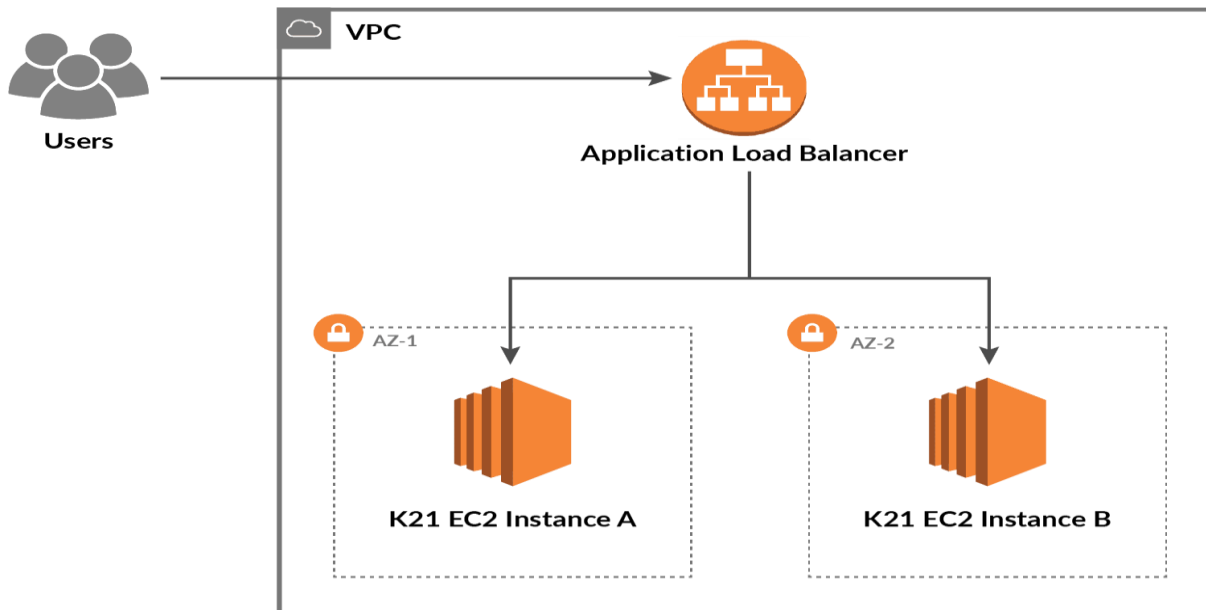


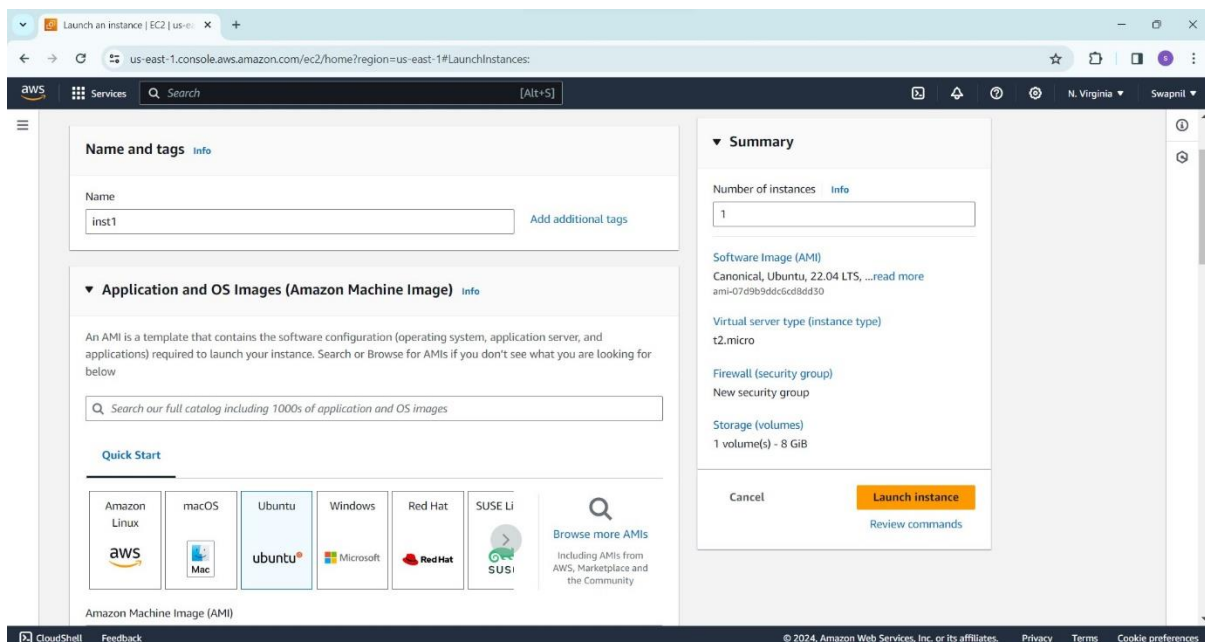


# Application Load Balancers

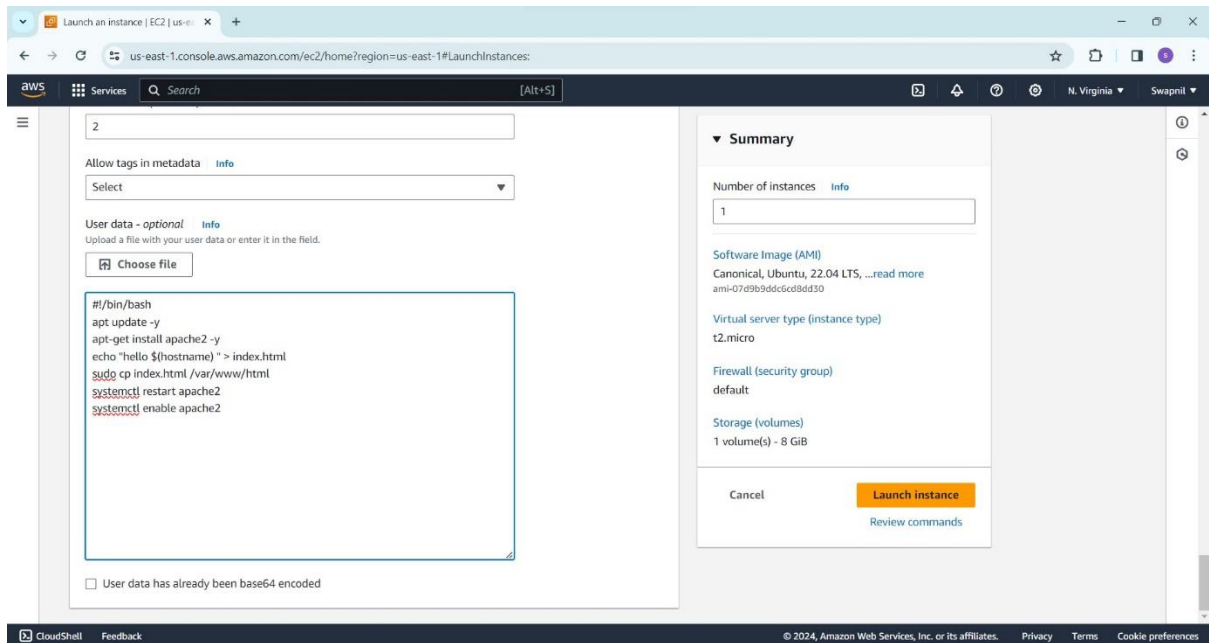


