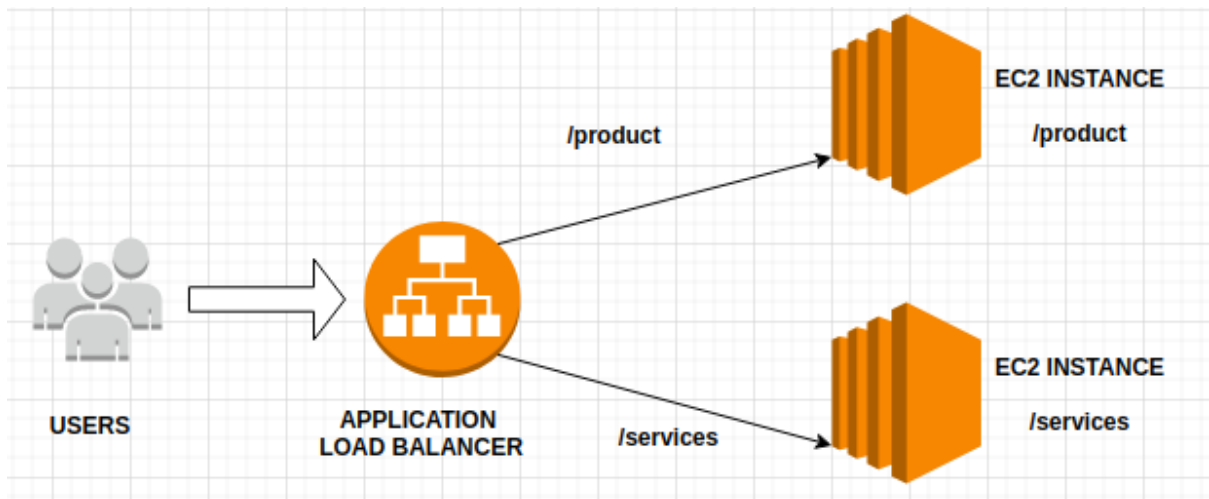
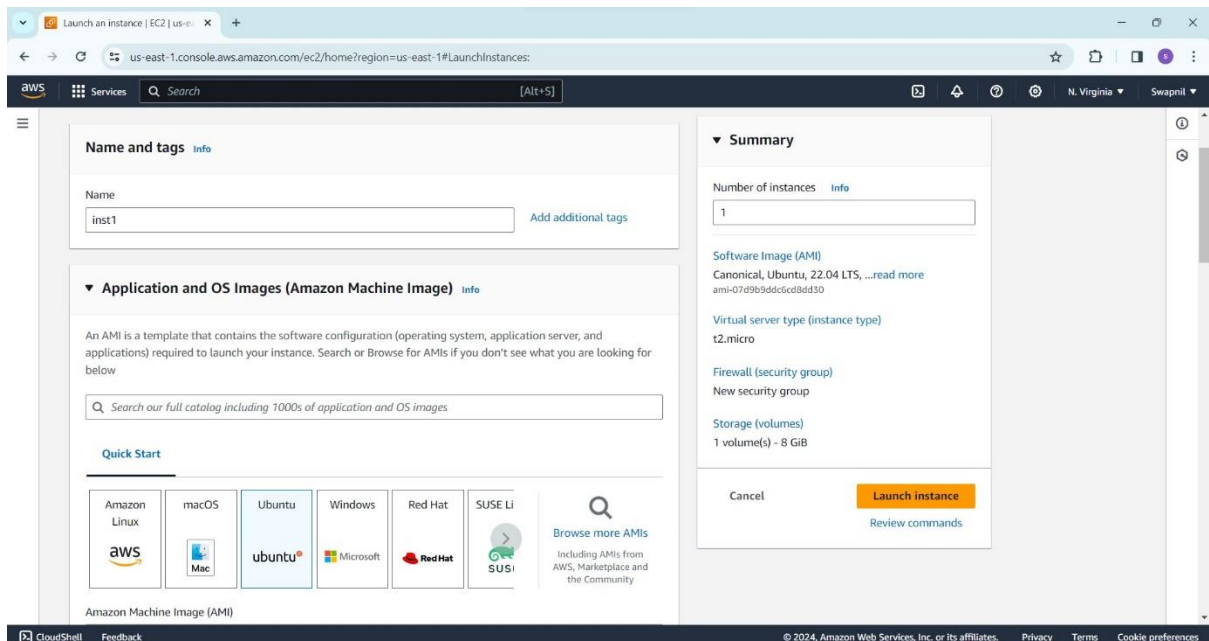




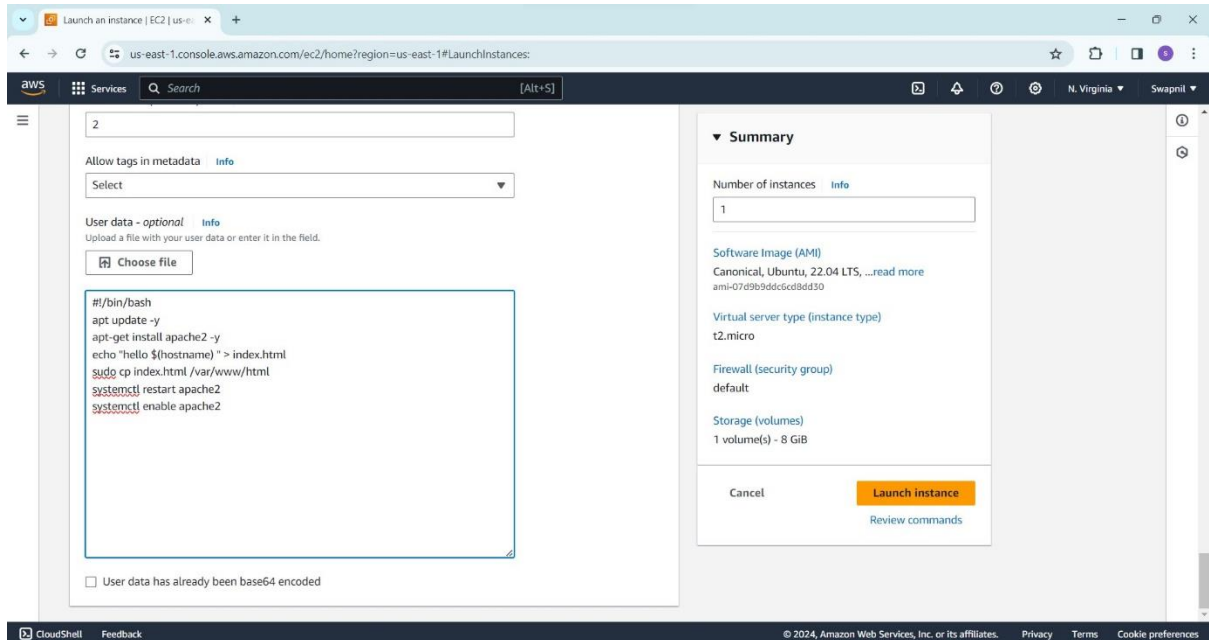
Path Base Routing in Application Load Balancer (ALB)



