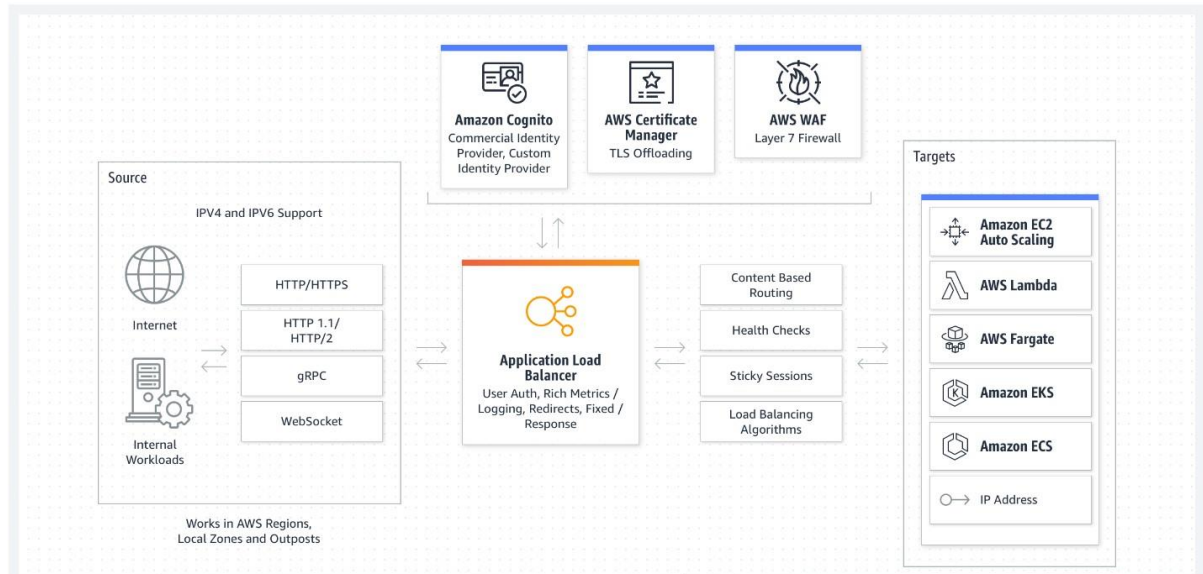


Elastic Load Balancer

Creating an Elastic Load balancer in AWS:

Elastic Load Balancing (ELB) automatically distributes incoming application traffic across multiple targets and virtual appliances in one or more Availability Zones (AZs).



Steps:

1. Launch an instance in aws .

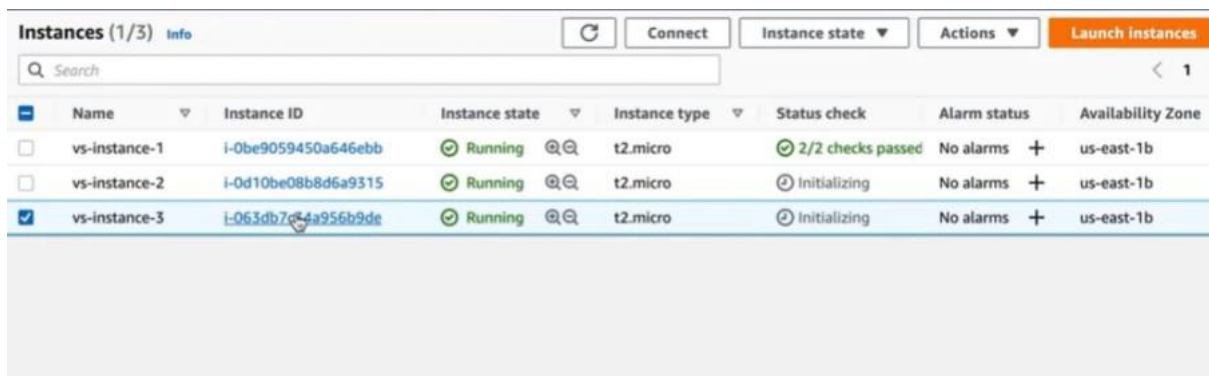
EC2 > Instances > i-0be9059450a646ebb

Instance summary for i-0be9059450a646ebb (vs-instance-1)