**Step 1:** Launch an two instance.

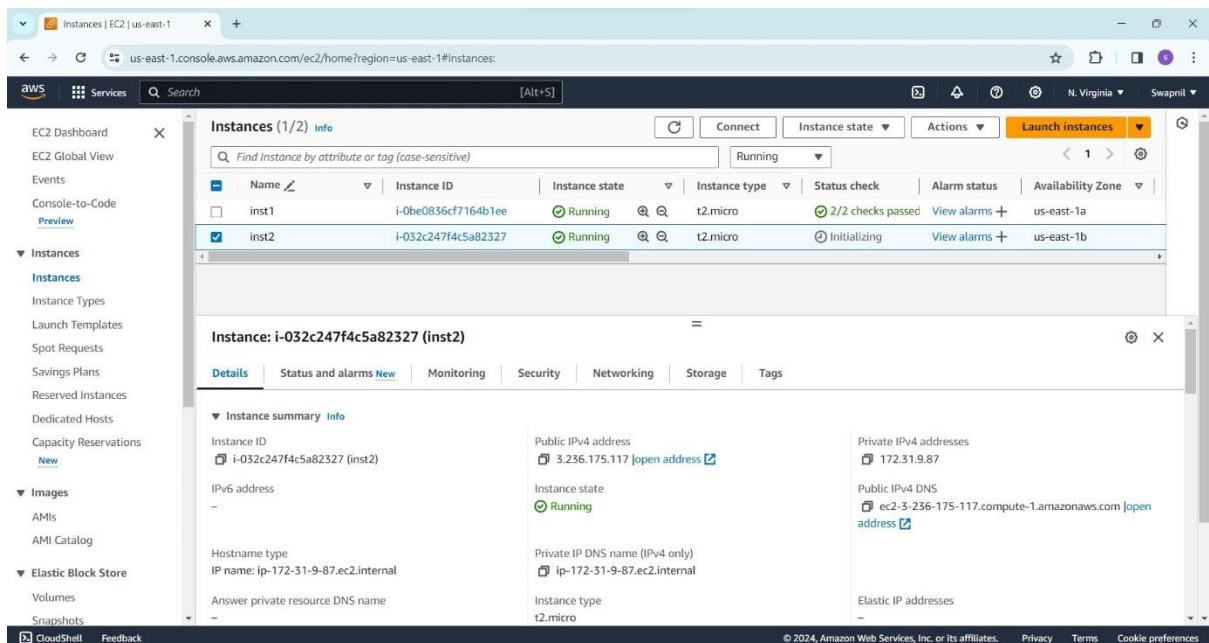
➤ Launch both instance in different subnet.