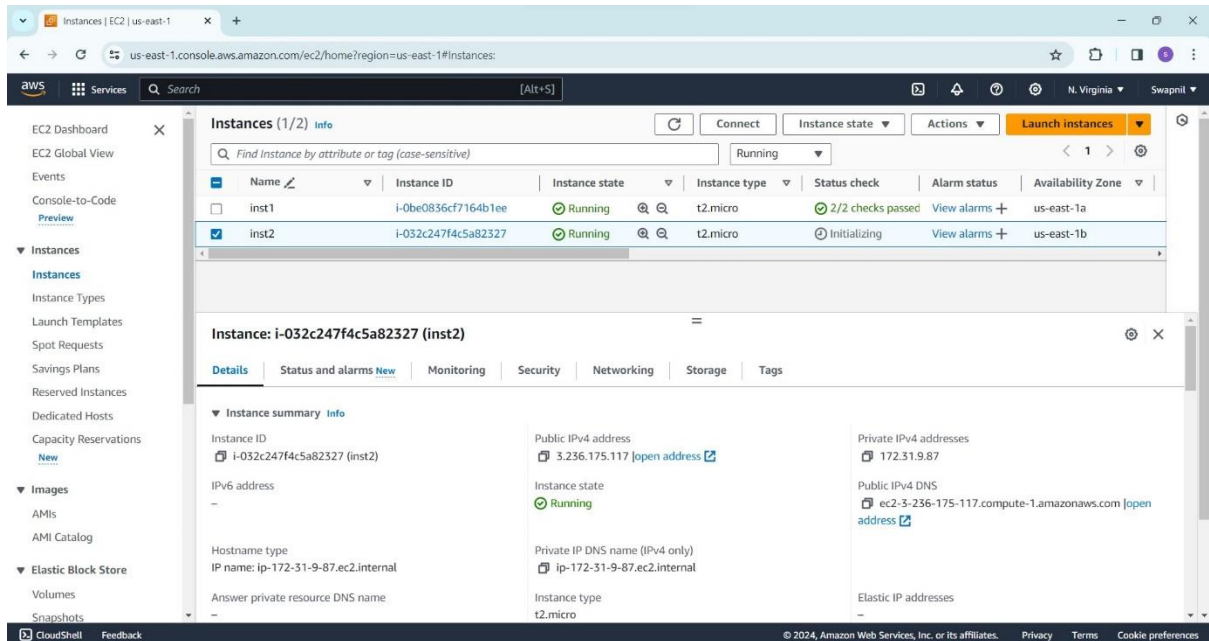
Step 1: Launch an instance.



➤ Launch an instance with the user-data script.

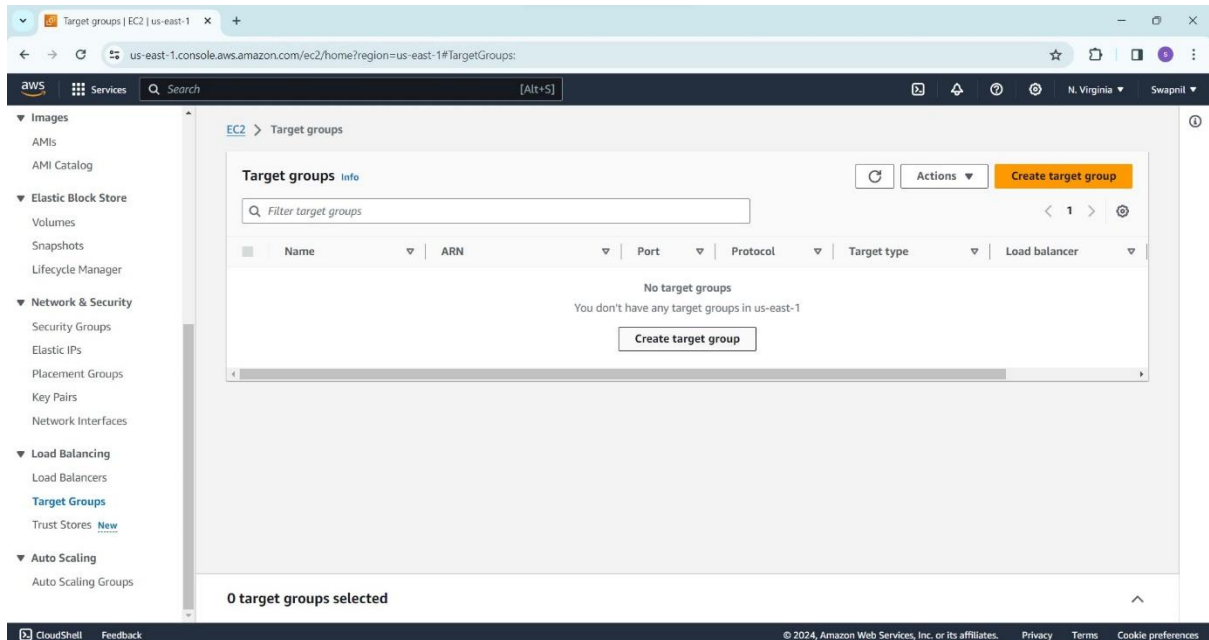


Step 2: Check launched instances.



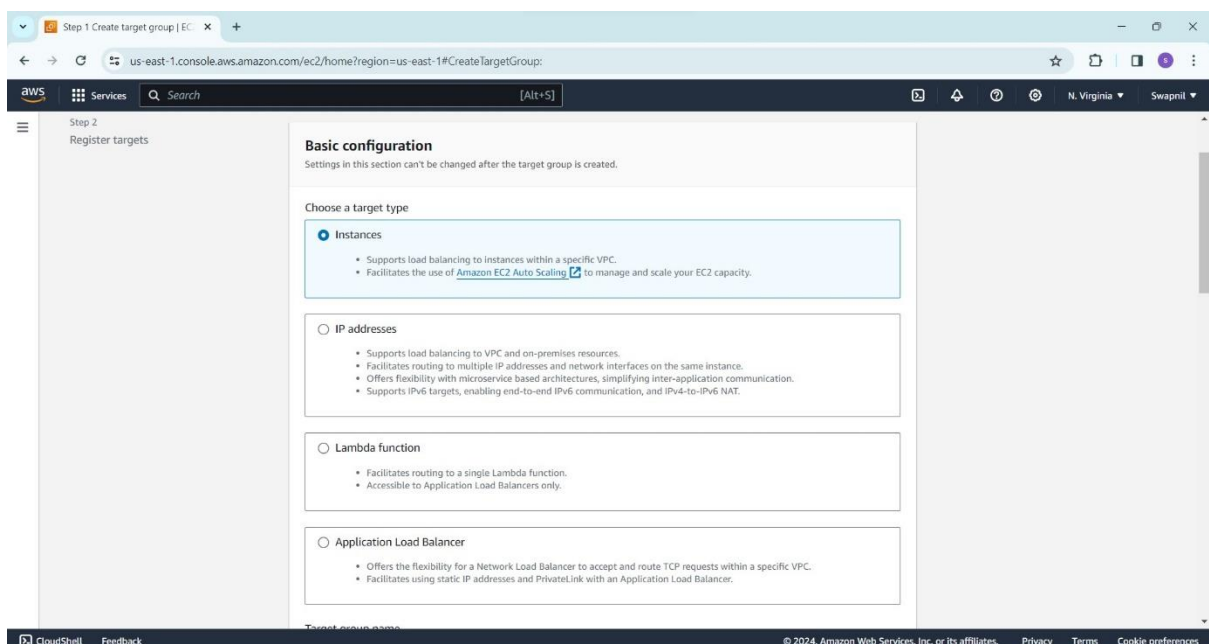
Step 3: Target group.