Updated less than a minute ago

Instance ID i-0be9059450a646ebb (vs-instance-1)	Public IPv4 address 3.95.20.217 open address	Private IPv4 addresses 172.31.20.220
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-3-95-20-217.compute-1.amazonaws.com open address
Hostname type IP name: ip-172-31-20-220.ec2.internal	Private IP DNS name (IPv4 only) ip-172-31-20-220.ec2.internal	Answer private resource DNS name IPv4 (A)
Instance type t2.micro	Elastic IP addresses -	VPC ID vpc-042c5f2b242368007
AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more	IAM Role -	Subnet ID subnet-05091b482f9b68d27

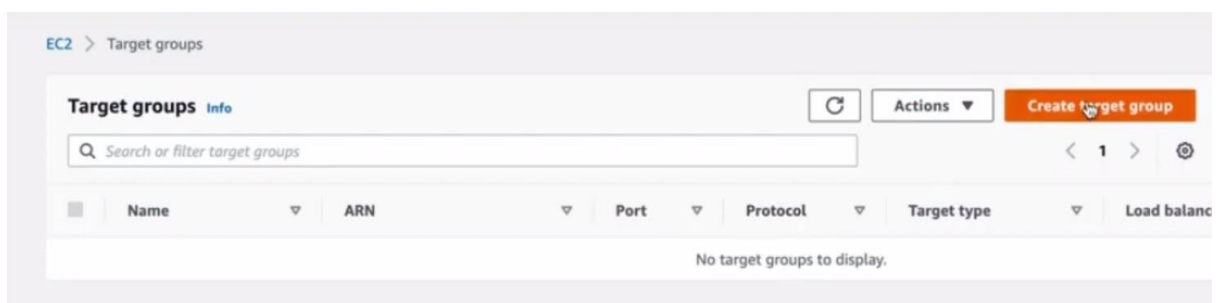
2. Now create multiple instances as shown below.



The screenshot shows the 'Instances (1/3)' page in the AWS Management Console. It displays a table with three EC2 instances. The first instance, 'vs-instance-1', is in a 'Running' state. The second, 'vs-instance-2', is in an 'Initializing' state. The third, 'vs-instance-3', is also in an 'Initializing' state. All instances are of type 't2.micro' and are located in the 'us-east-1b' availability zone.

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	vs-instance-1	i-0be9059450a646ebb	Running	t2.micro	2/2 checks passed	No alarms	us-east-1b
<input type="checkbox"/>	vs-instance-2	i-0d10be08b8d6a9315	Running	t2.micro	Initializing	No alarms	us-east-1b
<input checked="" type="checkbox"/>	vs-instance-3	i-063db7c54a956b9de	Running	t2.micro	Initializing	No alarms	us-east-1b