## ➤ Launch an instance with the user-data script.

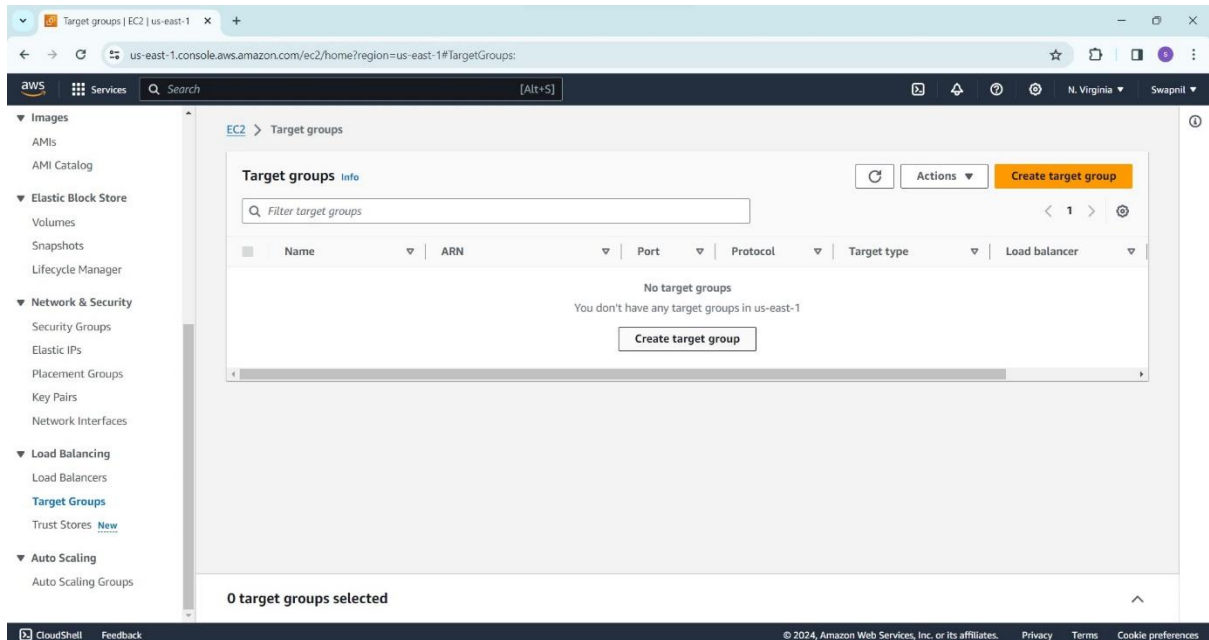


## Step 2: Check launched instances.



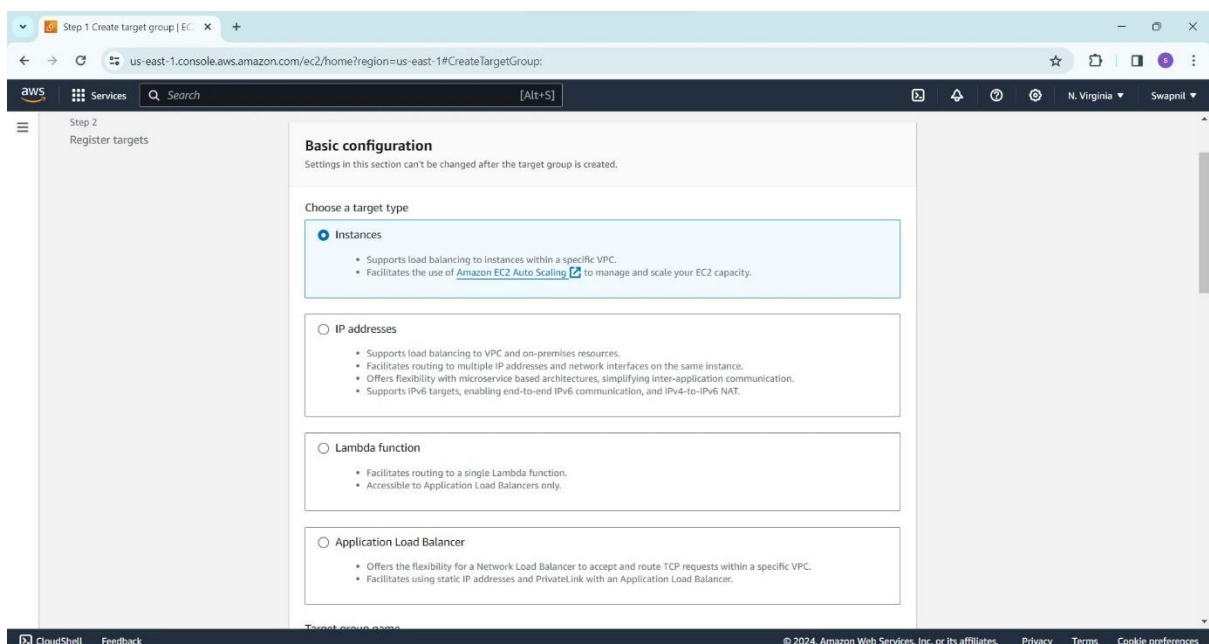
## Step 3: Target group.

- Select target group from navigation bar of left side.
- Click on create target group.



## Step 4: Create target group.

- Do the Basic configuration.
- Select target type.



## Step 5: Set target group name.

- Select protocol and port.
- Select ip address type.
- Click next

The screenshot shows the 'Step 1: Create target group' page in the AWS Management Console. The browser address bar shows the URL: `us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:`. The page has a dark header with the AWS logo, 'Services', a search bar, and navigation links for 'N. Virginia' and 'Swapnil'. The main content area is titled 'Target group name' and contains the following fields:

- Target group name:** A text input field containing 'target-1'. Below it, a note states: 'A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.'
- Protocol : Port:** A dropdown menu set to 'HTTP' and a port input field set to '80'. Below the port field, the text '1-65535' is visible.
- IP address type:** Two radio buttons are present: 'IPv4' (selected) and 'IPv6'. Below 'IPv4', a note states: 'Each instance has a default network interface (eth0) that is assigned the primary private IPv4 address. The instance's primary private IPv4 address is the one that will be applied to the target.' Below 'IPv6', a note states: 'Each instance you register must have an assigned primary IPv6 address. This is configured on the instance's default network interface (eth0). [Learn more](#)'
- VPC:** A dropdown menu showing 'vpc-0761d945a7300af6b' with 'IPv4: 172.31.0.0/16' below it.
- Protocol version:** A radio button for 'HTTP1' is selected. Below it, a note states: 'Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTPS/1.1.'

The footer of the console shows 'CloudShell', 'Feedback', and copyright information: '© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.

## Step 6: Register targets.

The screenshot shows the 'Step 2: Register targets' page in the AWS Management Console. The browser address bar shows the URL: `us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:`. The page has a dark header with the AWS logo, 'Services', a search bar, and navigation links for 'N. Virginia' and 'Swapnil'. The main content area is titled 'Register targets' and contains the following elements:

- A breadcrumb trail: `EC2 > Target groups > Create target group`.
- A left sidebar with two steps: 'Step 1: Specify group details' and 'Step 2: Register targets' (the current step).
- A heading 'Register targets' with a sub-note: 'This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.'
- A section titled 'Available instances (2/2)' with a search bar 'Filter instances' and navigation controls '< 1 > ⚙️'.
- A table with the following data:

