sch
echo " Ip-address-type "
read ip
aws elbv2 create-load-balancer --name $nam --subnets $sub1 $sub2 --security-groups $sg
--scheme $sch --type $typ --ip-address-type $ip
echo " You have Created-load-balancer Successfully ";;
2) echo "Enter Amazon Resource Name for LB"
read arn
echo "Enter Amazon Resource Name for TG"
read tarn
echo "Enter Protocol"
```

```
read protocol
echo "Enter Port "
read port
aws elbv2 create-listener --load-balancer-arn $arn --protocol $protocol --port $port
--default-actions Type=forward, Target Group Arn=$tarn
echo "You have created-listener Sucessfully";;
3) echo "Enter Amazon Resource Name for Listener"
read larn
echo "Enter Amazon Resource Name for TG"
read tarn
echo "Enter Priority "
read prio
echo "Enter Path "
read path
aws elbv2 create-rule --listener-arn $larn --priority $prio --conditions
Field=path-pattern, Values='/$path/*' --actions Type=forward, TargetGroupArn=$tarn
echo "You have Create-rule Sucessfully";;
4)echo "Enter Amazon Resource Name for LB"
read arn
aws elbv2 describe-load-balancers --load-balancer-arns $arn
echo "Describe-load-balancers Sucessfully";;
5)echo "Enter Amazon Resource Name for Listeners"
read arn
```

```
aws elbv2 describe-listeners --listener-arns $arn
echo "Describe-listeners Sucessfully";;
6)echo "Enter Amazon Resource Name for Rule"
read arn
aws elbv2 describe-rules --rule-arns $arn
echo " Describe-rules Sucessfully";;
7) echo "Enter Amazon Resource Name for Rule "
read rarn
echo "Enter Amazon Resource Name for TG"
read tarn
echo "Enter Path "
read path
aws elbv2 modify-rule --actions Type=forward, TargetGroupArn=$tarn --conditions
Field=path-pattern, Values='/$path/*' --rule-arn $rarn
echo " Modify-rule Sucessfully";;
8) echo "Enter Amazon Resource Name for Listener"
read larn
echo "Enter Amazon Resource Name for TG"
read tarn
aws elbv2 modify-listener --listener-arn $larn --default-actions
Type=forward,TargetGroupArn=$tarn
echo " Modify-listener Sucessfully";;
9) echo "Enter Amazon Resource Name for LB"
```

```
read arn
aws elbv2 delete-load-balancer --load-balancer-arn $arn
echo " load-balancer Deleted Sucessfully";;
10) echo "Enter Amazon Resource Name for Listener"
read arn
aws elbv2 delete-listener --listener-arn $arn
echo "Delete-listener Sucessfully";;
11) echo "Enter Amazon Resource Name for Rule "
read arn
aws elbv2 delete-rule --rule-arn $arn
echo " Delete-rule Sucessfully";;
  *)echo "Invalid choice."
       esac
       echo "Enter 1 for continue and 0 for exit."
       read x
done
clear
```

Creating Application Load Balance

```
[pdhatwar@localhost Downloads]$ ./LoadBal.sh
**** Load-Balancer****
1. Create-load-balancer
Create-listener
3. Create-rule
4. Describe-load-balancers
Describe-listeners
Describe-rules
7. Modify-rule
Modify-listener
Delete-load-balancer
10. Delete-listener
11. Delete-rule
Enter the choice from above:-
Enter the load-balancer Name:
LoadBalancers
Enter subnet1 :
subnet-32f48403
Enter subnet2 :
                                                                                             I
subnet-a797bc86
Enter Type :
application
Enter security-groups:
sg-09012434651f61673
Enter scheme:
internet-facing
 Ip-address-type
ipv4
     "LoadBalancers": [
"LoadBalancerArn": "<mark>arn:aws:elasticloadbalancing:us-east-1:278460603394:loa</mark>
dbalancer/app/LoadBalancers/e49c51bd5ele6619",
"DNSName": "LoadBalancers-1354240414.us-east-1.elb.amazonaws.com",
              "CanonicalHostedZoneId": "Z35SXD0TRQ7X7K",
              "CreatedTime": "2021-12-05T20:18:20.930000+00:00",
              "LoadBalancerName": "LoadBalancers",
              "Scheme": "internet-facing",
"VpcId": "vpc-b02850cd",
              "State": {
                   "Code": "provisioning"
              },
"Type": "application",
"AvailabilityZones": [
                        "ZoneName": "us-east-le",
"SubnetId": "subnet-32f48403",
                        "LoadBalancerAddresses": []
                        "ZoneName": "us-east-1c",
"SubnetId": "subnet-a797bc86",
                        "LoadBalancerAddresses": []
              ],
"SecurityGroups": [
                   "sg-09012434651f61673"
              ],
"IpAddressType": "ipv4"
(END)
```

Creating Listener