- 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 page is titled 'Step 1 Create target group | EC2' and the URL is 'us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:'. The page has a dark blue header with the AWS logo, 'Services', a search bar, and a '[Alt+S]' button. The main content area is white and contains the following fields:

- Target group name:** A text input field with 'target-1' entered. 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 text input field with '80' entered. Below the port field, the text '1-65535' is displayed.
- 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 labeled '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 page includes 'CloudShell', 'Feedback', and a copyright notice: '© 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 page is titled 'Step 2 Create target group | EC2' and the URL is 'us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:'. The page has a dark blue header with the AWS logo, 'Services', a search bar, and a '[Alt+S]' button. The main content area is white and contains the following elements:

- Register targets:** A heading followed by a 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.'
- Available instances (2/2):** A table with a search bar 'Filter instances' and a refresh button. The table has columns: 'Instance ID', 'Name', 'State', 'Security groups', and 'Zone'. Two instances are listed:

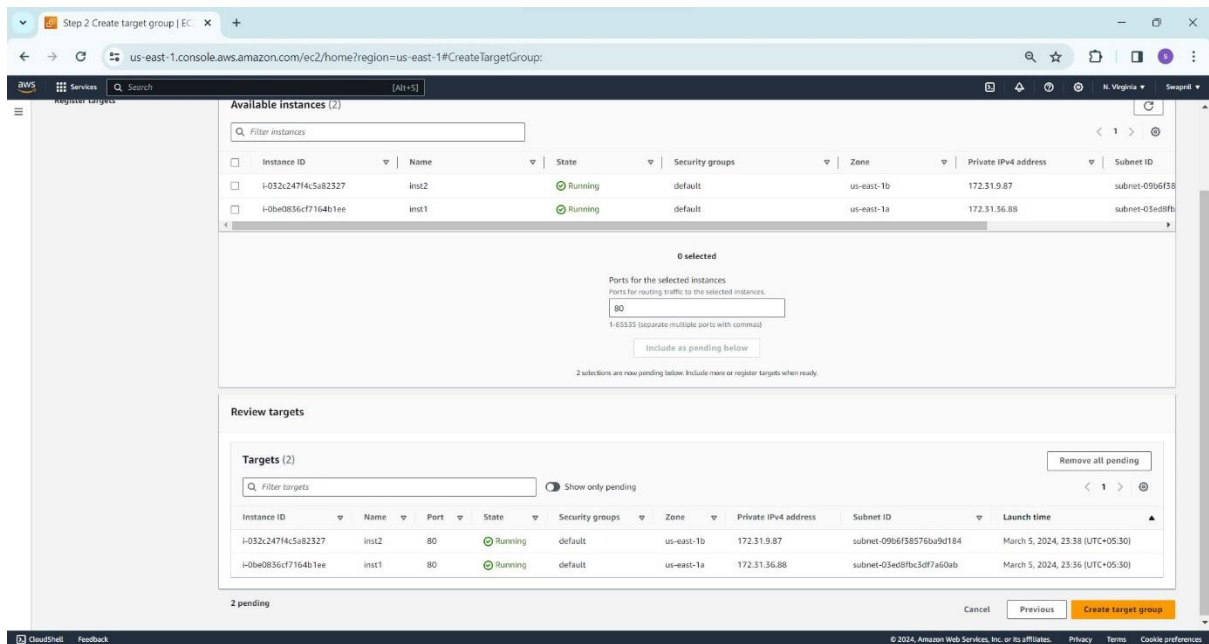
Instance ID	Name	State	Security groups	Zone
i-032c247f4c5a82327	inst2	Running	default	us-east
i-0be0836cf7164b1ee	inst1	Running	default	us-east

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 has a text input field with '80' entered and a note: '1-65535 (separate multiple ports with commas)'. Below this is a button labeled 'Include as pending below'.

The footer of the page includes 'CloudShell', 'Feedback', and a copyright notice: '© 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.



The screenshot shows the AWS Management Console 'Create target group' page. The 'Available instances' section displays a table with two instances selected:

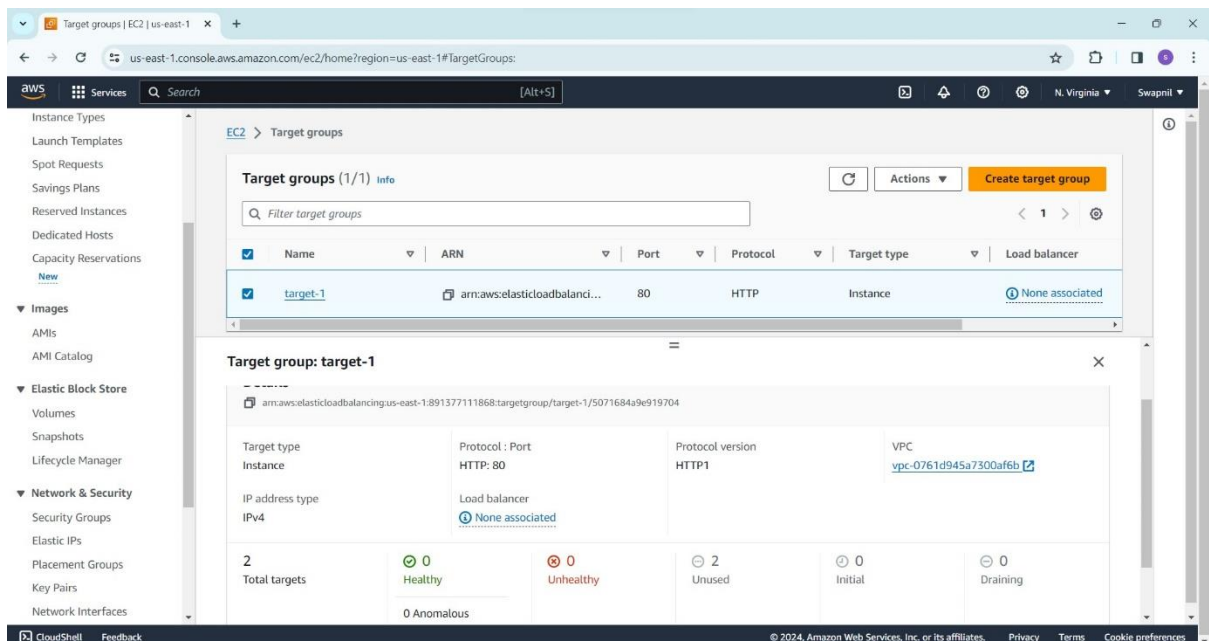
Instance ID	Name	State	Security groups	Zone	Private IPv4 address	Subnet ID
i-032c247f4c5a82327	inst2	Running	default	us-east-1b	172.31.9.87	subnet-0966f3b8
i-0ba0836cf7164b1ee	inst1	Running	default	us-east-1a	172.31.36.88	subnet-03ed8bf8

The 'Review targets' section shows two pending targets:

Instance ID	Name	Port	State	Security groups	Zone	Private IPv4 address	Subnet ID	Launch time
i-032c247f4c5a82327	inst2	80	Running	default	us-east-1b	172.31.9.87	subnet-0966f3b8	March 5, 2024, 23:38 (UTC+05:30)
i-0ba0836cf7164b1ee	inst1	80	Running	default	us-east-1a	172.31.36.88	subnet-03ed8bf8	March 5, 2024, 23:36 (UTC+05:30)

The 'Create target group' button is visible at the bottom right.

Step 8: Check the created target group.



The screenshot shows the AWS Management Console 'Target groups' page. The 'Target groups (1/1)' section displays a table with one target group:

Name	ARN	Port	Protocol	Target type	Load balancer
target-1	arn:aws:elasticloadbalancing...	80	HTTP	Instance	None associated