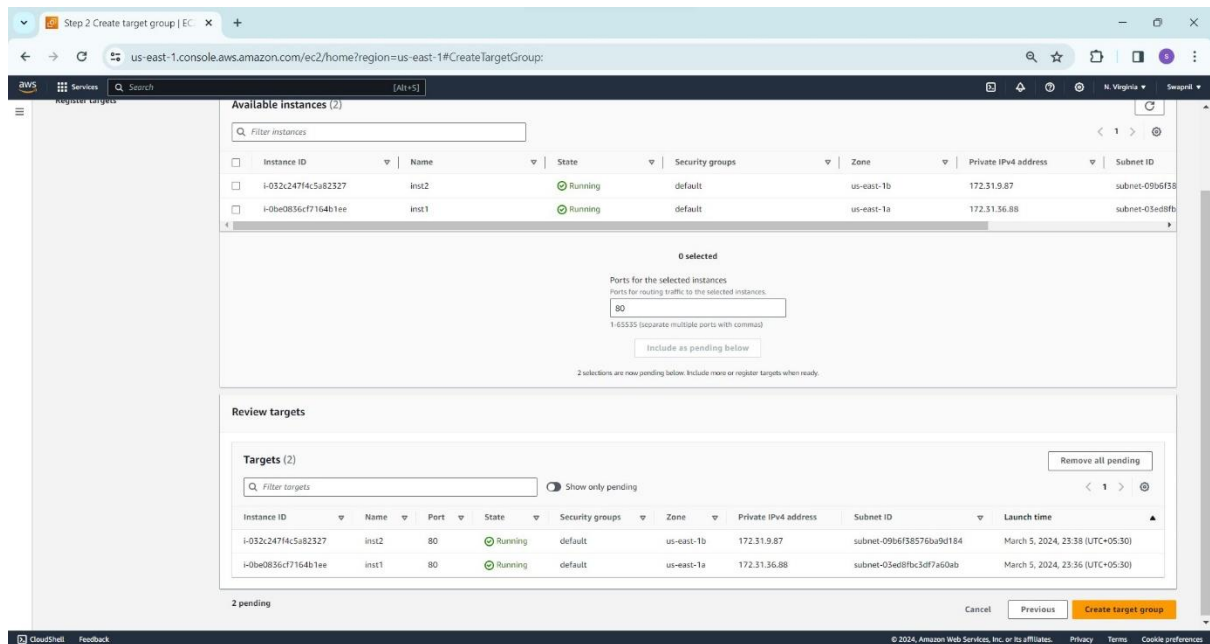
<input checked="" type="checkbox"/>	Instance ID	Name	State	Security groups	Zone
<input checked="" type="checkbox"/>	i-032c247f4c5a82327	inst2	Running	default	us-east
<input checked="" type="checkbox"/>	i-0be0836cf7164b1ee	inst1	Running	default	us-east

Below the table, it says '2 selected'. There is a section for 'Ports for the selected instances' with a note: 'Ports for routing traffic to the selected instances.' It contains a port input field set to '80' and the text '1-65535 (separate multiple ports with commas)'. At the bottom of this section is a button labeled 'Include as pending below'.

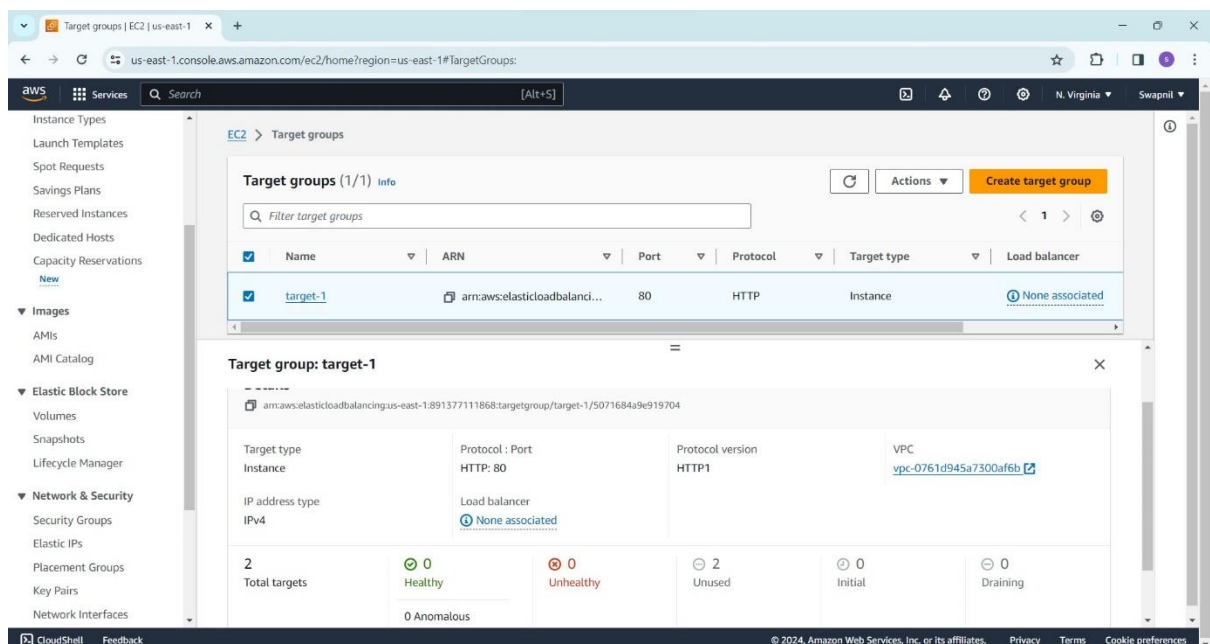
The footer of the console shows 'CloudShell', 'Feedback', and copyright information: '© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.