```
**** Load-Balancer*****
1. Create-load-balancer
Create-listener
3. Create-rule
4. Describe-load-balancers
5. Describe-listeners
6. Describe-rules
7. Modify-rule
8. Modify-listener
Delete-load-balancer
10. Delete-listener
11. Delete-rule
Enter the choice from above:-
Enter Amazon Resource Name for LB
arn:aws:elasticloadbalancing:us-east-1:278460603394:loadbalancer/app/LoadBalancers/e49c
Enter Amazon Resource Name for TG
arn:aws:elasticloadbalancing:us-east-1:278460603394:targetgroup/CLB/94abad9a80d6dffa
Enter Protocol
HTTP
Enter Port
80
    "Listeners": [
             "ListenerArn": "arn:aws:elasticloadbalancing:us-east-1:278460603394:listene
r/app/LoadBalancers/e49c5lbd5e1e6619/483ccd2570a01a56",
"LoadBalancerArn": "arn:aws:elasticloadbalancing:us-east-1:278460603394:loa
dbalancer/app/LoadBalancers/e49c51bd5e1e6619",
              "Port": 80,
             "Protocol": "HTTP",
"DefaultActions": [
                      "Type": "forward",
"TargetGroupArn": "arn:aws:elasticloadbalancing:us-east-1:278460603
394:targetgroup/CLB/94abad9a80d6dffa",
                       "ForwardConfig": {
                            "TargetGroups": [
                                    "TargetGroupArn": "arn:aws:elasticloadbalancing:us-east
 1:278460603394:targetgroup/CLB/94abad9a80d6dffa",
                                    "Weight": 1
                           ],
"TargetGroupStickinessConfig": {
                                "Enabled": false
(END)
```

Adding Rule to Targets in Load Balancer

Rule for Target Group ALB

```
[pdhatwar@localhost Downloads]$ ./LoadBal.sh
**** Load-Balancer****
1. Create-load-balancer
2. Create-listener
3. Create-rule