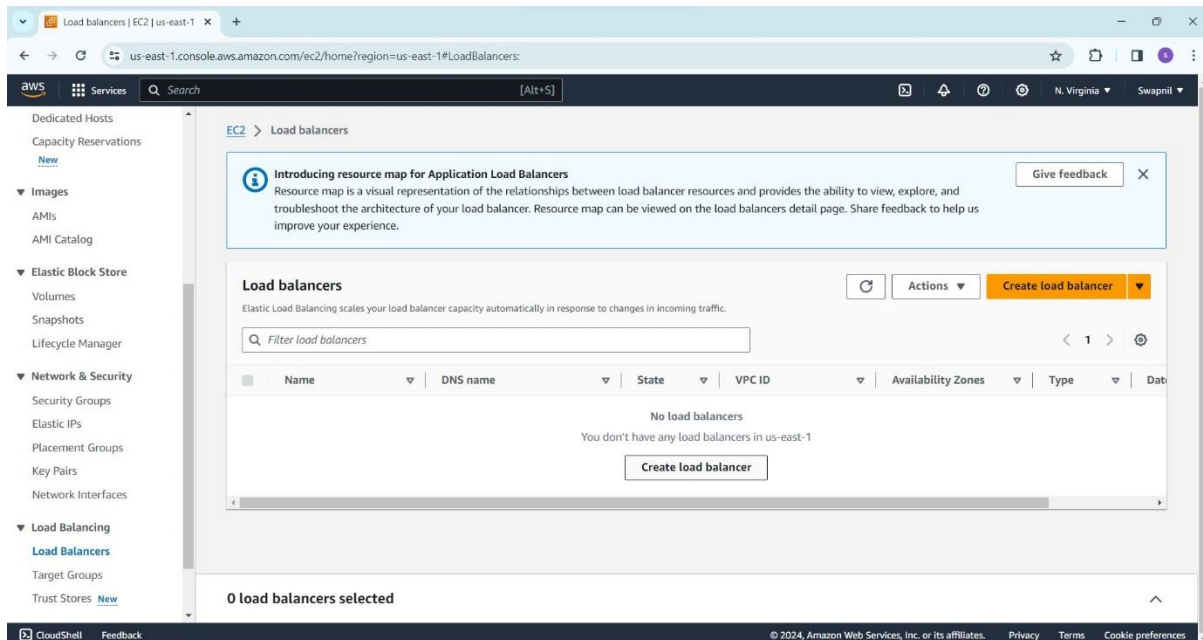
The 'Target group: target-1' section shows details for the target group:

Target type	Protocol : Port	Protocol version	VPC
Instance	HTTP: 80	HTTP1	yvc-0761d945a7300af6b

The 'IP address type' is IPv4. The 'Load balancer' is None associated. The 'Total targets' is 2, with 0 Healthy, 0 Unhealthy, 2 Unused, 0 Initial, and 0 Draining.

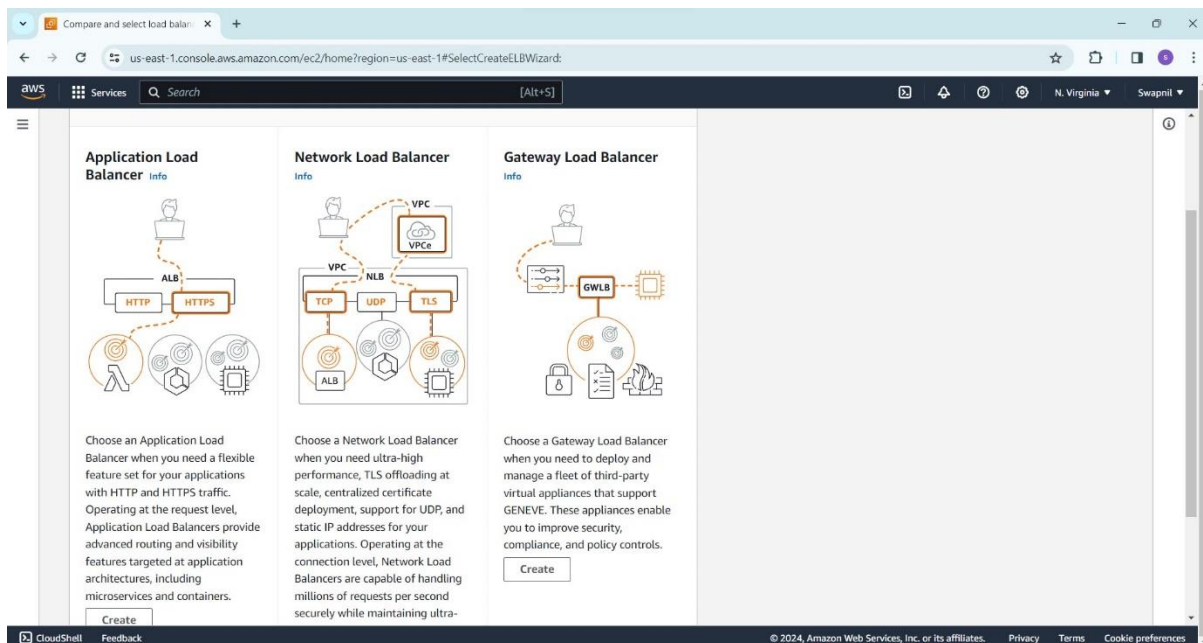
Step 9: Create a load balancer.

➤ Click on create load balancer.



Step 10: Select load balancer type.

➤ Click on create.



Step 11: Basic configuration.

- Enter load balancer IP name.
- Select scheme and 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' (selected with a radio button). The 'IP address type' is set to 'IPv4' (selected with a radio button). The 'Network mapping' section is visible below, showing a list of subnets for selection.

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 'VPC' dropdown is set to 'vpc-0761d945a7300af6b'. The 'Mappings' section shows a list of availability zones for selection.

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](#).

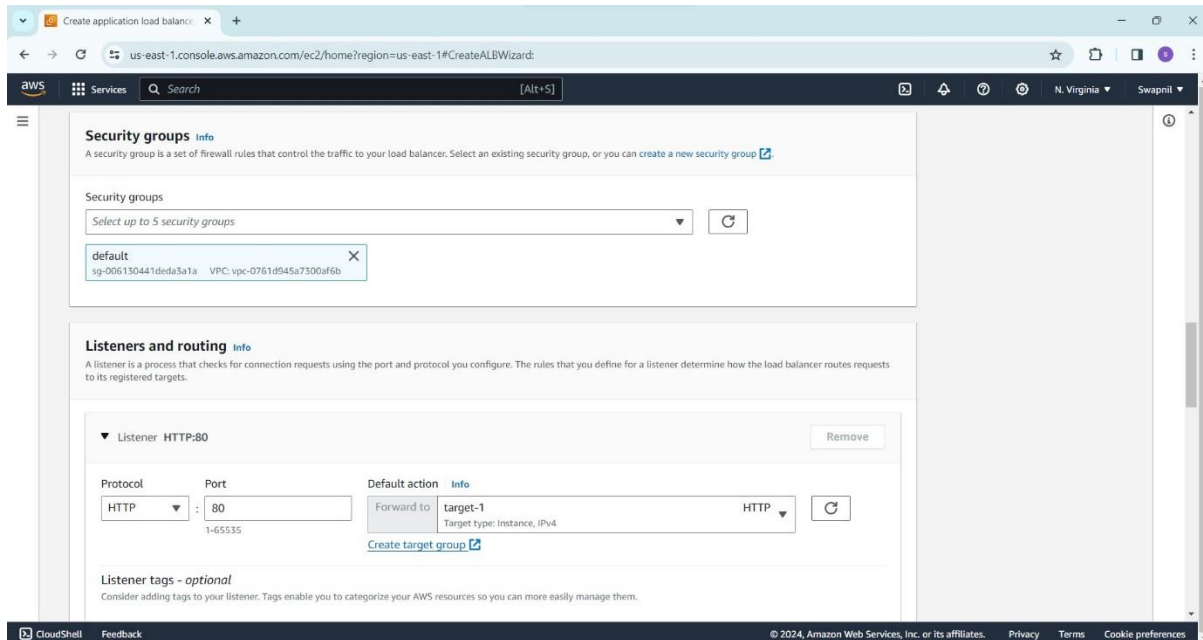
IPv4: 172.31.0.0/16

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.