## Step 7: Include pending instances for review targets.

- Click on create target group.

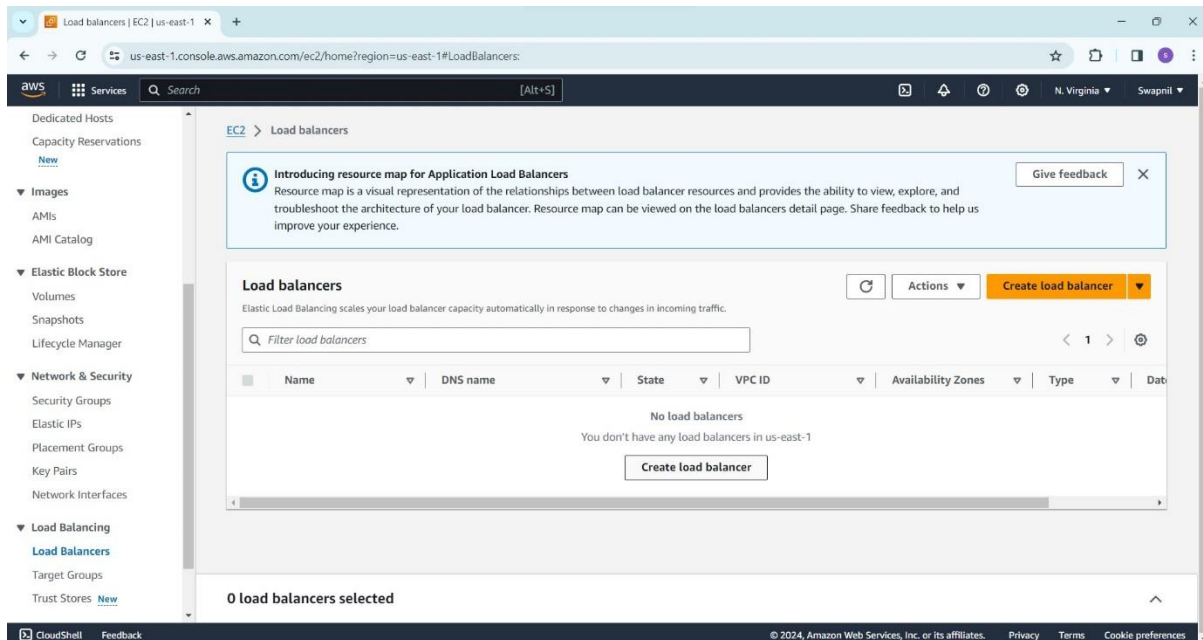


## Step 8: Check the created target group.



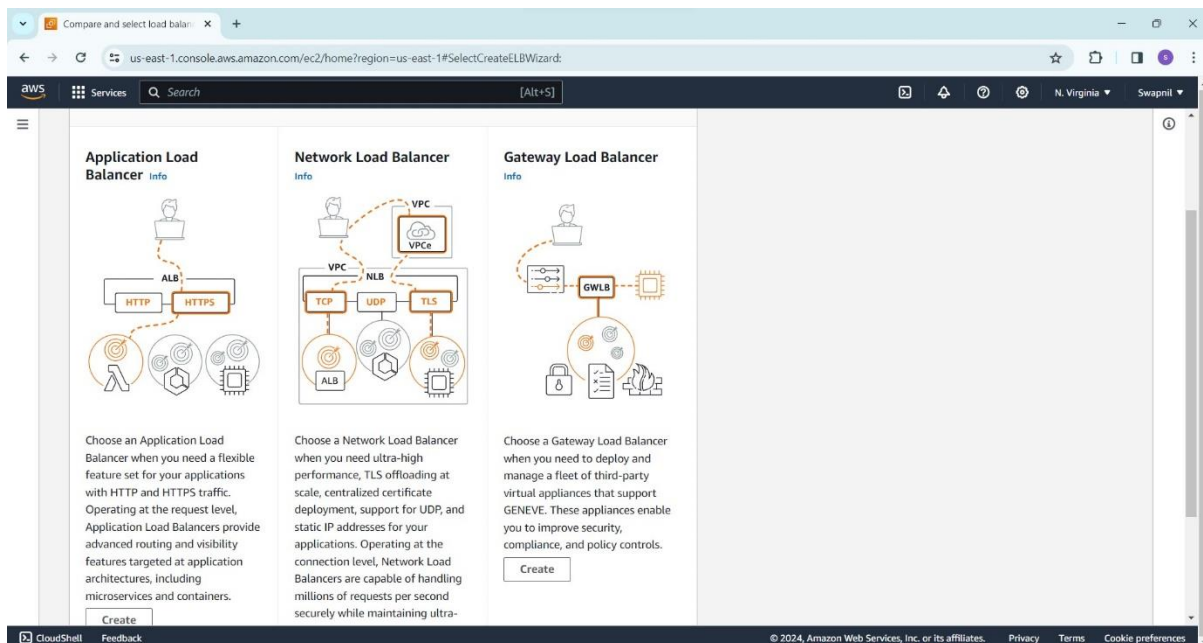
## Step 9: Create a load balancer.