    Describe-load-balancers

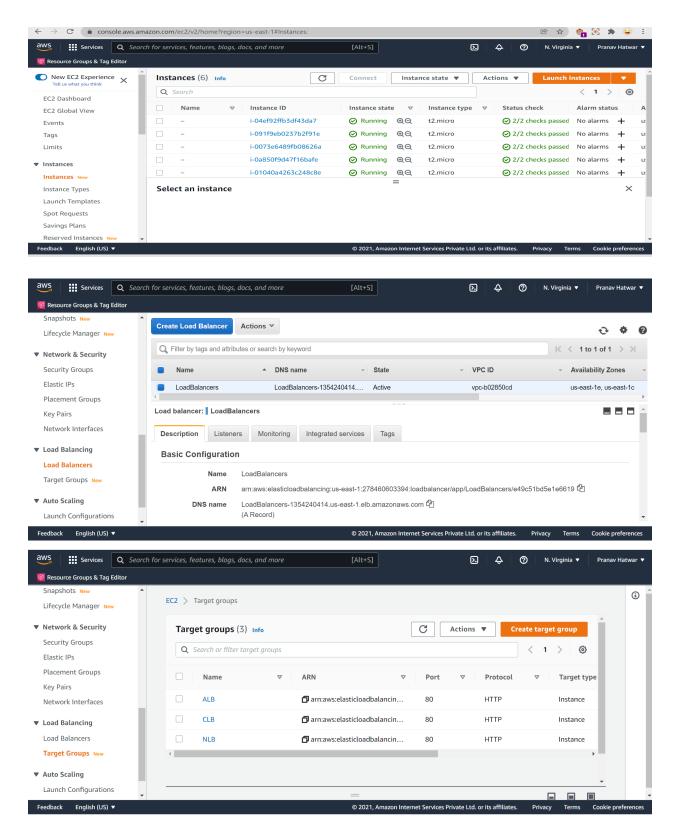
5. Describe-listeners
Describe-rules
7. Modify-rule
8. Modify-listener
9. Delete-load-balancer
10. Delete-listener
11. Delete-rule
Enter the choice from above:-
Enter Amazon Resource Name for Listener
arn:aws:elasticloadbalancing:us-east-1:278460603394:listener/app/<u>LoadBalancers/e49c51bd</u>
5e1e6619/483ccd2570a01a56
Enter Amazon Resource Name for TG
arn:aws:elasticloadbalancing:us-east-1:278460603394:targetgroup/ALB/60c8722f658dddff
Enter Priority
Enter Path
app
    "Rules": [
             "RuleArn": "arn:aws:elasticloadbalancing:us-east-1:278460603394:listener-ru
le/app/LoadBalancers/e49c51bd5e1e6619/483ccd2570a01a56/732736304ee18b89",
            "Priority": "5",
"Conditions": [
                     "Field": "path-pattern",
"Values": [
                         "/$path/*"
                      "PathPatternConfig": {
                              "/$path/*"
            ],
"Actions": [
"Type": "forward",
"TargetGroupArn": "arn:aws:elasticloadbalancing:us-east-1:278460603
394:targetgroup/ALB/60c8722f658dddff",
                      "ForwardConfig": {
                          "TargetGroups": [
                                   "TargetGroupArn": "arn:aws:elasticloadbalancing:us-east
 1:278460603394:targetgroup/ALB/60c8722f658dddff",
                                   "Weight": 1
                          "TargetGroupStickinessConfig": {
                               "Enabled": false
             ],
"IsDefault": false
(END)
```

Rule for Target Group NLB

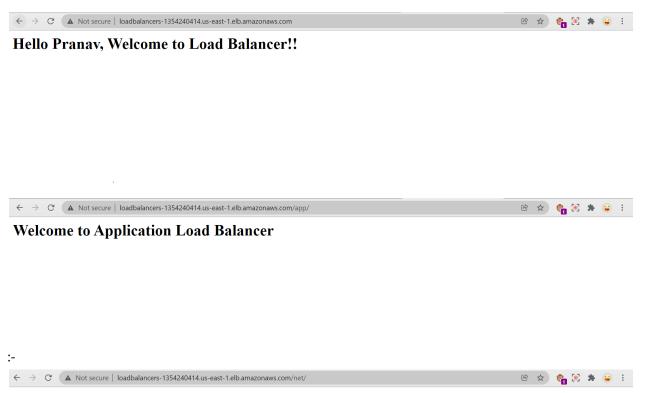
```
**** Load-Balancer*****

    Create-load-balancer

2. Create-listener
3. Create-rule
4. Describe-load-balancers
5. Describe-listeners
6. Describe-rules
7. Modify-rule
8. Modifý-listener
Delete-load-balancer
10. Delete-listener
11. Delete-rule
Enter the choice from above:-
Enter Amazon Resource Name for Listener
arn:aws:elasticloadbalancing:us-east-1:278460603394:listener/app/LoadBalancers/e49c51bd
5e1e6619/483ccd2570a01a56
Enter Amazon Resource Name for TG
arn:aws:elasticloadbalancing:us-east-1:278460603394:targetgroup/NLB/217cb39b4a4458cb
Enter Priority
10
Enter Path
*net
    "Rules": [
            "RuleArn": "arn:aws:elasticloadbalancing:us-east-1:278460603394:listener-ru
le/app/LoadBalancers/e49c51bd5ele6619/483ccd2570a01a56/a7e0fc0f771e8d66",
            "Priority": "10",
"Conditions": [
                     "Field": "path-pattern",
"Values": [
                         "/$path/*"
                     "PathPatternConfig": {
                         "Values": [
                             "/$path/*"
```



OUTPUT:-



Welcome to Network Load Balancer