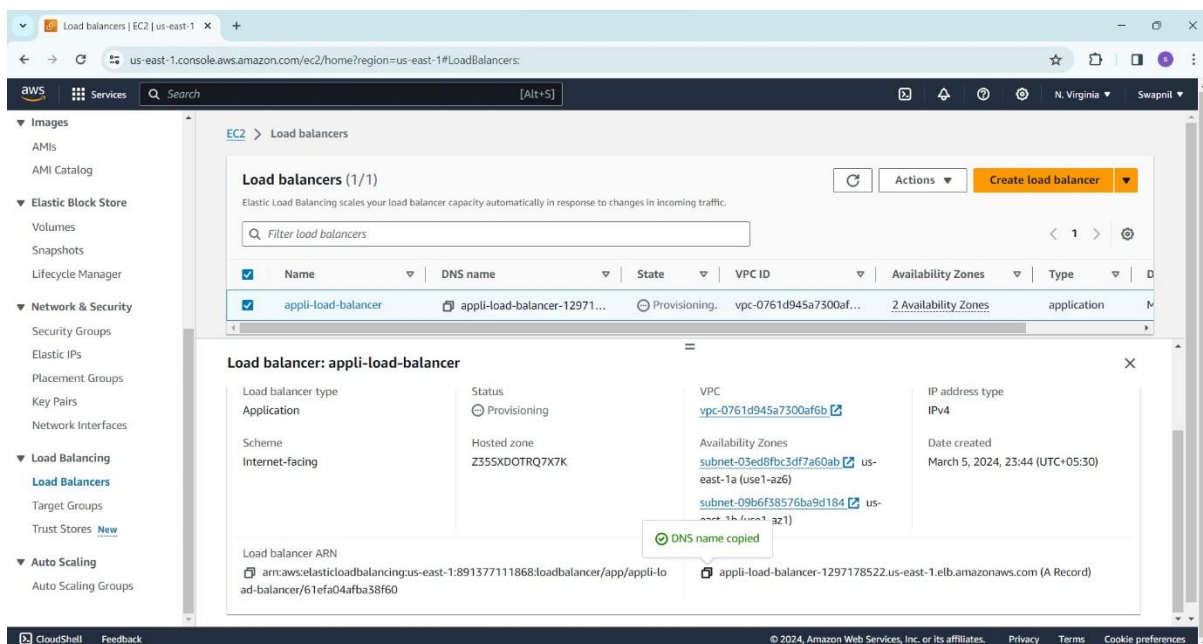
- ☐ us-east-1a (use1-az6)
- ☐ us-east-1b (use1-az1)
- ☐ us-east-1c (use1-az2)
- ☐ us-east-1d (use1-az4)
- ☐ us-east-1e (use1-az3)
- ☐ us-east-1f (use1-az5)

Step 13: Security group.

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

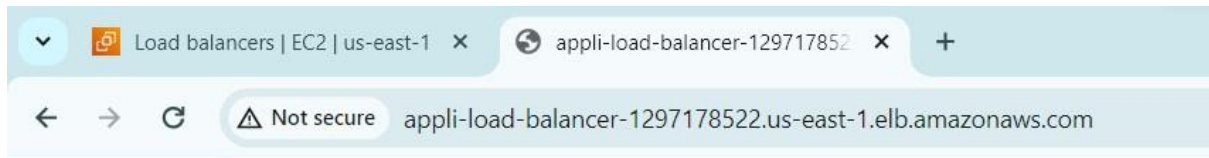


Step 14: Load balancer is created.



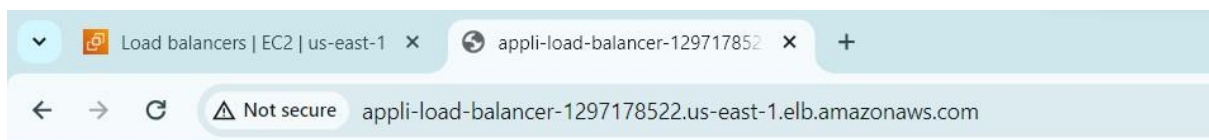
Step 15: Check the load balancer.

➤ Copy the DNS address.



hello ip-172-31-9-87

➤ After refresh the web page it reflected message of instance2.

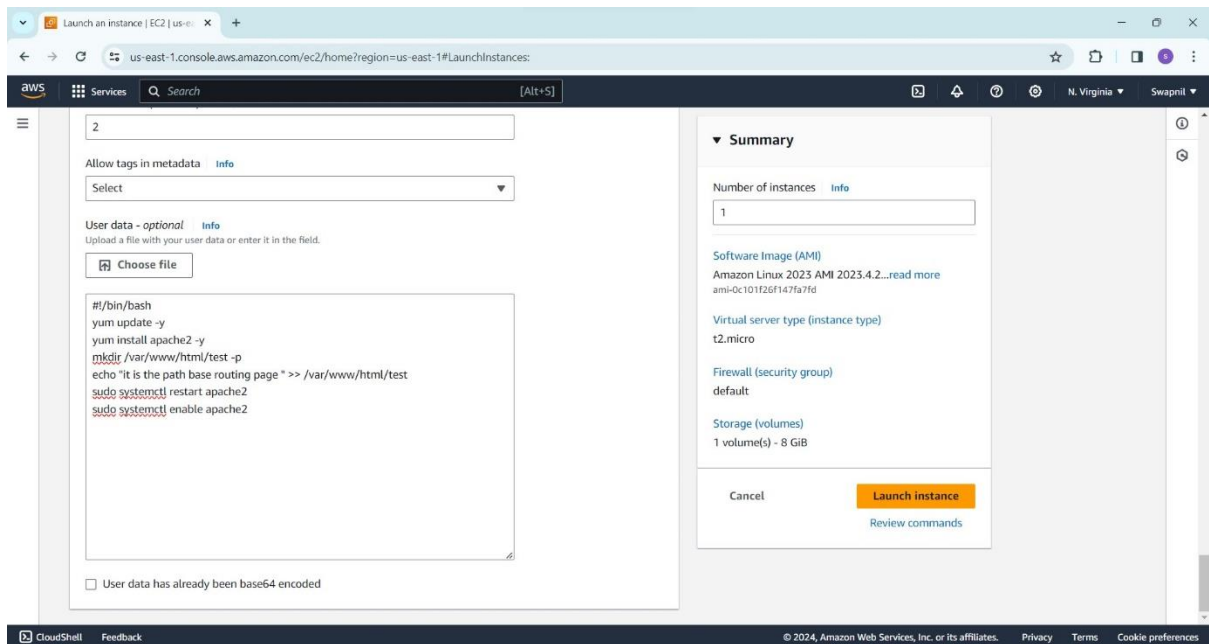


hello ip-172-31-36-88

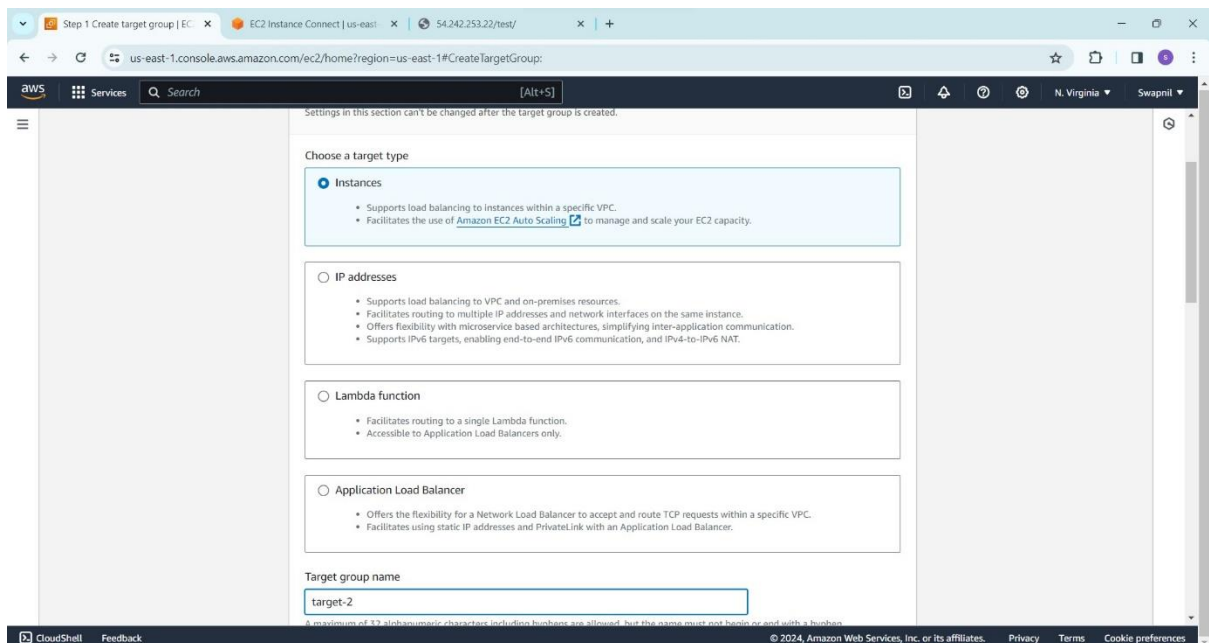
Add Path Rule In Application Load Balancer

Step 16: Launch another new instance.