3. Now open target groups :

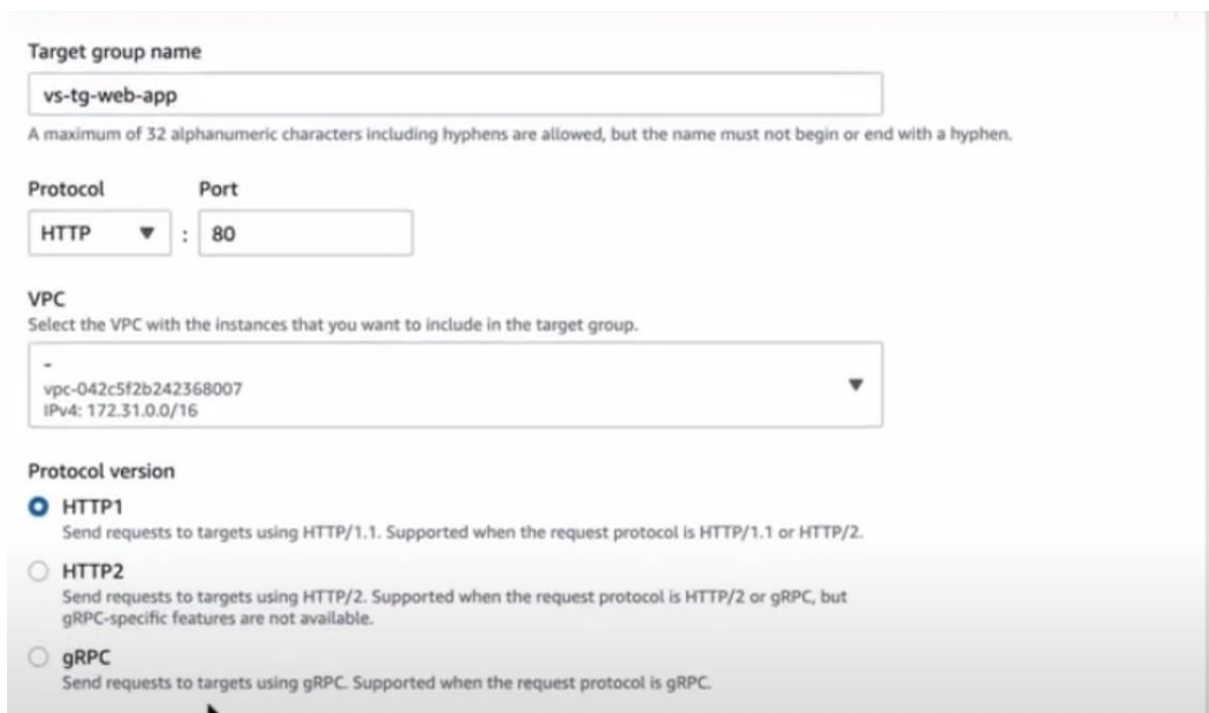


The screenshot shows the 'Target groups' page in the AWS Management Console. It displays a table with no target groups to display. The page includes a search bar and a 'Create target group' button.

Name	ARN	Port	Protocol	Target type	Load balance
No target groups to display.					

4. Create a target group , and give it a name for eg: vs-tg-web-app.

As we have shown below:



The screenshot shows the 'Create target group' form in the AWS Management Console. The form includes fields for 'Target group name' (vs-tg-web-app), 'Protocol' (HTTP), 'Port' (80), 'VPC' (vpc-042c5f2b242368007), and 'Protocol version' (HTTP1). The form also includes a description of the target group and a 'Create target group' button.

Target group name
vs-tg-web-app

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Protocol
HTTP

Port
80

VPC
Select the VPC with the instances that you want to include in the target group.
vpc-042c5f2b242368007
IPv4: 172.31.0.0/16

Protocol version
☒ HTTP1
Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.
☐ HTTP2
Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.
☐ gRPC
Send requests to targets using gRPC. Supported when the request protocol is gRPC.

- Now select the instances that you have created previously and select them in the option which will be shown as below:

Register targets

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 (3)

Filter resources by property or value

<input type="checkbox"/>	Instance ID	Name	State	Security groups	Zone	Subnet ID
<input type="checkbox"/>	i-0be9059450a646ebb	vs-instance-1	running	vs-sec-group-1	us-east-1b	subnet-05091b482f9b68d27
<input type="checkbox"/>	i-0d10be08b8d6a9315	vs-instance-2	running	vs-sec-group-1	us-east-1b	subnet-05091b482f9b68d27
<input type="checkbox"/>	i-063db7c34a956b9de	vs-instance-3	running	vs-sec-group-1	us-east-1b	subnet-05091b482f9b68d27

0 selected

Ports for the selected instances
Ports for routing traffic to the selected instances.