➤ Click on create load balancer.



## Step 10: Select load balancer type.

➤ Click on create.



## Step 11: Basic configuration.

- Enter load balancer name
- Select scheme and ip address type.

The screenshot shows the 'Create application load balance' wizard in the AWS Management Console. The 'Basic configuration' section is active. The 'Load balancer name' field contains 'appli-load-balancer'. The 'Scheme' is set to 'Internet-facing' and the 'IP address type' is set to 'IPv4'. The 'Network mapping' section is partially visible below.

**How Application Load Balancers work**

**Basic configuration**

Load balancer name  
Name must be unique within your AWS account and can't be changed after the load balancer is created.  
  
A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Scheme **Info**  
Scheme can't be changed after the load balancer is created.  
☒ Internet-facing  
An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. [Learn more](#)  
☐ Internal  
An internal load balancer routes requests from clients to targets using private IP addresses.

IP address type **Info**  
Select the type of IP addresses that your subnets use.  
☒ IPv4  
Recommended for internal load balancers.  
☐ Dualstack  
Includes IPv4 and IPv6 addresses.

**Network mapping** **Info**  
The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

## Step 12: Network mapping.

- Select at least two availability zone and one subnet per zone.

The screenshot shows the 'Create application load balance' wizard in the AWS Management Console, Step 12: Network mapping. The 'Dualstack' option is selected at the top. The 'Network mapping' section is active, showing a VPC selection dropdown and a list of availability zones for mapping.

**Network mapping** **Info**  
The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

VPC **Info**  
Select the virtual private cloud (VPC) for your targets or you can [create a new VPC](#). Only VPCs with an internet gateway are enabled for selection. The selected VPC can't be changed after the load balancer is created. To confirm the VPC for your targets, view your [target groups](#).  
  
IPv4: 172.31.0.0/16

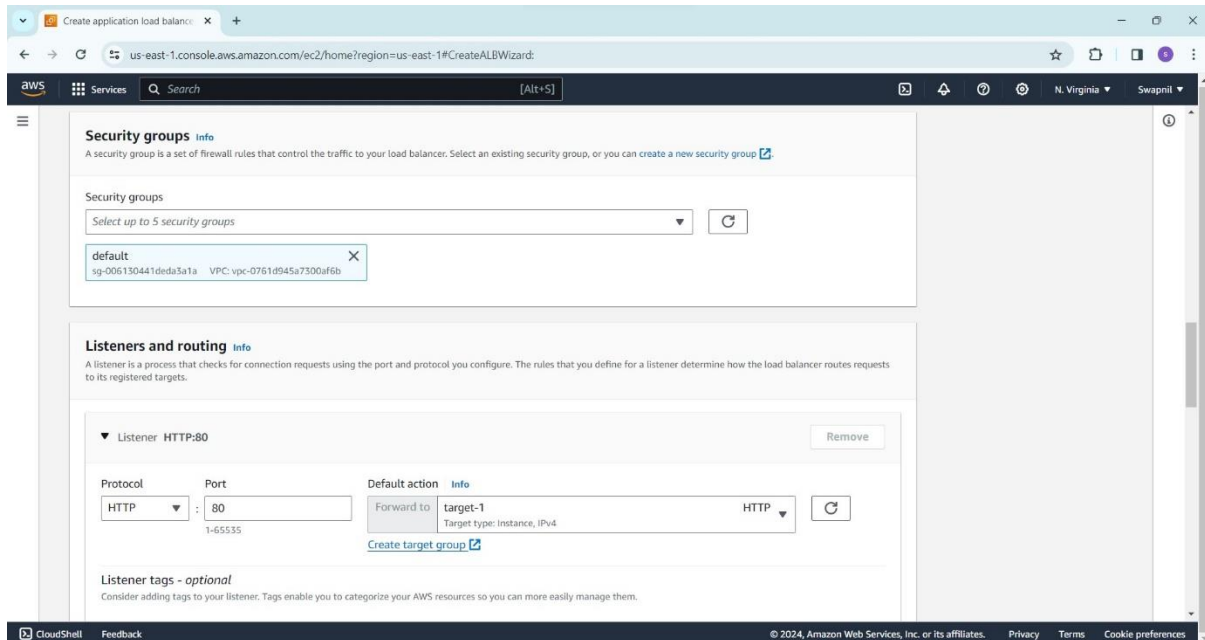
Mappings **Info**  
Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