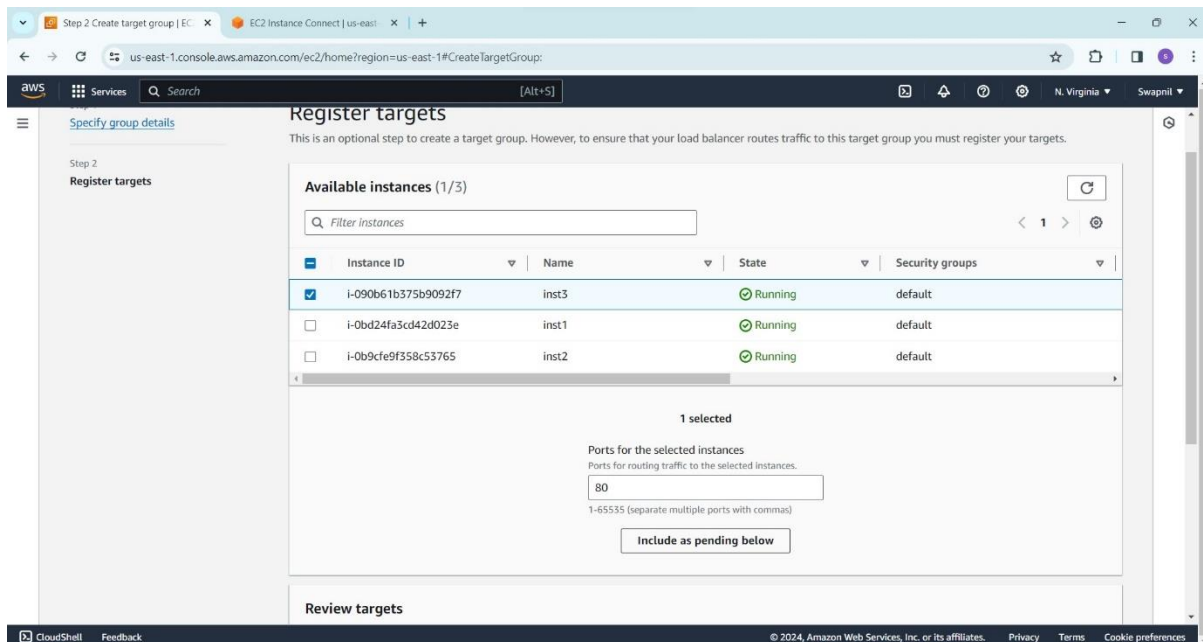
➤ User data add /test/ path



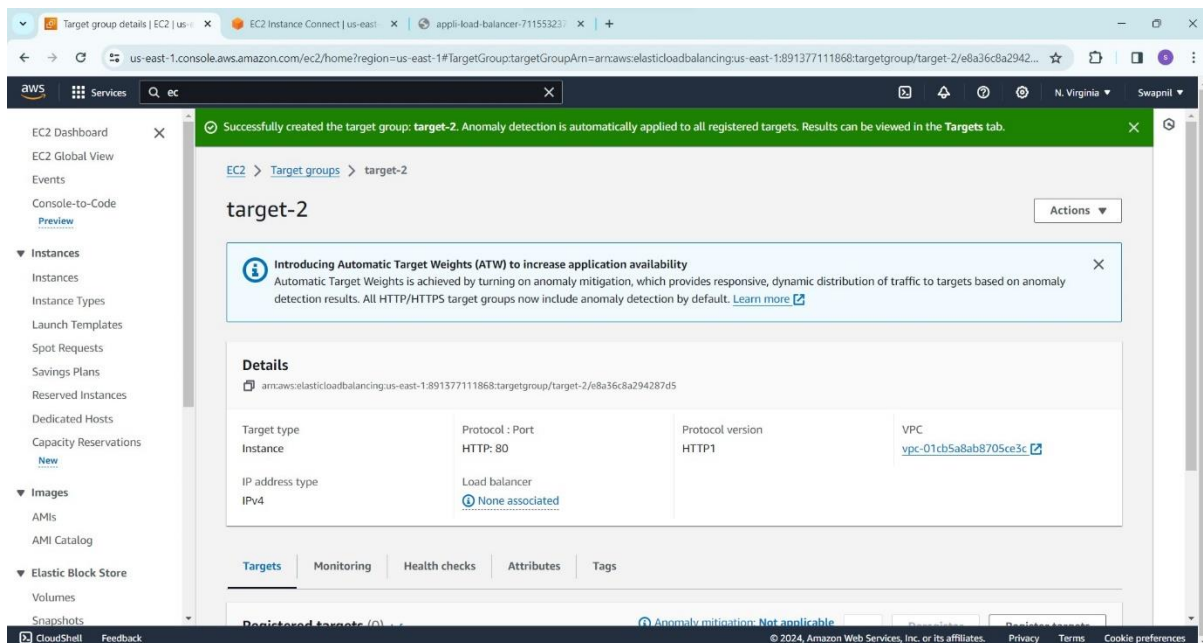
Step 17: Create another target group.



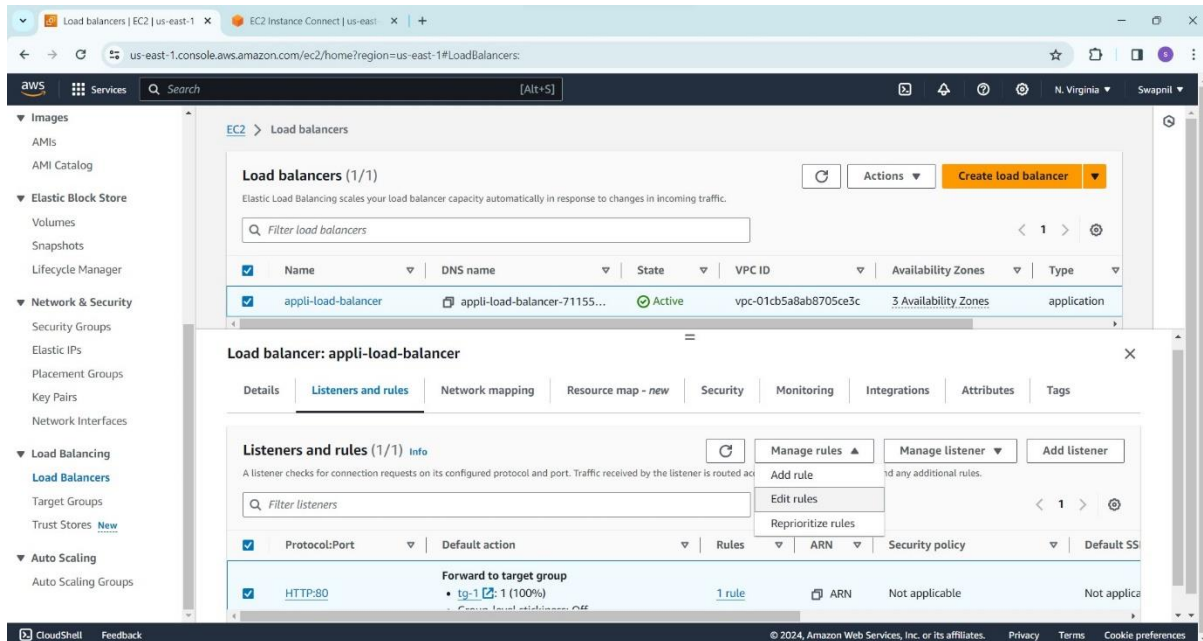
Step 18: Register targets.