- Now review the selected instances which you have selected in target groups:

Review targets

Targets (3)

All Filter resources by property or value Remove all pending

Remove	Health status	Instance ID	Name	Port	State	Security groups	Zone	Subnet ID
X	Pending	i-0be9059450a646ebb	vs-instance-1	80	running	vs-sec-group-1	us-east-1b	subnet-05091b482f9b68d27
X	Pending	i-0d10be08b8d6a9315	vs-instance-2	80	running	vs-sec-group-1	us-east-1b	subnet-05091b482f9b68d27
X	Pending	i-063db7c34a956b9de	vs-instance-3	80	running	vs-sec-group-1	us-east-1b	subnet-05091b482f9b68d27

Successfully created target group: vs-tg-web-app

EC2 > Target groups

Target groups (1) Info

Search or filter target groups

<input type="checkbox"/>	Name	ARN	Port	Protocol	Target type	Load balance
<input type="checkbox"/>	vs-tg-web-app	arn:aws:elasticloadbalancin...	80	HTTP	Instance	None asso

- Now click on the load balancer option in the left corner and this page will open and now select the type you want to select.

Choose an Application Load Balancer when you need a flexible feature set for your applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.

Create

Choose a Network Load Balancer when you need ultra-high performance, TLS offloading at scale, centralized certificate deployment, support for UDP, and static IP addresses for your applications. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second securely while maintaining ultra-low latencies.

Create

Choose a Gateway Load Balancer when you need to deploy and manage a fleet of third-party virtual appliances that support GENEVE. These appliances enable you to improve security, compliance, and policy controls.

Create

EC2 > Load balancers > Select load balancer type

Select load balancer type

A complete feature-by-feature comparison along with detailed highlights is also available. [Learn more](#)

Load balancer types

Application Load Balancer Info

Choose an Application Load Balancer when you need a flexible feature set for your applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.

Create

Network Load Balancer Info

Choose a Network Load Balancer when you need ultra-high performance, TLS offloading at scale, centralized certificate deployment, support for UDP, and static IP addresses for your applications. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second securely while maintaining ultra-low latencies.

Create

Gateway Load Balancer Info

Choose a Gateway Load Balancer when you need to deploy and manage a fleet of third-party virtual appliances that support GENEVE. These appliances enable you to improve security, compliance, and policy controls.

Create

Basic configuration

Load balancer name
Name must be unique within your AWS account and cannot be changed after the load balancer is created.

vs-alb-web-app

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Scheme [Info](#)
Scheme cannot 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.

8. Select the configuration as shown above and give it any name you want to , here for eg: vs-alb-web-app

Security groups [Info](#)
A security group is a set of firewall rules that control the traffic to your load balancer.

Security groups

Select security groups

[Create new security group](#)

9. Create a new Security group or you can go with the default group which will be given in the drop down box.

Listeners and routing [Info](#)
A listener is a process that checks for connection requests, using the protocol and port you configure. Traffic received by the listener is then routed per your specification. You can specify multiple rules and multiple certificates per listener after the load balancer is created.

▼ Listener HTTP:80 Remove

Protocol: HTTP Port: 80

Default action: [Info](#)

Forward to: vs-tg-web-app HTTP ⌂

Target type: Instance, IPv4

[Create target group](#)

Add listener

Now select the configuration as shown and you are good to go with the load balancer in aws.

☑ Successfully created load balancer: `vs-alb-web-app`

Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks.

EC2 > Load balancers > Create Application Load Balancer

Create Application Load Balancer



Suggested next steps

- Review, customize, or enable attributes for your load balancer and listeners using the **Description** and **Listeners** tabs within `vs-alb-web-app`.
- Discover other services that you can integrate with your load balancer. Visit the **Integrated services** tab within `vs-alb-web-app`.

[View load balancer](#)