- ☐ us-east-1a (use1-az6)
- ☐ us-east-1b (use1-az1)
- ☐ us-east-1c (use1-az2)
- ☐ us-east-1d (use1-az4)
- ☐ us-east-1e (use1-az3)
- ☐ us-east-1f (use1-az5)

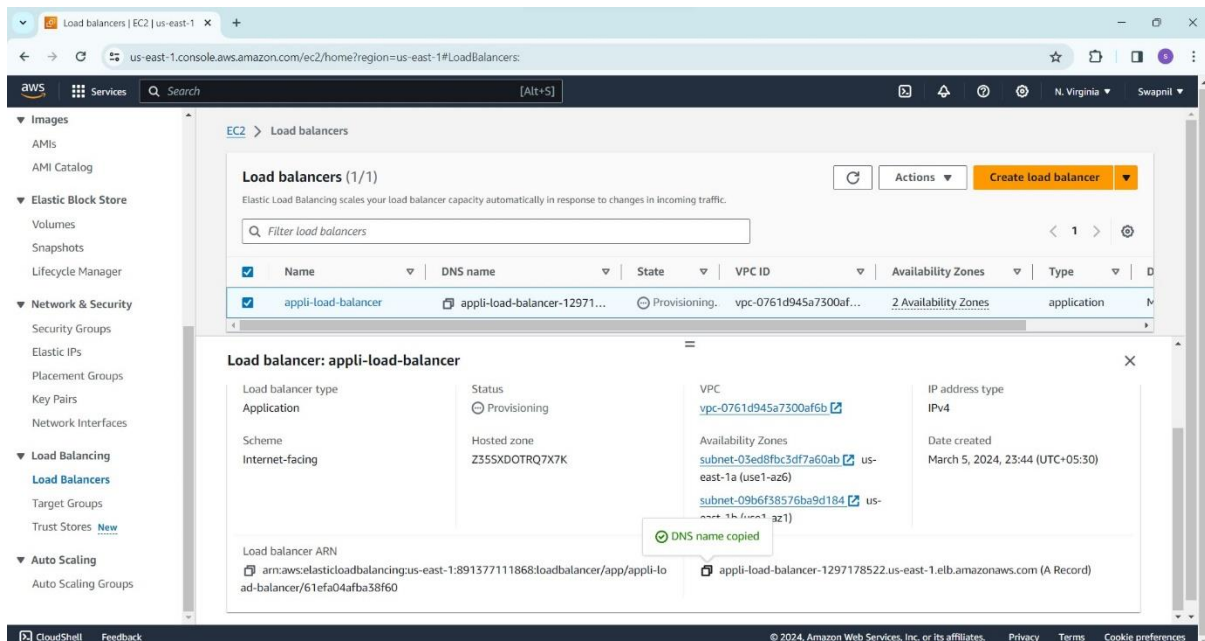


## Step 13: Security group.

- Select security group at least one.
- Select protocol and for with the target group.



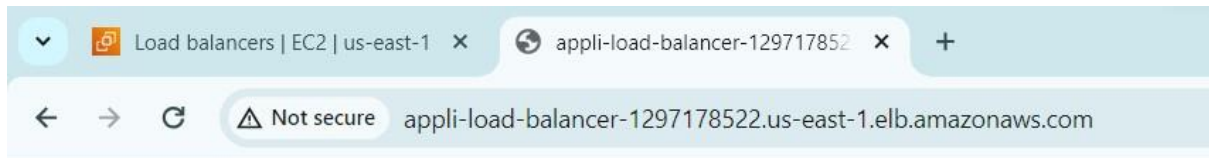
## Step 14: Load balancer is created.





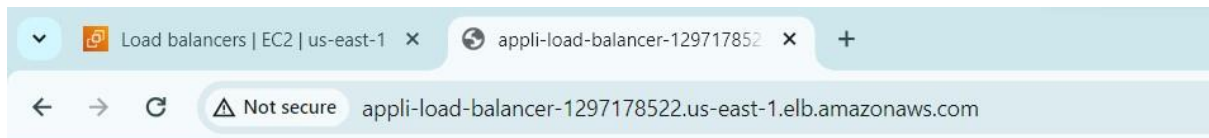
## Step 15: Check the load balancer.

➤ Copy the DNS address.



hello ip-172-31-9-87

➤ After refresh the web page it reflected message of instance2



hello ip-172-31-36-88