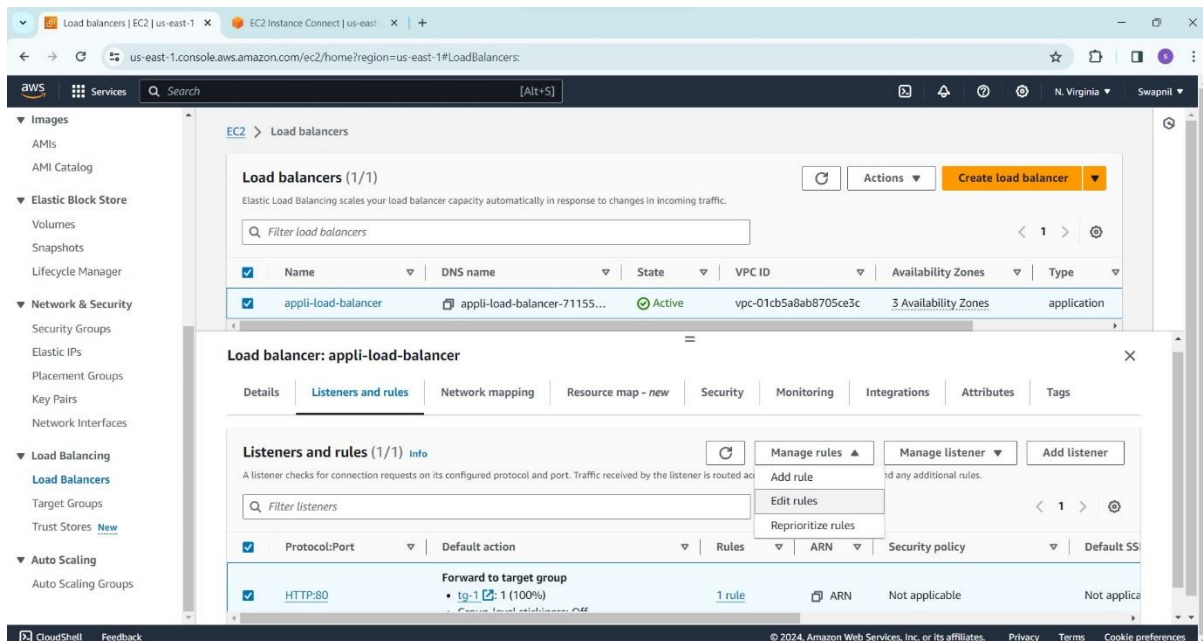
Step 19: Target group is created.



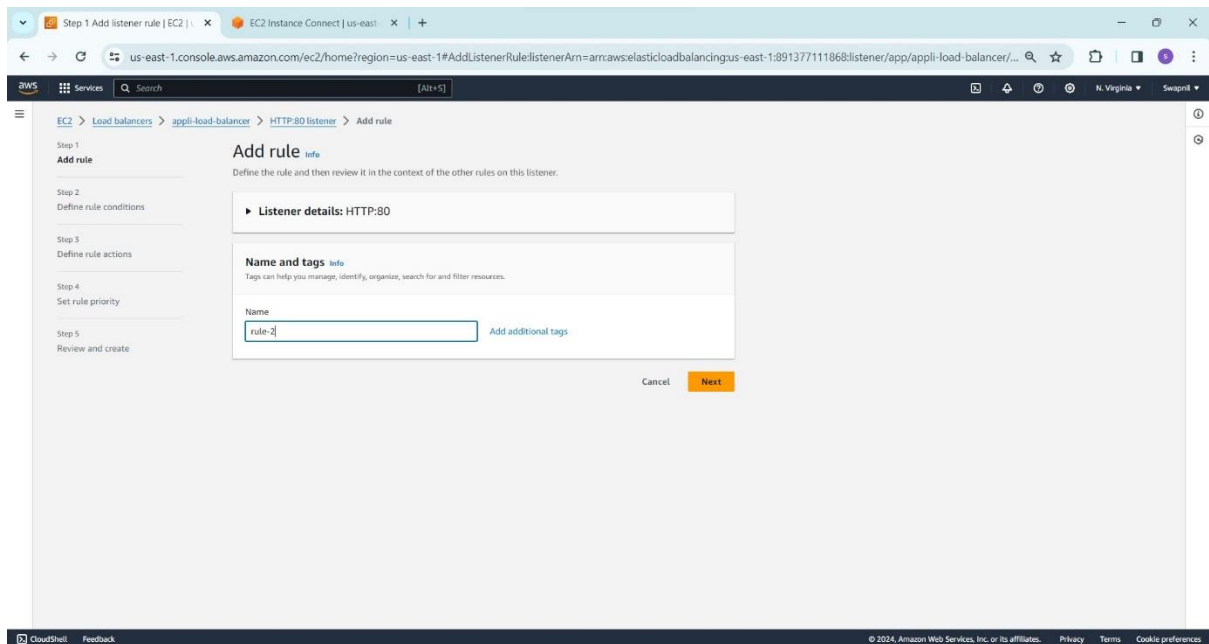
Step 20: Edit the listeners and rule in application load balancer.



Step 21: Add the rule.

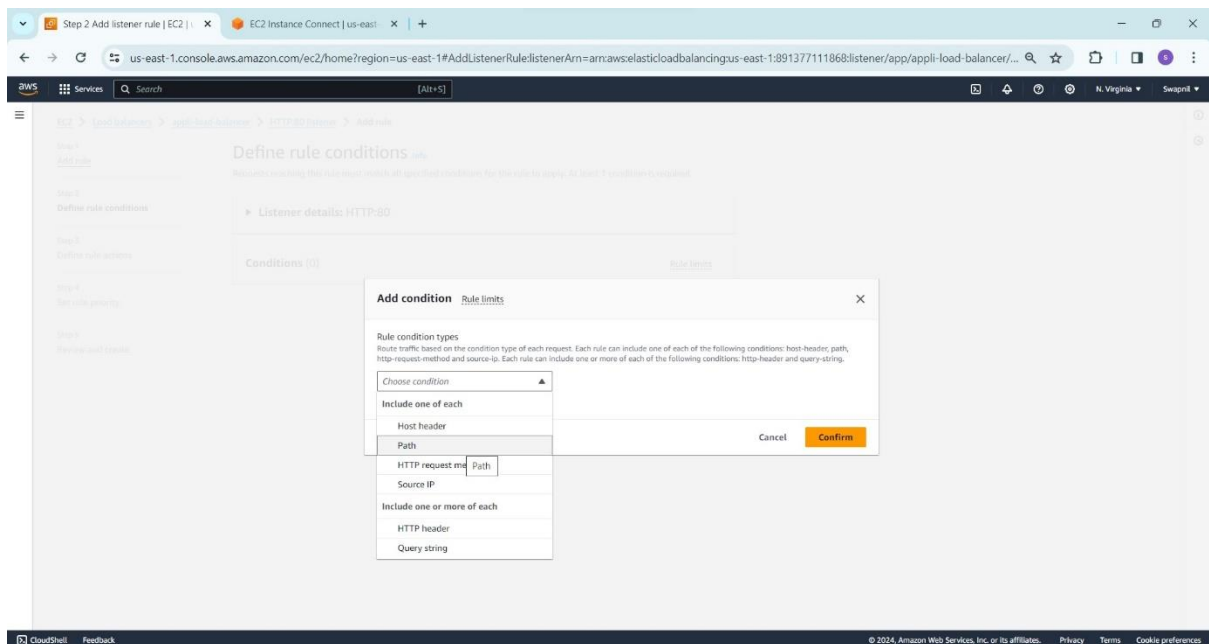


Step 22: Define Name and tags.



Step 23: Select the condition.

➤ Select the rule condition type.



Step 24: Add the condition.

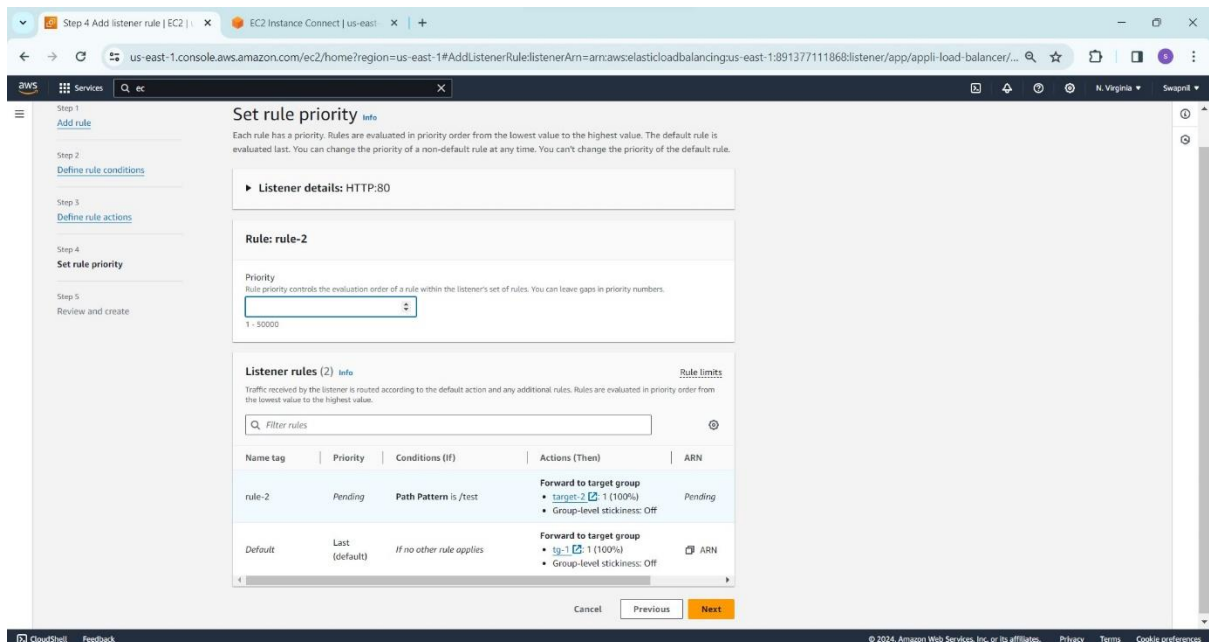
The screenshot shows the AWS Management Console interface for editing a rule. The breadcrumb navigation is: EC2 > Load balancers > appli-load-balancer > HTTP:80 listener > Rule: rule-2 > Edit rule. The left sidebar shows the steps: Step 1: Define rule conditions (active), Step 2: Define rule actions, Step 3: Review changes. The main content area is titled 'Define rule conditions' with a sub-header 'Define rule conditions Info'. Below this, it says 'Requests reaching this rule must match all specified conditions for the rule to apply. At least 1 condition is required.' There is a section for 'Listener details: HTTP:80'. Below that, a 'Conditions (1/1)' section shows a single condition: 'Path (1)'. The condition is defined as 'If Path is appli-load-balancer-711553237.us-east-1.elb.amazonaws.com/test'. There are buttons for 'Rule limits', 'Edit', 'Delete', and 'Add condition'. At the bottom right, there are 'Cancel' and 'Next' buttons.

Step 25: Define rule action.

➤ Select the target group.

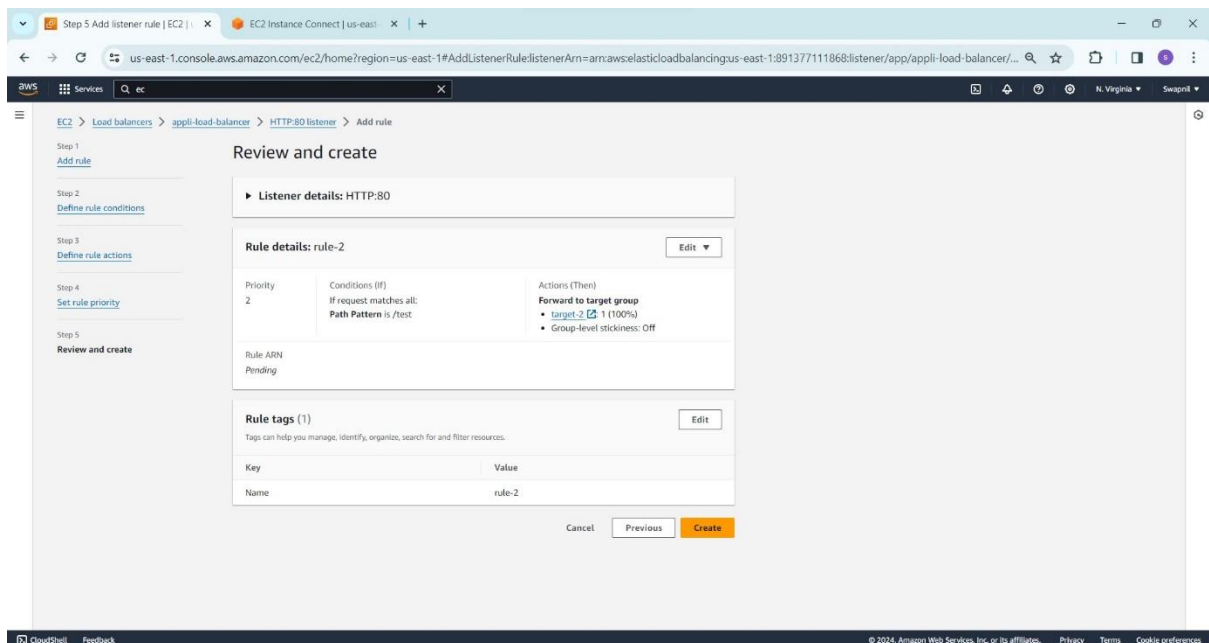
The screenshot shows the AWS Management Console interface for defining rule actions. The breadcrumb navigation is: EC2 > Load balancers > appli-load-balancer > HTTP:80 listener > Add rule. The left sidebar shows the steps: Step 1: Add rule, Step 2: Define rule conditions, Step 3: Define rule actions (active), Step 4: Set rule priority, Step 5: Review and create. The main content area is titled 'Define rule actions' with a sub-header 'Define rule actions Info'. Below this, it says 'These actions will be applied to requests matching the rule conditions.' There is a section for 'Listener details: HTTP:80'. Below that, an 'Actions' section shows 'Action types' with 'Routing actions' selected. Under 'Routing actions', 'Forward to target groups' is selected. Below this, there is a section for 'Forward to target group' with a sub-header 'Forward to target group Info'. It says 'Choose a target group and specify routing weight or Create target group'. There is a table with columns 'Target group', 'Weight', and 'Percent'. The table has one row: 'target-2' (Target type: Instance, IPv4), '1', and '100%'. There is a button 'Add target group'. Below the table, there is a section for 'Group-level stickiness' with a sub-header 'Group-level stickiness Info'. It says 'If a target group is sticky, requests routed to it remain in that target group for the duration of the session. Individual target stickiness is a configuration of the target group.' There is a checkbox 'Turn on group-level stickiness' which is currently unchecked. At the bottom right, there are 'Cancel', 'Previous', and 'Next' buttons.

Step 26: Set rule priority for the rule.



Step 27: Review and create.

➤ Click on create.



Step 28: Check the result.

- Add the /test/ path with application load balance DNS in URL.

